Some Notes on Extraposition

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1. Introduction

Extraposition, firstly viewed as an instance of rightward movement (cf. Ross 1967, reprinted as Ross 1987), is a topic that began to be intensively discussed especially in the 1990s (cf. e.g. Beerman et al. eds. 1997 and most recently Webelhuth et al. eds. 2013). The discussion centered mainly around how the superficial representation, in which the relevant constituent shows up not in its canonical position, but somewhere to the right of it, should be derived. One of the points at issue is whether extraposition involves movement or not. In the meantime, there are ramifications in the both kinds of proposals as well as other approaches of completely different kinds (cf. e.g. Vries 2002, Webelhuth et al. 2013 for an overview).

It may well be mentioned that the analyses of extraposition have been greatly influenced by the theoretical framework to be adopted. As we will see later, the approach that relies on rightward movement, for example, which seems at least intuitively plausible, is rejected by not a few researchers, mainly because of theory-internal reasons rather than its empirical inadequacy. After reviewing some of the representative approaches to extraposition, I will go into their theoretical backgrounds as well as the empirical coverage of each analysis. I will then take up a new proposal to extraposition, Hunter & Frank (2014), and examine its validity from both empirical and theoretical perspective.

In section 2, I look over some aspects of the hitherto research to extraposition to set a ground for the following discussion. The idea presented by Hunter & Frank (2014) on extraposition is introduced in section 3, and is then critically reviewed in the ensuing section. Along this line, in section 5, the extraposition in English, on which the arguments by Hunter & Frank (2014) are mostly based, is compared to that in German. In the next section, I suggest a possible line of research for the topics dealt with here based on the concept of directionality. In the following discussion, the use of traces and brackets in the examples, mostly added by me, is intended to serve just to expository reasons: The trace merely indicates the "base" or the canonical position of the "extraposed" element. The same is true also for the term "extraposition", which is employed regardless of whether the relevant movement has actually taken place or not.

2. Some aspects of previous analyses on extraposition

In this section, I review some of the representative analyses of extraposition, paying attention also to the theoretical trend behind them. Because the proposals, especially in the earlier days of generative research, are based on data (mostly) from English, the following overview is necessarily bear in principle on the analyses of English. Among various syntactic categories that can be extraposed, data with relative clauses are primarily taken up (cf. Webelhuth et al. 2013: 1f).

Let us first look at one of the first and the most typical examples of extraposition (Ross 1986: 2ff):

(1)   a. A gun [which I had cleaned] went off.
      b. A gun *t* went off [which I had cleaned].

It seems at least intuitively plausible to assume that representation (1b) is derived from (1a) by way of moving the relative clause from its canonical, N-adjacent position rightward. This intuition is already implied in the term "extraposition", which is prevalent throughout the research tradition, whatever approach one adopts toward the phenomenon in question.

Let us then turn to the question of what kind of restrictions extraposition underlies. With respect to locality, suffice it to say at this point that extraposition cannot go "too far", as the following data show (Ross 1986: 179):

(2)   a. [That a review *t* came out yesterday [of this article]] is catastrophic.
      b. *[[That a review *t* came out yesterday] is catastrophic] [of this article].

Equally important for the present discussion is the question concerning the position that the extraposed element is supposed to occupy. Empirical data attest that the "landing site" of extraposition depends on the "base position" from which the extraposed element starts (Baltin 1981: 267ff):

(3)   Although [not many people *t*] would ride with Fred [who knew just him], some would [VP ride with Fred] [who knew his brother].

(4)   John said that he would call [people *t*] up [who are from Boston], and [VP call people *t* up [who are from Boston]] he did.

(3) shows that the extraposition from the subject lands in a position higher than VP,[1] while (4) demonstrates that the landing site of the extraposition from the object remains within the VP. Observations to a similar effect are reported also by other researchers (cf. fn.1); structurally, the higher the base position, the higher the landing site of the extraposition. More concretely, extraposition, when understood as movement, lands adjoined to the (maximal) projection that minimally dominates the base position of the extraposed element (cf. e.g. Baltin 2006 and the literature cited therein):

(5)

$$
\begin{array}{c}
\alpha \\
\diagup \quad \diagdown \\
\alpha \qquad \mathrm{XP_i} \\
\diagup \diagdown \\
\ldots \mathrm{N}\ t_i \ldots
\end{array}
$$
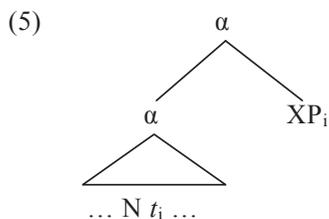
We can see here that the movement is "local" enough, although the locality is not discussed in-depth in this paper. Moreover, the configuration (5) as a result of movement is consistent with the proper binding condition (cf. e.g. Lasnik & Saito 1992).

While many, although not all, researchers agree more or less on the configuration like (5) for the representation with an "extraposed" element, there arose objections to the movement analysis for extraposition, notably in the 1990s and hereafter. That is, in the era of the principles and parameters (henceforth P&P) approach (cf. Chomsky 1981), some authors began to propose analyses of extraposition that deny rightward movement and postulate instead base generation of the "extraposed" element in its surface position.

　　Looking back shortly at the history of the generative research, we realize that, from the earlier days, there were abundant findings on leftward movement operations, most representatively on *wh*-movement (cf. Ross 1967/1986). Various kinds of "island constraints"

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[1] Culicover & Rochemont (1990: 35) claim that extraposition of the relative clause from the subject can also be adjoined to VP, as opposed to the dominant opinion (cf. Baltin, 1981, Guéron 1980, Reinhart 1983, Guéron & May 1984, etc.). Actually, Culicover & Rochemont (1990: 30f) admit at the same time that such cases of "exceptional" extraposition is subject to specific pragmatic or intonational conditions. In this point, I follow the more general assumption as described in the text. Webelhuth et al. (2013: 12ff) argue that the kind of data provided by Culicover & Rochemont (1990) does not attest unambiguously that extraposition from the subject can target the VP domain.

proposed there were then subsumed under a single constraint "subjacency" by Chomsky (1973/1977): Under numerous sorts of transformations, *wh*-movement in English was regarded as one of the most typical cases of movement operations, presumably because the correlation between the representations before and after *wh*-movement seems obvious. Within the P&P model, researchers tried to do away with construction-specific rules and to subsume various kinds of syntactic operations/transformations under very general schemata. With respect to movement operations, they should be all instances of Move α.

Thus, the generative school as a whole aimed increasingly at resorting to more general principles of grammar rather than to construction-specific rules. This was also the case with extraposition, which did not constitute a major field of syntactic research compared to leftward movement. While some researchers tried to subsume extraposition as an instance of the general movement operation, Move α (cf. e.g. Baltin 1981), others reject movement altogether (cf. Culicover & Rochemont 1990, Rochemont & Culicover 1997. See Webelhuth et al. 2013 for a review). Arguments for the latter position are, so far as I see, more of a theoretical nature: Most importantly, opponents of the movement analysis insist that extraposition behaves differently from leftward movement such as *wh*-movement. This is actually the case, as the following data from Culicover & Rochemont (1990: 23f) demonstrate; extraposition is, on the one hand, more restricted than *wh*-movement (6), and, on the other hand, less restricted (7):

(6) a. *It was believed [that John saw [a picture *t*] in the newspaper] by everyone [of his brother].
     b. [Who] did Mary say [that John saw [a picture of *t*] in the newspaper]?
(7) a. [A man *t*] came into the room [that no one knew].
     b. *[With what color hair] did [a man *t*] come into the room?

If one sticks strictly to the guiding principle of the P&P approach, it is a natural consequence that all kinds of movement operations should better be handled uniformly, i.e. as instances of Move α: In the case at hand, *wh*-movement and extraposition should underlie the same principle(s) of grammar, which seems to be, however, empirically not the case. At the same time, not a few researchers assume, implicitly or explicitly, that all sorts of extraposition should be treated uniformly; besides relative clauses in English at issue thus far here, there are ramifications with respect to syntactic categories (i.e. clauses, infinitives, PPs, etc.), on the one hand, and also with respect to their argument status (complement vs. adjunct), on the other.

Furthermore, the analyses for English are sometimes extended, without much ado, to other languages, like e.g. German, which exhibits superficially similar phenomena. From a theoretical point of view, it would be ideal if all of these cases of movement operations could be handled uniformly, and this is more or less the idea underlying the opponents of the movement analysis for extraposition.
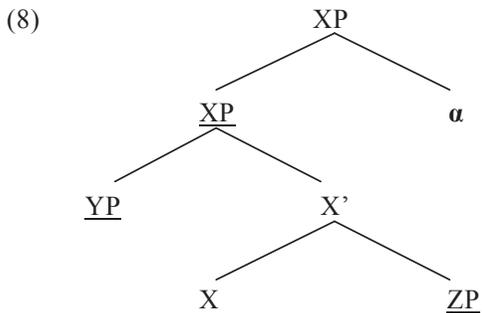
Another theoretical obstacle to treating extraposition as movement, if any, is that rightward movement is presupposed, which is correlated with adjunction to the right. This is considered problematic especially by researchers like Kayne (1994) and his followers. Even if one does not agree with the universal base hypothesis à la Kayne (1994), there are objections to the adjunction to the right, namely that the syntactic structure should be right-branching, from the viewpoint of sentence processing or parsing (cf. Haider 2010, 2013).

In the present-day linguistic research, within which this paper should also be located, it surely is almost impossible or meaningless to work without any theoretical framework. One might well be warned, however, against the tendency that the theoretical uniformity or elegance overrides a proper description of empirical data. Attention will be paid, to some extent, to this aspect of research strategy in the following discussion.

3. Hunter & Frank (2014)

In this section, I take up and review one of the most recent analyses of extraposition, Hunter & Frank (2014) (henceforth H&F), from the theoretical and the empirical points of view. This section should serve as a starting point for the ensuing discussion.

The main claim by H&F is that adjuncts that appear in the "extraposed" position are base-generated in the right-adjoined position. In this sense, their approach can be classified as a sort of base generation analysis à la Culicover & Rochemont (1990). The non-canonical positioning of the extraposed adjuncts is enabled by assuming that adjuncts are relatively flexible with respect to where they are inserted within the tree structure: When they are related to XP, adjuncts can modify XP, the specifier of X, or the complement of X, because they are all in the same phase level (see below). I now set aside the technical complexity of the analysis by H&F, because I would rather like to focus on what empirical consequences their approach brings about; actually, H&F claim that adjuncts are not merged in the tree structure like arguments, but are "introduced" or "inserted" into the derivational workplace (p.240). Anyway, the state of affairs predicted by H&F looks schematically as follows:

(8)

```
                           XP
                    ┌───────┴───────┐
                   XP               α
              ┌─────┴─────┐
             YP           X'
                     ┌─────┴─────┐
                    X            ZP
```

Here, the adjunct α can modify not only XP, but also YP and ZP. The flexibility in the positioning of adjuncts is demonstrated by the following examples (p.228):

(9)   a. [Read books quietly] (is what) John did.
      b. [Read books] (is what) John did quietly.

What is at work here is the mechanism that permits "adjuncts the flexibility to act 'inside or outside' the fronted VP" (p.227). This kind of flexibility of adjuncts is now extended to their availability of extraposition, leading to the representation in (8).

H&F emphasize that their analysis of extraposition applies only to adjuncts and not to arguments: As opposed to adjuncts, whose flexible positioning is derived by way of the new perspective on cyclic spell-out and phased-based computation (see below), arguments, which are associated with specific semantic values, must be projected or merged in "distinguished syntactic positions" (p.240). Arguments and adjuncts are thus strictly differentiated with respect to their positioning. It has surely been pointed out at times in the literature that arguments and adjuncts behave differently with respect to extraposition (cf. e.g. Kiss 2005). Not a few researchers working on extraposition, however, just presuppose, implicitly or explicitly, that both of them can or should be handled uniformly (see sec.2). Viewed with this background, H&F's approach to extraposition seems to me to be a step toward to a descriptively adequate analysis, although it can remain questionable whether the distinction between arguments and adjuncts itself and in behavior with respect to extraposition is so clear-cut (cf. e.g. Sternefeld 2006).[2]

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[2] Concerning the domain out of which extraposition takes place, Strunk & Snider (2013) show, based on their empirical research, that the "distinction between arguments and adjuncts does not seem to [them] to be crucial for the locality of extraposition" (p.112).

H&F's proposal on the flexibility of adjunct positioning is situated within the model of cyclic or multiple spell-out (cf. Uriagereka 1999), which has ever since undergone several revisions in the generative theorizing. H&F are of the opinion that "each maximal projection is a Spell-Out domain" (233f). The "key idea" for them is that "as soon as all pieces of an XP have been assembled, Spell-Out applies and 'flattens' those pieces into a word-like object", which they call a "unit", i.e. a "not tree-shaped" (p.235) object. According to H&F, the effect of spell-out is to "*compose* phonological and semantic values into larger ones that are henceforth treated as unstructured word-like units" (p.237).

It should be mentioned at this point that this view is different from the more prevalent concept of spell-out (cf. e.g. Chomsky 2008), according to which the syntactic objects that are spelt-out, i.e. transferred to the interface levels, are not accessible in the subsequent syntactic derivation any more. In addition, H&F's assumption concerning the spell-out domain and the timing of spell-out, which is also rather an uncommon one, deserves special attention; "each maximal projection is a Spell-Out domain" (see above). This is exactly the mechanism that enables the flexible positioning of adjuncts within their framework. Shortcomings of this assumption will be taken up in the next section.

Technical details aside, H&F's proposal brings about almost the same empirical consequences as that of Baltin (1981), leading to the representation in (5). The former is different, crucially, from the latter in that no rightward movement is postulated. This is desirable for H&F as well as other researchers arguing against rightward movement analyses of extraposition (cf. sec.2). H&F also point out that "the locality constraints on extraposition do not seem to be the familiar ones discovered through analysis of *wh*-movement" (p.228) and thus criticize the locality constraint postulated by Baltin (1981), who, as mentioned above, speaks for the movement analysis of extraposition.

Let us shortly summarize the important and relevant points of the proposals by H&F. It seemed, by the time their work was presented, that the research on extraposition had run out of new proposals.[3] In this sense, H&F's work deserves special mention in that this "old problem" is now being taken up from another new perspective. And their analysis is embedded within the newest model of the current generative theorizing including the idea of cyclic spell-out and

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[3] Cf. the words by Haider (1997: 115), which are cited and agreed to by Webelhuth et al. (2013: 1, 46): "Current analyses of extraposition have exhausted all options compatible with the generative theory of grammar". See also Haider (2010: Ch.5) for essentially the same standpoint. In her concluding discussion for justifying the "topological frames", Reis (1980: 81ff) already refers to "the final field", among other things, as an area where a "really serious problem arises".

phase-based computation. Concrete problems once being set aside, H&F are thus trying to derive a solution to some of the long standing problems in a way theoretically coherent with the most current generative model.

4. Some problems

In this section, I point out some problems residing in the analysis by H&F. This should serve as a step toward a descriptively more adequate analysis of extraposition to be discussed in the next section.
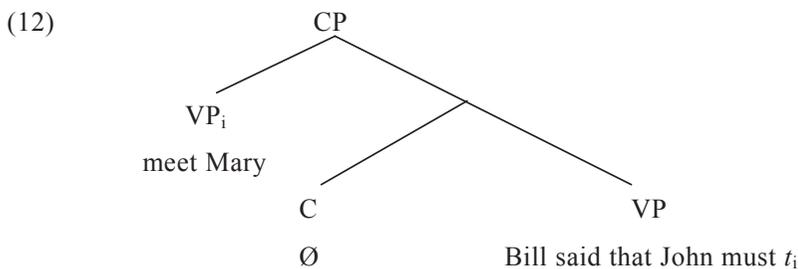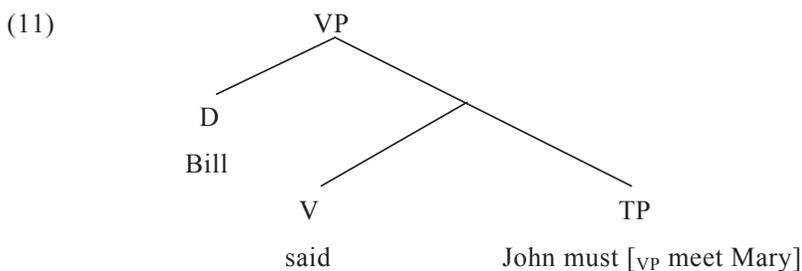
As mentioned above, H&F argue against the rightward movement analysis of extraposition, the main reason being that extraposition behaves differently from leftward movement like *wh*-movement. I would like to claim, however, that the latter empirical observation, as demonstrated in (6/7) and elsewhere, should not be taken as evidence against treating extraposition as rightward movement. I surely agree that it would be theoretically desirable if one could handle both leftward and rightward movement operations in a uniform way (and more hopefully, cross-linguistically). However, it is, unfortunately, not the case. At this point, there are at least two options: (i) to give up the assumption of extraposition as rightward movement altogether, or (ii) to regard extraposition still as movement, which is to be characterized, however, differently from leftward movement. I am of the opinion that the choice between them should be an empirical matter: If treating extraposition as rightward movement, (ii), is capable of explaining (or at least describing) empirical data more naturally and/or to a greater extent, then it should be preferred to option (i). I will demonstrate in the next section that it is actually the case.

Another methodological problem concerning the proposals by H&F is, so it seems to me, their way of cyclic spell-out. As mentioned in the previous section, their idea of the spell-out domain and the timing of spell-out is rather un unusual one within the current generative model. In order to ensure the possibility of, say, cyclic or unbounded *wh*-movement, Chomsky (2004), for example, assumes that the "edge" of a phase, i.e. the specifier and the head, is still accessible to the operation from above this phase level. In addition, the assumption of every maximal projection being a phase is not shared by every researcher; for Chomsky, typically, it is CP and vP that are regarded, at least uncontroversially, as phases. For H&F, however, "each maximal projection is a Spell-Out domain" (see above) and "as soon as all pieces of an XP [i.e. the specifier and the complement of X; J.I.] have been assembled, Spell-Out applies" (p.234). Now, they do not go on and claim, as in more standard multiple spell-out models, that the

syntactic object so built is sent to the interface levels and is not accessible to further narrow-syntactic operations any more. They instead say that "Spell-Out creates these word-like objects […] *units* […] that the system can act recursively" and that these units are "flattened" and "not tree-shaped structures" (p.234f). H&F's assumption is thus tantamount to claiming that elements once spelt-out are still in the syntactic component, but are just a linear sequence of sounds without hierarchical structure.

This assumption, however, already causes a problem concerning one example that H&F themselves discuss in order to demonstrate their mechanism of cyclic spell-out (p.235f).

(10) Meet Mary, Bill said that John must.

(11)

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                    VP
            ┌────────┴────────┐
        D                      │
        Bill          ┌────────┴────────┐
                  V                      TP
                  said              John must [VP meet Mary]
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(12)

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                    CP
          ┌──────────┴──────────┐
      VPi                        │
    meet Mary          ┌─────────┴─────────┐
                  C                         VP
                  Ø              Bill said that John must ti
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In (11), the TP has already been spelt-out by the time it merges with the V, which should mean, according to H&F, that the TP as a whole is nothing more than a "word-like object" (p.234) without "tree-shaped structures" inside it. This brings about a problem as to how the structure with VP-fronting as in (12) can be derived at all; the relevant VP should not, at the point of (11) or later, be able to form a constituent that could as such be fronted.[4] Especially considering the fact that, since the earliest days of generative research, VP-fronting or similar phenomena have been evidence for the syntactic constituency of the VP, it appears very unlikely that not the syntactic, but the after-spell-out component detects the constituency of the

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[4] In this sense, the notation "[VP meet Mary]" in (11), as formulated by H&F (p.236) and directly cited here, is misleading.

VP and activates the operation of VP-fronting. All in all, H&F's proposals on cyclic spell-out, which surely provide an explanation for the "extraposition" of adjuncts, bring about non-trivial problems concerning the whole framework of the current theorizing.

Another methodological aspect of H&F should also be mentioned. Their mechanism of modification, as schematized in (10), enables a flexible positioning of adjuncts, leading to the possibility of extraposition without resorting to movement. A problematic facet of this approach is remarked by H&F (p.242, fn.13) themselves, in that it "allows cases where an adjunct is introduced that matches two distinct candidate hosts – say, the complement and the specifier of the current phase – and so the derivation does not uniquely determine what this adjunct should semantically modify." While H&F "leave this question open", I just point out that this kind of (problem of) ambiguity does not arise under the movement analysis.[5]

Let us now turn to the empirical side. The following data are taken up by H&F themselves (p.253f):

(13) a. *I gave him$_i$ an argument [that supports John$_i$'s theory] yesterday.
      b. I gave him$_i$ an argument t yesterday [that supports John$_i$'s theory].

Both the temporal adverb and the relative clause are adjuncts and should, therefore, show flexibility in their positioning. The former modifies V or its projection, and the latter the complement of that V. According to H&F's proposal, both of these adjuncts are to be inserted during the same VP phase, and because they are adjuncts, their ordering within that single phase should not affect the relevant semantic interpretation. The data clearly show, however, that it is not the case. To this state of affairs, H&F just comment in a footnote that they "must somehow rule out […] 'string-vacuous extraposition' [such as (13a)]" (p.253), which should be "achieved by requiring that late-attaching adjuncts (i.e., adjuncts modifying the complement

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[5] Whilst this kind of ambiguity is undesirable in most cases, including the one "John bought books yesterday about syntax" as discussed by H&F themselves (cf. (25) in text below), there are cases in which the ambiguous modification appears not to be completely excluded:
i)   Bill wrote a book [about Nixon].
ii)   Peter hat ein Buch [über Chomsky] geschrieben.
As Kuthy (2002: Ch.4) discusses in detail, empirical data provide ample evidence that this kind of PPs can be interpreted not only as a modifier of the head of the object nominal, but also as modifying the verb or the verb phrase. Once we adopt the modification mechanism à la H&F for such an observation, we need not resort to something like a "reanalysis rule" (cf. e.g. Fanselow 1987: Ch.2.3, Grewendorf 1989: Ch.2.8).

or specifier of the current phase) are linearized outside any adjuncts modifying the head of the current phase" (p.254). The latter "requirement" not only is a mere stipulation, but also invalidates H&F's very idea of the flexible positioning of adjuncts. It may well be mentioned at this point that the data in (13) are amenable to more "traditional" analyses which postulate the right-adjoined structure for extraposition like (5), whether one assumes movement (cf. Baltin 1981) or not (cf. Culicover & Rochemont 1990).

H&F (p.256ff) try to extend their analysis, which started with English data, to other languages. Let us note, first of all, that their proposals concerning the cyclic spell-out and the phase-based computation, which enable the flexibility in the positioning of adjuncts, should hold good universally. If so, the extraposition in other languages should in principle underlie essentially the same kind of constraints.

   After demonstrating first that French exhibits basically the same contrast as in (2), i.e., that extraposition from inside a complex subject is disallowed, H&F turn to Germanic languages, mainly to German: H&F present data, originally from Wiltschko (1997: 387), showing that the same is true also for German:

(14) a. [Einer [der Männer] *t*] ist gekommen [der gerne Bier trinkt].
      b. *[Einer [der Männer *t*]] ist gekommen [die gerne Bier trinken].

As far as "extraposition" from a syntactically more deeply embedded position is harder, H&F's analysis seems to find a natural extension also in German.

   However, H&F (p.258) already note some counterexamples to their analysis like the following:[6]

(15) Man hat [die Frau [des Boten *t*]] beschimpft, [der den Befehl überbrachte].[7]
(16) Er hat [die Zeit [vor dem Versuch *t*]] gut verbracht [der ihn berühmt machen sollte]
      (Haider 1995: 259)

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[6] Webelhuth et al. (2013: 3f) show that the corresponding data in English are controversial: "At least some of the instances of the structure [like (15/16); J.I.] seem to be grammatical for some native speakers of English".
[7] H&F attribute example (15) to Kiss (2005: 285). However, it originally stems from Haider (1995: 259).

Here, the "extraposition" is taking place from a too deeply embedded position, so that the schema (8) does not apply and unacceptability is expected, contrary to fact. No explanation is provided by H&F for this kind of data.

H&F acknowledge that German behaves differently from English with respect to extraposition: "The fact that the object-modifying adjunct in [(18)] is not rescued from the Condition C effect by extraposition is inconsistent […] with the English contrast" in (13) above, here repeated as (17) (p.254, 257f):

(17) a. *I gave him$_i$ an argument [that supports John$_i$'s theory] yesterday.

   b. I gave him$_i$ an argument *t* yesterday [that supports John$_i$'s theory].
(18) ??Es hat ihr$_i$ jemand eine Geschichte *t* erzählt [die Ida$_i$ ängstigte].

In the face of these data, H&F are forced to "assume that while the indirect object *ihr* 'her' in [(18)] is (for purposes of Condition C) in a higher phase than the direct object, the indirect object *him* in [(17)] is in the same phase as the direct object" (p.258). This stipulation, however, remains unmotivated. What is crucial with the relative clause extraposition in German is rather the observation that the semantically relevant relationship is not affected by extraposition, unlike in English. Compare the contrast in (17) with that between (18) and (19):

(19) ??Es hat ihr$_i$ jemand eine Geschichte [die Ida$_i$ ängstigte] erzählt.

For further argument that the relative clause extraposition in German shows complete "reconstruction" effects, see, among others, Büring & Hartmann (1997) and Inaba (2007: Ch.5), some of which will be recapitulated in the next section.

I have so far pointed out some of the problems that might arise from the approach by H&F. Additional difficulties will become clear when we turn to data from German, a language that apparently possesses the same phenomenon as the extraposition in English. This is the topic of the next section.

5. Extraposition in English and German
I now turn to data from German and compare them with the hitherto findings from English. Specifically, I cast doubt on the currently prevalent and mostly presupposed view that the extraposition in English and that in German are syntactically comparable operations.

Since German seems to be, next to English, one of the most well-studies languages, it is a natural consequence that one is inclined to apply the analysis of some phenomenon observed in English to that in German, if the latter also exhibits a similar phenomenon. And in the case of extraposition, the two languages do seem to possess apparently same properties: (i) Some constituents are moved from their "canonical" position rightward, (ii) this movement is in principle optional,[8] (iii) there is a large similarity between the two languages as to which constituents can be extraposed; notably relative clauses, complements to nouns, PPs.[9] In this section, I argue that the extraposition in English and German should nonetheless be characterized differently, at least in the following points.

First, it should be pointed out that the extraposition in German behaves differently from that in English with respect to semantic effects, as argued for in Inaba (2007: Ch.5). Let us take up the relevant discussion briefly here: As already observed by other authors (cf. Culicover & Rochemont 1990, etc.) and in (17) above, repeated here as (20), the relative clause extraposition in English can bring about semantic effects, such as binding relationship:

(20) a. *I gave him$_i$ an argument [that supports John$_i$'s theory] yesterday.

     b. I gave him$_i$ an argument t yesterday [that supports John$_i$'s theory].

In German, however, no such contrast is found, as exemplified in (18) and (19) above, here repeated as (21):

(21) a. ??Es hat ihr$_i$ jemand [die Ida$_i$ ängstigte] eine Geschichte erzählt.

     b. ??Es hat ihr$_i$ jemand eine Geschichte t erzählt [die Ida$_i$ ängstigte].

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[8] Empirically, the "extraposition" of sentential complements of verbs is almost obligatory in German. However, there are (in my opinion convincing) arguments that the sentential complement located to the right of the selecting verb has not actually been moved rightward, but is base-generated there (cf. e.g. Haider 1997). This case of (almost) obligatory "extraposition" can therefore be excluded from our current discussion dealing exclusively with really optional extraposition.

[9] Extraposition of NPs is very marginal in German, underlying pragmatic and/or parsing-related conditions (e.g. „sofern sie durch nachgestellte Attribute […] erweitert sind"; S.512):

i)   *Er hat t gefragt [den Lehrer].   (Haider 1995: 267)

ii)   dass keiner jemals [Bücher t] gelesen hat [des großen Dichters Schneider].   (Müller 1995: 218)

iii)   Wir haben aus Steuergeldern t gebaut [Wohnungen für nahezu zwanzigtausend Menschen].
        (S.513)

Corresponding rightward movement of NPs in English would be a so-called heavy NP shift, which likewise is restricted by some constraints not inherent in core syntax, as the name implies.

Let us present further data showing the different behavior in extraposition between English and German in this respect (Inaba 2007: Ch.5):

(22) a. I showed every book$_i$ to the professor [that wrote a review of it$_i$]

   b. ?*I showed every book$_i$ to the professor t yesterday [that wrote a review of it$_i$]

(23) a. Wir haben niemandem$_i$ die Frage [auf die er$_i$ sich vorbereitet hatte] gestellt.

   b. Wir haben niemandem$_i$ die Frage t gestellt [auf die er$_i$ sich vorbereitet hatte].

Speaking of extraposition as an instance of rightward movement, we can maintain that it is a syntactic right-adjunction operation in English: The extraposed relative clause is located in some higher position so that it cannot be c-commanded by a post-verbal matrix element (i.e. *him* in (20b) and *every book* in (22b)). In German, in contrast, the extraposed relative clause semantically behaves as if it still remains in its canonical position; in other words, extraposition does not influence the relevant semantic interpretation. This crucial difference between the two languages with respect to extraposition should, so it seems to me, be taken seriously, which has not been the case in most of the hitherto research.[10]

The second issue is directly related to the observation above, i.e. that the extraposed relative clause in German behaves as if it still remains in its base position with respect to its relevant semantic interpretation. This makes implausible all the analyses of extraposition that does not postulate the rightward movement of the relative clause, at least for German: Under the base generation analyses, there is namely no "base position" into which the extraposed relative clause could be reconstructed for the sake of semantic interpretation. This can be regarded as another shortcoming of the proposal by H&F so long as they try to subsume the relative clause extraposition in German under their analysis.

Thirdly, I would like to shed light on another aspect that is usually taken for granted in the analysis of extraposition in English and German. The question to be posed here is whether the extraposition in the two languages should be comparable operations at all, beside the semantic effects just mentioned. As introduced in section 3, at the basis of the analysis by H&F is their claim that adjuncts are inserted into the syntactic structure rather freely, leading to the flexibility in word order. Let us once again take up the concrete examples (H&F: 238ff):

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[10] Based on their corpus-based study, Strunk & Snider (2013) claim that the extraposition in the two languages behave in a similar way with respect to locality. They do not, however, touch on the interpretative aspect of the extraposition as investigated here in the text.

(24) John bought books [about syntax] [yesterday].

(25) John bought books [yesterday] [about syntax].

The main claim H&F make is, roughly speaking, that the two non-arguments, PP and temporal adverbial, can be linearized flexibly. In other words, the originally DP-internal adjunct PP can be "extraposed" freely. Because the mechanism of flexible insertion of adjuncts, situated within their phase-based model, is to be regarded as a core principle of universal grammar, the same mechanism should apply also to the extraposition in German (or in any other relevant languages). In German, however, not every adjunct can be extraposed freely (judgment of (26) and (27) by my informants):

(26) a. ?Peter hat gestern ein Buch *t* gekauft [über Syntax].

   b. ?Peter hat *t* ein Buch [über Syntax] gekauft [gestern].

   c. ?Peter hat *t* ein Buch *t* gekauft [gestern] [über Syntax].

   d. ??Peter hat *t* ein Buch *t* gekauft [über Syntax] [gestern].

(27) a. ??Peter hat seinen Sohn *t* beschimpft [stark].

   b. ??Eric hat einen Brief *t* verfasst [sorgfältig].

(28) *Sie hat *t* gesungen [viel schneller].   (Haider 2000: 70)

The adjuncts in the above examples all modify the V, its projection, or the complement of the V, just as the adjuncts in (25) do, and should therefore be able to be inserted freely within the relevant phase level, here the VP. The acceptability of the "extraposed" versions here ranges, however, from unnatural to unacceptable, as opposed to the well-formed case in English above.

      In this section, I have tried to show whether and how the analysis for extraposition proposed by H&F can be extended to German, a language in which extraposition has also been studied intensively next to English. I have shown that the extraposition in the two languages are in need of different characterization in spite of their superficial similarities.

6. Discussion and concluding remarks

Based on the discussion in the previous section, I would now like to consider the fundamental difference between English and German with respect to the operation dubbed "extraposition". I suggest a possible line of research before concluding this paper.

Extraposition in English is an operation that moves a constituent *somewhere* to the right of its base or canonical position. English is an undoubtedly VO-language, and the domain to the right of the verb, in which the extraposed element lands, is so to say "open": So long as the locality constraint, whatever it might exactly look like, is observed, the extraposition can land anywhere within that domain. The following kind of data from Rochemont & Culicover (1990: 58) demonstrates this:

(29) a. A man *t* was painting the wall fully clothed [(who was) from Philadelphia].
      b. A man *t* was painting the wall [(who was) from Philadelphia] fully clothed.

My informants provide me with other examples:

(30) a.?John read a book *t* at school yesterday [about syntax].
      b. (?)John read a book *t* at school [about syntax] yesterday.
(31) a. ?I caught a plane *t* yesterday at 5.30 [to Guam].
      b. ?I caught a plane *t* at 5.30 [to Guam] yesterday.

These data show that the extraposition in English can target not only the clause-peripheral position (a), but also some non-final position to the right of the main verb.[11]

In German, however, the operation dubbed "extraposition" is not completely identical with that in English in the relevant sense. It does not suffice to move some constituent just rightward, but the moved constituent must land to the right of the clause-final verb or verbal element(s), i.e. in the domain called *Nachfeld* ('post-field'). There is no rightward movement operation called "extraposition" in German that targets some position to the left of the clause-final verb or in the *Mittelfeld* ('middle-field'):

(32) a. *dass den Satz *t* alle [der hier steht] ungrammatisch finden   (Haider 1995: 265)
      b. ?dass den Satz *t* alle ungrammatisch finden [der hier steht]
      c. (?)dass alle den Satz *t* ungrammatisch finden [der hier steht]

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[11] This does not mean that extraposition in English can land in any position within the relevant local domain. It cannot target, for example, positions designated for arguments or those between arguments. Possible landing sites are those positions to the right of the arguments, which are typically regarded as right-adjoined positions. This is supported by the following examples from Kayne (1994: 120f):
i)   *Someone *t* just walked [who we don't know] into the room.

(33) a. *Da redete mich plötzlich ein Mann *t* sehr freundlich [den ich gar nicht kannte] an.

   b. Da redete mich plötzlich ein Mann *t* sehr freundlich an [den ich gar nicht kannte].

   (Reis 1980: 69)

In (32a) and (33a), the distance of the rightward movement that has taken place is both structurally and linearly smaller than that in (32b) and (33b). The former examples are, nonetheless, hopelessly unacceptable. Thus, extraposition in German is not simply a rightward movement operation, but must land in the *Nachfeld*, however this grammatical concept is integrated into the universality demand of the P&P framework. In this sense, it seems that the phenomena subsumed under "extraposition" thus far in German might better be dubbed "Ausklammerung" (roughly; 'exclusion (out of the clausal frame)').

   I pointed out in section 5 some differences between English and German in the operation called "extraposition". Although I cannot provide a full-fledged account for the observed facts, I would like to suggest that the very existence of the so-call sentential frame ('Satzrahmen') in German plays a crucial role in this research area (see Reis 1980 for some arguments). And this is a direct reflex of the fact that the verb in German governs to the left and thus closes off the clause. It should be also remembered at this point that the sentence can be regarded as the extended projection of the verb (cf. e.g. Grimshaw 2000). Seen in this light, the relevant differences between English and German discussed in this paper might eventually be derived from the so-called directionality parameter.[12] How this can be achieved in a refined and theory-coherent way, taking the universality demand of the P&P model also into consideration, I would like to leave to further research.

References

Baltin, M. (1981) "Strict Bounding." In: C. Baker & J. McCarthy (eds.) *The Logical Problem of Language Acquisition*. Cambridge, Mass.: MIT Press: 257–295.

Baltin, M. (2006) "Extraposition." In: Everaert & Riemsdijk (eds.), Vol. II: 237–271.

Beerman, D., D. Le Blanc & H. v. Riemsdijk (eds.) (1997) *Rightward Movement*. Amsterdam & Philadelphia: John Benjamins.

Chomsky, N. (1973) "Conditions on Transformation." In: S. Anderson & P. Kiparsky (eds.):

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ii)   Someone *t* just walked into the room [who we don't know].
[12]   See, among others, Haider (2010), who tries to derived a series of differences between English and German in various syntactic phenomena from this directionality parameter.

232-286.

Chomsky, N. (1977) *Essays in Form and Interpretation*. New York: North-Holland.

Chomsky, N. (1981) *Lectures on Government and Binding. The Pisa Lectures*. Berlin & New York: de Gruyter.

Chomsky, N. (2004) "Beyond Explanatory Adequacy." In: Belletti (ed.): 104–131.

Chomsky, N. (2008) "On Phases." In: R. Freidin, C. Otero & M.-L. Zubizarreta (eds.) *Foundational Issues in Linguistic Theory*. Cambridge, Mass.: MIT Press: 133-166.

Culicover, P. & M. Rochemont (1990) "Extraposition and the Complement Principle." *Linguistic Inquiry* 21-1: 23–47.

De Kuthy, K. (2002) *Discontinuous NPs in German. A Case Study of the Interaction of Syntax, Semantics, and Pragmatics*. Stanford: CSLI Publications.

Fanselow, G. (1987) *Konfigurationalität*. Tübingen: Narr.

Grewendorf, G. (1989) *Ergativity in German*. Dordrecht: Foris.

Grimshaw, J. (2000) "Locality and Extended Projection." In: P. Coopmans, M. Everaert & J. Grimshaw (eds.) *Lexical Specification and Insertion*. Amsterdam & Philadelphia: John Benjamins: 115–133.

Guéron, J. (1980) "On the Syntax and Semantics of PP Extraposition." *Linguistic Inquiry* 11: 637–678.

Guéron, J. & R. May (1984) "Extraposition and Logical Form." *Linguistic Inquiry* 15: 1–31.

Haider, H. (1994) "Detached Clauses – The Later the Deeper." Arbeitspapiere des SFB 340, 41: Universität Stuttgart.

Haider, H. (1995) "Downright Down to the Right." In: Lutz & Pafel (eds.): 245–271.

Haider, H. (1997) "Extraposition." In: Beerman et al. (eds.): 115–151.

Haider, H. (2000) "Adverb Placement – Convergence of Structure and Licensing." In: A. Alexiadou & P. Svenonius (eds.) *Adverbs and Adjunction (Linguistics in Potsdam)*. Potsdam: 50–77.

Haider, H. (2010) *The Syntax of German*. Cambridge: Cambridge UP.

Haider, H. (2013) *Symmetry Breaking in Syntax*. Cambridge: Cambridge UP.

Hunter, T. & R. Frank (2014) "Eliminating Rightward Movement: Extraposition as Flexible Linearization of Adjuncts." *Linguistic Inquiry* 45-2: 227-267.

Inaba, J. (2007) *Die Syntax der Satzkomplementierung: Zur Struktur des Nachfeldes im Deutschen*. Berlin: Akademie Verlag.

Kayne, R. (1994) *The Antisymmerty of Syntax*. Cambridge, Mass.: MIT Press.

Kiss, T. (2005) "Semantic Constraints on Relative Clause Extraposition." *Natural Language and Linguistic Theory* 23: 281–344.

Lasnik, H. & M. Saito (1992) *Move α. Conditions on its Application and Output*. Cambridge, Mass.: MIT Press.

Müller, G. (1995) "On Extraposition & Successive Cyclicity." In: Lutz & Pafel (eds.): 213–243.

Reinhart, T. (1983) *Anaphora and Semantic Interpretation*. London & Sydney: Croom Helm.

Reis, M. (1980) "On Justifying Topological Frames: 'Positional Field' and the Order of Nonverbal Constituents in German." *DRLAV: Revue de Linguistique* 22/23: 59–85.

Rochemont, M. & P. Culicover (1997) "Deriving Right Adjuncts in English." In: Beerman et al. (eds.): 279–300.

Ross, J. (1967) *Constraints on Variables in Syntax*. Ph.D. Diss. MIT.

Ross, J. (1986) *Infinite Syntax!* Norwood: Ablex.

Sternefeld, W. (2006) *Syntax. Eine morphologisch motivierte generative Beschreibung des Deutschen*. Tübingen: Stauffenburg.

Strunk, J. & N. Snider (2013) "Subclausal Locality Constraints on Relative Clause Extraposition." In: Webelhuth et al. (eds.): 99-143.

Uriagereka, J. (1999) "Multiple Spell-Out." In: S. D. Epstein & N. Hornstein (eds.) *Working Minimalism*. Cambridge, MA: MIT Press: 251-282.

Vries, M. (2002) *The Syntax of Relativization*. Ph.D. Diss. University of Amsterdam.

Webelhuth, G., M. Sailer & H. Walker (eds.) (2013) *Rightward Movement in a Comparative Perspective*. Amsterdam & Philadelphia: John Benjamins.

Webelhuth, G., M. Sailer & H. Walker (2013) "Introduction by the Editors." In: G. Webelhuth et al. (eds.): 1-60.

Wiltschko, M. (1997) "Extraposition, Identification and Precedence." In: Beerman et al. (eds.): 358–395.