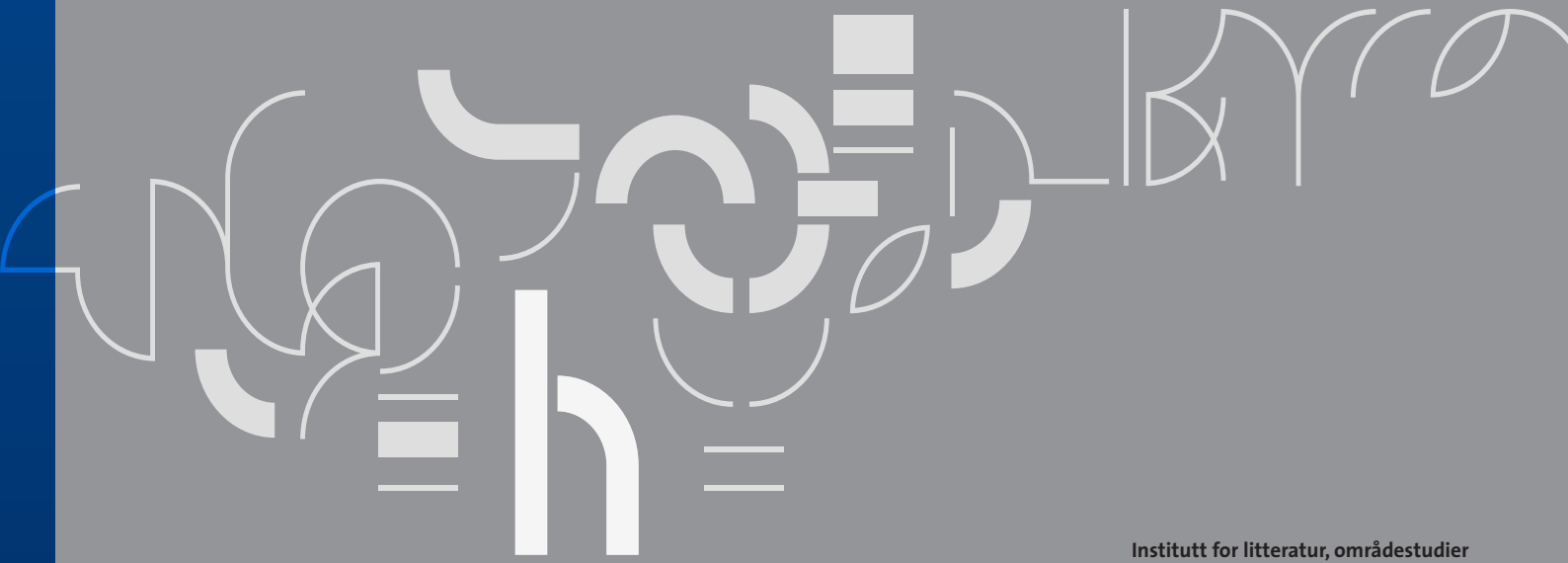
UNIVERSITY OF OSLO
FACULTY OF HUMANITIES

Stereotypes, Desires, and Constructions

David Y. Oshima
International Student Center
Ibaraki University



Institutt for litteratur, områdestudier
og europeiske språk

Department of Literature, Area Studies and
European Languages

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Stereotypes, Desires, and Constructions *

David Y. Oshima
International Student Center
Ibaraki University

oshima@mx.ibaraki.ac.jp

Abstract

This paper develops a semantic analysis of the three constructions: (i) the subject-oriented adverb construction (*Wisely, John left early*), (ii) the 'Adj. + to Inf.' construction (*John was wise to leave early*), and (iii) the 'Adj. + of NP' construction (*It was wise of John to leave early*), which all involve three semantic components: (i) an individual a (*John*), (ii) a property P_1 that describes a mental/behavioral propensity (*wise*), and (iii) another property P_2 which typically describes an action (*leave early*). I argue that the three constructions share the meaning along the lines of: '$P_2(a)$, and P_2 is one of the properties that are expected to be true of any x such that $P_1(x)$', while they differ as to which component they assert/pressupose. I further demonstrate that this analysis allows us to solve two known semantic puzzles concerning these constructions, the "entailement puzzle" and the "embeddability puzzle".

1 Introduction

This paper develops a semantic analysis of the three constructions illustrated in (1), which, for convenience, I call the subject-oriented adverb construction (so-adv-cxn), the 'Adj. + to Inf.' construction (adj-to-inf-cxn), and the 'Adj. + of NP' construction (adj-of-np-cxn).

(1) a. Wisely, John left early. (so-adv-cxn)
b. John was wise to leave early. (adj-to-inf-cxn)
c. It was wise of John to leave early. (adj-of-np-cxn)

The adverb in a so-adv-cxn is called subject-oriented (Jackendoff 1972) because it appears to characterize the referent of the subject, rather than the event denoted by the main predicate (as in: *John walked gracefully* ≈ *John walked in a graceful manner*) or

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the proposition denoted by the sentence (as in: *Probably, John failed the exam* ≈ *It is probable that John failed the exam*).

As has been pointed out in previous studies, the three constructions are roughly synonymous (Wilkinson 1970, 1976, Jackendoff 1972, Tenny 2000).[1] The exact meaning of the three constructions, however, is harder to pin down than it may appear. In particular, there are two known semantic puzzles related to these constructions, which must be accounted for by any sensible analysis of them (Wilkinson 1970, 1976, Barker 2002). First, from (1a–c) it does not follow that John is a wise person (ENTAILMENT PUZZLE). Second, the adj-to-inf-cxn and adj-of-np-cxn cannot be embedded under a predicate of intention, desire, or command, while the so-adv-cxn seems not to be subject to this constraint (EMBEDDABILITY PUZZLE).

I propose that the meaning shared by (1a–c) is along the lines of: 'John left early, and leaving early is one of the properties that are expected to be true of any wise individual', and demonstrate that this analysis solves the two puzzles at once.

2 Semantic properties of the three constructions

2.1 Semantic similarities

Semantically, the three constructions have been said to be (roughly) equivalent (Wilkinson 1970:430, 1976:164–166, Jackendoff 1972:57, among others). They all involve (i) an individual a (*John* in (1)), (ii) a property P_1 that describes a characteristic of an individual (*wise*), and (iii) another property P_2 which typically describes an action (*leave early*) as semantic components. Also, they all force a peculiar "relativized" interpretation of P_1 (see below).

Some adverbs (adverbial forms) are ambiguous between the "subject-oriented" use and the "verb-oriented" use. Jackendoff (1972:49) notes, for example, (2a) is ambiguous between (3a) and (3b); when the adverb is fronted to precede the subject (as in (2b)), the subject-oriented interpretation is elicited.

(2) a. John cleverly dropped his cup of coffee.
b. Cleverly, John dropped his cup of coffee.

(3) a. It was clever of John to drop his cup of coffee.
b. The manner in which John dropped his coffee was clever.

Adjectives (adjectival bases) that can fill in the P_1 slot of the three constructions include those listed below, which describe a mental/behavioral propensity of a sentient individual.

[1] They differ as to which part of their meaning they assert/presuppose; see below.

(4) bold, brave, careful, careless, clever, clumsy, (in)considerate, crazy, cruel, foolish, impudent, (un)kind, mean, (im)polite, right, (un)wise, wicked, wrong, smart, stupid

There is another, smaller class of adjectives which can participate in the so-adv-cxn and adv-to-inf-cxn, but seemingly not the adv-of-np-cxn.

(5) (un)lucky, (un)fortunate

(6) a. Luckily, John passed the exam.
b. John was lucky to pass the exam.
c. ?*It was lucky of John to pass the exam.
cf. It was lucky for John to pass the exam.

Following Wilkinson (1970, 1976), I call the former type of adjectives the *W(ise)* class, and the latter type the *L(ucky)* class.

Roughly, we can make the following generalizations: (i) the adv-of-np-cxn selects for the W class (and nothing else) for its P_1 slot, and (ii) the adj-to-inf-cxn and adv-to-inf-cxn select for the W class and the L class (and nothing else) for their P_1 slot.[2]

2.2 The "relativized" interpretation of P_1

One intriguing issue about the three constructions is the fact that none of them entails $P_1(a)$. Regarding the adj-to-inf-cxn, Barker (2002) illustrates this point with the following examples:

(7) a. Feynman is stupid.
b. Feynman is stupid to dance like that.

> "In [(7a)], Feynman is habitually stupid, or disposed or likely to behave stupid. In [(7b)], Feynman's stupidity is limited to his participation in a

[2]There are some exceptions/irregularities, however. For one thing, adjectival bases like *silly* and *cowardly* do not have corresponding adverbs derived with *-ly*, or such forms are awkward and marginal (e.g., *∼??*sillily*). This is apparently due to a dissimilatory phonological constraint.

Also, as noted by Jackendoff (1972:57), the base *careful* is rarely used in the adj-of-np-cxn, although it appears to belong to the W class (the judgements in (i) are Jackendoff's).

(i) a. Carefully, John spilled the beans.
b. John was careful to spill the beans.
c. *It was careful of Jonn to spill the beans.

This is probably because the sequence *careful of* elicits the "transitive" interpretation (of *careful*) as in 'The beaver stayed in the water, because it was careful of predators' to the effect that the other interpretation where the same sequence is part of the adj-of-np-cxn is obscured.

There may be other exceptions. Undoubtedly, certain combinations (of bases and constructions) are more commonly used than others, and it is often difficult to tell whether a given combination is ungrammatical or merely disliked.

> specific dancing event. Certainly neither sentence entails the other: Feynman might very well be stupid to dance wildly, in which case [(7b)] is true, at the same time he is a Nobel laureate, in which case [(7a)] may very well be false." (Barker 2002:3)

The same remark applies to the so-adv-cxn and the adj-of-np-cxn too.

One may be tempted to solve this puzzle by resorting to the distinction of individual-level vs. stage-level properties. Stowell (1990), in this spirit, proposes that dispositional adjectives like *stupid* and *kind* are coerced to receive the stage-level interpretation when combined with an infinitival complement, although they typically refer to an individual-level property.

Stowell's analysis of the adj-to-inf-cxn, however, cannot be maintained; as effectively demonstrated by Kertz (2006), a number of diagnostics unanimously indicate that the adjective in the P_1 slot of the adj-to-inf-cxn is individual-level, rather than stage-level. For instance, a typical stage-level predicate, such as *eager*, allows both the generic reading and existential reading of a bare plural subject, while a typical individual-level predicate allows only the generic reading. The main adjective in an adj-to-inf-cxn shows the latter pattern.

(8) a. American consumers are smart. (∀/*∃)
b. American consumers are smart to buy foreign goods. (∀/*∃)
c. American consumers are eager to buy foreign goods. (∀/∃)

Also, stage-level predicates can be felicitously embedded under *see/hear* but not under *consider/find*. Individual-level predicates show the opposite pattern, and so do propensity adjectives with a *to*-infinitive.

(9) a. *We have all seen the senator smart (to avoid controversy).
b. We all consider the senator smart (to avoid controversy).
c. We have all seen the senator eager to avoid controversy.
d. *We all consider the senator eager to avoid controversy.

Most of the diagnostics taken up by Kertz (2006) are not applicable to the so-adv-cxn or the adj-of-np-cxn (for syntactic reasons); however, based on (i) the fact that the three constructions are intuitively synonymous, and (ii) the result of the test with a bare plural illustrated in (10), it seems reasonable to conclude that in these two constructions too, P_1 denotes an individual-level (rather than stage-level) property.

(10) a. Smartly, American consumers buy foreign goods. (∀/*∃)
b. It is smart of American consumers to buy foreign goods. (∀/*∃)

To give a solution to the entailment puzzle, thus, the three constructions need to be assigned a logical form that does not entail $P_1(a)$ in the first place.

3 Proposal

In this section, I put forth a semantic analysis of the three constructions, which gives a solution to the "entailment puzzle" mentioned above, as well as the "embeddability puzzle" to be explained below. Then, in the following section, I compare the proposed analysis with its major alternatives, including Barker's (2002).

3.1 Stereotypical associations between properties

As pointed out by Wilkinson (1970:432), the adj-to-inf-cxn and the adj-of-np-cxn cannot be embedded under a predicate of intention, command, or desire (see also Barker 2002:3,26).

(11) a. #Feynman intended [to be rude to be utterly honest].
b. #I wanted it to be stupid of Feynman to dance like a fool.
c. #Bob asked the man to be bold to dash into the cave.

(Barker 2002:3,29, Wilkinson 1970:432)

Embedding of a so-adv-cxn results in an awkward sentence, but this appears to be because of a syntactic, rather than semantic, reason.

(12) a. (?)Ken intended to nicely help out John.
b. (?)Ken wanted John to wisely make a formal apology.
c. (?)Ken asked John to boldly dash into the cave.

I propose that the meaning shared by the three constructions is along the lines of: '$P_2(a)$, and P_2 is one of the properties that are expected to be true of any x such that $P_1(x)$'. This analysis solves the entailment puzzle and the embeddability puzzle at once. $P_1(a)$ is not entailed, simply because it is not part (a conjunct) of the logical form. Also, under this analysis, the issue of unembeddability illustrated in (11) can be treated as a special case of the phenomenon illustrated in (13) and (14):

(13) a. Anyone who dances like a fool is expected to be stupid.
b. #I want anyone who dances like a fool to be expected to be stupid.

(cf.) I want anyone who dances like a fool to be punished.

(14) a. It is expected of anyone who dances like a fool to be stupid.
b. #I wanted it to be expected of anyone who dances like a fool to be stupid.
c. #I asked that it be expected of anyone who dances like a fool to be stupid.

(cf.) a. I want it to be illegal for anyone who dances like a fool to attend a party.
b. I asked that it be illegal for anyone who dances like a fool to attend a party.

Whether one's intention, desire, or command is fulfilled or not is contingent on the state of affairs in the actual world (in the future). On the other hand, whether two properties, P_1 and P_2, stand in the law-like relation of: 'P_2 is expected to be true of any x such that $P_1(x)$' is not affected by "the way things are". One cannot make this relation hold or not hold by manipulating worldly entities (or in other words, by manipulating the world parameter within the range of accessible worlds), and in this sense, the meaning of the three constructions is beyond one's intention, desire, or command.

The reader may have noticed that, although the truth of 'P_2 is expected to be true of any x such that $P_1(x)$' is not controllable in the sense discussed above, '$P_2(a)$, and P_2 is expected to be true of any x such that $P_1(x)$' is controllable (the first conjunct being controllable). This, indeed, explains the embeddability of the so-adv-cxn illustrated in (12). How come, then, the adj-to-inf-cxn and the adj-of-np-cxn cannot be embedded? Crucially, in these two constructions, $P_2(a)$ is presupposed, rather than asserted (see below). The presupposed meaning of a complement is not interpreted as (part of) the target of intention, desire, etc., as can be seen from the fact that (15a) may well be true when (15b) is false (see Heim 1992, Oshima 2006).

(15) a. Feynman wanted to manage to talk to Seinfeld.
b. Feynman wanted it to be difficult to talk to Seinfeld.

3.2 Logical formulation

The law-like relation of two properties discussed above can be formulated with an expectation operator ('It is expected that', 'It is in the normal course of events that'; Meyer and van der Hoek 1996, Shai et al. 2001). An expectation operator can be defined, as one possibility, as a variant of the necessity operator whose base is properly restricted to "stereotypical worlds" (Kratzer 1981), where nothing surprising happens.

(16) $[\![\Box_E \phi]\!]^{w,g} = 1$ iff for every stereotypical world w', $[\![\phi]\!]^{w',g} = 1$.

An "expectation operator as a necessity operator", however, leads to an undesirable consequence when used in combination the above semantic analysis of the three constructions (see fn.3). For this reason, I adopt the following alternative.

(17) $[\![E\phi]\!]^{w,g} = 1$ iff $[\![\phi]\!]^{w',g} = 1$, where w' is the stereotypical world that is closest to w.

where distance between worlds is defined as follows:

(18) For all worlds w, w', and w", w' is closer to w than w" is (i.e., the distance between w and w' < the distance between w and w") iff {p: w ∈ p and w" ∈ p} ⊂ {p: w ∈ p and w' ∈ p}.

The E operator shifts the world of evaluation to what Francez (1992) calls the "expected world", where everything happens according to expectation and which is similar to the actual world in all other respects. An expectation operator of this sort can be used to describe the meaning of certain natural language expressions, including and in particular 'but'; i.e., ϕ *but* ψ would translate as $[[\phi \wedge \psi] \wedge \mathrm{E}[\phi \rightarrow \neg\psi]]$.

With the E operator, the basic semantic format of the three constructions can be formulated as follows:

(19) $P_2(a) \wedge \mathrm{E}[\forall x[P_2(x) \rightarrow P_1(x)]]$

If we instantiate a, P_1, and P_2 with 'John', 'wise', and 'leave early', we obtain the following, which can be informally paraphrased as 'John left early, and in view of the normal course of events, whoever left early would be wise' or 'John left early, and typically early-leavers are wise'.[3]

(20) $\mathbf{leave\text{-}early}(\mathbf{john}) \wedge \mathrm{E}[\forall x[\mathbf{leave\text{-}early}(x) \rightarrow \mathbf{wise}(x)]]$

Notice that, under this analysis, a speaker who utters: 'John was wise to leave early' is not committed to the truth of 'John is (or was) wise'; he may well be aware that the actual world is full of surprising and unexpected events (e.g., an unwise person's leaving early). To refute this utterance, thus, one must either convince the utterer that as a matter of fact John did not leave early, or that early-leavers are not expected to be wise (because they miss the most fun part of the party, etc.). Notice also that a speaker who utters: 'John was wise to leave early' is not either committed to the statement that typically wise people leave early (wise people are expected to leave early); this point becomes clear when we take an example like: 'Brutus was cowardly to stab Caesar in the back' – it is sensible to infer from the fact that somebody stabbed Caesar from the back that the stabber is cowardly, but it is far from sensible to infer from the fact that somebody (say, a neighbor of yours) is cowardly that the coward stabbed Caesar in the back.

[3]The alternative formulation in (i) with the expectation-as-necessity operator leads to problematic results regarding sentence like (ii).

(i) $P_2(a) \wedge \Box_{\mathrm{E}}[\forall x[P_2(x) \rightarrow P_1(x)]]$

(ii) John was smart to bring an umbrella on June 1st, the day when it started pouring in the afternoon.

In the actual world, bringing an umbrella on June 1st turned out to be a smart act. We cannot, however, conclude from this that in all stereotypical worlds every person who brought an umbrella on June 1st was smart, because stereotypical worlds may include worlds where it did not rain on that day.

In those stereotypical worlds where it did not rain on June 1st, smart people would have *not* brought an umbrella – because of their smart decisions. Thus, the formulation in (i) would make sentence (ii) false in situations where it is intuitively true.

The formulation in (19) is exempt form this problem, as the E operator has the effect of excluding "irrelevant" stereotypical worlds from consideration.

As mentioned above, the adj-to-inf-cxn and adj-of-np-cxn presuppose, rather than assert, $P_2(a)$ (Wilkinson 1970, Barker 2002). This can be confirmed by standard diagnoses with negation, modal quantification, etc.

(21) a. John was wise to leave early.
b. John wasn't wise to leave early.
c. Perhaps John was wise to leave early.

(22) a. It was wise of John to leave early.
b. It wasn't wise of John to leave early.
c. Perhaps it was wise of John to leave early.

All sentences in (21) and (22) entail 'John left early'. The so-adv-cxn, in contrast, asserts $P_2(a)$ and presupposes 'P_1 is expected to be true of any x such that $P_2(x)$'.

(23) a. John wisely left early.
b. Perhaps, John wisely left early.

(23b) does not entail 'John left early', but it still conveys a positive evaluation on the act of 'leaving early' like (23a) does. By the same token, if a so-adv-cxn is embedded in the antecedent of a conditional, the entailment: 'P_2 is expected to be true of any x such that $P_1(x)$' survives.

(24) If John wisely had left early, he wouldn't have been stabbed.

The assertion and presupposition of a statement can be expressed in a single logical formula, using the connective called PREDITIONAL (a.k.a. PREJUNCTION, TRANSPLICATION; Blau 1985, Blamey 1986, Oshima 2006).[4]

(25) **preditional**
$[\![\langle\phi;\psi\rangle]\!]^{w,g}$ is defined iff $[\![\psi]\!]^{w,g} = 1$
If defined, $[\![\langle\phi;\psi\rangle]\!]^{w,g} = [\![\phi]\!]^{w,g}$
(In intuitive terms, ϕ = assertion, ψ = presupposition)

By way of illustration, the meaning of *John managed to escape*, which (roughly) asserts that John escaped and presupposes that it was difficult for John to escape, can be expressed as: $\langle$**escape**(**john**); **difficult-for**(**escape**, **john**)$\rangle$.

The logical forms of (21a), (22a), and (23a) can now be given as follows:

(26) a. (21a), (22a) $\mapsto$
$\langle$E[$\forall x$[**leave-early**(x) $\rightarrow$ **wise**(x)]]; **leave-early**(**john**)$\rangle$

[4]The preditional connective is a powerful tool, with which we can deal with various technical issues concerning presupposition, such as projection at the sub-sentential level and the "linking problem" concerning the presupposition of an existential statement (see Oshima 2006).

b. (23a) ↦
⟨**leave-early**(**john**); E[∀x[**leave-early**(x) → **wise**(x)]]⟩

4 Comparison with alternative analyses

In this section, I examine two major, previous analyses of the three constructions and point out their problems. In passing, I also point out that the adj-to-inf-cxn has a variant where the W/L adjective takes the comparative form, and discuss its implications.

4.1 Wilkinson's action/event-Based analysis

Wilkinson (1976:164ff) suggests that a W adjective and an L adjective are, when they participate in the three constructions under discussion (as well as some others), predicated of an action (event) and a proposition, respectively. If this line of analysis is accepted, the sentences in (27) can be paraphrased as: 'John left early, and John's action (act) of leaving early was wise', and (28) 'John passed the exam and this fact (the fact that John passed the exam) was lucky for John'.

(27) (= (1))
a. Wisely, John left early.
b. John was wise to leave early.
c. It was wise of John to leave early.

(28) (= (6))
a. Luckily, John passed the exam.
b. John was lucky to pass the exam.

W/L adjectives, as a matter of fact, can be predicated of actions (events)/facts (propositions).

(29) a. He is wise. / a wise man
b. John's leaving early was wise. / His act(ion) was wise. / a wise act(ion)

(30) a. He is lucky. / a lucky man
b. It was lucky (for me) that it rained. / This fact is lucky. / a lucky fact

Thus we may say that W adjectives are polysemous between a property of individuals and a property of events, and L adjectives between a property of individuals and a property of propositions (sets of worlds).

Although Wilkinson's analysis gives a straightforward solution to the entailment puzzle, it has some weaknesses, too. First, it is not clear how the ambiguity of some W adverbs (which was mentioned in Section 2.1) can be explained. (31), for example, is ambiguous;

one reading is roughly equivalent to: '{It was kind of John/John was kind} to help me out', and the other reading: 'John helped me out in a kind manner'.

(31) John kindly helped me out.

Suppose John is an employee of an electronic appliance store, whose main job is to help out customers. In this case, (31) may well be false on the first interpretation, but may well be true on the second. Now, on the second, "manner" interpretation, *kindly* is obviously predicated over an event – thus, as long as we adopt the standard ontological assumption that an action is a sort of event (Kamp and Reyle 1993:506, among others), there seems to be no way to represent the difference of the two readings.

Furthermore, the unembeddablity puzzle remains unexplained under Wilkinson's analysis. That is, given that actions (events) are worldly entities like individuals, the sentences in (32) are predicted to be acceptable.

(32) a. #Ken asked (them) that the repairman be careful to check all bolts.
b. #Ken wanted the repairman to be careful to check all bolts.

(cf.) a. Ken asked (them) that the repairman's act(ion) be careful.
b. Ken wanted the repairman's act(ion) to be careful.

4.2 Barker's metalinguistic analysis

Barker (2002) proposes an innovative analysis of the adj-to-inf-cxn and the adj-of-np-cxn, where W/L adjectives participating them are assigned a "metalinguistic" function. First, Barker observes two "modes of use" of vague gradable predicates (which subsume W/L adjectives): descriptive and metalinguistic. When the gradable adjective *tall*, for example, is used in the normal, descriptive mode, it conveys new information concerning the (actual) world (e.g., the height of a particular individual). When it is used in the metalinguistic mode, on the other hand, it informs the hearer of how to use the word *tall* appropriately, by providing the contextually relevant standard of tallness. The descriptive use is exemplified by (33), the metalinguistic use by (34):

(33) A: I am going to pick up Dr. Feynman at the airport. What does he look like?
B: Well, Feynman is tall.

(34) (**Situation**: Speakers A and B are at a party; Feynman stands a short distance away.)
A: What do you mean by "if you are tall"? What counts as "tall"?
B: Well, around here, Feynman is tall.

Building on the Kampo-Heimian dynamic framework, Barker argues that a descriptive use and a metalinguistic use of a vague predicate affect (update) different aspects of the

context.[5]

A descriptive use affects the common ground; (33B), for example, adds to the common ground the proposition that Feynman's maximal degree of height exceeds the contextually prevailing standard (say, 180 centimeters). A metalinguistic use, on the other hand, affects the standard of the relevant gradable adjective meaning (e.g. tallness), and thereby resolve or mitigate the vagueness of the adjective in question; (34B), which is uttered in a situation where both the speaker and the hearer can directly observe Feynman's height, does not expand the common ground at all, but only help the interlocutors determine "what counts as tall" (or, "how to use the word *tall* appropriately").

To implement the idea that the standards for vague concepts too are a component of the context, the context set (in the Stalnakerian sense) may be defined, among other possibilities,[6] as a set of tuples ("information states") ⟨w, g, d⟩ where w is a possible world, g is an assignment function, and d is a DELINEATION – a function that maps gradable predicate meanings to standards (degrees). Suppose, when the conversation (33) took place, the prevailing standard of (an adult male's) tallness was 180 centimeters – then, the utterance of speaker B has the effect of excluding from the context set those tuples whose world component w' is such that $[\![\textit{Feynman is at least 180 cm tall}]\!]^{w'} = 0$. In the situation where the conversation (34) took place, in contrast, Feynman's height is already in the common ground – if Feynman was exactly 182 cm tall, then all information states in the context set (before and after the conversation) have a world component w' such that $[\![\textit{Feynman is 182 cm tall}]\!]^{w'} = 1$. What the utterance of speaker B does is to exclude from the context set those tuples whose delineation component is inappropriate. If d' is such that d'($[\![\textit{tall}]\!]$) = 185 cm, then ⟨w', g', d'⟩, ⟨w", g', d'⟩, ⟨ w", g", d'⟩, etc. have to leave; if d" is such that d"($[\![\textit{tall}]\!]$) = 175 cm, then ⟨w', g', d"⟩, ⟨w", g', d"⟩, ⟨w", g", d"⟩, etc. will survive.

Regarding the adj-to-inf-cxn and the adj-of-np-cxn, Barker claims that in these constructions W/L adjectives are predicated of a proposition, and have only a metalinguistic mode of use.[7] The sentence: *Feynman is stupid to dance*, for example, has no regular, descriptive entailment (putting aside the presupposition that Feynman danced), and merely narrows down the range of possible delineations, so that only those delineations

[5]The analysis proposed in Section 3 may be easily given a dynamic formulation, if so wished. One may, for example, enrich a standard dynamic framework with a "second context set" that corresponds to stereotypical worlds (worlds that may be the expected world), in addition to the regular context set that corresponds to epistemically accessible worlds (worlds that may be the actual world). Statements as to how things should be in the normal course of events, such as (13a) and (14a), update the second context set, without affecting the first.

[6]In Barker's (2002) formalism, an assignment function and a delineation are treated as inhabitants of a world, and thus a context is defined simply as a set of worlds. This technical choice should not have any bearing on the discussion in the present paper.

[7]In Barker's (2002:25) formulation, a W/L adjective in an adj-to-inf-cxn or adj-of-np-cxn is treated as a three-place predicate, which takes a degree d, an individual a, and a property P as its arguments. He explains that **stupid**(d, a, P) holds iff a's participation in the event $P(a)$ has a degree of stupidity that exceeds d. From this explanation, it is not clear to me (i) why a and P, rather than just $P(a)$, must occur as separate arguments of **stupid**, and (ii) whether $P(a)$ should be understood as denoting a proposition or an event. If $P(a)$ is to be understood as an event, then Barker's analysis too is subject to the problems I pointed out in Section 4.1, in connection with Wilkinson's analysis.

according to which Feynman's dancing (the proposition that Feynman danced) counts as stupid will survive.

Barker's analysis of the adj-to-inf-cxn/adj-of-np-cxn is similar to the "stereotype"-based analysis proposed in the previous section, building on the idea that (some aspect of) their meaning is not about the way things are in the actual world. I find problematic, however, its basic assumption that all W/L adjectives can be semantically predicated of a proposition. While all L adjectives and some W adjectives can take a clausal complement, there are some W adjectives that cannot.

(35) a. It was lucky (for me) that John left early.
b. It was {wise/stupid} that John left early.
c. ?*It was {careful/careless} that John left early.

Furthermore, many W adjectives that can take a clausal complement require that the subject of the clausal complement be sentient, or at least that the event described by the clausal complement be a volitional action. This suggests that at the semantic level, these W adjectives may be predicated of an individual or a (certain kind of) event, but not of a proposition.

(36) a. ??It was {rude/brave/kind} that the portrait of the secretary-general was removed.
b. *It was {rude/brave/kind} that it rained.

The observation that W adjectives cannot modify a propositional noun like *fact* lends further support to this point.

(37) *a wise fact, *a careful fact, *a rude fact, *a brave fact, *a kind fact

4.3 A note on comparatives

The W or L adjective participating in an adj-to-inf-cxn may take the form of a comparative, as in:[8]

[8]The sentences in (38)–(40) were collected from the following sources:

(38a): www.menc.org/networks/genmus/openforum/messages/7083.html (April 14, 2007)

(38b): blogcritics.org/archives/2006/06/11/045028.php (April 14, 2007)

(39a): mail.python.org/pipermail/python-list/2003-May/207096.html (April 14, 2007)

(39b): home.earthlink.net/~nataku/misc/bloodstone.html (April 14, 2007)

(40a): Economic Change in Pre-Colonial Africa: Senegambia in the Era of the Slave Trade (a book review). *The International Journal of African Historical Studies*, Vol. 8, No. 4, 1975:724-726.

(40b): Richard Hofstadter's the Age of Reform: A Reconsideration. *Reviews in American History*, Vol. 13, No. 3, 1985:462-480.

(38) a. I was luckier than you to have access to a lot of materials.
b. [...] he was luckier than average to survive a couple of years before getting squished.

(39) a. It seems that one of your friends was smarter than you to get help [...]
b. He was probably smarter than we were to take advantage of the chance [...]

(40) a. [...] nobody was more careful than Curtin to emphasize that these were liable to substantial margins of error [...]
b. [...] he was more careful than Kolko to distinguish among different segments of the business community [...]

Adj-to-inf-cxn's with comparatives are a problem both for Barker's (2002) analysis and for the stereotype-based analysis, but for different reasons.

First let us consider their implication on Barker's analysis. As discussed by Barker himself, the truth of a comparative statement can be determined independently from the contextually established standard for the relevant adjective, and thus comparatives cannot have a metalinguistic mode of use. Thus, the fact that a comparative may fill in the P_1 slot of the adj-to-inf-cxn is in a clash with Barker's claim that W/L adjectives in these constructions are interpreted in the metalinguistic mode only.

Under the stereotype-based analysis, on the other hand, adj-of-cxn's with comparatives are assigned inadequate semantic representations; e.g., sentences (41a) and (41b) are given logical forms along the lines of (42a) and (42b), respectively.

(41) a. John was luckier than Fred to survive.
b. John was smarter than Fred to bring an umbrella.

(42) a. $\langle \mathrm{E}[\forall x[\mathbf{survive}(x) \rightarrow \mathbf{luckier}(x, \mathbf{fred})]]; \mathbf{survive}(\mathbf{john})\rangle$
(in prose: John survived, and in the normal course of events, anybody who survived is luckier than Fred.)
b. $\langle \mathrm{E}[\forall x[\mathbf{bring\text{-}an\text{-}umbrella}(x) \rightarrow \mathbf{smarter}(x, \mathbf{fred})]]; \mathbf{bring\text{-}an\text{-}umbrella}(\mathbf{john})\rangle$
(in prose: John brought an umbrella, and in the normal course of events, anybody who brought an umbrella is smarter than Fred.)

Quite clearly, (41a) entails that Fred did not survive, and (41a) entails that Fred did not bring an umbrella; the logical forms in (42), however, fail to capture this intuition. The intuitive meanings of (42a,b) appear to be something like:

(43) a. $\langle \mathrm{E}[\forall x[\textbf{survive}(x) \rightarrow \textbf{lucky}(x)]]; [\textbf{survive}(\textbf{john}) \wedge \neg\textbf{survive}(\textbf{fred})]\rangle$
(in prose: John was lucky to survive, but Fred was not.)
b. $\langle \mathrm{E}[\forall x[\textbf{bring-an-umbrella}(x) \rightarrow \textbf{smart}(x)]]; [\textbf{bring-an-umbrella}(\textbf{john}) \wedge \neg\textbf{bring-an-umbrella}(\textbf{fred})]\rangle$
(in prose: John was smart to bring an umbrella, but Fred was not.)

It is interesting to note that 'A is {luckier/smarter/...} than B to Inf.' entails 'A is {lucky/smart/...} to Inf.'. This makes a contrast with simple adjective constructions without a *to*-infinitive, which do not allow an inference of this pattern; i.e., 'A is {luckier/smarter/...} than B' does not entail 'A is {lucky/smart/...}' (unless it is contextually established that B is lucky, smart, etc.).

In sum, whether we adopt the metalinguistic analysis or the stereotype-based analysis, "adj-to-inf-cxn's with comparatives" as in (38)–(41) require a separate treatment.

5 Conclusion

This paper developed a semantic analysis of the three constructions called the subject-oriented adverb construction (*Wisely, John left early*), the 'Adj. + to Inf.' construction (*John was wise to leave early*), and the 'Adj. + of NP' construction (*It was wise of John to leave early*). It was proposed that the meaning shared by the three constructions is along the lines of: 'P_2 is true of a, and P_2 is a property expected to be true of any x of which P_1 is true' (where, for instance, P_1 = 'be wise', P_2 = 'leave early', and a = 'John'). It was further demonstrated that the proposed analysis solves two known semantic puzzles concerning the three constructions: (i) the entailment puzzle, and (ii) the embeddability puzzle (Wilkinson 1976, Barker 2002, among others).

The paradigm of the three constructions appear to constitute an ideal case for the Construction Grammar approach (Sag 2007), as their meanings cannot be derived from the intuitive meanings of their constituents and ordinary semantic rules alone. I leave it as a task for future research to formulate the proposed semantic analysis in the Construction Grammar framework.

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