

# A Crack at a Hard Nut: Attributive-Adjective Modality and Infinitival Relatives

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## 1. Introduction

My goal in this paper is to provide a compositional syntactic and semantic analysis of a common English DP construction. The DPs in question consist of an attributive adjective followed by a noun followed by an infinitival relative clause. Semantically, the adjective appears to modify not the immediately following noun, but the post-nominal infinitival relative clause. For this reason, I call the construction the CLAUSAL ATTRIBUTIVE-WITH-INFINITIVE CONSTRUCTION (clausal AIC); it has also been called the “hard nut” construction by Berman (1974), after the canonical example *a hard nut to crack*. The construction is theoretically important, I argue, because it reveals a modal dimension in the meaning of the adjectives that occur in it. The interpretation of the construction also requires us to recognize the importance of standards of comparison in assessing patterns of inference across sentences.

Examples of clausal AICs are given in (1).

- (1) a. This construction is a hard nut to crack. (Berman 1974:1)  
b. Bob is a good person (for me) to talk to.

Clausal AICs appear to be closely related to the *tough* construction—roughly, the clausal AIC looks like an attributive-adjective variant of the *tough* construction, which contains predicative adjectives—but there are important differences between the two that should be made clear at the outset. First, clausal AICs allow adjectives that do not occur in the *tough* construction, like *odd* (Quirk *et al.* 1985:1394). Second, the infinitival relative clause in a clausal AIC may contain an expletive subject, unlike the corresponding clause in the *tough* construction (Jacobson 1992; Levine and Hukari 2006). These differences are illustrated in (2) and (3).

- (2) a. Bob is an odd person (for me) to see in Berkeley.  
b. \* Bob is odd (for me) to see in Berkeley.
- (3) a. This is a tough building for there to be a riot in.  
b. July is an unusual month for it to snow (in).  
c. \* This building is tough for there to be a riot in.  
d. \* July is unusual for it to snow (in).

Clausal AICs must also be distinguished from a surface-identical construction in which the attributive adjective modifies the noun, instead of the infinitival relative, as in *Bob is a short guy for the Lakers to draft*. I call this construction the nominal AIC. It is distinguished semantically from the clausal AIC in part by the interpretation of inappropriateness that characterizes it: in the previous example, Bob is inappropriately short for the Lakers to draft him. No such inappropriateness interpretation need occur in clausal AICs. Clausal and nominal AICs are readily distinguished by the fact that adjectives that occur in clausal AICs can also occur in impersonal clauses, while those that occur in nominal AICs cannot:

- (4) a. Bob is a good person (for me) to talk to.  
b. It is good (for me) to talk to Bob.

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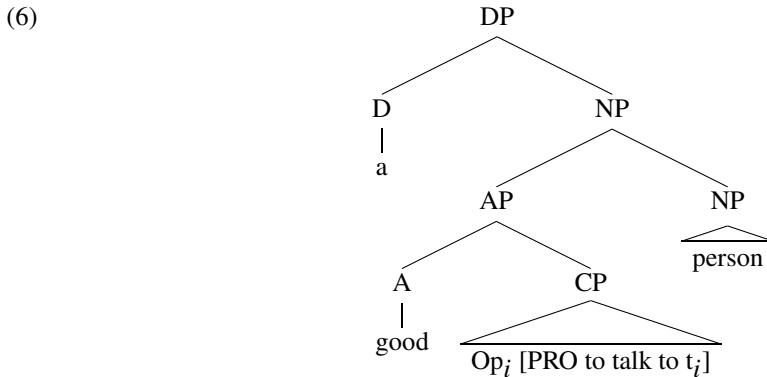
\* Thanks to Chris Barker, Andrew Garrett, Line Mikkelsen, three anonymous WCCFL reviewers, and audiences at WCCFL and the UC Berkeley syntax circle for helpful feedback and discussion of the issues presented here.

- (5) a. Bob is a short guy (for the Lakers) to draft.  
 b. \* It is short (for the Lakers) to draft Bob.

With the basic criteria for clausal AIC-hood established, we may move on to the syntactic analysis.

## 2. The Syntax of Clausal AICs

I propose that clausal AICs have the syntactic structure shown in (6), which contains the example *a good person to talk to*.



The tree in (6) shows the underlying structure of the DP, with the infinitival relative CP merged as the complement of the attributive adjective. This structure helps account for the fact that clausal-AIC adjectives are able to occur in impersonal constructions in which they take infinitival clause arguments, as in (4) above: in both cases, the infinitival clause is the argument of the adjective.

In order to derive the surface position of the infinitival clause, we must assume that it undergoes obligatory extraposition to the right edge of DP. This is consistent with the longstanding observation that no material may intervene between an attributive adjective and the noun it modifies in English. It also offers an explanation for what we see in comparative clausal AICs, where the infinitival relative and the comparative *than* clause may occur in either order at the right edge of DP. If we adopt the common assumption that comparative *than* clauses are also extraposed rightward (Bresnan 1973) and that the two phrases may be extraposed in either order, then the variability seen in (7) is readily explained.

- (7) a. Bob is a better person to talk to than Steve (is).  
 b. Bob is a better person than Steve (is) to talk to.

Evidence that the top-level DP shown in (6) is in fact a constituent comes from specificational copular clauses. As shown in (8), the infinitival relative must stay with the rest of the DP when the DP occurs in subject position; we thus cannot analyze the infinitival relative as, e.g., a sentence-final adverbial of some sort.

- (8) a. A good person to talk to is Bob.  
 b. \* A good person is Bob to talk to.

As for the internal structure of the infinitival clause, I propose that it is an ordinary infinitival relative with an A' operator that moves to SpecCP. Clausal-AIC infinitival clauses behave like typical infinitival relatives in allowing overt *wh*-movement when there is no overt complementizer but barring it when a complementizer is present (in this case, the C<sup>0</sup> *for*), as shown in (9) (McCawley 1998:440). As is also usual for infinitival relatives, null operator movement is permitted in clausal AICs even with overt *for*, as shown in (10). Further evidence that clausal-AIC *for* is indeed a complementizer, and not the head of a PP, comes from the grammaticality of expletive subjects, as seen above in (3) (cf. Levine and Hukari's (2006:ch. 7) arguments that the infinitival clause in the *tough* construction is best analyzed as a CP, and not as a PP VP string).

- (9) a. That's a good table on which to put a lamp.  
 b. \* That's a good table on which for me to put a lamp.
- (10) a. That's a good table to put a lamp on.  
 b. That's a good table for me to put a lamp on.

The gap in the infinitival relative clause is a typical  $A'$  gap, with null operator movement creating an unbounded dependency that shows the expected sensitivity to islands. The three examples in (11) show cases in which there is no island (a), a weak *wh*-island (b), and a strong subject island (c); the judgments of acceptability decline as expected from one example to the next.

- (11) a. That's an odd thing for Bob to think that people would buy \_\_.  
 b. ? That's an odd thing for Bob to ask whether people would buy \_\_.  
 c. \* That's an odd thing for Bob's remarks on \_\_ to provoke such an uproar.

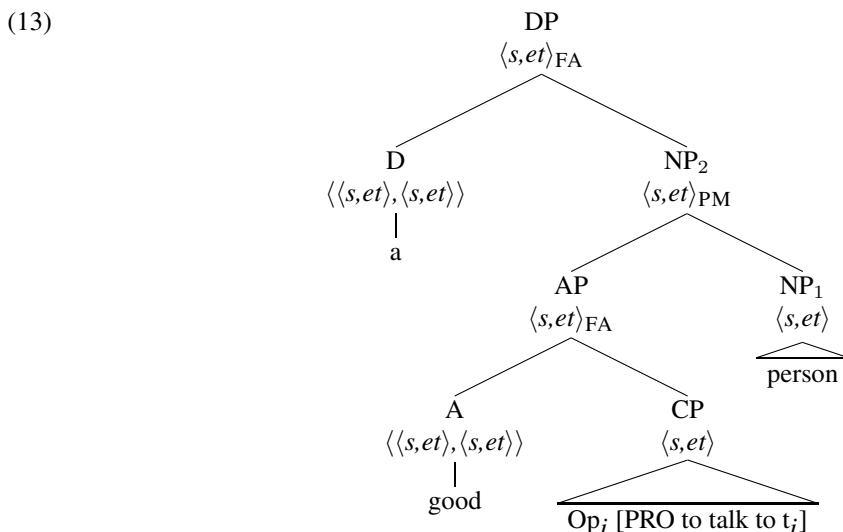
One advantage of the syntactic structure proposed here is that it offers us a natural account of the semantic scope of the adjective (to be discussed in greater detail below). That the adjective in a clausal AIC modifies the infinitival relative clause, and not the immediately following noun, is made plain by examples like those in (12), where the neighborhood in question is not good, the sum in question is not difficult, and the person in question is not stupid.

- (12) a. That is a good neighborhood to avoid.  
 b. 2 + 2 is a difficult sum to miscalculate.  
 c. Einstein is a stupid person to make fun of.

This semantic relation follows naturally from the syntactic structure proposed in (6), where the adjective takes the infinitival clause as its argument and the CP-containing AP adjoins to NP. A specific semantic implementation is proposed in the next section. For the time being, simply note that this relation is far more difficult to capture with a syntactic proposal like that of Flickinger and Nerbonne (1992:292), who suggest that the infinitival clause (a VP) adjoins to  $N'$  (the equivalent of NP in my analysis) only after the attributive adjective does so: [ $N'$  [ $N'$  A N] VP].

### 3. The Basic Semantic Composition

With the syntactic structure in (6) established, I propose the semantic type composition shown in (13) for clausal AICs. (Modes of composition are abbreviated as follows: FA, functional application; PM predicate modification, i.e., intersection (Heim and Kratzer 1998).)



As discussed above, the attributive adjective takes the infinitival relative CP as its argument in (13). This is just as in the related impersonal infinitival construction shown in (4), modulo the relative-clause status of the CP (to be discussed in greater detail immediately below). The complex AP combines with NP<sub>1</sub>, *person*, intersectively to form the higher NP<sub>2</sub>; section 5 contains additional discussion of this point. For simplicity, I assume that the indefinite article in (13) is an identity function on properties, following Heim and Kratzer's (1998:62) analysis of the indefinite article in predicative DPs.

One of the major semantic claims of this paper is that clausal-AIC adjectives should be analyzed as modals. Just as ordinary modals take clausal arguments, clausal-AIC adjectives take infinitival relative clause arguments, as shown in (13). Semantically, the modal adjective restricts and quantifies over the possible worlds in which the proposition expressed by the infinitival is evaluated. For example (13), I propose that the adjective *good* is a modal with a circumstantial modal base and a bouletic ordering source: i.e., a modal having to do with what is desirable or proper (Kratzer 1981). When applied to the infinitival relative CP, the adjective yields an interpretation that says that it is good (desirable, proper), given the facts of the world, to talk to the subject of the predicative DP.

I propose the lexical entries shown in (14) for the major elements of the DP in (13). Note that the entry for the CP is not, strictly speaking, a lexical entry, but rather the semantic representation of the structure that results from null operator movement. In (14a),  $\text{BOUL}_w$  stands for the set of worlds bouletically accessible from  $w$ . The PRO subject of the infinitival clause is represented by the free variable  $z$  of type  $e$  in (14b).

- (14) a.  $\llbracket A \rrbracket = \lambda P \lambda w \lambda x. \forall w' [w' \in \text{BOUL}_w] [P(w')(x)]$   
 b.  $\llbracket \text{CP} \rrbracket = \lambda w \lambda x. \text{talk-to}'(w)(x)(z)$   
 c.  $\llbracket \text{NP}_1 \rrbracket = \lambda w \lambda x. \text{person}'(w)(x)$

Composition and lambda reduction of the adjective and infinitival relative are shown in (15a); intersection of the resulting AP with NP<sub>1</sub> is shown in (15b). Truth conditions for the resulting expression are given in (16).

- (15) a.  $\llbracket \text{AP} \rrbracket = \llbracket A \rrbracket (\llbracket \text{CP} \rrbracket)$   
 $= \lambda w \lambda x. \forall w' [w' \in \text{BOUL}_w] [(\lambda w'' \lambda y. \text{talk-to}'(w'')(y)(z))(w')(x)]$   
 $= \lambda w \lambda x. \forall w' [w' \in \text{BOUL}_w] [\text{talk-to}'(w')(x)(z)]$   
 b.  $\llbracket \text{NP}_2 \rrbracket = \llbracket \text{AP} \rrbracket \wedge \llbracket \text{NP}_1 \rrbracket$   
 $= (\lambda w \lambda x. \forall w' [w' \in \text{BOUL}_w] [\text{talk-to}'(w')(x)(z)]) \wedge (\lambda w \lambda x. \text{person}'(w)(x))$   
 $= \lambda w \lambda x. \forall w' [w' \in \text{BOUL}_w] [\text{talk-to}'(w')(x)(z)] \wedge \text{person}'(w)(x)$   
 (16)  $\llbracket \forall w' [w' \in \text{BOUL}_w] [\text{talk-to}'(w')(x)(z)] \wedge \text{person}'(w)(x) \rrbracket = 1$  iff  $z$  talks to  $x$  in all worlds  $w'$ , bouletically accessible from world  $w$ , and  $x$  is a person in  $w$ .

With our assumption that the indefinite article is simply an identity function on properties, the expression in (15b) represents the meaning of the predicative DP *a good person to talk to*. To derive the meaning of the clausal AIC in (1b), we simply apply this expression to the actual world ( $w_{act}$ ) and Bob, yielding (17).

- (17)  $\forall w' [w' \in \text{BOUL}_{w_{act}}] [\text{talk-to}'(w')(Bob)(z)] \wedge \text{person}'(w_{act})(Bob)$

Given the truth conditions in (16), (17) means that Bob is talked to in all bouletically accessible worlds and that Bob is a person in the actual world. This seems like a reasonable denotation for the clausal AIC from (1b), *Bob is a good person to talk to* (though some refinements will be introduced in section 4). Note in particular that, by virtue of the intersective composition of AP and NP<sub>1</sub>, these two expressions share a world of evaluation. For AP, this world is the base of the modal accessibility relation introduced by the adjective, while for NP<sub>1</sub> it is the world of evaluation. This allows us to capture the fact that in clausal AICs the noun is not modalized: in (1b), Bob is asserted to be a person, irrespective of whether anyone achieves the bouletic ideal of talking to him.

The analysis proposed here suggests a close connection between clausal-AIC adjectives and their impersonal counterparts in (4). On analogy with the lexical entry for clausal-AIC *good* proposed in (14a), I suggest the lexical entry for impersonal *good*—as in *It is good to talk to Bob*—in (18a), with truth conditions in (18b).

- (18) a.  $\llbracket good \rrbracket = \lambda\phi\lambda w.\forall w'[w' \in \text{BOUL}_w][\phi(w')]$   
 b.  $\llbracket \forall w'[w' \in \text{BOUL}_w][\phi(w')] \rrbracket = 1$  iff  $\phi$  in all worlds  $w'$ , bouletically accessible from world  $w$ .

On this view, clausal-AIC adjectives and their impersonal counterparts have exactly the same truth conditions. They are both modals that restrict and quantify over the worlds in which a proposition is evaluated. They differ only in the syntactic composition of their propositional argument. Clausal-AIC adjectives are of type  $\langle\langle s, et \rangle, \langle s, et \rangle\rangle$ , relying on later composition with the matrix subject to saturate the missing individual argument of their propositional argument, while their impersonal counterparts are of type  $\langle st, st \rangle$ , combining right away with a fully saturated proposition.

#### 4. Contextual Restriction in Clausal AICs

In this section I qualify the claim that clausal AICs have the same meaning as their corresponding impersonal sentences. The modal accessibility relation in a clausal AIC is contextually restricted; this restriction, in turn, is a function of the meaning of the infinitival relative clause. No such restriction is seen in the corresponding impersonal sentences.

Consider the examples in (19) and the corresponding impersonals in (20). (Thanks to Chris Barker for bringing the importance of sentence (19a) to my attention.)

- (19) a. Polonium is a good substance to poison your enemies with.  
 b. The top of the head is a common part of the body for lightning to strike.
- (20) a. It is good to poison your enemies with polonium.  
 b. It is common for lightning to strike the top of the head.

The impersonal sentences in (20) have meanings that are far more general than those of the clausal AICs in (19). Whereas the impersonal in (20b) says that it is common in general for lightning to strike people on the tops of their heads, the clausal AIC in (19b) says that the top of the head is a common target *in the event of a lightning strike*. The (a) examples are interpreted analogously. Clearly, we must modify our earlier claim that clausal AICs and corresponding impersonals have the same truth conditions.

I suggest that we may implement the appropriate modification to our clausal-AIC semantics by appealing to contextual restriction. Intuitively, the clausal AIC in (19a) may be paraphrased with an impersonal sentence like (20a) if the latter occurs as the consequent of a conditional construction: *If you want to/are going to poison your enemies with something, it is good to poison your enemies with polonium*. This is analogous to the interpretation of root modals and imperatives in conditional constructions, where the modal or imperative force is relativized to the context set up by the *if* clause, as shown in (21).

- (21) a. If you want to poison your enemies, you should get some polonium.  
 b. If you want to poison your enemies, get some polonium!

Clearly, the consequent clauses in (21) are not interpreted as general exhortations or commands to acquire polonium; rather, those exhortations and commands are relativized to contexts in which the hearer has the object or intention of poisoning his enemies. Similarly, the clausal AIC in (19a) says not that it is good, in general, to poison one's enemies with polonium, but rather that it is good to do so in situations where one has the object or intention of poisoning one's enemies with something.

These observations suggest that the contextual restriction seen in clausal AICs is a function of the interpretation of the infinitival relative clause. We may adopt the denotation shown in (22) for the infinitival relative CP *to poison your enemies with*. (As above, the PRO subject is represented by the free variable  $z$ , of type  $e$ ; the verbal denotation is simplified somewhat, with **poison-with'** treated as a three-place predicate here.)

- (22)  $\lambda w\lambda x.\text{poison-with}'(w)(enemies)(x)(z)$

In (22), the infinitival relative denotes a set of world-individual pairs: for a given world and a given thing, it says that one poisons one's enemies with that thing in that world. I propose that in clausal AICs, the context set for the adjectival modality is restricted to those worlds that occur in such a world-individual pair. This context set is shown in (23).

$$(23) \text{ Context set} = \{w' | \exists y[\langle w', y \rangle \in \lambda w \lambda x. \mathbf{poison-with}'(w)(enemies)(x)(z)]\}$$

The context set in (23) is simply the set of worlds in which one poisons one's enemies with something. These, I propose, are the worlds under consideration when one evaluates the modal adjective in the clausal AIC in (19a). With this contextual restriction in place, the criteria for desirability (associated with the bouletic modal adjective *good*) shift, just as the relevant criteria shift for root modals and imperatives in (21) above. That is, if we are only able to consider worlds in which one poisons one's enemies with something, then even the worlds that come closest to the bouletic ideal will be worlds in which a poisoning takes place. The clausal AIC in (19a) then tells us that those worlds in which polonium is the poisoning instrument are worlds that approach the bouletic ideal.

I show a modified lexical entry for the modal adjective *good* in (24), with the full denotation for (19a) in (25). The contextual restriction for the modal accessibility relation is indicated by what follows the colon in each case. (It is possible that the contextual restriction would be more appropriately modeled as a contextual update function; I include it in the lexical entry here for expediency.)

$$(24) \llbracket good \rrbracket = \lambda P \lambda w \lambda x. \forall w' [w' \in \text{BOUL}_w : \{w'' | \exists y[\langle w'', y \rangle \in P]\}] [P(w')(x)]$$

$$(25) \llbracket (19a) \rrbracket = \forall w' [w' \in \text{BOUL}_{w_{act}} : \{w'' | \exists y[\langle w'', y \rangle \in \lambda w \lambda x. \mathbf{poison-with}'(w)(enemies)(x)(z)]\}] \\ \llbracket \mathbf{poison-with}'(w')(enemies)(polonium)(z) \rrbracket \wedge \llbracket \mathbf{substance}'(w_{act})(polonium) \rrbracket$$

The contextual restriction seen in clausal AICs thus has a “concealed conditional” effect, altering the evaluation of the adjectival modality just as the overt conditionals in (21) alter the evaluation of root modals and imperatives. The way in which the context is restricted is a function of the infinitival relative clause denotation, as shown in (23) through (25). With this relatively minor modification to our clausal-AIC semantics, we are able to capture an importance difference between the meanings of clausal AICs and their impersonal counterparts.

## 5. Intersectivity and Standards of Comparison

In this section I provide further discussion of the intersective composition of AP and NP proposed in section 3. I show in particular that my account is able to deal with the apparent intensionality of adjectives like *good*, despite the fact that this phenomenon has been thought to demonstrate the invalidity of intersective approaches to the semantics of such adjectives. I suggest that the patterns of inference that have given rise to the intensional approach are better analyzed as the result of shifting standards of comparison.

It is commonly argued that adjectives like *good* should not be treated as intersective modifiers (see, e.g., Siegel 1976). The piece of evidence most commonly brought to bear on the issue is the failure of certain inferential patterns to be preserved when such adjectives are used. For example, suppose that Bob is both a linguist and a swimmer. If these nouns are modified by an intersective adjective like *bald*, the biconditional in (26) is valid.

$$(26) \text{ Bob is a bald linguist.} \leftrightarrow \text{Bob is a bald swimmer.}$$

By contrast, when the adjective *good* is used, neither inference is preserved: Bob's being a good linguist says nothing about whether he is a good swimmer, and vice versa. This is shown in (27). The same behavior is observed in clausal AICs, as shown in (28).

$$(27) \text{ Bob is a good linguist.} \not\rightarrow \text{Bob is a good swimmer.} \\ \text{Bob is a good linguist.} \not\leftarrow \text{Bob is a good swimmer.}$$

$$(28) \text{ Bob is a good linguist to talk to.} \not\rightarrow \text{Bob is a good swimmer to talk to.} \\ \text{Bob is a good linguist to talk to.} \not\leftarrow \text{Bob is a good swimmer to talk to.}$$

The inferential failure seen in (27) led Siegel and others to conclude that adjectives like *good* operate on the intensions of the following nouns, and consequently that they are functors that take the nouns they modify as arguments. As Larson (1998) discusses, however, there are serious problems with relying on intensionality as an explanation for the apparent non-intersectivity of adjectives like *good*. First and foremost is the fact that the inferences in (27) would fail even if it were necessarily the case that Bob

is both a linguist and a swimmer. Whatever causes the inferential failure in (27) is thus independent of the possible worlds in which the noun and adjective meanings are evaluated. It seems that we must look elsewhere for an explanation. (Larson proposes that the adjectives intersectively modify an event argument associated with the nouns in question. I will pursue a different approach here.)

I propose that the inferential failure in (27)—and in the clausal-AIC examples in (28)—is the result of there being different standards of comparison in the different sentences. Adjectives like *good* are gradable. Even in the positive form, gradable adjectives have a standard of comparison associated with them: when we say, e.g., *That book is good*, we say that the degree of goodness associated with the book exceeds a contextually determined standard (or, if the degree of the book’s goodness is already known to all interlocutors, such an utterance may be used to help determine the value of the contextually relevant standard; see Barker 2002). The entailments in (27) and (28) fail to go through, I suggest, because someone’s meeting the standard of goodness (or goodness-to-talk-to) for linguists does not guarantee that he meets the standard for swimmers, and vice versa. This standard-based account of (27) and (28) is fully compatible with an intersective treatment of the AP–NP composition.

Let us adopt the semantics for gradability developed by Kennedy (1999). In Kennedy’s system, gradable adjectives denote measure functions, i.e., functions that return degrees. Such adjectives are the arguments of  $\text{Deg}^0$  morphemes that specify a relation between two degrees. For example, in the sentence *This book is longer than that book*, the  $\text{Deg}^0$  morpheme *-er* says that the degree of length associated with the subject (i.e.,  $d_1 = \mathbf{long}'(\text{this book})$ ) exceeds the standard value (in this case,  $d_2 = \mathbf{long}'(\text{that book})$ ). Other  $\text{Deg}^0$  morphemes, like *less* and *as*, specify other types of relations between degrees.

For clausal AICs, the  $\text{Deg}^0$  head involved is the phonologically null positive morpheme, POS, which states that the degree of interest meets or exceeds the standard value (Kennedy 2007). For our example (19a), we are concerned with the degrees of goodness associated with poisoning one’s enemies with various substances. We can imagine many such degrees, as shown in (29). (The subscript C indicates the contextual restriction on the modal adjective, as described in section 4. I leave for future research the problem of reconciling the semantic representations in (29) with the syntactic structure proposed earlier, and more generally the problem of integrating the modal analysis of the construction with the gradable semantics discussed in this section, though (30) below is a first stab in this direction.)

$$(29) \quad \begin{aligned} d_1 &= \mathbf{good}'_C(\lambda w.\mathbf{poison-with}'(w)(enemies)(polonium)(z)) \\ d_2 &= \mathbf{good}'_C(\lambda w.\mathbf{poison-with}'(w)(enemies)(arsenic)(z)) \\ d_3 &= \mathbf{good}'_C(\lambda w.\mathbf{poison-with}'(w)(enemies)(chocolate)(z)) \\ &\dots \end{aligned}$$

The clausal AIC in (19a) says that the degree of goodness associated with poisoning one’s enemies with polonium—i.e., degree  $d_1$  in (29)—meets or exceeds the relevant standard of goodness (subject to the contextual restriction described in section 4). Normally, the relevant standard will be a function of the meanings of the infinitival relative CP and the noun in the clausal AIC. For (19a), this would be a standard of goodness for substances with which one poisons one’s enemies.

Turning to the clausal AICs in (28), we now see that the two sentences will have different standards of comparison. The standard of goodness-to-talk-to (for lack of a better term) for linguists is not the same as the standard for swimmers, or at least there is no guarantee that they will be the same. Even if the degree to which it is good to talk to Bob—i.e.,  $d_B = \mathbf{good}'_C(\lambda w.\mathbf{talk-to}'(w)(Bob)(z))$ —meets or exceeds the standard for linguists, we cannot conclude that it also meets or exceeds the standard for swimmers, and vice versa. This is the source of the inferential failure in (28). Note that the inferential failure, which is the result of the different standards in the two sentences, is completely independent of whether or not Bob is linguist and a swimmer. We correctly predict that even in a situation in which Bob is both a linguist and a swimmer, the entailments in (28) are invalid. The intersective analysis of the AP–NP composition proposed in section 3 can thus be maintained.

Finally, something must be said about the connection between the gradability of adjectives like *good* and their modality. I propose that the lexical entry for *good* contains the biconditional shown in (30) (where STND represents the relevant standard of comparison).

$$(30) \quad \mathbf{good}'_C(\lambda w.\phi(w)) \geq \text{STND} \leftrightarrow \forall w[w \in \text{BOUL}_C][\phi(w)]$$

The biconditional in (30) simply states that whenever the degree of goodness associated with the propositional argument of *good* exceeds the relevant standard, the proposition is true in all bouletically accessible worlds. Apart from making explicit the connection between the gradable and modal components of the adjective's semantics, this also helps us capture an important fact about comparative clausal AICs like (31).

(31) Bob is a good person to talk to, but Susan is a better person to talk to.

In (31), both the degree of goodness associated with talking to Bob and that associated with talking to Susan meet or exceed the relevant standard; however, Susan's degree is greater than Bob's. Intuitively, this means that, while one can talk to Bob or Susan in bouletically accessible worlds, it is possible to revise the relevant standard of goodness upwards such that one can no longer talk to Bob in such worlds. The intuition is captured naturally by the biconditional in (30); simply drop in the propositions  $\lambda w.\mathbf{talk-to}'(w)(Bob)(z)$  and  $\lambda w.\mathbf{talk-to}'(w)(Susan)(z)$  for  $\phi$  and adjust the standard value STND.

## 6. Issues for Future Research

One important issue not addressed here is an ambiguity in the clausal AIC itself. Consider an example like (32).

(32) Bob is a good psychiatrist to talk to.

According to the semantic proposal presented above, (32) means that Bob is a psychiatrist and that one talks to Bob in bouletically accessible worlds. This description, however, fails to address the issue of whether Bob's meeting the good-to-talk-to threshold has anything to do with his being a psychiatrist. On the most readily available reading of (32), his being a psychiatrist seems to be relevant: in uttering (32), one says that, as psychiatrists go, Bob is a good one to talk to. The other reading, in which Bob's being a psychiatrist is completely unrelated to his being good to talk to, is available but dispreferred (likely due to the fact that psychiatrists are people with whom one's typical encounter involves lots of talking).

While I do not have a positive proposal for how to deal with the first reading, in which Bob's being a psychiatrist is relevant for his being good to talk to, I believe that we can safely rule out an analysis that ascribes the ambiguity to a difference in standards of comparison. To begin, note that there likely are different standards involved in the two readings: the standard of goodness-to-talk-to for psychiatrists, and a more general standard of goodness-to-talk-to. We could imagine that the ambiguity of (32) is tied to this difference, i.e., that each reading takes a different standard of comparison and says that Bob meets or exceeds it. This view becomes untenable, however, in the face of comparative clausal AICs like (33).

(33) Bob is a better psychiatrist to talk to than Steve (is).

If we adopt a standard semantics for the comparative Deg<sup>0</sup>-*er*, then (33) states that the Bob's degree of goodness-to-talk-to exceeds Steve's. Now imagine that Bob's degree exceeds Steve's both in the case where their being psychiatrists is relevant and in the case where it is not. Under such circumstances, (33) makes exactly the same statement in each case, i.e., that Bob's degree exceeds Steve's. The semantics does not allow us to differentiate between the two cases, as we could in (32), where we could appeal to different standards of comparison. Nonetheless, the ambiguity survives in (33). The ambiguity must therefore be tied to something other than different standards of comparison. It is possible that the ambiguity could be modeled as a difference in the semantic scales associated with the two readings, rather than as a difference in standards located on a single scale. I leave this issue for future research.

I am indebted to Manfred Krifka for bringing the importance of this ambiguity to my attention during the question period at WCCFL.

## 7. Summary

I have provided a compositional syntactic and semantic analysis of clausal AICs, a common but understudied English construction. I have argued that clausal AICs reveal a modal dimension in the meaning of the adjectives that occur in them, and shown in my analysis how to account for the fact that while the infinitival relative clause is modalized, the noun adjacent to the adjective is not. I have

also discussed the role of contextual restriction in clausal-AIC interpretation, and how this differentiates clausal AICs from their impersonal paraphrases. Finally, I have argued that an intersective analysis of the AP–NP composition in clausal AICs is compatible with the inferential failures discussed in section 5 once we recognize the role of standards of comparison in producing the inferential patterns in question.

## References

- BARKER, CHRIS. 2002. The dynamics of vagueness. *Linguistics and Philosophy* 25.1–36.
- BERMAN, ARLENE. 1974. *Adjectives and Adjective Complement Constructions in English*. Cambridge, Mass.: Harvard University dissertation. [Report no. NSF-29].
- BRESNAN, JOAN W. 1973. Syntax of the comparative clause construction in English. *Linguistic Inquiry* 4.275–343.
- FLICKINGER, DAN, and JOHN NERBONNE. 1992. Inheritance and complementation: A case study of *easy* adjectives and related nouns. *Computational Linguistics* 18.269–309.
- HEIM, IRENE, and ANGELIKA KRATZER. 1998. *Semantics in Generative Grammar*. Malden, Mass.: Blackwell.
- JACOBSON, PAULINE. 1992. The lexical entailment theory of control and the *tough* construction. In *Lexical Matters*, ed. by Ivan A. Sag and Anna Szabolcsi, 269–299. Stanford: CSLI Publications.
- KENNEDY, CHRISTOPHER. 1999. *Projecting the Adjective: The Syntax and Semantics of Gradability and Comparison*. New York: Garland.
- KENNEDY, CHRISTOPHER. 2007. Vagueness and grammar: The semantics of relative and absolute gradable predicates. *Linguistics and Philosophy* 30.1–45.
- KRATZER, ANGELIKA. 1981. The notional category of modality. In *Words, Worlds, and Contexts: New Approaches in Word Semantics*, ed. by H.-J. Eikmeyer and H. Rieser, 38–74. Berlin: Walter de Gruyter.
- LARSON, RICHARD. 1998. Events and modification in nominals. In *Proceedings of Semantics and Linguistic Theory VIII*, ed. by Devon Strolovitch and Aaron Lawson, 145–168. Ithaca: CLC Publications.
- LEVINE, ROBERT D., and THOMAS E. HUKARI. 2006. *The Unity of Unbounded Dependency Constructions*. Stanford: CSLI Publications.
- MCCAWLEY, JAMES D. 1998. *The Syntactic Phenomena of English*. Chicago: University of Chicago Press, second edition.
- QUIRK, RANDOLPH, SIDNEY GREENBAUM, GEOFFREY LEECH, and JAN SVARTVIK. 1985. *A Comprehensive Grammar of the English Language*. London and New York: Longman.
- SIEGEL, MUFFY E. A. 1976. *Capturing the Adjective*. Amherst: University of Massachusetts, Amherst dissertation.

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