

Remarks on Contrast-inducing Phenomena in English: A Case Study of Focus Fronting and Pseudogapping*

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1. Introduction

This note discusses and compares two distinct operations inducing contrastiveness: fronting and ellipsis. Although the literature has already acknowledged that each yields a contrastive focal interpretation (e.g. Rooth (1992), Gengel (2013), Prince (1984), Neeleman and Vermeulen (2012), among others), Molnár and Winkler (2010) firstly connect the two operations, making the hypothesis that they carry *contrast*, whose definition is shown later. Since these operations are arguably syntactic in that they operate on constituents either at narrow syntax or PF (Merchant (2001)), this hypothesis implies that the notion contrast is relevant in structural terms. Even in Molnár and Winkler, however, it is still not sufficiently clarified (i) how those operations instantiate contrastiveness and (ii) how contrastive meanings that they encode differ. In this note, I mainly bring the first issue to light. More particularly, I aim to elaborate on syntactic mechanisms to carry contrastiveness in both operations.

For this purpose, I concentrate on focus fronting (cf. (1)-(2)) and pseudogapping (cf. (3)) in English. That these constructions must yield contrastiveness is illustrated as follows (SMALL CAPITAL refers to contrasted elements):

- (1) A: What did John read?
 B:# THE SELFISH GENE he read.
 (cf. He read THE SELFISH GENE.)
(Neeleman and Vermeulen (2012:9))
- (2) A: John read the Extended Phenotype.
 B: No, THE SELFISH GENE he read.
 (cf. No, he read THE SELFISH GENE.)
(Neeleman and Vermeulen (2012:9))
- (3) a.* That exhibit should have impressed me, but it didn't ME.
 b. That exhibit should have impressed me, but it didn't HIM.
(adapted from Levin (1986:46))

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The comparison of (1) with (2) demonstrates that focus fronting is felicitous only in contrastive (i.e. corrective) contexts (cf. Samek-Lodovici (2018)), but it does not serve as such an information focus as an answer to a *wh*-question (1B) (cf. É Kiss (1998), Samek-Lodovic (2018)). Example (3) shows that a remnant in a pseudogapped clause must not be identical to its correlate in an antecedent clause.

Through some discussions, I propose that the contrast-inducing mechanism for focus fronting is different from that for pseudogapping even structurally, and that this consequently captures the fact that potential candidates for fronting and remnant are different categorially. More precisely, the contrastive interpretation of a fronted element is guaranteed by movement to the specifier position of a certain functional category in the C-domain, namely ContrastP (Molnár (2006); cf. Rizzi (1997)), and a remnant in pseudogapping undergoes a relatively costless movement corresponding to quantifier raising (QR), which is visible only in elliptical environments in English (Johnson (2001, 2008); cf. Lasnik (1999), Gengel (2013)). Thus, the two operations differ in process and motivation for movement.

This paper is organized as follows: Section 2 introduces Molnár and Winkler's (2010) definition of contrast, which is independent from both focus and topic, and also outlines their Edge and Gap hypotheses. Section 3 focuses on focus fronting from both empirical and analytical perspectives. Section 4 observes the general observation of pseudogapping and shows how it has been analyzed; thereby I argue, following Johnson's (2008) original view, that the movement process of the remnant corresponds to QR, rather than to the purported IP-internal FocP movement (cf. Jayaseelan (2002)). Section 5 discusses one of the consequences of the proposal to be developed here. Section 6 demonstrates some related issues to be scrutinized for future research, and finally Section 7 draws a conclusion.

2. Edge and Gap Hypotheses

This section introduces Molnár and Winkler's (2010) two hypotheses in regard to contrast. In advance, however, it is necessary to overview Molnár's (2006) notion of contrast, based on which the hypotheses are made. She crucially proposes that contrast is an independent information-structural category; but it overlaps with focus and topic in each remarkable trait.

Let us first discuss the way contrast resembles focus. Many researchers have understood focus in terms of the presence of a set of alternatives (e.g. Rooth (1985, 1992), Valduví and Vilkuna (1998), É Kiss (1998)). Alternative Semantics advocated by Rooth (1985), among others, develops the theory, in which a focal element (i.e. f-marked) has at once its ordinary value and alternative value (cf. Jackendoff (1972), Selkirk (1995)). Accordingly, this theory states that it is due to

the latter that we interpret an f-marked element α as focused. For example, sentence *John visited [Tokyo]_F* includes an f-marked object *Tokyo*, and since the phrase is f-marked, it evokes not only its ordinary value, that is *Tokyo*, but also a set of alternatives semantically relevant: *Washington D.C.*, *Beijing*, *Seoul*, and so on. In this respect, contrast overlaps with focus in invoking alternatives. The crucial difference, however, is that alternatives evoked by contrast must be established pragmatically, rather than merely semantically as assumed for focus in Roothian approaches. In this reasoning, Molnár (2006) argues that contrast exists independently from focus.¹

Let us then discuss the topical trait of contrast. We have seen above that contrast is distinguished from focus in that the former requires alternatives evoked pragmatically. In this respect, such alternatives are more or less relevant in context, which leads to “contribut[ing] to the integration of the utterance into a larger context” (Molnár and Winkler (2010:1396)). This is what contrast shares with topic. To sum up, Molnár and Winkler argue that saliency in discourse is a quite crucial factor to characterize contrast while differing from the other two notions, namely focus and topic. One argument that contrast should be independent, thus susceptible to linguistic forms, comes from a well-known fact that a fronting operation must be affected by a pragmatically anchored set. Observe (Molnár and Winkler (2010:1395); cf. Zubizarreta (1998) for Italian examples and Prince (1984:218) for English examples):

- (4) A: Who ate an apple?
 B:* GIANNI ha mangiato una mela. (Italian)
 John has eaten an apple
 ‘John has eaten an apple.’
- (5) GIANNI ha mangiato una mela (non Piero).
 ‘John has eaten an apple (not Piero).’
- (6) A: Why are you laughing?
 B:# ANNIE HALL I saw yesterday. I was just thinking about it.
- (7) A: You see every Woody Allen movie as soon as it comes out.
 B: No – ANNIE HALL I saw (only) yesterday.

These examples show that both languages prohibit a fronting of a constituent which is merely focal or topical (cf. (4) and (6)); instead, the operation is felicitous only when contrastive, as exemplified in (5) and (7). These are thus striking evidence

¹ See Molnár (2006) for the illustration of the continuous relation between focus and contrast in terms of the status of alternatives.

that contrast is an independent information-structural category that is operative in syntax. Thus, the function of contrast that Molnár and Winkler characterize is illustrated as follows:

- (8) *The Binary Function of Contrast* (cf. Molnár and Winkler (2010:1396))
- (i) Like focus, contrast is a highlighting device operating on alternatives within a restricted set and rendering some kind of new information.
 - (ii) Like topic, contrast plays an important role in information linking and contributes to the integration of the utterance into a larger discourse context. Hence, it is an important coherence-creating device since the set it is operating on is contextually available.

On this basis, Molnár and Winkler (2010) propose that the sense of contrast emerges from the structure-building. In particular, they assume that this notion exists in narrow syntax as a certain syntactic feature, dubbed [C]-feature, and the assumption correctly captures the fact that the semantics of contrast is associated with linguistic forms, as shown above.² More crucially, they make two sub-hypotheses stating that there are two independent operations inducing contrast, referred to together as the Edge and Gap Hypothesis (EGH), as follows:

- (9) *The Edge and Gap Hypothesis* (Molnár and Winkler (2010:1398))
- (i) *Edge Hypothesis (EH)*:
Syntactic displacement of a constituent to the edge of a phase (vP or CP) is associated with phonological prominence and contrastive interpretation of this constituent.
 - (ii) *Gap Hypothesis (GH)*:
Deletion of given or redundant information licenses the phonological prominence of the remnant(s). The contrastive interpretation follows from the semantic/pragmatic properties of the clause.

To test these hypotheses, they mainly discuss topicalization and gapping in English, German, and Swedish, and they are likely to succeed in arguing for the validity of the

² It should be noted that Molnár and Winkler (2010:1396) further divide C-feature into two sub-features called [C-c(ontinuity)] feature and [C-C(ontrast)] feature. Such a division is needed so as to elaborate on cross-linguistic differences: there are languages which allow fronting of a mere topical constituent. For such languages, it is convenient not to lump together those features into one. I do not discuss this issue anymore because it is not strongly relevant to this note, and for convenience, I use [C] to refer to either [C-C] feature, i.e. contrastive and discourse-new, or a combination of [C-C] and [C-c], i.e. contrastive and discourse-given.

hypotheses. Notwithstanding, there are some remaining issues they have not yet investigated; one of them is, while fronting phenomena are compatible with the current generative assumption that there are discourse-related functional heads in the C-domain (cf. the cartographic approach advocated by Rizzi (1997)), it is still controversial how ellipsis is tied with contrastive interpretations. Indeed, Molnár and Winkler assume that the landing site of remnants in gapping constructions is the edge of *v*-domain as a phase head; but they do not provide any strong arguments for this. More particularly, it is not clarified, in their research, to which position these elements move and how such movement takes place. We shed light on this issue by paying attention to focus fronting and pseudogapping in English, the latter of which is not taken into consideration in Molnár and Winkler (2010). The next section elaborates on the former and argues that a movement process in the sense of the cartographic approach correctly captures its behavior.

3. Focus Fronting in English

3.1. General Observations

As we have observed previously, focus fronting in English requires a contrastive context; thus, it is infelicitous to use this construction so as to respond to a (non-D-linked) *wh*-question. Observe (repeated from (1) and (2)):

- (10) A: What did John read?
 B:# THE SELFISH GENE he read.
 (cf. He read THE SELFISH GENE.)

- (11) A: John read the Extended Phenotype.
 B: No, THE SELFISH GENE he read.
 (cf. No, he read THE SELFISH GENE.)

These examples are crucial enough to lend credence to the EH made by Molnár and Winkler (2010); they are still too rough to describe the exact function of this construction. We thus first briefly look into Samek-Lodovici's (2018) observations on focus fronting with respect to contrastiveness.

3.1.1. Pragmatic Constraints

Hypothesizing that focus fronting in English is a contrast-inducing construction, Samek-Lodovici (2018) investigates what kind of pragmatic/semantic factor plays a role when this construction is felicitous. He undertakes this by comparing Neeleman and Vermeulen's (2012) and Krifka's (2008) definition of

contrast, both of which rely basically on Alternative Semantics' definition of focus (i.e. the presence of a set of alternatives), and he argues for Neeleman and Vermeulen. For explanatory sake, I introduce Samek-Lodovici's definition of contrast, which is reformulated from Neeleman and Vermeulen (2012) but not far from theirs in effect. His definition and crucial examples for his argumentation are shown as follows:

(12) *The Definition of Contrast* (Samek-Lodovici (2018:61))
 $\exists p \in \text{ls}^f$ such that $\neg p$

(13) (*A and B are the parents of Bill, Jack, Tom, and Sarah and discussing their children. No other children are contextually salient at the time of their conversation. There is contrast with the proposition 'hit(Bill, Jack)' in the common ground, and speaker B intends to deny the focus-evoked proposition 'hit(Bill, Sarah)'.*)

A: Bill hit Jack, yesterday.

B: Yes, TOM, he hit, TOO. (Implied: Jack hit even Tom, but not Sarah)

(Samek-Lodovic (2018:69))

(14) (*A and B are the parents of Bill, Jack, and Tom and discussing their children. No other children are contextually salient at the time of their conversation. There is contrast with the proposition 'hit(Bill, Jack)' in the common ground, and speaker B intends to deny the focus-evoked proposition 'hit(Bill, Sarah)'.*)

A: Bill hit Jack, yesterday.

B:# Yes, TOM, he hit, TOO.

(Samek-Lodovic (2018:71))

The definition described in (12) states that the mere establishment of alternatives is insufficient; furthermore, a denial of a member therein is necessary. This statement captures the asymmetry between (13) and (14). The difference is the number of alternatives salient in discourse; in (13), there is a remaining person *Sarah*, who is an alternative to the fronted constituent *Tom*. Since A asserts that Jack has already been hit by Bill, another alternative, the only possible alternative implicated by *Tom* in B's utterance is, *Sarah*. Accordingly, it is logically possible to entail that Jack did not hit Sarah via response (13). On the other hand, in (14), after B's utterance, there exist no possible alternatives such that the proposition *Jack hit x* does not hold for them, since it is ensured by that utterance that alternatives available in discourse have all been hit by Jack. Thus, there is no place to fulfill the definition in (12), resulting

in the infelicity of (14). As it is likely that Neeleman and Vermeulen's (2012) definition is able to explain the (in)felicity of focus fronting, I tentatively assume that this definition of contrast encoded by fronting, as described in (12), is the semantic import of a [C]-feature.

3.1.2. Syntactic Distributions

Let us then observe syntactic aspects of focus fronting. Since Chomsky (1976), (contrastive) focus in English has been argued to undergo *wh*-movement to CP, even if it takes place covertly. This is argued by a parallel observation between a *wh*-phrase and a focus phrase on weak crossover effect and parasitic gap:

- (15) a.* Who_i does his_i mother love *t_i*?
 b.* His_i mother loves JOHN_i.
 c.* JOHN_i, his_i mother loves *t_i*.

(cf. Valmala (2007))

- (16) a. What_i did you file *t_i* [without reading { \emptyset /**it*}]?
 b. FRED_i, I talked to *t_i* [in order to impress { \emptyset /**him*}].

(cf. Nissenbaum (2000:23))

These parallelisms have strikingly demonstrated that the type of permutational operation available in focus fronting is *wh*-movement, or more generally A'-movement. To anticipate, the movement process of pseudogapped remnants does not exhibit such parallelisms, which will rather lead us to analyze it as an "overt" QR.³

3.2. A Cartographic Approach to Fronting

Before concluding this section, I need to propose a mechanism to guarantee contrastiveness in focus fronting. I assume that the contrastiveness stems from the contribution of [C]-feature at LF. Given this, the above parallelisms between a *wh*-phrase and a focused phrase imply that a constituent bearing a [C]-feature moves to a certain specifier in the C-domain, as with a *wh*-phrase. This is compatible with Rizzi's (1997) articulated left-peripheral domain. Modifying Rizzi, Molnár and Winkler (2010) propose a clausal architecture for English and Finnish, as illustrated

³ Generally, A'-movement has been considered to be a process to be compared with A-movement, which involves a permutation to an argument position, like Spec TP. In this respect, A'-movement is described as a movement process to a non-argument position, which would amount to including QR. In this note, I clearly distinguish A'-movement from QR in that the former is traditionally a substitution operation whereas the latter is an adjunction operation.

below (cf. Molnár (2006)):

- (17) [ForceP [ContrastP [TopP [FocP [FinP [TP [ν P]]]]]]]
 (adapted from Molnár and Winkler (2010:1403))

Following a cartographic tenet, I further illustrate the process, in which a [C]-feature is checked at the specifier position of ContrastP (i.e. Spec-Head agreement), either overtly or covertly, schematized as following:

- (18) [_{ContrastP} XP_{i[C]} [_{Contrast'} Contrast ... [_{TP} *Subj* [_{ν P}...*t_i*...]]]]

The point is that it is at Spec ContrastP that a [C]-feature is checked, not at FocP (cf. Rizzi (1997), É Kiss (1998)). It is not controversial, to my knowledge, to assume the cartographic approach to explain edge-related contrastiveness, because similar proposals have been made in order to account for the mapping relation between word order and information structure; the name of a relevant functional head varies in researchers, though (e.g. FocP in Rizzi (1997), CFocP in Cruschina (2011), KontrP in Frey (2006, 2010)). More confusing is contrastiveness in the realm of ellipsis. There are various analyses about it, depending on theoretical apparatus one invokes. In what follows, I explore two distinct approaches: one assumes that pseudogapped remnants move to the IP-internal focus projection; the other aims to explain some facts on the remnants in terms of QR (Johnson (2008), Thoms (2016), Tanaka (2017)), and thereby I argue that the latter is superior.

4. Pseudogapping in English

4.1. Previous Accounts

4.1.1. IP-internal FocP-Approach

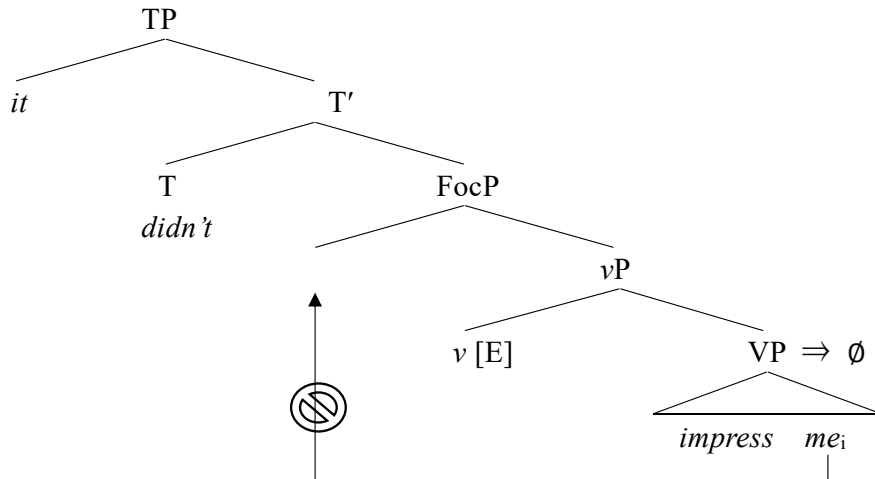
Since the advent of the cartographic approach to syntactic structure (Rizzi (1997)), more functional categories have been assumed than meets the eye. For example, because either FocP or TopP is often exemplified in the C-domain cross-linguistically (e.g. Romance languages), many linguists have acknowledged the existence of such projections. In a similar vein, such information-structural categories are posited in the ν -domain. This is motivated by the fact that there are some languages which show a *wh*-fronting to the middle field (e.g. López and Winkler (2003)), although this is less uncontroversial than what is assumed in the C-domain.

Jayaseelan (2002) is, to my knowledge, the first attempt to account for the obligatory contrastiveness of pseudogapped remnants, positing IP-internal FocP. Inheriting his spirit, Gengel (2013) extends an analysis of pseudogapping to other

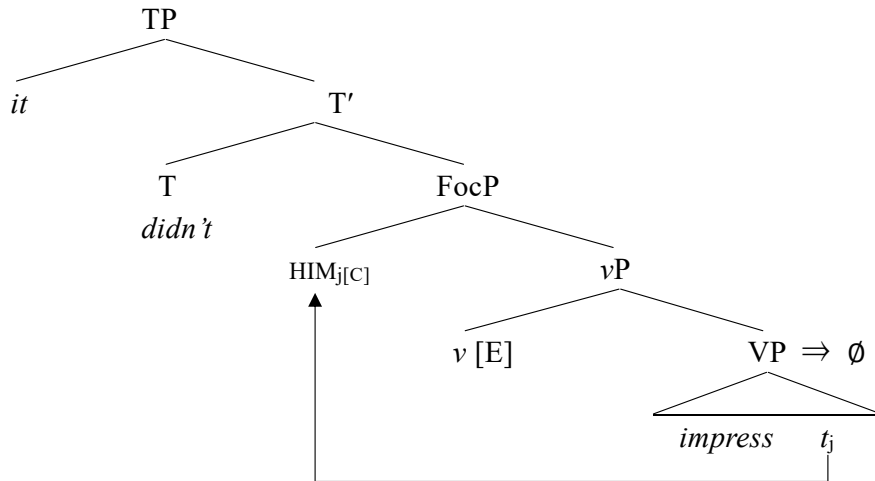
contrastive ellipses such as gapping, sluicing, and NP-ellipsis (cf. Winkler (2013)). The core mechanism Gengel proposes is that remnants evacuate the ellipsis domain because of the requirement of a modified [E]-feature (Merchant (2001)). More precisely, her description of [E] rules out the case in which a constituent with a [C]-feature survives in the ellipsis domain, because such a constituent is not dealt with as “given” (see footnote 4). Accordingly, that constituent has nothing but opting to evacuate the ellipsis domain to the FocP above the vP . One curious consequence of her account is to successfully maintain that pseudogapping is a special case of VP-ellipsis. In other words, she claims that pseudogapping consists of VP-ellipsis and focus movement to IP-internal FocP. Let us see how the mechanism is implemented. The following example is repeated from (3) with a modification, which exemplifies that a remnant must not be identical to its correlate; if identical instead, there should not be the motivation for a constituent to evacuate the domain to be elided.

- (19) a. That exhibit should have impressed me, but it didn't (*ME).
 b. That exhibit should have impressed me, but it didn't HIM.

- (20) a.* That exhibit should have impressed me_i, but



b. That exhibit should have impressed me_i, but



Let us discuss example (20b) first. According to Gengel's theory, an [E]-feature does not work as far as a constituent with a [C]-feature is in a VP to be elided.^{4, 5} A [C]-feature requires that the referent of the remnant here be not the same as its correlate (i.e. $me_i \neq him_j$). Thus, the only available output in this context is with an overt movement of the remnant to the IP-internal FocP, as illustrated in (20b). As a result, we yield pseudogapping, capturing the fact that a remnant must be contrastive. In (20a), on the other hand, an assignment of a [C]-feature to *me* cannot be assumed because its referent is the same as the correlate (i.e. $me = me$). Thus, there is no motivation for *me* to escape from the elided domain. Since the VP contains the

⁴ Gengel's (2013) modification of [E]-feature, which is originally proposed by Merchant (2001), is illustrated as follows (cf. Gengel (2013:136, 138)):

(i) *Focus Condition on Ellipsis*

A constituent α in $XP_{E(\text{ellipsis})}$ can be deleted only if there is an $XP_{A(\text{antecedent})}$, where

- (i) $\|XP_A\|^o$ either is or implies an element of $\|XP_E\|^f$, and
- (ii) $\|XP_E\|^o$ either is or implies an element of $\|XP_A\|^f$.

(ii) *The Semantics of [E]*

$\|E\| = \lambda p : p$ satisfies the Focus Condition on Ellipsis. p
and $\neg \exists \gamma \in \|XP_A\|^f$ in the domain of E .

The description in (i) differs a bit from Merchant's definition of [E] in terms of *e*-Givenness, but its content is not so different (see Gengel (2013:Ch.6) for a detailed discussion). The point is, she formally describes (ii) to explain the case that a remnant must be contrastive in Rooth's sense.

⁵ It should be noted that Gengel (2013) does not dub [C]-feature a contrast-inducing feature to be checked in FocP; rather, she uses [F(ocus)]-feature according to the traditional analyses (e.g. Rooth (1992), Jackendoff (1972), Selkirk (1995)). For explanatory sake, I would rather use [C] here, as its content is little differentiated from that of [F] in the relevant respect.

object *me*, which is not contrastive, VP-ellipsis is derived as a consequence, instead of pseudogapping. The only difference between pseudogapping and VP-ellipsis lies, in such a theory, in the presence of a [C]-feature in an elliptical VP.

This line of analysis is attractive in accounting for the pragmatic status of pseudogapped remnants and the apparent non-constituency of an auxiliary and such remnants at once. Moreover, Gengel (2013) claims that the same mechanism is at work for all kinds of contrastive ellipsis, such as gapping, stripping, and NP-ellipsis. Nonetheless, it is likely that positing the IP-internal FocP has not yet been lent credence to at least in English in other contexts than ellipses. This is, however, not to say that the remnant does not undergo movement; it *should* involve movement, given the general view that syntactic operations such as movement, substitution, and ellipsis (deletion) target a constituent. Without assuming movement, it would be difficult to capture the fact that the remnant itself must be a constituent. Thus, what should be considered is not whether movement is involved, but what kind of movement *is*. In what follows, I discuss this issue, arguing that the movement process for pseudogapped remnants involves QR, a relatively costless operation.

4.1.2. *QR-Approach*

Since Johnson (2008), it has been proposed that a remnant in pseudogapping evacuates an elided domain via QR (e.g. Thoms (2016); cf. Tanaka (2017)). Assuming the operation takes place at narrow syntax with the pronunciation of the lower copy, not at LF (Fox and Nissenbaum (1999); cf. Bobaljik (2002), see also Chomsky's (1995) copy theory of movement), the difference between raising of a quantifier and movement of a remnant lies in the choice of the copy to be pronounced at PF. To schematize this view, we gain the following two structures for each:⁶

- (21) a. *Quantifier Raising*
 [CP [TP *Subj* [_{VP} **QP**_i [_{VP} V **QP**_i]]]]
- b. *Pseudogapping*
 [CP [TP *Subj* [_{VP} **XP**_i [_{VP} V **XP**_i]]]]

Let us observe how the QR-approach of pseudogapping captures some properties which are parallel to what is shown in covert raising of quantifiers. First, it is well-known that QR does not apply beyond a clause boundary; for example, while an object

⁶ Generally, it is assumed that raising of a quantifier targets a TP, but not a vP. In this respect, the structure in (21a) is somehow arbitrary for the ease of exposition. Although I do not have any strong argument that QR, in fact, targets the latter as shown in (21a), it seems that if we discuss a scopal relation between a subject and an object, it is not problematic to assume a vP to be the landing site of QR, as far as VP-internal Subject Hypothesis is concerned.

located in a finite embedded clause may not scope over a main-clausal subject, it does not hold when a control clause is concerned:

- (22) a. Someone thinks (that) you should kiss everyone. ($\exists > \forall$, $*\forall > \exists$)
 b. Someone wants to visit everyone. ($\exists > \forall$, $\forall > \exists$)
 (Thoms (2016:297))

If the movement process for pseudogapping involves QR, it is predicted that a constituent in an embedded finite clause cannot be a remnant, but one in a control clause can. The prediction is borne out:

- (23) a.* Kathy thinks she could study French, but she doesn't GERMAN.
 b.? Kathy wants to study astronomy, but she doesn't METEOROLOGY.
 (Lasnik (2006), cited from Thoms (2016:294))

Note that what is elided in (23a) is not *study*, but *think she could study*, thus ellipsis targets a main clausal VP, as suggested by the form of auxiliary here (i.e. *doesn't*). Thoms (2016) argues that licensing of pseudogapping involves structural identity, so-called *LF-parallelism* (cf. Griffiths and Lipták (2014)), which crucially requires that variables left behind by movement and associated lambda operators be positionally identical between this construction and the antecedent. On this basis, since a correlate in the antecedent (i.e. *French*) is generated in a finite embedded clause selected by *think*, this phrase would have escaped from the main-clausal VP in order to establish the structural identity with the second conjunct, but (23a) suggests that it does fail to do so. The reason is captured as far as we assume that the movement process is QR, which is visible only in elliptical contexts. As QR may not apply beyond a clause boundary, as observed in (22a), the correlate *French*, by assumption, should not go beyond the boundary, ruling out the parallel structure in (24a): unacceptability of (23a) as a consequence. In the same logic, the acceptability of (23b) is accounted for; as shown in (22b), QR is allowed to target the higher clause if a nonfinite control clause is present rather than a finite clause. Here, the QR-approach correctly predicts that a control clause in (23b) does not block the correlate *astronomy* from evacuating the lower, elided VP, resulting in the LF-parallelism as schematized in (24b) below:

(24) *LF structure of (23a,b)*

a.* [TP Kathy [French_i λx ([VP thinks [boundary she could speak x_i]])]]

↑
⊗

[TP she [doesn't [German_i λx ([VP think [boundary she could speak x_i]])]]]]
⇒ *LF-parallelism not established*

b.?[TP Kathy [astronomy_i λx ([VP wants [non-boundary to study x_i]])]]

↑

[TP she [doesn't [meteorology_i λx ([VP want [non-boundary to study x_i]])]]]]
⇒ *LF-parallelism established*

Meanwhile, if the remnant moved to the IP-internal FocP, as Jayaseelan (2002) proposes, this behavior would not be readily explained, because A'-movement generally takes place cyclically by way of escape hatches.

Let us discuss another argument for the QR-approach. Previously, we have observed that focus fronting in English is an A'-movement, which is motivated by the parallelism with a *wh*-movement with respect to the licensing of a parasitic gap, see the following example, repeated from (16):

(25) a. What_i did you file t_i [without reading {∅/*it}]?

b. FRED_i, I talked to t_i [in order to impress {∅/*him}].

The parasitic-gap diagnosis hints to us that the QR-approach to pseudogapping is preferable; it is interesting to point out that QR does not license a parasitic gap.⁷ Observe:

(26) a. John filed no article without reading it.

b.* John filed no article without reading ∅.

(Kim and Lyle (1996:292))

Furthermore, pseudogapping does not license it, either, which strikingly argues that

⁷ This behavior cannot be attributed to the nature of quantifier itself because a fronting of a negative quantifier, that is negative inversion, does license a parasitic gap:

(i) No article; did John ever file t_i [without reading {∅/*it}].

(Kim and Lyle (1996:292))

Given that negative inversion involves a kind of A'-movement to the C-domain (cf. Haegeman (2000)), it is suggested that we distinguish A'-movement from QR.

the movement process involved is QR, rather than movement to the IP-internal FocP.⁸

(27) a.? Although John didn't kiss Mary, he did SALLY without looking at her.

b.* Although John didn't kiss Mary, he did SALLY without looking at \emptyset .

(Baltin (2003:241), cited from Tanaka (2017:276))

To summarize, I have succeeded in arguing that the process that yields a remnant is QR and thus that the syntactic source of contrastiveness in pseudogapping is different from that in focus fronting. In the next section, I provide a consequence of this division, shedding light on the categorial restrictions of elements that can be fronted and pseudogapped.

5. A Consequence: Contrast of Particles

We have seen that the contrast-inducing processes of focus fronting and pseudogapping both involve movement and a syntactic feature [C], but their natures differ: the former involves A'-movement to the C-domain; the latter does QR to the domain lower than Spec TP. However, I need to postulate fine-grained derivational processes enough to explore and discuss consequences of this study. Based on the

⁸ Takahashi's (2004) *eclectic* approach shows the opposing result. He proposes that there are the two processes for deriving pseudogapped remnants: one is object shift and the other is heavy NP-shift (HNPS). His argument for this is crucially based on the presence of parasitic gap and that only the latter licenses it (cf. Overfelt (2016)). Observe:

(i) Although John didn't file a recent article about HNPS, he did [without reading \emptyset] [a recent article about Object Shift].

(Takahashi (2004:10), cited from Gengel (2013:68))

What is confusing is the fact that while the example in (27) does not license a parasitic gap, the example in (i) does. The superficial difference is the position in which a remnant is located. Based on this, Takahashi suggests that (i) involves HNPS and (27) object shift, which is argued not to license a parasitic gap, due to its A'-movement nature. However, my proposal dispenses with Takahashi's eclectic approach; I assume that the movement process of a remnant is QR uniformly, leading to the prediction that pseudogapping never licenses a parasitic gap. I further suggest that the remnant in (i) involves two operational steps: QR to the adjunction site of ν P and HNPS from here. Accordingly, the reason of the acceptability of (i) comes from the property of HNPS itself. Although a new issue may arise as to how we should deal with the rightward movement instantiated in HNPS, this is beyond the scope of this note.

discussion developed here, I propose the following derivation for each construction:⁹

- (28) a. *Focus Fronting* (via A'-movement)
 [CP [ContrastP XP_i[C] [Contrast' Contrast ... [TP *Subj* [_{vP}...*t_i*...]]]]] (cf. (18))
- b. *Pseudogapping* (via QR)
 [CP ... [TP *Subj* [T' T [_{vP} XP_i[C] [_{vP} v[E] [_{vP}... XP_i[C]...]]]]]]]

Let us discuss a consequence of the proposed structures. It has been already reported that the pseudogapped remnant is constrained categorially. One example is concerned with verb particles. Johnson (2001) observes that particles may not be remnants even if they are contrastive to correlates (Gengel (2013); see also Baltin (2000)):

- (29) a.* While Perry might switch the TV OFF, he won't ON.
 b.* I'll turn the radio DOWN, but I won't UP.
 (Johnson (2001:463), cf. Gengel (2013:31))

⁹ Thoms (2016), for example, assumes that a pseudogapped remnant moves to the specifier of ΣP advocated by Laka (1990), which is associated with the polarity of a sentence. A motivation of his assumption comes from the complementary distribution with the remnant and polarity-related particles, as in (i) (cf. Thoms (2016:292)):

- (i) a.*? Students may bring wine, but they may not BEER.
 b.* John won't bring beer, but he will TOO WINE!
 c.*? John has not brought beer, but he has SO WINE!

Given that these particles occupy Spec ΣP (Laka (1990), López (1999)), the ungrammaticality of (i), he argues, is reduced to the lack of landing sites for the remnants. Furthermore, he demonstrates that if a negation is a clitic, namely that if it head-moves to T from the Spec ΣP , the sentence in question is rendered acceptable:

- (ii) Students should bring wine, but they shouldn't BEER.

Indeed, there are some arguments that support the view that ΣP is a focus-related projection within IP (e.g. Drubig (2003)), and the facts in (i) and (ii) are curious; but if we assume the copy theory of movement, the gap between (ia) and (ii) is merely a phonological matter: since the negation occupies Spec ΣP in narrow syntax, whether it is a clitic or a free form, this theory would imply that there should be no room for a remnant in the specifier position in either case, or if any, syntactic operations might not render those two options distinguishable. If this reasoning is correct, the degradation of (i) might be attributed to other factors such as prosody.

At least, the argument made in this note allows us to believe that the movement process of the remnant is not A'-movement. In this sense, the landing site is not crucial. My argument would be compatible with the assumption that the remnant adjoins, not A'-moves, to ΣP . In this note, however, I assume that it adjoins to a vP , since the presence of ΣP is not relevant here.

If we assume that only elements which carry referential properties (e.g. nominal) may be targeted by QR, the fact in (29) that particles cannot be remnants is readily understood, because such elements are regarded as predicative. The claim that (the lack of) predicativity (i.e. referentiality) is germane to the qualification as a remnant is supported by the following examples, which demonstrate that AP and VP are disallowed to be pseudogapped remnants:

- (30) a.* You probably just feel [_{AP} RELIEVED], but I do [_{AP} JUBILANT].
 b.* Rab felt comfortable [_{VP} DANCING], but Bill did [_{VP} SINGING].
 (Levin (1986:232), with modifications)

Furthermore, there is even a case where a nominal cannot be a remnant; if a NP is required to be predicative by its selector (i.e. a verb), it cannot be a remnant of pseudogapping, as shown in (31b) (cf. an argument NP in (31a)).

- (31) a. The students did not date doctors, but they did NURSES. (Argument)
 b.* The students did not become doctors, but they did NURSES. (Predicate)
 (Baltin (2000), cited from Tanaka (2017:273))

In turn, let us look closely to focus fronting. Weir (2015) observes that fronting of a particle is impossible in English, as shown below:

- (32) a.* Up, he looked.
 b.* In, he breathed oxygen.
 c.* On, he turned the TV.
 (Weir (2015:174))

In Section 3, we have observed that focus fronting in English is highly marked and requires contrastive contexts such as correction. Thus, it is still possible to believe that the unacceptability of (32) is not a grammatical matter, but an information-structural matter, which motivates me to reexamine the same examples with appropriate contexts. My informant reports that the examples above are rendered acceptable if they are embedded in corrective contexts. Observe:

- (33) a. A: John looked down.
 B: No, UP, he looked (, not DOWN).
 b. A: John breathed oxygen out.
 B: No, IN, he breathed oxygen (, not OUT).

- c. A: John turned the TV off.
 B: No, ON, he turned it (, not OFF).

These examples suggest that unlike pseudogapping, focus fronting is insensitive to the categorial status of a constituent to be fronted. In this connection, fronting of predicative categories is reported to be attested (Rimell and Lue (2005:242–243); cf. Ward (1990)):

- (34) a. [_{VP} Seen at most three animals]_i every man has *t_i*.
 b. [_{AP} Fond of every boy]_i some girl is *t_i*.

The categorial sensitivity of pseudogapping and the insensitivity of focus fronting are explained by the motivational difference on movement, which is the important part of this note: in pseudogapping, I argue that movement of a constituent with a [C]-feature is not triggered by its counterpart in the C-domain; rather, its motivation is tied with the presence of [E]-feature (Merchant (2001)). Put differently, ellipsis itself, indirectly though, triggers movement: since an [E]-feature does not allow non-given elements to be entangled in the elided domain, overt QR must take place, and then a contrastive constituent must be pronounced outside the domain. In fact, in pseudogapping, there is no agreement relation with a higher functional head.

On the other hand, I argue that focus fronting involves A'-movement. In the cartographic perspective, a [C]-feature needs to be checked in the relevant position (i.e. Spec ContrastP) in focus fronting, in the same way that a *wh*-phrase with a [Q]-feature is checked by its counterpart in the C-domain.¹⁰ In this case, therefore, what drives movement is not a [C]-feature itself, but an agreement configuration with a Contrast head. More generally, a constituent which enters into an agreement relation with the relevant head is qualified to move to its specifier, whether we invoke the Spec-Head or the Probe-Goal system. In fact, it does not matter to the agreement relation whether such a constituent is semantically predicative or not; particularly crucial is that whether a constituent carries a relevant feature. Hence, it is due to this reasoning, I suggest, that focus fronting allows for particles.

¹⁰ My position as to the movement mechanism to the C-domain remains neutral. In the Spec-Head Agreement system, the motivation of movement to a certain specifier is for establishing an agreement. In this system, movement is a sufficient condition for agreement. Meanwhile, the Probe-Goal Agreement (Chomsky (2001)) takes place in order to delete an unvalued feature, which may not exist in either PF or LF. Hence, this system does not necessarily require movement. If a certain additional feature called EPP is present, a movement operation takes place additionally. The point to us here is that a [C]-feature in focus fronting must enter into an agreement relation with its counterpart in the C-domain. In this respect, it is fair to say that operations on [C]-feature differ between pseudogapping and focus fronting, whichever system we draw on.

6. Further Issues

Introducing Molnár and Winkler's (2010) hypotheses as a starting point, which describe that fronting and ellipsis operations are contrast-inducing processes, I have argued that the process that focus fronting undergoes is differentiated from the one that pseudogapping does. More precisely, I propose that the former is required to establish an agreement relation between a [C]-feature and its counterpart in the C-domain (i.e. Contrast head) whereas contrastiveness of the latter is guaranteed by a [C]-feature itself, whose movement process is just for escaping from ellipsis via QR. This proposal correctly accounts for the difference in the categorial restriction on a moved constituent, such as particles.

This operational distinction raises some new issues. Unfortunately, I do not undertake all of them in this note; I would like to show one of them to make clearer the direction of future research. This is a theoretical issue: is the contrastiveness gained through an agreement operation the same as the semantic contribution of a [C]-feature? In other words, I wonder whether or not an agreement of a [C]-feature with a Contrast head and the subsequent movement need to fulfill some additional condition. As shown in Section 2, we have outlined Samek-Lodovici's (2018) observations on focus fronting, which demonstrates that the presence of alternatives does not suffice to license focus fronting in English; an exclusion of at least one alternative is further needed. This may be, I believe, a hint to bringing this issue to light. If such an exclusion is an additional property associated with an agreement with the functional head, it is predicated that pseudogapping itself does not have to suffice this requirement, as the contrastiveness of the construction, by hypothesis, is merely a semantic import of a [C]-feature itself. To argue this, exploring the difference between focus fronting and pseudogapping appears to be insufficient because it would not be an easy task to make appropriate minimal pairs between them: they differ not only in the surface position of a focal constituent but also in whether a VP is pronounced or not. In this context, let us briefly recall the IP-internal FocP movement approach (Jayaseelan (2002), Gengel (2013)). It suggests that pseudogapping is composed of VP-ellipsis and a type of focus movement. Although I have argued for the other, the QR-approach, I do not jeopardize this suggestion. This view might be helpful: if we assume that an operation that is attested in VP-ellipsis is carried out in pseudogapping, it follows that we may discuss the effect associated only with the positional difference of focal constituents. Merchant (2008:140) reports that VP-ellipsis can have a remnant, which is located in the sentence-initial position (cf. Winkler (2013)):

- (35) GREEK, you should take; DUTCH, you shouldn't.

As far as we hypothesize that the construction like (35) involves A'-movement of a remnant to the C-domain, it gets worthwhile comparing with pseudogapping counterparts such as *you should take Greek, but you shouldn't Dutch*.

Along these lines, let us briefly explore the movement process that the construction as in (35) undergoes. We have observed that focus fronting of a particle is felicitous in corrective contexts while rendering a particle a pseudogapped remnant is impossible, and I regard this as a piece of evidence for my proposal that the process for the latter is QR, not A'-movement. Interestingly, the same corrective contexts do not rescue the case, as shown in responses (36B₁) below. In fact, the same holds for the construction in question, that is, particles resist VP-ellipsis with fronting, as shown in responses (36B₂):

- (36) a. A: John looked down.
 B₁: * No, he did UP(, not DOWN).
 B₂: * No, UP, he did(, not DOWN).
 b. A: John breathed oxygen out.
 B₁: * No, he did IN (, not OUT).
 B₂: * No, IN, he did (, not OUT).
 c. A: John turned the TV off.
 B₁: * No, he did ON(, not OFF).
 B₂: * No, ON, he did (, not OFF).

These examples are suggestive in considering whether the fronted remnant moves to the C-domain directly or via an intermediate projection by QR. If the movement takes place directly, we can expect the responses in (36B₂) to be acceptable, as with focus fronting (cf. (33)). The fact that the reverse holds leads us to believe that the particles in (36B₂) once must undergo QR to the vP, as schematized as follows:

- (37) a. [ContrastP $\overset{\uparrow}{\text{XP}}_{i[C]} \dots [\text{TP } \textit{Subj} [\text{T}' \text{T} [\text{vP } t_i [\text{vP } \text{v}[E] [\text{VP} \text{take } \text{Dutch}_{i[C]}]]]]]] \dots]$
 b. DUTCH, you shouldn't. (cf. (35))
 c. [ContrastP $\text{DUTCH}_{i[C]} [\text{TP } \textit{you} [\text{T}' \textit{should} [\text{vP } t_i [\text{vP } \text{v}[E] [\text{VP} \text{take } \text{Dutch}_{i[C]}]]]]]]]$

Given that particles are not targeted by QR by virtue of their predicative nature, the unacceptability of (36B₂) is captured by stating that since QR fails to take place in the first place, the subsequent operation, namely A'-movement to Spec ContrastP, is impossible. This is illustrated as follows:

- (38) a.* UP, he did.
 b.* [ContrastP ... [TP he [T' did [_{vP} v[E] [_{vP} look UP_[C]]]]]...]
-

The present discussion seems to make it reasonable to elaborate on the construction in (35), thereby we would understand how the contrastiveness tied with the C-domain differs from that not associated with this domain, this is left for future research.

7. Conclusion

Based on Molnár and Winkler's (2010) Edge and Gap Hypothesis, this note has discussed how contrastiveness is induced in focus fronting and pseudogapping so as to refine their hypothesis and to lend support to their core insight that *contrast* is an independent information-structural category overlapping both with focus and topic. I have argued that both focus fronting and pseudogapping utilize movement operations to induce contrastiveness, but the processes differ: the former involves an agreement relation between a [C]-feature and its corresponding head, which is claimed to be a precondition of A'-movement; the latter involves QR of a constituent with a [C]-feature, which is rendered visible only when ellipses take place. This analysis of pseudogapping leads to dispensing with the purported IP-internal FocP (cf. Jayaseelan (2002)) without eviscerating his point that the remnant must be contrastive. As a consequence, my proposal straightforwardly captures the fact that while focus fronting allows particles to be fronted in corrective contexts, pseudogapping does not allow them to be contrastive remnants.

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