Positional Expletives in Danish, German, and Yiddish

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Abstract

This paper deals with expletives that are inserted into clauses for structural reasons. We will focus on the Germanic languages Danish, German, and Yiddish. In Danish and Yiddish expletives are inserted in preverbal position in certain *wh* clauses: For Danish such an insertion is necessary when the subject is locally extracted from an SVO configuration in non-assertive clauses. In Yiddish *wh* clauses are formed from a *wh* phrase and a V2 clause. If no element would be fronted in the embedded V2 clause, an expletive is inserted in non-assertive clauses in order to meet the V3 requirement. In addition to the embedded *wh* clauses, declarative V2 clauses also allow the insertion of an expletive. In Danish the expletive fills the subject position and is not necessarily fronted. In German and Yiddish the expletive has to occur in fronted position. In contrast to Danish and Yiddish, German does not insert expletives in *wh* clauses. They are inserted only into declarative V2 clauses in order to fulfill the V2 requirement without having to front another constituent. In this paper we try to provide an account that captures the comonnalities between the three languages while being able to account for the differences.

1   Introduction

This paper deals with expletives that are inserted into clauses for structural reasons. We will focus on the Germanic languages Danish, German, and Yiddish. In Danish and Yiddish expletives are inserted in preverbal position in certain *wh* clauses: For Danish such an insertion is necessary when the subject is locally extracted from an SVO configuration in non-assertive clauses. In Yiddish *wh* clauses are formed from a *wh* phrase and a V2 clause. If no element would be fronted in the embedded V2 clause, an expletive is inserted in non-assertive clauses in order to fill the V3 requirement. In addition to the embedded *wh* clauses, declarative V2 clauses also allow the insertion of an expletive if no other element is fronted. In contrast to Danish and Yiddish, German does not insert expletives in *wh* clauses. They are inserted only into declarative V2 clauses in order to fulfill the V2 requirement without having to front another constituent. In this paper we try to provide an account that captures the comonnalities between the three languages while being able to account for the differences.

The paper will be structured as follows: Section 2 discusses the phenomenon in detail. Each language is described in a separate subsection with special discussion of *wh* clauses in Danish. Section 3 discusses the analyses: we suggest a lexical rule for the introduction of an expletive that accounts for expletive insertion in all three languages. We will show that Danish expletive insertion is more restrictive than the one in Yiddish since the expletive is inserted in cases of local subject extraction

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only. The distribution of the expletive in German follows from its SOV character without any further assumption. Section 4 draws a conclusion.

2   The Phenomenon

The following three subsections deal with Danish, Yiddish, and German, respectively. Each subsection comes with a part that gives some background information on the respective language and a second part in which the positional expletives are described.

2.1   Danish

2.1.1   Background

In Danish, the finite verb is either in first (V1) or in second position (V2). We call the V1 and V2 serialization inverted and the VP serialization uninverted. Examples for an uninverted and an inverted serialization are given in (1a) and (1b) respectively.

(1)   a.   fordi   [$_S$ Max [$_{VP}$ ikke [$_{VP}$ læser bogen]]]
           because   Max   not   reads book.DEF
           'because Max is not reading the book'

       b.   [$_S$ Max [$_{VP}$ læser [$_{VP}$ ikke [$_{VP}$ _$_i$ bogen]]]].
                Max   reads   not   book.DEF
           'Max is not reading a book.'

The position of the finite verb relative to the sentential negation provides evidence for verb fronting. In the non-fronted example in (1a) the finite verb follows the sentential negation. In the fronted example in (1b) the finite verb precedes the sentential negation which left-adjoins to the VP.

The two positions correlate roughly with root and embedded clauses, but both verb positions can occur embedded and non-embedded as shown for a non-fronted verb in (2b) and (2c).[1]

(2)   a.   Hvem havde egentlig placeret bomben?
           who   had   after.all placed bomb.DEF
           'Who had placed the bomb after all?'

       b.   Politiet   ved   ikke, hvem der   egentlig havde placeret bomben.[2]
           police.DEF knows not   who   EXPL actually had   placed bomb.DEF
           'The police doesn't know who had placed the bomb after all.'

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[1] Examples with (DK) are extracted from *KorpusDK*, a corpus of 56 million words documenting contemporary Danish (http://ordnet.dk/korpusdk).

[2] DK

c. Hvem der   var så heldig at bo der.[3]
    who   EXPL was so lucky to live there
    'Wish I was so lucky as to live there.'

2.1.2 Positional Expletives

In this subsection, we first discuss expletives in *wh*-clauses. Danish *wh*-clauses consist of a fronted *wh*-element and a uninverted clause from which the *wh*-element is extracted. In non-assertive clauses (interrogatives or exclamatives) without verb fronting, a *wh*-subject requires the presence of the expletive *der* ('there') in subject position:[4] In comparison to (2b) the sentence in (3) is ungrammatical:

(3) Politiet   ved   ikke, hvem egentlig havde placeret bomben.
    police.DEF knows not   who actually had   placed bomb.DEF
    'The police doesn't know who had placed the bomb after all.'

This phenomenon is also observed in other V2 languages with head-initial VPs such as Swedish, Norwegian (Taraldsen, 1978; Engdahl, 1985), and Yiddish (Diesing, 1990).

The expletive has been analyzed as the relative *der* ('there') occurring as a subject relativizer in relative and free relative clauses (Vikner, 1991; Mikkelsen, 2002). But the *wh*-clauses in (2b) and (2c) are not relative clauses. They are indeed clauses and not NPs with a nominal *wh*-head and a relative clause as we show in the following.[5]

Embedded *wh*-clauses occur in S-positions and not NP-positions and like other clausal complements they trigger the default, neuter ending *-t* on agreeing predicative adjectives (4a) instead of the common gender ending $\varnothing$ that we see in (4b):

(4) a. Hvem der   kommer, er usikkert.
         who   EXPL comes   is uncertain.SG.NEUT

    b. Hvem er usikker?
         who   is insecure.SG.COMM

If *hvem edr kommer* would be an NP we would expect the common gender agreement like in (4b). Since this is not the case an analysis as interrogative clause with an expletive element rather than a relative pronoun is the only viable analysis.

Additional evidence for this analysis is provided by the fact that embedded *wh*-clauses can be extraposed and subject *wh*-clauses are anticipated by the pronoun *det* ('it') like other clausal subjects (see also Bresnan and Grimshaw, 1978 for English):

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[3]DK

[4]The expletive does not occur in *wh-in-situ*-questions: *han fortæller, HVEM kommer?* ('he is telling WHO comes?'). This confirms that the expletive signals dislocation of the *wh*-subject in non-reprise questions.

[5]Free relatives in Danish can be shown to be NPs headed by the *wh*-word and not clauses dominated by an NP as suggested for German in Müller, 1999.

(5)　…, da　[det] blev opklaret,　hvem der　havde malet　billedet,[6]
　　　　when it　was discovered who　EXPL had　painted picture.DEF
　　　　'… when it was found out who had painted the picture,'

Extraposed NPs are impossible or highly marked.

Furthermore embedded *wh*-clauses allow pied-piping of a PP. This is expected since the *wh*-constituent is a complement of the embedded verb and not of the matrix predicate. Note that Danish allows clausal complements of prepositions (the *wh*-clause is the complement of the preposition *om* ('about')).

(6)　Man var　aldrig i　tvivl　om,　for hvem　hans hjerte slog.[7]
　　　you were never in doubt about for whom his　heart beat
　　　'You never had any doubts for whom his heart was beating.'

In addition *hvem* ('who') does not occur in free subject relative clauses (Hansen, 1967), but *hvem* ('who') is possible as a subject in embedded *wh*-clauses.

(7)　a.　??/* Hvem der　ryger,　får　en bøde.
　　　　　who　EXPL smokes gets a　ticket
　　　　　'Whoever smokes, gets a ticket.'

　　　b.　Hvem der　ryger,　vides　ikke.
　　　　　who　EXPL smokes is.known not
　　　　　'Who is smoking, is not known.'

Finally, the expletive only occurs in non-assertive *wh*-clauses. It does not occur in assertive *wh*-clauses such as relative clauses modifying a non-*wh*-head.[8]

(8)　De to　ungdomsveninder, hvis　børn　nu　giftede sig　med
　　　the two school day friends　whose children now married REFL with
　　　hinanden.[9]
　　　each other
　　　'The two school days friends whose children now were marrying each other.'

Thus we conclude that the clauses containing *der* ('there') in (2b) and (2c) are not relative clauses with a relative pronoun *der* but rather interrogative and exclamative clauses with an expletive.

Having established that the *der* is an expletive pronoun, the question remains under what circumstances such expletives may be or have to be inserted. The generalization appears to be that the subject position must be filled in non-assertive clauses without verb fronting. On the analysis in Erteschik-Shir, 1984 the expletive

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[6]DK

[7]DK

[8]The data is slightly more complex. The *wh*-word *hvad* ('what') is exceptional in always requiring the expletive, also in appositive relative clauses (Theilgaard, 2009). In addition, Vikner (1991) also accepts an optional expletive in relative clauses such as the one in (8). We have found no authentic examples of this.

[9]DK

signals that the subject has to be found elsewhere. But this cannot be entirely correct. As (9) shows, no expletive occurs after an adverbial *wh*-constituent,[10] and the expletive is only optional when the *wh*-subject is extracted into the matrix clause as in (10).[11]

(9)   Hvem ved   du ikke hvor   (*der)   bor?
         who   knows you not   where   EXPL lives
         'Who don't you know where he lives?'

(10)   Hvem påstår politiet   (der)   havde placeret bomben?
         who   claims police.DEF EXPL had   placed   bomb.DEF
         'Who does the police claim had placed the bomb?'

The clause *påstår politiet* ('claims the police') in (10) is no parenthetical clause as claimed by Erteschik-Shir (1984). As (11) shows, it allows adverbial modification, which is disallowed by parenthetical clauses (see Reis, 1996).[12]

(11)   Hvem påstår politiet   [egentlig] havde placeret bomben?
         who   claims police.DEF actually had   placed   bomb.DEF
         'Who does the police after all claim had placed the bomb?'

The expletive is thus only obligatory in local extraction. For that reason the expletive cannot be an element in C ensuring proper government of the subject trace as proposed by Engdahl (1985). If this were the function of the expletive, it should be obligatory in non-local extraction as well. The correct generalization appears to be that the expletive is obligatory to avoid string-vacuous extraction in non-assertive clauses without verb fronting. Without the expletive, a *wh*-clause as the one in (2b) is structurally ambiguous.

(12)   a.   [$_S$ hvem$_i$ [$_{s/np}$ _$_i$ kommer]]
           who   comes
      b.   [$_S$ hvem kommer]

This ambiguity does not arise in (9), since *hvor* ('where') as an adverbial *wh*-word can never be a subject, and no ambiguity arises when the *wh*-constituent is extracted into the matrix clause, since the matrix clause is either a clause with verb fronting as in (11) or an embedded clause with a filled subject position as in (13).

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[10]The present account actually predicts the expletive to be optional here, contrary to fact. It appears that the optional expletive can only be clause-initial, see footnote 11.

[11] An optional *der* ('there') is also observed with extracted *non-wh*-subjects:

   (i)   Ham tror   jeg (der)   vinder
        him   think I   EXPL wins
        'As for him, I think he is going to win.'

[12]This pattern is also observed with the verbal particle *mon* ('I wonder'). This is unexpected if *mon* is an adverbial and no C-element as claimed in Erteschik-Shir (2010): *hvem mon der turde det* (DK) ('who MON DER dared that'). Here the expletive is also optional.

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(13)   Han spurgte, hvem [de] troede (der) vandt.
  he asked who they thought EXPL won
  'He asked who they thought was going to win.'

Thus, the presence of the subject expletive shows that the *wh*-constituent is not in subject position (see footnote 4) and that the verb is non-fronted.

  While we have been discussing expletives mainly in the context of interrogatives, they are not restricted to interrogatives: it is possible to have them in normal V2 sentences, as the examples in (14) demonstrate:

(14) a. Der kom nogle klovne ind
    EXPL came some clowns PART

  b. Så kom der nogle klovne ind ...[13]
    then came EXPL some clowns PART
    'Then some clowns entered ...'

(14a) shows that the *der* can fill the position before the finite verb and (14b) shows that it is also possible to keep the expletive in the postverbal area.

2.2 Yiddish

In the following section we want to compare Danish with Yiddish which also features an expletive in local *wh*-extraction in non-assertive clauses. A comparison with Yiddish is interesting since Yiddish is a West Germanic language with embedded topicalization and a dominant VO order. Thus it differs from German in being VO and it differs from Danish in having embedded topicalization (which is restricted in Danish).

2.2.1 Background

Yiddish is a V2 language just like Danish (Prince, 1989; Diesing, 1990, 2004). The first position can be occupied by almost any constituent, but canonically it is occupied by the subject (Prince, 1989, p. 3). This is also the position of the *wh*-word in a *wh*-main clause (examples from Diesing (2004), her examples (1b), (1c) and (5b)).[14]

(15) Maks vet zingen a lidl
   Max will sing a song
   'Max will to sing a song.'

(16) Nekhtn hot maks gezungen a lidl
   yesterday has Max sung   a song
   'Yesterday, Max sang a song.'

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[13]KorpusDK

[14]Diesing (2004) shows that Yiddish also allows multi frontings of *wh*-constituents in *wh*-main clauses. We will not be concerned with that here, but our account can accommodate these structures by allowing head-filler structure to have another head-filler-structure as the head-daughter.

(17) Ver hot gegesn a brukve
      who has eaten   a turnip
      'Who ate a turnip?'

According to Diesing (1990, p. 41–42), Yiddish is an SVO language. Diesing assumes that the finite verb moves for interrogative verb inital and V2 sentences. This is motivated by considering particle verbs: The infinitive form of particle verbs looks like the German form, that is, the particle is serialized to the left of the verb (18a). As in German, the particle is stranded in declarative clauses with a finite verb (18b), it cannot be linearized leftadjacent to the verb as in (18c).

(18) a. Ikh vel avekshikn dos bukh.
          I   will away-send the book
          'I will send away the book.'

      b. Ikh shiki avek vi dos   bukh.
          I   send away the book

      c. * Ikh avekshik   dos bukh.
          I   away-send the book

In contrast to Danish, Yiddish also exhibits the V2 order in embedded clauses, that is, any constituent can be fronted, also in the presence of a complementizer (19a) or a *wh*-word in an interrogative clause (19b).

(19) a. Ikh meyn az   haynt hot Max geleyent dos bukh.[15]
          I   think that today has Max read   the book
          'I think that Max read the book today.'

      b. Ikh veys nit [vos   Max hot gegesn].[16]
          I   know not what Max has eaten
          'I don't know what Max has eaten.'

2.3 Positional Expletives

Embedded interrogative clauses differ from main clauses in that *wh*-words do not occur in the position immediately before the finite verb. *wh*-words are combined with V2 clauses, giving rise to V3-clauses as in Diesing's example in (19b). In (19b) the preverbal position is filled by the subject *Max*. If the subject is a *wh*-word itself or if the subject stays in post-verbal position (either within the S or in an extraposed position), the preverbal position has to be filled by another constituent. If no other constituent is fronted, the expletive *es* ('it') occurs (Prince, 1989; Diesing 1990, Section 5.1, 2004). Compare the following examples from Prince (1989) (her examples (2b), (3b) and (6b)).

(20) a. ver   es   iz beser far ir   iz beser far mir
          whoever EXPL is better for her is better for me
          'Whoever is better for her is better for me.'

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[15]Diesing, 1990, p. 58.
[16]Diesing, 1990, p. 68.

b. ikh hob zi gefregt ver es   iz beser far ir
    I   have her asked who EXPL is better for her
    'I have asked her who is better for her.'

c. ikh hob im gefregt vemen es   kenen ale dayne khaverim
    I   have him asked whom EXPL know all your friends
    'I asked him whom all your friends know.'

The only exception are subject-relative clauses where the topic position is allowed to be empty. Compare example (21) from Prince (1989) (her example (1a)).

(21) der melamed vos iz beser far ir   (is beser far mir).
      the teacher   that is better for her is better for me
      'The teacher that is better for her is better for me.'

The generalization is the same as in Danish: an embedded *wh*-clause is always V3 (except for subject relative clauses). The difference between Danish and Yiddish is that the position of the subject is fixed in Danish *wh*-clauses: The subject can only occur to the left of the finite verb. Therefore the expletive only occurs in subject-extraction which would otherwise result in a V2 structure. In Yiddish, the subject can also occur postverbally.

The insertion of expletives is not restricted to *wh*-clauses. Example (22) shows that the insertion of an expletive is possible if the speaker does not want to front another element:

(22) Es   geyn mentshn.
      EXPL walk people
      'There are people walking.'

In contrast to Danish, the expletive has to be fronted, though:

(23) * Mentshen geyn es.
        people   walk EXPL

2.4 German

2.4.1 Background

Like Danish and Yiddish, German is a V2 language. However it differs from these two languages in beeing an SOV language. Like in Yiddish the particle of a particle verb is serialized to the left of the verb for non-finite verbs and finite verbs in final position. In V1 and V2 clauses however, the particle remains in final position and the verb is linearized initially.

2.4.2 Positional Expletives

Interestingly, unlike Danish and Yiddish, German does not allow positional expletives in verb-final clauses at all. So clauses with a complementizer, embedded

interrogative clauses, and relative clauses do not allow for positional expletives, as the respective examples in (24a–c) show:

(24)　a.　* dass es　　ein Mann hereinkommt
　　　　　that EXPL a　man　into.comes
　　　　　'that a man entered'

　　　b.　* Ich frage　　mich, wer es　　hereinkommt
　　　　　I　wonder SELF　who EXPL into.comes
　　　　　'I wonder who entered.'

　　　c.　* der Mann, der es　　hereinkommt
　　　　　the man　who EXPL enters

However, like in Yiddish it is possible to have an expletive in the preverbal position in a V2 clause. This expletive can be used to get the V2 sentence type without having to front another constituent of the sentence. (25) shows an example:

(25)　Es　　kamen drei　Männer zum　Tor　herein.
　　　EXPL came　three man　　to.the door　in
　　　'There were three man entering the door.'

Like in Yiddish, the expletive is restricted to the position before the finite verb. Sentences with the expletive in the Mittelfeld are ungrammatical:

(26)　* Drei　Männer kamen es　　zum　Tor hinein.
　　　three man　　came　to.the door　in

3　The Analysis

This section consists of three subsections: Subsection 3.1 is concerned with linking, Subsection 3.2 with clause structure, Subsection 3.3 discusses the lexical licensing of expletives, Subsection 3.4 gives example analyses of interrogative clauses and Subsection 3.5 specifies constraints on the distribution of expletives.

3.1　Linking

We assume that all grammars of natural languages contain a feature called ARG-ST that describes the valents that depend on a certain head. This list is mapped to valence features like SPR and COMPS. The mapping can differ from language to language or rather from language class to language class. For instance, English, Danish and Yiddish map the subject of a verb onto SPR and all other arguments onto COMPS, and German maps all arguments of finite verbs onto COMPS, the value of SPR being the empty list.

　　Lexical items for transitive verbs with their arguments mapped to valency lists are given in (27):

(27) a. Danish and Yiddish (SVO):

$$
\begin{bmatrix}
\text{SPR} & \left\langle \text{NP}[str]_i \right\rangle \\
\text{COMPS} & \left\langle \text{NP}[str]_j \right\rangle \\
\text{ARG-ST} & \left\langle \text{NP}[str]_i,\, \text{NP}[str]_j \right\rangle
\end{bmatrix}
$$

  b. German (SOV, free constituent order):

$$
\begin{bmatrix}
\text{SPR} & \left\langle \right\rangle \\
\text{COMPS} & \left\langle \text{NP}[str]_i,\, \text{NP}[str]_j \right\rangle \\
\text{ARG-ST} & \left\langle \text{NP}[str]_i,\, \text{NP}[str]_j \right\rangle
\end{bmatrix}
$$

str stands for structural case. For Danish and Yiddish the arguments are mapped onto SPR and COMPS. The specifier head schema together with the head complement schema licences classical NP VP structures (see Section 3.2 and for a concrete example Figure 2 below). For German, we assume that subjects of finite verbs are represented in the same valence list as complements, that is, they are members of the COMPS list (Pollard, 1996). The difference in linking that is reflected in (27) corresponds to the difference between VO and OV langugaes and accounts for a number of differences between the respective languages. See Haider, 2010 for details.

A formalization of the mapping constraints for verbs is provided in (28):

(28) a. Danish and Yiddish:

$$
\begin{bmatrix}
\text{SPR} & \left\langle \boxed{1} \right\rangle \\
\text{COMPS} & \boxed{2} \\
\text{ARG-ST} & \left\langle \boxed{1} \right\rangle \oplus \boxed{2}
\end{bmatrix}
$$

  b. German:

$$
\begin{bmatrix}
\text{SPR} & \left\langle \right\rangle \\
\text{COMPS} & \boxed{1} \\
\text{ARG-ST} & \boxed{1}
\end{bmatrix}
$$

(28a) spplits the ARG-ST list into two lists. The first list has to contain exactly one element: the subject. This element is the sole element of the SPR list. In Danish all finite verbs have to have a subject. In German all elements from ARG-ST are mapped to COMPS. German differs from Danish in allowing subjectless constructions.

3.2 Clause Structure

Clause structures are licenced by schemata for head-specifier-phrases and head-complement-phrases. We assume a non-cancellation approach to valence, that is, realized arguments are not taken off from the valence list but marked as realized (Meurers, 1999; Przepiórkowski, 1999; Bender, 2008; Müller, 2008a).

The tree languages under discussion differ from each other in various respects: German is verb final (OV), while the other two languages are verb-initial (VO). This is captured by assigning Danish and Yiddish verbs the INITIAL value '+' and German verbs the value '−'. An LP statement ensures that heads with an inital value '+' are linearized before there complements and heads with the value '−' are linearized after their complements. Specifiers are linearized to the left of their heads in all three languages.

We assume the following schema for head complement combinations:

Schema 1 (Head Complement Schema)
head-complement-phrase $\Rightarrow$

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{COMPS } \boxed{1} \oplus \left\langle \begin{bmatrix} \text{ARGUMENT } \boxed{2} \\ \text{REALIZED } + \end{bmatrix} \right\rangle \oplus \boxed{3} \\
\text{HEAD-DTR}|\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{COMPS } \boxed{1} \oplus \left\langle \begin{bmatrix} \text{ARGUMENT } \boxed{2} \\ \text{REALIZED } - \end{bmatrix} \right\rangle \oplus \boxed{3} \\
\text{NON-HEAD-DTRS } \left\langle \begin{bmatrix} \text{SYNSEM } \boxed{2} \begin{bmatrix} \text{LOC}|\text{CAT}|\text{COMPS } \textit{list of spirits} \\ \text{LEX } - \end{bmatrix} \end{bmatrix} \right\rangle
\end{bmatrix}
$$

Arguments are represented together with a binary REALIZED feature. Arguments that have not been realized (REALIZED value '−') can be realized as the non-head daughter. The respective argument is marked as REALIZED+ at the mother node. German is a language with rather free constituent order. This is captured by allowing the Head Argument Schema to combine a head with an arbitrary element from the COMPS list. For languages like English or Danish, we assume that $\boxed{1}$ is the empty list and hence a fixed order results (Müller, In Preparation). A parallel schema is assumed for head specifier phrases.

(29) shows a general constraint on Head Filler Phrases:

(29)   *head-filler-phrase* $\Rightarrow$

$$
\begin{bmatrix}
\text{HEAD-DTR} \begin{bmatrix} \text{LOC}|\text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{VFORM } \textit{fin} \\ \textit{verb} \end{bmatrix} \\ \text{COMPS } \textit{list of spirits} \end{bmatrix} \\ \text{NONLOC} \begin{bmatrix} \text{INHER}|\text{SLASH } \langle \boxed{1} \rangle \\ \text{TO-BIND}|\text{SLASH } \langle \boxed{1} \rangle \end{bmatrix} \end{bmatrix} \\
\text{NON-HEAD-DTRS } \left\langle \begin{bmatrix} \text{LOC } \boxed{1} \\ \text{NONLOC}|\text{INHER}|\text{SLASH } \langle \rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

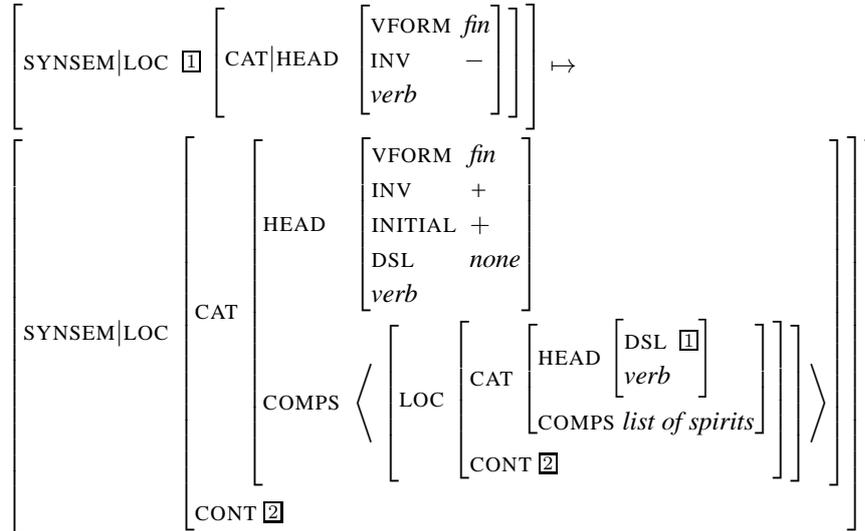Both the V2 clauses in all three languages and the interrogative clauses are subtypes of this general constraint. V2 clauses in all three languages require the verbal projection to contain a verb in intial position, that is, an inverted verb order.

Sentences with the finite verb in initial position are analyzed with a special lexical item for the inverted verb that selects a verbal projection from which the

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verb is missing (Borsley, 1989; Kiss and Wesche, 1991; Meurers, 2000; Müller, 2005).

The lexical rule that licences an inverted verb is given in (30):

(30) Lexical Rule for Inverted Verbs:

$$
\left[\text{SYNSEM|LOC } \boxed{1} \left[\text{CAT|HEAD} \begin{bmatrix} \text{VFORM } \textit{fin} \\ \text{INV} \quad - \\ \textit{verb} \end{bmatrix} \right] \right] \mapsto
$$

$$
\left[\text{SYNSEM|LOC} \left[\text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{VFORM } \textit{fin} \\ \text{INV} \quad + \\ \text{INITIAL } + \\ \text{DSL} \quad \textit{none} \\ \textit{verb} \end{bmatrix} \\ \text{COMPS} \left\langle \left[\text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{DSL } \boxed{1} \\ \textit{verb} \end{bmatrix} \\ \text{COMPS } \textit{list of spirits} \end{bmatrix} \\ \text{CONT } \boxed{2} \end{bmatrix} \right] \right\rangle \end{bmatrix} \\ \text{CONT } \boxed{2} \right] \right]
$$

This lexical rule maps an uninverted verb onto an inverted one. The inverted verb selects for a projection of a verbal trace, that is, a verbal projection with a *local* object as value of DSL (DOUBLE SLASH). The properties of the trace are projected along the head path and identified with the local value of the input of the lexical rule ($\boxed{1}$). Together with the trace in (31) we get the analysis in Figure 1 for the German sentence in (32):

(31) Trace for Head Movement:

$$
\begin{bmatrix} \text{PHON } \langle \rangle \\ \text{LOC} \quad \boxed{1} \begin{bmatrix} \text{CAT|HEAD|DSL } \boxed{1} \end{bmatrix} \end{bmatrix}
$$

(32) Liest$_i$ er das Buch $\_i$?
reads he the book
'Does he read the book?'

Due to space limitations the analysis cannot be discussed in more detail. The interested reader is referred to the references cited above or to Müller, 2008b.

The analysis of the Danish analogue of (32) is given in Figure 2.

A verb second sentence can be analyzed as a verb first sentence with one constituent extracted. So V2 sentences in all three languages are instances of head filler phrases with the additional requirement on the head daughter to be INVERTED+.
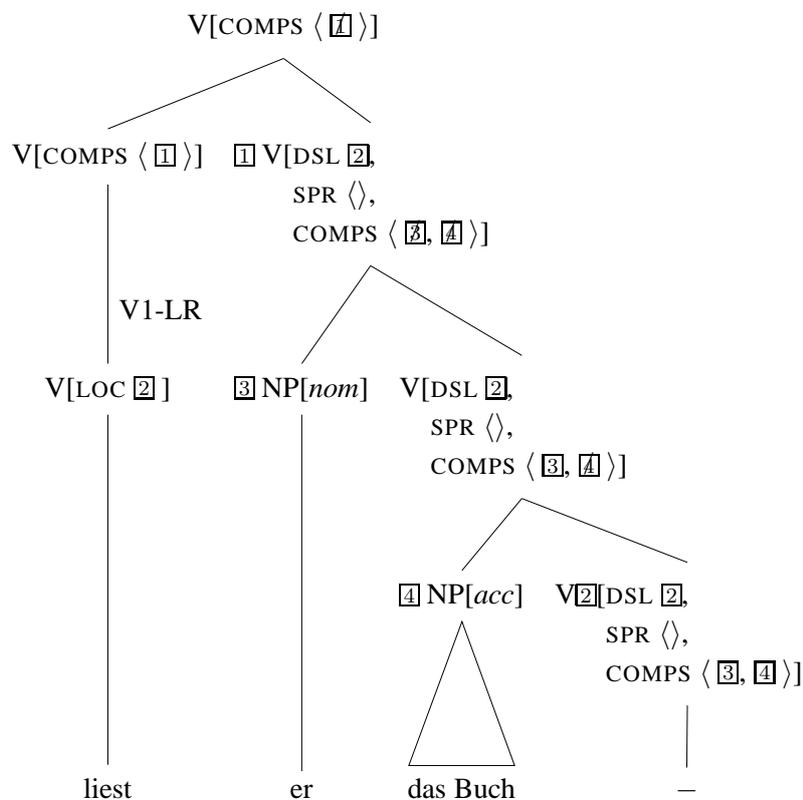
V[COMPS ⟨ 🔳 ⟩]

V[COMPS ⟨ 1 ⟩]　　1 V[DSL 2,
　　　　　　　　　　　SPR ⟨⟩,
　　　　　　　　　　　COMPS ⟨ 3, 4 ⟩]

V1-LR

V[LOC 2]　　3 NP[*nom*]　V[DSL 2,
　　　　　　　　　　　　　　　SPR ⟨⟩,
　　　　　　　　　　　　　　　COMPS ⟨ 3, 4 ⟩]

4 NP[*acc*]　V 2 [DSL 2,
　　　　　　　　　　SPR ⟨⟩,
　　　　　　　　　　COMPS ⟨ 3, 4 ⟩]

liest　　　er　　das Buch　　　−

Figure 1: Analysis of the German sentence *Liest er das Buch?*

3.3 Lexical Licencing of Expletives

As we showed above the positional expletives are licensed in different phrase structural positions in the languages under discussion: The expletives are found in the subject position in Danish SVO structures, but in preverbal position in Yiddish and German V2 clauses. The commonalities are captured by an analysis that assumes that these expletives are licenced lexically by a lexical rule that introduces the expletives into the ARG-ST list:

$$(33) \quad \begin{bmatrix} \text{HEAD} & verb \\ \text{ARG-ST} & \boxed{1} \end{bmatrix} \mapsto \begin{bmatrix} \text{HEAD} & verb \\ \text{ARG-ST} & \langle\, \text{NP}[lnom]_{expl} \,\rangle \oplus \boxed{1} \end{bmatrix}$$

This lexical rule adds an expletive pronoun at the first position of the ARG-ST list. The case of this NP is marked to be lexical nominative. Case assignment operates on ARG-ST and assignes nominative to the first NP with structural case and accusative to all other NPs with structural case (Przepiórkowski, 1999; Meurers, 1999; Meurers, 2000, Chapter 10.4.1.4; Müller, 2002, Section 1.4). Since the presence of positional expletives does not influence case assignment, the case of such expletives has to be lexically assigned.
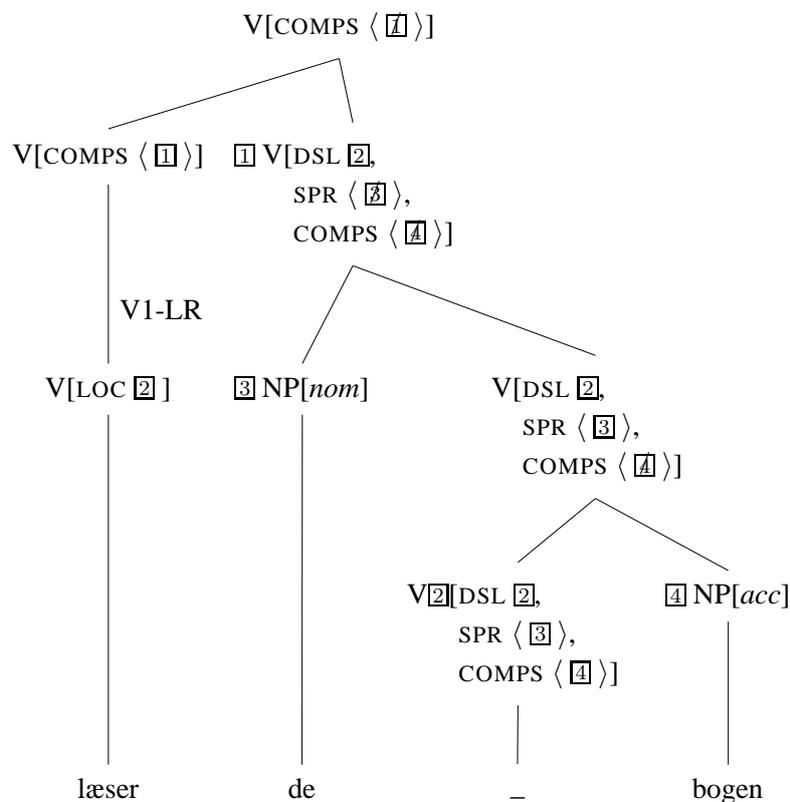
V[COMPS ⟨ 1 ⟩]

V[COMPS ⟨ 1 ⟩]   1 V[DSL 2,
                      SPR ⟨ 3 ⟩,
                      COMPS ⟨ 4 ⟩]

V1-LR

V[LOC 2]   3 NP[*nom*]   V[DSL 2,
                               SPR ⟨ 3 ⟩,
                               COMPS ⟨ 4 ⟩]

V 2 [DSL 2,   4 NP[*acc*]
   SPR ⟨ 3 ⟩,
   COMPS ⟨ 4 ⟩]

læser   de   _   bogen

Figure 2: Analysis of the Danish sentence *Læser de bogen?* ('Does he read the book?'

Apart from case assignement, agreement refers to the first NP with structural case (Müller, 2008b, p. 212). By assuming that the case of the expletive is lexical, we make correct predictions as far as agreement is concerned.

The iterative application of this rule is blocked by a constraint that requires that the elements of the ARG-ST list are referential. This also excludes the application of the rule to lexical items like weather verbs that inherently select for an expletive argument.

3.4 Interrogatives

The schemata for interrogative clauses in Danish, Yiddish, and German are variants of the Head Filler Schema: a *wh* element is combined with a sentence with a gap. For Danish, the sentence is in SVO order (INITIAL+, INVERTED−), for German it is in SOV order (INITIAL−, INVERTED−), and for Yiddish it is in V2 order (INITIAL+, INVERTED+). The feature combination for Yiddish would also apply to V1 sentences as they are used in yes/no questions. Hence an additional marking of the V2 status is needed, which is not discussed here.

The analyses of interrogative clauses in Danish, German, and Yiddish are given
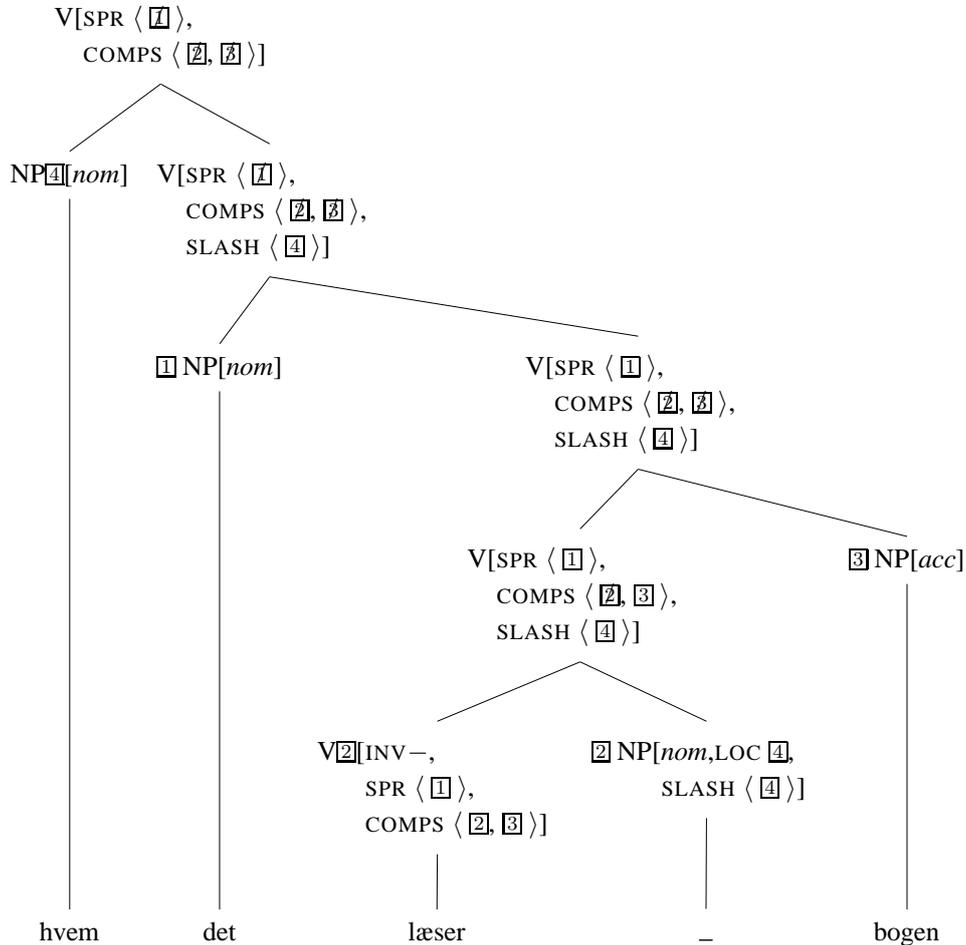
in the Figures 3, 4, and 5, respectively.

V[SPR ⟨ 1 ⟩,
 COMPS ⟨ 2, 3 ⟩]

NP 4[*nom*] V[SPR ⟨ 1 ⟩,
 COMPS ⟨ 2, 3 ⟩,
 SLASH ⟨ 4 ⟩]

1 NP[*nom*] V[SPR ⟨ 1 ⟩,
 COMPS ⟨ 2, 3 ⟩,
 SLASH ⟨ 4 ⟩]

V[SPR ⟨ 1 ⟩,
 COMPS ⟨ 2, 3 ⟩,
 SLASH ⟨ 4 ⟩]   3 NP[*acc*]

V 2[INV−,
 SPR ⟨ 1 ⟩,
 COMPS ⟨ 2, 3 ⟩]   2 NP[*nom*,LOC 4,
 SLASH ⟨ 4 ⟩]

hvem   det   læser   _   bogen

Figure 3: Analysis of the Danish sentence *hvem det læser bogen*

3.5 Constraints on the Distribution of Expletives

With the lexical rule in (33) we capture the commonalities between the languages, but how are the differences explained? In Danish, an expletive is inserted, if the subject is extracted. In Yiddish and German the expletive is inserted in the filler position if nothing else is extracted. German and Yiddish differs from Danish in not allowing expletives in embedded clauses (see (23) and (26)). This can be explained by the following language specific constraints on expletive insertion:

(34) Constraint on lexical rule output in German and Yiddish:

$$\left[\text{ARG-ST} \left\langle \begin{bmatrix} \text{LOC } \boxed{1} \\ \text{NONLOC}|\text{INHER}|\text{SLASH } \boxed{1} \end{bmatrix} \right\rangle \oplus \square \right]$$

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V[SPR ⟨⟩,
  COMPS ⟨ 2, 3 ⟩]

NP 4[*nom*]   V[SPR ⟨⟩,
      COMPS ⟨ 2, 3 ⟩,
      SLASH ⟨ 4 ⟩]

1 NP[*nom*,LOC 4,
  SLASH ⟨ 4 ⟩]   V[SPR ⟨⟩,
      COMPS ⟨ 2, 3 ⟩,
      SLASH ⟨ 4 ⟩]

2 NP[*acc*] V 2[INV−,
    SPR ⟨⟩ ,
    COMPS ⟨ 2, 3 ⟩]

wer   _   das Buch   liest
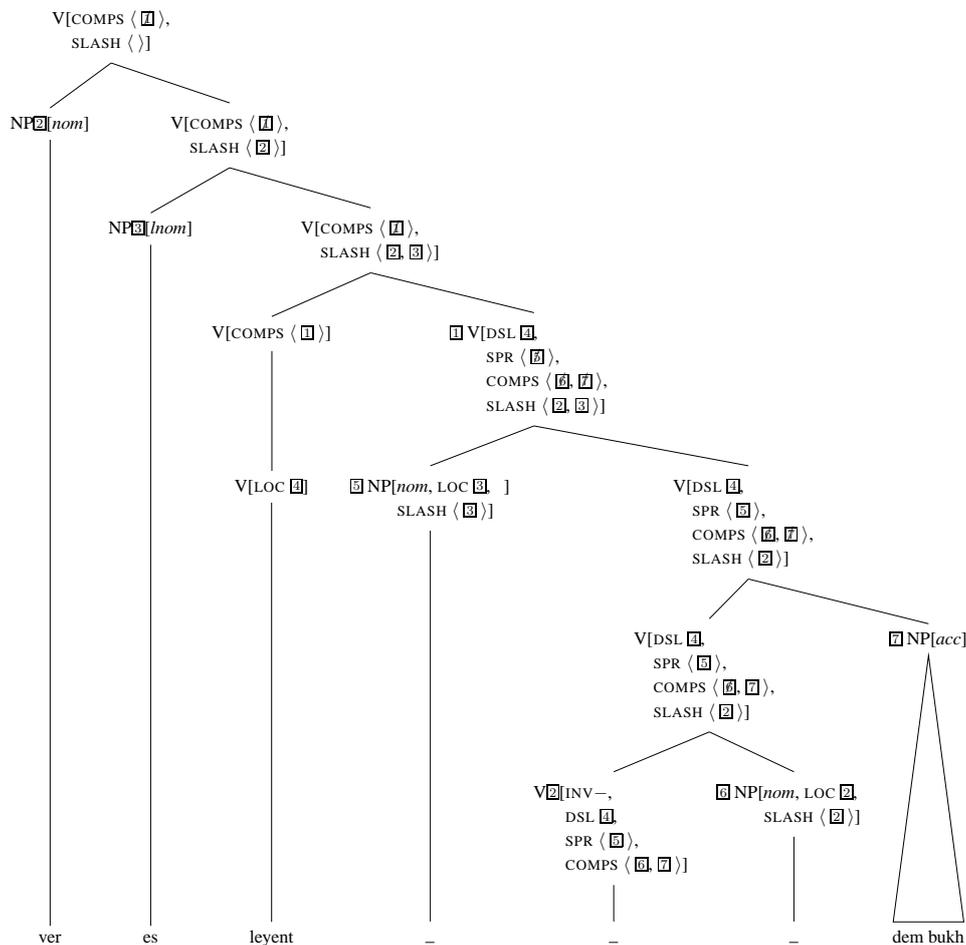
Figure 4: Analysis of the German sentence *wer das Buch liest*

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Figure 5: Analysis of the Yiddish sentence *ver es leyent dem bukh*

While Danish allows the expletives to be realized in the subject position even in V2 sentences (see (14b)), this is excluded in Yiddish and German: In these languages the first element of the ARG-ST list is extracted. The first element is the expletive. The expletive element is in the SLASH-Liste and hence part of a nonlocal dependency that has to be bound off by the head-filler-schema. The respective structures are V2 sentences that can be used as root clauses in German and Yiddish and as part of embedded clauses in Yiddish. Since German embedded interrogatives, relative clauses, and complementizer clauses do not involve nonlocal dependencies, it is explained why positional expletives are not allowed in embedded clauses.

While German and Yiddish allow the extraction of subjects, Danish forbids the local extraction of subjects. The respective structure is given in Figure 6. Such structures can be ruled out by the following constraint:
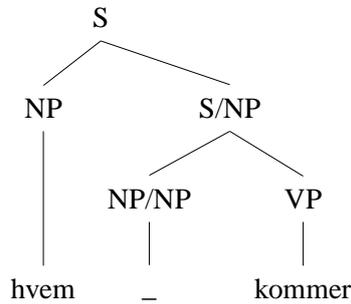
```
                    S
                  /   \
                NP    S/NP
                |    /    \
                  NP/NP    VP
                |    |      |
              hvem   _    kommer
```

Figure 6: String vacuous movement is forbidden in Danish.

(35)   Constraint for Blocking local extraction of the subject (Danish):

$$\begin{bmatrix} \text{HD-DTR} \begin{bmatrix} \text{SS|LOC|CAT|HEAD} \begin{bmatrix} \text{INV } - \\ \text{STYPE } \textit{non\_assertive} \end{bmatrix} \end{bmatrix} \\ \text{N-HD-DTRS} \left\langle \begin{bmatrix} \text{SS} \begin{bmatrix} \text{LOC|CAT|HEAD} \begin{bmatrix} \text{CASE } \textit{nom} \\ \textit{noun} \end{bmatrix} \\ \text{NLC|INHER|WH } \langle \square \rangle \end{bmatrix} \end{bmatrix} \right\rangle \\ \textit{head\_filler\_phrase} \end{bmatrix} \rightarrow$$

$$\begin{bmatrix} \text{HEAD-DTR|SS|LOC|CAT|SPR } \langle \, [\text{ ARG|NONLOC|INHER|SLASH } \langle\rangle] \, \rangle \end{bmatrix}$$

This constraint says that the element in SPR may not be extracted if the filler of the head filler structure is the subject and a *wh* element. By assuming a raisng spirits approach it is possible to formulate this constraint since information about the specifier is still accessible although the specifier is realized in a position internal to the head daughter. The same effect could be reached with the feature XARG that was used by Sag (2007) to make an external argument accessible for porpuses similar to the one under discussion here (see also Bender and Flickinger, 1999). However, since the raising spirits approach is used for other phenomena as well (Müller, 2008a), we do not introduce the XARG feature but use the information that is available in the spirits.

If the *wh*-element is nonlocally extracted, this constraint does not apply as in (11) or it is satisfied by the matrix subject as in (13). Therefore the embedded clause can either be headed by a verb with a subject trace or by a (non-fronted) verb subcategorizing for the expletive *der* ('there') and an extracted argument. This accounts for the optionality of the expletive in non-local extraction (ex. (10)). The expletive observed with the colloquial use of a pleonastic complementizer (Vikner, 1991) *hvem at *(der) kommer* ('who that EXPL comes') follows from the lexical rule and an independently needed *that*-trace filter (TRACE PRINCIPLE).

4 Conclusion

This paper discusses positional expletives in Danish, Yiddish, and German. A lexical rule is suggested that introduces an expletive into the ARG-ST list of verbs. Constraints were formulated that ensure that the expletive is extracted in Yiddish and German and that block local extractions of subjects in Danish.

The analyses are implemented in the TRALE system. The grammar fragments for Danish, German, and Yiddish can be downloaded from http://hpsg.fu-berlin.de/Projects/core.html.

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