

Review of Jong-Bok Kim *Form and Function Mapping in English Syntax: A Construction Grammar Perspective* Routledge

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1 Introduction

This document contains a detailed review of Jong-Bok Kim's book *Form and Function Mapping in English Syntax: A Construction Grammar Perspective*, which was published in 2026 by Routledge and is available at <https://doi.org/10.4324/9781003711919>. This book should never have been published. This review should never have been necessary.

This book has a long history. I have read it several times. I first read it as a reviewer for Press 1. I pointed out several theoretical problems, inconsistencies in presentation, and I pointed out that the work was not up to scientific standards as far as citation etiquette is concerned. I re-reviewed the revised manuscript for the same press. Many of the shortcomings were not addressed. A year later Press 2 approached me with the same book. A brief check revealed that many of the points that I had made earlier, including citations, were not addressed. I compiled an 85 page document documenting problems with the book (Müller 2023c). The book is now published and most of the problems have still not been addressed. This review documents the problems and weaknesses of the published book.

So here is in a nutshell what holds for the current book: JBK used data from Jespersen (1909/1949), Kathol & Levine (1993), Bresnan (1994), Bowers (1976), Reid (1991), Biber, Johansson, Leech, Conrad & Finegan (1999), Culicover & Jackendoff (1999), Hudson (1999), Chung (2002), Heycock (2006), Iwasaki & Radford (2009) without acknowledging it. He copied ideas for analyses and observations concerning data from Jackendoff (1977), Levine (1989), Abeillé & Godard (1997), Miller (1992), Warner (1993), Przepiórkowski (1999), Manning, Sag & Iida (1999), Manning & Sag (1999), Wechsler & Arka (1998), Wechsler (1999), Bender (2001), Sag, Wasow & Bender (2003), Müller (2004b) and Müller (2003) without citing these works. Some of these works he cited in earlier publications, some were pointed out to him in earlier review phases (Müller 2023c). He wrote about topics that are long solved in HPSG without citing the relevant papers at the relevant location or at all: Kiss (2005), Crysmann (2013), Walker (2013), Zlatić (2014), Müller (2022). Some works should be cited in a careful discussion even though one may disagree with their content: Avgustinova (1996, 1997), Müller (1999a), Borsley (2020).

JBK miscites people frequently, often citing them for the opposite of what the authors argued for (Goldberg 2006, Tomasello 2003, Webelhuth 2011). For example, Tomasello forcefully argues against meaningless rules like Minimalist Merge and JBK cites him for support of his abstract subject-head and head-complements construction (p. 28, 41), but these two constructions are basically abstract, meaningless rules and very similar to Merge (later-merge and first-merge; Müller 2013: 932, 936).

JBK suggests analyses for the following phenomena:

- phrasal subject-verb agreement (in connection with extraction)
- particle verbs (semantic contribution by phrasal constructions)
- *it* clefts
- hydra sentences
- locative inversion (agreement, extraction)
- transparent free relative clauses

None of these work. The analyses fail in fundamental ways. And this was pointed out to him in reviews for Press 1 in 2020 and 2021 and in a review for Press 2 in 2023.

In what follows I use color to highlight certain parts of this review. I use **blue** for **data on which JBK's analysis fails**. That is, examples that he claims to be able to analyze but where the analysis fails or examples that are wrongly predicted to be grammatical by his analysis. The review basically takes up points that were already pointed out to JBK in 2023 or earlier; material that was added after my 2003 review is marked in **orange**. This new material discusses **additional problems** that were discovered while rereading parts of the published book or examining the new appendix.

The document is structured as follows: I start with some comments on typographical issues in Section 2, then discuss general issues of the complete book and questions having to do with research methodology (Section 3). Section 4 discusses formal issues pointing out inconsistencies and wrong statements concerning the mathematical properties of the underlying formal framework that is assumed by JBK. Section 5 discusses rather foundational assumptions about part of speech, argument realization, empty elements and feature organization. Chapter 6 discusses the chapters of the book in detail. The sections correspond to the chapters 1 till 11 of the book. Section 7 deals with mistakes I found while (re-)reading parts of the published book in addition to the things I discovered in 2023. Chapter 8 discusses the newly added appendix of the published book, which is supposed to be the formalization of what is discussed in the book. It lists 80 points of inconsistencies, omissions, and mistakes that I found so far in the appendix. Section 9 provides a summary of this document.

2 Typographical quality of the manuscript

In my earlier review I pointed out many, many typological problems. The proof-reading at Routledge seems to have caught those that are obvious to a spellchecker but did not get, for example, p. 192 *proposition* instead of *preposition*). The English is also wanting and may lead to confusing results. For example, JBK writes on page 336: “The headedness of the second NP can also account for the ‘kind-of’ property.” What is probably intended is the “headhood” of the second NP. The word “headedness” means that the NP has a head, but this is not what is talked about. The topic is that the second NP is the head of the whole construction under consideration.

Let me introduce some of the errors that continue to mar the final book. There are left over formulations from earlier versions of the ms or earlier papers by JBK on the same topic. For example, JBK refers to two *SEL* elements in footnote 15 on p. 326, but there is just one element in *SEL*; a second item is introduced constructionally: “What the contrast entails is that the determiner *the* in CC places further restrictions on its *SEL* values. The degree argument must be definite and nonspecific and the second argument must be the external argument.”¹ The analysis that was developed in Kim (2011: 326) contained two elements in *SEL*. The earlier analysis is shown in Figure 1. The quoted passage does not make any sense to readers. See also p. 327 for remains of the earlier version in the conclusion of the chapter: “We have shown that this marker, serving as a functor, can select two arguments: a degree phrase and a clause with the nonempty *GAP* value coindexed with the degree phrase.” This contradicts what was said earlier in the chapter and everything else that was said in the HPSG literature about markers so far.

¹Note the mistake in formulation. There is just one *SEL* value, JBK talks about elements of a list that is the value of *SEL*. With the formulation as it is in the text the reader must think that JBK talks about different values that the feature *SEL* may have.

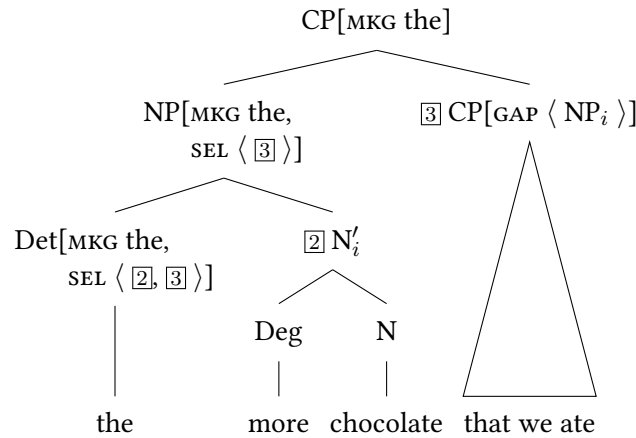


Figure 1: Lexical analysis of (parts of) the comparative correlative construction suggested by Kim (2011: 326)

Figures have left over tags (boxed numbers indicating structure sharing) that lead nowhere (for example (50) on p. 346 has an unshared [1] and [2] does not appear in the figure, while [3] and [4] are parts of the figure.

The phrasal construction *pred-inv-cxt* was deleted in the last round of editing, but the type still appears in a figure (p. 340). I guess it should read *hd-subj-cxt* instead.

A lot of information is missing in the list of references, sometimes first names are abbreviated (the item of Ross, H). JBK miscites his own publications citing Kim (2013) instead of Kim (2003b: 440) on p. 142. Note that the title of the wrongly cited paper has “construction” instead of “constructions” in it: it should be *A family of constructions*.

The fact that these mistakes are still there in the final book is really surprising, since they were pointed out in Müller (2023c) already. What I note here and noted there is just the tip of a gigantic iceberg. Delivering work in such a state is a sign of disrespect for series editors, for copy editors, for colleagues and for reviewers. The fact that these things made it into print also does not cast a good light on the reviewing and copy editing done at Routledge.

Here are some newly discovered typos and errors:

1. p. 28 The verb in (57) should have the FORM value < DENIED >, but has the vFORM value *denied*.
2. JBK cites several works with page numbers but the numbers are outside of the page range of the cited work.

For example, Michaelis & Lambrecht (1996) has pages 215–247 and there is no page 383. Most of these page numbers were added between 2021 and 2023 since I asked for page numbers in my first review. I am surprised that JBK gave incorrect

Citation (as printed)	Book page	Reference's actual range
Michaelis & Lambrecht (1996: 383)	7	215–247
Kim (2005: 199)	217	145–164
Ross (2000: 22)	266	385–426
Bowers (1976: 96)	281	225–242
Bresnan (1994: 64)	281	72–131

page numbers including page numbers of his own articles. Page numbers are useful in case that reviewers or readers want to check specific claims.

In what follows I discuss general problems with the book including methodological problems in Section 3. I then turn in Section 4 to formal issues concerning underlying formal assumptions with respect to the formalism of Sign-Based Construction Grammar (SBCG)/Head-Driven Phrase Structure Grammar (HPSG). Topics are sort-resolvedness, unification, inheritance, lexical rules and the representation of semantics. I address problems with foundational assumptions in Section 5. The topics I look at include part of speech and grammatical functions, the Argument Realization Principle, lexical rules vs. argument realization, missed generalizations due to type proliferation, and empty elements.

3 General issues with the book and research methodology

3.1 Mix of different approaches to semantics

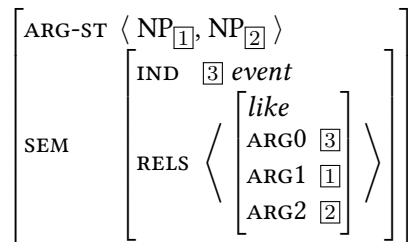
JBK states that he assumes Minimal Recursion Semantics (MRS; Copestake et al. 2005) as underlying semantic theory (p. 31). Later in the book, he uses abbreviations for the semantic representation provided for lexical items or phrases. In some parts of the book, lambda expressions are used. This is a totally different kind of semantics and it is incompatible with the MRS view. For example, discussing *it*-clefts he discusses the following lexical rule (p. 256):

$$(1) \text{ it-cleft-cop} \Rightarrow \left[\begin{array}{l} \text{EXTRA} \left\langle \left[\begin{array}{l} \text{open-prop} \\ \text{SEM } P(x) \end{array} \right] \right\rangle \\ \text{ARG-ST} \left\langle \text{NP}_x[\text{it}], \text{IYP}_y \right\rangle \\ \text{INFO-ST} \left| \text{FOCUS} \left\langle \text{IYP} \right\rangle \right. \\ \left. \text{DTRS} \left\langle \left[\begin{array}{l} \text{spec-cop} \\ \text{ARG-ST} \left\langle \text{XP}[\iota x[\text{thing}(x) \& P(x)], \text{IYP}_y \right\rangle \\ \text{SEM } \text{identify_rel}(x,y) \end{array} \right] \right\rangle \right. \end{array} \right]$$

This schema refers to the type *open-prop*. It is never defined what this means. The type is mentioned, but no definition is given (see also Müller 2023c for the same point in earlier reviews). HPSG and SBCG works quite differently from

usual lambda semantics. In HPSG linking is done via coindexation of indices and no lambda terms or variables like P for predicates are involved. The SEM value, as explained by JBK on p. 32, has a referential index (IND) and a list of relations (RELS). It is not a $P(x)$. The IND value of a predicative statement will be an event or a state, not an index variable of a referential NP. (2) gives a simplified example:

(2) Lexical item for *like* with MRS semantics:



Note furthermore that JBK uses the lexical item that results from the application of the lexical rule in (2) in the analysis of (3):

(3) It is discussions that Bob had had with the people.

The semantics of the sentence *that Bob had had with the people* is a list of elementary predications. The top-most is the tense predicate embedding *have*. The argument slots of *have* are filled by *Bob* and the gap for *discussions*. There is no sense in which predications can be open in MRS. But the point is more general: Arguments are linked to semantic roles in the lexical items, whether one assumes λ terms or not. When gaps are introduced, the variable gets identified with the variable of the element in the GAP list. When the element in the GAP list gets identified with a filler, the referential index of the filler is identified with the index of the gap (Sag 2010: 536, 2012: 188). There is no λ reduction when the gap is bound off. Hence, there is no open variable in the semantic expression of a phrase with a gap.

3.2 Two analyses of NPs

JBK suggests two analyses of NPs that are part of the grammar in parallel: “This structure implies that NPs like (50c) would have a structure like the following, in addition to the one where the head noun selects the determiner as its specifier (see Chapter 3):” (p.318) The usual structure is one in which a noun selects a determiner via the valence feature *SPR* (specifier). JBK suggests an analysis in which the determiner selects the noun via a *SEL* feature (p. 318).

This is rather unusual since this means that an NP like *the students* always has two analyses and that sentences like (4a) have two structures with the same meaning (such ambiguities are also called *spurious ambiguities*):

- (4) a. The students laugh.
- b. The students enjoyed the lunch.

Sentences with two NPs like (4b) would have four analyses and sentences with three NPs would have eight analyses with the same meaning. Clearly something

to be avoided. Note that JBK's suggestion also entails that there are two different lexical items for *the* and two different lexical items for *students* (one selecting for a specifier and one without such a selection). Are these double lexical items related by lexical rules?²

The reader wonders why such parallel structures are assumed. This is very unusual and does not make sense at all. **One non-scientific reason may be that JBK has just integrated previously published work with mutually incompatible assumptions (Kim & Sells 2008: Chapter 6, Kim & Michaelis 2020: Chapter 6, Kim 2011: 325) into a book.**

Note that the published version of the book has an appendix with parts of the grammar. Usually such appendices provide a summary of all the developments and revisions that were made throughout a publication. So this appendix should contain a consistent fragment with just one analysis per phenomenon. But it does not. See Section 8 for comments on the problems in JBK's appendix.

3.3 Minimal pairs

Often JBK does not use minimal pairs for making his points but modifies sentences in more than one way during a comparison.

For example, the two sentences in (5) are compared with the two sentences in (6) on p. 324:

- (5) a. The longer the week went on, the more I liked her.
- b. The more you use them, the more easily they will come to you.
- (6) a. * The longer the week went on two days, the more I liked her a lot.
- b. * The more you use them often, the more easily they will come to you easily.

The sentences in (6) have been modified by adding adjuncts to both subparts of the constructions. So in principle there are three ways why the sentence could be ungrammatical: Adding something to the first sentence, adding something to the second, adding something to both.

3.4 Corpus data with optional parts

Some of the corpus examples contain bracketed material indicating optionality or obligatoriness. This is not correct. For example the following is found on p. 297:

- (7) a. On the floor (there) is a pile of repair manuals, isn't there? (COCA 2005 FIC)

²The figure on p. 318 uses the symbol N'. Elsewhere in the book this symbol is used for a nominal projection requiring a determiner (e.g., p. 72). But the N' is combined with a functor and is supposed to result in an NP according to the figure. How is this possible? How is the element in the *SPR* value of the N' combined with the N'? See Sag (2012: 156), who is cited by JBK, on the usual constraints on *head-func-cxt*: valence features are passed up to the mother node, so the combination of the functor *the* with the N' *students* would still be an N' and not an NP as claimed by JBK.

- b. In the background (there) are these creatures appearing north of the wall, aren't there? (COCA 2017 MOV)

It is unclear to the reader which version is in the corpus: the one with *there* or the one without. To be methodologically sound, the two examples would have to be split up into four examples. Two from the corpus and two invented. This was pointed out to JBK earlier in 2023 and 2022.

3.5 Corpus data without source

On p. 279, fn. 2 JBK writes: “Most of the attested data for the locative inversion data used in this chapter are from the ICE-GB (International Corpus of English, Great Britain), unless specified otherwise.”

This general statement is problematic: if the source of an example is not given, we do not know where it is from. It might be constructed. In my reviews in 2023 and 2020, I suggest always giving sources of every single example. This makes it possible for the reader to check the example in the corpus and it also helps JBK not to use examples from other authors without giving references. I pointed out in 2020 that the examples in (22)–(23) on p. 309 are taken from Iwasaki & Radford (2009: 3) without citation. For further examples see below.

Earlier papers of JBK containing the same data had references for all examples. For example: Kim (2003a) provides the sources in his example (1) and the same examples are repeated as (1) on p. 279 of the published book without sources.

4 Formal issues

In this section, I discuss formal and technical errors within the theory of HPSG/SBCG. I have gathered these up into various headings, giving rise to Subsections 4.1–4.7, with some subsections having a number of subparts.

4.1 Sort-resolvedness

The manuscript still contains factually wrong statements about the fundamental architecture of HPSG/SBCG.³ On p. 50, JBK writes:

The subject of *surprised* here, as seen from these two examples, can be either an NP or a CP. One way to capture this kind of variability is to allow the syntactic arguments in the ARG-ST to bear a more general categorial value like *nominal* as a supertype of *noun* and *comp*, as suggested by Kim & Sag (2005b) and Kim & Michaelis (2020: 128):

³Note that SBCG is a variant of HPSG. This was made explicit by Ivan Sag (2010: 486), the founder of HPSG and SBCG.

$$(24) \left[\begin{array}{l} v-lxm \\ \text{FORM} \quad \langle \text{surprise} \rangle \\ \text{ARG-ST} \quad \langle \text{XP}[\textit{nominal}], \text{NP} \rangle \end{array} \right]$$

He remarks in a footnote:

Standard HPSG (Pollard & Sag 1994: Ch. 1) requires all feature structures to be ‘well-typed’ and ‘sort-resolved’. The well-typed constraint ensures that the value of a feature structure must be of an appropriate type while the sort-resolved one requires the value to be a maximal (most-specific) one. However, as noted by Sag (2003), the sort-resolvedness requirement is too strong for coordination data like *Kim is wealthy and a Republican*, where two different categories are conjoined to form a coordination phrase. See Sag (2003) for detailed discussion.

There is a formal difference between feature *descriptions* and feature *structures*. JBK does not seem to understand this, despite his footnote 10 on p. 17. Theoretical papers use feature *descriptions*. Feature *structures*, that is, the sort-resolved structures are only assumed in models. The feature structures are usually depicted as graphs (Pollard & Sag 1994: 17, 20, Richter 2007), while feature descriptions are provided as attribute value matrices (AVMs). All previous and current HPSG approaches assume underspecifications like the one with *nominal*. And in fact assuming the type *nominal*, which basically is equivalent to a disjunction of its two subtypes *noun* and *comp*, is perfectly compatible with the assumption of sort-resolvedness, since whatever it is that is combined with *surprise*, it has to be either an NP or a CP. So in an actual analysis the XP[*nominal*] will be identified with NP or CP and because of this, the type of the XP will become more specific. It will be either *noun* or *comp* and hence maximal.

I wrote to him on 19.11.2021 about this issue:

You should remove this statement. It is deeply wrong and will do much harm. Of course you can have underspecified information in valence lists. All valence specifications are underspecified. This is the whole point about structural case.

For example, Heinz & Matiassek (1994: 212) suggest two NP[*str*] as the arguments of the German verb for *support*. The type *structural* (abbreviated as *str*) has the three subtypes *snom*, *sgen*, and *sacc*. These types stand for structural nominative, structural genitive, and structural accusative, respectively. So, the information in the valence list is underspecified and the actual value of the case feature is determined elsewhere in the grammar. This is parallel to JBK’s use of the type *nominal* in a valence specification.

Sag (2003) did indeed get rid of the requirement of sort-resolvedness because of coordination. He needed to do this because he wants to be able to coordinate

Somebody must have suggested this before. Selection of semantic contribution? Kim & Sag (2005) is the

things of different categories and the result of coordination is a supertype. So, NP-CP coordinations can be of category *nominal*.

- (8) [[This fact] and [that nobody understands this]] surprises him.

The sort-resolvedness problem can be fixed by assuming special subtypes for such situations. Przepiórkowski (2021: 260) discusses the issue explicitly:⁴

One solution is to “make a simple change to the framework’s foundational assumptions” (Sag 2003: 268) and to allow linguistic objects to bear non-maximal types. This is proposed and illustrated in detail in Sag (2003). A more conservative solution, proposed in Daniels (2002), is to add dedicated maximal types to all such non-maximal types; for example, the hierarchy in Figure 2 is modified as shown in Figure 3.

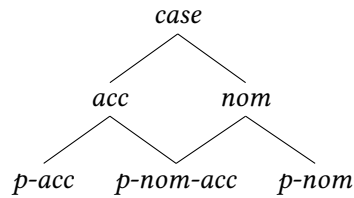


Figure 2: Case hierarchy for English encoding case syncretism

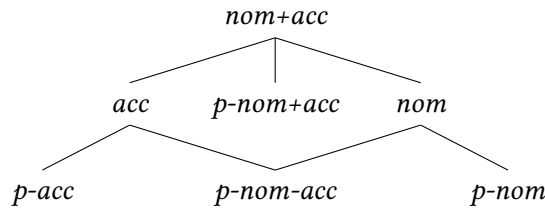


Figure 3: Case (sub)hierarchy encoding nominative/accusative syncretism and underspecification

Apart from the trivial renaming of *case* to the more explicit *nom+acc*, a maximal type corresponding to this renamed non-maximal type is added here, namely, *p-nom+acc*.

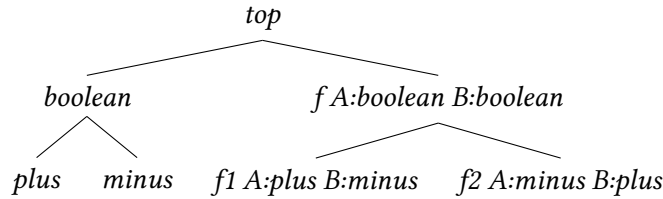
JBK argues for structures that are not sort-resolved but then somehow seems to assume that there exist the two lexical items in (9) for *surprised* (p. 50).

⁴See also Levine, Hukari & Calcagno (1999: 10) and Levine, Hukari & Calcagno (2001: 207) for similar suggestions concerning an additional subtype for nominative and accusative. The type *p-nom* and *p-acc* stand for pure nominative and pure accusative, respectively.

- (9) a.
$$\left[\begin{array}{l} v\text{-}wd \\ \text{FORM} \quad \langle \textit{surprised} \rangle \\ \text{SYN|VAL} \quad \left[\begin{array}{l} \text{SUBJ} \quad \langle \boxed{1} \text{ CP} \rangle \\ \text{COMPS} \quad \langle \boxed{2} \text{ NP} \rangle \end{array} \right] \\ \text{ARG-ST} \quad \langle \boxed{1} \text{ CP}, \boxed{2} \text{ NP} \rangle \end{array} \right]$$
- b.
$$\left[\begin{array}{l} v\text{-}wd \\ \text{FORM} \quad \langle \textit{surprised} \rangle \\ \text{SYN|VAL} \quad \left[\begin{array}{l} \text{SUBJ} \quad \langle \boxed{1} \text{ NP} \rangle \\ \text{COMPS} \quad \langle \boxed{2} \text{ NP} \rangle \end{array} \right] \\ \text{ARG-ST} \quad \langle \boxed{1} \text{ NP}, \boxed{2} \text{ NP} \rangle \end{array} \right]$$

Why? Not even approaches assuming sort-resolvedness assume this. JBK's lexical item for the lexeme in (24) in the quote on p. 9 above is sufficient. The type *nominal* gets more specific when the verb is combined with an argument. In this situation, it is resolved to either *noun* or *comp*. Providing the lexical items in (25) [our (9)] is wrong and will confuse readers.

The standard assumption within HPSG still is that feature structures have to be sort-resolved (Richter 2024: 111). This does not apply to their descriptions. Let us have a look on what would be possible without this assumption (example due to Frank Richter, p.c. 2023). Under normal assumptions the grammar would only



license structures with different values of A and B namely those corresponding to either f1 or f2. In approaches with partial information, there could be objects of type *f* and A and B could be both plus or both minus. The consequences can be severe. I suggest that JBK stays in the limit of charted territory and does not change the fundamental assumptions without really understanding the consequences. (I would not claim to understand them either. I stick with what has been worked out: King 1999, Richter 2004, 2021.)

The example of phrasal constructions may serve as a sign showing that JBK does not understand the consequences of assuming sort-resolvedness or not: JBK frequently assumes specialized constructions that are subtypes of very general constructions like the *hd-subj-cxt* and the *hd-comp-cxt*. Since the general constructions are assumed to be part of the grammar (p. 28, 41), there is nothing that forces more specialized constructions like the Locative Inversion Construction (p. 298) to be applied at all. They could be applied but the more general schemata can apply as well. So the restrictions of the specialized constructions can never be enforced, since there is always the more general construction.

For example, the locative inversion construction on p. 298 is a subconstruction of the *hd-subj-cxt*.⁵ It specifies that the first daughter is a locative PP with the index *i* and the second daughter is the head and has a non-empty FOCUS list. See (61) in the following quote. Apart from the fact that the locative PP should specify a location (p. 299) and not an individual,⁶ the *hd-subj-cxt* can apply to the lexical item given in (43) on p. 293 and repeated here in part in (10):

$$(10) \left[\begin{array}{l} \text{loc-inv-wd} \\ \text{SYN} \left[\begin{array}{l} \text{VAL} \left[\begin{array}{l} \text{SUBJ} \langle [2] \text{PP} \rangle \\ \text{COMPS} \langle [1] \text{NP} \rangle \end{array} \right] \\ \text{ARG-ST} \langle [1] \text{NP}, [2] \text{PP} \rangle \\ \text{INFO-ST} \dots \end{array} \right] \end{array} \right]$$

The analysis in (44) can be done with the *hd-subj-cxt* (see p. 28), the phrasal Locative Inversion Construction is entirely superfluous. JBK formulates it to enforce the verb to be finite:⁷

We have seen that the verb in LI is an instance of the type *loc-inv-wd*, but there is also an independent constructional constraint in LI. For instance, LI needs to be finite:

- (60) a. In front of the tree sat a man.
 b. * I thought in front of the tree to sit a man.
 c. * With in front of the tree sitting a man, children were jumping around.

In addition to this finiteness requirement, the head VP must include a focus. We can specify these as constructional constraints of the Locative Inversion Construction:

- (61) Locative Inversion Construction ($\uparrow$ topic-cxt & hd-subj-cxt):

$$S \left[\begin{array}{l} \text{loc-inv-cxt} \\ \text{VFORM } \textit{fin} \end{array} \right] \rightarrow \text{PP} \left[\begin{array}{l} \text{loc} \\ \text{IND } i \end{array} \right], \mathbf{H} \left[\text{INFO-ST|FOC } \textit{nelist} \right]$$

This ensures that a *loc-inv-cxt* consists of a locative PP phrase as non-head daughter and a head element which has a focus value. All the other constraints, such as the assignment of topic value to the PP, will be inherited from its supertypes.

⁵See also p. 74 for a parallel problem with the correlative construction.

⁶JBK provides the *loc-inv-cxt* with the constraints inherited from its supertypes on p. 299. The PP is shared with the SUBJ element of the head. JBK does not show the constraints on *hd-subj-cxt* related to agreement (p. 84). These require the agreement information of the verb to be shared with the index of the subject and hence would be incompatible with a locative index, which does not have person and number features.

⁷Note that the specification of the result to be finite is superfluous since the information on finiteness is inherited from his *topic-cxt* on p. 299.

Both the *hd-subj-cxt* and the LI construction could be used to analyze JBK's (60a). (60b, c) can be analyzed using the *hd-subj-cxt* but not the *loc-inv-cxt*. Hence JBK's grammar makes wrong predictions. Adding further constructions to a grammar does not make existing constructions more restrictive.

Note that it is possible to formulate additional constraints on objects licensed by *hd-subj-cxt*. HPSG has the expressive power to say things like "If the first daughter in a *head-subj-cxt* is a PP, then ..." (Abeillé & Borsley 2024: 13–14, Richter 2024: 101–102). Such constraints are called implicational constraints and they can have complex structures in the antecedent. For stating such constraints, it is not necessary to stipulate subconstructions of a more general construction.

But of course, such implicational constraints are not necessary if the constraints from the Locative Inversion Construction are incorporated into the lexical item for locative inversion: (60b) and (60c) can be ruled out by requiring the lexical item for locative inversion to be a finite verb. (61) would be superfluous then as well.

After his explanation of the Locative Inversion Construction, JBK presents a type hierarchy of subtypes of *phrase* including his phrasal type for *loc-inv-cxt*. He writes (p. 298):

These mixed properties are due to the fact that the Locative Construction is a subtype of both the Head-Subject Construction and the Topic Construction, as represented in the following hierarchy (Kim 2003a, Sag 2010, Webelhuth 2011):

add references, did somebody suggest a lexical rule?

This is a **highly misleading citation**: 1) Sag (2010) does not discuss locative inversion, 2) Webelhuth (2011) discusses Kim's approach from 2003, but does not contain the words inheritance, type or anything that might have to do with the hierarchy. In fact it refers to the lexical aspects of the analysis.

In the case where the restrictions of the specialized constructions can apply, the respective utterances would have two (or more) analyses with the same meaning (spurious ambiguities).

So this detour showed that JBK is not in command of the formal details of HPSG. I will come back to such formal problems below. I suggested that JBK should not change the formal foundations back in 2023.

4.2 Unification

JBK writes on p. 82: *The feature unification system of HPSG allows a coordinate mother's feature structure to be determined from the feature structures of its conjuncts via the intersection of sets of the feature-value specifications.*

It should be feature descriptions, since the feature structure of the mother may be underdetermined by the theory. Apart from this, the statement is false. Intersection is not appropriate. The intersection of { NUM 3rd } and { NUM 2nd } would be the empty set. The empty set stands for the absence of any constraints and hence for the most general feature description. This directly contradicts what

is written further down: “Examples like **this cat and dogs* or **this cats and dog* in (36d) are not licensed either since the number value of the two conjuncts is incompatible with the feature unification”

4.3 Implications

p. 132 *This type declaration states that when a particle functions as a focus, the particle is the least oblique element, realized as the last element in the COMPS list.*

$$(11) \quad v\text{-prt-foc-wd} \Rightarrow \left[\begin{array}{l} \text{INFO-ST|FOCUS} \langle \boxed{1} \rangle \\ \text{COMPS} \langle \dots, \boxed{1} \text{PRT} \rangle \end{array} \right]$$

A’s statement regarding (11) is not true. What (11) means is the following: all feature structures of type *v-prt-foc-wd* have the properties on the right-hand side of the implication. This is what implications are for: $A \Rightarrow B$ means: if A holds, B has to hold as well.

To state formally, what JBK wrote, one would need quantification and the implication would then look as follows:

$$(12) \quad \forall \boxed{1} \left[\text{INFO-ST|FOCUS} \langle \boxed{1} \rangle \right] \Rightarrow \left[\text{COMPS} \langle \dots, \boxed{1} \text{PRT} \rangle \right]$$

Of course (11) may play a role in a grammar and for the grammar in total the statement *when a particle functions as a focus, the particle is the least oblique element.* can be true. But this is the case only if there are no other licensed structures with a particle in the focus list. For example, the statement would be false for a grammar if there would be another type identifying the focus element with the penultimate COMPS member:

$$(13) \quad v\text{-prt-foc-2-wd} \Rightarrow \left[\begin{array}{l} \text{INFO-ST|FOCUS} \langle \boxed{1} \rangle \\ \text{COMPS} \langle \dots, \boxed{1} \text{PRT}, \boxed{} \rangle \end{array} \right]$$

4.4 Lexical rules

There seems to be some confusion about how lexical rules work and how they can interact with type hierarchies.

4.4.1 Inheritance and lexical rules

The book has several lexical rules that are also specified to be a subtype of a certain type. While this is possible since LR’s are mother–daughter structures that have a type (basically unary projections), the way it is done in the book is simply contradictory. For example on p. 256, the lexical rule that licenses objects of type *it-cleft-cop* is said to inherit from *spec-cop*. At the same time the input (daughter)

is of type *spec-cop*. The constraints on *spec-cop* given on page 254 are incompatible with *it-cleft-cop*, so inheritance is not possible. (14) shows the two ARG-ST values of *spec-cop* and *it-cleft-cop*:⁸

- (14) a. ARG-ST of *spec-cop*: $\langle \text{XP}[\iota x[\text{thing}(x) \ \& \ P(x)]], \text{YP}_y \rangle$
 b. ARG-ST of *it-cleft-cop*: $\langle \text{NP}_x[\text{it}], \boxed{1} \text{YP}_y \rangle$

Since a definite NP is incompatible with an *it* pronoun, *it-cleft-cop* cannot be a subtype of *spec-cop*. JBK assumes that the NP[*it*] is a referential NP (p. 255). If it were an expletive as assumed by Pollard & Sag (1994: 151), it would be clear that it is incompatible with the definite NP. But even referential pronominals must be incompatible with definite NPs, since the Binding Theory distinguishes between referential expressions (type *npro*) and pronouns (type *pro*). See Pollard & Sag (1994: 249). Sag, Wasow & Bender (2003: 205, 221–222) distinguish between *ref* and *ana* elements and referential pronouns are compatible in semantic type with full NPs. Without the distinction between pronouns and referential NPs, the Principle B of Binding Theory cannot be formulated. But even without the distinction, a nominal XP with a quantifier would have the respective elements in its RELS list and constraints in HCONS, while a pronoun has empty HCONS and RELS lists.

The mistake remains from the 2023 ms although the text and also the analysis was changed. JBK now uses the mother daughter format of lexical rules but still claims that *it-cleft-cop* inherits from *sepc-cop*. JBK writes: “The lexical construction specifies that the copula in the *it*-cleft is mapped from or is a subtype of the specificational copula that selects two arguments.” This statement is rather puzzling. Is it the task of the reader to decide? And since JBK changed exactly this line: why didn’t he remove the disjunct regarding the subtype. The two types are incompatible, as I pointed out in 2023, so there cannot be a subtype relation. Objects of one type have to be *mapped* to objects of the other type.

There are various similar lexical rules paired with inheritance statements (e.g., p. 265, 266, 272).⁹

P. 258 “The copula in *it*-clefts is just a special instantiation of the specificational copula.” This claim does not hold for JBK’s formalization. It is just wrong: The information is incompatible.

4.4.2 Identical information in input and output

Information that is not specified in the output is carried over by default. This is a convention about lexical rules. One does not necessarily have to assume defaults in the formal foundations for this.

On p. 142, JBK states the following rule:

⁸JBK assumes that the XP contributes a definite XP referring to a thing ($\iota x[\text{thing}(x) \ \& \ P(x)]$). This detail is irrelevant here. The point that matters is that the XP in (14a) is incompatible with the NP in (14b), so neither type can be a subtype of the other.

⁹(112) on p. 271 has a unfortunate page break that must have escaped the attention of the Routledge copy editors, which is unfortunate since the book is sold for 212€.

$$(15) \quad aux-vpe-wd \Rightarrow \left[\begin{array}{l} \text{HEAD} | \text{AUX} + \\ \text{VAL} \left[\begin{array}{l} \text{SUBJ} \langle [1] \rangle \\ \text{COMPS} \langle \rangle \\ \text{GAP} \langle \rangle \end{array} \right] \\ \text{ARG-ST} \langle [1] \text{XP}, [2] \text{YP}[pro] \rangle \\ \text{DTRS} \left\langle \left[\begin{array}{l} aux-lxm \\ \text{ARG-ST} \langle [1] \text{XP}, [2] \text{YP} \rangle \end{array} \right] \right\rangle \end{array} \right]$$

Since *aux-lxm* is defined on p. 23 to be AUX+, the specification of the AUX value of the mother is superfluous. Kim & Michaelis (2020: 209, 334) and JBK in the published book specified the AUX value in this lexical rule in two differently wrong ways. Specifying AUX does not do any harm to the theory, but it is maybe confusing to readers who assumed they understood HPSG and then hit such formulations.

4.5 Figures with impossible structures

The book is full of figures that have a star somewhere in them to indicate that this structure should not exist (e.g., (42) on p. 146). I find this a strange way to explain things, since what we see cannot be there. It is never formed or licensed by the theory. I mentioned this several times in my reviews, but it was never changed. The mistake in conceptualization surfaces also in prose: “This results in an ill-formed structure” (p. 146). The point is that there is no structure, not even an ill-formed one. This was also pointed out in 2023, but ignored.

4.6 Sloppiness in formulation

There is a certain sloppiness in formulations.

JBK frequently writes that something “carries the feature” (p. 332, 233), “bears the feature” (p. 152), “having an X value” (p. 321), or “is marked with the feature PRD” (p. 54) meaning that there is a certain feature and its value is ‘+’. I guess this comes from other frameworks like Minimalism, where it makes sense. However, for HPSG/SBCG, this is not a correct formulation, since all theoretical objects of a certain type have these features. There is no other way in the HPSG formalism. The HPSG formalism has a signature (Sag 2012: 72, Richter 2021: 98, Section 3). The signature is a type system with appropriateness conditions for features. This means that the types are organized in hierarchies and for each type it is declared what features belong to it and what the most general type of the values of the features is (Richter 2021: Section 3). So, all items under consideration carry an AUX feature and have the feature PRD. The correct formulation would be “have the AUX value ‘+’” or “are PRD +”. This has been pointed out in the 2020 review several times at the relevant places.

Note that this use of “bear” results in actually wrong statements: “Even though the MOD differs from the valence features (SUBJ and COMPS), the expression

(modifier) bearing this feature value participates in combinatorial operations.” p. 28, fn. 25 Since all signs have a MOD value, the statement would mean that all signs participate in head-modifier combinations, which is wrong. It is only true for those signs that have a *synsem* object as the value of MOD (in the standard theory) or a *sign* element in the MOD list in JBK’s system.

JBK often conflates lists vs. non-list values. For example, talking about an NP as a GAP value is not correct (p. 161, 163, 164, ...). The NP is a (singleton) member of a list. The Semantics Principle (p. 36) refers to “the RELS values of the construction”. The RELS feature under C-CONT has just one value: a list. The construction may contribute various elements in RELS, but the feature RELS has just one value. (This mistake in the Semantics Principle escaped my attention in 2023 since I pointed out another shortcoming, which is still present in the final formulation.)

Sloppy formulations from the original manuscript persisting in the third revision is frustrating for reviewers. It is even more so to find them in a published book.

4.7 Lack of understanding of semantics

4.7.1 Expressions, variables, denotation

Maybe this is also just sloppiness in formulation, but the following paragraph from p. 260 does not make any sense in terms of semantics.

Within this analysis that the present system also follows, (84a) would have the following, simplified, interpretation processes:

- (85) a. $\iota x[\text{thing}(x) \ \& \ \text{he bought } x]$
 b. $\iota x[\text{thing}(x) \ \& \ \text{he bought } x] = \text{a bottle of wine}$

The free relative *wh*-cleft clause means that there is a unique individual that satisfies the open proposition. This unique individual is in an equational relation (=) with the NP *a bottle of wine*. The ι conversion then yields the meaning of ‘He bought a bottle of wine.’ The definite variable ‘x’ is evoked from the free relative clause and the copula’s semantics allows the variable to be equated with the denotation of the postcopular expression.

This statement has a high density of mistakes:

1. (85a) is not an open proposition. The variable x is bound by the ι operator.
2. It is not the unique individual that is equated with something. It is the variable in the expression (x) that is equated with another variable (y).
3. There is nothing like a ι conversion. There is alpha and beta conversion.

4. Variables are not definite. Variables are just variables, but they may be bound by operators or quantifiers.

See Section 6.8 for more discussion of clefts and the lexical rule using the term $\iota x[thing(x) \& P(x)]$.

4.7.2 Active and passive

The general consensus is that the truth conditions for the pair in (16) are the same:¹⁰

- (16) a. Lee criticized Kim.
b. Kim was criticized by Lee.

The semantic representation should be $criticize(l,k)$ for both sentences. However, JBK assumes that the predicate for (16b) is $criticized.from/by(k,l)$ (p. 353).

Note that JBK cites an earlier paper of him coauthored with Anne Abeille in connection to his passive lexical item:

Uttering the question *Was Kim criticized?* would evoke the argument structure of the passive *criticized* with an implicit PP argument (Kim 2015, Kim & Abeillé 2019):

Kim & Abeillé (2019) does not contain a single mention of the word ‘passive’. And hence this is another occurrence of **miscitation**. I repeatedly asked for page numbers. Page numbers make it clear(er) why something was cited or immediately reveal miscitations.

The points discussed in this subsection seem to indicate a complete lack of understanding of semantics, an understanding of what truth conditions are and how formula are evaluated with respect to a situation/possible world. In my earlier reviews, I suggested Blackburn & Bos (2005) for a detailed introduction. The book comes with software and the readers can play with discourse models and see how inferences are drawn and so on. This requires a uniform representation of semantic facts.

5 Foundational issues

5.1 Part of speech and grammatical functions

JBK categorizes *neither* as *pron* on p. 93. A pronoun is a noun except that it has a different valence. Distributionally it is like an NP. Introducing *pron* as part of speech would require some argumentation. Are there predicates selecting a pronoun rather than a full NP?

JBK writes on p. 187–188:

¹⁰See also Pollard & Sag (1987: 215) and Kim & Sells (2008: 180)[219]KM2020a-u: “Passive leaves the semantics unchanged”. LFG work explains the passive as different linkings of arguments to the same predicate argument structure (Bresnan et al. 2016: 22).

As such, expressions like *where*, *when*, *there*, *here* can be either an adverbial noun or a preposition. When they appear in a typical PP position, as also noted by Huddleston & Pullum (2002: 614), they function as intransitive prepositions that select no complement. The first argument supporting this PP treatment comes from their ability to occur in a prototypical PP position as in *I put it there/here/in the box*, *where/in which place did you put it?*. Second, these expressions can also serve as the obligatory complement of the verb *be*, as in *Jill is there/here/in the office*. Third, these expressions can be modified by *right* or *straight* (which can combine with a PP), as in *Kim put those right here/there* or *I'm right where you left me*.

Nominal expressions such as *moment*, *day*, *yesterday*, *place*, *direction* and so forth are categorically NPs though exhibiting distributional parallels with other adverbial categories (see Larson 1985):

- (61) a. That moment came so unexpectedly. (COCA 2012 BLOG)
- b. Some places need cleaning up. (COCA 2012 FIC)
- c. That direction came from a high-minded thinker. (COCA 2006 FIC)
- (62) a. Kim arrived [that moment/at 9].
- b. You have lived [some places warm and sunny/in a sunny town].
- c. We were headed [that direction/for the village].

The expressions *that moment*, *some places*, and *that direction* in (61) are all used as nominals, but they function as adverbials in (62), which is supported by the uses of PPs in their place. These adverbial uses are thus called ‘bare-NP adverbs’.

Talking about the distribution is not helpful in the cases JBK considers. The governing head selects a modifier specifying a location. The part of speech is irrelevant in the cases in (62). See my earlier reviews from 2021 and 2023c and Müller (2023b: Section 1.4–1.7).

JBK writes on p. 188 in a footnote: “As discussed in Chapter 1, intermediate types like *nominal*, *verbal* and *adverbial* in a sense reflect grammatical functions while sub-categories like *noun*, *adverb*, *verb* are simple syntactic categories. For instance, *nominal* expressions are those that can occur in the subject and object position while *adverbial* expressions typically function as modifier (Kim & Sag 2005a, Sag 2010).”

The type hierarchy in (64) on p. 188 incorporates semantic aspects into the part of speech information. These are different levels that should not be mixed. JBK writes about different modules himself (p. 328). To see that part of speech

(noun, verb, adjective, preposition, ...) and grammatical function (subject, object, adjunct, predicative) are independent concepts consider the examples in (17):

- (17) a. Alex danced [the whole night].
b. I like [the whole night].

Prepositional phrases can function as prepositional object, as adjuncts to verbs or nouns or as predicative element in copula constructions. Adjectives can function as noun modifiers, as predicative elements or as adverbial modifiers when they are used depictively. *The citations of Kim & Sag (2005) and Sag (2010) in the quote above are misleading since these papers do not mix part of speech information with semantic information. See Kim & Sag (2005: 199) and Sag (2010: 533) for the subtypes of part-of-speech.*

On page 190, he writes:

- (68) a. Tom stayed [where Mary had wanted to stay].
b. Lily cried [when Jack had to go].

Intransitive verbs like *stayed* and *cried* do not require a complement. This means the free relative here is in the adverbial position which can be occupied by a PP, an AdvP, or an ADVL NP. Since the *wh*-expression and the GAP value can thus be taken to be any of these three categories, there is no mismatching effect in such examples.

In his analysis of free relatives in which the *wh*-phrase is the head, all three categories can function as the head. One does not need these mixed categories. *where* could be an adverb and *where Mary had wanted to stay* as well.

p. 217 “The type *adnominal* is to express expressions that can precede a nominal head while *adverbial* means expressions that function as a modifier or adjunct.”

In general, part of speech, semantic function and grammatical function are three different dimensions that are independent. See Duden (2005: §1179–1186) and Müller (2016: Chapter 1) for discussion.

HPSG/SBCG does not use grammatical functions. It differs in this respect from Goldbergian CxG and from LFG. HPSG has valence features for subjects and some variants have a feature pointing to the accusative object (Pollard 1994), but usually grammatical functions do not play a role in HPSG. JBK writes: “Each syntactic argument will be mapped onto a proper grammatical function (SUBJ or COMPS) in the valence (VAL) feature.” (p. 50) COMPS is a list that can host all sorts of arguments. Basically it is the rest of the arguments that are not in SUBJ. The grammatical function of an element of this list cannot be reconstructed, since the COMPS list may start with a direct object or an indirect object (OBJ or OBJ2 in LFG). All those arguments that have to be realized and are not subjects go to COMPS. So, COMPS is not a grammatical function, contrary to what is claimed in the quote. LFG has SUBJ, OBJ, OBJ2, COMP, XCOMP, ADJS, for example. Note that ADJS is neither a subject nor a complement. So there are no grammatical functions in HPSG/SBCG and the list of complements is not a grammatical function either.

5.2 Argument realization principle

JBK suggests the following implication (p. 164, 359):

- (18) Argument Realization Constraint (ARC) on *GAP*-words:

$$gap\text{-}wd \Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{ll} \text{SUBJ} & \boxed{A} \\ \text{COMPS} & \boxed{B} \\ \text{GAP} & \boxed{C} [nelist] \end{array} \right] \\ \text{ARG-ST} & (\boxed{A} \oplus \boxed{B}) \bigcirc C \end{array} \right]$$

It is unclear why this type is stipulated. A nice property of the ARC as formulated by Bouma, Malouf & Sag (2001) and Ginzburg & Sag (2000) is that it works for all words. It depends on how the word is used whether a version with extraction is used or not. JBK's approach would need a cross-classification of all words that allow extraction with the type *gap-wd*.¹¹ For example, his (114) on p. 164 is not just a *gap-wd* but also an *aux-modal-wd* (p. 141). This need for cross-classification is clearly an unwanted result. Again the question: Why is he deviating from established proposals? An additional type for special purposes increases the cost of a theory and should be justified.

Note that the argument realization constraint as suggested above would predict the following to be correct.

- (19) * *This man, the book reads.*

The reason is that the subject could go to the *GAP* list and that the remaining arguments are mapped to $\boxed{A}$ and $\boxed{B}$. Since the object would be mapped to the *SUBJ* list, it could be realized in subject position as in (19):

- (20) a. $\text{ARG-ST} = \langle \text{NP1}, \text{NP2} \rangle$
 b. $\text{ARG-ST} = D \bigcirc C$
 c. If $C = \langle \text{NP2} \rangle \rightarrow D = \langle \text{NP1} \rangle$, $A = \langle \text{NP1} \rangle$, $B = \langle \rangle$.
 d. If $C = \langle \text{NP1} \rangle \rightarrow D = \langle \text{NP2} \rangle$, $A = \langle \text{NP2} \rangle$, $B = \langle \rangle$.

Let us assume an *ARG-ST* list with two NPs in it: $\langle \text{NP1}, \text{NP2} \rangle$. The shuffle operator can shuffle two lists and the resulting lists are serializations of the elements in the shuffled lists provided the order of elements in the respective lists is maintained. Under the assumption that all *gap*-words have to have a subject (not made explicit by JBK), *A* would have to contain exactly one element, which would result in the element not being in *GAP*, being the subject for our example. Since there has to be one element in *SUBJ* and one in *GAP*, we are talking about two one-element lists that are combined using shuffle. If $\langle \text{NP1}, \text{NP2} \rangle = D \bigcirc C$, *D* and *C* have to contain exactly one element and both *NP1* and *NP2* can be in any of the two lists. So we

¹¹Kim & Michaelis (2020: 243) in fact assume *v-wd* and *v-gap-wd*. The whole machinery behind this is unclear. There should be a lexical rule licensing inflected verbs. This lexical rule would be a supertype of *v-wd* and *v-gap-wd*. It is unclear how the constraints would be enforced without the assumption of sort-resolvedness. See Section 4.1.

could have sentences with the subject extracted (NP1 in GAP) and the object in subject position. Nothing like this exists in English. This is a crucial mistake that could easily have been fixed by adopting the original proposal by Ginzburg & Sag (2000: 397) or Sag, Wasow & Bender (2003: 432). It was pointed out in my 2023 review that there is a problem.

(21) Argument Realization Principle (Ginzburg & Sag 2000: 397):

$$\left[\begin{array}{ll} \text{SUBJ} & \boxed{1} \\ \text{SPR} & \boxed{2} \\ \text{COMPS} & \boxed{3} \ominus \text{list}(\text{gap-ss}) \\ \text{ARG-ST} & \boxed{1} \oplus \boxed{2} \oplus \boxed{3} \end{array} \right]$$

JBK claims (p. 164 fn. 23) that the GAP can be a subject or any of the COMPS elements. JBK's example (22) can only be analyzed as extraction, if an empty SUBJ list is possible:

(22) Who placed the pumpkin on the table?

But with an empty SUBJ list, we also could analyze:

(23) * The books, reads this man.

In the analysis of (23), SUBJ would be empty, and the subject of *read* would be mapped to COMPS. See Pollard & Sag (1994: 383–384) for an analysis of subject extraction that can account for *that*-trace effects and avoids string-vacuous movement.

(24) * Which candidate did Sandy say that impressed him the most?

Note also that if subject extraction is allowed (p. 325), the following examples can be analyzed as topicalization via the *head-filler-cxt*:

- (25) a. This man sleeps.
b. * These men sleeps.

The second sentence can be analyzed in JBK's grammar, since subject verb agreement is done in the *subj-head-cxt*, and with subject extraction being possible, the subject of *sleeps* may never be combined with a verbal projection in this construction. For the discussion of agreement see p. 45 below.

Note that none of these problems were present in the earlier account of Kim & Michaelis (2020: 250). The authors defined the mapping as follows:

Argument Realization Constraint (ARC, final):

The first element on the ARG-ST list is realized as SPR or GAP and the rest as COMPS or GAP.

This can be formalized as

(26) Argument Realization Constraint (ARC) inspired by Kim & Michaelis:

$$word \Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{l} \text{SPR} \quad \boxed{A} \\ \text{COMPS} \quad \boxed{C} \\ \text{GAP} \quad \boxed{B} \oplus \boxed{D} \end{array} \right] \\ \text{ARG-ST} \quad \boxed{A} \oplus \boxed{B} \oplus (C \circ D) \end{array} \right] \wedge \boxed{A} \oplus \boxed{B} = \langle \boxed{} \rangle$$

The ARG-ST list has to start with a list containing exactly one element: the subject. This list is the result of appending two lists. There are exactly two solutions to the question how a list with one element can be split in two parts: either the element is in the first list or in the second: $\langle \text{el} \rangle \oplus \langle \rangle = \langle \rangle \oplus \langle \text{el} \rangle = \langle \text{el} \rangle$. The rest of the ARG-ST list is $C \circ D$, that is, an arbitrary amount of GAP elements from D is shuffled between the other complements in C. C is the value of COMPS and the concatenation of B and D is the value of GAP.

Note that JBK states in a footnote on page 163 fn. 22 that “An argument can be realized either as a gap or a *pro* expression.” This would exclude the realization of arguments in normal head-complement or subject-head constructions, an obviously wrong statement. Probably something like the following was intended: “An argument can be realized in a syntactic configuration or be a gap or a *pro* expression.” This was pointed out in 2023, but JBK did not fix the statement.¹²

JBK states that the ARC is “adopted from Sag et al. (2003: 432)” this is a **mis-citation**. Maybe he intended to write “adapted”. Sag, Wasow & Bender (2003) assumed that the ARC is a constraint on *word* rather than *gap-wd*, they did not allow subjects to be elements of GAP¹³ and their formulation has none of the problems pointed out above.

5.2.1 Mix of realizational approach and lexical rules

JBK suggests the following lexical rule ((30) on p. 142):

$$(27) \quad aux\text{-}vpe\text{-}wd \Rightarrow \left[\begin{array}{l} \text{HEAD|AUX} + \\ \text{VAL} \left[\begin{array}{l} \text{SUBJ} \quad \langle \boxed{1} \text{ XP} \rangle \\ \text{COMPS} \quad \langle \rangle \\ \text{GAP} \quad \langle \rangle \end{array} \right] \\ \text{ARG-ST} \quad \langle \boxed{1} \text{ XP}, \boxed{2} \text{ YP}[\textit{pro}] \rangle \\ \text{DTRS} \quad \left\langle \left[\begin{array}{l} \textit{aux-lxm} \\ \text{ARG-ST} \quad \langle \boxed{1} \text{ XP}, \boxed{2} \text{ YP} \rangle \end{array} \right] \right\rangle \end{array} \right]$$

This seems to mix two different approaches to valence. In earlier times, lexical rules were used that removed elements from the ARG-ST list. Later analyses were

¹²I noted in 2026 that the text preceding the footnote does not make any sense either: “As a way of allowing a complement to be realized as a GAP, the ARC is further specified for the verbs (*gap-wd*) whose argument is realized as a gap:” The word *whose* implies that there is just one argument of a verb. But of course there can be arbitrarily many arguments and a subset of them can be realized as gaps.

¹³Since all verbs have to have a filled SPR list (p. 275-276).

used that assume that ARG-ST members of a certain type are not mapped to valence features (Bouma, Malouf & Sag 2001). Within such a mapping approach one would not need special lexical rules that license special words for VPE. Rather the auxiliary lexemes would have a VP argument that is compatible with the type *pro* and hence may be not mapped to a valence feature. This was the approach suggested by Kim (2003a: 439–440) and following him Ginzburg & Miller (2019: 100)¹⁴.

Kim (2003a: 439–440) provided a solution for ellipsis only. Extraction was ignored. The mapping-based solution taking both extraction and ellipsis in account would look like the constraint in (28):

$$(28) \quad word \Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{ll} \text{SUBJ} & \boxed{1} \\ \text{SPR} & \boxed{2} \\ \text{COMPS} & \boxed{3} \ominus \text{list}(\text{noncanon-ss}) \end{array} \right] \\ \text{GAP} & \boxed{4} \\ \text{ARG-ST} & \boxed{1} \oplus \boxed{2} \oplus \boxed{3} \end{array} \right]$$

Here *noncanon-ss* has the subtypes *gap* and *pro* (Kim 2003b: 439 fn. 5).

If one wants to stick to the lexical rule approach (Sag et al. 2020: 121) a much simpler version of the rule could be used (see also the discussion in Section 6.5 below):

$$(29) \quad aux-vpe-wd \Rightarrow \left[\begin{array}{l} \text{ARG-ST} \quad \boxed{1} \text{ } ne_list \\ \text{DTRS} \quad \left\langle \left[\begin{array}{l} aux-lxm \\ \text{ARG-ST} \quad \boxed{1} \oplus \langle VP \rangle \end{array} \right] \right\rangle \end{array} \right]$$

Note that SUBJ, COMPS, and GAP are not specified in this approach. The distribution to the valence features would follow general principles. In particular, subjects can be extracted *pace* the predictions of JBK’s analysis. See the examples in (113) on p. 82 below.

Note also that JBK’s chapter with Joanna Nykiel (Nykiel & Kim 2021: 865–870) in the HPSG handbook (Müller et al. 2024) contains the analysis without the lexical rule suggested in (28) above. It is absolutely unclear to me why JBK published this non-working analyses.

As a side remark concerning sloppiness: JBK cites earlier work of his (p. 142): “That is, the present analysis assumes that the VP argument of an auxiliary verb in VPE is realized not as an overt syntactic complement, but functions as a *pro*-VP which is associated with its antecedent in context (Kim 2013, Kim & Michaelis 2020: 209).” The paper he cites as Kim 2013 is *The Korean Sluicing: As a Family of Constructions* and has nothing to do with VPE. I checked his list of publications and there does not seem to be any other paper from 2013 that could be about VPE.

¹⁴Ginzburg & Miller (2019: 100) also (wrongly) cite Kim 2003a as Kim 2006. See below. Ginzburg & Miller subtract a list of *non-canonical-ss* from the COMPS list. The subtracted lists have to be split into *pros* and *gaps*, since *pros* are just thrown away, while *gaps* have to be realized elsewhere in the sentence.

It is not obvious why Kim (2013) has been cited, given that it is not relevant. Note that Kim & Nykiel (2020: 345) suggest exactly the same VPE lexical rule (with all the problems just pointed out) and they are not cited. Kim & Nykiel (2020: 345) miscite a paper *Similarities and differences between English VP ellipsis and VP fronting: An HPSG analysis* as Kim 2006. This paper appeared in 2003 as Kim (2003b), so maybe A's intention was to cite this rather than the 2013 paper.

5.3 Capturing generalizations and the Argument Realization Principle

The Argument Realization Principle is usually formulated as a constraint on words. JBK seems to lack an understanding of generalizations and the way they are expressed in HPSG/SBCG. Instead of having one general type *word* and general constraints on this type, he has various types and various variants of the Argument Realization Principle. The appendix lists *v-word*, *gap-wd*, *func-wd*, *loc-inv-wd* (p. 359–360).

$$\begin{aligned}
 (30) \quad a. \quad v\text{-word} &\Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{l} \text{SUBJ} \quad \langle \boxed{1} \rangle \\ \text{COMPS} \quad \boxed{A} \end{array} \right] \\ \text{ARG-ST} \quad \langle \boxed{1} \rangle \oplus \boxed{A} \end{array} \right] \\
 b. \quad func\text{-wd} &\Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{l} \text{SPR} \quad \text{elist} \\ \text{SUBJ} \quad \text{elist} \\ \text{COMPS} \quad \boxed{A} \end{array} \right] \\ \text{ARG-ST} \quad \boxed{A} \end{array} \right] \\
 c. \quad gap\text{-wd} &\Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{l} \text{SUBJ} \quad \boxed{A} \\ \text{COMPS} \quad \boxed{B} \\ \text{GAP} \quad \boxed{C} [\text{nelist}] \end{array} \right] \\ \text{ARG-ST} \quad (\boxed{A} \oplus \boxed{B}) \bigcirc C \end{array} \right]
 \end{aligned}$$

The work of these types could be done with a general ARP along the lines suggested by Ginzburg & Sag (2000):

$$\begin{aligned}
 (31) \quad a. \quad \text{Argument Realization Principle:} \\
 word &\Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{l} \text{SUBJ} \quad \boxed{1} \\ \text{SPR} \quad \boxed{2} \\ \text{COMPS} \quad \boxed{3} \ominus \text{list}(\text{pro-ss}) \ominus \boxed{4} \text{list}(\text{gap-ss}) \end{array} \right] \\ \text{GAP} \quad \boxed{4} \\ \text{ARG-ST} \quad \boxed{1} \oplus \boxed{2} \oplus \boxed{3} \end{array} \right] \\
 b. \quad func\text{-wd} &\Rightarrow \left[\begin{array}{l} \text{SYN|VAL} \left[\begin{array}{l} \text{SUBJ} \quad \text{elist} \\ \text{SPR} \quad \text{elist} \end{array} \right] \\ \text{GAP} \quad \langle \rangle \end{array} \right]
 \end{aligned}$$

The ARG-ST list in (31a) is split in three parts: SUBJ, SPR and potential complements [3]. The *pro* elements and gaps are subtracted from [3]. The *pro* elements are simply ignored and the gap elements are represented in the GAP list. A special type *gap-wd* is not needed. Note that JBK does not provide the type hierarchy. One would expect that slashed verbs are both words and gap-words, but the respective types would be incompatible. The solution in (31) does not require the stipulation of *v-word*. Verbs are just lexical items that are the output of an inflectional rule (*infl-cxt* in Sag 2012: 180).

JBK suggests that *could* is of type *v-gap-wd*, but it is nowhere defined what *v-gap-wd* is. It cannot be a subtype of *v-word* and *gap-wd*, since these types are incompatible.

For further problems with (30) see the discussion of JBK's Appendix on p. 79 in Section 8.

5.4 Heads and empty elements

There are several pages in the book that indicate a lack of understanding of basic concepts like headedness and empty elements. For example, JBK writes on p. 68: "Nominals with a null determiner would then be headless in the DP analysis, making their structures quite superficial." Nominal structures with an empty element as head would not be headless, they would have an empty element, the empty determiner, as head. The only superficial thing would be the empty element. Of course it is desirable to develop theories without such empty elements, but note that there has to be a place at which the semantics of the determiner is introduced (Müller 2022: 77). One option is to assume an empty determiner. This is independent of the NP or DP analysis. An alternative is the assumption of a unary projection for the introduction of the quantifier semantics. See Müller (2022) for extensive discussion of this issue. The importance of this paper was pointed out to JBK before it was in print in 2021 (see Müller 2023c: Section 6.2). JBK goes on to write: "Conversely, the NP analysis, wherein the noun always serves as head over determiner, obviates the need to postulate empty heads for nominals lacking determiners. The NP analysis would thus bring us simpler, streamlined syntactic structures." In my first review in 2020 I commented on this sentence and pointed out what I described above: "An unsolved problem for all approaches is where the quantificational force comes from. Zlatić (2014) assumes an NP analysis. The NP projection is closed off by a unary projection. This is equivalent to an empty determiner. So the NP analysis is not really better off." JBK's text changed from 2023 to the final book, but the gist is the same.

Zlatić (2014) and Müller (2022) are not cited.

The same problem with the lack of understanding of headedness and empty elements pops up with respect to the discussion of NPs like *the rich* on p. 79. See p. 46 below. I also suggested reading the chapter about empty elements in the Grammatical theory textbook: Müller (2023b: Chapter 19).

5.5 Occam's Razor as fundamental principle in science

This section discusses two changes in JBK's analyses that make his theory more complex in comparison to earlier versions of the theory. I have pointed this out to JBK several times, but he neither changed nor motivated his analyses.

5.5.1 MOD as list-valued feature

JBK uses lists for the value of MOD and SEL although these features are not valence features. MOD stands for MODIFIED and is used in lexical items of adjuncts to specify the head that is combined with the (projection of the) adjunct in head-adjunct combinations. SEL is for functors selecting a head. Usually the value of MOD and SEL is of type *synsem* or *sign* (Pollard & Sag 1994: 55, Van Eynde 2004: 37, Sag 2012: 84, 99). I pointed this out to JBK, but he hasn't addressed my points.

For comparison, the data structures for the respective approaches are given below:

- (32) a.
$$\begin{bmatrix} ne-list \\ FIRST\ synsem \\ REST\ nil \end{bmatrix}$$
- b. *synsem*

JBK assumes (32a) whereas the rest of the HPSG community assumes (32b) in theoretical work.¹⁵ The respective structures have to be used in lexical items and in the respective schemata. There is no way to justify the more complex structures in (32a) and good scientific practice should therefore not stipulate unmotivated structure but use the simplest possible one.

Lists are used as a data structure when there can be arbitrarily many elements: 0, 1, 2, 3, SEL and MOD are of a fundamentally different kind (see p. 317–320, 324–325, 374, 28, 30, 73, 145, 182, 233, 360, 373: The value of SEL and MOD is always a singleton or an empty list). Their value is a description of one linguistic object or of type *none*, if a linguistic object does not modify or select anything.

5.5.2 The pos feature

Similarly JBK deviates from standard HPSG in assuming a POS feature as part of the HEAD value (p. 19 and elsewhere). He also assumes a hierarchy of types with part of speech information (p. 217). These types are subtypes of *pos*, which is the value of POS. Usually such types introduce features that are relevant for objects of the part of speech under consideration. For example, verbs have *vFORM*, nouns have *CASE* (Pollard & Sag 1994: 22, fn. 10). Since *vFORM* (p. 19) and *CASE* (p. 21) are values under HEAD and not under POS, the type hierarchy would have to be

¹⁵Pedagogic work sometimes assumes a list (Copestake 2002: 18, Sag, Wasow & Bender 2003) use a list. But theoretical work does not (Bender & Flickinger 1999: 204, Bouma, Malouf & Sag 2001: 42, Sag 2012: 84, 99).

duplicated, which would be redundant. So, a POS feature would come with a considerable price, which was the reason for abandoning the similar MAJOR feature from Pollard & Sag (1987: 200) in 1994 (Pollard & Sag 1994: 22, fn. 10, Ginzburg & Sag 2000: 361–362, Sag 2012: 178–180). JBK does not explain why he assumes the POS feature. One reason one would like to have such a feature in addition to the types would be the ability to share the POS value while not sharing the complete HEAD value. Having such a shareable feature may be useful in the analysis of free relatives, in which the part of speech should be projected without projecting the MOD value, which is also represented under HEAD. See Müller (1999b) for details. In any case the decision to use POS is not explained to the reader.

The book and also the manuscript from 2023 contains an explanation of appropriateness, which is non-standard to say the least (p. 21):

$$(33) \quad \begin{array}{ll} \text{a.} & * \left[\begin{array}{l} n\text{-}wd \\ \text{HEAD} \left[\begin{array}{ll} \text{VFORM} & \textit{fin} \end{array} \right] \end{array} \right] \\ \text{b.} & * \left[\begin{array}{l} v\text{-}wd \\ \text{HEAD} \left[\begin{array}{ll} \text{CASE} & \textit{nom} \\ \text{VFORM} & \textit{fin} \end{array} \right] \end{array} \right] \end{array}$$

JBK writes: “For example, the VFORM feature is appropriate only for verbs (*v-lxm* or *v-wd*). [...] The attribute VFORM is defined on the HEAD value of the v-lexeme (*v-lxm*) and v-word (*v-wd*) object. This attribute is not for the HEAD value of the n-word *n-wd*. In the same manner, the attribute CASE is not for the HEAD value of the v-word.”

Usually, a type introduces features for a structure of this type. For example, the type *verb* would introduce VFORM and the type *noun* would introduce CASE. The advantage of this is that an inference from the presence of the feature to the type is possible. So if one sees the feature VFORM, one can infer that the type of the respective structure is *verb* (Carpenter 1992: Chapter 6, Pollard & Sag 1987: 38–40, Copestake 2002: 71, Sag, Wasow & Bender 2003: 55,273, Sag 2012: 72, 76, 81–82, Richter 2024: 94–95). JBK’s assumptions regarding typed feature descriptions may be influenced by Copestake (2002), who does not assume a strict separation of signature and type constraints. But it is also true for implementations in the LKB system that features have to be appropriate for the type of the immediate structure they appear in.¹⁶ In the examples in (33) a supertype of *v-wd* and *n-wd* would introduce the feature HEAD having the value *head*. CASE and VFORM are introduced at subtypes of *head* (say *verb-head* and *noun-noun*). Since the presence of the CASE feature in (33b) implies the type *noun-head* and the presence of the VFORM feature the type *verb-head* and since *noun-head* and *verb-head* are incompatible, (33b) would not be a well-formed structure. However, (33a) would be possible unless one specifies, that the value of HEAD is of type *noun*, that is, incompatible

¹⁶JBK is listed as the coauthor of papers about implemented Korean grammars, which used the LKB (Kim & Yang 2003, Song, Kim, Bond & Yang 2010). He should be aware of the formal assumptions made for LKB grammars.

with `VFORM`. (34) is the version of (33a) with the inferred type information for the innermost AVM:

- (34) Unwanted AVM with type information inferred from the presence of the feature `VFORM`:
- $$\left[\begin{array}{c} n\text{-}wd \\ \text{HEAD} \left[\begin{array}{c} \textit{verb-head} \\ \text{VFORM} \textit{fin} \end{array} \right] \end{array} \right]$$

I commented on JBK's approach to appropriateness in 2023.

Note that VPs and NPs occur in other parts of the grammar as well. For example, we have descriptions of NPs in `ARG-ST` lists. Since the elements in these lists can be saturated by words (pronouns) or phrases, the type of these elements may not be inferred to be *n-wd*, since this would rule out phrasal arguments.

I suggested in 2023 simply to return to Kim & Sag (2005: 203), where the part of speech types were the value of `HEAD` not of a separate `POS` feature within `HEAD`.

6 The chapters in detail

The following subsections correspond to the chapters of the book. One reoccurring theme is that JBK assumes phrasal constructions. This was common in GPSG (Gazdar et al. 1985), but was abandoned in favor of lexical analyses in HPSG (Pollard & Sag 1987). These analysis were more similar to Categorical Grammar (see Jacobson (1987) for a review of the GPSG book). In a lexical approach, there are valence lists specifying that a certain head requires a certain number of arguments (say two NP objects). Abstract schemata/rules combine the head with its dependents. In phrasal approach, there is a specific rule combining the head with its dependents (for example a rule combining a verb with two NPs to form a VP). While very few abstract rules were assumed till the mid 1990ies, authors like Sag (2010) suggested that some of the HPSG schemata were too abstract and a more fine-grained system of subtypes is needed. Kim has many papers with worked out (partly) lexical analyses of various phenomena (Kim 2004, 2011). This book suggests many phrasal analyses without providing explanations for changing from earlier analyses to the new ones. The most prominent example for phrasal constructions are argument structure constructions (Goldberg 1995). These will be dealt with in the following section. But JBK tries to account for other phenomena on the phrasal level as well. For example, he assumes that subject verb agreement is best handled in a subject-verb phrase configuration, while the standard analysis is to establish subject verb agreement in the lexical item of the verb. Since the verb contains a description of the subject in the valence features, agreement can be established there. In what follows, I discuss a set of related problems that are due to the assumption of the phrasal approach. Note that both the lexical approach and the phrasal approach are constructional approaches. Sag, Boas & Kay (2012: 12) call lexical rules lexical constructions and formalize them in the same way as phrasal constructions.

6.1 Chapter 1: Theoretical foundations

6.1.1 Argument structure constructions

The following pages deal with phrasal argument structure constructions as assumed by Goldberg (1995) and the version of this theory developed by JBK. I will point out several problems with his theory and explain where this was discussed before and why it is not possible to develop a formal version of this theory. I am able to pay particular attention to this group of issues because I have extensive research experience of my own in this area. One thing I note is that HPSG and SBCG are both formal theories, where arguments can have the status of a logical proof: there is a logic that underlies the workings of the theory. I have responded to Goldberg's ideas in print in a number of peer-reviewed papers (for example Müller 2006a, 2010, Müller & Wechsler 2014a,b, for further references see below). My position on Goldberg's argument structure constructions and how they cannot be made to work in HPSG/SBCG has become the HPSG/SBCG industry standard, because my arguments have demonstrated that Goldberg-style argument structure cannot be made to work formally within HPSG/SBCG. This was also stated in the introductory chapter of the first book about SBCG by Sag, Boas & Kay (2012: 10–14) in a long passage, some parts of which are quoted here:

The limitation of underspecification-plus-inheritance analysis in general has also been demonstrated forcefully by Müller (2006a, 2010), who shows that resultative constructions and other phenomena must be analyzed in terms of embedding, i.e. in terms of two-level lexical constructions that interact via 'input-output' ('daughter-mother') relations of the sort shown in Figure 3. [...] Moreover, as Müller demonstrates, attempts to treat English and German resultatives via construction inheritance fail to predict the observed interactions of resultatives with other well studied constructions. Much the same point could be made with respect to English prefixation with *anti-*, *ex-*, *pre-* or *post-*. In addition, as Müller, Samvelian, and Bonami (in preparation; see also Müller 2010) show in considerable detail, proposals (like that of Goldberg 2003b) to treat Persian complex predicates via construction inheritance encounter similar difficulties. By contrast, the two-level analysis Müller et al. develop, which is fully compatible with SBCG, avoids these problems entirely. Finally, it should be observed that phenomena of this kind, which are perhaps somewhat restricted in more familiar Indo-European languages, are found with full productivity in agglutinative languages like Turkish or Hungarian. (Sag, Boas & Kay 2012: 10–12)

It is both notable and regrettable that JBK doesn't refer to Sag, Boas & Kay (2012), and does not engage at all with my arguments. This is regrettable for three reasons: (1) JBK's own position is undermined by ignoring the literature; (2) JBK misrepresents the various debates about argument structure which is particularly

problematic for anyone (like student readers) whose engagement with these debates begins with JBK's work; (3) JBK misrepresents the current HPSG/SBCG consensus.

The first review and personal emails in 2021 pointed out to JBK that his arguments about phrasal constructions are not valid. There is a large body of literature on this topic. Most of the publications are by me in direct discussions with Goldberg and Jackendoff. One, coauthored with Stephen Wechsler, was a target paper and sparked a discussion with leading scholars in the field of Construction Grammar (Boas 2014, Goldberg 2014, Kay 2014, Kálmán 2014, Asudeh & Toivonen 2014). All of the points these scholars made were answered in the reply paper (Müller & Wechsler 2014b). As mentioned above, the book that introduces the framework in which JBK works (SBCG, a version of HPSG, see fn. 3 above) has an introductory chapter that explicitly discusses all the major points that argue for a lexical representation of valence and against the view JBK suggests (Sag, Boas & Kay 2012). Paul Kay one of the leading proponents of SBCG has a single authored paper about dative constructions in which he argues for the lexical, constructional approach (Kay 2005), which was also argued for six years earlier in Briscoe & Copestake (1999). I published a book explaining why LFG proposals along the lines of Goldbergian CxG do not work (Müller 2018). The book and the conference poster (at a joined LFG/HPSG conference) from which it resulted was reviewed and commented on by the top scholars working in LFG. So this means that my claims are accepted throughout the formal community (HPSG, LFG, and the HPSG version SBCG). Recently, I also dealt with Goldbergian approaches within the framework of Tree Adjoining Grammar (Müller 2025b,a)

JBK writes on p. 14:¹⁷

Creative and extended uses of language concerning argument structure constructions are also evident in children's innovative use of language, in particular their 'overgeneralizations' (Goldberg 2019: 3):

- (28) a. ? She explained him the story. (cf. She told him the story.)
b. ? He vanished the rabbit. (cf. He hid the rabbit.)

These sentences, often uttered by children, involve the combination of the verb *explain* with the argument structure construction, which adult language users rarely employ. The CxG view can attribute such a puzzling overgeneralization to children's fusion of argument structure constructions with pertinent verbs. The verb *explained* in (28a), just like the verb *told*, is fused in the Ditransitive Construction while *vanished* is used just like *hid* in the Transitive Construction. The intended meaning of these verbs is clear, closely related to fully acceptable verbs like *told* and *hid*. The CxG view adopted here can attribute this vital aspect of language creativity to the combination of

¹⁷JBK cites Goldberg (2006) as Goldberg 2005.

verbs with appropriate argument structure constructions (Goldberg 2005, Hoffmann 2020). Verbs with their core meanings merge with argument-structures to yield the final meaning.

JBK does not say what argument-structure constructions are. But he cites Goldberg and Hoffmann, who argue for phrasal approaches (Hoffmann provides a phrasal construction on p. 3). Given that he assumes lexical argument structures for verbs on p. 43 (but see p. 126 for the stipulation of constructions with reference to phrasal patterns), he sends the readers on the wrong track. I think it is consensus in HPSG and Sign-Based Construction Grammar (SBCG) that argument structure constructions have to be treated lexically. JBK p. 42 fn. 4 claims to take “a middle position in assuming argument-structure constructions to address broader generalizations among lexical classes”. This however is standard among lexical approaches. The type-based lexicon was the topic of one of the first PhD theses in HPSG (Flickinger 1987). JBK assumes a constructional meaning in the sense of Goldberg, Jackendoff, Tomasello, Hoffmann and others, ignoring the fact that his analysis runs into the problems pointed out in earlier research. This fact has been pointed out to him repeatedly since 2020.

In addition to the quote above he makes the following statement on p. 41, which is equally misleading:¹⁸

Lexical signs (or lexical constructions), as in (3), are fully substantive in the sense that they include no variables to be filled, but phrasal constructs (*hd-comp-cxt*) and (*hd-subj-cxt*) are licensed by the schematic constructions (e.g., $XP \rightarrow X, YP$) that involve variables, as we have seen in Chapter 1 (Goldberg 2005: 5, Tomasello 2013: 100-101).

What JBK is stating here, is the opposite of what both Goldberg (2006) and Tomasello (2003) argue forcefully for. Both argue for a phrasal approach in which there are no abstract rules like Merge in the Minimalist program (Chomsky 1995). What JBK suggests with the *hd-comp-cxt* and *hd-subj-cxt* are in fact abstract combinatoric schemata that correspond to Chomsky’s first-merged and later-merged structures (Müller 2013: Section 2.3). Or in JBK’s own words from 2003:

HPSG has a small set of schemata, analogous to X schemata, which specify partial information about universally available types of phrases. (Kim 2003b: 442)

To give an example of what Tomasello writes in support of Goldberg’s (1995) earlier work just one page before the cited page range consider the following:

As outlined in Chapter 1, formal linguistic approaches (including generative grammar) characterize natural languages in terms of formal languages, using as basic theoretical primitives meaningless algebraic

¹⁸Note that both publication years are wrong. Goldberg’s book appeared in 2006 and Tomasello’s in 2003.

rules and meaningful linguistic elements that serve as variables in the rules. But many contemporary linguists simply do not believe that the analogy between natural languages and formal languages is a particularly accurate or productive one—most importantly because it effaces the symbolic dimension of grammatical constructions. The alternative is to look at linguistic competence, not in terms of the possession of a formal grammar of semantically empty rules, but rather in terms of the mastery of a structured inventory of meaningful linguistic constructions. [...] Thus, the pattern X VERBed Y the Z is a construction of English that signifies some kind of transfer of possession (either literal or metaphorical); (Tomasello 2003: 98–99)

I think both Tomasello and Goldberg are wrong in this respect and it is formalized frameworks like HPSG, SBCG, LFG, and TAG that allow one to show this. JBK suggests a lexical analysis of *Kim chased Lee*. on p. 41 and just claims to do the opposite. Again: everybody may be confused in a difficult debate, but it is surprising that such statements should survive three rounds of reviewing and remain in the final published version.

The following list is a list of papers that are relevant for the discussion and that clearly show that there is a mistake in the view of JBK. Specific mistakes and problems have been pointed out in earlier rounds of reviewing. See a documentation of earlier emails in Müller (2023c). Since the manuscript has changed a bit, I will comment on the newly introduced aspects and will point out that **what seem to be solutions is in fact handwaving. It obscures the existence of a scientific debate, and the conclusions of that debate, and sends readers along the wrong track.**

I apologise for self-citation, but as said, I have formal results in this area which have been recognised by my peers in HPSG and SBCG in print. It is worth noting that *Language* is the top journal in linguistics, and the *Journal of Linguistics* is also very heavily peer-reviewed and highly regarded. *Theoretical Linguistics* gave me and Wechsler a target article and the reply to reply to our respondents. It is also heavily peer-reviewed. All of the remaining work of mine that I cite has also been appropriately peer reviewed.

- Müller, Stefan. 2006a. Phrasal or lexical constructions? *Language* 82(4). 850–883. DOI: 10.1353/lan.2006.0213.
- Müller, Stefan. 2006b. Resultativkonstruktionen, Partikelverben und syntaktische vs. lexikonbasierte Konstruktionen. In Kerstin Fischer & Anatol Stefanowitsch (eds.), *Konstruktionsgrammatik: Von der Anwendung zur Theorie* (Stauffenburg Linguistik 40), 177–202. Tübingen: Stauffenburg Verlag.
- Müller, Stefan. 2007. Phrasal or lexical Constructions: Some comments on underspecification of constituent order, compositionality, and control. In Stefan Müller (ed.), *Proceedings of the 14th International Conference on Head-Driven Phrase Structure Grammar, Stanford Department of Linguistics and CSLI's LinGO Lab*, 373–393. Stanford, CA: CSLI Publications. DOI: 10.21248/hpsg.2007.22.

- Müller, Stefan. 2010. Persian complex predicates and the limits of inheritance-based analyses. *Journal of Linguistics* 46(3). 601–655. DOI: 10.1017/S0022226709990284.
- Müller, Stefan. 2013. Unifying everything: Some remarks on Simpler Syntax, Construction Grammar, Minimalism and HPSG. *Language* 89(4). 920–950. DOI: 10.1353/lan.2013.0061.
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The general point about the phrasal approach is that there are phrase structure rules like (35):

- (35) $A \rightarrow B, C, D$

It is assumed that some of the meaning is contributed by the construction and not by the parts of the constructions. For this to work, it is crucial that the pattern BCD is recognizable. This phrasal approach was basically the approach developed in GPSG (Gazdar et al. 1985). Due to various severe problems this approach was given up in favor of the lexical approach assumed in Categorical Grammar and HPSG (Jacobson 1987, Müller 2016: Section 5.5).

Goldberg (1995, 2006) assumes a pre-formal version of the phrasal approach. What JBK suggests is a mix of a phrasal and a lexical approach. The details are not worked out.¹⁹ One problem that he faces immediately is that the pattern BCD is not present for approaches with lexical extraction. Since JBK assumes a traceless approach to extraction of the kind suggested by Bouma, Malouf & Sag (2001), extracted elements are not mapped to valence features. This means that resultative constructions or caused-motion constructions cannot be recognized locally since the resultative phrase or the directional phrase is extracted and not part of a constructional pattern.²⁰ To take an example, consider the resultative construction in (36a). It follows the pattern Subj V Obj Obl, or with more structure [Subj [V Obj Obl]]. But the result predicate is not in the same position in (36b), since it is extracted.

- (36) a. He painted the door red.
b. Red, he painted the door.

Locally, we would then have [Subj [V Obj]], which is the same pattern as the bivalent transitive construction.

Other parts of the construction can be extracted as well. For example, the object can be fronted in a relative clause construction:

- (37) the door which he painted red

This pattern ([Subj [V Obl]]) can be found with unaccusative verbs like *freeze* as in (38), but *paint* is not unaccusative.

- (38) The river froze solid.

Returning to the abstract case: if D is extracted, we do not have BCD but just BC. This was explained in detail in Müller (2006a: Section 2) and Müller (2007a). JBK should be aware of the latter work which grew out of a workshop on *Constructions and Grammatical Theory* held during the LSA summer institute in Stanford where JBK had a paper.

¹⁹For example, the type *resultative-cxt* faces exactly once on p.130. It is not contained in the appendix, which is supposed to contain the formalization of the grammar. JBK talks about the Transitive Resultative Construction, which is not formalized, but sketched as an ARG-ST construction on p. 43, about the Transitive Resultative Construction, sketched as the pattern V Obj Pred on p. 126, and about the Resultative Construction, which is the phrasal pattern contributing constructional content via c-CONT on p. 130.

The same holds for the type *caused-motion-cxt* on p. 131.

²⁰See p. 43 for the ARG-ST of the head in a resultative construction/caused-motion construction and p. 164, 368 for his constraints on *gap-wd*.

Another point is that the program of phrasal Construction Grammar (Goldberg 1995, 2006, Tomasello 2003) is assumed to have something to do with our cognitive capabilities. It is a broad claim about language as such. Therefore the approach should also work for languages other than English, say German or Korean. Both languages are SOV languages.²¹ They allow for scrambling and for adjuncts to appear between arguments. Therefore the analysis in terms of HPSG is such that binary branching structures are assumed, that arguments can be combined with a head in any order and that adjuncts may intervene anywhere between the arguments. See Gunji (1986) for a first proposal for Japanese and Müller (2004a) for a discussion of approaches to German. Kim must be aware of these facts, because Kim (2016: Section 1.4.2) suggests the same analysis.²² Now, with such a binary branching, there is no pattern BCD. It is two items that are combined. Adjuncts can intervene. The idea of a phrasal pattern is destroyed. There is one place in the grammar where we still have a pattern: the ARG-ST list. Of course, this is the lexical approach and we are not talking about patterns in structure but about potential structure (Müller 2019). This problem with non-configurational languages and cross-linguistic generalizations was pointed out in several of my publications (Müller 2006a: Section 6.3). I repeatedly made the point that fundamental properties of languages like argument structure should be handled in the same way. A theory that covers more languages without additional assumptions has to be preferred over an ad hoc theory that works for a certain class of languages only (Müller 2013: 923).

In what follows, I will look at specific aspects of what JBK proposed and point out in what sense they fail and where this was discussed in previous publications.

JBK's proposal gets more concrete in the chapter on particle verbs. On page 126 the putative meanings of the intransitive and transitive construction are discussed. For intransitives it is stated that they mean X MOVES. There are intransitive verbs like *sleep*, *snore* and *die* that do not stand for movement. Most researchers agree that it does not make sense to assign a meaning to the transitive pattern. It is just too general.

On page 128 the particle verb *make up* is discussed and in the figure it is stated that the meaning is reconcile(x). JBK writes (in comparison to *grew up*): "Despite this difference, both are well-formed constructs, licensed by the Head-LEX Construction. These two cases can be taken as an extension of the Intransitive Construction." This would require some subtype of *head-lex-cxt* and the intransitive construction. This is not executed (none of the four constructions mentioned on p. 126 is formalized in the appendix or anywhere else). Note also that the semantic representation is atomic. It is not decomposed into parts. And there is no movement component in the meaning of *make up* as there should be according to JBK.

²¹German is also a V2 language, but this is a property that is independent of the VO/OV distinction. See Haider (2020) on VO/OV ordering and Holmberg (2015) on verb second.

²²Note that Kim (2016) does not cite Gunji, Kiss, Meurers, Müller or anybody else working on SOV languages within HPSG.

JBK goes on to discuss particle verbs with subject, object and particle. He claims that they should be an extension of the Transitive Construction (p. 128). But this is inconsistent with the idea of meaningful constructions, since there are three elements involved rather than two as in the Transitive Construction. So the form is different.

The particle verb *turn off* discussed on p. 129 is compositional. It is like a resultative construction with a result predicate. X turns Y and as a result of this Z becomes off. This analysis has been available in the (HPSG) literature since Verspoor (1997) and Müller (2002a). Verspoor (1997) and Müller (2002a) analyzed the construction using lexical rules. Müller (2006a) explained why a lexical approach was the only option for phenomena like this in frameworks like HPSG.

JBK has the following lexical item for *turn (off)* on p. 129:

$$(39) \left[\begin{array}{l} \text{FORM} \quad \langle \textit{turn} \rangle \\ \text{ARG-ST} \quad \left\langle \text{NP}_x, \boxed{1} \text{NP}_y, \text{Prt}_z \left[\begin{array}{l} \text{FORM} \quad \langle \textit{off} \rangle \\ \text{SUBJ} \quad \langle \boxed{1} \rangle \end{array} \right] \right\rangle \\ \text{SEM} \quad \textit{turn}(x,y,z) \end{array} \right]$$

This lexical item raises several questions: 1) Why is the meaning of *turn* three-place? *turn* is a two-place predicate. Somebody turns something. JBK seems to want to incorporate the meaning of the particle into the meaning of *turn*. But then: why not incorporate the cause-result meaning into the lexical item?²³ 2) What licenses this lexical item? How is it related to the two-place *turn*?

(40) Sandy turns the knob/the wheel.

Both the lexical approach that is standardly assumed in HPSG and the Goldbergian approach have an answer to this. In the lexical rule-based approach there is a syntactically two-place *turn* and it is mapped to a syntactically three-place *turn* that accounts for the resultative meaning *cause(turn(x,y),off(z))*. This lexical rule is called a lexical construction in SBCG (Sag, Boas & Kay 2012: 10–11) or in the terminology of Goldberg (2013), a lexical template. In the Goldbergian phrasal approach there is a two-place *turn* and this is inserted into the phrasal resultative construction and an additional result predicate is licensed this way. So what JBK is suggesting here is something that falls short of both existing HPSG analyses and phrasal CxG analyses, sharing with the latter a known host of problems in addition to newly introduced problems.

On p. 130 JBK suggests the flat structure in Figure 4 for *turned the light off*. It is of type *head-comp-cxt* & *resultative-cxt*. This begs many, many questions: 1) How is it ensured that the *resultative-cxt* is used at all? If both the *head-comp-cxt* and the *resultative-cxt* is compatible with *turned*, *the light*, and *off*, the material could be combined using the Head-Complement-Construction and the resulting VP would lack the constructional content that is only provided via c-CONT in

²³I would assume a further decomposition of *cause-result*' into *cause*' and *become*' to be able to account for lexical subscoping. See Dowty (1979), Egg (1999) and Müller (2023b: Section 19.3).

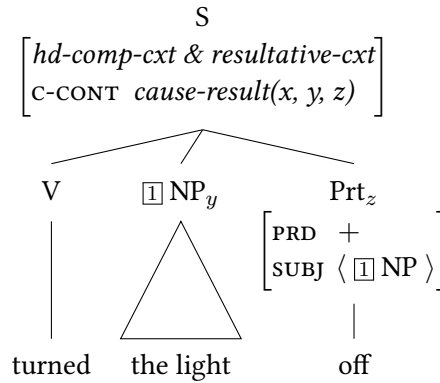


Figure 4: JBK's analysis of *turn the light off*

the resultative construction. 2) What is the &? Shouldn't there be a common subtype? Otherwise type unification is not defined (under standard assumptions). 3) Why is *turn* a three-place predicate in (96) (our (39) above)? Why does it have anything to do with the predicative particle? *turn* should be two-place and be causing the event. But this can be done in the lexical item. No reference to a phrasal construction is necessary. 4) What is *z*? The particle *off* just predicates over the light. The meaning is *off(x)*. Unless *z* stands for *off(y)*, the semantic representation does not seem to be appropriate. 5) The meaning contributed via *C-CONT* should be a list of relations rather than a singleton element.

On top of this: 6) How is the type *resultative-cxt* defined? It is not provided in the entire book, neither in the main text nor in the appendix. On p.43 the Transitive Resultative Construction is stated as a tree-place ARG-ST construction and on p. 126 as V Obj Pred. The V Obj Pred is a concession with respect to what Goldberg suggested. She suggested that the form is Subj V Obj Pred. For establishing the links between the parts of the construction, Goldberg (1995: 192) had to go nonlocal, since the subject is not part of a VP:

(41) [SUBJ [V OBJ OBL]]

It is external to the VP. Goldberg & Jackendoff (2004: 534) talked about VP constructions just as JBK does. But this means that *x* in (97) – given as Figure 4 here – refers to a valence element, the element of the SUBJ list.²⁴ Of course this begs the question why one should not refer to the valence elements in the first place. This is the lexical analysis that is common in HPSG since 1985 and explicitly argued for in the introduction to SBCG by Sag, Boas & Kay (2012: 10–11). The lexical analysis developed out of GPSG because all the problems the phrasal approach has and I defended this view extensively in the years from 2003. See the list of references given above.

²⁴The *x* for the causer is not even linked to the subject in the figures in (97) and (100) on p. 130 and 131, but it should be to establish the constructional content.

Note that it would be crucial to provide the actual definition of *resultative-cxt*, since the informal statement provided on page 126 is not defined in SBCG/HPSG, since SBCG/HPSG does not use grammatical functions as primitives (see p. 21 above). There are valence features for the subject but the reason for this has to do with distributional facts not with facts concerning grammatical functions. So Obj is not defined in HPSG. The form of a putative phrasal resultative construction therefore has to be stated explicitly. Note that it cannot be inferred from the figure in (97) since part of the information in the tree is licensed lexically. The reader knows that the particle verb selects for an NP, but he or she does not know whether the resultative construction refers to the object. So in order to evaluate the analysis one would have to know the constraints imposed on resultative constructions via the type *resultative-cxt*.

7) How is it ensured that the causal component is part in morphological derivations?

(42) the turning off of the light

The pattern in (42) would be N Prt PP and is quite different from V NP Prt as shown in the figure above (JBK's (97)). Nevertheless the CAUSE meaning is there. Of course if it is in the lexical representation right from the beginning, everything works out fine. This was discussed in Müller (2006a: Section 5) and Müller (2013: Section 1) with respect to Jackendoff's *rumble* construction (Jackendoff 2011: 610). The phrasal approach would need something like transformations to relate various patterns. The lexical rules of HPSG and CxG are the analog of transformations (Müller 2016: Section 19.5). *-ing* nominalizations do not have anything to do with the resultative constructions. If resultative constructions are licensed on the stem level, morphology can take them as input.

On page 131 *put the books away* is discussed as an instance of the caused-motion construction. The question is: How is the presence of the type *caused-motion-cxt* determined? Why isn't it the *resultative-cxt*? This would add the wrong constructional semantics.

What about passives and middles?

- (43) a. The book was put away.
b. Such books put away easily.

How is the linking to the arguments x, y, z done? The subject is gone in the passive and in the middle. Of course this would not be a problem if the linking and the meaning representation would be done in the lexicon. See Müller (2006a: Section 2.3) on this point.

What about extraction? Since extraction is done lexically by JBK, the object in (44) never reaches any valence feature.

- (44) This book, I would not put away.

So how is the linking to the y of the construction done? *put away* has the form of an intransitive construction in the VP in (44). This was pointed out in Müller (2006a: 854).

Similarly, the particle can be extracted as has been discussed with respect to corpus data by Cappelle (2002: 45, 46, 49):

- (45) a. And up she rises.
b. If Galloway was a Tory, up would go the cry from Labour. Sleazel Resignl (CBD)
- (46) a. in he brought her
b. off they took him

The examples show that the particle may appear far away from the verb and not within the VP that JBK identified as part of the phrasal construction. This is parallel to what I pointed out in Müller (2006a: 854). I discussed cases of particle fronting in Müller (2002a: Section 6.1.2), Müller (2002b: Section 3) and Müller (2003: Section 4.1).

I mentioned in the beginning of this section that phrasal approaches were used in GPSG (p. 36). The reader may wonder how these approaches dealt with the problem of extraction. There are two ways: either a trace is used (Gazdar 1981: 179, Gazdar et al. 1985: 143–144) or a metarule is used that relates a construction with all elements to one with an extracted element missing (Müller 2016: 189)²⁵. The latter approach would involve a family of related constructions and definitely destroy the idea that a certain pattern contributes a certain meaning since a set of constructions with different patterns would be related to the same meaning. The first solution is ruled out by dogma since CxG does not assume empty elements (Goldberg 2003a: Tenet 3) and JBK assumes an approach to extraction that does not assume empty elements (p. 166). Since HPSG does not have metarules he would have to stipulate additional phrasal constructions for all attested patterns. This is what I pointed out in Müller (2006a: Section 2.2).

Note that according to JBK's theory, the examples in (45) would be instances of the intransitive construction without a particle and those in (46) would be instances of the transitive construction. This is the case since the particle is extracted and hence the VPs do not contain any particle but have the patterns of other constructions. In the case of the intransitive construction this would mean "X acts alone" (p. 43) or "X moves" (p. 126; side remark: the specifications on p. 43 and p. 126 are not consistent). In the case of the transitive construction the meaning would be "X acts on Y or X experiences Y" (This time the names of the constructions are inconsistent: It is the Transitive-cxt on p. 126 and the Transitive Causative-Cxt on p. 43). This linking to the transitive construction makes wrong predictions. The sentence *turn the light off* does not entail that the light is turned.

JBK works with a system that is half way lexicalized (particle verbs, extraction, ellipsis, extraposition) and half way phrasal (Goldbergian argument struc-

²⁵I wrongly attributed the traceless analysis in GPSG to Uszkoreit (1987: 77) in early editions of the grammatical theory textbook. In fact, Uszkoreit uses a trace. So it was me who invented the traceless GPSG analysis of extraction. By sloppiness. The original approach by Uszkoreit assumes a metarule AND a trace.

ture constructions). If he wanted to do phrasal CxG (as nobody has done successfully before, see all the papers listed above), he would have to go phrasal in all aspects. But this is the GPSG approach that was abandoned in 1985. See Müller (2023b: Section 5.5) for a discussion of problems with the GPSG approach.

And what happens in cases like (69a), repeated here as Figure 5? The combi-

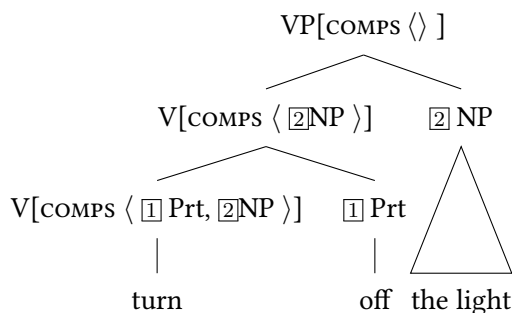


Figure 5: *turn off the light*, JBK’s (69a) on page 123

nation of verb and particle is just the *head-lex-cxt*. So it is only the particle and the verb without including the object NP. The meaning has to be there since after this combination it is just the general *head-complement-cxt* that is used for combination. (Or is it the Transitive-cxt? This would make wrong predictions as shown above.) So the resultative or caused-motion meaning has to be there at the verb particle combination. But where is the general constructional phrasal idea in this situation? There is no phrasal pattern (unless one goes nonlocal, which is – ironically – made very hard in SBCG by design (Sag 2007) and which is rejected by JBK on p. 264,²⁶ and p. 321, see p. 74 below for discussion). It is just the particle and the verb that is combined. See also Müller (2007b) for cases in which just the resultative predicate and the verb is combined and nothing is left of the phrasal pattern.

Another problematic point for the phrasal analysis is the structure of VP ellipsis given on page 155 for (47):

(47) Lee could not.

could and *not* form a constituent, which is then projected to VP. According to the phrasal analysis, this should be an instance of the *intransitive-cxt*. Therefore the semantics for this construction (X acts alone, p. 43 or X moves, p. 126) should be added. Note that this would not make sense since the VP is a projection of a verb with the semantics $\text{not}(\text{can}(\text{x}, \text{sing}(\text{x}, \text{song})))$. So this combination probably should

²⁶“The grammar that can violate locality of selection would be too powerful to avoid overgeneralizations (Sag 2007).” This statement is false. Computational power is independent of generalizations. Generalizations are done by linguists, if they do not overgeneralize, there will be no overgeneralization. The same holds for generative power. It is possible to write Type 3 grammars in a Type 0 formalism.

work without the *intransitive-cxt* added in. But if this is possible, what prevents canonical intransitive structures from undergoing the unary projection without adding semantics from the phrasal *intransitive-cxt*?

Another set of related problems arises for the analysis of *tough* constructions suggested on p. 160. JBK assumes that the *adj-tough-lxm* selects a VP with a gap. JBK writes: “As given here, *easy* combines with the VP *to talk to*, which is missing its object as encoded in the GAP. This GAP value is not percolated up further because of the constructional constraints on the Tough Construction (see Pollard & Sag 1994: Ch. 4 and Kim & Michaelis 2020: 294):”

$$(48) \quad AP[\text{GAP } \boxed{A}] \rightarrow A \left[\begin{array}{c} \text{tough-adj} \\ \text{SUBJ } \langle \text{NP}_i \rangle \end{array} \right], \text{XP}[\text{GAP } \langle \text{NP}[\text{acc}]_i \rangle \oplus \boxed{A}]$$

Note that there are several problems with this approach: The adjective lexical item is defined as *adj-though-lxm* while the type in the construction is *tough-adj*. If adjectives are assumed to undergo zero inflection (mapping from lexeme to word), then the type of the result would be *adj-word*, since it is the same inflection for all adjectives or maybe even just *zero-inflection-cxt* or simply *word* (Sag 2012: 109, 119). But even if we do not assume any inflection at all, a construction with a type requirement would not work, since elements in slots may be coordinated. For example, *neither easy nor difficult* would be some type of coordination structure and hence different from *tough-adj*.

(49) Aicke is neither easy nor difficult to please.

This problem with coordination has been pointed out in Müller (2018: 36–37), which I suggested to JBK as something to read. This was also mentioned in the 2023 review.

And again, there is the problem that the *easy* adjectives can be used in head–complement constructions without entering the phrasal *Tough* construction in (48). Since in JBK’s approach the gap is not bound off lexically by the adjective as suggested by Pollard & Sag (1994: 167), sentences like (50) with the fronted NP *this man* are licensed:

(50) * *This man_i, John_i is easy to talk to _.*

In fact, Figure (101) on p. 160 displays a *hd-comp-cxt*, so there is nothing that binds off the gap in the VP although this is what is stated in the figure.

Footnote 20 on p. 160 is **just hand-waving**. It states that “This construction could be extended to cover examples like *This isn’t an easy problem to solve _.* in which the gap licensing adjective is inside the NP *an easy problem*.” It is not trivial to extend the construction to cover these cases: the local combination of *easy* and *problem* does not contain the VP with the gap. The form of the “construction” is totally different from (48). Due to locality constraints *easy* is not visible once *easy problem* is combined with *to solve*.

So, this is another case of a suggestion of a new solution that is no improvement on earlier approaches, on the contrary, it comes with a lot of problems. **Note**

also that the citation of Pollard & Sag in the quote on the previous page is highly misleading, since they suggested a different and better solution. They did not assume a constructional constraint like (48), but rather a lexical binding off of the nonlocal dependency.

6.2 Chapter 2: Mapping relations between form and function

JBK suggests a phrasal construction for examples of the kind in (51), the BNP (Binominal NP) Construction (p. 62 (57)):

(51) an idiot of a doctor

The phrasal construction places some constraints on the first noun and adds pragmatic information. There is no reason why one should assume a phrasal construction here. The same could be reached with lexical items for the nouns in question. Since the BNP construction inherits from the head-complement-construction, the lexical item for *idiot* has to select the PP anyway. The respective specification in (57) is superfluous. Adding the semantic and pragmatic information to the lexical item of *idiot* is straightforward and hence the construction in (57) is not needed at all. Since the head-complement-construction exists as a schema independently from the BNP construction in (57), all BNP constructions would have two analyses: one with the schema for the BNP construction in (57) and one with the head-complement-construction.

Kim cites Kim & Sells (2010) which appeared in the Korean journal *Korean Journal of English Language and Linguistics* published by The Korean Association for the Study of English Language and Linguistics (note that Kim cites it as *English Language and Linguistics*, i.e. with the same title as the journal published by Cambridge University Press) but not Kim & Sells (2015) which appeared in the *Journal of Linguistics*, published by Cambridge University Press for the Linguistics Association of Great Britain. The latter publication is more prestigious and comes with the warranty of robust peer-review, so it is surprising that it wasn't cited. This choice might, perhaps, have something to do with the near-identical contents of the two papers.

6.3 Chapter 3: Simple and complex NP constructions

JBK writes on p. 71, fn. 3: *There are two things to be noted here. First, as a way of capturing the similarities between subject and specifier, we could collapse the two values as specifier (SPR), as does the traditional X-bar theory (Kim & Michaelis 2020: Ch. 4).*

Surprisingly, Kim does not cite relevant earlier work, which uses the SPR feature in the similar ways such as Sag, Wasow & Bender (2003: 100–103), Müller & Ørnesnes (2011, 2013a: 78), Müller (2015) or work published while the book has been in development such as Müller (2023a). I pointed out the omission of relevant earlier work in my 2020 review.

JBK writes (p. 76): “Subject-verb agreement is thus just nothing more than a system of constraints requiring token identities on the subject that the verb in question selects (see Pollard & Sag 1994: Ch. 2 for details). In such a selection-based view, there is no directional process between agreement source and target. This chapter, reflecting this constraint-based view, tries to offer a construction-based analysis that can achieve the same empirical coverage and possibly even more.” This is **misleading**. The selectional approach is a constructional approach. Later in the book JBK suggests a lexical, selection-based approach to extraposition and calls it constructional. So the approach by Pollard & Sag (1994) is constructional and what JBK is suggesting is also constructional. One is lexical and the other one is phrasal. The *possibly even more* part from the quote above is not provided in the book. He does not specify in which area his proposal had a better empirical coverage and it is difficult to imagine what advantages could be, but it is obvious what the disadvantages are. Lexical agreement is independent of the place of realization of the involved elements. So, extraction or extraposition is an option. This is one of the areas in which phrasal approaches fail (see below).

Note also that there may be reasons to do agreement on the ARG-ST list.²⁷ The first was discussed by Müller (2002a: 369) with respect to the so-called remote passive in German. I argued that subject verb agreement should be agreement with the first NP with structural case. German differs from English in not being an SVO language, so the situation is slightly different there, but Müller (2023a: 229) makes the same assumption for Icelandic, where the subject may have lexical case and the object in the nominative agrees with the verb (Zaenen, Maling & Thráinsson 1985: 460). A phrasal analysis operating on the head-subject rule in (52) will not be able to capture this. This was pointed out to JBK in 2022 and 2023.

(52) JBK’s treatment of agreement within the *hd-subj-cxt* (p. 84):²⁸

$$XP[hd-subj-cxt] \rightarrow [2] [IND [1]] \mathbf{H} \begin{bmatrix} \text{SUBJ} & \langle [2] \rangle \\ \text{AGR} & [1] \end{bmatrix}$$

Note also, that even JBK’s own data (p. 281) cannot be analyzed.²⁹

(53) **In the ocean are whales.**

According to him, the PP is the element of SUBJ (p. 292, 360). Therefore the head-subject-construction would impose agreement constraints on this. The index of the PP will be shared with the agreement value of the verb. This is strange, since *in the ocean* refers to a location and hence differs in type from the referential NP *whales*. So the agreement constraints in (52) rule out not only the example in (53)

²⁷ Actually, Kim (2003a: 224) suggested this in a paper on locative inversion.

²⁸ The head-subject-construction given in the appendix on p. 373 does not mention agreement features or index values. Probably a mistake.

²⁹ The example is due to Bowers (1976: 237). **JBK has used two of his examples without giving credit**. Bowers is cited on the same page but without connection to the data. JBK cites Bresnan (1994: 64) immediately before the examples, but Bresnan does not discuss them and the text starts at 72, so there is no page 64.

but also, in fact, all of the locative-inversion examples that JBK discussed. On page 297, 360, JBK provides a modified constraint on *loc-inv-wd*.

$$(54) \text{ loc-inv-wd} \Rightarrow \left[\begin{array}{l} \text{SYN} \left[\begin{array}{l} \text{VAL} \left[\begin{array}{l} \text{SUBJ} \langle [2] \text{ PP}[\text{SYN|AGR } [3]] \rangle \\ \text{COMPS} \langle [1] \text{ NP} \rangle \end{array} \right] \end{array} \right] \\ \text{ARG-ST} \langle [1] \text{ NP}[\text{SYN|AGR } [3]], [2] \text{ PP} \rangle \\ \text{INFO-ST} \left[\begin{array}{l} \text{TOPIC} \langle [2] \rangle \\ \text{FOCUS} \langle [1] \rangle \end{array} \right] \end{array} \right]$$

The SYN|ARG value of the PP is identified with the SYN|ARG value of the NP. The intention probably is to share the agreement features between PP and verb via the head-subject-construction and then within the lexical item between the PP and the NP (p. 297). But this does not work since (52) does not refer to the SYN|ARG value of the subject but to the index, and as Kim (2004: Section 3) argued convincingly, index-agreement is the correct approach to subject-verb agreement in English. So, if the phrasal approach to agreement were correct, then (52) would be correct and the lexical item for locative inversion in (54) would be inconsistent with it. But a consistent lexical approach would simplify everything: verbs would agree with the first element in the ARG-ST list and no mentioning of agreement in the head-subject construction or in any locative inversion lexical items would be necessary. This is what Kim (2003a: 224) suggested and it is nowhere explained why he did not stick to this proposal. AGR is not mentioned in syntactic constructions in the appendix.

Check the
erg

JBK discusses the following sentence on p. 296:

(55) In which garden did you say stood a lamp.

Neither the PP nor the NP *a lamp* enters a subject relation with any verb: *in which garden* is extracted and *a lamp* appears within the VP as object. So there is no way to establish the agreement relation configurationally in a subject-head-relation. This is not problematic for the example in (55), but it is problematic for cases with verbs that require agreement. Both sentences in (56) are admitted by JBK's theory:

- (56) a. *In which garden did you say stand a lamp.
b. In which garden did you say stands a lamp.

Note also that JBK assumes that subjects are extracted in *wh* interrogatives (contrary to general assumptions in HPSG, Pollard & Sag 1994: 173–174). If the subject is extracted in the lexicon, there will never be a subject-head configuration in which there could be agreement. The subject will be realized in a filler-head configuration, but agreement would not apply there. This is my point from Müller (2006a: Section 2), which I also explained with respect to (35) above.

The final book contains the following statement (p. 79), which is in the manuscripts since 2021:

Further observe subject-verb agreement in the following:

- (28) a. The rich want to control the world.
b. The poor suffer from constant income insecurity.

In these examples, the subject needs to be plural to match with the matrix verb, but it includes no noun that bears the agreement features. This implies that subject-verb agreement cannot simply be stated in terms of the subcategorization requirements between the target and the source: there is no nominal head that the verb selects in such examples.

This is a very strange statement indeed. Whatever *the rich* is, it is selected by the verb *want*. If *want* is the usual form of the verb, it follows from the inner mechanisms of HPSG/SBCG that *the rich* has to have the same properties as a full NP. If one would assume that *the rich* is some sort of other phrase, say an AP, and there is a strange kind of lexical item selecting it, this selecting item could impose whatever is required on the strange phrase *the rich*. In an email on 2021-11-25 (see Müller 2023c), I pointed out that there is a paper about *the skeptical* assuming that *the rich* is a full NP. This resulted in the following footnote before the examples: *Arnold & Spencer (2015) provide a construction-based analysis for such noun-less NPs, while arguing against the postulation of an empty head noun*. But the content of this footnote has nothing to do with the discussion that is going on. The discussion is about a verb selecting an NP. And as JBK writes himself: Arnold & Spencer (2015) assume that *the rich* is an NP.

Note also that it is unclear how subject-verb agreement is supposed to work on the phrasal level. The *hd-subj-cxt* is given on page 84 (see also (52) above). The element in SUBJ is shared with the non-head daughter. But this includes various possibilities. Subjects can be NPs, CPs, VPs, and even PPs (see chapter on locative inversion and predicative inversion). If there would be a constructional constraint enforcing identity of the AGR features of the verb with the referential 3rd sg index of a subject as in (52), a selected CP would be required to have a 3rd sg index. But CPs are not referential items with a referential index as we have on nouns. VPs clearly have an event as index. In a lexical setting one can assume that verbs selecting for a CP or VP simply are third person singular. The only way to fix this in the phrasal world seems to be to have several subtypes of the subj-head-construction for the different kinds of agreeing or non-agreeing subjects, clearly an unwanted consequence. Something to be rejected given the general scientific principles for theory building.

Also the phrasal solution does not extend to phenomena that have been treated with the assumption of multiple subjects/specifiers. For example, Müller & Ørsnes (2013b) assumed multiple specifiers for the analysis of object shift in Danish. While Danish does not have subject-verb agreement, other Scandinavian languages do and they also have object shift. The schema would enforce agreement

of all specifiers with the verb and hence agreement with all shifted objects and the subject. Clearly a wrong prediction. This probably can be fixed but the fix would make the analysis even more complicated.

JBK cites Sag, Wasow & Bender (2003: 102) for a specifier-head rule that is parallel to the one he is suggesting (p. 80).³⁰ But this citation is misleading, since the Sag, Wasow & Bender rule is part of a didactic enterprise and is rejected on the very same page. It is replaced by a generalization of the rule without agreement features in it. Sag, Wasow & Bender (2003) write on p. 108: “At the same time, since the Head-Specifier Rule now makes no mention of AGR, it may also be used to construct small clauses (as in (31a, b)) and absolute constructions (as in (31c, d)), whose head daughters can be APs or PPs that are incompatible with AGR.” This is what I have pointed out above with respect to other areas of the grammar. And this is where JBK’s solution fails. As explained in the textbook he cites.

Interestingly, Kim (2003a: (46)), which is almost identical to the text in the chapter on locative inversion, suggests a lexical analysis of agreement. This works without problems.

As has been pointed out in 2023, Figure (52) on p. 87 contains mistakes. JBK refers to Flickinger’s analysis of agreement on p. 84. Flickinger (2000: 19) uses a feature *PERNUM* that has as its value a type that is a combination of person and number features. JBK has *PER* and *NUM* features in addition to the type *non-3rd-sg*. While in principle a system is imaginable in which a type is inferred from the presence of certain *PER* and *NUM* values, this would involve additional types and appropriateness conditions and would be much less elegant than Flickinger’s solution. Figure 6 shows Flickinger’s type hierarchy. JBK’s analysis of the sentence

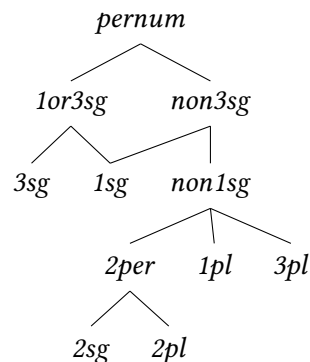


Figure 6: Hierarchy for the type *pernum* as a combination of person and number values by Flickinger (2000: 19)

in (57) contains the structure in (58):³¹

³⁰The rule he suggest on p. 80 of the final book now mentions agreement features for *PER*, *NUM*, and *GEN* without assigning any values. It is unclear why they were added. Simply sharing the *AGR* values would be enough.

³¹Note that JBK specifies the value for gender as *neut*. Under his assumptions, the coordination

(57) This boy and girl have/*has a lot in common.

(58)
$$\begin{bmatrix} non-3rd-sg \\ PER \ 3rd \\ NUM \ pl \\ GEN \ neut \end{bmatrix}$$

But this does not work. If the features (PER and NUM) and their values of the NP are related to the type, the type of the NP index would be *3pl*. The type of the AVM in JBK's figure should be *3pl* not *non-3rd-sg*, since the types of the verb and the NP are unified and the common subtype of the two types is *3pl*. If the relation between features and types is missing, the PER value could be *3rd* and the NUM value could be *sg*. This would be contradicting the desired outcome. The analysis could be fixed by adding NUM and PER features and values to the types in Figure 6. For example, if we have an index with a PER value of *2nd*, we can infer the type *2per*, but we do not know whether the type should be *2sg* or *2pl*. The way out of this would be to specify all PER and NUM values in the hierarchy in Figure 6 and assume sort-resolvedness. Without sort-resolvedness one would have to assume implicational constraints that impose all possible types according to the presence of certain NUM and PER values. Otherwise sentences like (59) would be admitted with the agreement AVM in (60):

(59) * This boy sleep.

(60)
$$\begin{bmatrix} non-3rd-sg \\ PER \ 3rd \\ NUM \ sg \\ GEN \ mas \end{bmatrix}$$

In order to get Flickinger's solution to work without feature specifications and implications, a combined PERNUM feature has to be assumed. The point about Flickinger's approach is that the features for person and number are not needed at all, since the values are combined in one common type hierarchy (Flickinger 2000: 19–20).

The footnote that follows the paragraph is wrong in multiple ways. After stating that *As represented in the structure, the subject NP this boy and girl semantically refers to 3rd person plural individuals (subtype of non-3rd-sg) and this index value matches with the VP's AGR value* (p. 88) rather than saying that the values are identified, JBK writes in the footnote: *To be precise, there is thus a subsumption relation between the IND value and the AGR value. The IND value is 3rd person plural, while the VP's AGR value excludes all the values for person and number except for the 3rd person singular.* The figure shows structure sharing ($\sqcap$). So this is identity, not

of a masculine and a feminine NP would result in an NP that has the most specific type subsuming both gender values. This would be *gender* not *neut*.

But see also Section 4.2 above on his inconsistent views about unification as intersection.

subsumption. If agreement was subsumption, this should be stated somewhere explicitly. Note that subsumption-based approaches would not work for cases in which either the subject or the verb is more general than the other. Since there are examples for both directions (subject more general than verb, verb more general than subject), any subsumption-based approach is bound to fail. In fact, Pollard & Sag (1994: Section 2.1–2.2) explain why talking about agreement source and agreement target is misguided and why we need unification. On page 61–62 they discuss the relevant English examples. As they point out, it is sometimes the relative clause that determines the NUMBER value of nouns like *shep* or *salmon* and sometimes the main verb:

- (61) a. The salmon that had been swimming up the river was returning to spawn.
 b. The salmon that was swimming up the river had returned to spawn.

In (62a), *the salmon* is more general than *swims*, since *the salmon* is compatible with 3sg and 3pl and *swims* is just 3sg, and in (62b) *swim* is more general than *I* since *swim* is compatible with 1sg, 2g, 1pl, 2pl, 3pl and *I* is just 1sg.

- (62) a. The salmon swims.
 b. I swim.

So, subsumption does not work, since the information can “flow” in both directions.

Apart from this, the VP requires exactly the opposite of what is stated: *non-3rd-sg* excludes *3rd-sg* not as JBK stated “all the values for person and number except for the 3rd person singular”. It is frustrating to see such mistakes in the final book, despite the fact that such mistakes have been pointed out again and again.

Figure (55) on p. 88 shows that JBK seems to assume that there is some sort of generalization at work in coordinations. The coordination of *man* and *boys* is unspecified for number under AGR|NUM. This however would admit **this cat and dogs*, which was excluded on page 82 because of the incompatibility of the NUM values.

6.4 Chapter 4: Particle verbs

Particle verbs were already discussed with respect to argument structure constructions in Section 6.1 above. This section mainly deals with citation etiquette.

The first review in 2020 contained the following comment:

Müller (2002a) is a book dealing with particle verbs in HPSG. It basically also suggests the analysis proposed by JBK and should be cited. Müller (2003) is a journal article on particle verbs in HPSG that is not cited either. Müller (2006b) discusses resultative constructions and particle verbs and suggests a lexical account using verbal complexes of the kind suggested by A.

I pointed out to him that Zeller, Neeleman, Lüdeling, Olsen, Dehé have to be cited. He cited Dehé and ignored the other authors (Zeller 2002, Lüdeling 2001, Neeleman & Weermann 1993).

After reading the first revision in 2021, I sent JBK a further email explaining to him that his analysis is a lexical analysis and that this has been done before and that he has to cite this work.

However, JBK has not cited either Müller (2002a) or Müller (2003) for the analysis of particle verbs. Instead, in fn. 5 on p. 116 he writes:

As noted in Kim & Michaelis (2020: 201), the Head-Lex Construction also licenses the combination of a finite auxiliary and the sentential negation *not*. See Kim & Sag (2002) and Kim & Michaelis (2020) for detailed arguments for English. Also refer to Abeillé & Godard (2000) and Bonami & Webelhuth (2013) for a similar construction rule for French, Kim (2016b) for Korean, and Müller (2006) for German.

However, Müller (2006a) is not the correct citation (and note it's cited without a page). It does not contain any explanation of the complex predicate rule – it refers to Müller (2002a) on p. 860 and the only explicit mention of particle verbs is in the following passage from p. 869:

A similar situation is found with derivations of particle verbs: there is a word *Ausraubung* ‘robbing’, which is derived from *ausraub-* ‘to rob’, but there is no word *Raubung* (Fleischer & Barz 1995:173), so *Ausraubung* cannot be the combination of a nominalization of *rauben* ‘to steal’ with *aus-*, but should be treated as the nominalization of *ausrauben*. See Müller 2003a for an analysis of the morphology of particle verbs.

JBK writes on p. 130: “There are thus two predicates: one from *turned* and the other from *off*. The semantic composition is quite parallel to that of the Resultative Construction (see Müller 2002 for a similar note).” A page number is missing, and the quote is entirely misleading. The book is cited but not with respect to a fully worked out analysis of particle verbs, but concerning some side aspect. The fact that the analysis that JBK suggests in 2020–2026 (without all the newly added problematic aspects) was published in a book and in a journal article 20 years before is not revealed to the reader. I remind the reader that these issues were repeatedly drawn to JBK’s attention, and that he has had several opportunities to address them.

p. 122 The ordering constraint in (67), given here as (63a), using shuffle imposed on COMPS has no effect, since the mapping from ARG-ST to COMPS (Kim 2026: 24) would enforce the order among the complements that is also stated on ARG-ST.

(63) a. *v-trans-prt-wd* $\Rightarrow$ [COMPS $\langle$ NP $\rangle \bigcirc \langle$ PR $\rangle$]

$$\text{b. } \left[\begin{array}{ll} \text{SUBJ} & \boxed{1} \\ \text{COMPS} & \boxed{2} \\ \text{ARG-ST} & \boxed{1} \langle \text{NP} \rangle \oplus \boxed{2} \langle \text{NP}, \text{PRT} \rangle \end{array} \right]$$

(63b) shows how the arguments from ARG-ST are mapped to SUBJ and COMPS: a prefix of the ARG-ST list goes to SUBJ and the remainder to COMPS. If the order of elements on the ARG-ST list is fixed, it is impossible to have an implicational constraint that loosens the restriction.

For (63a) to work, it should be a constraint on ARG-ST. Note also that (63a) would block the extraction of the particle or the object, since it requires that both arguments have to be present on COMPS. The constraint was formulated with respect to ARG-ST as (71) on p. 102 in 2023. I am thanked in footnote 7 of the published book for the idea of using shuffle. After the change to COMPS this idea seems to have been a bad one. Note in addition that usually lexical hierarchies are formulated for lexemes not for words (Kim 2026: 22–23). If JBK wants to state the constraint in (63a) on words, this seems to require a duplication of the lexical type hierarchy so that there is one for lexemes and another one for words.

6.5 Chapter 5: VP ellipsis and fronting

JBK claims that the lexical rule for VPE (p. 142) can be applied to a lexical item for a word containing three elements in the ARG-ST list (p. 154) resulting in (64):

$$(64) \left[\begin{array}{ll} \text{aux-vpe-wd} & \\ \text{FORM} & \langle \text{could} \rangle \\ \text{SYN|VAL} & \left[\begin{array}{ll} \text{SUBJ} & \langle \boxed{1} \rangle \\ \text{COMPS} & \langle \boxed{2} \text{Adv}_I \rangle \end{array} \right] \\ \text{ARG-ST} & \langle \boxed{1} \text{NP}, \boxed{2} \text{Adv}_I, \text{VP}[\text{pro}] \rangle \end{array} \right]$$

This is supposed to license (65):

(65) but Lee could not

The claim is wrong for two reasons. First, the lexical rule *aux-vpe-wd* on p. 142 applies to lexemes not to words and hence the result of *aux-adv-wd* on p. 152 cannot be input to *aux-vpe-wd*. Second the input lexeme to *aux-vpe-wd* has to have exactly two elements on its ARG-ST list, but in order to apply to the lexical item with the negation word on the ARG-ST list, it would have to be reformulated to allow for such words with three ARG-ST elements. Sag et al. (2020: 121) just removes the last element in the valence list. Such an analysis can account for both cases with two elements and with three elements in the ARG-ST list.

The following comment is new. JBK suggests the rule in (66) for adding adverbs in sentences with auxiliaries (p. 152). The idea to introduce adjuncts into valence lists is not new. JBK did not provide any references to earlier literature (see below), but what is worse: he broke the rule, he messed existing proposals without any need.

$$(66) \quad aux-adv-wd \Rightarrow \left[\begin{array}{l} \text{HEAD} \quad \boxed{4} \\ \text{ARG-ST} \quad \langle \boxed{1} \text{ NP}, \text{Adv}_I[\text{LEX } +], \boxed{2} \text{ XP} \rangle \\ \text{SEM} \quad \neg(\boxed{3}) \\ \text{DTRS} \quad \left\langle \begin{array}{l} \text{HEAD} \quad \boxed{4} \begin{bmatrix} \text{AUX} & + \\ \text{VFORM} & fin \end{bmatrix} \\ \text{ARG-ST} \quad \langle \boxed{1} \text{ NP}, \boxed{2} \text{ XP} \rangle \\ \text{SEM} \quad \boxed{3} \end{array} \right\rangle \end{array} \right]$$

This lexical rule maps a finite auxiliary (AUX+, VFORM *fin*) with an NP and an XP in the ARG-ST list onto a verb with the same HEAD value ($\boxed{4}$). The ARG-ST of the input sign of the lexical rule *aux-adv-wd* is extended by an adverb of class I (Adv_I) and the negation is added as the meaning ($\neg(\boxed{3})$). This means that all adverbs of class I contribute the negation as meaning. So both sentences in (67) are predicted to mean the same, namely what (67a) means.

- (67) a. Did Sandy not win the race?
b. Did Sandy too win the race?

JBK:152 cites Kim & Sag (2002) and Kim (2021) for the analysis using a lexical rule introducing an adjunct as a complement, but Kim & Sag (2002: 374) and Kim (2021: 820) do not provide a semantics. The semantics has to be contributed by the adverb not by the lexical rule inserting the adverb. JBK:152 also cites his dissertation that was published in 2000 (Kim 2000) and there he has the following footnote concerning the intellectual property of his analysis:

This idea of converting adverbs into complements has been implemented in Miller (1991) for French, Iida et al. (1994) for Japanese, van Noord and Bouma (1994) for Dutch, Przepiórkowski (1997a, 1998) for Polish. Moreover, Warner (1993) and A&G (1994b) have also independently proposed the same mechanism in analyzing English and French negation, respectively. (Kim 2000: 102,fn. 91)

The lexical rule in JBK's dissertation should have been formulated differently to capture the type-shifting nature (Abeillé & Godard 1997: 21), but at least it was not as wrong in 2000 as it is now. Iida et al. is published as Manning, Sag & Iida (1999) and should have been cited this way. Przepiórkowski (1999) appeared. Warner (1993) was published back then and Abeillé & Godard (1997) is also published by now. None of Abeillé & Godard (1997), Miller (1992), Przepiórkowski (1999), Manning, Sag & Iida (1999), Warner (1993: 83) is cited.

JBK suggests the following construction on p. 167:

$$(68) \quad S \left[\begin{array}{l} vpf-cxt \\ \text{TOPIC} \quad \langle \boxed{1} \rangle \end{array} \right] \rightarrow \boxed{1} \text{ VP}[\text{AUX } -], \text{H VP} \left[\begin{array}{l} \text{AUX} \quad + \\ \text{VFORM} \quad fin \\ \text{GAP} \quad \langle \boxed{1} \rangle \end{array} \right]$$

If *vpf-cxt* is a subtype of *topic-cxt* (given on p. 299), why do we have to mention TOPIC? Why is the second daughter a VP in the *vpf-cxt*? The complete phrase

is an S and the second VP is supposed to be the head. The second daughter of the *head-filler-cxt* is an S and the construction inherits from this construction. If the *vpf-cxt* is a subtype of the *topic-cxt*, nothing will prevent the *topic-cxt* from applying as well, making examples ambiguous or admitting ill-formed sequences, e.g., with the first daughter being an AUX+ VP.

p. 164 Gazdar (1981) must be cited for the analysis of nonlocal dependencies in GPSG, which was then taken over to HPSG. This was pointed out in the 2020 review. Not even HPSG work is cited. The GAP feature comes out of the blue. Bouma, Malouf & Sag (2001) is only cited on p. 296, but not for the introduction of the GAP mechanism. This was pointed out to JBK in 2023.

6.6 Chapter 6: Free relative clause constructions

6.6.1 Standard free relative clauses

JBK writes: “In addition, no pied piping is possible in English free relatives since pied piping is applicable only to externally clausal structures:”. (p. 187) This is not correct since there are examples like (69):

- (69) a. I will work on whatever you worked before.
 b. [He] fled to the Monitorum (under the Administratum) and started working for one of their industrial worlds on whatever he worked before.³²

JBK simply stated that “The discussion in this chapter focuses on simple free relatives, while referring to complex free relatives when called upon.” that is he ignores *-ever* cases for most of the time (p. 171), but such general claims about pied piping are wrong nevertheless. JBK cites the respective sources that are relevant for English (Bresnan & Grimshaw 1978: 351, Grosu 2003: 276, 321), but still ignores them.

Bresnan & Grimshaw (1978: 351) provide the examples in (70):

- (70) a. I’ll live in whatever town you live.
 b. I’ll put my books in whatever cupboard you put yours.
 c. I’ll open an account at whatever bank you open an account.
 d. I’ll move to whatever town you move.
 e. I’ll send my books to whatever bookstore John sends his.

JBK simply ignores such cases. Note by the way that the only account that I know of that can handle these is Müller (1999a). The reason is that the adjuncts integrate the semantics of the verb of the free relative at the gap site. If the filler of the relative clause is identical to this gap the semantics is “used”. The whole relative clause cannot be identical to the filler, since if it were it could not modify

³²https://www.reddit.com/r/40kLore/comments/jd1dyg/could_a_tech_marine_say_screw_it_im_becoming_a/. 2025-11-21.

the upper clause: the MOD value of the gap would be identical to the MOD value of the filler in the free relative clause and also identical to the MOD value of the free relative clause since the filler is the head in JBK's approach and MOD is a head feature. So if *in whatever cupboard* is an adjunct to *put yours* and the phrase is also the head of *in whatever cupboard you put yours*, the MOD value of the complete free relative clause would be the MOD value of *in whatever cupboard* and it would be identified with the sign for *put my books*. This would result in the identification of the events of the two independent occurrences of *put* in (70b). A clearly unwanted result. **This has been repeatedly pointed out to JBK, but he does not even cite this work for acknowledgment of a potential problem.**

Further examples were discussed by Pollard & Sag (1994: 69) and Grosu (2003: 254):

- (71) a. I'll be [however tall] his father was. (BG, 336)
 b. I'll read [whichever book] you give me. (BG, 335)
 c. I'll talk to [whichever representative] comes through the door.
 d. [Whoever's dogs] are running around in the garden is in big trouble.

- (72) I will fire [[whoever's signature] appears on this list].³³

On p. 177, fn. 8 he cites Bresnan & Grimshaw (1978: 344) with the claim that pied piping in free relatives is impossible. The data that he repeats is clear, but the crucial case is missing: (69). Such examples are possible. Note also that Bresnan & Grimshaw (1978: 342) talk about pied piping in PPs not about pied piping in general.

JBK assumes the following rule for standard free relative clauses:

- (73) SFR Construction ($\uparrow$ *hd-filler-cxt*): (p. 184):

$$XP[sfr-cxt] \rightarrow \boxed{1}H XP[FREL \{ i \}], S \left[\begin{array}{c} VFORM \text{ } fin \\ GAP \quad \langle \boxed{1} XP_i \rangle \end{array} \right]$$

He assumes that it is a subtype of *hd-filler-cxt*. However, the constraints inherited from this type would make the S the head. The *hd-filler-cxt* is given as (74) in the appendix on p. 165, 373:

- (74) $S \left[\begin{array}{c} hd-filler-cxt \\ GAP \langle \rangle \end{array} \right] \rightarrow \boxed{1} XP, S \left[\begin{array}{c} GAP \langle \boxed{1} XP \rangle \end{array} \right]$

The types are incompatible, since the mother node in the *hd-filler-cxt* is an S, while its head features are identical to those of the filler in the *sfr-cxt*.

Note that the type *hd-filler-cxt* is usually treated as subtype of *headed-cxt* (Sag 2010: 499, 2012: 179), but the type hierarchy is not provided in JBK's appendix and the one he does provide on p. 27 is incomplete. The Head-Filler Construction in the Appendix does not mention a supertype, but neither does the Head-Extraposition

³³Grosu (2003: 254).

Construction or the Head-Topic Construction. The latter does not even have *hd* in the type name. In any case the passing of head features is needed since the construction as it is represented in (74) would not pass on the information about finiteness from the sentential daughter to the mother. So we have a situation in which both the filler and the S would be the HEAD-DTR (see p. 28 fn. 24 on the underlying representation assumed by JBK). If one assumes default inheritance, it might be possible to fix this problem, but the solution will not be simple. JBK states on p. 23 that all constraints on types are defaults that may be overridden at subtypes. He cites Lascarides & Copestake (1999) and Sag, Wasow & Bender (2003) on this. Note that both sources assume that defeasible constraints have to be marked as such in a hierarchy. This is needed for the formal mechanics of default unification to work. JBK never gives any detailed information about what information he considers to be default information. In the case of free relatives the situation is non-trivial and hence some elaboration would have been necessary.

For the sake of explicitness, consider the AVMs in (75a) and (75b):

$$\begin{array}{lcl}
 (75) & \text{a.} & \left[\begin{array}{l} \textit{hd-filler-cxt} \\ \text{HEAD-DTR } \boxed{1} \\ \text{DTRS } \left\langle \boxed{2}, \boxed{1} \right\rangle \left[\begin{array}{l} \text{CAT} \left[\begin{array}{l} \text{HEAD} \left[\text{POS } \textit{verb} \right] \\ \text{SUBJ} \langle \rangle \\ \text{COMPS} \langle \rangle \end{array} \right] \\ \text{GAP } \langle \boxed{2} \rangle \end{array} \right] \right] \end{array} \right] \\
 & \text{b.} & \left[\begin{array}{l} \textit{sfr-cxt} \\ \text{HEAD-DTR } \boxed{1} \\ \text{DTRS } \left\langle \boxed{1} \left[\begin{array}{l} \text{SYN} \left[\begin{array}{l} \text{SPR} \langle \rangle \\ \text{COMPS} \langle \rangle \end{array} \right] \\ \text{FREEREL } \{i\} \end{array} \right], \left[\begin{array}{l} \text{CAT} \left[\begin{array}{l} \text{HEAD} \left[\text{POS } \textit{verb} \right] \\ \text{SUBJ} \langle \rangle \\ \text{COMPS} \langle \rangle \end{array} \right] \\ \text{GAP } \langle \boxed{1} \text{XP}_i \rangle \end{array} \right] \right] \right] \end{array} \right]
 \end{array}$$

The $\boxed{1}$ in (75a) is the sharing between the second daughter and the head-daughter. This should not be inherited by the type *sfr-cxt*. If this is done with defaults, the sharing has to be overridden. Path inequalities (Carpenter 1992: Chapter 7) seem to be necessary for doing this. Of course there is an easy way out. The solution is to not inherit “wrong” constraints. So one would have to have a filler construction without the specification of a head daughter. Both the Head Filler Construction and the SFR Construction can inherit from the Filler Construction and both subconstructions can add the constraints regarding their head daughter. See Müller (2026: Section 10.2.2) for such an analysis.

The sharing of the index in the FREEREL set with the index of the gap seems strange since the index of the gap and the index of the filler is shared anyway, since the complete gap is shared with the complete filler (note that the specification of this $\boxed{1}$ in (75b) is superfluous since it is inherited from the *hd-filler-cxt*). Note

further that this sharing excludes piedpiping, since the sharing of *i* in (73) will identify the index of the whole filler with the index of any relative pronoun within the filler. This excludes sentences like (71d) above. See Wright & Kathol (2003: 383) for an analysis of this sentence.

JBK writes: “When the two are combined, the resulting phrase is not a complete S, but identical to the filler category.” (p. 184–185) This statement is confusing. Since JBK talks about the resulting phrase and identity, the complete filler should be identical with the mother. But this is not indicated in the schema. The item on the left-hand side of the rule should be $\boxed{1}$, which is impossible, since the left hand side of the rule has the complete semantics, which is the combination of the semantics of the filler and the semantics of the remaining clause (see Semantic Principle, p. 33, 36). Hence, the mother cannot be identical to the filler-daughter. The HEAD value of the filler and the HEAD value of the mother will be, since the filler is marked as the head.

“In addition, the construction differs from typical relative clauses in that the clause has no MOD value.” (p. 185) This is wrong. First: All signs have a MOD value since this is defined in the signature (see Sag 2012: 72 and p. 17 above, see Sag 2012: 180 for the explicit formulation of a signature assuming the feature SELECT, which is parallel to MOD), but apart from this, the clause can act as modifier in certain cases (70a) and this has to be reflected in its MOD value. The clause has to have the same MOD value as the filler. This information is carried over from the filler and is needed to account for examples with an adjunct as filler that have adjunct function, for example (70a) and also the *where* cases.

The figure on p. 185 shows a structure sharing of the POS value. What should be shared though is the HEAD value, since the first daughter is the head in the schema on p. 184. POS identity will follow, since POS is part of HEAD.

The following is newly stated in the review, but was marked in the annotated manuscript in 2023: JBK claims that his analysis of free relative clauses is non-endocentric: “However, the resulting phrase is not a sentence but an NP, in accordance with the SFR Construction. This exocentric NP satisfies the subcategorization requirement of the main verb buy. The present analysis, taking free relatives to be non-endocentric, can account for the properties of free relatives in a simple manner. The analysis takes the FREL phrase to be the head of the construction, implying that it is the FREL phrase that determines the syntactic category of the whole free relative.” (p. 185) JBK assumes that free relative clauses are headed and suggests a schema with the first XP as the head. So this construction is a headed construction, as he states himself, and hence endocentric.

An analysis that is similar to the one in (64) on p. 188 was already suggested by Kim & Park (1996: 38), which is not cited. This is not correct since Park’s contribution is not acknowledged.

JBK explains the VP in (76) on p. 191:

(76) walked to where his horse was waiting

where is an NP that projects into the free relative clause *where his horse was wait-*

ing. Note that JBK assumes that FREL is projected to the level of the complete clause (for his analysis of specificational pseudo clefts: p.265). So, if NP arguments can have a non-empty FREL value and *where* is such an NP, what is excluding (77)?

(77) walked to where

There is nothing to rule out the use of *where* as full NP outside of free relatives.

On page 178 he provides the examples in (36) from Bresnan & Grimshaw (1978: 336) without providing a source. These examples are slight variations of BG's (38). The order of the examples is changed. BG are mentioned in a general list of references in the paragraph before the examples.

In my earlier reviews (2020, 2023) I said:

Jackendoff (1977: 225) should be cited since he suggests the analysis that is also assumed by A. Wright & Kathol (2003) and Müller (1999a) are relevant analyses in HPSG.

Now Wright & Kathol are cited. JBK does cite Jackendoff, but he did so in the earlier submissions and the citation is with respect to ellipsis (p. 136) in a footnote. JBK does not cite Jackendoff with respect to his analysis of free relative clauses. Sloppy citation etiquette is forgivable until it has been pointed out to an author. In the case at hand, JBK has only partly corrected his citations or engaged with the relevant literature even though it has been pointed out to him. Müller (1999a) is not cited at all. It is a paper devoted to free relative clauses in German. It discusses alternatives in detail and also contains a discussion of interrogatives vs. free relatives and a discussion of analyses of English. It has to be cited at several places throughout the manuscript together with other approaches like Riemsdijk's and Grosu's since it falls into the same class as these approaches and also for special observations throughout the text. For example, JBK writes

The former takes the *wh*-phrase as the head of free relatives (see, among others, Bresnan & Grimshaw 1978, Larson 1987, Citko 2004), whereas the latter places the *wh*-phrase in the CP with the antecedent of a free relative being empty (see, among others, Groos & van Riemsdijk 1981, Hirschbühler & Rivero 1983, Grosu & Landman 1996, Grosu 2003, and van Riemsdijk 2006). These two views are illustrated in the following: (p. 180)

It is also the case that similar approaches in the framework an author works in should be cited. If they are different, then there may be reasons. Careful scientific work then has to explain why earlier work is not adopted, what the differences are and why the current analysis is superior. This was not done. Apart from the references given so far, there is also work by Avgustinova (1996, 1997). This should also be discussed in careful scientific work. A shortcut is to point the reader to a paper where it was discussed and rejected before. Müller (1999a) is such a paper,

but it was ignored. For the case of German and English it may be indeed the case that the languages are different so that different analyses are warranted, but this would have to be pointed out to the reader.

I pointed out in the 2020 review that free relatives also have the distribution of clauses since they can be extraposed: “They also have the distributional properties of sentences since they can be extraposed. Müller (1999a) has a detailed discussion of this, also in the framework of HPSG.” JBK claims that free relative clauses cannot be extraposed (p. 177). This is clearly wrong as the following examples show:

- (78) a. I will read tomorrow whatever you will assign me to read.
 b. you’ll pick up tomorrow whatever you left off³⁴

JBK used the following example to support his claim (p. 177):

- (79) * It does not fit into conventional categories [what he makes].

But this is a different construction. It is a case of *it* extraposition. Since *it* extraposition inserts an *it* + an extraposed clause and since free relatives are not clauses, *it* extraposition is expected to be impossible in any account (the slot taken by *it* should be filled by the NP of the FR, but it would be taken already. And *it* comes with a CP or VP not with a relative clause). As pointed out in the 2020 review and all reviews following it, Müller (1999a) discusses extraposition of clauses. Again, it is not cited.

On p. 189, the analysis of free relative clauses is demonstrated with the example in (80):

- (80) Let us decide [_{NP} where [you want to raise the bar _]]

This is a bad choice though, since *decide* takes a *wh* clause. It can be combined with *whether* and various other sorts of *wh* clauses.³⁵ JBK decided to publish the book despite the fact that this was pointed out to him in 2023.

JBK suggests a type hierarchy for part of speech, in which adverbs like *where* can be represented as *advl-noun* and hence can be both adverbs and nouns at the same time (p. 188). He claims (p. 190) that his analysis can account for the sentences in (81):

- (81) a. Lily adores [_{NP} [[_{NP}[_{ADVL} +] where] this very tree grows [_]]].
 b. Lily napped [_{PP} [[_{PP} where] this very tree grows [_]]].

The bad news is that he does not have an account of either of these sentences. (81b) fails since the information in the MOD value of *where* cannot be “used” twice (as explained above). (81a) fails since the semantics of *where* as adjunct of *grow* is shared with the filler and the verb *adores* needs a referential index for linking to

³⁴https://www.streetdirectory.com/lyricadvisor/song/uuaofe/change_the_water/, 2023-08-02.

³⁵<https://www.merriam-webster.com/sentences/decide>, 2026-08-12.

the semantic role of the object, not the adverbial semantics. The point here is that syntactic underspecification of the part of speech information does not work since the different parts of speech also correspond to different semantics. In fact, the parts of speech were mistakenly taken as a reflex of semantics as argued above in Section 5.1. I would say that *where* is an adverb and projects an adverbial phrase. What changes in this unary projection is its semantics.

Note that JBK's chapter is modeled closely after Bresnan & Grimshaw (1978). The underspecification of the part of speech information is one of the innovative aspects of JBK's work. But BG had a unary projection in their paper projecting an NP to a PP when necessary. Such a unary projection is necessary to get the semantics right. Semanticists call this type shifting. Partee (1986) used this for projecting a referential NP into a predicative one (see also Flickinger 2008: 91–92, Müller 2009, 2012). So, JBK's approach will fail on semantic grounds.

Borsley (2020) published an HPSG paper about free relatives in Welsh also assuming that the relative phrase is the head in free relative clauses (p. 38). This paper should be cited as well.

6.6.2 Transparent free relatives

JBK develops analyses of standard free relatives and transparent free relatives. The analysis of transparent free relatives is nice and simple. JBK assumes that a phrase is extracted to the right (p. 201). See Figure 7. This is nice since it looks

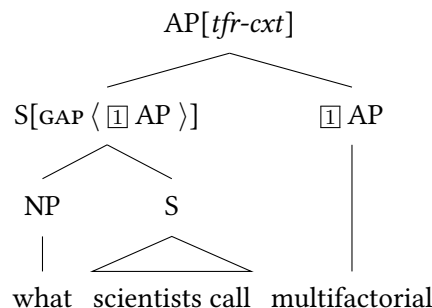


Figure 7: Analysis of *what scientists call multifactorial*

like what is known from extraction to the left. So standard free relatives would involve extraction to the left and transparent free relatives extraction to the left for the *wh* phrase and extraction of a predicative phrase to the right in addition. However, there is a big problem: languages that have adjective inflection show that the adjective can be part of a transparent free relative clause and at the same time be an attributive adjective in an adjective–noun combination:

- (82) een wat ik zou noemen eenvoudig-*(e) oplossing³⁶
 a what I would call simple solution

³⁶van Riemsdijk (2006: 24)

(82) is a key example that cannot be handled in JBK's approach. The existence of such examples caused van Riemsdijk (2006) to assume a complex mechanism as an extension of what is usually done in Merge in Minimalism. See also den Dikken (2005: 97), Grosu (2016: 1260) for discussion of such examples. Now, if some other researcher working in a different framework suggests a rather simple mechanism that can account for the data, readers may get the impression that the alternative framework is superior. Experts of course will notice that JBK left out the crucial data.

Note that JBK's approach would also fail on the translation of Riemsdijk's example in (83), since the adjective within the transparent free relative is predicative and the adjective that is needed for modification of *solution* is attributive.³⁷

(83) a what I would call simple solution

Predicative and attributive adjectives are quite different in HPSG and hence an approach that identifies them in filler-gap structures will fail.

(84) a. *simple* predicative (see p. 196):

$$\left[\begin{array}{c} \text{SYN|HEAD} \\ \left[\begin{array}{ll} \text{POS} & \text{adj} \\ \text{PRD} & + \\ \text{MOD} & \langle \rangle \\ \text{SUBJ} & \langle \text{NP} \rangle \end{array} \right] \end{array} \right]$$

b. *simple* attributive:

$$\left[\begin{array}{c} \text{SYN|HEAD} \\ \left[\begin{array}{ll} \text{POS} & \text{adj} \\ \text{PRD} & - \\ \text{MOD} & \langle \text{N}' \rangle \\ \text{SUBJ} & \langle \text{NP} \rangle \end{array} \right] \end{array} \right]$$

The predicative adjective is PRD + (p. 196, see also Pollard & Sag 1994: 123, 133) and the attributive adjective is PRD -. The predicative adjective has an empty MOD value, while the attributive has an N' in the MOD list. The phrasal construction on p. 199 identifies the gap in the clausal part of the transparent free relative with the filler to its right, which is also the head of the whole construction:

(85) TFR Construction ($\uparrow$ *hd-filler-cxt*) (p. 199):

$$\text{XP} \left[\begin{array}{l} \text{tfr-cxt} \\ \text{CI nonspk-commit}(s) \end{array} \right] \rightarrow \text{S} \left[\begin{array}{l} \text{tran-free-rel} \\ \text{GAP} \langle \boxed{1} \rangle \end{array} \right], \mathbf{H}[\boxed{1}]\text{XP}_s$$

But since HEAD features are shared between the head and the mother (p. 26), the whole construction would result in a predicative AP rather than in an attributive

³⁷The same is true for JBK's example (80b) on p. 194, given here as (i):

- (i) Omer Stewart counted a number of reasons for [prehistoric] and (what he described as) [primitive] uses of fire. (COCA 1999 ACAD)

Note that here the reference to the source of the corpus example is provided.

one as is needed for the analysis of (83). Note that the category of the transparent free relative clause seems to be determined from the outside. It can also be used predicatively:

(86) This seems what I would call simple.

So the transparent free relative can be used both attributively and predicatively although the adjective is a predicative one within the relative clause. This is a puzzle for all syntactic theories and it is made even more complex by Riemsdijk's inflected adjectives.

The examples in (115) on p. 201 can be analyzed as TFRs with an NP or an AP gap. JBK seems to refer to the reading in which the TFR stands for the attributive adjective:

- (87) a. And I've always been a part of [that (what I would call) extended family].
b. We haven't seen [any (what we would call) massive retaliation]].

(Note the non-matching bracket in (115b) here (87b).³⁸) If the expression in round bracket refers to the adjective *extended* and *massive*, the sentences cannot be analyzed for the reasons just explained, despite the heading of the section: *Welcome consequences*.

The TFR construction in (85) above from p. 199 has the same problem as was discussed with respect to *easy* adjectives above: the type *tran-free-rel* does not survive coordination, so the coordination in (89) could not enter this construction.

(88) They are [what I would call and what you take to be] smart.

Note also that specifying the phrasal type in a daughter violates strict locality since this way you say something about the internal structure of a daughter. This is normally excluded in SBCG because a MOTHER feature is used. Since JBK specifies inheritance of his phrasal constructions and has them in the mother node (e.g., *tfr-cxt* in (85)), he cannot assume a MOTHER feature.³⁹ The reader may compare the specification of constructions in JBK's formalization with the formalization by Ivan Sag. In Sag's work the constructional types are subtype of *construct* (Sag 2012: 179) and hence MOTHER-DAUGHTER configurations (p. 180). In JBK's semi-formalization all constructional types are specified within the XP on the left of the phrase structure rule. In Sag's work the type would refer to the whole configuration (Sag 2012: 187–189). Since JBK does not use a MOTHER feature, he could work in Constructional HPSG (Sag 1997, Müller et al. 2024) as well.

³⁸This was pointed out in 2023 and is still present in the published book. Despite my comments and reviewing and proofreading by Routledge.

³⁹He claims to do so on p. 20 fn. 16 and p. 24 fn. 21, but there is no MOTHER or MTR feature anywhere in the formalization.

6.7 Chapter 7: Extraposition constructions

JBK deals with *it* extraposition. He presents a lexical rule-based approach (p. 220) and then writes on p. 220 fn. 7 “Note that the constructions defined here are quite similar to phrasal constructions (‘Phrasal Schemata’) suggested by Pollard & Sag (1994: 366).” This is just a very strange statement. Nobody has ever suggested a phrasal schema for *it* extraposition in HPSG. Since both subject and object clauses can be replaced by *it*, it is unclear how to capture this in a local way on the phrasal level. The citation of Pollard & Sag in this context is **plainly misleading**. This is what Pollard & Sag write: “Briefly, *than*- and *as*-phrases can be analyzed in some cases as extraposed complements and in others as unbounded dependents licensed by a new nonlocal rightward-looking selectional feature (say, EXTRA);”. So they say that one should use a feature like EXTRA that is parallel to SLASH. Nothing is said about schemata or introduction of nonlocal dependencies. They do not talk about *it* extraposition either. In fact, Pollard & Sag (1994) write on p. 150: “The Extraposition Lexical Rule removes an S[comp] from a SUBCAT list, replacing it by NP;, and appends the S[comp] to the end of the SUBCAT list, preserving role assignment. If no further constraints are imposed, a single lexical rule will suffice to account for both subject and object extraposition.” This means that Pollard & Sag actually suggested a lexical rule-based analysis for *it* extraposition, as JBK did. So the quote is **highly misleading** (although it has a page number ...).

There are other remarkable properties of the lexical rule suggested by JBK: The input to the rule has to be of type *v-tran-wd*. But such a type is usually not assumed. There are types for transitive lexemes, but the respective verbs undergo inflection and then have the type of the inflectional rule. The lexeme type is not accessible in the syntax due to locality constraints. Note also that the type *v-tran-lxm* is specified as something that takes exactly two NP arguments, which differs from the lexical item of *expect* given as *v-trans-wd* with an NP, CP and PP argument on p. 227.

JBK goes on dealing with so called hydra-sentences. **I have pointed out repeatedly that Kiss (2005), Crysmann (2013) and Walker (2013) are important sources to cite for analyses of extraposition in general and for hydra-sentences in particular. Crysmann (2013) and Walker (2013) are not cited at all.** Kiss, who deals with hydra-sentences and shows that a simple approach based on the nonlocal mechanism of HPSG does not work, is cited in the following footnote on page 220, fn. 7:

Note that lexical constructions, as used here, are quite similar to phrasal constructions (‘Phrasal Schemata’) suggested by Pollard & Sag (1994: 366). See also Keller (1995) and Kiss (2005) for the treatment of extraposition in HPSG. (p. 220 fn. 7)

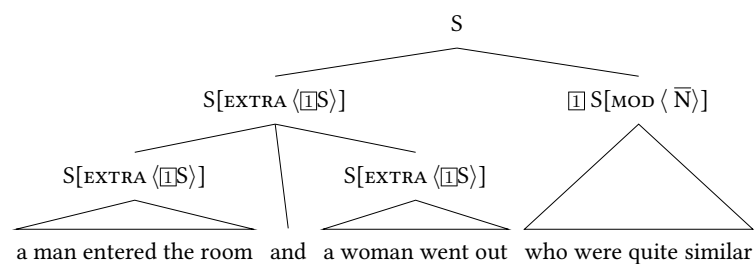
For readers to be able to understand the issue I quote a larger portion of the text (p. 237–238):

The analysis for adjunct extraposition sketched here supports the

(124) [A man] entered the room and [a woman] went out [who were quite similar].

(125) a. * A man [who were quite similar] entered the room and a woman went out.
b. * A man entered the room and a woman [who were quite similar] went out.

(126)



64

- (127) A man entered the room and [a woman_{*i*}] went out [[who_{*i*}] was tall].

The singular index value of *who* blocks the extraposed clause from being linked to the NP *a man*, too. The present analysis can thus capture the connectivity properties of the extraposed one with the two split antecedents in a simple manner. (p. 237–238)

The problem with (124) is that every movement-based analysis makes wrong predictions since it would be something like across-the-board extraction but to the right. This would mean that the underlying structure would be something like:

- (89) * [A man who were quite similar] entered the room and [a woman who were quite similar] went out.

This cannot work. To be explicit about this problem, let us have a look at the way JBK handles the introduction of the EXTRA elements.⁴⁰

- (90) Introduction of adjuncts into EXTRA (p. 233):

$$adj-extra-wd \Rightarrow \left[\begin{array}{l} EXTRA \left\langle \left[\begin{array}{l} CAT \ PP[S[REL \{ i \}]] \\ MOD \ \langle N'_i \rangle \end{array} \right] \right\rangle \\ IND \quad i \\ DTRS \left\langle \left[\begin{array}{l} n-wd \\ SPR \ \langle DetP[indef] \rangle \end{array} \right] \right\rangle \end{array} \right]$$

If this lexical rule is applied to *man* and *woman*, we get two lexical items with an EXTRA element containing a MOD value that is coindexed with *man* and *woman*, respectively. Both of these nouns are singular and one is of masculine gender and the other of feminine gender. Now, if the coordination of *a man entered the room* and *a woman went out* is formed, the two EXTRA values are supposed to be identified, but this will fail, since the gender values differ. But even if we had nouns of the same gender, this would not work since the referential indices of the two nouns would be identified, which would result into a variable that is bound by two quantifiers: the quantifier of the NP containing *man* and the quantifier of the NP containing *woman*. On top of this the *who* refers to a group consisting of the man and the woman. Such a group does not exist as a linguistic object in JBK's analysis. What does exist within $\boxed{1}$ in JBK's (126) is the index of *man* and *woman* and this is singular, but the *who* in the relative clause is plural, as evidenced by the agreeing auxiliary *were*.

So JBK's analysis fails in multiple ways and quite obvious so. The hydra problem is discussed at length in the generative literature and HPSG analyses were

⁴⁰Note that the MOD feature should be part of HEAD that is, it should be under CAT not at the same level as in JBK's (90). The example JBK discusses in (112) is an application of the lexical rule to *n-lxm*, which is incompatible with *n-wd*.

suggested by Kiss (2005), Walker (2013) and Crysmann (2013). These sources were pointed out to JBK in earlier reviews.

Note also, that what JBK suggests *is* a movement-based/derivational approach: he assumes that the extraposed element is identical to an extraposition gap within each of the conjuncts. So the MOD value of the extraposed relative clause is within $\boxed{}$, it is also present in each of the conjuncts and hence the extraposed relative clause identifies its index with each of the indices of the nouns. Since the nouns have different gender, a conflict arises and a structure like the one in the figure above is ruled out. This is the very problem of hydra sentences. EXTRA and SLASH analyses are the analog to movement that is used in representational theories like GPSG and HPSG/SBCG. Kiss' approach is a base-generation approach though. A text that I suggested to JBK contains this in literal formulations (Borsley & Crysmann 2021: 576–577):

Similar in spirit to Culicover & Rochemont (1990), Kiss (2005) suggests that relative clause extraposition can target any referential index introduced within the clause the relative clause attaches to. To that end, he proposes a set valued ANCHOR feature that indiscriminately percolates up the tree the index (and handle) of any nominal expression. In situ and extraposed relative clauses then semantically bind one of the INDEX/HANDLE pairs contained in the ANCHOR set of the head they syntactically adjoin to.^{41,42}

Figure 8 shows the analysis suggested by Kiss (2005). This is the technology that is needed to do hydra sentences. The coordination has to establish a new index that is percolated up with other indices in the anchor sets and can be referred to by extraposed relative clauses. There is no way to capture this with the EXTRA feature. This was pointed out in 2020, in 2022, and again in 2023. The publication with Routledge as the third attempted publisher proves that peer review with Routledge does not work: Hydra sentences are one of the special puzzles in syntax and every reviewer should have been able to catch JBK's wrong statement.

On p. 235, JBK writes: "In addition, it is in general not allowed to dislocate an expression out of an extraposed one (Culicover & Rochemont 1990: 24):" Extraposed elements are not islands. This was already pointed out in the first review in 2020. The following example is from Huck & Na (1990: 66):

- (91) Okay, you saw a picture yesterday, but just whom did you see a picture yesterday OF?

The following examples show the extraposed VP *to read this book carefully* in (92a) and NPs with *book* are extracted out of this extraposed VP in (92b,c).

⁴¹See Koenig & Richter (2021: Section 6.1), Chapter 22 of this volume for an overview of Minimal Recursion Semantics, the meaning description language assumed in Kiss' approach.

⁴²Crysmann (2005) proposes to synthesise the approach by Kiss (2005) with that of Keller (1995), using a two-step percolation mechanism that effectively controls for spurious ambiguity.

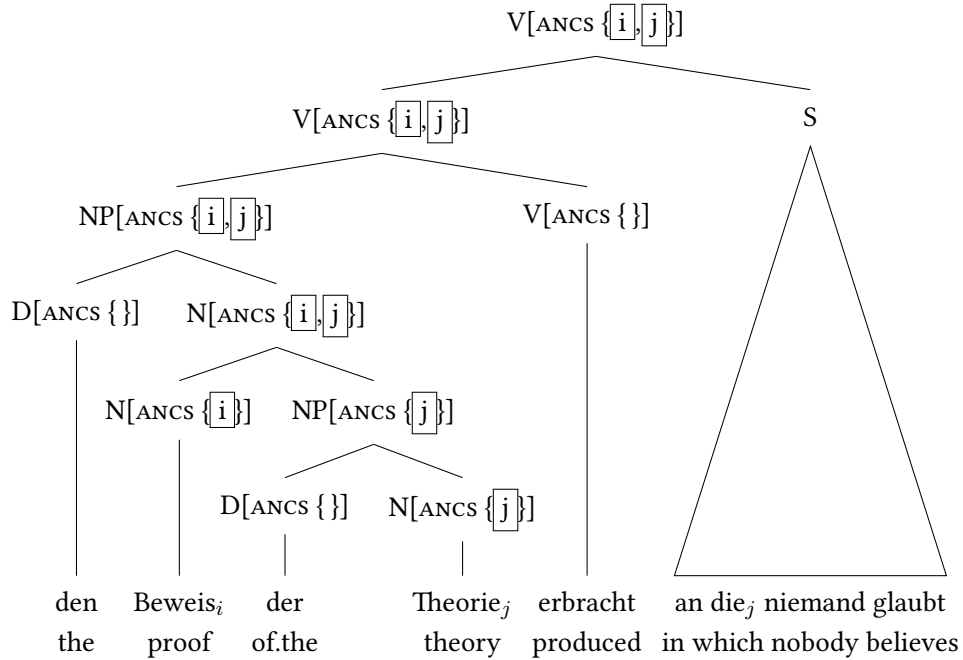


Figure 8: Anchor percolation in relative clause extraposition (Kiss 2005)

- (92) a. He forced him yesterday to read this book carefully.
 b. This book, he forced him yesterday to read carefully.
 c. Which book did Mary ask him yesterday to give to the man she saw the other day?

(93) shows examples from Dutch and German by Bouma (1996: 11) and Müller (1999b: Section 13.1.6).⁴³

- (93) a. Met wie heeft Jan gezegd dat Arie gesproken heeft?
 with whom has John said that Arie spoken has
 'With whom has John said that Arie has spoken?'
 b. Anrufbeantworter dienen längst nicht mehr dazu, wichtige
 Nachrichten aufzuzeichnen, wenn man gerade mal nicht da ist, oder
 sich denen zu verweigern, [mit denen]_i man [keine Lust _{-j}] hat [_{-i} zu
 sprechen]_j.⁴⁴
 c. Es ist eine juristische Zwickmühle, [aus der]_i Clinton nur [eine kleine
 Chance _{-j}] hat [_{-i} herauszukommen]_j.⁴⁵

⁴³In Müller (1999b), I also cited German examples from Uszkoreit (1987: 76) and Hinrichs & Nakazawa (1989: 21).

⁴⁴taz, 29.05.1995, S. 20, „Anrufbeantworter als Visitenkarten“

⁴⁵Spiegel, 32/1998, S. 101

- d. Which book did Mary ask him yesterday to give to the man she saw the other day?

There is a long tradition in HPSG dealing with islands. The general consensus is that they are not strict and hence something that should not be covered in the grammar (Chaves 2018, 2021) and that in addition to performance factors there are restrictions that are dependent on information structure and hence not entirely syntactic (Winckel 2024).

JBK writes on p. 231 that *extraposition is nonlocal*. This is an important statement, but it was made by others before (Keller 1994: 4, 11; Gereon Müller 1996: 219; Van Eynde 1996: Section 2.3; Bouma 1996: Section 2; Müller 1999b: Section 13.2; Borsley & Cysmann 2021: Section 8) as pointed out several times. None of these sources is cited here. Müller (2004a) explicitly addresses issues of subadjacency and non-locality and should be cited as well.

6.8 Chapter 8: Cleft Constructions

The input of the lexical rule (63) on p. 256 is required to have a subject with a specific semantics. This does not help anything, since this subject is not shared. Neither is the semantics that it is supposed to have.

(94) *It*-cleft Copula Construction ($\uparrow spec-cop$)

$$it-cleft-cop \Rightarrow \left[\begin{array}{l} \text{EXTRA} \left\langle \left[\begin{array}{l} open-prop \\ SEM \ P(x) \end{array} \right] \right\rangle \\ \text{ARG-ST} \left\langle NP_x[it], \boxed{1}YP_y \right\rangle \\ \text{INFO-ST}_{\text{FOCUS}} \left\langle \boxed{1}YP \right\rangle \\ \text{DTRS} \left\langle \left[\begin{array}{l} spec-cop \\ \text{ARG-ST} \left\langle XP[\iota x[thing(x) \& P(x)]], \boxed{1}YP_y \right\rangle \\ SEM \quad identify_rel(x,y) \end{array} \right] \right\rangle \end{array} \right]$$

Since the XP in the ARG-ST of the input is never used in an actual utterance, this NP will never contribute any meaning. There is just no point in requiring that there is a definite determiner in this NP. Unless there would be certain special constraints in the lexical item of various copulas (and there is no reason for assuming this), the specification of $\iota x[thing(x) \& P(x)]$ would not have any effect. Since the output of the rule does not contain this NP but $NP_x[it]$, the semantic information in the input would be lost. See also Section 4.7.1 above for the discussion of misconceptions about semantics related to the expression $\iota x[thing(x) \& P(x)]$. Note also, that this semantic representation is not in the format that is assumed throughout the book: it is not in Minimal Recursion Semantics (Section 1.4.5). While $\iota x[thing(x)]$ is translatable to MRS without problems, the part containing $\&P(x)$ is alien to MRS.

JBK's idea behind this lexical rule seems to be something like a transformation of a full tree: if the input item would be used in an actual analysis and be combined with an XP with the semantics $\iota x[thing(x) \& P(x)]$, then it could be transformed

into something with an NP[*it*] and an extraposed clause. But the NP argument of the specificational copula will never be used in an analysis using the item for the *it-cleft-cop*. It will just sit in the valence list of the element in the daughters list of the lexical rule. The computation of the semantic contribution of phrases was provided on p. 36. According to this principle, the semantics of a mother node is computed from the semantics of the daughters plus the semantics of the construction. The daughters in sentences using the *it-cleft-cop* are the copula, the NP[*it*], the YP, and the extraposed clause. Semantics of an unused argument in a daughter of a lexical rule will not be considered.

(68) on page 258 shows the analysis of an *it*-cleft. There is a PP with a unshared [2] and a PP in a GAP list. The analysis does not enforce the identity between the PP in the GAP list and the PP that is combined with the copula. There is no connection. There used to be one in an earlier version of the ms but this has been removed for the 2023 submission. Figure 9 shows the analysis with added structure sharing tags in blue.

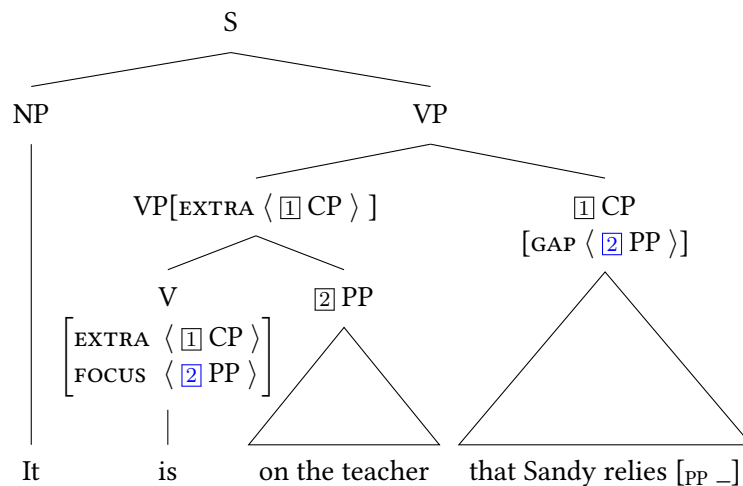


Figure 9: JBK’s analysis of *It is on the teacher that Sandy relies*. with two added [2] in blue for the PP gap and the focus element.

Since there is no connection between the argument of the copula and the gap in the *that* clause in JBK’s analysis, any gap is predicted to be possible. This makes wrong predictions. JBK’s example in (66d) on p. 258 is admitted:

(95) * *It is [on the teacher] [CP that Sandy relies on _].*

Similarly the internal structure of the extraposed relative clause cannot be controlled. To just talk about an open preposition in (63) radically underdetermines the extraposed clause. See also Section 3.1 on the notion of open proposition, the type and how all this is incompatible with MRS, which is assumed to be the underlying semantic framework of the book. There seems to be a very simple and nice solution to the identity problem. Consider (96):

(96) *It*-cleft Copula Construction (modified version sharing gap information)

$$it\text{-}cleft\text{-}cop \Rightarrow \left[\begin{array}{l} \text{EXTRA} \langle S[\text{GAP} \langle \boxed{1} \rangle] \rangle \\ \text{ARG-ST} \langle \text{NP}[it], \boxed{1}\text{YP} \rangle \\ \text{INFO-ST}|\text{FOCUS} \langle \boxed{1}\text{YP} \rangle \end{array} \right]$$

The version of the copula shown here just selects for an expletive NP with *it* and some phrase YP. This phrase is the focus. The EXTRA list contains a sentence with a YP gap. This is it. No additional semantic contribution (except tense information). The semantic linking and composition will be done in the extraposed clause. JBK gave a chance away to argue for the feature geometry of SBCG (Sag 2012) in comparison to Constructional HPSG (Sag 1997). The analysis in Figure 9 is not possible in standard HPSG, since the shared information in nonlocal dependencies is of type *local*. This means that nonlocal information is not within the shared information. See (97):

$$(97) \left[\begin{array}{l} \text{SYNSEM} \left[\begin{array}{l} \text{LOCAL} \quad \dots \\ \text{NONLOCAL} \left[\begin{array}{l} \text{SLASH} \quad \dots \\ \text{EXTRA} \quad \dots \end{array} \right] \end{array} \right] \end{array} \right]$$

With such a feature geometry it is technically impossible to select for extraposed elements with something in SLASH (the equivalent to GAP in SBCG). Hinrichs & Nakazawa (1994) suggested sharing objects of type *sign* in standard HPSG. So with this modification of Constructional HPSG such selections would be possible as well. What would be missing for a fully satisfying analysis is the issue with binding off the gap in the extraposed clause. This issue will be discussed in the following.

JBK writes on p. 259:

Note that the GAP value in (68a) is to be bound-off by the additional constraint on the GAP value to the Head-Extrapolation Construction (see Chapter 7, Section 4.2)

(98) Head-Extrapolation Construction:

$$\left[\begin{array}{l} \text{head-extra-ext} \\ \text{EXTRA} \langle \rangle \end{array} \right] \rightarrow \mathbf{H} \left[\begin{array}{l} \text{phrase} \\ \text{COMPS} \langle \rangle \\ \text{EXTRA} \langle \boxed{1} \rangle \end{array} \right], \boxed{1} \text{XP}$$

This implies that the construction itself terminates the GAP values inherited from the daughters. This constraint is thus independently motivated. As we have seen in Chapter 7, in general the extraposed clause has a freezing effect such that no expression can have an unbounded dependency with an expression outside.

There are several things to note about this passage. 1) Everybody in the field allows more than one extraposed element (Keller 1995: 304, Bouma 1996: (15),

Müller 1999b: 227, Crysmann 2013: 24). See Keller (1995: Section 1.2) on multiple extraposition. JBK discusses such examples on p. 236 and suggests a lexical rule for the introduction of multiple extraposed adjuncts. But there is no way in his grammar to bind multiple extraposed elements off. 2) The GAP value should be stated on the left-hand side in (98).

3) What JBK suggests is that arbitrary gaps are just thrown away at the level where extraposed elements are bound off. This opens the door to hell. For example, the object gap in (99) could be just omitted:

(99) * *John claimed yesterday that Peter saw _?*

Also, a variant of JBK's (70a) would be permitted:

(100) * *Do you think it is the book that Mary gave __?*

The gap information is just thrown away on the clausal level.

4) Extraposed clauses are not islands. See p. 66 above.

Since the inheritance of information between the specificational copula and the *it*-cleft copula does not work as intended by JBK (see Section 4.4.1), it has to be concluded that not a single component of the analysis works. All this was pointed out to JBK in Müller (2023c: 45).

The examples in (75) on p. 260 were first published in Kim (2012: 63), which is not cited in the book. Kim suggested an analysis in which the postcopular NP and the relative clause formed a *cleft-cx*. This analysis is not discussed in the book. Why not? It would be a contribution to scientific progress to learn about the motivations for changing the analysis.

The example (ii.b) in fn. 9 on p. 262–263 given here in (101) was discussed by Jespersen (1909/1949: 89), who is not cited in connection with the example.

(101) It is a poor heart that never rejoices.

6.9 Chapter 9: Locative inversion

Large parts of the text are word by word identical with Kim (2003a). This is indicated in footnote 2 saying “This chapter is developed from Kim (2003a).”

The examples in (24) on p. 285 are taken from Bresnan (1994: 85) without giving a source. Bresnan is only cited in the following paragraph on “another related observation”. Kim (2003a: 6, ex (15)) mentions Bresnan in the main text but without attributing the example to her.

Apart from the data, the observation on the blocking of SAI in (27) is not new. It can be found in Levine (1989: 1035). Levine is cited on freezing in the next paragraph. JBK added new references on this citing Culicover & Levine (2001) and Postal (2004), but it is unclear why he did not cite the earlier reference that he is citing in the following paragraph.

The examples in (18a,b) and (19a,b) on p. 284 are from Kathol & Levine (1993: 211). The source is not given. (18c) seems to be from Kim (2003a). Kim (2003a)

has the same mis-citation. Kathol & Levine are cited but only in the paragraph following the example. (And with 1992 instead of 1993)

The examples in (26) on p. 285 are due to a handbook article on embedded root phenomena by Heycock (2006: 181), which is not cited in the book under review.

The example (27a) on page 286 is taken from Chung (2002: 124), a contribution to the proceedings of HPSG 2001. The example is also contained in Kim (2003a). Neither of JBK's papers cites Chung (2002). The 2003 work cites a joint conference presentation though. The joint work of Kim & Chan Chung is not mentioned in the book.

On p. 292, JBK discusses the example in (102):

(102) On the third floor worked two young women.

This example is interesting since it involves a clear adjunct. *work* is a one-place predicate and the locative PP is not an argument. This means that the PP is not a member of the ARG-ST list and hence cannot be mapped to SUBJ. This was pointed out to JBK in 2022 and again in 2023. It is a serious challenge for his analysis. The issue might have been addressed by resorting to a DEPS list for the introduction of adjuncts into valence lists as suggested by Bouma, Malouf & Sag (2001). But in any case this is a crucial issue that should not just be ignored.

There are lexical items on p. 293 which are of type *v-loc-wd*. They should be of type *v-loc-lxm*, since the type hierarchies are usually hierarchies classifying lexemes. Lexemes undergo inflectional lexical rules to form words, as described by JBK in Section 1.4.2.

On p. 295, JBK writes the following:

Another possible advantage concerns binding effects in LI. The present analysis, where both the ARG-ST and the valence information are accessible, allows us to account for binding facts in LI. Compare the following pair:

- (49) a. Two handsome young boys_i sat beside each other_i.
b. Beside each other_i sat two handsome young boys_i.

In (49a), the reciprocal pronoun *each other* is bound by the subject. In the analysis where the locative PP is originated in the subject or topic position, higher than the postverbal NP, the binding fact in (49b) would be unexpected. However, within the binding theory of HPSG where the argument-structure is the locus of binding, the 'outranking' NP in (50) can function as the binder of the PP, as seen in the following argument structure.

This is a very interesting observation and solution. GB cannot solve such problems, since its BT is tree-based. HPSG has a lexical representation that is used as an underlying representation and several parts of the theory refer to it: BT, case assignment, agreement. The problem with JBK's solution is that it was already

suggested by Manning & Sag (1999). Manning & Sag are cited two pages before in Fn. 6: “See Manning & Sag (1999) for a similar dissociation mapping between argument structure and valence features in ergative languages.” But no connection is made to Binding Theory. Manning & Sag (1999: 72) discuss data of the kind in (49) in the quote. The same is true for Wechsler & Arka (1998) and Wechsler (1999). None of this is cited. The quote above ends with a footnote pointing the reader to papers about HPSG’s Binding Theory: “See Pollard & Sag (1992), Pollard & Sag (1994: Ch. 6), and Sag (2003) for the binding theory of HPSG.” Sag (2003) is about coordination, not about Binding Theory. It is absolutely necessary to cite Branco (2002) with respect to binding. Citing an overview article on this topic would also be helpful, especially since there were crucial developments since 1994: Müller (2024a). In the latter paper, I also discuss the Balinese binding data and solution by Steve Wechsler, which is exactly what JBK suggested without citing earlier work.

The analysis of (103) that is suggested on p. 296 does not work.

(103) In which garden did you say stood a lamp?

JBK claims that the PP element in the ARG-ST list of the verb *stood* is of type *gap-ex* and hence not mapped to the SUBJ list. But the non-canonical mapping is done in the lexical type in (58) on p. 297, which was given as (54) and is repeated here as (104):

(104) LI Verb Construction ($\uparrow$ *v-loc*; p. 297):

$$loc-inv-wd \Rightarrow \left[\begin{array}{l} SYN \left[\begin{array}{l} VAL \left[\begin{array}{l} SUBJ \langle [2] PP[SYN|AGR [3]] \rangle \\ COMPS \langle [1] NP \rangle \end{array} \right] \end{array} \right] \\ ARG-ST \langle [1] NP[SYN|AGR [3]], [2] PP \rangle \\ INFO-ST \left[\begin{array}{l} TOPIC \langle [2] \rangle \\ FOCUS \langle [1] \rangle \end{array} \right] \end{array} \right]$$

The only way the locative PP can be mapped in (104) is to SUBJ. (JBK talks about *loc-inv-wd* in the paragraph explaining the analysis). Extraction of the NP or the PP is not an option according to the specification in the lexical rule. All this would not be a problem with an analysis that introduces nonlocal dependencies in the syntax (by a unary branching construction or a trace), but this is not what JBK does.

There is another way, in which the analysis fails if it is supposed to involve the phrasal schema for the Locative Construction provided on p. 13 and repeated here as (105) for convenience.

(105) Locative Inversion Construction ($\uparrow$ topic-cxt & hd-subj-cxt):

$$S \left[\begin{array}{l} loc-inv-cxt \\ VFORM \textit{fin} \end{array} \right] \rightarrow PP \left[\begin{array}{l} loc \\ IND \textit{i} \end{array} \right], H \left[INFO-ST|FOC \textit{nelist} \right]$$

The phrase *stood a lamp* as it occurs in (103) does not combine with a subject, since the PP subject is extracted. Hence the pattern is disturbed and constraints attached to the phrasal Locative Inversion Construction cannot apply.

Note that if the SUBJ list may be empty in general in the grammar, subjects can be mapped to COMPS and sentences like (106) would be licenced by the grammar:

- (106) a. The child sleeps.
b. * Sleeps the child.

6.10 Chapter 10: Comparative correlative construction

Large parts of the text in this chapter are word by word identical with Kim (2011). Fn. 1 on p. 304 states “This chapter is developed from Kim (2011).”

The examples in (17) on p. 308 are from Culicover & Jackendoff (1999: 546), abbreviated as CJ below. No citation is given. Culicover & Jackendoff are only cited later on the page.

The example (21) on p. 309 is CJ’s example (11) with *John* replaced by *Kim*.

The examples (22)–(23) are taken from Iwasaki & Radford (2009: 3), who are not cited in connection with the data. The examples can also be found in Kim (2011) who cites Iwasaki & Radford but not in connection with the data. Note that I asked for the source of the example in 2020!

The example (25) is due to Culicover & Jackendoff (1999: 550), who are not cited in this paragraph.

The examples (i) and (ii.a) in fn. 4 on p. 309–310 are due to Culicover & Jackendoff (1999: 549, 550). CJ are cited “for further discussion” rather than for the data and observation.

The example (30) on p. 311 is due to Culicover & Jackendoff (1999: 564), who are not cited in this paragraph. (30b) is their (70b), which CJ judge with a question mark. JBK uses this example without the question mark.

The example (33a) is due to Culicover & Jackendoff (1999: 552 (26)), who are not cited in this paragraph.

The example (34a) is due to Culicover & Jackendoff (1999: 553 (28a)), who are not cited in this paragraph.

The schema on p. 319 does not have any effect, since the *head-functor-cxt* is a supertype of the *the-comparative-cxt* and the more general schema can be used with the same outcome. Assuming a special *the-comparative-cxt* in addition would result in spurious ambiguities. This problem is parallel to the one with Locative Inversion discussed above on p. 13.

On p. 320 JBK writes:

However, the uniqueness of this combination is that the filler AP is marked with the MKG value *the*, while the GAP AP requires no such MKG value, as seen from the following contrast:

- (58) a. We are more successful.

- b. * We are the more successful.
- c. The more successful we are, the happier we are.

There is thus no exact syntactic matching between the GAP value and the comparative filler. The filler and the gap are syntactically and semantically identical, except that the former is additionally marked with the definite article *the*. This implies that there is no exact categorial matching between the two, but the two are identical in terms of their index value. These peculiarities can be defined as constructional ones, as in the following (adopted from Sag 2010):

$$(59) \text{ The-Comparative Filler Clause } (\uparrow \text{ } hd\text{-}filler\text{-}cxt):$$

$$S \left[\begin{array}{c} the\text{-}compar\text{-}filler\text{-}cxt \\ GAP \langle \rangle \end{array} \right] \rightarrow XP \left[\begin{array}{c} the\text{-}compar\text{-}cxt \\ MKG \text{ } the \\ IND \text{ } i \end{array} \right], HS \left[\begin{array}{c} GAP \langle XP_i \rangle \end{array} \right]$$

The constructional constraint has the effect of achieving the constructional locality noted earlier (Sag 2012: 147). That is, the filler of the clause here is not exactly *the more successful*, but has the same index value with the gap value. This thus allows the dependency relation between the two, without violating the locality condition.

JBK writes that filler and gap are not shared but just the index is. But sharing filler and gap is the main contribution of the *hd-filler-cxt* and *the-compar-filler-cxt* inherits from this construction. This would mean that filler and gap are shared and the analysis fails to account for the phenomenon. One could change (59) so that it does not inherit from the *hd-filler-cxt*, but just sharing the index does not work. If it worked, we would not need syntax at all since semantic selection would be sufficient. Depending on the details about indices that JBK assumes, wrong predictions will be made. One problem that will exist in any case is that the case of the NP in the *the* phrase is not determined:

- (107) a. the more books he reads
- b. the more men read books

Since both nominative and accusative NPs are fine in a *the* clause, the case cannot be restricted in the *the* phrase in the schema in (59). Since gap and filler are not identified, the information about the case, which is provided within *he reads* and *read books* is not transferred to the initial noun phrase. Under standard assumptions in HPSG (sort-resolvedness, see Section 4.1 above), this would mean that the two phrases in (107) are ambiguous, since the NP within the *the* phrases could be either nominative or accusative (or even genitive). A wrong prediction.

Another problem with the example he discusses is that it is not sufficient to coindex the adjective *successful* with the gap:

- (108) [the more successful] [we are]

Successful predicates over *we*. This information is transferred by the gap. The predication relation is established by identifying the adjective with the gap. The problem can be explained with respect to the examples in (109):

- (109) a. We are successful.
b. Successful, we are _.

Successful selects for a subject within its SUBJ list. This element in SUBJ is identified with the SUBJ of *are* and *we* fills the subject slot of *are* after the combination of *are* and *successful* in (109a). In (109b), *successful* is extracted, but *are* still attracts the subject of the copula, which is saturated by *we*. The adjective enters a non-local dependency which is bound off by *successful*. Only then, after the binding off of the adjective, the SUBJ value of the adjective is present at the gap site, the copula can access it and identify it with its own SUBJ value and only then the *we* is successfully connected to *successful*. If only index values are shared, the adjective information is missing in the phrase *we are* and the subject of *successful* is not linked to *we* in the phrase *the more successful*. Just sharing the index of an adjective (a state?) is not sufficient.⁴⁶

Note that JBK again miscites. His (59) is not *adopted* from Sag, who has a totally different formalization, but it is *adapted* from Sag.

A further problem with (59) is the specification of *the-compar-ph* in the first daughter. As has been pointed out above (p. 43), the type would not be accessible in examples with coordinations.

- (110) *The more books and the more papers he reads,*

The coordination of the two *the more* phrases has a type that is different from *the-compar-ph* and hence would be excluded from (59).

Specifying a constructional type with daughters as a constraint on a daughter is basically a nonlocal specification. This plainly contradicts what is written in the text below (59). Note that Sag (2012) made such nonlocal statements impossible by assuming a MOTHER feature. Constructions relate mothers and daughters to another. MOTHER and DTRS values are of type *sign*. *signs* do not have daughters. While this does not exclude nonlocal selection, contrary to what Sag claimed (Müller 2016: Section 10.6.2.1, 325, 2024b: 1515), it excludes statements like those in (59).

What about the rest of the quote? The contrast in (58) seems interesting and one may wonder how to cover this if sharing of filler and gap is not an option.

⁴⁶Copestake et al. (2005: 316) assume that the index of an adjective is the same as the one of nouns. Under this assumption NP gaps and AP gaps would be indistinguishable and hence an AP could fill the *the* position which should be filled by an NP in cases like (i):

- (i) a. the more successful he reads _
b. the more successful _ read books

JBK assumes that adjectives contribute an *s* denoting a situation (p. 202), which I believe to be correct (Müller 2026: 117).

But as it turns out, the claim regarding the ungrammaticality of (58b) is wrong. It is contradicted by data from Bob Borsley, which JBK discussed four pages earlier on p. 316:

- (111) those forces whose reactions are all the more beneficial, the more they are kept intact (Borsley 2019: (3))

So, what is needed are constraints that prohibit such *the* clauses without another *the* clause.

p. 326 fn. 15 “Another option we can take is to assume that English introduces an abstract, unpronounced copula verb whose subject needs to be definite, non-specific. A detailed elaboration of this analysis is left open for future research.” An empty copula was suggested by Emily M. Bender in her Stanford dissertation (Bender 2001), by Sag, Wasow & Bender (2003: 464) and Müller (2004b: 96). **This was pointed out in 2023, but JBK has still not cited, or engaged with, the earlier worked out proposals.**

6.11 Chapter 11: Conclusion and prospects

The example (28a) p. 338 is taken from Biber et al. (1999: 906) and (28b) from Biber et al. (1999: 907), which is cited but not in the chapter under consideration.

The examples in (51) p. 346 are mainly taken from class notes by Ivan Sag (2012)⁴⁷, which are not cited. Sag gives references for the examples he uses.

7 New mistakes

This document basically is an adaption of my 2023 review. It elaborates on issues that were present in the last submission to Press 2. While adapting this document to the Routledge book, I found new problems, which are discussed in this section and in the section about the newly added appendix (see Section 8).

1. p. 34 The time relation has *s0* as an argument, but the *read_rel* does not have a situation or event variable. Such a variable should be embedded under the tense relation. See Copestake et al. (2005: 312) for a proper treatment of tense relations in MRS.
2. p. 95 *neither* is of part of speech *pron*. Why not *noun*? Pronouns are words that are complete as far as their valence is concerned. So they are NPs. Are there any facts of English that make this subtyping for pronouns necessary? The type *pron* is missing in the type hierarchy on p. 188, and in the type hierarchy on p. 217. These two type hierarchies are different and combining them would be non-trivial.

⁴⁷<https://www.academia.edu/download/30754970/english-anaphora-ho.pdf>, 2023-08-04.

3. p. 217 fn. 4: JBK justifies types in the type hierarchy for English by referring to facts from Korean. This does not make sense in the Construction Grammar tradition, where no Universal Grammar is assumed. As a consequence of this fundamental assumption, grammars have to be learnable from evidence alone. Since learners of English do not have access to linguistic knowledge about Korean, their grammars cannot contain distinctions that are motivated by Korean data.

8 Review of the Appendix added for the Routledge publication

The versions of the book that I got for reviewing did not have an appendix. So while most of the things in the previous sections were contained in my earlier reviews, the comments on the appendix are new. Some of the HPSG work has an appendix giving all the details of a fragment worked out in a book or paper (Ginzburg & Sag 2000, Sag 2012). JBK's book also has an appendix but it is far from complete and it is semi-formalized. Some things are just left to the imagination of the reader. The most obvious omission: there is no signature and no type hierarchy. The main part of the book contains some partial type hierarchies and some of them are contradictory. For example, there are two incompatible hierarchies for subtypes of *pos* on p. 188 and p. 217. The type *pron* is used for the *pos* value of pronominals (p. 93) but does not appear in any of these hierarchies.

Some further points:

1. *v-lxm* is defined, but the part of speech is not constrained. Compare Sag (2012: 181)
It can be imagined that the information about the part of speech follows from the presence of features like *vFORM* in inflectional rules, but for this there would have to be types for *verb-head* that are inferred from the presence of *vFORM* and that specify the *pos* value. JBK refused to write about this and there is no signature anyway. See Section 5.5.2 above for further discussion of the *pos* feature.
2. *cop-lxm* is not provided in the appendix, but is the supertype of *spec-cop*, *iden-cop*, and *pred-cop*.
3. *v-loc* is missing, but is the supertype of *loc-inv-wd*. *v-loc-wd* is specified as type of lexical items in the book, but these should be of type *v-loc-lxm*. *v-loc-lxm* is nowhere defined.
4. p. 359 *adv-lxm*: The constraint on *adv-lxm* specifies the *MOD* value as VP. This excludes the modification of $\bar{N}$ as in (112):

(112) The meeting yesterday was a success.

5. p. 359 The Argument Realization Principle (ARP) is defined for *v-word*, for *func-wd* and for *gap-wd*. It is undefined for adjectives, nouns, prepositions, determiners. See Section 5.3 above for a discussion of missing generalizations.
6. p. 359 *v-word* or *v-lxm*: The *SPR* value for verbs is not defined. Because of this all verbs can be combined with arbitrarily many specifiers via the *hd-spr-cxt* and hence JBK's grammar licenses infinitely many ill-formed word sequences.
7. p. 359 *func-wd*: The *GAP* value is not constrained.
8. p. 359 *gap-wd*: The *SPR* value is not constrained. It is unclear how the type hierarchy is supposed to work, but on p. 368 the lexical item for *could* is shown. It is of type *v-gap-wd* and does not have a specified *SPR* value.
9. p. 359 *gap-wd*: The *GAP* feature is not a valence feature. It should not be under *VAL* but under *SYN* (Sag 2012: 180).
10. Adjunct extraction is not covered although adjunct extraction is mentioned on p. 306.
11. p. 359 The VP ellipses account builds on the assumption that pro elements are not mapped to the valence features (see (78) on p. 155). However, that ARP maps all arguments to valence features and the *gap-wd* maps all with the exception of extracted words. Is there another type for non-mapping of pro elements? If this is assumed – which would be a considerable complication in comparison to what Bouma, Malouf & Sag (2001) suggested – the respective variant of the ARP is missing.
12. p. 360 There is a lexical item for *grow* with the type *v-lxm* on p. 360 and one of the type *v-wd* on p. 364. This is very strange since there should be an inflectional lexical rule like the one for the past on p. 369. So listing fully inflected verbal forms in the appendix does not make sense. See Sag (2012: Section 6.3) on inflection.
13. p. 360–366 All semantic values do not fit what was said in the introduction (p. 31–32). There should be an MRS semantics with an index (*IND*) and a list of relations (*RELS*).
14. p. 360 *surprise* and most items on p. 361–364 do not have a *SEM* value. If type hierarchies are worked out in detail, lexemes usually have to state the form and the meaning, since this is the only information that is special for a certain lexeme.
15. p. 363 The lexical item for *grew* has an inflected form although it is a lexeme. The inflected forms are the result of inflectional lexical rules.

16. p. 363 The relations for *number* are missing.
17. p. 372 Some items have λ expressions as their semantics, some don't. All should have MRS semantics.
18. There are only four nominal lexemes: *number*, *what* and two event nouns.
19. p. 363 *what* is a pronoun and as such it is a word and not a lexeme that has to be inflected.⁴⁸ The items *neither* and *some* were assigned the category *pron* rather than *noun* (p. 93). I think assuming such a category does not make sense, but if it is used for *neither*, this should be done consistently.
20. The item for *what* has the pos specified to be of value *noun*, although *what* is a *n-lxm*. As such it should inherit the pos information from *n-lxm* and hence it does not have to be stated for the lexical item.
21. If *n-lxm* does not provide the part of speech, this information is missing in the item of the lexical item for *number* and the other nominal lexemes.
22. *n-lxm* is not provided (it is nowhere given in the book).
23. The type *adj-lxm* is not provided. So information on part of speech is missing for subtypes. Maybe lexical rules refer to *adj-lxm* and add the pos value at the output? Nobody knows. Ginzburg & Sag (2000: 409) do not do this. For nominal inflection, they assume nominal lexemes to have the type *cn-lx* and then transfer the part of speech information in the inflectional lexical rule.
24. The lexeme hierarchy is not defined but only hinted at on p. 22. Many lexical items are lacking a type. E.g. *appear*, *blame*, and *expect* on page 362.
25. p. 367 There are two lexical items for *linguists*: one with empty valence lists and one with an argument in SUBJ. One has an index but no relation! One has a relation *linguist(i)* but no index. Both lexical items should have an index and a relation.
26. Other nouns like *examination* have a determiner in the *SPR* list. *linguists* is in the plural, but it has to have a specifier as well. See the textbook exercise by Sag, Wasow & Bender (2003: 265–266). Functor-based approaches that do treat a marking as optional have problems in getting the semantics right. See Müller (2022: 77).
27. All *n-wd* items have a pos specification although this information should be part of the definition of *n-wd*, if it would have been specified.

⁴⁸ *who* does not have a type in Sag (2012: 184) and Ginzburg & Sag (2000: 408), but Ginzburg & Sag (2000: 185) talk about *wh*-words.

28. p. 371 If *it-cleft-cop* is just a subtype of *spec-cop*, then there are no restrictions on the extraposed material. The type *open-prop* is not defined. It should be a subtype of *sign*, but why and what would it mean? Note that JBK claimed to work in a MRS type of semantics. A predicate *love(x,y)* has no indication of whether *x* or *y* is a bound variable or not. The role of the λ s in other theories is taken over by arguments in ARG-ST lists.
29. p. 360 *pred-cop*: The value of SEM is YP(XP). I guess the intention would be to apply the semantics of XP to the semantics of YP. This is not what is done in MRS.
30. p. 360 *loc-inv-wd* cannot be a subtype of *v-wd* since it would be incompatible with the Argument Realization Principle on p. 359.
31. p. 360 *v-loc* is a supertype of *loc-inv-wd* but it is not defined in the book.
32. p. 367: The SPR value of *linguists* is undefined, but the value of *examination* is.
33. p. 361 The ARG-ST values of *linguists* do not include the determiner, so it cannot be mapped to SPR by general principles. See Ginzburg & Sag (2000: 410) for determiners on ARG-ST.
34. There is no lexical item for a determiner. A determiner would be needed for analyzing NPs but also for the comparative correlative construction. The fact that two different versions of the determiner *the* would be needed is hidden by not providing any of them. See Section 3.2 above.
35. p. 368: *could* is of type *v-gap-word*. This type is nowhere defined. One could imagine that *v-gap-word* could be a subtype of *v-word* and *gap-word*, but these two types are incompatible, since *v-word* distributes all arguments from ARG-ST to SUBJ and COMPS and *gap-word* puts at least one element on GAP.
36. p. 369 Das Y kommt in *preterite-cxt* in B.i nur einmal vor.
37. p. 369 NP[*it*] vs. NP[NFORM *it*]: Is there a difference?
38. p. 370 *aux-vpe-wd*: The AUX value of the mother is specified although *aux-lxm* specifies the AUX value of the daughter to be + and unmentioned features are carried over from the daughter to the mother of a rule.
39. p. 370 *aux-vpe-wd*: Since all YPs in the daughter have to be compatible with *pro*, the ellipsis would be possible with all auxiliary lexemes anyway. This means that all examples with auxiliary ellipsis are ambiguous, since they can be analyzed with a normal auxiliary lexeme or with one that went through the lexical rule for *aux-vpe-wd*.

40. p. 370 *aux-vpe-wd*: The specification of the valence features is incompatible with the Argument Realization Principle on p. 359, the constraints on *v-word*. Maybe JBK assumes that the ARP is default information, but then this would have to be stated explicitly.
41. p. 370 *aux-vpe-wd*: The lexical item wrongly predicts that extraction out of a sentence with elided VP is not possible, but sentences like (113) are wellformed.

- (113) a. Nobody has read this book but who would you think could?
 b. Nobody has read this book but who do you think could?

42. p. 370 *aux-vpe-wd*: The constraints on *aux-vpe-wd* state that the COMPS value is the empty list. This contradicts the example lexical item given as (77) on p. 154 for *could* with an Adv_I for negation in the COMPS list. Hence, the sentence (114) cannot be analyzed:

- (114) Mary sang a song, but Lee could not _.

See also p. 52 above.

43. p. 370 *aux-adv-wd*: sharing the HEAD feature via [4] is superfluous since all information that is not mentioned in lexical rules is shared by convention. Without this convention the HEAD information would be missing in other lexical rules (e.g., *adj-extra-wd*, *it-extra-wd*).
44. p. 370 *aux-adv-wd*: the ARG-ST of the input sign is extended by some adverb and the negation is added as the meaning. This means that all adverbs of class I contribute the negation as meaning. See p. 52 above for more discussion of this lexical rule.
45. p. 370 *aux-adv-v*: The type of the daughter is not constrained. This means the daughter may be a lexeme or a word. So all sentences containing auxiliaries will have two analyses. The intention behind omitting the type may be to allow *aux-vpe-wd* as input, but the valence features of *aux-vpe-wd* have an empty COMPS list, which would be transferred to the mother of *aux-adv-wd* and hence incompatible with the COMPS list containing the negation adverb.
46. p. 370 The restriction to indefinite NPs as antecedence for extraposition in *adj-extra-wd* is wrong, as the example in (115b) from Huck & Na (1990: 54) shows:

- (115) a. Did you read the book by Simpson we were assigned over the vacation?
 b. No, but I read that book during the vacation which was written by CHOMSKY.

47. p. 370 *adj-extra-wd*: The type licences one or two extraposed elements, but the *hd-extra-cxt* on p. 373 allows just one extraposed element. See p. 70 above.
48. p. 371 *pred-pseudo-cleft*: The value of SEM is YP(XP). I guess the intention would be to apply the semantics of XP to the semantics of YP. This is not what is done in MRS:
49. p. 371 *pred-pseudo-cleft*: Specifying the SEM value in the daughters is superfluous, since it follows from specifying the type of the daughter as *pred-cop*.
50. p. 371 x only appears once in the implication on *pred-pseudo-cleft*.
51. p. 372 Some expressions have lambdas some don't. One has a FORM the others do not.
52. p. 372 It is nowhere specified where *there-cleft-coop* is located in the type hierarchy. So it is unclear whether the *be* is a lexeme or a word.
53. p. 373: The COMPS list of the head daughter is not constrained to be the empty list in the *hd-subj-cxt*. This means that (116) has two analyses.

(116) a. [[Alex sees] Robin].
 b. [Alex [sees Robin]].
54. p. 373 The SUBJ value and the COMPS value of the mother node in the *hd-subj-cxt* is not defined. Neither the appendix nor the book contains a valence principle taking care of this. The examples on p. 29 contain the values but it is not explained where they are coming from.
55. p. 373 The SUBJ value and the COMPS value of the mother node in the *hd-comp-cxt* is not defined. Neither the appendix nor the book contains a valence principle taking care of this. The examples on p. 29 contain the values but it is not explained where they are coming from.
56. p. 373 The *hd-mod-cxt* allows only XPs to be modified. This would make the modification of $\bar{N}$ (eg on p. 72) impossible. Mentioning XP twice is superfluous since there is structure sharing.
57. p. 373 The Head-Filler Construction *hd-filler-ctx* does not name a supertype (should be *headed-ctx*. See Sag (2010: 499, 2012: 179).).
58. p. 373 The head Filler Construction *hd-filler-ctx* states that the head daughter is an S. This excludes extraction out of VPs like the one in (117):

(117) It was unclear [which museum] [to visit _].⁴⁹

⁴⁹Sag (2010: 521)

59. The Head-Filler-Construction allows only exactly one gap, while Sag (2010: 536, 2012: 188) allows for more than one. The analysis would not get sentences like (118):

- (118) a. Euthanasia is something (which_i) I can never find anyone (who_j) I can talk to _{-j} about _{-i}.⁵⁰
 b. John is someone who_i I never know what_j I should say _{-j} to _{-i}.⁵¹
 c. Most people have some redeeming qualities, but John_i, why_j would anyone [care about _{-i} even a little] _{-j} ?
 d. I think I know [which questions]_i [which people]_j (if we're nice to _{-j}) _{-j} will answer _{-i} for us.

The sentences in (118) share the property that one gap element is bound off and the remaining element is passed on.

60. p. 373 The *hd-extra-cxt* allows exactly one element in EXTRA. This rules out multiple extraposition, examples of which were discussed by JBK on p. 236.
61. p. 373 The Head-Extraposition Construction *hd-extra-cxt* does not name a supertype (should be *headed-ctx*).
62. p. 373 The Head-Topic Construction *topic-cxt* does not name a supertype (probably *headed-ctx*).
63. p. 373 The name of the construction type of the Head-Topic Construction *topic-cxt* does not contain *hd*.
64. p. 373 The OM (one-more) Construction does not specify a supertype. (should be *nonheaded-cxt*).
65. p. 373 The tag $\boxed{1}$ in the OM Construction is not shared.
66. p. 373 The semantics of the BNP Construction is not in MRS.
67. p. 373 If the BNP construction is a subtype of the *hd-comp-cxt*, there is nothing that prevents the syntactic material from being combined with the head complement construction right away without the special constraints of the BNP constructions applying. This allows unwanted combinations and makes wanted combinations ambiguous.
68. p. 373: The Tough Construction does not have a type.
69. p. 373: The Tough Construction does not specify a supertype. (should be *headed-cxt*).

⁵⁰Levine (2017: 308)

⁵¹Kubota & Levine (2020: 294).

70. p. 373: The *tough* adjective should be marked as the head of the construction.
71. p. 373: The specification of the type of the adjective as *though-adj* does not work, since the adjective is part of the lexeme hierarchy and then undergoes inflection. The type of the inflected adjective will be *zero-inflection-cxt* (not given in the book) and due to locality, the type of the lexeme will not be accessible in a syntactic construction.
72. p. 374 If *vpf-cxt* is a subtype of *topic-cxt*, why do we have to mention TOPIC?
73. p. 374 Why is the second daughter a VP in the *vpf-cxt*? The complete phrase is an S and the second VP is supposed to be the head. The second daughter of the head-filler-cxt is an S and the construction inherits from this construction.
74. p. 374 If the *vpf-cxt* is a subtype of the *topic-cxt*, nothing will prevent the *topic-cxt* from applying as well, making examples ambiguous or admitting ill-formed sequences.
75. p. 374 Mentioning XP twice in *trans-free-rel* is superfluous.
76. p. 374 Mentioning XP twice in *sfr-cxt* is superfluous.
77. The *correl-cxt* has a $\boxed{1}$ that is not shared.
78. What are the truth conditions of *correl_rel*, which is supposed to be the semantics of the Correlative Construction? This is not MRS. The semantics of a construction should consist of the semantics of its parts plus the relations contributed via C-CONT.
79. If the daughters of the phrase structure rules are supposed to be ordered, the *close-app-cxt* cannot be a subtype of the *hd-mod-cxt*. The mother of the *hd-mod-cxt* is an XP but the mother of the *close-app-cxt* is an $\bar{N}$. JBK assumes defaults (p. 23) but does not mark values that may be overridden. Here he deviates from the sources he cites.
80. p. 375 The Negative Inversion Construction *hd-extra-cxt* does not name a supertype (should be *headed-ctx*).

9 Conclusion

To sum up: Not a single analysis suggested in this book works. Some are plagued by several interacting mistakes. All this is not about opinions as one could think since linguistics is part of the humanities. It is about formal properties of a mathematical system. The statements in constraint-based approaches are logical expressions that are combined by logical operators like conjunction and disjunction.

Hence, it is possible to write down inconsistent and contradicting statements. This is what JBK did.

He used data from other researchers without providing the source and he used ideas for analyses without providing the references to earlier work.

All this was pointed out to him in the peer review process for two other publishers. Some of the errors could have been fixed within a few minutes, but he published the book anyway.

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