On the syntax of D

Takahiro Honda *

Abstract This paper aims to present several data that support the split phi-features hypothesis proposed in Honda (2020). It hypothesizes that determiners are not a single lexical item but consist of the two lexical items D1 and D2, which bear a person feature, and number and gender features, respectively. Based on Leu (2015), I claim that some (Swiss) German and non-standard English expressions support the evidence of assuming determiners as complex elements.

Keywords: syntax, determiner, phi-features, (Swiss) German, non-standard English

1. Introduction

In Honda (2020), I propose (1a) for the structure of nominal expressions, contra (1b), which Abney (1987) proposes and is widely accepted.

(1) a. $[_{\alpha}\ D1_{[Case:u]/[P:u]}\ [_{D2P}\ D2_{[G:u]/[N:u]}\ NP_{[iP]/[iG]/[iN]}]]$ (Honda 2020: 5)
b. $[_{DP}\ D\ NP]$

In (1a), the lexical item traditionally analyzed as D is divided into two lexical items—D1, which bears unvalued person and Case features, and D2, which bears unvalued gender and number features. The unvalued features, except the Case feature, are valued via agreement with the phi-features of NP. In this paper, I call this analysis a "split phi-features hypothesis," since the person feature is separated from the gender and number features in the two Ds. These proposals aim to explain that *there*-sentences such as (2) are derived as in (3).[1]

(2) There appeared a man in the room.

(3) a. $[_{\alpha}\ D1_{[Case:u]/[P:u]}\ [_{D2P}\ D2_{[G:u]/[N:u]}\ man_{[P:3]/[G:MASC]/[N:SG]}]]$
b. $[_{\alpha}\ D1_{[Case:u]/[P:\mathbf{3}]}\ [_{D2P}\ D2_{[G:\mathbf{MASC}]/[N:\mathbf{SG}]}\ man_{[P:3]/[G:MASC]/[N:SG]}]]$
c. $[_{\beta}\ T_{[P:u]/[G:u]/[N:u]}\ [_{vP}\ v\ [_{VP}\ appear\ [_{\alpha}\ D1_{[Case:u]/[P:\mathbf{3}]}\ [_{D2P}\ D2_{[G:\mathbf{MASC}]/[N:\mathbf{SG}]}\ man_{[P:3]/[G:MASC]/[N:SG]}]]]]]$
d. $[_{\beta}\ T_{[P:\mathbf{3}]/[G:u]/[N:u]}[_{vP}\ v\ [_{VP}\ appear\ [_{\alpha}\ D1_{[Case:\mathbf{Nom}]/[P:\mathbf{3}]}\ [_{D2P}\ D2_{[G:\mathbf{MASC}]/[N:\mathbf{SG}]}\ man_{[P:3]/[G:MASC]/[N:SG]}]]]]]$
e. $[_{<person,\ person>}\ D1_{[Case:\mathbf{Nom}]/[P:\mathbf{3}]}\ [_{\beta\rightarrow TP}\ T_{[P:\mathbf{3}]/[G:u]/[N:u]}\ [_{vP}\ v\ [_{VP}\ appear\ [_{\alpha\rightarrow D2P}\ \sout{D1_{[Case:Nom]/[P:3]}}\ [_{D2P}\ D2_{[G:\mathbf{MASC}]/[N:\mathbf{SG}]}\ man_{[P:3]/[G:MASC]/[N:SG]}]]]]]]$
f. $[_{<person,\ person>}\ D1_{[Case:\mathbf{Nom}]/[P:\mathbf{3}]}\ [_{\beta\rightarrow TP}\ T_{[P:\mathbf{3}]/[G:\mathbf{MASC}]/[N:\mathbf{SG}]}\ [_{vP}\ v\ [_{VP}\ appear\ [_{\alpha\rightarrow D2P}\ \sout{D1_{[Case:Nom]/[P:3]}}\ [_{D2P}\ D2_{[G:\mathbf{MASC}]/[N:\mathbf{SG}]}\ man_{[P:3]/[G:MASC]/\ [N:SG]}]]]]]]$

It is assumed that D1 is an affix, while D2 roughly corresponds to the determiners in traditional analyses. According to Chomsky (2015: 12), affixes are invisible to labeling algorithm (LA). I

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[1] In (3), features in bold face indicate features valued by agreement with other features. For expository purposes, I omit discussion of V-to-*v* movement and feature inheritance between C and T or *v* and V, which Chomsky (2008, 2013) discusses. With regard to the position of the prepositional phrase *in the room*, see Honda (2020: fn. 12).

assume that affixes cannot provide labels, but a set with an affix must be labeled like other sets. Consequently, providing the label for α in (1a) and (3) requires head movement into D1 or a movement of D1. As shown in (3a-f), first, the person feature of D1 and the gender and number features of D2 are valued by agreeing with the counterpart features of the noun *man*, as illustrated in (3b). Second, the verb *appear*, the light verb *v*, and T merge with α in this order, resulting in (3c). Third, the unvalued person feature of T agrees with the corresponding feature of D1, as in (3d), and subsequently, D1 internally merges with β, making it possible for β to be labeled as TP and for the whole set to be labeled by the person feature, as in (3e) (see Saito 2016 and Chomsky 2015). Last, as shown in (3f), the unvalued gender and number features of T are valued by agreement with the corresponding features of D2, eventually realized as the determiner *a*; the expletive *there*, which bears only the third person feature, is inserted into the affix D1 as a last resort repair strategy.

The abovementioned assumption explains the following phenomena observed in *there*-sentences:

(4) a. There appeared a ship on the horizon. (Levin 1993: 89)
b. * There ran a little boy in the yard. (Levin 1993: 90)
c. * There sank three ships last week. (Haegeman 1991: 335)

(5) a. There is a man and a woman in the house.
b. * There are a man and a woman in the house.
c. There is a man and five women in the house.
d. * There are a man and five women in the house.
e. There are four men and a woman in the house.
f. * There is four men and a woman in the house. (Bošković 1997: 87)

(6) * There is every man in the next room. (Belletti 1988: 5)

To explain why *there*-insertion is impossible in unergative and ergative verb sentences, Honda (2020) adopts Fujita and Matsumoto's (2005) derivational theta-marking analysis, where a three-layered split VP structure is assumed for transitive verbs. In the analysis, arguments of unergative verbs externally merge at the position *Causer*, while arguments of ergative verbs, which externally merge at the position *Theme*, internally merge at the position *Causer*. (7a) shows that the subject of a transitive verb is externally merged at the position *Causer* and then internally merged at the position *Agent*; this makes it possible to explain why the subject of transitive verbs has Agent and Causer readings.

(7) a. [$_{vP1}$ Agent [*v*1 [$_{vP2}$ Causer [*v*2 [$_{VP}$ V Theme]]]]] (transitive verbs)
b. [$_{vP2}$ Causer [*v*2 [$_{VP}$ V Theme]]] (ergative verbs)

Conversely, the subject of an ergative verb is interpreted as Causer as well as Theme of the event that the verb describes. In (7b), the subject is externally merged at the position *Theme* and then internally merged at the position *Causer*. Given this analysis, to separate the affix D1 from D2, D1 merges at the position *Causer*; otherwise, D1 and D2 would compose the D1-D2 complex and be realized as a determiner, and *there*-insertion would never take place. However, D1's merging alone at the position *Causer* requires the semantically vacuous affix to be interpreted as Causer—hence the deviance of (4c).[2] This also explains the deviance of (4b). Unergative verbs differ from transitive verbs only in that the former lacks Theme. Thus, the subject of an unergative verb is externally merged at the position *Causer* and then internally merged at the position *Agent*. Thus, separating D1 from D2 in the argument of unergative verbs requires internal merge of D1 at the

[2] For other possibilities, see Honda (2020).

position *Agent*, leaving D2 and NP in the position *Causer*. This also results in interpreting the semantically vacuous D1 as the Agent, which is not legitimate either.

The derivation illustrated in (3) also explains the agreement observed in *there*-constructions involving conjoined nominal phrases, as in (5). According to Bošković (1997), the number feature of T agrees with that of the first conjunct. Note that "associate" corresponds to D2P here. Based on Chomsky's (2013) analysis of coordinated expressions, the label of coordinated expressions is that of the first conjunct, which perfectly matches the label of the first D2P if D1 selects two conjoined D2Ps. Consequently, minimal search (Chomsky 2013) of T can find only the first conjunct of the two D2Ps. This is why T agrees with the first conjunct in (5).

As is well known, the definiteness effect is observed in *there*-constructions, and strong quantifiers such as *every* cannot appear in the associate position, as in (6) (see Milsark 1974). As pointed out in Honda (2020), we observe the same phenomenon in predicate nominals, as in (8).

(8) *They believed John and Mary *every friend*. (Rothstein 2001: 57)

As we assume that D1 can select two D2Ps, D2P can stand alone without D1. It is natural to assume that predicate nominals lack Case features. This means that predicate nominals are D2P without D1. In Honda (2020), strong quantifiers such as *every* are the D1-D2 complex, and thus, deriving sentences such as (6) is impossible, whereas sentences such as (9) are perfectly grammatical.[3]

(9) Every man is in the next room. (Honda 2020: 13)

Here, two questions must be addressed: (i) does any language show overt evidence of the combination of D1 and D2? and (ii) is the strong quantifier *every* really the D1-D2 complex? To answer the questions, we address Bernstein's (1997) and Leu's (2015) observations.

2. Multiple Determiners

Bernstein (1997) points out that expressions such as (10) are possible in nonstandard English.

(10) (nonstandard English)
a. this here guy
b. that there car (Bernstein 1997: 91)

(11) (standard English)
this guy here (ibid.)

Bernstein calls "here" and "there" in (10) the reinforcer of the demonstrative and claims that both the demonstrative and its reinforcer precede the noun in Germanic languages. She also points out that substitution of either the definite or indefinite article for demonstratives results in ungrammaticality, as shown below.

(12) a. *the here guy
b. *a here guy (ibid.)

This shows that the reinforcer may only modify and cooccur with a demonstrative element, as in (10). Additionally, she points out that demonstratives are generally ambiguous between a deictic interpretation and what she labels an "indefinite specific" interpretation, only which of the latter is possible in (13).

(13) There's this book (that) you ought to read. (ibid.: 95)

[3] If D2 incorporates into D1, *there*-insertion into D1 is not required, but the whole nominal phrase is raised to SPEC-T, as in (9).

She suggests that the deictic interpretation is associated with a demonstrative that has raised up to DP and that the indefinite specific interpretation is associated with a demonstrative that has not raised out of the AgrP projection.[4]

Bernstein's analysis is based on the fact that the demonstrative is adjectival in nature in many languages. According to Bernstein, when the expression *this here* in nonstandard English appears with adjectives, it precedes them, as in (14).

(14) a. this here big house (nonstandard English)
b. this here long journey (Bernstein 1997: 101)

Leu (2015) elaborates Bernstein's (1997) analysis and points out that the following pair would be ambiguous without stress (underlining indicates stress):

(15) a. der Tisch
the table
b. der Tisch
that table (Leu 2015: 12)

With stress on *der*, we obtain a demonstrative interpretation. Leu proposes that an unpronounced adjectival modifier, which contributes deicticity, is represented as *THERE* in (16).

(16) der THERE Tisch
the there table
'that table'

He also shows what he calls the "d/di-alternation," as in (17)

(17) a. d rosä Swiss German
the rose
b. d-i rot rosä
the red rose
c. d-i rosä
'this rose' (ibid.: 15)

According to Leu, Swiss German has a prenominal definite marker, and in the plain definite DP in (17a), the definite marker is not followed by overt inflection. Considering that the demonstrative is adjectival, he concludes that the structure for (17c) is (18).[5]

(18) d-i HERE rosä Swiss German
the-AGR$_{ca}$ here rose (ibid.: 16)

Based on these facts and analyses, he argues that the right representation of demonstratives is essentially *[$_{xAP}$ the HERE]*: an extended adjectival projection featuring a deictic stem, inflection, and a preadjectival article. He explains why English does not have expressions such as *this (*the) house* by suggesting that English *this* overshadows *the*, making it invisible for pronunciation. He distinguishes a reinforcer *here* in (14) from the deictic adjective *here/HERE*, since the former is only licensed in combination with a demonstrative. The latter is itself part of the demonstrative

[4] Bernstein (1997) explains this based on Giusti's (1994) DP structures below:
(i) [$_{DP}$ [$_{D0}$ om-ul$_i$] [$_{AgrP}$ [$_{Agr0}$ t$_i$] etc. [$_{NP}$ t$_i$]]]
(ii) [$_{DP}$ [$_{D0i}$] [$_{AgrP}$ [$_{Agr0i}$] etc. [$_{NP}$ mann-nen$_i$]]] (Giusti 1994: 87)
Giusti suggest that (i) corresponds to the structure of DP in Romanian and (ii) that in Scandinavian.

[5] The marker AGR$_{ca}$ refers to the adjectival agreement.

and cannot be subject to such a constraint (see also Bernstein 1997: 91). He proposes the informal structure in (19):

(19) [[$_{Dem}$ the THERE] there N] ⇒ "that there book" (Leu 2015: 32)

He also uses the examples shown by Mark Baltin, as in (20), to demonstrate the difference between deictic adjectives from reinforcers.

(20) a. There's this (*here) student in my class who always yawns.
b. This (*here) guy walks into a bar and asks for a drink. (ibid.: 34)

The indefinite use of the demonstrative *this* and *these* in English does not allow a reinforcer.

He also points out that a demonstrative determiner can have a locative, temporal, or discourse-anaphoric interpretation but that the postnominal reinforcer is strongly locative, as in (21):

(21) a. this here house
b. this (*here) year
c. that (*there) year (ibid.: 34)

Through these analyses, Leu's (2015) proposal regards demonstratives as "some kind of adjective" and shows evidence that (in Germanic) definite demonstratives are composed of a definite marker and a deictic adjective.

According to Leu, adjectival inflection in German is sensitive to both features assigned from the outside of the containing extended NP (xNP) and features related to the head of the xNP (gender, number). Furthermore, adjectival inflection also seems to be sensitive to the choice of determiner. Notice the examples shown in (22).[6]

(22) a. d-er gute Wein German
the-Agr$_{ca}$ good wine
b. ein gut-er Wein
a good-Agr$_{ca}$ wine (adapted from Leu 2015: 44)

To explain these examples, Leu proposes the structure schematized in (23).

(23) a. Def: [$_{xAP}$ *d-* …Agr$_{ca}$…Adj…]
b. Indef: [$_{xAP}$ Adj…Agr$_{ca}$…Adj…]
(ibid.)

The left periphery of the xAP needs to be lexicalized, and either a *d-* morpheme is merged there (23a), or the adjective moves there (23b).

He also uses Alexiadou and Wilder's (1998: 303) examples in (24), where we observe the multiple occurrences of the same definite determiner in the same noun phrases in Greek.

(24) a. *(to) megalo (to) vivlio Greek
the big (the) book
b. *(to) vivlio *(to) mgalo
the book the big

Leu points out that Greek does not have "poly-in-definiteness," showing (25).

(25) a. ena megalo (*ena) vivlio Greek
a big (a) book

[6] With regard to (22a), Leu (2015) does not gloss *gute*, but I regard it as just a minor typo.

b. ena vivlio (*ena) megalo (Leu 2015: 50)
a book (a) big

Leu shows (25) as counterexamples to the traditional view that the indefinite and definite articles are instantiations of the same head, realizing opposite feature values ([±def]). Thus, he concludes that the preadjectival definite marker is part of xAP, while the DP-initial indefinite article is not.

Furthermore, Leu points out the following three: prenominal adjectives exhibit strong agreement (Agr_{ca}) in bare noun phrases (26a); Agr_{ca} appears after the indefinite article (26b); after the definite article, adjectives inflect weakly, and Agr_{ca} moves to the definite article (26c).

(26) a. gut-er Wein German
good-AGR$_{ca}$ wine
b. ein gut-er Wein
a good-AGR$_{ca}$ wine
c. d-er gut-e Wein
the-AGR$_{ca}$ good-WK wine (ibid.: 54)

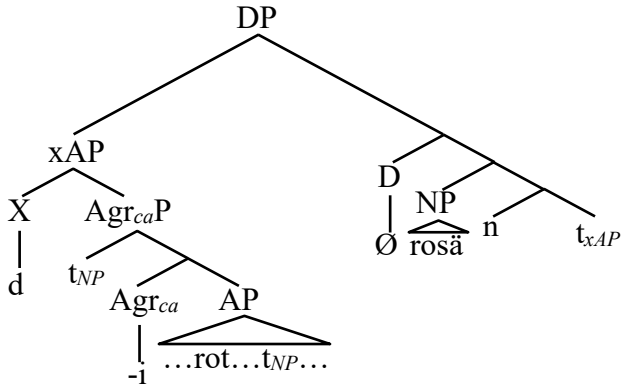
Leu shows examples of Swiss German as well.

(27) a. d rosä Swiss German
the rose
b. d-*(i) rot rosä
the-AGR$_{ca}$ red rose
c. ä rot-i rosä
a red-AGR$_{ca}$ rose (ibid.: 57)

According to Leu, (27a) is a plain definite DP with a feminine head noun. Note that the definite marker *d-* is not followed by an overt inflectional morpheme in (27a). Conversely, if an adjectival modifier has been added, the inflectional morpheme *-i* is obligatorily accompanied, as in (27b). As we have seen in (23b), Agr_{ca}, which corresponds to the morpheme *-i*, follows the adjective in the indefinite counterpart (27c). This is evidence that Agr_{ca} is part of the xAP.

Leu proposes the structure (28) for (27b).

(28)



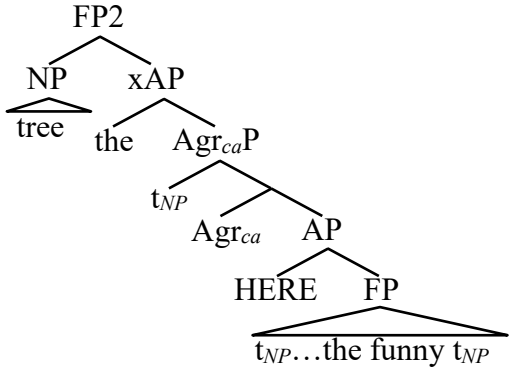
(ibid.: 67)

Based on Kayne (1994), Leu regards prenominal adjectives as relative clauses and claims that it is always the noun (NP) that moves out of the relative clause.

According to Leu, the base structure of (29a) is (29b).

(29) a. this funny tree (ibid.: 81)

b.



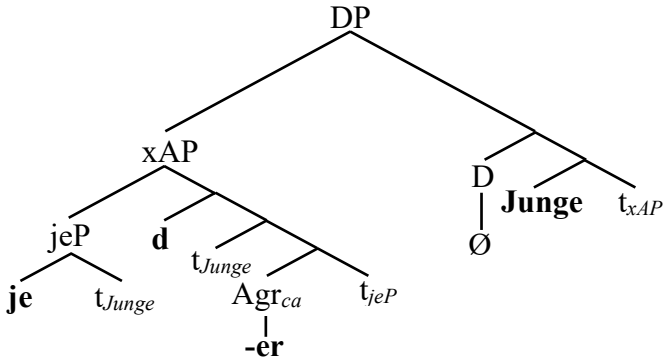
(Leu 2015: 82)

As seen in (19), demonstratives are derived from the combination of *the* and a silent anaphoric/deictic adjective *HERE/THERE*. FP in (29b) is a functional structure, and the head F corresponds to, say, a SizeP or a KindP, which influences the xAPs interpretation. We do not discuss the details, but what is important here is that the adjective *funny* takes the noun phrase *tree* as its compliment in the base position and that the noun phrase moves out of AP within xAP.

Leu proposes (30b) for the structure of (30a), which contains the quantificational determiner *jeder 'every'*.

(30) a. jeder Junge
every boy

b.



(Leu 2015: 89)

In (30b), the quantificational morpheme *je* takes the bare nominal complement *Junge* in the base. The xAP contains an agreement head, Agr$_{ca}$, and an adjectival article *-d-*, which is also a definite marker, in the left periphery. Thus, the German counterpart of *every* consists of the quantificational morpheme, definite article, and agreement head, Agr$_{ca}$.

In this section, we have observed that the definite article consists of at least two lexical items.

3. Analysis of D

As seen in (1a), which I repeat here as (31), in Honda (2020), I propose that what is traditionally dubbed "D" consists of the two lexical items D1 and D2.

(31) $[_{\alpha}\ D1_{[Case:u]/[P:u]}\ [_{D2P}\ D2_{[G:u]/[N:u]}\ NP_{[iP]/[iG]/[iN]}]]$ (= (1a))

In this paper, I propose that D1 corresponds to *d-* in German and Swiss German (and probably, the first *to* in Greek) and that D2 corresponds to Agr_{ca} (and probably, the second *to* in Greek).[7]

Furthermore, if we assume that the reinforcer and deictic adjectives *THERE/HERE* correspond to D1 and the main body of demonstratives corresponds to D2 in English, we can give a natural explanation to the sentence (20a), which I repeat here as (32).[8]

(32) There's this (*here) student in my class who always yawns. (= (20a))

I also modify the structure (19), repeated here as (33), and propose the structure (34) instead of (33).

(33) [[$_{Dem}$ the THERE] there N] ⇒ "that there book" (= (19))

(34) [[$_{Dem}$ D2-D1 ~~D2~~] N] ⇒ "that there book"

Recall that D1 is an affix, and it requires head movement into it or feature sharing with T. In (34), D2 head moves into D1. Under this analysis, D2 corresponds to *that* and D1 *there* in (34). I assume that whether D1 is pronounced depends on dialects. Thus, we can explain that D1 is pronounced in non-standard English, while D1 is silent in standard English. With regard to (32), as we have seen in section 1, D1 moves to SPEC-T in *there*-sentences, and that is why the reinforcer *here*, which is realized as *there* in SPEC-T, cannot appear in (32). In contrast, Leu's (2015) analysis that assumes the abstract *THERE* and reinforcer *there* seems redundant, and my proposal can give a natural explanation to the grammaticality of (32).

Regarding the German examples (26) and Swiss German examples (17) and (27), I propose that D2 does not head-move into D1. In that case, D1 is realized as *d-* as a last resort repair strategy, and D2 corresponds to Agr_{ca}, as I assumed. Note that D2 has unvalued gender and number features, and they are valued by agreement with the counterparts of NP (or A). Considering that (17a) and (27a) are acceptable, D1 can directly select NP without D2 in Swiss German. If D were a single lexical item as in the traditional view, we could not explain (17) and (27). As seen in (17) and (27), D sometimes inflects by gender and number values, and sometimes, it does not. This can be explained by the analysis regarding D1 as *d(-)* and D2 as Agr_{ca}.[9]

Furthermore, as seen in (30), Honda's (2020) claim that strong quantifiers such as *every* are the D1-D2 complex, and this is supported by the German example. Leu's (2015) analysis that the German counterpart of *every* consists of the quantificational morpheme, definite article, and agreement head, Agr_{ca}, perfectly matches the proposal here.

4. Further issues

While Leu's (2015) analysis is mainly on Germanic languages, in this section, I discuss existential sentences in French. First, I introduce some English examples.

(35) a. * There was every/each participant upset with the arrangements.
b. * There were both/most ambassadors housed at that hotel. (McNally 1997: 9)

(36) a. # There was Margaret at the party.

[7] I leave open the discussion on the multiple occurrences of determiners in Greek here.

[8] I leave how to explain (20b) for future research.

[9] Note that my analysis does not contradict Leu's (2015) analysis. According to Leu (2015), the structure of (29a) is derived from (29b) and results in the structure in (i).

(i) [$_{DP}$ [$_{xAP2}$ this [D [$_{xAP1}$ funny [F [$_{XP}$ tree …]]]]]]

Although Leu regards D in (i) as a silent lexical item, what corresponds to D1 and D2 appears in (29b), and nothing contradicts Leu's analysis on German and Swiss German in my analysis.

b. # There were them/those waiting outside. (ibid.)

(37) a. There's the University of Stoke.
b. There is my aunt from Worthing. (Lumsden 1988: 110)

As seen in (35), strong quantifiers cannot appear in the associate position of *there*-sentences. Conversely, proper nouns can appear in that position depending on the context. Lumsden (1988) shows the examples in (37) as acceptable sentences.

Now, I consider the French sentences.

(38) a. Il y a le Père Noël.
"There is Santa Claus." (Cannings 1978: 63)
b. Il y a un Père Noël.
"There is a Santa Claus." (Ibid.)

According to Cannings (1978), "ontological," "presence," and "specificational" readings are possible in (38b), while (38a) only lacks an "ontological" reading. Thus, sentences such as (38b) are considered to be typical existential sentences in French. Note that *il*, *y*, and *a* in French correspond to *he/it*, *there*, and *have* in English. Recall that in non-standard English, a reinforcer can appear after a demonstrative, as in (39), but it cannot appear in the associate position of *there*-sentences, as in (40).

(39) (nonstandard English)
a. this here guy
b. that there car (= (10))

(40) There's this (*here) student in my class who always yawns. (= (20a))

I propose that *il* and *y* correspond to the demonstratives (*this/that*) and reinforcers (*here/there*) in (39) and that they correspond to D1 alone or the D1-D2 complex. Thus, reinforcers in French can be pronounced as *y* 'there'. Considering the verb *a* (*avoir)* 'have' usually takes two arguments, I propose (41) as a rough structure of (38b).

(41) [$_{TP}$ [$_{D1}$ il y] [$_{T'}$ T-*v*-a [$_{vP}$ ~~*v*-a~~ [$_{VP}$ ~~a~~ [$_{D1}$ ~~il y~~ [$_{D2P}$ un [$_{NP}$ Père Noël]]]]]]]

I also propose that (38a) is derived from almost the same structure, as illustrated in (42).

(42) [$_{TP}$ [$_{D1\text{-}D2}$ il y [$_{D2P}$ ~~D2~~ [$_{NP}$ Ø]]] [$_{T'}$ T-*v*-a [$_{vP}$ ~~[$_{D1\text{-}D2}$ il y [$_{D2P}$ D2 [$_{NP}$ Ø]]]~~ [~~*v*-a~~ [$_{VP}$ ~~a~~ [$_{D1\text{-}D2}$ le [$_{D2P}$ ~~D2~~ [$_{NP}$ Père Noël]]]]]]]]

The only difference between (41) and (42) is whether the verb *avoir* is intransitive or transitive. The difference between [$_{D1}$ il y] in (41) and [$_{D1\text{-}D2}$ il y [$_{D2P}$ ~~D2~~ [$_{NP}$ Ø]]] in (42) resembles the one between the (pure) expletive *it* and ambient *it*, as shown in (43a), and, (43b) and (44), respectively.

(43) a. * It seems enough that John died to upset me.
b. It's likely enough that John did it [PRO to convince me we ought to question him].
(Napoli 1988: 328–329)

(44) It got cold enough [PRO to snow]. (ibid.: 327)

According to Napoli (1988), the expletive *it* in (43a) receives no theta-role, but ambient *it* in (43b) and (44) receive one. I suggest that that is the case in the difference between (38a) and (38b). As the derivation in (41) shows, [$_{D1}$ il y] is not the argument of the verb *a*, but [$_{D1\text{-}D2}$ il y [$_{D2P}$ ~~D2~~ [$_{NP}$ Ø]]] in (42) is. I assume that only the intransitive *avoir* provides the existential reading—in other words, it has the meaning similar to the verb *exister* 'exist'—and that D1 is necessary to derive definite determiners. As seen in (41), D1 is moved out from the internal argument to

SPEC-T; this is why definite nominal expressions cannot appear in existential sentences in French.

Furthermore, I assume that *Ø* has the default values of phi-features (i.e., third person, masculine, and singular), and the D1-D2 complex reflects the values. I also assume that unlike English, French T requires Spec-Head agreement and that its gender and number features are valued as default if the element in SPEC-T lacks those features. This explains why, unlike English, the French verb in existential sentences does not reflect the gender and number values of the associates and why definite nominal expressions can appear in the *il y a*-sentences, though they lack existential interpretation.

5. Conclusion

In this paper, I have shown data that support the split phi-features hypothesis. German and Swiss German examples provided evidence that what corresponds to D1 and D2 separately appears at least in sentences with demonstratives. Additionally, the German expression *jeder* 'every' forms a complex of lexical items. This supports Honda's (2020) claim that the strong quantifier *every* consists of D1 and D2. Furthermore, I have suggested that Leu's (2015) analysis of demonstratives explains *il y a*-sentences in French as well.

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