A Modal Ambiguity in *For*-Infinitival Relative Clauses

Abstract

This squib presents two puzzles related to an ambiguity found in *For*-infinitival relative clauses (FIRs). FIR's invariably receive a modal interpretation even in the absence of any overt modal verb. The modal interpretation seems to come in two distinct types, which can be paraphrased by finite relative clauses employing the modal auxiliaries *should* and *could*. The two puzzles presented here arise because the availability of the two readings is constrained by factors that are not otherwise known to affect the interpretation of a relative clause. Specifically, we show, first, that "strong" determiners require the FIR to be interpreted as a *SHOULD*-relative while "weak" determiners allow both interpretations (the Determiner-Modal Generalization). Secondly, we observe that the *COULD*-interpretation requires a raising (internally headed) structure for the FIR, while the *SHOULD*-interpretation is compatible with either a raising or a more standard matching (externally headed) structure (the Raising/Matching Generalization).

Key words: Relative Clause, Modality, Infinitival Clauses, Quantification

1. *For*-Infinitival Relative Clauses

For-Infinitival Relative clauses (FIRs), exemplified in (1), are non-subject relative clauses whose tense head is realized by the infinitival *to* and whose subject position can optionally be realized by an overt DP introduced by *for*.

(1)   Mrs. Schaden found many things (for us) to do.

FIRs appear to invariably receive modal interpretations with a range of meanings that are all centered around goals, desires, obligations, and the like ("bouletic" or "deontic" modality).[1] Within this range of meanings, FIRs seem to come in two distinct sub-varieties, which differ notably in their modal force. We label them *SHOULD-* and *COULD*-FIRs following natural paraphrases that employ these two modals.[2]

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[1] See Kjellmer (1975). Note that subject-gap infinitival relatives (which are incompatible with *for*) differ from FIRs in a number of respects, not least in having non-modal interpretations available. For instance, the subject-gap relative in (i) has a straight *realis* interpretation, paraphraseable as "the last person who saw Jones alive". In contrast, the FIR in (ii) can only get a modal interpretation, e.g. "the last person that we *should/could* see".

     (i)   the last person to see Jones alive
     (ii)   the last person (for us) to see

[2] There is a recent and growing body of literature that addresses similar variable modal force effects in various indigenous languages of North America. See Matthewson et al (2006), Rullman et al (2008), Deal (2010) and Peterson (2010). This body of work has found that not only do modals systematically exhibit variable force in the languages investigated, but also that the

One way to bring out the two readings is to manipulate contextual factors governing the particular set of goals or desires with respect to which the FIR is interpreted. We illustrate this in (2) employing two different *if*-conditionals, which signal distinct conversational backgrounds (Kratzer 1978, 1981).

(2) a. Mrs. Schaden found many things for us to do *if we want to have a good time*.
*…many things that we **could** do (to achieve the goal of having a good time)*

    b. Mrs. Schaden found many things for us to do *if we want a good grade*.
*…many things that we **should** do (to achieve the goal of getting a good grade)*

As suggested by the paraphrases in (2), the two interpretations of the FIR can be characterized in terms of achieving a goal that is salient in the discourse and referenced in the *if*-clause. In (2)a, the goal is to have a good time. Mrs. Schaden has helpful ideas (things that seem enjoyable to do). We could do one of them or all of them, or even find something entirely different to do and still achieve our goal of having a good time. In (2)b, the goal is to receive a good grade in Mrs. Schaden's class. Here Mrs. Schaden provides us with a list of requirements and to achieve our goal, we have to do *all* of the many things that she has come up with. Concomitant with the difference in goals, we note a switch in the modal force of the FIR. In (2)a, the FIR can be faithfully paraphrased with a finite relative clause that employs a possibility modal such as *could* while in (2)b, the paraphrase features the necessity modal *should*. Within possible world semantics we might describe the two interpretations, then, in terms of existentially and universally quantified formulas that are restricted by a bouletic accessibility relation, R_b, to worlds in which a contextually salient set of goals are met, (3).[3]

(3)   a. For many x: Mrs. Schaden found x & $\exists w'$ [wR_bw' & we do x in w']
       b. For many x: Mrs. Schaden found x & $\forall w'$ [$wR_bw' \rightarrow$ we do x in w']

The formula in (3)a describes fairly weak truth-conditions. It states that there are many things x such that it is *possible* for us to achieve our goals and also do x. (3)b, on the other hand, states that there are many things x such that it is *necessary*

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conversational backgrounds — the modal bases and/or ordering sources — are fixed (i.e. lexically specified), similar to what we seem to find with FIRs in English. These authors argue that variable force effects do not derive from a lexical ambiguity but rather can be attributed to a single modal operator whose core meaning can be affected by pragmatic factors — although they do not provide uniform analyses about whether the core meaning is universal or existential. Based in part on the fact that the default interpretation in St'át'imcets is universal, Rullmann et al. (2008) argue that the modal in that language is always universal, but subject to weakening via a contextually given choice-function which determines the size of the modal base. On the other hand Peterson (2010) argues that the variable force could come instead from an existential modal whose ordering source is either empty or non-empty, and Deal (2010) suggests that the same might be true for Nez Perce on the grounds that the default interpretation in that language is existential. We do not attempt in this paper to derive the meanings of FIRs, but clearly these discussions may prove relevant.

[3] As many researchers have noticed, *for*-infinitivals have a future orientation (Bresnan 1972, Stowell 1982, Pesetsky 1992). We think that this is due to the fact that bouletic modality is inherently future oriented, i.e. R_b makes accessible only worlds that are "future developments" of the world of evaluation. See Portner (1992, 1997, 2009) and von Fintel and Iatridou (2007) among others for discussion.

for us to do x in order to achieve our goals.[4] Since each x is such that only worlds in which we do x are worlds in which we achieve our goals, we have to do all of them if we want to achieve our goal.

Throughout the squib we will refer to these two interpretations as *COULD*- and *SHOULD*-readings. Our puzzles concern the availability of these two interpretations. We observe that the *COULD*-reading is constrained by properties of its immediate syntactic environment (Section 2) as well as the internal organization of the FIR (Section 3) while the *SHOULD*-reading is not.[5] We note, moreover, that the finite counterparts of FIRs, which employ overt modal operators such as *could* and *should,* are not subject to any of these constraints, indicating that the infinitival nature of FIRs contributes in an essential way to the puzzle. We end (Section 4) with a discussion of Bhatt's (2006) attempt to reduce aspects of the meanings of FIRs to his semantics for infinitival questions.

2. A Correlation between Modal Force and Determiner Strength

We have seen that FIRs can, in principle, have either a *COULD*- or a *SHOULD*-interpretation and that contextual factors might make one reading more salient than the other. In the present section, we observe that the availability of the two readings interacts in a quite surprising way with the semantic properties of the determiner of the DP hosting the infinitival relative. Specifically, we will show that the generalization stated in (4), which we will refer to as the Determiner-Modal Generalization, (DMG) holds.

(4)   DETERMINER MODAL GENERALIZATION (DMG):
    Strong determiners (and strong interpretations of weak determiners) always induce a *SHOULD*-reading in for-infinitival relative clauses. Weak interpretations of weak determiners allow both *COULD*- and *SHOULD*-readings.[6]

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[4] In fact, the truth-conditions stated in (3)a seem too weak to faithfully represent the *COULD*-reading, which might be better approximated by (i). The latter contains a universal formula in which the restrictor and nuclear scope of the modal operator are "switched". (i) states that there are many things such that *if we do them, we will achieve our goals.*

(i)   For many x: Mrs. Schaden found x & $\forall w'$ [we do x in $w' \rightarrow wRbw'$]

Note that (i) does not imply that doing (any of) the things that Mrs. Schaden found is the *only* way of achieving our goals, which makes it considerably weaker than (3)b. It does, however, say that if we do one of these things we will achieve our goals, which is stronger than the claim that doing x is consistent with achieving our goal, as (3)a states. Since we do not attempt in this squib to derive the meanings of the FIR, we will stick to the weaker version. However, we suspect that an explanation for the two puzzles we present might hinge on this choice and on the way the correct truth conditions for this reading are derived. We note in this connection that Bhatt (2006) proposes a semantics for infinitival questions which combines (i) and (3)a, and (responding to an earlier incarnation of this squib) he uses this semantics as part of an explicit attempt to account for the first of the puzzles that we present here. We discuss Bhatt's proposals in section 4.

[5] In order to fully appreciate the empirical generalizations we will present, it is important to make sure that the examples are unambiguously FIRs, rather than instances of the superficially similar VP-adjoined *purpose clause* construction (e.g. I brought the book (along) for you to read). See Faraci (1974), Bach (1982), Jones (1985), Huettner (1989).

[6] The distinction between weak and strong determiners goes back to Milsark (1974, 1977) who

2.1 The Basic Correlation

To see a first illustration of the DMG, consider the contrast in (5). The examples in (5)a all use weak determiners and, as suggested by the paraphrases, allow both a *COULD-* and a *SHOULD*-interpretation. In the examples in (5)b, on the other hand, the FIRs are hosted by DPs headed by strong determiners. Unlike the examples in (5)a, they allow only the *SHOULD*-reading of the FIR; in all of these cases John *has* to play against the men if he wants to achieve some goal that is salient in the discourse (e.g. prove himself to be a good player).

(5) a. A/many/a few/three/more than three/at most three/sm/etc. men (for John) to play against is/are in the next room.[7]
*A/many/a few/three/more than three/at most three/sm/etc. men that John **could**/**should** play against is/are in the next room.*

  b. The/neither/every/both/most/etc. men (for John) to play against are in the next room.
*The/neither/every/both/most/etc. men that John **should** play against are next in the next room.*

One can create particularly striking instances of the DMG if a given context or world knowledge is compatible only with one reading and induces oddness under the other. Since the differences between the two readings can be rather subtle, we will use such a setup throughout the paper. Consider the sentences in (6) as an instructive example.

(6) Context: From time to time Norman would think about marrying and starting a family. On such occasions, he would visit his sister, where, more often than not, he would meet several new women who his sister considers possible matches for him. His sister would then arrange it so that, at some point during the evening,

  a. … at least one new woman for him to marry would be in the kitchen.
At least one woman that he could marry would be in the kitchen.

  b. … #each new woman for him to marry would be in the kitchen.
Each new woman that he should marry would be in the kitchen.

The pragmatics of these examples are such that the *SHOULD*-reading induced by the strong determiners, (6)b, is sensible only if Norman plans to be polygamous. Weak determiners, as in (6)a, do not give rise to this effect, because they permit a *COULD*-interpretation, which is pragmatically available: there is nothing odd about a desire for someone to marry (possibly) one among a list of candidates.[8]

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used the familiar classification given by the "existential-there construction test" to categorize determiners.

[7] We use *sm* to refer to the phonologically reduced (accentless) version of *some*.

[8] We know of one class of potential counter-examples to the DMG, namely FIRs whose head NP receives an *instrument* role within the relative, as illustrated in (i). These FIRs seem to get *COULD*-readings despite having strong determiners.

  (i) a. Every pen to write with is in the top desk drawer.
  b. All the cash to buy books with (has been spent already)
  c. Three of the charts to do your homework with (are in the back of the book)
  d. Most guns to shoot quail with (have wooden handles)

While we do not fully understand why this class is exceptional, we suspect the answer has to do

2.2 Ambiguous Determiners

It is well-known that weak determiners are ambiguous between a weak and a strong construal and that environmental factors determine which construal is present.[9] Since we do not have any new insight regarding the "weak" and "strong" distinction to offer here, we simply follow Diesing (1992) among others in assuming that a DP that is interpreted in a raised position at LF is outside and scope of a VP-level existential closure operator and, thus, needs to be projected from a strong determiner.[10] To further illustrate the DMG we show, then, that environments that are known to force DPs to be interpreted in a raised position at LF and, thus, allow only strong readings of weak determiners also allow only *SHOULD*-readings, (2.2.1), while environments that force DPs to be interpreted in their base position and, thus, allow only weak interpretations of weak determiners allow both readings, (2.2.2).

2.2.1 Strong Readings of Weak Determiners Allow Only *SHOULD*-Readings of FIRs

A. Individual vs. Stage-Level Predicates: Indefinite subjects of individual-level predicates are known to receive only strong interpretations (Milsark 1974, Diesing 1992, Kratzer 1995). The DMG leads us to expect that FIRs modifying such subjects are limited to *SHOULD*-readings. The contrast in (7) suggests that this expectation is indeed borne out.

(7) Norman's sister is quite happy, because…
   a.   Several/many/a few women (for him) to marry are learning French.
       *Several/many/a few women that Norman **could /#should** marry are learning French.*

   b. # Several/many/a few women (for him) to marry know French.
       *Several/many/a few women that Norman **~~could~~/#should** marry know French.*

The oddness of (7)b indicates that the *COULD*-reading (which would have been sensible) is not available for FIRs that modify subjects of individual level predicates such as *know French*. The *SHOULD*-reading is available but is odd for the same reason that (6)b is. In contrast, (7)a is felicitous indicating that the *COULD*-reading is available. This is expected under the DMG since indefinite subjects of stage-level predicates like *currently learning French* can be weak.

B. Positive-Polarity *some*: Positive polarity items like *some* necessarily take scope over clause-mate negation. Since taking scope over *not* brings a PPI-

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with the fact that instruments are characterized by having (an intended or de facto) purpose. As such, the salient ordering source is not bouletic. If so, something like the universal modal statement that characterizes *SHOULD*-readings of FIRs is actually a viable candidate for the meanings of (i) after all. (e.g., "For every pen x such that *one writes with x in all of the worlds that are compatible with x's intended purpose (i.e. the pen is used in its intended manner)*, x is on the table".)

[9] See Diesing (1992), McNally and Van Geenhoven (1998) among others for discussion.

[10] This could be derived from the assumption that only DPs that are predicative can be interpreted in their base position inside the VP; see e.g. Van Geenhoven (1998).

indefinite out of the scope of existential closure, the weak interpretation of the indefinite is unavailable in negated clauses. Combining these considerations with the DMG, we are led to expect that only a *SHOULD*-reading will be possible for a FIR modifying a *some*-DP in a negated clause. A simple, non-polarity indefinite is, in contrast, predicted to have both options. This expectation is borne out by the contrast in (8). While (8)a can be understood as asserting the lack of availability of anyone that I can marry, (8)b seems to imply the existence of someone whom I am supposed to marry.

(8) a. A person (for me) to marry can't be found.
*A person that I **could/should** marry can't be found.*

    b. # Someone (for me) to marry can't be found.
*Someone that I ~~could~~/**should** marry can't be found.*

C. Reconstruction into Infinitival versus Small Clauses: Williams (1983) observed that an infinitival complement of *seem* allows scope reconstruction of an indefinite subject, whereas a small clause complement doesn't.[11] The unavailability of reconstruction in the latter case implies that a raised small clause subject is necessarily interpreted in a derived position and, thus, given the characterization of the weak/strong distinction, DPs that allow in principle both a weak and strong construal are necessarily strong in this environment. The DMG thus leads us to expect that the *COULD*-reading of an FIR will be available if *seem* takes an infinitival complement but not if it takes a small clause complement. The contrast in (9) suggests that this is indeed the case.

(9) a. Three hotels (for us) to stay at tonight seem to be pretty full.
*Three hotels that we **could**/#**should** stay at tonight seem to be pretty full.*

    b. # Three hotels (for us) to stay at tonight seem pretty full.
*Three hotels that we ~~could~~/#**should** stay at tonight seem pretty full.*

(9)b is odd. It conveys that we *ought to* stay at three hotels, each of which is pretty full. (9)a, on the other hand, is perfectly felicitous (if we imagine a list of hotels under consideration) and simply conveys that three hotels we *could* stay at are pretty full.

2.2.2 Weak Readings of Weak Determiners Allow both *COULD*- and *SHOULD*-Interpretations

In the previous sub-section we observed that environments that impose "strong" interpretations on weak quantifiers disallow the *COULD*-reading of an FIR associated with such a quantifier. Here we show that environments that impose a "weak" interpretation on a weak quantifier allow both readings.

A. There-construction: Weak interpretations of weak determiners are forced in the "existential *there*-construction" (Milsark 1974 and much subsequent work). The data in (10), which employ two different *if*-conditionals to bring out the two readings, indicate that FIRs that modify weak indefinites appearing in the existential *there*-construction allow both readings of FIRs.

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[11] See Johnson and Tomioka (1998) among others for discussion.

(10) a. There are several/many/a few/etc. problems (for you) to write about if you are looking for an interesting topic.

*There are several/many/a few/etc. problems that you **could** write about …*

   b. There are several/many/a few/etc. problems (for you) to write about if you want your book to be the authoritative source on the topic.

*There are several/many/a few/etc. problems that you **should** write about…*

B. Possessive *have*: The complement of possessive *have,* just like the coda position of the existential there construction, is not capable of hosting strong quantifiers, as illustrated in (11)a. Indefinites, on the other hand, can serve as complements of possessive *have* but receive a weak interpretation, (11)b.[12] With this in mind, the data in (12) show, again, that a FIR modifying a weak indefinite can have *SHOULD-* and *COULD-*readings.

(11) a. *The deceased has every/each/most/etc. heir(s) in my hometown.
   b. The deceased has many/several/three/etc. heirs in my hometown.

(12) a. The deceased has many heirs for us to talk to about suing the tobacco company.
*The deceased has many heirs that we **could** talk to about suing the tobacco company.*

   b. The deceased has many heirs for us to console (so we'd better get started)
*The deceased has many heirs that we **should** console, so we'd better get started.*

2.2.3 Why the DMG is Puzzling

The data we have discussed in the previous two subsections show that the interpretation of FIRs interacts with determiner properties in an unexpected way. We have seen that lexically strong determiners like *the, every*, *most*, etc. allow only the *SHOULD*-reading while indefinites license a *COULD*-reading only when they receive a weak interpretation. From this it is clear that it is a property of the weak reading itself and not a simple feature of the class of determiners that can have weak readings that allows the *COULD*-reading. Thus, an explanation for the ambiguity of FIRs must be sensitive to the properties of the environment that drive the distinction between weak and strong determiners.

What makes the DMG especially unexpected is the fact that determiners are not known to interact with quantificational elements (in particular modal operators) inside a relative clause in this way.[13] To see this, we only need to look at the finite counterparts of our FIRs. That is, even though finite relatives with overt modals have readings that seem to be exact paraphrases of *for*-infinitival
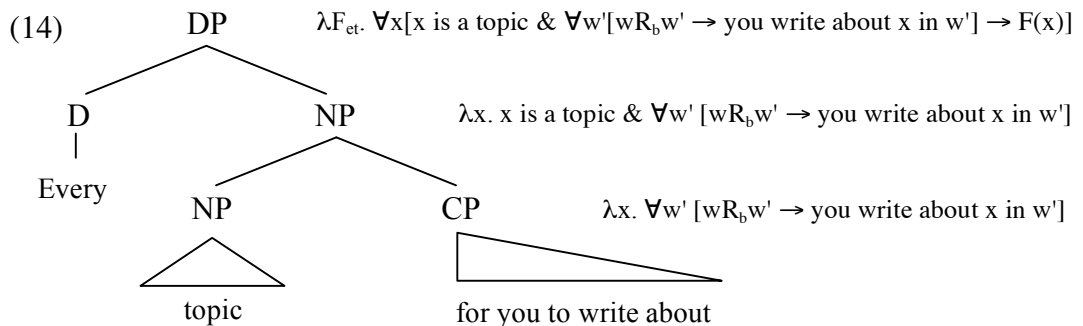
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[12] See Freeze (1992) and Iatridou (1996) among others.
[13] The DMG is somewhat reminiscent of the constraint that only "maximality-preserving" determiners can project DPs that host amount relative clauses (Grosu and Landman 1998). Additionally, see Koster-Moeller and Hackl (2008) for an argument that determiners can interact scopally with operators inside the relative clause that they host. However, both of these interactions, though puzzling in their own right, are of a different type from the DMG.

relatives, they do not display any such dependency. In particular, strong determiners are perfectly acceptable with an existential modal inside a finite relative clause:

(13) Every/most/several of the topics that you could write about are on page four.

In other words, there is nothing inherent to determiner strength or to modal force that should result in a dependency such as the DMG. Moreover, the standard compositional treatment of determiners and relative clauses provides no direct way in which the two could interact. Determiners take NPs as arguments and quantify over entities that satisfy the property denoted by the NP. Relative clauses are NP adjuncts, which combine with the NP intersectively and, thus, simply narrow the domain of quantification.

(14)

$\lambda F_{et}. \forall x[x$ is a topic $\& \forall w'[wR_b w' \rightarrow$ you write about x in w'] $\rightarrow F(x)]$

$\lambda x. x$ is a topic $\& \forall w'[wR_b w' \rightarrow$ you write about x in w']

$\lambda x. \forall w'[wR_b w' \rightarrow$ you write about x in w']

DP — D (Every) — NP — NP (topic) — CP (for you to write about)

That the quantifier is able to influence how the narrowing is to be done (i.e. by enforcing the use of a universal or an existential modal predicate) is therefore puzzling and presents a challenge to the compositional analysis of determiners and/or relative clause integration. The task, then, is to identify what it is about the modal dimension of FIRs and the way they are combined with their host DP such that they give rise to the DMG.

3. A Correlation between Modal Force and Raising/ Matching structures of FIRs

In this section, we discuss a second unexpected constraining factor for the two readings of FIRs. We show, specifically, that the *COULD*-reading of an FIR is available only if the head NP is interpreted inside, rather than external to, the FIR. This implies that the FIR has a raising structure. We summarize this in (15) and refer to it as the "Raising/Matching Generalization, (RMG)."

(15)   RAISING/MATCHING GENERALIZATION (RMG):
        For an FIR to make a *COULD*-interpretation available, it needs to have a raising structure, and cannot be adjoined to a matching external NP. *SHOULD*-interpretations, on the other hand, are compatible with both a raising and a matching structure.

   To set the stage, we take, following a long tradition of work on relative

clauses, "reconstruction" (connectivity) effects such as the ability to bind an anaphor, as in (16)a, to indicate the availability of an internally headed ("raising") structure. In a raising structure, sketched in (17)a, the NP that is modified by the relative clause originates inside the relative clause (Carlson 1977; Sauerland 1998; Bhatt 2002; Hulsey and Sauerland 2006; cf. also Kayne 1994; Vergnaud 1974; Williamson 1987).[14] This allows for the head NP to be interpreted inside the relative clause and thus also allows an anaphor that is part of a complex head NP such as *picture of himself* to be bound by the subject of the relative clause, (17)a. The absence of a Condition C effect, exemplified in (16)b, on the other hand, indicates the availability of a "matching" structure in which the relative clause modifies a relative-clause-external NP.[15]

(16) a. Mary looked at every picture of himself$_i$ that John$_i$ sent.
　　 b. Mary looked at every picture of John$_i$ that he$_i$ sent.

(17) a. every [$_{REL.CL.}$[$\ldots$$_{INTERNAL\ NP}$ picture of himself$_i$]$_j$ that J$_i$ sent $t_{(picture\ of\ himself_i)j}$]
　　 b. every [$_{EXTERNAL\ NP}$ picture of J$_i$] [$_{REL.\ CL.}$ [$\ldots$$_{INTERNAL\ NP}$ —]$_j$ that he$_i$ sent $t_{(—)j}$]

Since both types of structure are available in principle, ordinary relative clauses are structurally ambiguous. However, for a relative clause like the one in (16)a with an anaphor inside the head NP, an externally headed structure like (17)b is unavailable, blocked by the impossibility of satisfying Condition A. Conversely, a relative clause like the one in (16)b cannot have a (purely) internally headed structure as in (17)a, owing to the copy of the R-expression in the trace position which would be expected to result in a Condition C violation.

FIRs show the same kinds of reconstruction effects that finite relative clauses do, as can be seen in (18). We take this to indicate that they, too, can in principle be either of the raising or matching kind.

(18) a. Mary saw a picture of himself$_i$ for John$_i$ to send to his parents.
　　 b. Mary saw a picture of John$_i$ for him$_i$ to send to his parents.

However, as stated in the RMG, FIRs — unlike their finite counterparts — display a sensitivity to the difference between raising and matching structures with regard to their modal interpretation. Specifically, only raising FIRs allow for a *COULD*-reading. We present three sets of data in support of this claim: obligatory reconstruction effects, Condition A effects with matrix antecedents, and extraposition effects.

A. Obligatory Reconstruction Effects with FIRs: We have seen that run of the mill relative clauses can either have a raising or matching structure depending on the specific needs at hand. The RMG however, leads us to expect that FIRs will

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[14] The NP containing the anaphor then is at the head of a chain internal to the relative clause. Consequently, the anaphor is expected to be able to find an antecedent local to the trace position, in accord with observations of Barss (1986). We follow others (e.g. Chomsky 1993, Fox 1999) in assuming that Barss' generalization results from the copy theory of movement, although nothing here hinges on this assumption.

[15] Whether matching relative clauses also have an identical NP (modulo Vehicle Change of the proper name [Fiengo and May 1994]) inside the relative clause (hence the label "matching") or simply a null operator is orthogonal to our argument.

be more constrained. Specifically, we expect FIRs under the *COULD*-reading (but not under the *SHOULD*-reading) to yield obligatory reconstruction effects. That is, we expect the *COULD*-reading to disappear whenever a raising structure is unavailable. Thus, an FIR for which reconstruction of the head NP would yield a Condition C violation is expected to lack a *COULD*-reading. In contrast the *SHOULD*-reading is expected to be unaffected in such environments. We illustrate this in (19).

(19) a. There are many facts about John$_i$ for him$_i$ to tell his superiors
      … #if he wants to impress them.
      … and so he'd better get started.
      *There are many things about John$_i$ that he$_i$ ~~could~~/**should** tell his superiors…*

      b. There are many facts about himself$_i$ for John$_i$ to tell his superiors
      … if he wants to impress them.
      … and so he'd better get started.
      *There are many facts about himself$_i$ that John$_i$ **could**/**should** tell his superiors ...*

The FIR in (19)a has only a *SHOULD*-reading, if *John* and *him* are understood as co-referential. According to the RMG, this is because the (purely internally-headed) raising structure is unavailable: reconstruction of the head NP *facts about John* would yield a Condition C violation. If we replace the pronoun with an anaphor and reverse the order of the anaphor and the R-expression, as in (19)b, reconstruction is possible (in fact necessary to satisfy Condition A) and the FIR can have either a *COULD*- or a *SHOULD*-reading.[16]

A particularly striking illustration can be given with FIRs in which the *SHOULD*-reading is structurally determined through an anti-reconstruction environment while at the same time pragmatically disfavored. The contrast in (20)a,b is an example of this sort.[17]

(20) SPEAKER A: It is very difficult for a potential bride to gain the approval of Norman's mother. In fact, she probably thinks there are no women up to her standards who are available.

      SPEAKER B: That's not what she thinks…

      a. #She thinks there are several friends of Norman$_i$'s DOCTOR for him$_i$ to marry.
      *… there are several friends of his doctor that Norman ~~could~~/#**should** marry.*

      b. She thinks there are several friends of his$_i$ DOCTOR for Norman$_i$ to marry.
      *… there are several friends of Norman's doctor that he **could**/#**should** marry.*

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[16] Judgments about reconstruction effects are known to be subtle and moreover subject to some variation across speakers. We believe, however, that these correlations hold. That is, to the extent that speakers get basic reconstruction effects with relative clauses (e.g. Condition C violations) they also judge that the *COULD*-reading disappears when reconstruction is not possible.

[17] All capital letters is used here to indicate phonological prominence.

Since Norman would not plausibly be expected to marry more than one friend of his doctor, the *SHOULD*-reading is pragmatically disfavored in (20)a,b and only the *COULD*-reading is sensible. The *COULD*-reading is, however, precluded in (20)a because the internally headed structure, sketched in (21)a, is required. However, this structure would yield a condition C violation and is thus unavailable. The only available structure for (20)a, then, is the externally headed (21)b, which – according to the RMG – is compatible only with the *SHOULD*-reading.

(21) a. *several [[$_{\text{Int.NP}}$ friends of N$_i$'s doctor]$_j$ for him$_i$ to marry $t_{(friends\ of\ N_i's\ doctor)j}$]

  b. #several [$_{\text{EXT.NP}}$ friends of N$_i$'s doctor]$_j$ [[$\ldots_{\text{Int.NP}}$ —]$_j$ for him$_i$ to marry $t_{(—)j}$]

(20)a therefore produces the same oddness that we observed in sentences like (6)b. In (20)b, on the other hand, reconstruction is possible – i.e. the internally headed structure in (22) is not blocked by any binding condition – and consequently the sentence is felicitous.

(22)   several [[$\ldots_{\text{Int.NP}}$ friends of his$_i$ doctor]$_j$ for N$_i$ to marry $t_{(friends\ of\ his_i's\ doctor)j}$]

This pattern is surprising in light of the fact that reconstruction is, in general, *optional* and not obligatory in relative clauses. Indeed, the finite paraphrases of our FIRs do not display a dependency between the possibility/necessity of reconstruction and modal force, (23).

(23) a. There are many facts about himself$_i$ that John$_i$ could/should tell his
   superiors.
  b. There are many facts about John$_i$ that he$_i$ could/should tell his superiors.

B. Condition A Effects with FIRs: Given the RMG, we expect FIRs to give rise to the *COULD*-reading only if they have a raising structure. Since in a raising structure, the head NP is interpreted inside the relative clause, an anaphor inside the head NP might, as a consequence, not be close enough to be bound by a matrix antecedent (i.e. it might not satisfy the locality requirement imposed by Condition A).[18] If so, then we would expect the *COULD*-reading to be unavailable when the head of an FIR contains an anaphor whose antecedent is a matrix binder. In that situation, a matching structure would be forced — in turn forcing the *SHOULD*-reading. The contrast between (24) and (25) shows that this expectation is borne out. In (25) the head NP contains a reflexive pronoun whose antecedent is in the matrix clause. This forces the head NP to be interpreted external to the FIR. This disambiguates the FIR toward the *SHOULD*-reading. The *COULD*-reading reappears if we replace the reflexive with a normal pronoun, (24).

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[18] Specifically, in a (purely) internally headed structure like (i), we expect the anaphor to be too deeply embedded to take the matrix antecedent. In contrast, an anaphor in an NP that is external to the relative clause as in (ii) can be bound by the matrix antecedent:

 (i)   MATRIX ANTECEDENT$_i$ ... [$_{DP}$ Det. [$_{REL.CL.}$ [... $_{Internal\ NP}$ ... anaphor$_i$] ..
 (ii)   MATRIX ANTECEDENT$_i$ ... [$_{DP}$ Det. [$_{EXT.\ NP}$ ... anaphor$_i$][$_{REL.CL.}$ [... Int. NP —].

(24)   There seem to the boss$_i$ to be many stories about him$_i$ for you to write up.

     …if you feel like writing something for the newsletter.
     …if you're interested in keeping your job.
     *There seem to the boss to be many stories about himself that you **could/ should** write up.*

(25)   There seem to the boss$_i$ to be many stories about himself$_i$ for you to write up,

  # …if you feel like writing something for the newsletter.
     …if you're interested in keeping your job.
     *There seem to the boss to be many stories about himself that you ~~**could**~~/ **should** write up.*

Again, we can observe that the correlation between satisfying Condition A external to the relative clause and existential/universal modal force inside the relative clause holds only for FIRs. That is, finite counterparts of our FIRs can be of the *SHOULD* or *COULD* variety irrespective of an anaphor on the NP that is bound by an antecedent in the matrix.

(26) a. There seem to the boss$_i$ to be many stories about him$_i$ that you
     could/should write up.
   b. There seem to the boss$_i$ to be many stories about himself$_i$ that you
     could/should write up.

C. Extraposition Effects with FIRs: Extraposition of a relative clause is possible only if the relative clause has a matching structure (Hulsey and Sauerland 2006; among others). This can be seen, for instance, in the unacceptability of (27)a, which features a Condition A violation due to the fact that reconstruction of the head NP *picture of himself* is blocked by extraposition.

(27) a. *I saw a picture of himself$_i$ yesterday that John$_i$ likes.
   b. I saw a picture of him$_i$ yesterday that John$_i$ likes.

    FIRs can be extraposed just like finite relative clauses. However, given the fact that extraposition blocks raising and our argument that the *COULD-*interpretation requires a raising structure, we expect the *COULD*-reading to be unavailable for extraposed FIRs and the *SHOULD*-reading to be unaffected. This expectation is again borne out as can be seen in (28).

(28) a. # Joe spotted some cigarettes just now for you to smoke.
     *Joe spotted some cigarettes just now that you ~~**could**~~/**#should** smoke.*

   b. Joe just spotted some cigarettes for you to smoke.
     *Joe just spotted some cigarettes that you **could**/**#should** smoke.*

As before, finite counterparts of our FIRs behave differently. In particular, extraposing a finite modal relative clause has no effect on the availability of weak modal force:

(29) Joe spotted some cigarettes just now that you could smoke.

The exraposition data, then, as well as the Condition C and Condition A effects we saw above, suggest that the modal force of FIRs is dependent on their structural make-up. Specifically, our observations suggest that the *COULD*-reading is available only for FIRs that have a head-internal (raising) structure while the *SHOULD*-reading is compatible with both raising and matching structures (the RMG). This dependency is rather surprising since the quantificational force of a modal clause is not known to depend on the location in which an NP is interpreted. NPs and modal operators do, of course, interact — for instance in *de dicto/de re* ambiguities. However, in such cases it is the meaning of the NP that varies depending on the structural relation between the modal operator and the NP, and not, as is seemingly the case here, the meaning of the modal operator. In fact, quite generally, there is no obvious way in which an NP could affect the quantificational force of a modal operator. We can see this clearly with the finite counterparts of our FIRs, which can express both existential and universal force irrespective of whether a raising structure is used.

4. Bhatt (1999/2006)

There is, to our knowledge, only one attempt in the literature to directly address the issue of variable modal force in FIRs, namely Bhatt (1999/2006). While Bhatt does not provide an account for the structural difference that we have observed (the RMG), he does attempt to explain the first of our two empirical generalizations, the DMG (responding to an earlier incarnation of this squib). Specifically, Bhatt attempts to derive the correlation between determiner strength and modal interpretation from proposals that he claims are independently needed to account for facts about infinitival questions. If Bhatt's argument is successful, then, we would have a partial account of our findings. We think that his idea, though initially appealing, falls short of delivering even this partial explanation, and that the phenomena we have described here truly remain, for the moment, mysteries.

4.1 Bhatt on Infinitival Questions

At the core of Bhatt's proposals is a special modal operator which he argues is needed independently for embedded infinitival questions. He argues that this modal operator is unique to infinitival CPs and is flexible in just the right way to give rise to the range of attested meanings. Bhatt starts with the observation that the meaning difference between *COULD* and *SHOULD* readings of FIRs is similar to a meaning contrast in certain embedded infinitival questions:

(30) a.   Jones knows [where to get gas]
             (≈ Jones knows where she/one **can** get gas)

      b.   Jones knows [which book to read]
             (≈ Jones knows which book she/one ~~could~~/**should** read)

As indicated by the paraphrases, the embedded questions in both examples have modal interpretations despite lacking any overt modal operator. But only (30)a allows a paraphrase with a possibility modal. In contrast, (30)b implies that Jones is <u>required</u> to read a particular book, and asserts that Jones knows which one it is.

To be sure, this is not a minimal pair, but as Bhatt reports, the distribution of *COULD* readings is quite limited in infinitival questions: the reading is available only with certain *wh*-words (*where*, *how*) and is further constrained by a variety of other factors in a way that precludes having even near-minimal pairs.

Bhatt suggests that all infinitival questions — i.e. including those with both *COULD* and *SHOULD* readings — make use of a single covert modal operator that is like an ordinary possibility modal but is strengthened by the addition of an extra clause in its denotation:

(31) $[[\textbf{\textit{Bhatt's-Infinitival-Modal}}]]^{w}(p) = 1$ iff
       (i) $\exists w'[w' \in Goal(w) \ \& \ p(w')]$, and
       (ii)$\forall w'[[w' \in C \ \& \ p(w')] \ \rightarrow \ w' \in Goal(w)]$

The *Goal* function in this definition picks out, from among the circumstantially accessible worlds, the ones that are most highly ranked by the deontic/bouletic ordering source, i.e. the accessible worlds that are most compatible with the contextually determined goals. Thus, clause (i) by itself is just the standard denotation for a possibility modal with a deontic/bouletic ordering source.

It is clause (ii) that sets Bhatt's Infinitival Modal operator apart from ordinary modals. Clause (ii) states that all of the relevant p-worlds (the accessible worlds where the infinitival proposition is true) are worlds where the goal is met. (The variable C in clause (ii) picks out a subset of circumstantially accessible worlds in which nothing detrimental to goal-satisfaction takes place.) Bhatt's intent is, further, that "carrying out the action specified in the infinitival clause <u>leads to</u> goal satisfaction."

4.1.1 The Uniqueness Presupposition of Which-*Phrases*

Even with the strengthening brought about by clause (ii), Bhatt's infinitival modal operator does not, by itself, have the semantics of a necessity modal. So an obvious question is how the *SHOULD* reading is ever possible. Bhatt's basic answer to this is that *SHOULD* readings can arise from the uniqueness presupposition introduced by *which*. Given Bhatt's modal operator, together with a contextually determined goal (e.g. to fulfill the requirements of a seminar), (30)b can be paraphrased as (32):

(32) Jones knows the identity of ***the unique book x*** such that
    a.   reading *x* is compatible with the goal (by clause i), and
    b.   reading *x* leads to goal-satisfaction (clause ii).

It follows from (32) that there is no other book besides *x* that leads to goal-satisfaction, and therefore, Bhatt argues, that Jones <u>must</u> read *x* if she is to fulfill the requirements.

4.1.2 SHOULD *Readings of FIRs*

Bhatt assumes that FIRs contain the same covert modal operator that he defined for infinitival questions. For some FIRs — namely those with singular definite DPs — the disambiguation to *SHOULD* readings reduces to the explanation given

for infinitival questions with singular *which*-phrases. Like *which*, the definite determiner carries a uniqueness presupposition. Consequently the DP in (33) has the interpretation described in (34), if uniqueness is satisfied.

(33) the book [OP to read _]
(34) the **unique x** such that x is a book and
      a.   reading x is compatible with the goal, and
      b.   reading x leads to goal-satisfaction.

As with infinitival *which*-questions, it follows from the uniqueness presupposition that there are no books besides x that lead to goal-satisfaction. By the same reasoning as before, it follows that one <u>must</u> read x if one is to satisfy the goal.

Bhatt takes FIRs which are in construction with singular *the* to be the basic case. He argues that the other cases of unambiguous *SHOULD* readings reduce to the basic case, as long as we accept two additional claims:

(35) All strong quantifiers and strong readings of weak quantifiers are overt or covert partitives.
(36) Plural definites disambiguate toward the *SHOULD* reading for the same reasons that singular definites do.

From (35) it follows that a DP like *every book to read* will be interpreted as having the same meaning as "every one of **the** books to read", and that *at least one book to read* can have the same meaning as "at least one of **the** books to read". If so, all such quantifiers will give rise to the presuppositions of (plural) definites. Consequently, if (35) is accepted then Bhatt's explanation for why *SHOULD* readings are forced in general reduces to his explanation for why the reading is forced for plural definites, (36).

It is therefore crucial for Bhatt's theory to ensure that plural definites, like singular definites, force the *SHOULD* reading. We think, however, that (36) is untenable.

4.1.3 The Uniqueness Presupposition of Plural Definites

Bhatt argues that FIRs hosted by definite plural DPs receive *SHOULD* interpretations in the same manner as the basic cases involving singular definites, i.e. due to a uniqueness presupposition. Specifically, definite plurals presuppose that there is a unique maximal individual in the extension of the sister of *the* and, in case the presupposition is met, denote that individual. That is, (37) has the interpretation described in (38):

(37) the books [OP to read _]
(38) the **unique (maximal) plural entity x** consisting of books, such that
      a.   reading x is compatible with the goal, and
      b.   reading x leads to goal-satisfaction

Just as with singular definites, this entails that there can be no other maximal plural book-entity that leads to goal-satisfaction, and therefore, on Bhatt's original reasoning, it would appear that one must read the plural entity x if the goal is to be satisfied.

4.2 The Problem with Distributivity

However, things are not quite that straightforward. In particular, the inference to the proposition that reading all of the books is required to guarantee goal-satisfaction, which is a characteristic property of the *SHOULD* reading, can be derived only if an additional stipulation is in place: Bhatt needs to assume that the FIR cannot be interpreted under a distributive operator.

Distributing over the FIR would produce the interpretation paraphrased in (39).

(39)   the **<u>unique (maximal) plural entity x</u>** such that for **every x_i that is an atomic part of x,** x_i is a book and
    a.   reading x_i is compatible with the goal, and
    b.   reading x_i leads to goal-satisfaction.

It follows from (39) that there is no other plural individual comprised of books (that isn't itself a part of x) such that reading an atomic part of it would lead to goal satisfaction. However, it does not follow that reading <u>all</u> of the atomic parts of x is required for goal-satisfaction. Rather, (39) implies that reading a single one of the books is sufficient.

Thus, Bhatt's semantics, as it currently stands, predicts sentences like (39) should be ambiguous between a collective *SHOULD*-reading and a distributive *SHOULD*-reading. We can see more clearly why this is a bad prediction with examples like (40). Recall that (40) has only the peculiar interpretation that suggests Norman is supposed to marry multiple women. However, if a distributive interpretation of the FIR were available, we would expect that a second reading is available:

(40)   the women [OP for Norman to marry _]
(41)   the **<u>unique (maximal) plural entity x</u>** such that for **every x_i that is an atomic part of x,** x_i is a woman and
    a.   Norman marrying x_i is compatible with the goal, and
    b.   Norman marrying x_i leads to goal-satisfaction.

Under the distributive semantics in (41), Norman would only have to marry one of the women for the goal to be satisfied, contrary to the actual interpretation of (40). Thus, as it stands Bhatt's theory does not derive a key property of the *SHOULD*-reading.

One might be tempted to rule out the unwanted interpretation (41), by supplementing Bhatt's proposal with a stipulation that guarantees (42):

(42)   FIRs which modify plural NPs cannot be interpreted in the immediate scope of a distributive operator.

(42) ensures that a plurality can satisfy the predicate expressed by an FIR only directly and not in virtue of its atomic parts; in other words, that an FIR is interpreted as collective predicate when it modifies a plural NP. In conjunction

with the uniqueness presupposition of *the*, (42) would indeed allow us to derive the *SHOULD*-reading for (40).

Unfortunately, we know of no independent motivation for (42).[19] Worse, adopting (42) makes radically incorrect predictions for FIRs that are hosted by weak plural DPs. Specifically, we can no longer explain the *COULD* reading of FIRs. To see this, consider a basic case of an FIR with a *COULD*-reading such as (43).

(43)   There are many women for Norman to marry.

For the same reasons that (42) turned the FIR in (40) into a collective predicate, it will also turn the FIR in (43) into a collective predicate. This then predicts that only genuine pluralities of women — that is, pluralities as such — should be able to satisfy the FIR and so we would expect (43) to convey a similarly odd meaning: Norman's marrying a group of women is compatible with the goals. Clearly this is an unwanted prediction.

Bhatt's account of the *COULD*-reading attempts to avoid this problem by appealing to the idea that weak (non-partitive) determiners can quantify over non-maximal pluralities in the extension of the NP and the FIR because they don't have a maximality presupposition (Bhatt 2006:156). However, quantifying over non-maximal entities is clearly not enough to avoid the unwanted prediction (unless one appealed to a distributive operator)—this would still allow quantifying over (non-maximal) plural entities.

The suggestion, we assume, must then be as follows: FIRs can, when they combine with non-partitive indefinites, (optionally) range *only* over atomic individuals, along the lines of (44)a. (This will be the case, for instance, if the relevant goal will be satisfied just in case Norman marries at most one individual. If so, the FIR can be true of *Mary* and of *Sue*, but not of both at the same time.) When an FIR with such an extension modifies a plural noun, whose denotation has both atomic and plural individuals in its extension, (44)b, the resulting NP will have as its extension a set of atomic individuals, (44)c. Quantifying over this resulting domain will, of course, not anymore license the unwanted inference.

(44) a. $[[\textbf{\textit{for Norman to marry}}]]^{w,C} = \lambda x$: x is atomic. $\exists w'[w' \in Goal(w)$ & Norman marries x in w'] & $\forall w'[[w' \in C$ & Norman marries x in w'] $\rightarrow$ w'$\in$Goal(w)] = {m, s}

    b. $[[\textbf{\textit{*women}}]]^{w,C} = \lambda x.\ [[\textbf{\textit{woman}}]]^{w,C}(x) =1$ or $\exists x_1, x_2\ [x_1 \oplus x_2 = x\ \&$
                       $[[\textbf{\textit{*women}}]]^{w,C}(x_1) = 1\ \&\ [[\textbf{\textit{*women}}]]^{w,C}(x_2) = 1$
          = {m, s, m$\oplus$s}

    c. $[[\textbf{\textit{*women for Norman to marry}}]]^{w,C} = \{m, s\}$

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[19] Note that the lack of a distributive interpretation cannot be attributed to the definite article itself or to partitives, as tempting as this move might be. Plural definites and partitives, in general, have no difficulty getting distributive interpretations; the puzzle seems specific to *SHOULD*-FIRs. We can see this by comparing the FIR to a finite relative involving an overt modal, as in (i). If the definite determiner itself were responsible for blocking distributive readings, then the subject DP in (i) should create the entailment (as (40) does) that Norman is allowed to marry a group of women. This is clearly not an entailment of (i).

    (i)   The women that Norman can marry (are in the next room)

However, it is easy to see that this move is empirically inadequate. Observe that (44)c has the same denotation that the singular *woman for Norman to marry* would have under Bhatt's proposal. That is, (44)c has none of the properties of a plural predicate anymore. We would then expect singular rather than plural articles, (45)a, singular rather than plural anaphora, (45)b, singular rather than plural agreement (45)c, and we would expect modification of essentially plural nouns to be necessarily empty, hence sentences like (45)d to be necessarily false.

(45) a. *A women for Norman to marry is in the next room.
     b. * Several women for marry are in the next room. She is rich.
     c. * Several women for marry is in the next room.
     d. Several cousins (of each other) for Norman to marry are in the next room.

To avoid these consequences, we have to assume that FIR's are pluralized in the same way that inherently distributive nouns are pluralized (e.g. with the star operator). This amounts, of course, to the claim that FIRs can be in the immediate scope of a distributive operator after all.

(46) $[[*\textbf{\textit{for Norman to marry}}]]^{w,C} = \lambda x. [[\textbf{\textit{for Norman to marry}}]]^{w,C} (x) = 1$ or
$\exists x_1, x_2 [x_1 \oplus x_2 = x \ \& \ [[*\textbf{\textit{for Norman to marry}}]]^{w,C}(x_1) = 1 \ \&$
$[[*\textbf{\textit{for Norman to marry}}]]^{w,C}(x_2) = 1 = \{m, s, m \oplus s\}$

The upshot of this is a rather uncomfortable conundrum: We need to allow distributive interpretations of *COULD*-FIRs (as well as finite relative clauses) but we cannot allow distributive interpretations for *SHOULD*-FIRs. Taken together, this is just a new (and we think dubious) formulation of the DMG.

4.3 The Modal Force in *SHOULD* Readings is Really Universal

We have provided two reasons to believe that Bhatt (1999/2006) does not actually reduce the semantics of FIRs to an independently motivated theory of embedded infinitival questions: (i) Bhatt's attempt to derive the right meanings of FIRS under the *SHOULD*-reading rests on a tacit and unmotivated stipulation that FIRs cannot be interpreted distributively, and (ii) Bhatt must, nevertheless, allow distributive interpretations for FIRs in order to get *COULD*-readings right—in short, restating rather than deriving the DMG.

We would like to point out, however, that these distributivity problems can be pinned solely on Bhatt's claim that the covert modal operator in an FIR has existential rather than universal force even under the *SHOULD* reading. If *SHOULD* readings involve universal modality, then the obligatory collective-like readings we find with plural definites (and partitives) would follow as a natural consequence. To see this, consider (47). It is plain that even under the distributive reading described in (47)b, Norman must marry all of the salient women, since he must marry each atomic part of the extension of the NP if the goal is to be satisfied.

(47) a. the women for Norman to marry

b. the unique (maximal) plural entity x such that for every x_i that is an atomic part of x, x_i is a woman and **Norman marrying x_i is required for goal-satisfaction**

What we think this suggests, then, is that Bhatt is wrong about the *SHOULD* reading being derived from an existential modal. If, instead, the modality is universal — i.e. if there is a covert *should* operator — then the problems with pluralities that we noted above do not arise. Of course, until we discover an explanation for the DMG, we still need to stipulate a difference between *COULD* and *SHOULD* readings of FIRs. But we think that we have given sufficient grounds for rejecting the particular manner in which Bhatt (1999/2006) stipulates the difference.

To sum up, Bhatt (1999/2006) represents, as far as we know, the only attempt in the literature to address either of the empirical generalizations that we have described in this paper. Bhatt tried to argue that key properties of FIRs, including the DMG, could be derived from an independently motivated account of infinitival questions. We have argued that Bhatt attempt was unsuccessful. If so, we are left without a proper explanation of either the DMG or the RMG, and they must remain, for now, unexplained puzzles. However, we have provided an argument that the right way to characterize the *SHOULD* reading of an FIR involves universal quantification.

5. Summary

We began this squib with the observation that *for*-infinitival relative clauses are ambiguous between two distinct readings, which can be distinguished by their modal force (*COULD* vs. *SHOULD*). This immediately raises the question of the source of the modal interpretations in FIRs. Are there two different (covert) operators that are selected depending on environmental properties? Or is there, instead, a single modal operator that is inherent to FIRs — one that gives rise to one of the readings in the default case but is subject to a shift of some kind depending on properties of the external environment, as Bhatt (1999/2006) tried to argue? Our critique of Bhatt's attempt to do this showed, we think, not that the view is untenable, but rather that, if a theory along these lines is to work, it must take the underlying modal to be universal and not existential.

While we did not attempt to derive the modal ambiguity inherent to FIRs, we did present a set of facts that, we think, ought to constrain the solution space. Specifically, we argued for two rather striking generalizations involving unexpected constraints on the choice of modal interpretation. First, the modal force internal to the FIR is constrained by the strength of the determiner (the DMG) — in particular, the *COULD*-reading requires a weak determiner. Second, the *COULD*-reading is possible only when the FIR has an internally-headed, raising structure and does not modify a matching external NP (the RMG).

These generalizations are surprising. Why should (and how could) the force of a covert modal operator embedded in an FIR be influenced by, on the one hand, a syntactically remote lexical item (the determiner external to the FIR), and on the other, the presence or absence of an external NP? One obvious question to ask is whether the puzzles are linked – that is, whether they both stem from a single

source. The DMG and the RMG do not appear to have much in common, at least superficially. However, we think it is telling that both generalizations involve constraints specific to the *COULD*-reading. While the *SHOULD*-reading is possible with any type of determiner and with either a raising or a matching structure, *COULD*-readings require weak readings of weak determiners, and no external NP. This at least suggests that the *SHOULD*-reading is the default one, while the *COULD*-reading arises in a very specialized syntactic and semantic environment.

Acknowledgements

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