

REPLIES

The end of lexicalism as we know it?

STEFAN MÜLLER

Humboldt Universität zu Berlin

This paper is a reply to Benjamin Bruening's article 'The lexicalist hypothesis: Both wrong and superfluous', which appears in this volume of *Language*. Bruening claims that all phenomena that have been explained with reference to the notion *word* should be explained with reference to the X^0/XP distinction. He claims that only phrases can be extracted, which would explain the island status of words (his X^0). He also claims that coordination always affects full XPs, countering an earlier argument by Steve Wechsler and me. He argues for a phrasal analysis of resultative constructions and tries to support it by the claim that all arguments of nouns are optional, and hence a lexical analysis of resultative constructions that assumes that the result predicate is selected by the verb would make wrong claims when it comes to nominalizations, since one would expect that the result predicate can be omitted like other arguments in nominalizations can be.

I argue that Bruening's X^0/XP distinction cannot explain extraction differences since X^0 can be extracted, that some arguments are indeed not optional in nominalizations, and that coordination may affect lexical items. I furthermore point out that morphological phenomena in languages other than English may need more machinery and different tools and that in the end it may be reasonable to assume that there is a morphology that is indeed different from syntax.*

Keywords: lexicalism, fronting, German, syntax, morphology

1. INTRODUCTION. Bruening (2018) discusses many of the claims usually made to support the LEXICALIST HYPOTHESIS, that is, mainly the part that concerns LEXICAL INTEGRITY. Lexical integrity assumes that words are separate units that are inserted into syntactic structures (Bresnan & Mchombo 1995, Booij 2009). He argues that words are not anaphoric islands, that phrases can appear in words, and that parts of words can be affected by coordination, by focus, by ellipsis, and so on. So, it may be that some of the restrictions that were imposed by lexicalist theories have to be given up and that more flexibility is needed.

In his article, Bruening discusses earlier arguments of mine for lexical approaches to resultative constructions and a specific analysis of them (Müller 2006). He argues that the approach runs into problems with optional arguments in nominalizations. He also takes up an argument based on coordination by Wechsler (2008) and Müller and Wechsler (2014) against syntactic analyses of nominalizations. In this reply I show that a number of Bruening's assumptions are questionable, or else do not show exactly what he claims they show. I show here that theories like HEAD-DRIVEN PHRASE STRUCTURE GRAMMAR (HPSG) could be adapted easily to syntactic approaches of inflection and derivation, but I argue that nevertheless one should not assume Bruening's analysis of resultative constructions but follow the lexical approach.

My reply is structured as follows: I first discuss empirical facts from psycholinguistics showing that the analysis Bruening suggests as an alternative to lexicalist models is implausible (§2). Section 3 then discusses his analysis of compounds and compares it to the lexicalist alternative, and §4 shows that the changes needed to allow for affixes to attach to phrases in theories like HPSG are minimal. In §5 I discuss my approach to re-

* I thank Anne Abeillé, Olivier Bonami, Bob Borsley, Rui Chaves, Berthold Crysmann, Hubert Haider, Stella Markantonatou, Christoph Schwarze, and Mark Steedman for discussion on various topics related to this paper. I also thank the editors of *Language*, in particular John Beavers, for helpful comments on the submitted manuscript. Of course they are not responsible for anything I say in this note, except when indicated otherwise.

sultative and particle verbs and show that, even without relying on lexical integrity as an argument, there are good reasons to assume a lexical analysis. I also show that Bruening’s claim with respect to the optionality of arguments in nominalizations is false.

Finally, Bruening’s suggestions for modeling the phenomena under consideration with respect to the X⁰/XP distinction are taken up in §§6 and 7. It is shown that it is reasonable to assume that X⁰s can be fronted and coordinated pace Bruening’s claims. The paper concludes in §8.

2. TRANSFORMATIONAL ACCOUNTS OF AFFIXATION INVOLVING REORGANIZATION OF SYNTACTIC STRUCTURES. Bruening argues that there are phenomena that affect parts of words and that the principle of lexical integrity should be given up. This may be true, but what is probably not needed and what is also ruled out by lexicalist theories are analyses like that of Pollock (1989), which is depicted in Figure 1 for the French example in 1, and the analysis that Bruening (2017) suggests for nominalizations (see Figure 2).

- (1) Marie ne parlerait pas.
- Marie NEG speak.COND.3SG NEG
- ‘Marie would not speak.’

In Pollock’s analysis, the various morphemes are in specific positions in the tree and are combined only after certain movements have been carried out.

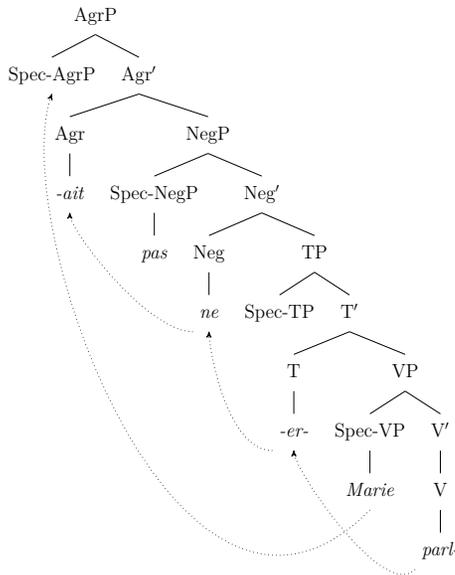


FIGURE 1. Pollock’s analysis of *Marie ne parlerait pas* ‘Marie would not speak’ according to Kuhn (2007:617).

Similarly, Bruening suggests that a complete sentence is the basis of a nominalization like 2a and that the subject of the embedded clause (*them to be wrong*) is raised to the object of *declare*.

- (2) a. God’s declaration of them to be wrong
- b. God declares them to be wrong.

The nominalization affix *-tion* is combined with a projection of Voice and takes an NP argument as specifier.

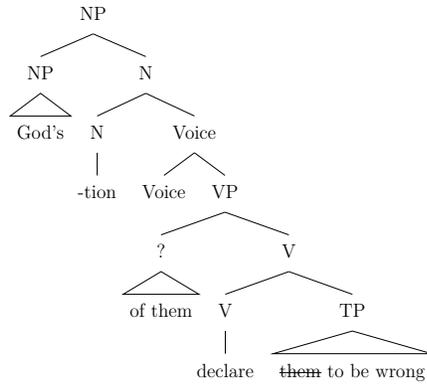


FIGURE 2. Nominalization according to Bruening (2017).

There are simple empirical reasons for rejecting such analyses: they are incompatible with all we know from psycholinguistics. Why should one assume that a full clausal structure is part of the representation of 2a? Why should one assume that there is a TP, a VP, and a Voice projection in the analysis of 2a? In the history of TRANSFORMATIONAL GRAMMAR, researchers hoped to be able to show the reality of transformations, and first results were promising. But it soon turned out that the initial experiments were flawed and that there is no psycholinguistic evidence for transformations (Fodor et al. 1974:320–28). What psycholinguists tell us is that language is processed incrementally (Marslen-Wilson 1975, Tanenhaus et al. 1996).¹ To be concrete: current MINIMALIST models assume that language is processed in PHASES (Chomsky 2008, Richards 2015). A phase is built by syntax and then shipped off to the interfaces for pronunciation and interpretation. Since *declaration* is the result of moving *declare* from *declare them to be wrong* up to the affix *-tion*, we have to have the linguistic object *declare them to be wrong* before *declaration* can be built. This is not what humans do: humans process language incrementally, and as Labelle (2007) points out, the short-term memory would not be sufficient to keep hypotheses about phases and potential transformations. Rather than entertaining various hypotheses about possible transformations, when humans hear the word *declaration* they know the meaning of the word and they have certain expectations about how the phrase may proceed. What is needed is a representation of the objects that are visible and a relation between these objects. This is depicted in Figure 3.

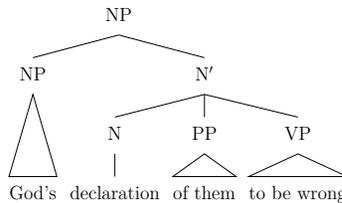


FIGURE 3. Nominalization according to all nontransformational theories.

The structure in Fig. 3 is basically what is assumed in all alternatives to GOVERNMENT AND BINDING (GB)/minimalism (e.g. LEXICAL-FUNCTIONAL GRAMMAR, HPSG,

¹ For an overview of arguments for constraint-based lexicalist approaches in comparison to transformational ones see Sag & Wasow 2011.

CATEGORIAL GRAMMAR, CONSTRUCTION GRAMMAR) modulo questions of binary/flat branching and the NP/DP distinction.

So, while some of Bruening's suggestions are rejected on empirical grounds right away, there are others that should be discussed in more detail. I start in the next section with a discussion of his suggestions about phrases in compounds.

3. COMPOUNDS. Bruening (2018) discusses examples like 3 and claims that the quotation explanation that is used in lexicalist models is not satisfying.

(3) I gave her a don't-you-dare! look.

In the lexicalist world it is often assumed that phrasal parts of compounds are quoted chunks of material that are taken from somewhere else and inserted into the compound.² The evidence for this is that phrases from other languages and even sounds can be inserted into compounds. Since it is unlikely that speakers that use foreign phrases in the first position of a compound possess knowledge of the complete syntax of the respective language, this seems to be a reasonable assumption. Wiese (1996) suggested an analysis for such compounds that is depicted in Figure 4.

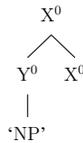


FIGURE 4. Analysis of phrasal parts in compounds as quotations following Wiese (1996).

Wiese uses the quotation marks to indicate the encapsulation of the NP (or whatever phrase/gesture/faceal expression is inserted into the compound). Now, Bruening suggests the analysis in Figure 5 instead.

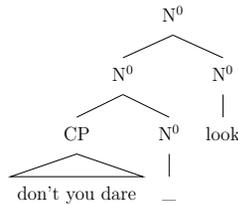


FIGURE 5. Analysis of phrasal parts in compounds following Bruening (2018).

According to Bruening an empty nominal head is combined with a CP to form an N⁰. Apart from assuming an empty head for the recategorization of the phrasal material, the analysis is very similar to what Wiese suggested. Bruening does not account for utterances from other languages, facial expressions, or sounds in such compounds. He claims that his account is superior to the quotation account since it rules out strings like **gimme-the* in compounding or zero derivation. But of course nobody claimed that arbitrary material can be inserted into the first slot of a compound. Since the role of *gimme-the* in a compound would be unclear from a semantic/pragmatic point of view,

² An alternative suggested independently by Christoph Schwarze and Nigel Vincent (p.c. 2017) is to treat *don't you dare* as an adjective. This would be similar to the compound analysis suggested below in the sense that this approach also involves a rule that recategorizes a phrase.

such strings are unintelligible without context. Of course, one can construct contexts in which exactly this string is possible.

- (4) a. Bruening discussed his gimme-the example again.
 b. He made this gimme-the noise again.

It could be argued that this is a type of meta statement, but the status of the first elements in the compounds is exactly as in those with quotations from other languages or mentionings of sounds.

The difference between Bruening's and Wiese's approaches is that Bruening claims that the lexicalist hypothesis does not hold in its full breadth but only as far as X^0 and XP differences are concerned. According to Bruening, X^0 s may have complex internal structure. They can consist of several X^0 s or may contain phases, as in Fig. 5. While the analysis of compounds is almost identical to what lexicalist authors suggested, Bruening also allows for inflectional and derivational affixes that attach to phrases. These are discussed in the following section.

4. PHRASES IN INFLECTIONAL AND DERIVATIONAL MORPHOLOGY. Bruening argues that it has to be possible to have phrases in morphology (or rather that one should not distinguish morphology and syntax at all; see also Haspelmath 2011 and Jacobs 2011). He argues that one would need phrases like *Bonnie and Clyde* as input to inflectional rules to allow for his example 9a (repeated here as 5a) and that we need phrases as input to derivational rules to allow for his example 32 (repeated here as 5b).³

- (5) a. You just Bonnie and Clyded my starting middies! (*Archer* season 3, episode 3)
 b. Hanako ga Masao ni uti o soozisuru ka heya-dai o
 Hanako NOM Masao DAT house ACC clean or room-rent ACC
 haraw-aseru koto ni sita.
 pay-CAUS that to do
 'Hanako decided to make Masao clean the house or pay room rent.'
 (Kuroda 2003:455, ex. 16)

One way of solving this problem would be to assume a unary rule that turns *Bonnie and Clyde* into a complex stem. This is basically what was suggested by all those who followed the quotation approach to phrases in compounds; see §3. But for the sake of the argument let us assume that Bruening is right and one needs phrases as input to inflectional morphology. The question then is: what would have to be changed in an HPSG theory in order to accommodate his claims? Usually morphology is done via lexical rules in HPSG. Lexical rules are unary branching trees (Copestake & Briscoe 1992, Riehemann 1993, 1998, Meurers 2001, Sag et al. 2012). As such they are defined with the same formal tools as syntactic rules, something Bruening argues for. For instance, the following lexical rule licenses an inflected past form.

$$(6) \left[\begin{array}{l} \text{word} \\ \text{PHON } f(\boxed{}) \\ \text{DTRS } \left\langle \left[\begin{array}{l} \text{stem} \\ \text{PHON } \boxed{} \end{array} \right] \right\rangle \end{array} \right]$$

If one believes that past forms are created from phrases rather than stems or maybe that both phrases and stems are allowed, one can change the constraint on the daughter

³ A note on example 5b: Steve Wechsler (p.c. 2017) informed me that examples like 5b were rejected by the two Japanese linguists he contacted (David Oshima and Katsuya Fujikawa). So some empirical work regarding such examples has to be done in order to confirm their status as challenges to lexicalist analyses.

from *stem* to *phrase* or remove it altogether.⁴ The change is minor, as far as formal details are concerned, but whether one wants to allow for structures with phrasal daughters is an empirical question. To take a concrete example that illustrates whether this hypothetical approach is justified, I argue in the next section that the analysis of resultative predicates and particle verbs in German should in fact be done as was suggested in Müller 2002, 2003, that is, in a lexicalist way and not phrasally.

5. RESULTATIVES AND PARTICLE VERBS. Bruening (2018:§2.2) argues that the nominalization in 7 should be analyzed as a nominalization of the syntactic combination of *leer* and *fisch*.

- (7) wegen der Leerfischung der Nordsee⁵
 because.of.the.GEN empty.fishing of.the North.Sea.GEN
 ‘because of over-fishing in the North Sea’

Bruening claims that there are generalizations about nominalizations that would be explained by his phrasal approach and that would be problematic for lexical approaches. Section 5.1 discusses the alleged obligatoriness of arguments in nominal environments and shows that Bruening’s generalization does not hold. Section 5.2 explains the much discussed bracketing paradoxes in the morphology of particle verbs and resultative constructions and argues that these are entirely unproblematic in a lexical approach.

5.1. OBLIGATORY ARGUMENTS OF NOUNS. In Müller 2006:869 I argued that the *-ung* suffix has to attach to the resultative variant of *fisch-* since we have *Leerfischung* as in 7 but not *Fischung* as a derivation of the intransitive verb *fischen* ‘to fish’. The noun *Fischung* exists, but it does not refer to an event but to parts of a boat.

Bruening—citing Williams (2015:312) with an observation on English gerunds—criticizes my approach and claims that all arguments of nouns are optional and hence one would expect that the resultative argument selected by the noun *fischung* can be omitted. This is not possible, however, since omitting the adjectival predicate in *Leerfischung* would result in *Fischung* and *Fischung* has a totally different meaning. Bruening concludes that the only way to deal with this situation is to assume that *-ung* applies to phrasal combinations, namely the result of combining *leer* and *fisch-*.

Now, while it is generally true that arguments of nouns can be omitted, there are situations in which the argument cannot be omitted without changing the meaning. Sebastian Nordhoff (p.c. 2017) found the following examples.

- (8) a. Weichensteller ‘switchman’
 switch.changer
 b. Barträger ‘bearded man’
 beard.carrier
 c. Spaßmacher ‘jester’
 joke.maker
 d. Arbeitgeber ‘employer’
 work.giver
 e. Unfallbauer ‘crasher’
 crash.builder

⁴ Haspelmath (2011) and Jacobs (2011) argue that the notion of word is ill-defined/problematic. What would be needed in rules like 6 if one wanted to do without the type *word* would be something that distinguishes elements that are inflected from those that are not and that have to be inflected before being able to be used in larger contexts.

⁵ Originally due to the newspaper *die tageszeitung*, or *taz*, 20 June 1996, p. 6.

- f. Abibauer ‘secondary school leaving examination taker’
secondary.school.leaving.examination.builder
- g. Traumfänger ‘dreamcatcher’
dream.catcher
- h. Zeitschinder ‘temporizer’
time.grinder
- i. Pläneschmieder ‘contriver’
plans.forging

For example, a *Barträger* is somebody who has a beard. If one omitted the first part of the compound, one would get a *Träger* ‘carrier’; a relation to the original sense cannot be established. Similarly, a *Spaßmacher* is literally a ‘joke maker’. Without the first part of the compound this would be *Macher*, which translates as *doer* or *action man*. What the examples above have in common is the following: the verbal parts are frequent, and in the most frequent uses of the verb the object is concrete. In the compounds above the first part is unusual in that it is abstract. If the first element of the compound is omitted, we get the default reading of the verb, something that is incompatible with the meaning of the verb in the complete compound.

The contrast between *Leerfischung* and #*Fischung* can be explained in a similar way: the default reading of *fisch-* is the one without resultative meaning. Without the realized predicate we get the derivation product *Fischung* that does not exist.

So, in a lexical analysis of resultatives we have to make sure that the resultative predicate is not optional, and this is what my analysis does. It says that *fisch-* needs a resultative predicate. It does not say that it OPTIONALLY takes a result predicate. What is needed is a careful formulation of a theory of what can be dropped which ensures that no arguments are omitted that are crucial for recognizing the sense of a certain construction/collocation. The nominalization rules have to be set up accordingly.⁶ I do not see any problems for the analyses of resultatives and particle verbs that I suggested.

5.2. BRACKETING PARADOXES. Bruening argues that *-ung* attaches to *leer fisch-*. This is an option that has been discussed in the literature on German resultative constructions and that was also suggested for particle verbs, which have a similar structure (Bierwisch 1987, Stiebels & Wunderlich 1994, Lüdeling 2001, Müller 2002, 2003). The problem with this approach is that there are cases in which the inflectional or derivational endings are discontinuous. For example, the inflection of the participle (*ge-* or *ge-* *-en*) attaches to the verbal stem and separates the particle from the base verb *fang-*, and the discontinuous derivational affix *Ge-* *-e* separates the result predicate from the main verb *fisch-*, respectively.

- (9) a. an-ge-fang-en
PART-PTCP-catch-PTCP
‘started’
- b. Leer-ge-fisch-e
empty-GE-fishing-GE
‘repeatedly fishing empty’

⁶ Note that this also applies to lexical theories of idioms of the kind suggested by Sag (2007) and Kay, Sag, and Flickinger (2015). If one analyzes idioms like *kick the habit* and *kick the bucket* with a special lexical item for *kick*, one has to make sure that the object of *kick* is not omitted since the idioms are not recognizable without the object.

Nevertheless, as was observed by Bierwisch and others, tense information scopes over the content contributed by the whole particle-verb combination. The two structures in Figure 6 have been suggested in the literature for the finite verb *anhört* ‘listens to’.

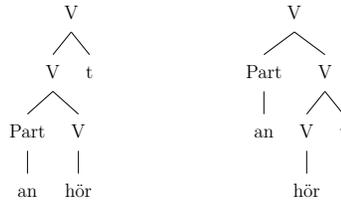


FIGURE 6. Two possible structures for particle verbs (and resultatives).

The left structure was suggested for semantic reasons, and the right structure is the one that is needed for morphological reasons since the affixes attach to the verbal stem rather than to the complete particle verb. The examples above are from inflection, but derivation interacts in a similar way with semantics. German has a discontinuous nominalization *Ge-* *-e*. One can form *Leergefische*, which means something like ‘repeated fishing empty’ with a negative connotation. As Lüdeling (2001) pointed out, two different structures seem to be necessary for morphological and semantic reasons for resultative constructions as well.

Authors like Bierwisch (1987) and Stiebels and Wunderlich (1994) suggested rebracketing mechanisms that take one of the structures and reanalyze it into the second one. Approaches that can account for the data without such additional tools have to be preferred for reasons of simplicity. Müller 2003 suggested an analysis that treats particles like a selected argument. So, the particle verb *anfangen* is specified in the lexicon as a lexical item that contributes the phonology *fang*, selects for the particle *an*, and contributes the meaning of *anfangen* ‘to begin’. Productive particle verbs like those formed with the particle *los*, which marks the beginning of an action, are licensed by a lexical rule that maps stems of monovalent verbs onto verbal stems that select a particle in addition to their original valence. These stems can be inflected and then used in syntax. Since the particle is combined with the verb after inflection, no bracketing paradox arises and no mechanisms like rebracketing, percolation of inflectional material, or movement of stems or affixes is needed. To summarize: even though inflection of phrases may be needed in some cases, the lexicalist analyses of particle verbs and resultative constructions that were suggested in Müller 2002, 2003, 2006 and Wechsler & Noh 2001 remain unrefuted and are to be preferred over other, especially phrasal, approaches.

6. PARTIAL FRONTING. Bruening argues that much of what the assumption of lexical integrity does can be explained by the difference between X^0 and XP and by the assumption that only XP s can be extracted. This is an assumption that is usually made in GB/minimalism, but it is not accepted by other frameworks, and even within GB/minimalism it is not accepted by everybody (Haider 1993, Fanselow 2002).

Bruening mentions my work on partial verb phrase fronting in a footnote but states that ‘these analyses can be recast so that extraction is not able to target an X^0 . Partial VPs can be targeted, and a verb by itself can be viewed as a partial VP. That is, phrases can contain only one word and still be phrases’ (p. 23). As the following examples show: adjectives, verbs, and particles can be fronted alone.

- (10) a. Leer hat er den Teich gefischt.
empty has he the pond fished
'He fished the pond empty.'
- b. Gelesen hat er das Buch.
read has he the book
'He did read the book.'
- c. Mit schwingt aber auch: In den Sommerferien einen Parteitag
with swings but also in the summer.holidays a party.meeting
zu veranstalten, ist eigentlich nicht zulässig.⁷
to organize is in.principle not allowed
'What is implicitly conveyed in this message is that it is prohibited to
organize party meetings during the summer holidays.'

If Bruening assumes that these categories could or should project to full phrases, then the question would be why. This seems to be required just to get the fronting data right. A common analysis for predicate complexes in German assumes that the involved elements are X⁰s (Haider 1993, Meurers 1999, Müller 1999, 2002, Kathol 2001). The alternative is remnant-movement approaches (G. Müller 1998), but these have several shortcomings (Haider 1993:281, De Kuthy & Meurers 2001:§2, Fanselow 2002). For instance, they make wrong predictions when it comes to the movement of indefinites. As Haider (1993:281) observed, indefinites do not move. We can have 11a but not 11b.

- (11) a. dass hier selten wem was auf Anhieb
that here rarely somebody.DAT something.NOM on first.attempt
gelungen ist
succeeded is
'that it was rarely the case that somebody succeeded in doing something here on the first attempt'
- b. *dass hier selten was wem auf Anhieb
that here rarely something.NOM somebody.DAT on first.attempt
gelungen ist
succeeded is

As Haider points out, an approach that assumes that 12b is analyzed as the scrambling of *wem* 'somebody', *was* 'something', and *auf Anhieb* 'on the first attempt' out of the VP *wem was auf Anhieb gelungen* (as in 12a) and fronting of the remaining remnant VP cannot explain the ungrammaticality of 12c, since there should be an analysis in which just *was* 'something' and *auf Anhieb* 'on the first attempt' can be moved out of the VP and the remaining VP *wem gelungen* 'somebody succeeded' is moved.

- (12) a. dass hier selten wem_j was_i auf
that here rarely somebody.DAT something.NOM on
Anhieb_k [_{VP} -_i -_j -_k gelungen] ist
first.attempt succeeded is
- b. Gelungen ist hier selten wem was auf
succeeded is here rarely somebody.DAT something.NOM on
Anhieb
first.attempt

⁷ *taz*, 10 July 2017, p. 11

- c. *Wem gelungen ist hier selten was auf
 somebody.DAT succeeded is here rarely something.NOM on
 Anhieb.
 first.attempt

So, the analysis that assumes that the fronted elements are VP remnants is problematic. If it is possible to front bare V_s or incomplete verbal projections, Bruening cannot explain extraction facts by claiming that only maximal projections can be extracted.

7. COORDINATION. Wechsler (2008) and Müller and Wechsler (2014) argued that nominalizations should be treated lexically since nouns of various types can be coordinated, which would be a surprise if a nominalization involved phrasal structure.

Bruening (2018:§5.2) claims that examples like 13a involving the coordination of verbs do not provide evidence for the coordination of lexical items since such coordinations may be reformulated and *but does not* may be inserted, as in 13b.

- (13) a. He knows and loves this record.
 b. He knows but does not love this record.

How 13b can be analyzed is an open question, but the existence of other patterns of coordination does not show that lexical coordination is not at work in examples like 13a. This would only follow if one could show that all coordination is phrasal, and then a theory that handles both examples in 13 as phrasal coordination would be simpler than one that treats the examples differently. However, there are areas in grammar that seem to require coordination of nonphrasal material. Consider the example in 14, which is taken from Heycock & Zamparelli 2005.

- (14) the ill-matched man and woman

As Kubota and Levine (2013:26–27) point out, an ellipsis-based analysis of such examples would not work, since such examples cannot be related to *the ill-matched man* and *the ill-matched woman*. What is *ill-matched* is the group of *the man* and *the woman*. So there is clear evidence that words can be coordinated. Bruening writes: ‘Such coordinations can also include more words, such as *even: No intellectual or even academic has the courage to speak out about the war* (COCA). This supports the contention that they are actually phrasal’ (p. 28). However, this does not show anything. What is shown is that complex phrases can be coordinated, but it does not show that *man and woman* is the coordination of two phrases.

The examples in 15 are related to what has been discussed in §6 on X⁰ fronting: two coordinated X⁰s are fronted, and the remaining arguments stay behind.⁸

- (15) a. [Vertraut und zufrieden], das war er nie mit was.
 familiar and pleased this was he never with something
 ‘He was never familiar and pleased with anything.’
 b. [Treu und ergeben], das wäre er ohnehin nie wem gewesen.
 faithful and devoted this was he anyway never who been
 ‘He would not have been faithful and devoted to anybody anyway.’

The fronted coordinated items are taken up by a demonstrative pronoun in a left-dislocation construction. Note that one cannot claim that full VPs or APs are fronted since the rest of the sentence contains indefinites (*was* and *wem*) and these do not move (see

⁸ Thanks to Hubert Haider for reminding me of this type of examples.

example 11), and hence an analysis assuming that *wem* and *mit was* are moved out of a VP before its remnant is fronted is implausible.

8. CONCLUSION. Bruening (2018) wrote an interesting article showing that many areas within words may be affected by syntactic processes. He argues that lexical approaches cannot explain the lack of optionality of arguments in nominal environments. I have shown that his claims are wrong and that it is not the case that all arguments are optional in nominal environments. Hence there is no counterargument against lexical treatments of resultatives. The discussion of bracketing paradoxes shows that there are arguments for lexical analyses. Bruening tries to tie some of the constraints that follow from the lexicalist hypothesis on the difference between X^0 s and XPs, but I have reminded the reader that various X^0 categories may be extracted and that remnant-movement approaches are problematic for several reasons. Finally, coordination of X^0 s is possible despite Bruening's claims, and his rather programmatic article does not say anything about more interesting morphological phenomena that may indeed require tools different from what we use in syntax.

Ultimately, while Bruening's article may be the end of lexicalism as we know it, since some changes in lexicalist constraints might be required, it is not the end of lexicalism.

REFERENCES

- BIERWISCH, MANFRED. 1987. A structural paradox in lexical knowledge. *Knowledge aided information processing*, ed. by Elke van der Meer and Joachim Hoffmann, 141–72. Amsterdam: North-Holland.
- BOOI, GEERT E. 2009. Lexical integrity as a formal universal: A constructionist view. *Universals of language today* (Studies in natural language and linguistic theory 76), ed. by Sergio Scalise, Elisabetta Magni, and Antonietta Bisetto, 83–100. Berlin: Springer.
- BRESNAN, JOAN, and SAM A. MCHOMBO. 1995. The lexical integrity principle: Evidence from Bantu. *Natural Language and Linguistic Theory* 13.181–254. DOI: 10.1007/BF00992782.
- BRUENING, BENJAMIN. 2017. Word formation is syntactic: Raising in nominalizations. Newark: University of Delaware, ms. Online: <http://udel.edu/~bruening/Downloads/RaisingNominal2.pdf>.
- BRUENING, BENJAMIN. 2018. The lexicalist hypothesis: Both wrong and superfluous. *Language* 94(1).1–42.
- CHOMSKY, NOAM. 2008. On phases. *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133–66. Cambridge, MA: MIT Press.
- COPESTAKE, ANN, and TED J. BRISCOE. 1992. Lexical operations in a unification based framework. *Lexical semantics and knowledge representation* (Lecture notes in artificial intelligence 627), ed. by James Pustejovsky and Sabine Bergler, 101–19. Berlin: Springer.
- DE KUTHY, KORDULA, and W. DETMAR MEURERS. 2001. On partial constituent fronting in German. *Journal of Comparative Germanic Linguistics* 3(3).143–205. DOI: 10.1023/A:1011926510300.
- FANSELOW, GISBERT. 2002. Against remnant VP-movement. *Dimensions of movement: From features to remnants* (Linguistik aktuell/Linguistics today 48), ed. by Artemis Alexiadou, Elena Anagnostopoulou, Sjef Barbiers, and Hans-Martin Gärtner, 91–127. Amsterdam: John Benjamins.
- FODOR, JERRY A.; THOMAS G. BEVER; and MERRILL F. GARRETT. 1974. *The psychology of language: An introduction to psycholinguistics and generative grammar*. New York: McGraw-Hill.
- HAIDER, HUBERT. 1993. *Deutsche Syntax—generativ: Vorstudien zur Theorie einer projektiven Grammatik*. (Tübinger Beiträge zur Linguistik 325.) Tübingen: Gunter Narr.

- HASPELMATH, MARTIN. 2011. The indeterminacy of word segmentation and the nature of morphology and syntax. *Folia Linguistica* 45(1), 31–80. DOI: 10.1515/flin.2011.002.
- HEYCOCK, CAROLINE, and ROBERTO ZAMPARELLI. 2005. Friends and colleagues: Plurality, coordination, and the structure of DP. *Natural Language Semantics* 13(3), 201–70. DOI: 10.1007/s11050-004-2442-z.
- JACOBS, JOACHIM. 2011. Grammatik ohne Wörter. *Sprachliches Wissen zwischen Lexikon und Grammatik* (Jahrbuch des Instituts für Deutsche Sprache 2010), ed. by Stefan Engelberg, Anke Holler, and Kristel Proost, 345–74. Berlin: De Gruyter.
- KATHOL, ANDREAS. 2001. Positional effects in a monostratal grammar of German. *Journal of Linguistics* 37(1), 35–66. DOI: 10.1017/S0022226701008805.
- KAY, PAUL; IVAN A. SAG; and DANIEL P. FLICKINGER. 2015. A lexical theory of phrasal idioms. Stanford, CA: CSLI, Stanford University, ms.
- KUBOTA, YUSUKE, and ROBERT LEVINE. 2013. Coordination in hybrid type-logical categorial grammar. *Ohio State University Working Papers in Linguistics* 60, 21–50. Online: https://linguistics.osu.edu/sites/linguistics.osu.edu/files/wpl-vol60-3-KubotaLevine_0.pdf.
- KUHN, JONAS. 2007. Interfaces in constraint-based theories of grammar. *The Oxford handbook of linguistic interfaces*, ed. by Gillian Ramchand and Charles Reiss, 613–50. Oxford: Oxford University Press.
- KURODA, S.-Y. 2003. Complex predicates and predicate raising. *Lingua* 113, 447–80. DOI: 10.1016/S0024-3841(02)00082-7.
- LABELLE, MARIE. 2007. Biolinguistics, the minimalist program, and psycholinguistic reality. *Snippets* 14, 6–7. Online: <http://www.ledonline.it/snippets/allegati/snippets14002.pdf>.
- LÜDELING, ANKE. 2001. *On particle verbs and similar constructions in German*. (Dissertations in linguistics.) Stanford, CA: CSLI Publications.
- MARSLÉN-WILSON, WILLIAM. 1975. Sentence perception as an interactive parallel process. *Science* 189(4198), 226–28. DOI: 10.1126/science.189.4198.226.
- MEURERS, W. DETMAR. 1999. German partial-VP fronting revisited. *Lexical and constructional aspects of linguistic explanation* (Studies in constraint-based lexicalism 1), ed. by Gert Webelhuth, Jean-Pierre Koenig, and Andreas Kathol, 129–44. Stanford, CA: CSLI Publications.
- MEURERS, W. DETMAR. 2001. On expressing lexical generalizations in HPSG. *Nordic Journal of Linguistics* 24(2), 161–217. DOI: 10.1080/033258601753358605.
- MÜLLER, GEREON. 1998. *Incomplete category fronting: A derivational approach to remnant movement in German*. (Studies in natural language and linguistic theory 42.) Dordrecht: Kluwer.
- MÜLLER, STEFAN. 1999. *Deutsche Syntax deklarativ: Head-driven phrase structure grammar für das Deutsche*. (Linguistische Arbeiten 394.) Tübingen: Max Niemeyer.
- MÜLLER, STEFAN. 2002. *Complex predicates: Verbal complexes, resultative constructions, and particle verbs in German*. (Studies in constraint-based lexicalism 13.) Stanford, CA: CSLI Publications.
- MÜLLER, STEFAN. 2003. Solving the bracketing paradox: An analysis of the morphology of German particle verbs. *Journal of Linguistics* 39(2), 275–325. DOI: 10.1017/S0022226703002032.
- MÜLLER, STEFAN. 2006. Phrasal or lexical constructions? *Language* 82(4), 850–83. DOI: 10.1353/lan.2006.0213.
- MÜLLER, STEFAN, and STEPHEN WECHSLER. 2014. Lexical approaches to argument structure. *Theoretical Linguistics* 40(1–2), 1–76. DOI: 10.1515/tl-2014-0001.
- POLLOCK, JEAN-YVES. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20(3), 365–424. Online: <http://www.jstor.org/stable/4178634>.
- RICHARDS, MARC. 2015. Minimalism. *Syntax—theory and analysis: An international handbook* (Handbooks of linguistics and communication science 42), 2nd edn., ed. by Tibor Kiss and Artemis Alexiadou, 803–39. Berlin: De Gruyter Mouton.
- RIEHMANN, SUSANNE Z. 1993. Word formation in lexical type hierarchies: A case study of *bar*-adjectives in German. Tübingen: Eberhard-Karls-Universität Tübingen master's thesis. [Also published as SfS-Report-02-93, Seminar für Sprachwissenschaft, University of Tübingen.]

- RIEHMANN, SUSANNE Z. 1998. Type-based derivational morphology. *Journal of Comparative Germanic Linguistics* 2(1).49–77. DOI: 10.1023/A:1009746617055.
- SAG, IVAN A. 2007. Remarks on locality. *Proceedings of the 14th International Conference on Head-Driven Phrase Structure Grammar (HPSG 2007)*, 394–414. Online: <http://csli-publications.stanford.edu/HPSG/2007/abstr-sag.shtml>.
- SAG, IVAN A.; HANS C. BOAS; and PAUL KAY. 2012. Introducing sign-based construction grammar. *Sign-based construction grammar* (CSLI lecture notes 193), ed. by Hans C. Boas and Ivan A. Sag, 1–29. Stanford, CA: CSLI Publications.
- SAG, IVAN A., and THOMAS WASOW. 2011. Performance-compatible competence grammar. *Non-transformational syntax: Formal and explicit models of grammar: A guide to current models*, ed. by Robert D. Borsley and Kersti Börjars, 359–77. Oxford: Blackwell.
- STIEBELS, BARBARA, and DIETER WUNDERLICH. 1994. Morphology feeds syntax: The case of particle verbs. *Linguistics* 32(6).913–68. DOI: 10.1515/ling.1994.32.6.913.
- TANENHAUS, MICHAEL K.; MICHAEL J. SPIVEY-KNOWLTON; KATHLEEN M. EBERHARD; and JULIE C. SEDIVY. 1996. Using eye movements to study spoken language comprehension: Evidence for visually mediated incremental interpretation. *Information integration in perception and communication* (Attention and performance 16), ed. by Toshio Inui and James L. McClelland, 457–78. Cambridge, MA: MIT Press.
- WECHSLER, STEPHEN. 2008. A diachronic account of English deverbal nominals. *West Coast Conference on Formal Linguistics (WCCFL)* 26.498–506. Online: <http://www.lingref.com/cpp/wccfl/26/abstract1707.html>.
- WECHSLER, STEPHEN, and BOKYUNG NOH. 2001. On resultative predicates and clauses: Parallels between Korean and English. *Language Sciences* 23(4).391–423. DOI: 10.1016/S0388-0001(00)00031-0.
- WIESE, RICHARD. 1996. Phrasal compounds and the theory of word syntax. *Linguistic Inquiry* 27(1).183–93. Online: <http://www.jstor.org/stable/4178931>.
- WILLIAMS, ALEXANDER. 2015. *Arguments in syntax and semantics*. (Key topics in syntax.) Cambridge: Cambridge University Press.

Sprach- und literaturwissenschaftliche Fakultät
Institut für deutsche Sprache und Linguistik
Unter den Linden 6
10099 Berlin, Germany
[\[St.Mueller@hu-berlin.de\]](mailto:St.Mueller@hu-berlin.de)

[Received 6 August 2017;
revision invited 27 August 2017;
revision received 21 September 2017;
accepted 7 October 2017]