

Focus Structure and Acceptability in Verb Phrase Ellipsis

Laura Kertz

University of California, San Diego

1. Introduction

Verb phrase ellipsis is a phenomenon in English where a verb phrase is omitted from an utterance, and its intended meaning is recovered from context. The target, or elided, verb phrase need not be a perfect match for its antecedent, and morpho-syntactic differences of a variety of types (e.g. tense or aspectual marking) may be tolerated (Quirk et al. 1972). The case of voice mismatch, where the antecedent is realized as a passive and the target as an active (or vice versa), has been of particular interest since Sag (1976), where cases of unacceptable mismatch served as crucial evidence in support of a theory where ellipsis is licensed by syntactic identity between antecedent and target. This picture is complicated, however, by cases of apparently acceptable mismatch, often drawn from corpora or other naturally occurring data. (See, e.g., Dalrymple et al. 1991, Hardt 1993, Kehler 2000, 2002.)

In this brief study I offer a re-examination of representative voice mismatch data and the role they have played in shaping theories of ellipsis. I present results from magnitude estimation experiments which address the following questions: Under what circumstances are voice-mismatched ellipses judged acceptable, unacceptable, or something in between? Does the penalty associated with voice mismatch stem from a lack of syntactic identity or from some other source? And finally, are the degradation effects of voice mismatch limited to ellipsis contexts? The results from this study support a novel claim that information structure plays a role in determining ellipsis acceptability and that information structural effects are not unique to ellipsis.

2. Voice Mismatch in Ellipsis

Canonical examples of unacceptable mismatch in ellipsis follow a formula, as in (1), where pairing an intended active target (shown in brackets) with a passive antecedent leads to unacceptability. Compare with (2), where the target and the antecedent are both active, and the ellipsis is acceptable.

- (1) # The material was skipped by the instructors and the TA's did too. [skip the material]
(2) The instructors skipped the material, and the TA's did too. [skip the material]

Under a syntactic theory of ellipsis (cf. Sag 1976 and many others), this result is predicted, as ellipsis is licensed by syntactic identity between the target and the antecedent, a condition which holds in (2), but not (1). The theory predicts ungrammaticality for (3), which exhibits the same passive/active mismatch observed in (1). Sentences like (3), however, are judged to be acceptable by many speakers.

- (3) A lot of this material can be skipped, and often I do. [skip a lot of this material]
(cf. Dalrymple et al. 1991, ex. 59a)

An alternative account, where ellipsis is licensed by semantic, not syntactic, identity (e.g. Dalrymple et al. 1991), predicts grammaticality for (3), but also for (1). Thus neither account is descriptively adequate: the syntactic model is overly restrictive, and the semantic model is not restrictive enough.

2.1. Coherence

Kehler (2000, 2002) draws a different line through the data, categorizing examples not by their syntax, but by their discourse structure, specifically, by the coherence relation which obtains between the antecedent and the target clause. Cases of unacceptable mismatch, like (1), Kehler argues, tend to be instances of a *Resemblance* coherence relation, in which the similarity between the events denoted in the two clauses is highlighted. Cases of acceptable mismatch, like (3), however, which focus the beginning and end states of events denoted in the two clauses, instead fall into a class of relations called *Cause-Effect*. (These broad classes of coherence relations can be further divided; the sentence in (1) is a member of the sub-class of *Parallel* relations, and (3) is an instance of a *Result* relation.)

Based on such examples, Kehler argues that syntactic identity is a licensing condition for ellipsis only in cases of *Resemblance* coherence. A variety of acceptable mismatches drawn from corpora and spontaneous conversations, as in (4), are presented, and in each case a *Cause-Effect* relation is operative. These naturally occurring data are paired with constructed examples exhibiting a *Parallel* relation, as in (5), and acceptability declines with the shift in coherence.

- (4) This problem was to have been looked into, but obviously nobody did. [look into the problem]
 (5) # This problem was looked into by John, and Bob did too. [look into the problem]
 (Kehler 2000, ex. 22, 34)

The coherence model was tested in a series of experiments reported in Frazier and Clifton (2006). In stimulus pairs like (6)-(7), the connective between the target and the antecedent clause was manipulated, with *because* signaling a *Cause-Effect* relation, as in (6), and either *just like* or *and...too* signaling a *Resemblance* relation, as in (7).

- (6) The cause of the accident was investigated by the police because the insurance company did.
 (7) The cause of the accident was investigated by the police and the insurance company did too.
 (Frazier and Clifton 2006, exp. 1)

While the syntactic analysis predicts unacceptability for both cases, the coherence analysis predicts reduced acceptability in the *Resemblance* condition (7) only. In a forced-choice acceptability task (experiment 1), the reverse pattern was observed: the *Resemblance* mismatches were reliably accepted more often than the *Cause-Effect* mismatches. The authors attribute the result to a lack of contextual support for causality in some of the *Cause-Effect* stimuli. In experiment 2 those *Cause-Effect* stimuli accepted least often in experiment 1 were modified to boost plausibility, and a rating-scale task showed no reliable difference between the *Resemblance* and the *Cause-Effect* conditions. (The preference for the *Resemblance* condition persisted, however, as a non-significant trend.) This second experiment also included voice-matched controls for each condition, resulting in a 2x2 design crossing coherence (*Cause-Effect/Resemblance*) and syntactic structure (*match/mismatch*). Mismatches were reliably judged to be less acceptable than matches in both the *Resemblance* and *Cause-Effect* conditions, consistent with the syntactic model and contra the coherence analysis.

3. Proposal

A closer look at the formula used to construct unacceptable mismatches offers an explanation for both the contrasts demonstrated by Kehler and the null result reported by Frazier and Clifton. The crucial difference, I propose, between the cases of acceptable and unacceptable ellipses examined so far is not syntactic structure, and not discourse structure, but information structure: cases of unacceptable mismatch tend to focus the subject argument of the target clause, while cases of acceptable mismatch instead focus the auxiliary verb.

3.1. A Role for Information Structure

In cases of unacceptable mismatch, as in (8)-(9) below, the subject argument of the target clause is in focus and is interpreted as contrastive with the oblique passive agent of the antecedent clause. The subject of the target clause is also the sentence topic, and this intersection of topic and focus results in a contrastive topic structure.

- (8) # The material was skipped by the instructors and [the TA's]_{top/foc} did too.
 (9) # The problem was looked into by the committee, just like [the chair]_{top/foc} did.

By contrast, the acceptable mismatches observed above (repeated here as (10)-(11)) omit the passive agent from the antecedent clause, and the subject of the target clause is not contrastive. Rather, the two clauses exhibit a modality contrast, anchored by the target auxiliary, which is in focus. Auxiliary-focus ellipses can potentially contrast any combination of tense, aspect, mood, or polarity, all features which can be marked on an auxiliary in English.

- (10) A lot of this material can be skipped, and often I [do]_{foc}.
 (11) This problem was to have been looked into, but obviously nobody [did]_{foc}.

The focus structures assumed in (8)-(11) are confirmed by the distribution of pitch accents in the target clause, and can be further tested by considering non-ellipsis versions of the sentences in question. For argument-focus ellipses, the auxiliary verb in the target clause is redundant and is omitted in a non-ellipsis/full-VP version of the sentence, as shown in (12). In an auxiliary-focus ellipsis, the auxiliary bears a contrastive accent, and may be felicitously retained in the full-VP version of the sentence, as in (13). (If the auxiliary is omitted, accent shifts to the verb phrase.)

- (12) The material was skipped by the instructors and the TA's #did skip / skipped it too.
 (13) A lot of this material can be skipped, and often I do skip / skip it.

Thus there are three diagnostics available for distinguishing an argument focus ellipsis from an auxiliary-focus ellipsis: whether the subject of the target clause is interpreted as contrastive, whether the subject of the target clause bears a pitch accent, and whether the auxiliary in the target clause is redundant. Any ellipsis which meets all three of these criteria is an instance of argument-focus ellipsis. Note that all of the stimuli used in the Frazier and Clifton study meet these criteria, as shown in (14) (c.f. (6)-(7) above).

- (14) # The cause of the accident was investigated by the police
 because [the insurance company]_{top/foc} did / and [the insurance company]_{top/foc} did too.

3.2. Analysis and Predictions

The current proposal posits an information structural constraint whereby contrastive arguments are preferentially aligned in the syntax (appear in the same argument position). Under this model, sensitivity to mismatch follows not from a lack of syntactic parallelism per se, but from a failure to align contrastive arguments, which follows from the argument re-ordering effect of the voice manipulation. In the Frazier and Clifton study described above, syntax and information structure were confounded: pairing a passive antecedent with an active target resulted in a syntactic mismatch, and in each case it also led to a lack of alignment for contrastive arguments, with one argument appearing in subject position and the other as an oblique. The current proposal thus predicts unacceptability for all of the mismatched stimuli used in the Frazier and Clifton study, regardless of connective, and this prediction is consistent with the observed results.

The Kehler data, on the other hand, confound information structure and coherence. The cases of *Resemblance* coherence cited by Kehler exhibit contrastive topic structures with argument-focus, as

shown in (15). (See Hendriks 2004 for related discussion.) The cases of *Cause-Effect* coherence instead focus the auxiliary (16).

(15) # This problem was looked into by John, and [Bob]_{top/foc} did too.

(16) This problem was to have been looked into, but obviously nobody [did]_{foc}.

To the extent that this confound between coherence and information structure persists, the predictions of the current analysis are identical to those of the coherence analysis: sensitivity to mismatch is predicted for *Resemblance* coherence relations with an argument focus structure; acceptable mismatch is predicted for *Cause-Effect* coherence relations with an auxiliary-focus structure. Predictions diverge where these features are in conflict, as in the Frazier and Clifton stimuli, where *Cause-Effect* coherence relations exhibit argument-focus structures.

The current proposal thus offers an explanation for the apparently contradictory results reported by Kehler and by Frazier and Clifton. In the following sections, I test the proposal directly.

4. Experiments

I begin in Experiment 1 by testing the claim that the reduced acceptability associated with antecedent mismatch in ellipsis is mediated by information structure. That claim, as described above, posits an information structural constraint enforcing the syntactic alignment of contrastive arguments. In Experiment 2, I test the extent to which such a constraint generalizes beyond ellipsis.

4.1. Experiment 1

Although voice mismatches are the bread and butter of the syntax/semantics ellipsis debate, the mismatch data discussed in the literature fall into two distinct classes, each confounding syntactic structure with other factors. As described in the previous section, acceptable and unacceptable mismatches differ in their focus structure, a point which is crucial to the current analysis. However, the two classes of data also differ in their argument structure: acceptable mismatches tend to omit the passive agent in the antecedent, as in (8) and (9), while unacceptable mismatches retain the passive agent, as in (10) and (11). Under the current analysis, retention of the passive agent is only relevant in cases where it is interpreted as contrastive with the subject of the target clause (i.e. in cases with argument focus). Indeed, the analysis predicts that the passive agent can be felicitously retained in a mismatched ellipsis which exhibits auxiliary focus, as in (17).

(17) A lot of this material can be skipped by the instructor, and often I do.

Experiment 1 was designed to dissociate syntax and information structure, addressing the information structural confound of interest, while factoring out the irrelevant issue of variable argument structure. To that end, I set aside the active/passive alternation and instead used ‘tough constructions’, which allow for argument displacement and focus manipulation, while maintaining a constant number of arguments.

A 2x2 design was employed crossing information structure and syntax, as described in further detail below. The syntactic model of ellipsis predicts a main effect of syntax, where antecedent mismatch leads to reduced acceptability. The current proposal predicts an interaction, where the mismatch penalty is greater in argument focus as compared to auxiliary focus structures.

4.1.1. Materials

Tough alternations with either a raised object (18) or an object in-situ (19) structure were paired with ellipsis follow-ons that introduce either a contrastive argument in the argument focus condition (a) or a new, but non-contrastive argument in the auxiliary focus condition (b). Pairing a raised-object antecedent with a target also containing a raised object forms the matched syntax condition (18a), as

does pairing an object in-situ antecedent with an object in-situ target (19b). The remaining conditions (18b) and (19a) form the mismatch conditions.

(18) Venomous snakes are easy to identify,	focus (info structure)	antecedent (syntax)
a. and poisonous plants are as well.	<i>argument</i>	<i>match</i>
b. and most experienced hikers can.	<i>auxiliary</i>	<i>mismatch</i>
(19) It's easy to identify venomous snakes,		
a. and poisonous plants are as well.	<i>argument</i>	<i>mismatch</i>
b. and most experienced hikers can.	<i>auxiliary</i>	<i>match</i>

Twenty-four stimulus sets were constructed in this way. A norming trial (n=30) tested acceptability via magnitude estimation for the matched antecedent conditions only, to ensure that the matched conditions formed a comparable baseline. The twelve stimulus sets showing the greatest variation between the two matched alternates were discarded, leaving 12 experimental stimulus sets.

4.1.2. Method

Twenty-four undergraduates from the University of California, San Diego, all monolingual English speakers, received course credit for participation. A magnitude estimation task was used (cf. Bard et al. 1996). The dependent measure was the log-transformed ratio of stimulus rating divided by modulus rating. The modulus sentence was a grammatical sentence with conjoined clauses and no-ellipsis, with a rating fixed at 100. A within-subjects design was used with stimuli balanced across lists in a Latin-square. For each list, 12 stimuli from Experiment 1 were presented in pseudo-random order with 12 stimuli from Experiment 2, 12 stimuli from a separate study not reported here (6 ellipses, 6 mono-clausal sentences), and 20 filler stimuli (all containing grammatical object relatives, no ellipsis).

4.1.3. Results and Discussion

Means and standard error for each condition are reported in Table I, together with the mean difference between match and mismatch for each focus condition. Recall that the dependent measure was a log-transformed ratio: a positive mean thus indicates the condition was rated more acceptable than the modulus, a negative mean less acceptable. The mean for the filler condition exceeded all experimental means and is included for comparison.

Table I. Experiment 1 condition means, differences, and standard error

	antecedent match	antecedent mismatch	difference: match - mismatch
argument focus	-0.016 (.02)	-0.342 (.08)	0.326 (.03)
auxiliary focus	0.022 (.05)	-0.134 (.04)	0.156 (.03)
fillers	0.030 (.02)		

Confirming the success of the norming phase, there was no reliable difference between the two match conditions. All other comparisons for experimental means showed significant differences ($p < .05$).

Statistical analysis reveals a main effect of syntax where matched antecedents were rated more acceptable than mismatched antecedents ($F_1=20.93$, $p < .0001$; $F_2=31.28$, $p < .0005$). The effect was observed in both the argument focus and auxiliary focus conditions. A main effect of information structure was also found, where auxiliary focus structures were rated more acceptable than argument focus structures ($F_1=10.73$, $p < .005$; $F_2=5.35$, $p < .05$). The effect was observed in the mismatch condition only, however; as reported above, there was no reliable difference between argument and auxiliary focus structures in the match condition. These two main effects entered into an interaction where mismatch led to a greater reduction in acceptability in the argument focus as compared to the auxiliary focus condition ($F_1=4.93$, $p < .05$; $F_2=5.78$, $p < .05$).

As evidenced by the interaction, the experiment successfully dissociated syntax and information structure, confirming the hypothesis that sensitivity to mismatch is not a direct effect of syntax, but is

mediated by information structure. Furthermore, the results quantify varying levels of acceptability: antecedent mismatch in argument focus ellipses leads to the lowest acceptability of all conditions, whereas antecedent mismatch in an auxiliary focus ellipsis leads to reduced acceptability falling between ‘unacceptable’ argument-focused mismatches and ‘acceptable’ matches.

The main effect of syntax is consistent with a syntactic analysis that predicts reduced acceptability for all mismatched antecedent/ellipsis pairs, although that analysis fails to predict intermediate levels of unacceptability and offers no account for the information structure effect or for the interaction. Some recent proposals (e.g. Arregui et al. 2006) augment the syntactic analysis with a processing component to predict intermediate levels of acceptability, and while the pattern of results observed here can potentially be reconciled with such a model, I argue against that approach based on the results from Experiment 2.

4.2. Experiment 2

Many current syntactic models of ellipsis attribute the penalty associated with mismatch to a reconstruction effect, where lack of a syntactically appropriate (i.e. matched) antecedent either impedes or inhibits reconstruction of the antecedent at the ellipsis site. (See Arregui et al. 2006 for discussion.) The Recycling model of Arregui et al. implements this proposal within a processing architecture and predicts variable acceptability as a function of the costs incurred during reconstruction of a defective antecedent. By contrast, under the current proposal mismatch effects are mediated by an independent information structural constraint. Under this account, the preference for alignment of contrastive arguments is not specific to ellipsis and is predicted to persist in the absence of ellipsis.

In Experiment 2 I test these competing explanations for the result in Experiment 1 by comparing mismatched ellipsis sentences with non-ellipsis controls. A reconstruction-based model (with or without a processing component) predicts reduced acceptability for ellipsis sentences only, as non-ellipsis sentences need not invoke reconstruction of an antecedent. If, however, the penalty associated with mismatch stems from violation of a more general constraint within the grammar, as the current proposal holds, reduced acceptability should be observed with or without ellipsis.

4.2.1. Materials

Stimuli for Experiment 2 comprised 12 stimulus sets adapted from Frazier and Clifton (2006, experiment 1).¹ Replicating that original design, all stimuli exhibited a syntactic mismatch between the first and second clauses, all stimuli focused the subject argument of the second clause, and connectives were manipulated across conditions: *because* indicated a *Cause-Effect* relation, *just like* or *and...too* indicated a *Resemblance Relation*. Extending the design, a second factor was added: presence/absence of ellipsis. In the no-ellipsis condition (20b, 20d), a full verb phrase with a pronominalized object appeared in the second clause. The resulting 2x2 design is demonstrated below.

(20) Classes were cancelled by the teachers last time,	coherence	ellipsis
a. because the administration did.	<i>Cause-Effect</i>	<i>yes</i>
b. because the administration cancelled them.	<i>Cause-Effect</i>	<i>no</i>
c. just like the administration did.	<i>Resemblance</i>	<i>yes</i>
d. just like the administration cancelled them.	<i>Resemblance</i>	<i>no</i>

¹ In Frazier and Clifton’s experiment 1, one condition included an adverb in the antecedent clause. Presence/absence of the adverb was not found to be a significant factor affecting acceptability, and the adverbs were not included in the present study. Frazier and Clifton identified several stimulus sets from their experiment 1 which showed low acceptability with the *because* connective and modified those sentences for experiment 2, usually by changing the connective to *even though*. The four stimulus sets which were modified in this way were excluded from the present experiment.

4.2.2. Method

The method for Experiment 2 was identical to Experiment 1.

4.2.3. Results and Discussion

Means and standard error for each condition are reported in Table II, together with the mean difference between ellipsis and no-ellipsis for each coherence condition. As in Experiment 1, the dependent measure was a log-transformed ratio: positive means thus indicate the condition was rated more acceptable than the modulus, negative means less acceptable. All experimental means were negative; only the filler mean was positive.

Table II. Experiment 2 condition means, differences, and standard error

	ellipsis	no-ellipsis	difference: no-ellipsis - ellipsis
Cause-Effect	-0.439 (.10)	-0.417 (.08)	0.023 (.045)
Resemblance	-0.352 (.07)	-0.189 (.03)	0.163 (.045)
fillers	0.030 (.02)		

The greatest experimental mean was recorded in the *Resemblance/no-ellipsis* condition, and that mean was reliably different from all other experimental means ($p < .05$). All other pair-wise comparisons of experimental means were non-significant.

Replicating the result reported by Frazier and Clifton (2006, experiment 1), a reliable main effect of coherence was observed where *Cause-Effect* sentences were judged less acceptable than *Resemblance* sentences ($F_1=12.51$, $p < .005$; $F_2=6.34$, $p < .05$). There was no reliable effect of ellipsis, and though the data suggest a numerical trend where the difference between *ellipsis* and *no-ellipsis* is greater in the *Resemblance* as compared to the *Cause-Effect* condition, there was no reliable interaction.

The lack of a main effect of ellipsis is not consistent with the predictions of a reconstruction-based interpretation for the results in Experiment 1. The results from Experiment 2 are instead consistent with the current proposal which posits a general information structural constraint enforcing the alignment of contrastive arguments with or without ellipsis.

Although the *Resemblance* sentences showed increased acceptability in the *no-ellipsis* as compared to the *ellipsis* condition, the data do not indicate full amelioration, as the *no-ellipsis* mean remains well below the baselines established by both the modulus and the filler stimuli. One potential explanation suggests an additive effect where the penalty observed in the *ellipsis* condition is due to two sources: an information-structural violation, of the sort proposed here, and a separate constraint which prefers full verb phrases over ellipses. The lack of amelioration in the *Cause-Effect* sentences, however, requires further explanation, and may be due, as Frazier and Clifton suggest, to a lack of pragmatic support for causality.

5. General Discussion

The results from these experiments introduce three new observations to the literature on ellipsis. First, the reduced acceptability associated with antecedent mismatch is not an across-the-board phenomenon, but is mediated by information structure. While mismatched ellipses are reliably judged to be less acceptable than their matched counterparts, the magnitude of the effect is larger in argument focus/contrastive topic structures. The variability of the effect size points to the second observation: ellipsis acceptability is not categorical. While the majority of researchers studying ellipsis recognize this fact, the theories developed over the last thirty years have, for the most part, assumed a licensing model which admits only licit or illicit structures, necessarily making categorical predictions. Finally, and perhaps most importantly, the results presented here demonstrate that the voice mismatch effects which have played such a central role in the development of our theories of ellipsis are not unique to ellipsis. This observation suggests at worst that our current theories of ellipsis are over-engineered,

designed to address a narrow and not necessarily representative portion of the data, and at best that they are over-burdened, attributing to ellipsis a variety of effects and mechanisms which are operative more generally and which should be accounted for elsewhere in the grammar.

These results of course leave many crucial questions unresolved, two of which are of particular relevance here. The first involves the relationship between information structure and coherence. As described above, the predictions of the two models track closely, diverging only where a *Resemblance* coherence relation is not associated with a contrastive topic structure or where a *Cause-Effect* relation forms a contrastive topic. The question then is whether coherence is merely a side-effect of information structure, or whether the two support and structure one another. Some insight into this question is offered by the null effects associated with the causal stimuli in Experiment 2. One possible explanation for the lack of amelioration in the *Cause-Effect* condition is that the stimuli tended toward incoherence: minimal causal support combined with an information structure that highlights argument contrast resulted in sentences that were simply difficult to interpret, whether they contained an elided constituent or not. This interpretation can be tested by modifying the design in Experiment 2 to treat coherence as a between-items factor, avoiding altogether the difficulty faced by Frazier and Clifton in constructing minimal pairs that are equally supportive of a *Cause-Effect* and a *Resemblance* interpretation. The larger question regarding the relationship between coherence and information structure remains an important topic for future research.

A more pressing question for the ellipsis model presented here involves the nature of the proposed information structural constraint. It's clear that alignment of contrastive arguments in syntax is not a hard constraint, as it can be felicitously violated, as in (21)-(22) below.

(21) We have nothing to say to Ron Ziegler, and Al Haig's never been in politics. (Hobbs 1990)

(22) Obama reversed his position on campaign funding, but there's been no word from McCain.

But the results from Experiment 2 suggest that at least in some contexts, both with and without ellipsis, alignment leads to improved acceptability. It may be the case that a voice alternation together with repetition of the same lexical verb amounts to 'gratuitous' mismatch, while the lack of alignment introduced in sentences like (21)-(22) is driven by other constraints like information packaging (old versus new information) or the structure of the preceding discourse and is therefore less egregious. The nature of this constraint and the contexts in which it operates constitute important unanswered questions.

6. Conclusion

The experimental results presented here offer a re-examination of data that have been central to the development of the theory of ellipsis interpretation. The results showed that the picture for ellipsis is both more complicated (apparent syntactic effects are actually mediated at the level of information structure) and more simple (mismatch effects are observed even in the absence of ellipsis) than our current theories suggest. Though important questions remain, these results indicate possible directions for re-orienting the literature on ellipsis and for re-situating our understanding of the phenomenon within the larger grammar.

Acknowledgements

This work was supported by NIH grant #5-T32-DC0041 to the Center for Research in Language at the University of California, San Diego. Special thanks to research assistant Andrew Strabone and to members of the Discourse Processing Lab, the Computational Psycholinguistics Lab, the Center for Research in Language, and the SemanticsBabble group at UCSD for comments and discussion.

References

- Arregui, Ana, Charles Clifton Jr., Lyn Frazier, and Keir Moulton. 2006. Processing elided verb phrases with flawed antecedents: The Recycling Hypothesis. *Journal of Memory and Language* 55:232-246.
- Bard, Ellen Gurman, Dan Robertson, and Antonella Sorace. 1996. Magnitude estimation of linguistic acceptability. *Language* 72:32-68.
- Dalrymple, Mary, Stuart M. Shieber, and Fernando C. N. Pereira. 1991. Ellipsis and higher-order unification. *Linguistics and Philosophy* 14:399-452.
- Frazier, Lyn, and Charles Clifton Jr. 2006. Ellipsis and discourse coherence. *Linguistics and Philosophy* 29:315-346.
- Hardt, Daniel. 1993. *Verb Phrase Ellipsis: Form, Meaning, and Processing*. Ph.D. Thesis, University of Pennsylvania.
- Hendriks, Petra. 2004. Coherence relations, ellipsis and contrastive topics. *Journal of Semantics* 21:133-153.
- Hobbs, Jerry R. 1990. *Literature and Cognition*. CSLI Lecture Notes 21. Stanford: CSLI.
- Kehler, Andrew. 2000. Coherence and the resolution of ellipsis. *Linguistics and Philosophy* 23:533-575.
- Kehler, Andrew. 2002. *Coherence, Reference, and the Theory of Grammar*. Stanford: CSLI.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1972. *A Grammar of Contemporary English*. London: Longman.
- Sag, Ivan. 1976. *Deletion and Logical Form*. Ph.D. Thesis, MIT.

Proceedings of the 27th West Coast Conference on Formal Linguistics

edited by Natasha Abner
and Jason Bishop

Cascadilla Proceedings Project Somerville, MA 2008

Copyright information

Proceedings of the 27th West Coast Conference on Formal Linguistics
© 2008 Cascadilla Proceedings Project, Somerville, MA. All rights reserved

ISBN 978-1-57473-428-7 library binding

A copyright notice for each paper is located at the bottom of the first page of the paper.
Reprints for course packs can be authorized by Cascadilla Proceedings Project.

Ordering information

Orders for the library binding edition are handled by Cascadilla Press.
To place an order, go to www.lingref.com or contact:

Cascadilla Press, P.O. Box 440355, Somerville, MA 02144, USA
phone: 1-617-776-2370, fax: 1-617-776-2271, e-mail: sales@cascadilla.com

Web access and citation information

This entire proceedings can also be viewed on the web at www.lingref.com. Each paper has a unique document # which can be added to citations to facilitate access. The document # should not replace the full citation.

This paper can be cited as:

Kertz, Laura. 2008. Focus Structure and Acceptability in Verb Phrase Ellipsis. In *Proceedings of the 27th West Coast Conference on Formal Linguistics*, ed. Natasha Abner and Jason Bishop, 283-291. Somerville, MA: Cascadilla Proceedings Project.

or:

Kertz, Laura. 2008. Focus Structure and Acceptability in Verb Phrase Ellipsis. In *Proceedings of the 27th West Coast Conference on Formal Linguistics*, ed. Natasha Abner and Jason Bishop, 283-291. Somerville, MA: Cascadilla Proceedings Project. www.lingref.com, document #1842.