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## You Will Be Lucky To Break Even

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There is a substantial body of literature on the semantics of English verbal complement constructions starting with Kiparsky and Kiparsky (1970) and Karttunen (1971a, 1973), including Rudanko (1989, 2002), Nairn et al. (2006), Egan (2008) and Karttunen (2012). These studies have developed a semantic classification of verbs and verb-noun collocations that take clausal complements. They focus on constructions that give rise to implied commitments that the author cannot disavow without being incoherent or without contradicting herself. For example, (1a) presupposes that Kim had not rescheduled the meeting, while (1b) entails that she did not and presupposes that she intended to reschedule it.

- (1) a. Kim forgot that she had not rescheduled the meeting.
- b. Kim forgot to reschedule the meeting.

Factive constructions like *forget that X* involve presuppositions; implicative constructions like *forget to X* give rise to entailments and may carry presuppositions.

Presuppositions persist under negation, in questions and *if*-clauses. Questions and *if*-clauses do not yield any entailments about the truth of embedded complements but negations of some types of implicative sentences have entailments. For example, the simple negation (without any focus intonation) of (1b), *Kim did not forget to reschedule the meeting*, entails that Kim did reschedule the meeting and presupposes, as (1b) does, that it was her intention to do so.

It is well-known that there are factive adjective constructions (Norrick, 1978) such as *be pleased that X* but there is no systematic study yet

of implicative adjective constructions. This paper makes a start with one such case, the *be lucky to X* and its sister constructions *be unlucky to X*, *be fortunate to X*, and *be unfortunate to X*.

We show that *be lucky to X* has a regular meaning of a two-way implicative construction (Section 13.1) and an idiomatic sense limited to the future tense that suggests that X probably will not happen (Section 13.3). We show (Section 13.2) that the construction is not factive, contrary to the ensconced view in recent literature, and propose a way to understand and reconcile the opposing intuitions. Most of the example sentences in the paper were collected with Google searches.<sup>1</sup>

### 13.1 *Be lucky to X* is a two-way implicative

Table 1 presents a few examples of two-way implicative verbs and verb-noun collocations from Karttunen (1971a, 1973, 2012). Two-way implicative constructions yield an entailment both in positive and negative contexts. The ++ | -- signature indicates that *manage to X* and *use the occasion to X* yield a positive entailment about X in positive contexts and a negative entailment in negative contexts. The +- | -+ signature indicates that *fail to X* and *waste the opportunity to X* give us a negative entailment about X under positive polarity, and vice versa.

++   -- implicatives	+ -   - + implicatives
manage to X	fail to X
remember to X	forget to X
use the occasion to X	squander the chance to X
have the chutzpah to X	waste the opportunity to X

TABLE 1 Examples of two-way implicative constructions

The examples of *be lucky to X* in (2) and (3) show that the construction has the same implicative signature as *manage to X* and *use the occasion to X*, ++ | --.

- (2) a. A family of eight is lucky to be alive after flames destroyed their home.  
 b. India has been lucky to witness several eclipses over the past two years.  
 c. He thought Fraser had been lucky to come home in one piece.

The sentences in (2) entail that the complement clause is true, the examples in (3) have a negative entailment.

<sup>1</sup>The exceptions are (1), (6), (7), and (8) that were made up by the author.

- (3) a. Anyway, I was not lucky to get a table on this trip. Maybe next time.  
 b. Pakistan has not been lucky to have genuine leaders after the demise of the Quaid-i-Azam.  
 c. At thirty-one, Esther had not been lucky to find a man to marry her.

The examples in (4) show the interaction of *be lucky to X* with some other two-way implicatives.

- (4) a. I was really lucky to manage to recover some files.  
 b. She had been lucky to forget to wear her watch yesterday.  
 c. I still have not been lucky to manage to get my orchids to flower again.

(4a) entails that the innermost complement clause is true. In (4b) and (4c), *forget to* and *not* flip the polarity to yield a negative entailment.

The negative examples in (3) and (4) feature the ordinary *not*, the examples in (5) contain a metalinguistic *not* (Karttunen and Peters, 1979, Horn, 1985).

- (5) a. He is not lucky to be alive, he is blessed.  
 b. The girl is NOT lucky to have 2 mums, she needs a father figure.  
 c. Cody is not lucky to get to go to Cornell. Cornell is lucky to have him!

In all the examples in (5), the complement clause of *lucky* is presumed to be true. The author is not in disagreement about the objective facts. The point of metalinguistic negation is to assert that it is inappropriate to use the construction *be lucky to X* to describe the situation, contrary to what someone might have said or thought. In the case of (5c), it is understood that Cody is going to Cornell, the issue is whether it is Cody or Cornell that can be said to be lucky.

### 13.2 *Be lucky to X* is not factive

Given the examples in (3) it is obvious that *be lucky to X* is not a factive construction although it has been erroneously classified as such by Karttunen (1971a) and many later authors. Norrick (1978) and Barker (2002) cite Wilkinson (1976). If *be lucky to X* were factive, the X complements in (3) would be presupposed to be true but in fact the sentences in (3) entail that the complement clauses are false. Norrick and Barker make the wrong call because they fail to consider any *lucky* examples with negation. Wilkinson (1976) classifies *be lucky to X* as

factive but correctly identifies *be lucky enough to X* as implicative because of its behavior under negation (p. 173, fn. 13).

Let us consider two kinds of conversational situations, A and B, to help us understand how the illusion of *be lucky to X* being factive might arise. In situation A the participants in the conversation have not talked about X, the truth or falsity of X is not self-evident, X is not part of the “common ground” of the conversation. If we hear (6) in such a situation, without any previous knowledge about Kim’s finances,

- (6) Kim was not lucky to have a well-paying job. She needed more money.

we conclude that Kim did not have a well-paying job because *be lucky to X* is a ++ | -- implicative construction. The same may be true of some of the other EVALUATIVE adjectives listed by Barker (2002).

If we replace *lucky* in (6) by an EMOTIVE adjective such as *content*, the conclusion is different.

- (7) Kim was not content to have a well-paying job. She needed more money.

The construction *be content to X* is factive: it presupposes X. If Kim having a well-paying job is not yet in the common ground, it becomes part of it in (7) by ACCOMMODATION (Karttunen, 1974, Stalnaker, 1974, Lewis, 1979). But there is no accommodation in the case of (6): it does not add to the common ground the assumption that Kim has a well-paying job, in fact it entails the opposite. The accommodation test shows that an emotive adjective such as *content* is factive, an evaluative adjective such as *lucky* is not factive.

The other type of conversational situation, B, for *be lucky to X* is a situation where X being true is part of the common ground, already accepted by the discourse participants at least for the sake of the conversation. This is the kind situation for the examples of metalinguistic negation in (5). In the B type situation (6) has to be understood as not contradicting that Kim had a well-paying job but the presupposition that she was lucky to have it.

The difference between A and B type situations is relevant not only for the interpretation of negation, it also carries on to questions. In an A type situation the question

- (8) Was Cody lucky to get into Cornell?

is a genuine question about whether Cody got into Cornell with the presupposition that it would have been a good thing for Cody. In a B situation where we already know that Cody got into Cornell, (8) becomes a question about whether getting into Cornell was lucky for

Cody in some sense of *lucky*. Did Cody get in on his merits or because of some fortuitous sequence of events that he cannot take any credit for? Or, given what we know about how the future unfolded or might have unfolded, was getting to Cornell overall a good thing for Cody or not?

### 13.3 The idiom *will be lucky to X*

Although *be lucky to X* can be a two-way implicative in all of its tense forms, in the future tense, and only in the future tense, it may have another, idiomatic, interpretation.

(9) Wong Kwan will be lucky to break even.<sup>2</sup>

Without special emphasis on any of the words, (9) entails that Wong Kwan is not likely to break even. It is possible to read (9) differently, to interpret it as a positive prediction about Kwan's return on investments but that requires a non-standard stress pattern, *Wong Kwan WILL be lucky to break even*. But without a special emphasis on *will* and with emphasis on *lucky*, (9) favors the idiomatic interpretation, a pessimistic prognostic on Wong Kwan's financial future. As we will see in Section 13.4, this idiomatic reading of *will be lucky to X* is also subject to several other conditions.

A sample of idiomatic *will be lucky to X* examples picked from Google searches is shown in (10).

- (10) a. Without a track record, they will be lucky to get anyone to listen to, much less steal, their ideas.  
 b. Scientists claim that we will be lucky to have 50 more years before turtles and tortoises are extinct.  
 c. Relative or not if anyone ever lays an inappropriate hand on my kids they will be lucky to be left breathing afterwards.  
 d. I think they will be lucky to not get the wooden spoon.  
 e. The Raiders will be lucky to win six games in 2012.

It is possible to strengthen *lucky* to *quite lucky*, *very lucky* and *extremely lucky* without losing the idiomatic meaning, examples in (11).

- (11) a. You will be quite lucky to find a place that allows ONE dog, let alone two.

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<sup>2</sup>This example comes from *FactBank* (Saurí and Pustejovsky, 2009). It is the only example in *FactBank* that contains the adjective *lucky* with a clausal complement. *FactBank* annotates the veridicality of each predicate on a seven-point scale: CT+ (certainly true), PR+ (probably true), PS+ (possibly true), unmarked, PS- (possibly false), PR- (probably false) and CT- (certainly false). *FactBank* tags *break* in (9) as PR- (probably false). This is correct but not of much use without additional *be lucky to X* judgments in other tenses, under negation, interrogatives, etc.

- b. With the worst starting QB in the league throwing to the worst wide receiving corps in the league, they will be very lucky to win 6 games.
- c. If you hit moguls at high speed you will be very lucky to stay standing.
- d. Yeah we will be extremely lucky to get either of those guys.
- e. The bank will be very lucky to reach even that diminished level again in the immediate future.

When *lucky* in *will be lucky to X* is strengthened towards *extremely lucky*, the likelihood of X gets correspondingly diminished.

As we will see in Section 13.4, *lucky enough* is incompatible with the idiomatic reading and *so lucky* is biased against it. In section 13.5 we give examples to show that *almost lucky* is also incompatible with the idiomatic reading.

In all of the examples in (9)–(11) the infinitival complement could be replaced by an *if*-clause. *Wong Kwan will be lucky to break even* and *Wong Kwan will be lucky if he breaks even* are paraphrases. In languages such as French and German the infinitival complement translates to an *if*-clause. This is nicely demonstrated by the earliest instance of the *will be lucky to X* idiom we have found so far. It appears in a 1813 book *Memoirs of the kings of Spain of the House of Bourbon*, Volume 3, by William Coxe. On page 307 we find the passage:

- (12) This measure appeared a death blow to the authority of Philip; when the news was communicated at Versailles, marshal Villars could not refrain from exclaiming, “Adieu, court of St. Ildefonso; you will be lucky to be assured of a regular supply of your daily meals!”

But of course le maréchal de Villars did not say that. He spoke French. Coxe gives the original exclamation in a footnote: “*Adieu, la cour de St. Ildefonso. Elle sera heureuse si son dîner et son souper sont bien assurés.*” The infinitival complement in (12), *to be assured of a regular supply of your daily meals*, is a translation of an *if*-clause in French: *si son dîner et son souper sont bien assurés*.<sup>3</sup> The word *si* is *if* in French.

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<sup>3</sup>Coxe translates *son dîner et son souper* as *your daily meals*. Translating this phrase as *dinner and supper* would have been misleading. In the Versailles court *dîner* was at lunch time and *souper* a meal late in the evening, not interchangeable words for the same meal. Coxe could have translated *elle sera heureuse si* literally as *it will be lucky if* but he chose the idiomatic English *you will be lucky to* instead. Choosing *you* instead of *it* to address the court of St. Ildefonso adds a nice touch. Chapeau, M. Coxe!

Thanks to <http://books.google.com/ngrams/> for the discovery of this example.

All the examples in (9)-(12) are future affirmative sentences containing *will* with proper names, definite NPs, or pronominal subjects. These are all crucial enabling features of the idiomatic reading. Switching from affirmative to negative makes a difference.

(13) Wong Kwan will not be lucky to break even.

(9) implies that Wong Kwan is not likely to break even; (13) entails that he will not break even. It is a stronger statement than (9). Switching from the future to the past tense also has an unexpected side effect. (14) entails that Wong Kwan broke even, not that he might not have broken even.

(14) Wong Kwan was lucky to break even.

In (13) and (14) *be lucky to X* can only have its literal meaning of a ++ | -- implicative construction.

### 13.4 The brittleness of the idiom

There are many environments where the idiomatic sense of *will be lucky to X* is not present at all. It is possible only when there is uncertainty about whether the complement will be true even though that is not a sufficient condition. In the following examples only the literal interpretation is possible because it is known, expected or independently implied that X will in fact be true.

- (15) a. Wherever she ends up, they will be lucky to have her.  
 b. The college that you choose will be lucky to have you as student.  
 c. California is the largest state in the US. This means you will be lucky to have several schools offering RN programs.  
 d. Obviously, the more leads you will be lucky to get the higher your profits will become.

Sentences with indefinite subject NPs seem to admit only the literal interpretation.<sup>4</sup>

- (16) a. Some man will be lucky to receive your love some day.  
 b. A few people will be lucky to have permanent reduction in as little as only three treatments.

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<sup>4</sup>The indefinite NPs that disallow the idiomatic reading all seem to be INTERSECTIVE quantifiers; Keenan (1987), Section 6.3 in Peters and Westerståhl (2006).

The idiomatic reading is possible if *someone* is used to refer to a specific individual: *I was about to hang up when I heard you call me a HOPA. Someone [= you] will be lucky to avoid a sexual harassment suit.*

- c. Very few people will be lucky to have a job once the financial armageddon settles upon us.
- d. Another woman will be LUCKY to have you in her life.

But universally quantified subject NPs are compatible with the idiom.

- (17) a. A case of Mid-East meets Mid-West and everyone will be lucky to get out alive.
- b. Everyone will be lucky to even look at them, let alone purchase one.
  - c. The looming slump/recession means everyone will be lucky to even get close to – or at best match nevermind exceed – this year’s sales.
  - d. Police officials in Virginia Beach and Newport News insist this isn’t about generating revenue, that everyone will be lucky to break even.

The presence of negative polarity items favors the idiomatic reading.

- (18) a. Motorola will be lucky to get another dime from me ever again.
- b. In fact you will be lucky to see any traffic at all.

Replacing the negative polarity items in (18b), *any* by *some* and *at all* by *at least* takes away the idiomatic reading.

- (19) In fact you will be lucky to see at least some traffic.

Any adverbial modification of *will be lucky to X* takes away the idiomatic reading. Removing the adverb restores it in (20).

- (20) a. (Perhaps) you will be lucky to find your buyer in a simple passer-by or your next-door neighbour.
- b. (Maybe) you will be lucky to stalk the elusive eland or find a hive of wild honey.
  - c. If you employ a farm and permit a field take care of itself, you will (always) be lucky to have virtually any crop from it.
  - d. You will (sometimes) be lucky to find an editor who can also typeset your completed book.

It appears that *lucky enough* is compatible only with the literal interpretation.

- (21) a. She will be lucky enough to escape her own execution.
- b. The road to recovery will be long, but she will be lucky enough to walk it with the love and support of so many around her.
  - c. This will be Ponder’s first start against Detroit, but he will be lucky enough to face their defense without the suspended Ndamukong Suh.

- d. You will be lucky enough to receive a signed copy of the completed EP before anyone else!

Although the *very lucky* and *extremely lucky* are fine in the examples in (11) that feature the idiomatic reading, *will be so lucky to X* favors the literal interpretation, some examples in (22).

- (22) a. You will be So Lucky to have these boots from Naughty Monkey.  
 b. When in need, they will be so lucky to receive the level of care that saved Mr. Savov's life against the odds.  
 c. The women who are attending this Sunday's salon will be so lucky to have been touched by Amy. It's not a promise, it's a fact.  
 d. My future boyfriend will be so lucky to have me cooking yummy food like this every day.

Here *so* is an empathetic intensifier unlike the detached *very* and *extremely*. Somehow that makes a difference. Examples with *so lucky* that have the idiomatic sense such as (23a) and (23b) are hard to find.

- (23) a. However, in the real world you will be so lucky to even get three quarters of the information required.  
 b. You will be so lucky to find a guy that doesn't play Call of Duty and if you do he is probably taken already.

### 13.5 Two interpretations of *be almost lucky*

Because *almost X* is a counteractive, one expects *almost be lucky to X* to have only the literal interpretation entailing not *X*. That prediction is correct for a few examples of this pattern found on the web (24).

- (24) I have to head to work right now. You almost were lucky to get to talk to the cool cat that is me.

If *almost* goes between the copula and *lucky*, two patterns emerge. The examples in (25) work like (24), no idiomatic interpretation, negative entailment.

- (25) a. I was almost lucky to take a chick for lunch but she turned me down.  
 b. I was almost lucky to escape stretch marks the 2nd time but I ended up getting a couple small ones a week or so before Aiden was born.  
 c. The last plate, I was almost lucky to guess what it was, is Suman Panna Cotta.

The second pattern is also based on the literal interpretation but with a positive entailment.

- (26) a. Mitch Heard was almost lucky to have such an easily satirized last name.  
 b. I think I was almost lucky to have been forced to embrace my own psychopathology early.  
 c. I sometimes think that Fred was almost lucky to die when he did.

The contrast between (25) and (26) might be correlated with a difference in stress, *ALMOST lucky* in (25) but *almost LUCKY* in (26). In (25) *almost* has wide scope over the complement clause as it clearly does in (24); in (26) it is a modifier of *lucky*.

### 13.6 Sister adjectives: *unlucky*, *fortunate*, *unfortunate*

All the findings in the previous sections about *be lucky to X* generalize to *be unlucky to X*, *be fortunate to X* and *be unfortunate to X*. They can all have the idiomatic “X is not likely” interpretation under the same conditions as *be lucky to X*; otherwise they too are ++ | -- implicative constructions. (27) gives examples with the idiomatic reading.

- (27) a. We will be unlucky to encounter rain, but it is certainly possible.  
 b. Yields are so pathetically low today that you will be fortunate to get much of a yield at all.  
 c. She will be unfortunate to get six months in jail, usually she is put on parole and released.

All the examples in (27) imply that the complement clause X is not likely.

The idiomatic readings of *lucky* and *unlucky* mirror each other in a predictable way.

- (28) a. You will be lucky to receive a C in this course.  
 b. You will be unlucky to receive a C in this course.

The two examples in (28) agree in that the addressee is not likely to get a C. (28a) suggests that the grade might be a D; (28b) suggests that the grade will be a B or an A.

The examples in (29) and (30) only have the literal ++ | -- interpretation.

- (29) a. He was unlucky to miss out on an Academy Award nomination.

- b. I have been fortunate to have followed my passion for most of my life.
  - c. We were unfortunate to have lived in the path of two tornados.
- (30)
- a. I had not been unlucky to be near twin towers on 9/11 but once was at major accident on highway.
  - b. For those clinicians who have not been fortunate to study with Dr. Faye, his technique DVDs are truly a blessing.
  - c. I have not been unfortunate to pick an absolutely dismal game yet.

(29c) entails that we lived in the path of two tornados and presupposes that it was a misfortune. (30c) entails that I have not picked an absolutely dismal game and presupposes that, if I had, it would have been a misfortune.

### 13.7 Conclusion

This investigation started from the simple observation in *FactBank* that *Wong Kwan will be lucky to break even* implies that most likely Wong Kwan will not break even. The example taught us that *be lucky to X* can have an idiomatic ‘most likely not X’ reading in the future tense. It appears to be a new discovery.<sup>5</sup> We gave ample evidence to show that in its literal sense *be lucky to X* is an implicative construction, not factive as has been sometimes claimed. In the literal sense *Wong Kwan will be lucky to break even* entails that he will break even with the presupposition that it will be a lucky outcome for Kwan.

We found a complex set of structural features that enable or disable the idiomatic reading of *be lucky to X*. They include: tense, negation, type of subject, negative polarity items, and adverbial modification. We know that the distinction between generic and non-generic sentences also plays a role but we have not worked that out yet. There are undoubtedly many non-structural features that favor or disfavor the idiomatic reading such as whether the sentence is embedded in a context that triggers the expectation of good news or bad news. These contextual features are now the subject of an ongoing investigation at CSLI as part of DARPA’s Machine Reading project. We will report on the results in a future joint paper by all the members of the Language and Natural Reasoning group at CSLI.

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<sup>5</sup>There is the well-known sarcastic expression *I should be so lucky* that means, roughly, ‘there is no chance that it will happen.’ It comes to English from Yiddish and seems unrelated to the idiomatic sense of *will be lucky* this paper is about.

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## References

- Barker, Chris. 2002. The dynamics of vagueness. *Linguistics and Philosophy* 25(1):1–36.
- Beaver, David I. and Bart Geurts. 2011. Presupposition. In E. N. Zalta, ed., *The Stanford Encyclopedia of Philosophy*. Stanford University, summer 2011 edn.
- Egan, Thomas. 2008. *Non-finite complementation: A usage-based study of infinitive and -ing clauses in English*. Rodopi.
- Geis, Michael L. and Arnold M. Zwicky. 1971. On invited inferences. *Linguistic Inquiry* 2(4):561–566. <http://www.jstor.org/stable/4177664>.
- Grice, Paul H. 1989. *Studies in the Way of Words*. Harvard University.
- Horn, Laurence. 1985. Metalinguistic negation and pragmatic ambiguity. *Language* 61(1):121–174.

- Horn, Larry. 2003. Implicature. In L. Horn and G. Ward, eds., *Handbook of Pragmatics*. Blackwell.
- Karttunen, Lauri. 1971a. Implicative verbs. *Language* 47:340–358.
- Karttunen, Lauri. 1971b. The logic of English predicate complement constructions. [http://www2.parc.com/istl/members/karttune/publications/english\\_predicate.pdf](http://www2.parc.com/istl/members/karttune/publications/english_predicate.pdf) French translation: “La logique des constructions anglaises à complément prédicatif” *Langages* 8:56–80, 1973.
- Karttunen, Lauri. 1973. La logique des constructions anglaises à complément prédicatif. *Langages* 8:56–80.
- Karttunen, Lauri. 1974. Presupposition and linguistic context. *Theoretical Linguistics* 1(1):181–194.
- Karttunen, Lauri. 2007. Word play. *Computational Linguistics* 33:443–467.
- Karttunen, Lauri. 2012. Simple and phrasal implicatives. In *\*SEM 2012*, pages 124–131. Association for Computational Linguistics.
- Karttunen, Lauri and Stanley Peters. 1979. Conventional implicature. In C.-K. Oh and D. A. Dinneen, eds., *Syntax and Semantics, Volume 11: Presupposition*, pages 1–56. Academic Press.
- Karttunen, Lauri and Annie Zaenen. 2005. Veridicity. In G. Katz, J. Pustejovsky, and F. Schilder, eds., *Annotating, Extracting and Reasoning about Time and Events*, no. 05151 in Dagstuhl Seminar Proceedings. Internationales Begegnungs- und Forschungszentrum (IBFI), Schloss Dagstuhl, Germany. <<http://drops.dagstuhl.de/opus/volltexte/2005/314>> [date of citation: 2005-01-01].
- Keenan, Edward. 1987. A semantic definition of ‘indefinite NP’. In E. Reuland and A. ter Meulen, eds., *The Representation of (In)definiteness*, pages 286–317. MIT Press.
- Kiparsky, Paul and Carol Kiparsky. 1970. Fact. In M. Bierwisch and K. E. Heidolph, eds., *Progress in Linguistics*, pages 143–173. Mouton.
- Lewis, David K. 1979. Scorekeeping in a language game. *Journal of Philosophical Logic* 8(1):339–359.
- Nairn, Rowan, Cleo Condoravdi, and Lauri Karttunen. 2006. Computing relative polarity for textual inference. In *ICoS-5*, pages 67–76.
- Norricks, Neal R. 1978. *Factive adjectives and the theory of factivity*. Niemeyer.
- Peters, Stanley and Dag Westerståhl. 2006. *Quantifiers in Language and Logic*. Oxford University Press.
- Pichotta, Karl. 2008. Processing paraphrases and phrasal implicatives in the Bridge question-answering system. Undergraduate Honors Thesis, Symbolic Systems Program, Stanford University.
- Potts, Christopher. 2005. *The Logic of Conventional Implicatures*. Cambridge University Press.
- Rudanko, Juhani. 1989. *Complementation and Case Grammar*. State University of New York Press.

- Rudanko, Juhani. 2002. *Complements and Constructions. Corpus-Based Studies on Sentential Complements in English in Recent Centuries*. University Press of America.
- Rudanko, Juhani. 2011. Unexpected and innovative uses of constructions: Is there a need to supplement a dictionary with constructional information? In *Proceedings The Fifth International Conference on Historical Lexicography and Lexicology (ISHLL 5)*, pages 1–10.
- Saurí, Roser and James Pustejovsky. 2009. Factbank 1.0. Linguistic Data Consortium.
- Stalnaker, Robert. 1974. Pragmatic presuppositions. In M. Munitz and P. Unger, eds., *Semantics and Philosophy*, pages 197–213. New York University Press.
- Thomason, Richmond. 1990. Accommodation, meaning, and implicature: Interdisciplinary foundations for pragmatics. In P. Cohen, J. Morgan, and M. Pollack, eds., *Intentions in Communication*, pages 325–363. MIT Press.
- Wilkinson, Robert. 1970. Factive complements and action complements. In *CLS 6*, pages 425–444.
- Wilkinson, Robert W. 1976. Modes of predication and implied adverbial complements. *Foundations of Language* 14(2):153–194.