Empty Expletives and the EPP

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The EPP

Chomsky (1981, 40):

"[...] as we have seen, there is compelling evidence that the subject of a clause is obligatory in English and similar languages."

Lasnik (2001, 356):

"The Extended Projection Principle (EPP) has been a pervasive mystery [...] since it was first formulated by Chomsky (1981)."

Questions:

- On which level of grammar does the EPP apply?
- What kind of features does the EPP refer to?

Four types of theories

Proposals:

- Syn-Syn: Chomsky (1981, 1982), Haider (2013)
- Syn-Phon: Holmberg (2000), Richards (2016)
- Phon-Phon: Landau (2007), McFadden and Sundaresan (2018)
- Phon-Syn: Merchant (2001), Craenenbroeck and Dikken (2006)

Distinguishing the theories

A distinguishing property:

- Syn-Syn/Phon-Syn:
 EPP requires that SpecT be filled by a syntactic category (which may be phonologically emtpy).
- Phon-Phon/Syn-Phon:
 EPP requires that SpecT be filled by a phonologically overt category.

Point of the talk

Main point of the talk:

- Both Syn-Phon and Phon-Phon can be excluded if one can show that the EPP can be satisfied by phonologically empty elements.
- In what follows, I argue that there are reasons to assume that **empty expletives** (as grammatical objects suis generis) do exist in Icelandic, Russian, English, and French.
- If this attempt is successful, and if the EPP is the same, crosslinguistically, then it follows that theories that instantiate Syn-Phon or Phon-Phon may be dismissed.

Preliminaries: Phonological emptiness

Ways to conceive of "phonologically emptiness":

- A category K lacks phonological features as a lexical property.
- A category K has lost its phonological features by PF-deletion.

Consequence:

- In order for the argument (that empty expletives are incompatible with X-Phon theories) to go through, it must be plausible that the emptyness of the expletive under investigation does not come about via PF-deletion.
- Since such deletion applies late (at PF), the EPP may have been satisfied in the syntax already, at a point of the derivation when the expletive had still been overt.
- In this way, the idea that the EPP is satisfied by an empty element may be argued to be an illusion.

Preliminaries: Optionality of EPP

Ways to conceive of the EPP:

- If the EPP is a grammatical principle (Chomsky 1981), it can hardly be optional: A grammatical principle either applies or it does not.
- If the EPP is a feature (Chomsky 1995), then it does not seem outrageous to say that a head bears this feature optionally.

Consequence:

- If SpecT sometimes remains empty and is sometimes filled in a language L, one may say that T in L bears the EPP optionally. No reference to an empty expletive is a priori necessary.
- Therefore, for the argument to go through, it must be plausible that the presence of an (empty) expletive is enforced.
- In this context, the definiteness restriction will play an important role.

Preliminaries: Definiteness restriction (DR)

Observation (Milsark 1974):

A sentence containing expletive *there* in English must not have an associate phrase (the nominative) that is a) definite, b) universally quantified, or c) partitive (also Milsark 1977; Safir 1982, and many more).

- (2) a. There arrived a man.
 - b. *There arrived the pope.
 - c. *There arrived every train.
 - d. *There arrived some of the letters.

Consequence: The DR may be used to detect emtpy expletives.

But:

This is an implication, not a biconditional: DR \rightarrow expletive; expletive $\not\rightarrow$ DR. Sometimes, an expletive is there, but no DR arises (see Arabic (3), from Alexiadou and Anagnostopoulou 1998, 513, citing Huybregts 1996).

(3) inna=hu fatah-a l='awlaadu l=baaba.

EXPL=CL PERF.open-3SG.MASC the=boys the=door

"The boys opened the door."

Background: Minimality

Assumption:

- The locality principle in (4) holds (Ferguson 1993, Chomsky 1995; cf. also Rizzi 1990, Fanselow 1991).
- The relation R between H and Ψ that is blocked by the MLC is the probing by H (e.g., probing by C for a wh-phrase).
- (4) Minimal Link Condition (MLC):

If in a structure

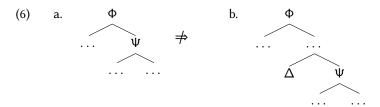
- a. H c-commands Φ , Φ asymmetrically c-commands Ψ , and
- b. Φ and Ψ can both, in principle, establish a relation R with H, then H can establish R only with Φ (but not with Ψ).

Background: Strict Cyclicity

Assumption:

- The derivation obeys the Extension Condition (EC, Chomsky 1993, 1995) in (5).
- The EC blocks derivations as the one in (6), where Merge of Δ does *not* apply to the root of the current tree, Φ .
- (5) Extension Condition:

 Merge must apply to the root node of the current tree.



Background: Expletives

Assumptions:

- Expletives are merged at the phase edge. In particular, some
 of them (including English there) are merged in Specv (see
 Bowers 2002, Richards 2004, Richards and Biberauer 2005, Deal 2009,
 Alexiadou and Schäfer 2011).
- vP-expletives (may) agree with their associate phrase with respect to ϕ -features (Vikner 1995, 179-182; also Chomsky 2000, 2004, Deal 2009 on English *there*), i.e., they can act as probes, bearing $[\phi:_]$ (and possibly case).

Pronoun-type expletives

French expletive – agreement:

French employs the pronoun-type expletive *il* 'it'. In the presence of *il*, there is lack of agreement between T and the post-verbal subject (Vikner 1995, 181, footnote11).

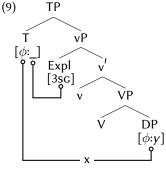
- (7) a. Il est arrivé trois hommes. EXPL be.PRS.3sg arrived.MASC.sg three man.PL 'There arrived three men.'
 - b. *II sont arrivés trois hommes. EXPL be.PRS.3**PL** arrived.MASC.**PL** three man.**PL**

French expletive – definiteness:

Clauses with *il* in French exhibit the DR-effect (8) (Goldshlag 2005, 45, Lowell Sluckin 2021, 67).

(8) *Il est arrivé les trois hommes. EXPL be.PRS.3SG arrived.MASC.SG the three men 'There arrived the three men.'

Pronoun-type expletives



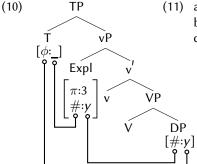
Interpretation:

- The expletive il bears valued ϕ -features ([3sG]). Being merged in Specv, it is closer to T than the associate. Thus, due to MLC, T ϕ -agrees with the expletive (10).
- Consequences: There is no agreement with the associate, which therefore cannot be licensed if definite (the DR, see below).

Adverb-type expletives

Agreement:

- The English adverb-type expletive there allows for restricted agreement between T and the associate.
- Agreement in there-context is confined to number (Chomsky 2000, 149) (11), suggesting that there bears [3] ((10), Richards 2008) and unvalued number ([#:_]). This also accounts for the DR.



- a. There is/*am only me.
- $b. \quad \text{There remains/}^* \text{remain only me.} \\$
- c. There is/are only us.

First puzzle:

- The Icelandic expletive pað 'it' does not show up TP-internally but only in clause-initial position (Maling and Zaenen 1978, Thráinsson 1979, Rögnvaldsson 1984, Sigurðsson 1989, Vikner 1995, Thráinsson 2007, chap 6); see (12-a) (from Jónsson 1996, 46).
- If SpecC is filled by some other constituent (or must remain empty), there is no *það*. If there is no subject either, then SpecT is not overtly filled ((12-b,c) from Jónsson 1996, 46).
- (12) a. **það** var dansað í stofunni.

 EXPL was danced in the living room.

 'People danced in the living room.'
 - Var (*það) dansað í stofunni.
 was EXPL danced in the living room
 'Did people dance in the living room?'
 - c. þess vegna var (*það) dansað í stofunni. therefore was EXPL danced in the living room 'Therefore people danced in the living room.'

The 'in-position':

In constructions with finite auxiliary and past participle, the associate may follow the participle (in passives and unaccusatives), (13), or it may follow the finite verb (14) (Vikner 1995, 183-213). (14) is called 'in-position' by Jónsson (1996, 51) (from where the examples are taken). Assumption: in-position = SpecT.

- (13) a. það var keypt **ný tölva**.

 EXPL was bought new computer 'There was bought a new computer'
 - það höfðu comið gestir í heimsókn.
 EXPL had come guests for visit
 'There had come guests for a visit.'
- (14) a. það hafa **margir** seð þessa mynd.

 EXPL have many seen this movie.

 'There have many seen this movie.'
 - b. það hefur **enginn** komið. EXPL has no-one come 'There has no-one come.'

Second puzzle (Vangsnes 2002, 46-48; also Jónsson 1996, 52): While an associate in the lower position shows the full range of DR-effects (definites, universal quantifiers, partitives) (15-a-c), an associate in SpecT is only a problem for definites (16-a) vs. (16-b,c).

- (15) a. *það hefur verið **kötturin** í eldhúsinu.

 EXPL has been the.cat in the.kitchen
 - b. *það hafa verið **allir kettirnir** í eldhúsinu. EXPL have been all the.cats in the.kitchen
 - c. *það hefur verið **einn af köttunum** í eldhúsinu. EXPL has been one of the.cats in the.kitchen
- (16) a. *það hefur kötturin verið í eldhúsinu. EXPL has the.cat been in the.kitchen
 - b. það hafa **allir kettirnir** verið í eldhúsinu. EXPL have all the.cats been in the.kitchen
 - bað hefur einn af köttunum verið í eldhúsinu.
 EXPL has one of the.cats been in the.kitchen

Solution to first puzzle:

- það is merged in SpecC (Holmberg and Platzack 1988, Sigurðsson 1989, Vikner 1995, Mohr 2005, among others; but cf. Jónsson 1996, Holmberg 2000). Assumption: það cannot be probed (in the sense of Chomsky 2000; cf. Frey 2006 on German es, (17)).
- If subject raising does not apply, the EPP is satisfied by an empty expletive (18-a,b) (Platzack 1987, Holmberg and Platzack 1988, Sigurðsson 1989, Vikner 1995; but cf. Biberauer 2010).
- (17) *Es glaubt Karl, wird alles gut.

 EXPL thinks Karl becomes all well

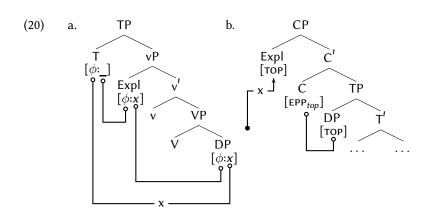
 'Karl thinks that it will be fine.'
- (18) a. Var pro dansað í stofunni. was expl_∅ danced in the living room?' 'Did people dance in the living room?'
 - b. það var pro keypt ný tölva.
 EXPL was EXPL_Ø bought new computer 'There was bought a new computer'

Important:

- It is problematic to argue that the EPP-feature is optional in Icelandic (or satisfied by vP-raising, as in Richards and Biberauer 2005): There are DR-effects, indicating the obligatory presence of an empty expletive (e.g., Sigurðsson 1989, 286, 292, 304-305, Vangsnes 2002, 47), see (19-a,b).
- Note that there is no pað in (19-a,b) that could be responsible for the DR-effect.
- (19) a. Um nóttina hafði báturinn sokkið. at night had the.boat sunk 'The boat had sunk at night.'
 - b. *Um nóttina hafði pro sokkið báturinn. at night had EXPLø sunk the.boat

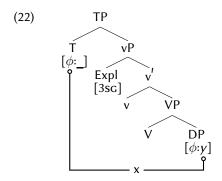
Solution to second puzzle (in a nutshell):

- Suppose the empty expletive bears unvalued φ-features ([φ:_]), and suppose further that an associate DP ∈ {Def, ∀, Part} must check its person-feature against T to get licensed (cf. Béjar and Řezáč 2009).
- Then, the DR-effect in the low position follows from an interaction
 of the associate with the empty expletive: The associate DP cannot
 be licenced by T because the expletive in Specv intervenes due to the
 MLC (cf. Richards 2008), (20-a).
- The DR-effect in SpecT is due to the interaction of the associate and *þaδ*: Definite DPs (but not universal quantifiers/partitives) bear a feature [τορ] that satisfies [ΕΡΡ_{top}] on C (cf. Sigurðsson 1989). [τορ] is also necessary for merging *það* in SpecC. Thus, definites in SpecT bleed *það*-insertion (20-b).



Important:

- It is problematic to think of the Icelandic empty expletive as a PF-deleted variant of *það* (Jónsson 1996) because they differ:
- a) The empty expletive can be probed (by T), $ba\delta$ cannot (see above).
- b) The empty expletive should show the same DR-behavior as *það*, contrary to fact.
- c) $ba\delta$, deriving from the pronoun 'it', has valued ϕ -features. As such, it should block agreement with the associate (due to the MLC) when merged in Specv (cf. the case of French il in (9)), contrary to fact ((21-a,b), Thráinsson 2007, 319, Vangsnes 2002, 47); see (22).
- (21) a. Í eldhúsinu hefur alltaf verið köttur. in the kitchen have **.s** always been cat. **s** 'There has always been a cat in the kitchen.'
 - b. Í dag hafa verið nokkrir kettir í eldhúsinu.
 today have.PL been some cat.PL in the.kitchen
 'Today, there have been some cats in the kitchen.'



Summary

Summary:

- Icelandic has constructions where SpecT is not overtly filled.
- The overt expletive *það* is merged in SpecC and therefore cannot satisfy the EPP on T. Solution: Icelandic employs an empty expletive expl_Ø.
- Assuming that the EPP in Icelandic is optional fails to account for the DR-effects in these constructions. (Recall also that the low DR cannot be due to <code>pað</code> since the latter is not necessarily present.)
- A PF-deletion account $(ba\delta \to \emptyset)$ is implausible because $ba\delta$ and the empty expletive do not have the same properties $(ba\delta$ cannot be probed, $expl_{\emptyset}$ can; $ba\delta$ has valued ϕ -features, $expl_{\emptyset}$ hasn't; they show different DR-behavior).

Puzzle:

- Russian is often assumed to be an SVO language, exhibiting the EPPeffect (e.g. Babyonyshev 1996).
- Russian may exhibit (XP)-V-S word order with unaccusative/passive predicates, leaving SpecT empty ((23-a-c), Goldshlag 2005, 82). There is no overt expletive in Russian.
- As (23-a-c) show, there may be lack of agreement in such constructions (instead NEUT, SG shows up).
- (23) a. (Na lekciju) pro pribylo pjat' stud'entov. (on lecture) EXPLØ arrived.NEUT.SG five students.GEN.MASC.PL 'There arrived five students at the lecture.'
 - b. pro razbilos' sem' butylok.

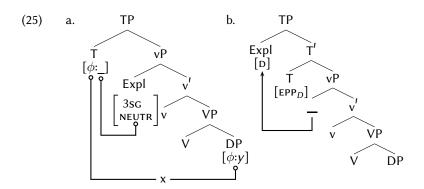
 EXPL_Ø broke.**NEUT.SG** seven bottles.GEN.**FEM.PL**'Seven bottles broke.'
 - c. pro bylo pročitano šest' knig. EXPLØ was.NEUT.SG read.NEUT.SG six books.GEN.FEM.PL 'Six books were read.'

Goldshlag (2005, 86, 91):

- Moreover, Russian shows a DR-effect in the context of 'default' agreement with post-verbal unaccusative DPs (24-a,b).
- Conclusion: Russian has an empty expletive $\exp I_{\emptyset/il}$, which has the same properties as overt French *il*.
- (24) a. pro razbilos' pjat' poslednix butylok.gen.

 EXPLØ broke.NEUT.SG five last.PL bottles

 'Five of the last bottles broke.'
 - b. *pro razbilos' poslednije pjat' butylok. EXPLØ broke.NEUT.SG last.PL five bottles.GEN 'The last five bottles broke.'



Interpretation (not Goldshlag's 2005 analysis):

Same analysis as for the facts from French presented above: The empty expletive, which is merged in Specv, blocks agreement due to its inherent ϕ -specification (triggering the DR), (25-a). Then, it undergoes raising to SpecT, satisfying the EPP (25-b).

Goldshlag (2005, 84, 91):

- In contrast to the French expletive construction, Russian also has the option of showing non-default agreement with a unaccusative postverbal DP (26-a-c).
- And in exactly this context, there is no DR-effect (27).
- (26) a. Na lekciju pro pribyli pjat' stud'entov. on lecture EXPL_Ø arrived.PL five students.GEN.MASC.PL 'There arrived five students at the lecture.'
 - b. pro razbilis' sem' butylok
 EXPLØ broke.PL seven bottlesGEN.FEM.PL
 'Seven bottles broke.'
 - c. pro byli pročitany šest' knig. EXPL_Ø were read.PL six books.GEN.FEM.PL 'Six books were read.'
- (27) pro razbilis' poslednije pjat' butylok.

 EXPL_Ø broke.**PL** last.**PL** five bottles.GEN.**PL**'The last five bottles broke.'

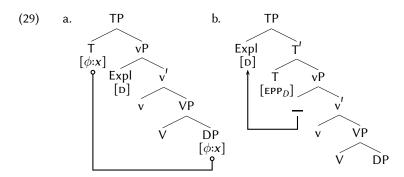
Conclusion (Goldshlag 2005):

Besides $\exp I_{\varnothing/il}$, Russian has another empty expletive, which completely lacks ϕ -features: $\exp I_{\varnothing}$.

(28) a.
$$\exp I_{\varnothing/il}$$
: [3,sg,neutr] b. $\exp I_{\varnothing}$: [-]

Interpretation (not Goldshlag's 2005 analysis):

- Agreement across expl_Ø is possible because expl_Ø lacks the relevant features (number, person, gender), see (29); as a consequence, a definite DP can be licensed as an associate.
- While $\exp I_{\emptyset}$ lacks ϕ completely, it does have a D-feature. It therefore can (and must) raise to satisfy the EPP at a later step of the derivation.



Note:

Since there is a DR in the non-agreeing construction, we know that there is an expletive; thus, we know that the EPP is obligatory; thus, we know that there must be an expletive in the agreeing construction, too.

Two side remarks:

- The past-paradim of Russian verb inflection does not show a distinction for person (the present imperfective does). The account of the DR put forward here presupposes that a person-probe is available also in the past, but that it is not expressed morphologically (perhaps due to an impoverishment rule in the sense of Halle and Marantz 1993; but cf. Müller 2005).
- Goldshlag (2005, 87) (citing Danon 2002) reports that a state of affaires similar to the one in Russian also holds in colloquial Modern Hebrew.

Summary

Summary:

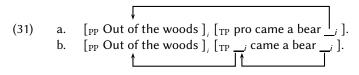
- Russian (and colloquial Hebrew) has a construction where SpecT is not overtly filled.
- Assuming that T in Russian bears the EPP property only optionally would leave unexplained the definiteness effect and its correlation with (the lack of) agreement in this construction.
- Both properties can be accounted for by assuming that Russian has (two different types of) empty expletives. (For more potential arguments in favor of empty expletives in Russian see Perlmutter and Moore 2002.)
- Deriving the empty expletives by means of PF-deletion is implausible as there is no overt correlate in Russian that PF-deletion could operate on (at least for the second expletive, the one that allows for agreement).

Puzzle:

- In English, unaccusative predicates (and some unergative predicates, too) allow the subject to remain post-verbal without overt expletive *there*, but only if a 'locative' PP is fronted to the clause initial position (30-a,b). (Bresnan 1976, Postal 1977, Stowell 1981): Locative inversion.
- English exhibits a strict EPP-effect otherwise. So how can the EPP be satisfied in (30-a)?
- (30) a. Out of the woods came a bear.
 - b. *Came a bear out of the woods.

Two approaches:

- SpecT in locative inversion contexts is filled by an empty element (possibly an expletive; Lawler 1977, Postal 1977, Coopmans 1989, Hoekstra and Mulder 1990, Bruening 2010, Lowell Sluckin 2021).
- The EPP is satisfied by the fronted PP (which then either continues moving to SpecC or does not; see Bresnan 1994, Collins 1997, Culicover and Levine 2001, Doggett 2004, Dikken 2006).



Arguments against locative in SpecT:

- Locative inversion cannot be embedded (Stowell 1981, 272), see (32).
 This may follow from a restriction on movement to SpecC of an embedded CP. But the question remains why the locative cannot remain in SpecT in embedded contexts (Lowell Sluckin 2021, 108; cf. Řezáč 2006, 687-688 for a sketch).
- The locative PP is presumably merged in a position lower than the subject (cf. Rappaport 1986 on locatives in Russian); but then the latter should prevent A-raising of the locative due to the MLC (Diercks 2017; cf. also Lowell Sluckin 2021, 73-74); (if not explained away by stipulation, cf. 'equidistance' in Collins 1997).
- (32) *I don't believe John's claim [that in the chair was sitting my older brother].

Arguments against expletive in SpecT:

- Proper topicalization (Ā-movement) of a locative induces a weak crossover effect on a bound pronoun in the post-verbal subject (33-a). No such weak crossover arises with locative inversion (33-b), suggesting that the locative (first) undergoes A-movement to SpecT (see Culicover and Levine 2001; but cf. Bruening 2010, 2019, who takes issue with the empirical situation).
- How can it be ensured that the empty expletive is only inserted if a locative PP is fronted (see already Postal 1977), cf. (34)?
- (33) a. *In every dog_i 's cage its_i collar hung.
 - b. In every dog_i 's cage hung its_i collar.
- (34) *Lived a bloodthirsty troll under the bridge.

Locative inversion (in English)

Another complication:

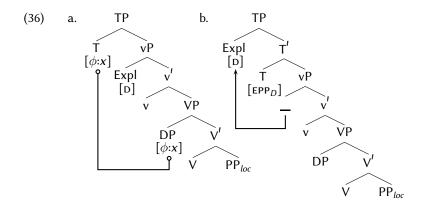
Locative inversion in English does not exhibit the DR (already Postal 1977, 149; Bruening 2010, 48 cites Aissen 1975 for the observation).

- (35) a. Into the room dashed the elephant.
 - b. ?*Into the room there dashed the elephant.

Proposal:

- There is an empty expletive $\exp l_{loc}$ in locative inversion structures that lacks any specification for ϕ (cf. the second expletive assumed for Russian above).
- This expletive can satisfy the EPP and, at the same time, let a definite post-verbal subject enter into an agreement relation wrt person with T (thereby avoiding a DR-effect), see (36-a,b).

Locative inversion (in English)



Locative inversion (in English)

Note:

Due to the lack of a DR-effect in English locative inversion, the empty expletive cannot be motivated independently.

But:

- Locative inversion is closely tied to unaccusativity. Although there are some typically unergative verbs that allow for locative inversion (Levin and Rappaport 1995, 224-227), it is often assumed that their DP argument behaves like a theme (Coopmans 1989, 741-742, Bresnan 1994, 80, Lowell Sluckin 2021, sec 6.3, 6.6).
- Independent motivation for the expletive approach may then come from the idea that an expletive can only be merged in Specv if the feature necessary for such Merge has not been consumed by an external argument (Richards 2004, Richards and Biberauer 2005).
- (See also Diercks 2017, where evidence is given that the restriction is, at least in part, of a formal syntactic nature.)

Locative inversion (in French)

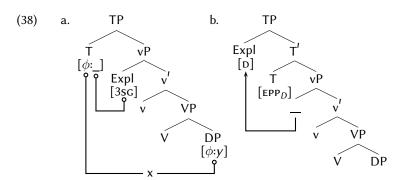
Locative inversion in French:

- As discussed in Lowell Sluckin (2021, 98-102), French exhibits a construction that shows the classical hallmarks of locative inversion (including the lack of the DR), see (37-a,b).
- Interestingly, in colloquial French locative inversion is possible without agreement with the post-verbal subject (Lowell Sluckin 2021, 155), see (37-c). (This is, of course, reminiscent of the first scenario reported for Russian above.)
- (37) a. À Berlin pro sont arrivés plein de nouveaux habitants. in Berlin expl_{loc} be.3**PL** arrived a.lot of new.PL inhabitant.**PL** 'A lot of new inhabitants arrived in Berlin.'
 - b. Dans la chambre pro est entrée Beatrice. in the room $\exp l_{loc}$ is entered Beatrice 'Into the room came Beatrice.'
 - c. À Berlin pro est arrivé(s) plein de nouveaux habitants.
 in Berlin expl_{loc} be.3sc arrived a.lot of new.PL inhabitant.PL
 'A lot of new inhabitants arrived in Berlin.'

Locative inversion (in French)

Analysis:

Colloquial French employs a version of $\exp I_{loc}$ that bears valued ϕ -features ([3sg]): $\exp I_{loc/il}$. (This analysis is also briefly mentioned as a possibility in Lowell Sluckin 2021, 155.) $\exp I_{loc/il}$ blocks agreement between T and the associate in the familiar way (38-a).



Locative inversion (in French)

Prediction:

Given that the associate DP cannot agree with T wrt person (see (38-a)), this predicts the return of the DR-effect in the French colloquial locative inversion. The prediction appears to be borne out (Lowell Sluckin 2021, 155):

(39) ??À Berlin pro est arrivé(s) les musiciens célèbres. in Berlin $\exp I_{loc/il}$ be.3 \mathbf{sc} arrived the.PL musician.3 \mathbf{PL} famous.PL 'The famous musicians arrived in Berlin.'

Summary

Summary:

- In locative inversion structures, SpecT appears to remain empty in languages (English, French) that otherwise strictly obey the EPP. Assuming that the EPP does not hold in locative inversion is not straightforward.
- Although there is no DR-effect in English locative inversion, there is
 one in French colloquial locative inversion. The difference between
 the two languages can be easily expressed in terms of the feature
 content of the expletive (cf. Alexiadou and Anagnostopoulou 1998,
 528). It is not clear how one would account for DR in French locative
 inversion in an account where the locative satisfies the EPP.
- Moreover, the lack of the DR may serve as an argument against a PF-deletion approach: The two expletives (there/il and expl_{loc}) show different behavior with respect to the DR (which is hardly phonological).

Conclusion

Conclusion:

- There is evidence for the existence of empty expletives satisfying the EPP in various constructions and across different languages.
- This evidence does not allow for a straightforward reanalysis of the empty expletive in terms of an optional EPP-requirement or in terms of PF-deletion.
- Any theory that ties EPP-satisfaction to phonological overtness is at odds with these findings.
- Consequently, to the extent that the above arguments in favor of empty expletives (as grammatical objects sui generis) are convincing, they rule out a whole class of analyses that involve a phonologically based notion of the EPP.

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