

RESEARCH ARTICLE

# Indefinite determiners: Why DE can be enough – Insights from Francoprovençal<sup>1</sup>

Tabea Ihsane<sup>1</sup>, David Paul Gerards<sup>2</sup> and Elisabeth Stark<sup>3</sup>

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#### Abstract

The question we tackle in this paper is why some INDEFINITE nominal expressions are licit in Romance despite the absence of number marking on the determiner AND on the noun, an unexpected option in Romance languages, which are number marking languages (Gil 1987). We focus on the INVARIABLE DE found in some Francoprovençal varieties and compare it with partitive articles (PAs) in French/Francoprovençal. We propose that invariable DE and the DE component of PAs explicitly express SEMANTIC number, more precisely cumulative reference, and that DE can hence satisfy the requirement of D° to encode number/quantification information (following Delfitto & Schroten 1991). DE combines with an overt or covert ILLE component in a separate functional head (Num°/#°; morphosyntactic number), resulting in PAs and bimorphemic-DE, respectively. As a result, DE is semantically and morphologically equivalent to PAs, except for a non-overt component with DE. Our analysis further shows that the mass/count distinction is not morphologically encoded in Romance but rather a

<sup>&</sup>lt;sup>1</sup>Department of English Language and Literature, University of Geneva, Switzerland

<sup>&</sup>lt;sup>2</sup>Department of Romance Languages, Johannes Gutenberg University Mainz, Germany

<sup>&</sup>lt;sup>3</sup>Department of Romance Studies, University of Zurich, Switzerland Corresponding author: Tabea Ihsane; Email: tabea.ihsane@unige.ch

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For the glosses of our examples, we relied on the Leipzig Glossing Rules (http://www.eva.mpg.de/lingua/resources/glossing-rules.php), plus the abbreviation PA for partitive article.

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byproduct of the two oppositions plural/singular (morphosyntactic number) and cumulative/atomic reference (semantic number).

#### 1. Introduction

The first aim of this contribution is to describe, analyze, and categorize an indefinite determiner often neglected in studies on nominal determination in Romance – the indefinite uninflected DE, formally identical to the Latin preposition DE 'from'. The second aim is to compare this invariable DE with the so-called partitive article (PA), which, historically, stems from the combination of Latin DE and the Latin demonstrative ILLE (cf. Carlier 2007; Carlier & Lamiroy 2014), on the one hand, and with bare nominals, on the other. PAs and DE are available in many Gallo-Romance and Italo-Romance varieties, and in some of them, they are obligatory in that the respective varieties do not allow for bare arguments. Uninflected DE can either occur in nominals with an indefinite mass reading or in nominals with an indefinite plural reading. The same two readings are available with PAs, which, however, inflect for morphosyntactic number and sometimes also gender. The focus of the paper will be on French, Italian, Spanish (although to a lesser extent), and Francoprovençal (Frp).

Example (1), which yields indefinite mass readings, provides masculine singular PA-nominals and DE-nominals for Standard French. As can be seen by contrasting (1a) and (1b), the PA is the only option in affirmative contexts in Standard French, while uninflected DE is the only available option under the scope of negation. Bare nominals are ruled out altogether. In Standard Italian, the distribution of PAs, DE, and bare nominals is different. Standard Italian PAs are, as in Standard French (1a), available in affirmative contexts (2a) but, differently from what happens in French, seem to alternate with bare nominals. The same is true of negative contexts (2b). In other words, Italian DI (i.e. the outcome of Latin DE in Standard Italian), unlike DE in Standard French (1b), is ruled out under the scope of negation in Standard Italian.<sup>2</sup> Indefinite DE/DI is, however, widely available in different northwestern Italian varieties, such as Piedmontese, even in affirmative contexts (3):<sup>3</sup>

- (1) (a) J'ai bu {du/\*de/\*ø} vin.

  I=have drunk {PA.M.SG / DE / ø} wine

  'I drank wine.'
  - (b) Je n'ai pas bu {\*du/de/\*ø} vin.

    I NEG=have NEG drunk {PA.M.SG/DE/ø} wine
    'I didn't drink wine.'

<sup>&</sup>lt;sup>2</sup> In Standard Italian, DI is used in dislocation contexts when the dislocated constituent is resumed by the clitic pronoun *ne* (Cardinaletti & Giusti 1992; Espinal & Giusti 2024 and the references therein). Since pronominalization and dislocation are beyond the scope of our paper, we will ignore such constructions.

<sup>&</sup>lt;sup>3</sup> With regard to the threefold variation PA vs. bare vs. DE in (1) and (2), note that there is considerable diatopic variation in the encoding of indefiniteness in Italo-Romance (cf. Cardinaletti & Giusti 2016, 2018, 2020; Lebani & Giusti 2022; Pinzin & Poletto 2022a, b; and Molinari 2022). Note, too, that there is a fourth option for encoding indefiniteness in Italo-Romance not considered in the present paper, namely non-maximal definite articles (cf. Cardinaletti & Giusti 2016, 2018; Gerards 2020; Stark & Gerards 2020; Gerards & Stark 2022; Morosi & Espinal 2025).

- (2) (a) Ho bevuto {del / \*di / ø} vino. I.have drunk {PA.M.SG / DE / ø} wine 'I drank wine.'
  - (b) Non ho bevuto {del / \*di / ø} vino.

    NEG I.have drunk {PA.M.SG / DE / ø} wine

    'I didn't drink wine.'
- (3) sei fyse **d**'aqua if there.was **DE** = water 'if there was water...' ([3] Berruto 1974: 57 cited in Cardinaletti & Giusti 2018: 138)

PAs and the 'zero article' associated with bare nominals figure in paradigms of Standard Romance (indefinite) determiner systems, such as the one in Table 1 adapted from Carlier & Lamiroy (2018: 156).

Table 1 indicates that (i) in Spanish, PAs are completely absent from the indefinite determiner system; (ii) in (Northern) Italian, PAs may alternate with bare nominals (but see the discussion of Table 2 for details); and (iii) in French, PAs are obligatory with indefinite plurals and mass singulars. Language varieties with indefinite DE/DI, as illustrated in (3), are not represented in Table 1.

In contrast, when postulating his 'typological [partitive, TI, DPG, ES] cline' from Ibero-Romance over Gallo-Romance/Italo-Romance to Modern French, Bossong (2016: 69) took into account the possibility of another indefinite determiner indicating 'partitivity' (a notion not defined by Bossong) besides the PA. Bossong calls this element 'the preposition *de*'. This latter label implies a syntactic analysis of DE as P° that we do not agree with in view of well-known extraction facts mentioned in Ihsane (2008: 132–133; see also Gerards & Stark 2020: 109–118; Cardinaletti & Giusti 2016 and the references therein for Italo-Romance). Beyond typological overviews, specialists on diatopic variation in Gallo-Romance also mention indefinite DE in the respective varieties. Barthélemy-Vigouroux & Guy (2000) and Thérond (2002), for instance, document DE for Provencial and for Languedocian (both Occitan). Importantly, in these varieties, DE does not coexist with PAs and is the only option for mass singulars and indefinite plurals. The same seems to hold true of many varieties of Frp: Kristol (2014, 2016) shows a seemingly clear-cut geographic bipartition of Frp, namely into *Frp A* and *Frp B*. Frp A is reported to possess French-like PAs, and Frp B only invariable

| Table 11 Bishibution of indefinite different Spanish, fundin, and French |                |                 |                     |  |  |
|--|----------------|-----------------|---------------------|--|--|
| Indefinite determiners   | Singular count | Plural count    | Singular mass       |  |  |
| Spanish  | Unity Numeral  | Z               | Čero                |  |  |
| Italian  | Unity Numeral  | Zero – PA (nort | th) or zero (south) |  |  |
| French   | Unity Numeral  | PA              |                     |  |  |

Table 1. Distribution of indefinite articles in Spanish, Italian, and French

<sup>&</sup>lt;sup>4</sup>A PP cannot cross another PP (Abeillé, Bonami, Godard & Tseng 2004); in (i), the PP *de Zola* 'of Zola' can be extracted from *des livres*: this constituent does therefore not contain a preposition; hence the DE component of the PA *des* is not a preposition (Ihsane 2008: 133).

<sup>(</sup>i) C'est de Zola que j'ai lu [des livrest]. it=is of Zola that I=have read PA.PL books

DE. While Kristol's (2014, 2016) description represents the default strategies for Frp A and Frp B with indefinite plurals and mass singulars, there is compelling evidence for the COEXISTENCE of DE and PAs both in Frp A and Frp B (see Stark & Gerards 2020; Russo 2022: 10; Ihsane, Winistörfer & Stark 2023). The following two examples (from different local varieties) illustrate the variation one can observe in Frp (unless indicated otherwise the Frp data come from the online DiFuPaRo database (Schaber et al. 2018–2022), https:// difuparo.linguistik.uzh.ch/):

- parieta [...] de la (4) sovee no dzønten də la often 1PL add.PRS.1PL PA=F.SG savory.F.SG [...] in the soup 'Often, we add savory to the soup.' (Saint-Nicolas, 4)
- (5) sœeã œn dzøntø də parjeta də peze a la sørpa often 3sg add.prs.3sg de savory.esg and de pea.m.pl to the soup 'Often, we add savory and peas, to the soup.' (Brel, 5)

Examples (4) and (5) stem from fieldwork conducted in the Aosta Valley (Frp B) in May 2017, more precisely from a translation task (questionnaire) that native speakers had to fulfill (see Stark & Gerards 2020 for details). This explains the identical lexical and syntactic context of the indefinite determiner. The following two examples, in contrast to (4) and (5), stem from the same local Frp variety (Saint-Nicolas, Aosta Valley, Frp B) and show a PA (6) and DE (7), respectively; the PA in (6) thus remains unexplained:

- (6) liø kwiiə də la tsir avwe dez ono she make.prs.3sg cook.inf pa.f.sg meat.f.sg with DE onion.m.pl 'She cooks meat with onions.' (Saint-Nicolas) (Stark & Davatz 2021: 115)
- (7) e fa kwe də tsə awe lez œnõ she make.prs.3sg cook.inf de meat.f.sg with the onion.m.pl 'She cooks meat with onions.' (Saint-Nicolas, 585)

Likewise, (8) (with a phonetically closed [e] indicating plural in de) and (9) illustrate the same variation for a locality classified by Kristol as belonging to Frp A, which leaves us with the uninflected DE in (9) unexplained:

- $d\tilde{\epsilon}$  de (8)  $\tilde{\mathfrak{s}}$ 1e hwsta 3sg 3pl.acc put.prs.3sg in pa.pl casserole.f.pl 'We put them in casseroles.' (Vouvry, 798)
- (9) we  $\tilde{\mathfrak{o}}$ de da pu bwetə ves 3sg put.prs.3sg in de casserole.f.pl 'Yes, we put in casseroles.' (Vouvry, 797)

That Kristol's (2014, 2016) picture is at least to some extent oversimplifying is investigated in more detail and fully confirmed by Ihsane and colleagues (2023): The geolinguistic contribution by these authors identifies the five different patterns of marking of indefinite plural and mass nominals in Frp (bare arguments are ruled out in Frp altogether; see below and also the experimental results in Davatz, Ihsane & Stark 2023). One pattern coincides with Kristol's Frp B with invariable DE only (Pattern 1). Crucially though, this pattern is not GEOGRAPHICALLY coextensive with Kristol's Frp B area. Instead, Kristol's Frp B group is

| Indefinite determiners  | Singular count | Plural count   | Singular mass  |  |
|---|----------------|--|----------------|--|
| Spanish, Portuguese,<br>Catalan, Rhaeto-<br>Romance, Romanian | Unity Numeral  | Zero (Sp./Pt.: <i>unos/uns</i> with different interpretations) | Zero           |  |
| Italian   | Unity Numeral  | Zero – PA  | Zero – PA      |  |
| Northern Italian dialects, Occitan                            | Unity Numeral  | Zero – DE – PA   | Zero – DE – PA |  |
| Frp   | Unity Numeral  | DE – PA  | DE – PA        |  |
| French  | Unity Numeral  | PA   | PA             |  |

Table 2. Inventory of indefinite determiners in Romance in affirmative contexts

shown to also comprise varieties in which PAs are available, as a minor option, in the plural only (both genders; Pattern 2) or in the singular only (with either both genders [Pattern 3] or exclusively in the feminine [Pattern 4] but never with masculine only). Finally, one pattern covers areas in which PAs are available with all numbers and genders (Pattern 5). Here too though, a qualification is in order: For none of the localities investigated, availability of PAs means obligatoriness of PAs for all genders and numbers. In other words, a fully robust, categorical use of PAs with all genders and numbers cannot be posited for any variety of Frp.

Summing up, from a pan-Romance perspective, we have a threefold opposition for encoding mass singulars and indefinite plurals in affirmative contexts, i.e. zero, PAs, and DE. We can therefore complete Table 1 accordingly; see Table 2.

As to Table 2,6 note that it is well-established that zero and unos – and, respectively, zero and uns – for Spanish and Portuguese plural nominals are not at all semantically equivalent, as the interpretation of unos/uns is not homogeneous and may trigger specific readings (Martí 2008; Giusti 2024). Likewise, Cardinaletti & Giusti (2018, 2020) argue that in Italo-Romance varieties featuring both zero and PAs, the latter specializes for a small quantity interpretation and is, thus, semantically different from the zero option. In a similar vein, Pinzin & Poletto (2022a) convincingly show that, in Standard Italian and Northern Italian dialects, zero and PAs are not semantically equivalent. According to these authors, Italian PAs come with an additional semantic feature in form of a choice function not present with bare nominals. These different (semantic) functions correspond to different syntactic functional projections (cf. Pinzin & Poletto 2022a: 15-16). Given, additionally, that - to the best of our knowledge – no one and the same Northern Italian or Occitan variety displays clear coexistence of DE and PAs (cf. footnote 6), it follows that it is fully justified to investigate, for the first time to our knowledge, the nature of the twofold variation between DE and PAs, only present in Frp. In doing so, we will also integrate the well-known alternation between DE and PAs in Standard French (see example (1) and Section 2). Indeed, in the light of the above discussion and also of examples (4)/(5), (6)/(7), and (8)/(9), one may

<sup>&</sup>lt;sup>5</sup> For details, see Ihsane et al. (2023: Figures 2–5).

<sup>&</sup>lt;sup>6</sup> This table is partly a simplification inasmuch as not all Northern Italian and Occitan dialects allow all three encoding options (cf. also Procentese et al. 2024 on the complexity of Italo-Romance). However, to the best of our knowledge, no variety displays a clear twofold opposition DE vs. PA like the one present in Frp. In addition, note that Romanian has an invariable singular mass and plural count indefinite determiner *nişte* (< Lat. NESCIŌ QUID 'I-donot-know-what'), which seems to allow both specific and non-specific readings (cf. Davatz & Stark 2019).

wonder what DE and PAs have in common and what distinguishes them, both in the same language variety (in French; in Frp) and cross-linguistically (French vs. Frp).

Given (i) the complex overall picture of indefinite nominal determination in Romance introduced in this subsection and (ii) the unique encoding option of Frp represented in Table 2 in particular, we will, in what follows, focus on Frp and French, the only two Romance languages without bare arguments, and try to answer the following research questions:

**Q1:** What are the morphological, distributional, and semantic similarities/differences between PAs and Frp DE?

**Q2:** Given that bare arguments are excluded in both Frp and French, why can Frp, but not French, have an uninflected determiner DE with indefinite arguments?

Q3: (Given Q2) What is the role of number morphology in nominal expressions?

After this introductory Section 1, Section 2 will focus on French and highlight several differences between DE and PAs in that language. Section 3 answers research question 3 on the role of number morphology in indefinites in Romance. Building on Delfitto & Schroten's (1991) observation that indefinite plural and mass nominals need some number/quantification morphology in D° to function as arguments, we show that the mechanisms that can satisfy this requirement depend on the nominal DEFAULT NUMBER MARKING STRATEGY of a language variety. Section 4 is dedicated to research question 1 and shows that Frp DE is semantically and morphologically – except for a non-overt component with DE – equivalent to PAs. Section 5 addresses research question 2 and suggests that uninflected DE is restricted to language varieties that have a MINOR (vs. default) number marking strategy that targets feminine nouns in the plural. A short conclusion summarizes the main findings of the paper.

#### 2. Standard French PAs and DE

As shown in Section 1, Standard French PAs and DE are mutually exclusive, as the former occur exclusively in affirmative contexts and the latter in the scope of negation; compare (1a) with (1b). In addition, as will be demonstrated below, Standard French PAs and DE are not equivalent either semantically or morphologically.

Semantically speaking, French PAs and DE differ in a crucial aspect: Dobrovie-Sorin, Ihsane, Gerards & Foppolo (2025) note that the linguistic facts presented in (1a) imply (i) that Standard French PAs are 'expressions that are 'repelled' by negation and tend to escape its scope' (Giannakidou 2011: 1665) and, (ii), therefore, qualify as Positive Polarity Items (PPIs) (Dobrovie-Sorin 2020). In contrast, Standard French DE is an item that 'do[es] not appear in nonveridical environments that are not negative' and, hence, must be considered a Strict Negative Polarity Item (S-NPI), in line with Giannakidou (2011: 1680). Its status as an NPI is evinced by (1b). The additional specification of S-NPI-ness of DE follows from (10), which evinces the ungrammaticality of DE with intensional predicates (10a), questions (10b), and imperatives (10c), all of which are non-negative nonveridical environments and admit PAs.

(10) (a) Je veux boire {du/\*de} vin.

I want to.drink {PA.M.SG/DE} wine
'I want to drink wine.'

- (b) Est-ce que tu bois {du/\*de} vin?
  Q you drink {PA.M.SG / DE} wine
  'Do you drink wine?'
- (c) Bois {du /\*de} vin! drink {PA.M.SG / DE} wine 'Drink wine!'

(modelled as in Giannakidou 2011: 1680; her ex. [57 c-e])

Morphologically, Standard French PAs and DE are not identically structured, PAs being clearly bimorphemic, in contrast to de in negative contexts (see Figure 1; also, Ihsane 2008 and others). Here, we refer to an analysis, which, in line with Borer (2005), attributes the function of number marking to the ILLE component of PAs, a function absent from uninflected DE in French. Figure 1, slightly adapted from Stark (2023: 13), shows where the components of the French PAs, de + le (= du) in the singular and de + les (= des) in the plural, are merged.

Figure 1 builds on Borer (2005), in particular in assuming an under-specification of nouns for the mass/count distinction (2005: 93) (cf. also Pelletier 2012): nP merges with a functional projection DivP (cf. ClassP in Picallo 2008: 57 and NumP in Mathieu 2009), which is responsible for 'portioning out' or 'individuation', that is, for creating countable elements in nominals. Consequently, Div° can either be filled by 'prototypical' classifiers in classifier languages or by classifying plural morphology, as, for instance, English or Spanish Plural -s (cf. Borer 2005: 93, 127). The merging of #° contributes the counting or quantifying head and may be filled, for example, by quantifying adverbs.

With regard to French indefinite PA/DE-nominals as in Figure 1, there is a crucial point that comes into play (Stark & Gerards 2020): French, unlike English or Spanish, does not have a classifying plural exponent available in Div°. In fact, a French nominal such as vin(s) 'wine(s)' in Figure 1 invariably corresponds to  $\lceil v \tilde{\epsilon} \rceil$ , that is, in the spoken, naturally acquired registers is not overtly specified for number.<sup>8</sup> Lacking such English/Spanish-like overt classifying plural exponents in Div°, French displays another strategy: in French, Div° is obligatorily filled with DE as its minimal exponent. DE, in contradistinction to Spanish/ English classifying Plural -s, signals the opposite of 'portioning out' or 'individuation', namely 'non-individuation' or mass. As for le/la/les 'the', it is generally inserted in #° to ensure minimal number (and gender) marking (cf. Borer 2005: 164; also Ihsane 2008: 163). In negative sentences involving pas 'not' for instance, such as (1b), le/la/les is absent from #° (for details, see Ihsane 2008: 164, who argues that, in such contexts de cooccurs with an empty quantity not present with PAs). In this analysis, the DE component of PAs and the nominal Plural -s are merged in the same position because they have the same function. As for surface structure, this does not mean however that DE and Plural -s have the same syntactic distribution: The former is a free morpheme whereas the latter is bound, and our

<sup>&</sup>lt;sup>7</sup>Whether the PA is formed by upward movement of DE to #° (Ihsane 2008) or by lowering ILLE to Div° (Gerards & Stark 2020) does not play a role here.

<sup>&</sup>lt;sup>8</sup>The noun is, however, marked for number at an abstract level, n° carrying a valued number feature (cf. Alexiadou 2004: 27; Eichler 2012: 358–359), which will allow determiners for instance to agree with the noun.

<sup>&</sup>lt;sup>9</sup> Importantly, this *le/la/les* 'the' is not a generic or a non-specific definite article (contra Gross 1967; Milner 1978; Kupferman 1979, 1994; Zamparelli 2008).

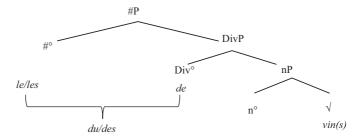


Figure 1. Indefinite nominals with PAs in Standard French in affirmative contexts.

approach allows movements. Still, new arguments for treating DE and Plural -s on a par are provided in Section 4 (for a brief discussion of the diachronic French facts, see Section 3.2).

Summing up, the syntactic representation in Figure 1 shows that DE is the exponent of one head, and the *le/la/les*-element the exponent of another one. This means that French PAs (1a) and French DE (1b) are not only semantically but also morphosyntactically different. Whether this analysis can accommodate the Frp facts will be at the heart of this paper.

#### 3. What is the role of number morphology in nominal expressions? (Q3)

A visible difference between PAs and DE is their form: The former are morphologically marked for number (and sometimes gender), the latter is not. By 'number marking', we mean overt realization of morphosyntactic number. To account for the differences and similarities between these elements, it is thus essential to understand the role of number marking in the nominal expressions of Romance. This is of particular importance because two fundamental properties of the Romance languages we are interested in (cf. Table 2) depend on the presence/absence of number marking on N: first, the (im)possibility to have a 'zero article', that is, to have bare arguments (see Section 3.1), and second, the (non-)existence of PAs (see Section 3.2).

#### 3.1. Nominal number morphology and bare arguments

Most Romance languages have bare arguments, that is, bare plurals (BPs) (It. *Ho comprato libri* 'I bought books'), and bare mass nouns (BMNs) (It. *Ho comprato pane* 'I bought bread'). Bare count singulars in actual argument positions, e.g. outside incorporation contexts and predicative complements, are generally not possible (It. \**Ho comprato libro*, intended 'I bought a book'). <sup>10</sup> Modern French is usually cited as an exception to this picture (Gil 1987, Delfitto & Schroten 1991, Chierchia 1998, and others), as it does not have bare arguments at all. <sup>11</sup> Frp, as a minority language, is not mentioned in the respective literature. Importantly, bare arguments in Romance typically have an existential reading, which very often corresponds to the interpretation of the PA- and DE-nominals we are investigating: <sup>12</sup>

<sup>&</sup>lt;sup>10</sup> For the evident exception of Brazilian Portuguese see Munn & Schmitt (2005), Wall (2017), and others.

<sup>&</sup>lt;sup>11</sup> But see special contexts such as coordination where BNs are possible in French (Roodenburg 2004).

<sup>&</sup>lt;sup>12</sup> See Delfitto & Fiorin 2017 for a discussion of BNs also with generic/kind readings in different languages.

PAs and DE are used with mass nouns (Fr. *J'ai acheté du pain* 'I bought bread') and plural indefinites (Fr. *J'ai acheté des livres* 'I bought books') but not with singular count nouns (Fr. \**J'ai acheté du livre*, intended: 'I bought a book'). To refer to existential bare arguments, we will use the label Bare Nouns (BNs), thus subsuming BPs and BMNs.

The main idea we are building on here is that the availability of BNs as syntactic arguments in Romance involves a number affix that raises (covertly) to Do, as assumed in much of the literature (cf. Delfitto & Schroten 1991; Zamparelli 2000; Déprez 2005; Guardiano, Cambria & Stalfieri 2022; Pinzin & Poletto 2022a, b; Crisma & Longobardi 2024; and the references therein). The reasoning is that a nominal phrase needs a determiner, in particular an article, to take on the role of argument: This element functions as a subordinator (Abney 1987; Stowell 1989, 1991; Szabolcsi 1994), on a par with the complementizer in a subordinate clause. Articles turn a predicate into an argument; they 'are what links language to extra-linguistic reality: Articles (like all other determiners for that matter) anchor linguistic entities to the real world' (Alexiadou, Haegeman & Stavrou 2007: 64). In the absence of an article, a nominal can function as an argument only under certain conditions (cf. Longobardi 1991 and others): The D° head needs to be filled with some information on the referent, such as number or quantification. This is also what Delfitto & Schroten's (1991) seminal paper rests on: Existential arguments can be bare if the number affix on N reaches D°. 13 Languages without such an affix need extra morphological material (determiners or quantifiers) in the D° head. This is the case of French, whose Plural -s is phonologically not realized on nouns and does therefore not count as plural marking (except as an orthographic mark). The absence of 'proper' nominal number affixes thus explains why French cannot have bare arguments, in contrast to Spanish or Italian (cf. also Dobrovie-Sorin 2012).

The fact that the presence/absence of BNs in a language variety depends on its nominal number morphology raises different questions. One of them is whether (almost) ALL nouns (vs. most nouns, or specific noun classes, or specific subgroups, etc.) should be marked for number for BNs to be possible. This issue clearly emerges in recent publications, such as Guardiano et al.'s study (2022) of various Romance dialects of Italy. Their work confirms that there is a relation between the possibility to have BNs and the realization of number on N but correlates the absence of BNs with 'the absence of suffixes on nouns' (2022: 2), i.e. absence of suffixes on (almost) all nouns (2022: 23–24). This is however problematic for Evolène Frp, which does not have BNs but which has suffixes on most nouns (Paciaroni, Ihsane & Stark to appear). More generally, assessing 'ALMOST ALL nouns' is difficult: Does it mean the actual number of Ns – which is hard to establish – or of classes of Ns?

Interestingly, Pinzin & Poletto (2022a, b), who examine different Northern Italian Dialects (in addition to Standard French, Spanish and Italian), identify the subgroups of nouns that need/do not need to be marked for number for BNs to be available: According to them, it is their gender that is decisive, in the sense that 'absence of BNs only correlates with absence of plural marking on masculine Ns' (2022a: 8).<sup>14</sup> Whether feminine nouns are

<sup>&</sup>lt;sup>13</sup> More precisely, Delfitto & Schroten (1991) propose that the nominal number affix moves to D° at LF and quantifies over the NP it has extracted from (cf. their Restricted Quantification Constraint 1991: 156). Language varieties without such 'affix raising', such as French, do not have BNs. Furthermore, Delfitto & Schroten develop an incorporation analysis for Spanish and Italian BNs to explain why BNs are rarely admitted as preverbal subjects in those languages (1991: 157, 173–74). We do not subscribe to this approach, nor to their analysis of Romance gender marking and declension classes (1991: 157, 165–170).

<sup>&</sup>lt;sup>14</sup> The authors also show that PAs are not optional (cf. our discussion of Table 2 in Section 1) and that a strict complementary distribution of overt number marking on N and PAs does not hold in Italian.

overtly marked for plural or not is thus not relevant if masculine nouns are unmarked: For instance, Emilian, which displays robust number marking on feminine nouns but no number marking on masculine nouns, does not allow BNs. Since Frp is analogous to Emilian in that morphologically overt plural marking is found on most FEMININE nouns but absent on masculine nouns, Pinzin & Poletto's analysis can account for the absence of BNs (cf. Table 2). Evolène Frp is, however, problematic for this analysis as it has no BNs (Ihsane et al. 2023: 24), although its masculine nouns are generally marked for plural (in addition to most feminine nouns).

Another question that arises regarding the role of nominal morphology in the presence/ absence of BNs is whether all TYPE(s) of nominal number marking (e.g. suffixation, which can be vocalic or sigmatic, etc.; definitions provided below) are equally relevant or not. Guardiano et al. (2022), for instance, note the importance of suffixes in the availability of BNs, which seems to contrast with root changes. In a similar vein, we will show that the TYPE of number marking is essential to analyze PA/DE-nominals. We will argue, however, that what is crucial is the DEFAULT marking type of a language variety, namely, its dominant, systematic number marking strategy. We will refer to this as the DEFAULT NUMBER MARKING STRATEGY (or DEFAULT STRATEGY).

In his typological overview of number marking on nouns (and on agreeing elements such as determiners) in Romance, Maiden (2016) observes that 'the west is sigmatic, the east vocalic, and the north invariant', where the 'north' refers to 'oïl dialects including spoken French, Frp, and northern Occitan' (Maiden 2016: 697). Although Maiden describes this classification as 'crude' (2016: 697), we will use it as a working hypothesis and consider that there are three default strategies: SIGMATIC, VOCALIC, and INVARIANT. Sigmatic endings attach to a singular form, which is a proper morphological constituent of the plural form, as in Spanish (e.g. libro 'book' in libros 'books' is a free morpheme). Vocalic plurals attach to a singular form that is not free, as in Italian (e.g. mela 'apple' is not a component of *mele* 'apples' as the -a ending is replaced by -e in the plural). The endings in vocalic plurals are portmanteau morphemes as they encode not only number but also gender and declension class information. As for invariance, it means that 'singular and plural are identical' (Maiden 2016: 697). Invariance is the default strategy for Frp (except for Evolène), an observation corroborated by Paciaroni et al.'s (to appear) study, cast in the Network Morphology framework (cf. Fraser & Corbett 1993/2003; Brown & Hippisley 2012). One advantage of this line of thought is that it avoids relative notions such as ALMOST ALL (or MOST/ SOME/AT LEAST SOME) nouns. Furthermore, referring to vocalic AND sigmatic strategies (vs. suffixation), in addition to invariance, will allow us to provide a fine-grained analysis that also accounts for Evolène Frp, in contrast to Guardiano et al. (2022) and Pinzin & Poletto (2022), who oppose groups of nouns (i.e. (almost) all nouns vs. some nouns; masculine vs. feminine, respectively).

If default strategies are taken into consideration to determine whether a language variety has BNs or not, as suggested here, the absence of BNs would correlate with invariance (French and Frp) and the presence of BNs with both sigmatic and vocalic plurals (Spanish and Italian, respectively). Given the morphological richness of Romance dialects and varieties, this sketch will obviously need to be refined.

At this stage, an important note is in order. As seen in this subsection, there is a correlation between the presence/absence of BNs in Romance and the presence/absence of number marking on the noun. In Romance, it is the plural (vs. singular) that is morphologically marked, i.e. overtly realized (marked: presence of a marker). The requirement for D° to be filled with a number affix in Romance, in contrast, concerns both plural and singular nominals. This raises the question of how BMNs are marked for number. We will consider (unlike Delfitto & Schroten 1991) that the endings of such nouns (e.g. -a in It. *farina* 'flour' or in Sp. *harina* 'flour') fulfill this role and encode number (in addition to information on gender, for instance), i.e. singular (see Harris 1991, and others). The mass interpretation is due to the absence of an indefinite article (and of plural morphology) (cf. Section 2 for a framework in which nouns are underspecified for the mass/count distinction and Section 4.3 for further developments). We will also assume that what allows the number morpheme of BNs to reach D° is noun movement. Needless to say, these assumptions are still somewhat coarse-grained and await further investigation.

# 3.2. Nominal number morphology and the functions of PAs

As seen in the previous subsection, French does not have BNs because it does not have number marking on nouns (i.e. overt plural realization) (Delfitto & Schroten 1991 and others). This absence of plural marking has been taken to correlate with the existence of PAs, the idea being that the loss of overt plural number marking on N in the history of French has been compensated by the number marking on PAs (Stark 2006, 2008a, b; Gerards & Stark 2020; and others; for a diachronic perspective Carlier 2007; Mathieu 2009); see below for details. As a result, in languages such as Spanish and French, there is a complementary distribution between overt plural marking on N and PAs: Spanish marks nouns for plural but does not have PAs, whereas French has no phonologically realized plural on N but has PAs:

- (11) (a) Compraré ø leche / ø manzanas. Spanish I.will.buy milk / apples
  - (b) J'achèterai du lait / des pommes. French I=will.buy PA.M.SG milk / PA.PL apples 'I will buy milk / apples.'

In this view, the primary function of the PA in French is to provide number marking to the nominal expression. In Italian, PAs and number marking on N cooccur, as in *dei libr-i* 'PA.PL books'. Therefore, the function of the PA in Italian is different from the function of the PA in French: As mentioned in Section 1, in Italian, PAs express a small quantity/choice function, a property that French PAs may also have in addition to function A (cf. Ihsane 2008: 129–30, 158–160, who shows that French PA-nominals may involve an undefined quantity or not). The different functions of PAs in French and Italian are schematized in Table 3, slightly adapted from Pinzin & Poletto (2022a: 18).

The above description calls for some additional remarks. First, the French PAs that express a small quantity keep their primary function, that is, provide number marking to the

<sup>&</sup>lt;sup>15</sup> The plural is overtly realized because it is the marked number where 'marked' means 'not the default' (vs. the morphological sense mentioned in the text) in Romance. The default number is the singular.

|                  | A                        | В                              |  |  |
|------------------|--------------------------|--------------------------------|--|--|
|                  | NP + number (and gender) | Small quantity/choice function |  |  |
| French/Emilian   | PA                       | PA                             |  |  |
| Italian/Ligurian | Number morphs            | PA                             |  |  |
| Spanish/Friulian | Number morphs            | Number morphs                  |  |  |

**Table 3.** Functions of PAs in different Romance language varieties

nominal expression. Informally put, those PAs have two jobs: A) provide number marking and B) express a small quantity. Pushing the reasoning further, we conclude that it is the default number marking strategy of a language variety that determines the number and the kinds of functions available for PAs: When the default strategy is invariance, PAs may have either function A only or 2 functions (A and B); when the default strategy is vocalic, PAs have 1 function, i.e. B. When the default strategy is sigmatic, there are no PAs, as seen above: The complementary distribution between PAs and plural morphology on N only concerns the sigmatic Plural -s; cf. (11), not the vocalic plural. In the remainder of the paper, the discussion will mainly focus on PAs that have function A because nominals with PAs with this function correspond to BNs in other languages (see the A-labeled column of Table 3).

Second, we suggest that whether PAs are obligatory or not in a language variety is determined by the main function of the PA. PAs in French are obligatory because they primarily provide number marking to the nominal expression (which must be number marked); since this is not the function of PAs in Italian (nouns being marked for number), PAs in that language are not obligatory. This can again be related to the default number marking strategy of a language variety: PAs are obligatory when invariance is the default, not when the default is vocalic.

Third, in all the nominal expressions with a PA, it is the PA that provides  $D^{\circ}$  with number morphology (cf. Section 3.1): In French, this is self-explanatory since the noun is not marked for number, whereas the PA is. In languages such as Italian, the introduction of a PA in the nominal structure blocks the movement of the number marked noun to  $D^{\circ}$  (see also footnote 21). It is therefore the PA that provides  $D^{\circ}$  with number morphology (in addition to its expressing a small quantity).

The Frp facts support the above discussion. Recall that Frp is invariant (default number marking strategy), although it has as minor strategies vocalic endings on some feminine nouns – as well as sigmatic suffixes in Evolène. Indeed, Ihsane et al.'s (2023) study recently highlighted (i) the absence of competition between vocalic plural on N and PA and (ii) the complementary distribution between Plural -s and PA. Their work also corroborates the relation between a default number marking strategy and (non-)obligatoriness of the PA. Let us take these points in turn. The authors show that, in Frp, the four options that are logically possible when it comes to the combination of presence/absence of plural marking on N (vocalic) and presence/absence of PAs are attested: A noun overtly marked for plural can

<sup>&</sup>lt;sup>16</sup> According to Table 3, the Plural -s (found in Spanish, for instance) obviously has function A but could also have both functions, A and B. We will remain agnostic about this point.

occur with a PA or without; a noun that is not overtly marked for plural can occur with a PA or without. Importantly, when a noun is overtly marked for plural, it is always feminine, and the marking is vocalic (except in the Evolène variety – the only one with sigmatic plural marking). <sup>17</sup> Ihsane and colleagues (2023) also show that PAs and Plural -*s* never cooccur in Frp (see Section 5.2 for more details on Evolène Frp) and that the noun cannot be bare; when the PA is absent, the noun is preceded by invariable DE. As a result, many indefinite plural and mass singular arguments are not marked for number at all:

```
(12) ... i mindzə de ləutr...
...they eat DE blueberry/ies... (ALAVAL, Savièse, 1496)
'...they eat blueberry/ies...'
```

In (12), DE is invariable and the noun *loutr* 'blueberry' is not marked for number. This is challenging for the view adopted here, namely that a number morpheme is required in D°. This issue will be addressed in Sections 4 and 5. The variety spoken in Evolène also deserves special attention since, in that variety, -s and DE cooccur, which should not be possible if these elements occupy the same syntactic position as assumed here (Section 2); the specificities of Evolène are further discussed in Section 5.2.

In French, the complementary distribution between Plural -s and PAs (see Section 4.1 for details) results from an evolution over time: Indeed, the Plural -s was pronounced in Old French, weakened in the thirteenth century, and was lost in the fifteenth century (Carlier 2007: 31). As for PAs (as used in Modern French indefinites), they were rare in the twelfth century and, crucially, restricted to the singular (Englebert 1996: 10–13). Plural PAs were introduced progressively in the thirteenth century in limited contexts and became more common in Middle French (ibid. 14–15). Thus, the use of PAs extended from singular only to both singular and plural precisely as the sigmatic -s (default strategy) found in Old French nouns got lost. PAs became grammaticalized in indefinite plurals and mass nominals in the fifteenth century at the latest (cf. Englebert 1996: 21; Carlier 2007: 26–28; also, Carlier & Lamiroy 2014; for Old Tuscan/Old Italian see Stark 2006). In Old French, PAs and Plural -s thus coexisted sporadically in different environments (singular vs. plural). Later, PAs took up the role of Plural -s, resulting in complementary distribution in Middle French. Residual plural marking as in *cheval-chevaux* 'horse-horses' or *boeuf-boeufs* 'ox-oxen' are lexical exceptions, formed in n° in our model. Also, n°, on a more general level, is the locus of

<sup>&</sup>lt;sup>17</sup> In Evolène, the plural suffix -s appears on the masculine nouns of two inflectional classes, one in which the root does not change when it is suffixed (tsε 'va 'horse' -tsε 'vas 'horses') and another one in which the root changes when it is suffixed ('tsat 'cat' - 'tsas 'cats'). There is another agglutinative sigmatic suffix in the Evolène variety of Frp, namely -∫, which appears on both masculine and feminine nouns, and which, like -s, contrasts with the absence of marking in the singular. In the text, we only mention -s for better readability: In Section 5.2, both -s and -∫ will be analyzed in the same way; the fact that the former only appears on masculine nouns whereas the latter may appear on both feminine and masculine nouns does not play a role in our analysis.

<sup>&</sup>lt;sup>18</sup> In later periods, PAs and Plural -*s* could sometimes cooccur as the Plural -*s* was preserved until the sixteenth century in some registers such as cultivated speech. This seems unexpected in our analysis (we thank a reviewer for pointing this out) but can easily be explained since language change (like the loss of plural nominal inflection and spreading of articles) generally involves competing grammars before one grammar/structure 'wins' over the other (Du Bois 1985; Kroch 1994): For a limited period of time, speakers had access both to the Plural -*s* of a grammar bound to disappear and to the PA as an innovation of a new grammar.

vocalic endings (e.g. Italian), which means that the latter are lower and not in complementary distribution with PAs (see Section 4.4 for further suggestions).

In sum, Section 3 highlights that indefinite plural and mass nominals in Romance need some number/quantification morphology in D° to function as arguments (Delfitto & Schroten 1991; Longobardi 1991). This requirement may be satisfied either through the (covert) raising of a noun overtly marked for number or via a PA (see Section 4.1 for further development). We have proposed that the first option (N-raising) is restricted to language varieties whose default number marking strategy on N is sigmatic or vocalic and that the second option (PA insertion) characterizes language varieties whose default number strategy is invariance (e.g. French). In this view, the possibility for some invariant language varieties to have indefinite arguments with no number marking whatsoever, e.g. Frp, recall (12), needs to be explained. This issue will be addressed in the rest of the paper.

# 4. What are the morphological, distributional, and semantic similarities/differences between PAs and Frp DE? (Q1)

In this subsection, we will first study the nature of DE, as a component of the PA and as a Frp invariable determiner (Section 4.1), before examining the similarities between PAs and Frp DE (Section 4.2). Our discussion will then extend to BNs (Section 4.3), with corresponding syntactic trees (Section 4.4).

# 4.1. The nature of DE

As observed in Section 3, some Frp varieties have NEITHER BNs nor PAs: They thus represent the fourth logically possible option in the combination of (non-)existence of BNs and of PAs (cf. Table 4), an option that has not been discussed in the literature, to the best of our knowledge.

In these Frp varieties, many nominal expressions with DE are not marked for number at all (Section 3.2). This is unexpected if nominal expressions must have overt number morphology as assumed here. The line of analysis we would like to explore is that DE in fact is a number morpheme: We suggest that it does not express morphosyntactic singular or plural but SEMANTIC number, 'i.e. the distinction between atoms and sums' (Scontras 2022: 1168). More precisely, it expresses semantic plural, that is, cumulative reference, a property shared by BMNs and BPs. If this is on the right track, DE is qualified to provide D° with overt number information. Let us develop this approach.

|   | Language variety                                    | BNs | PAs       |
|---|---|-----|-----------|
| 1 | Spanish/Friulian                                    | Yes | No        |
| 2 | French/Emilian                                      | No  | Yes       |
| 3 | Italian/Ligurian                                    | Yes | $(Yes)^1$ |
| 4 | Frp varieties with only DE (pattern 1 in Section 1) | No  | No        |

Table 4. (Non-)existence of BNs and PAs in different Romance language varieties

<sup>&</sup>lt;sup>1</sup>Recall that these PAs differ semantically from PAs in French and Frp A, cf. Sections 1 and 3.2.

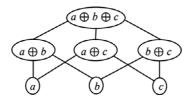


Figure 2. Join semilattice (from Champollion 2017: 16).

Information about number/quantification can generally be related to the type of object the nominal refers to: either sets (of atoms/portions or of sets of atoms/portions) or single individuals. This information on the nominal's extension can be represented with a join semilattice as in Figure 2 (cf. Link 1983; Landman 1989a, b, 1991).

The bottom line of Figure 2 represents the minimal elements of a set ({a},{b}, {c}), i.e. singletons (= sets with one atom). The other two lines ({a+b}, {a+c}, {b+c}, and {a+b+c}) represent sums. The minimal parts of indefinites in Romance are signaled in an etymologically transparent manner by the singular indefinite article deriving from Latin UNUS (e.g. Fr. *un/e* 'a'): Nouns accompanied by this determiner result in nominals referring to a bounded, single entity (cf. bottom line of Figure 2). In contrast, sums represent the extension of indefinite plurals and mass singulars, i.e. BNs and PA/DE-nominals (cf. the first two lines in Figure 2). In other words, BNs, as well as their equivalents with a PA/DE, are SEMANTICALLY PLURAL (Ihsane 2020b). This means that these nominals all have CUMULATIVE REFERENCE (Quine 1960: 91; Krifka 1989, 1992).

Noun phrases have cumulative reference if they lead to inferences such as the ones illustrated in (13) (from Lasersohn 2011, [1]):

- (13) (a) A is water and B is water; therefore, A and B together are water.
  - (b) A are apples and B are apples; therefore, A and B together are apples.

Cumulative reference is characteristic of BMNs like *water* in (13a) and of BPs like *apples* in (13b) but not of singular count nouns like *apple* in (14), which is not a correct inference (from Lasersohn 2011, [2]):

(14) A is an apple and B is an apple; therefore, A and B together are an apple.

Importantly, cumulative reference is not only a property shared by BPs, BMNs, PA-nominals, and DE-nominals, it also characterizes them to the exclusion of nominals with a singular indefinite article. A notion such as indefiniteness, in contrast, would encompass nominals with a singular indefinite article. In other words, there is an opposition between cumulative and atomic reference (semantic number) among the indefinites under discussion (i.e. count plurals and mass singulars vs. count singulars, respectively). The ones with cumulative reference can be associated to two types of nominal determination: absence of an article (i.e. BNs) or presence of DE (i.e. the component of PAs or the invariable DE in Frp). If we ignore the PAs expressing a small quantity (because their meaning differs from the meaning of PAs used in expressions that are equivalent to BNs, cf. Table 3), the two options of determinations can be related to the default number marking strategy of the language variety concerned: 'bareness' is found in sigmatic and vocalic languages whereas PAs/DE

are found in invariant languages – two sides of the same coin for existential count plurals and mass singulars.

If Frp DE marks semantic number as suggested, it can satisfy the requirement of  $D^{\circ}$  to host overt number morphology (on a par with singular indefinite articles, PAs and BNs). This is why examples such as (12), with DE and no number realization on N, are grammatical. It is not clear, however, why some Frp varieties use both PAs and DE; it could be due to language contact (with French or some Northern Italian Dialects).

## 4.2. The similarities between PAs and Frp DE

If DE is a realization of number (semantic plural) as argued in the previous subsection, it means that there are two number oppositions at play in the indefinite determination systems examined here: on the one hand, the opposition between CUM(ulative) and AT(omic) seen above, and on the other hand the opposition between plural (PL) and singular (SG), i.e. morphosyntactic number. Both can be overtly realized and cooccur: The DE component of PAs represents the former opposition, while the ILLE component represents the latter. What we suggest for Frp DE is that it expresses semantic number overtly (like PAs) and morphosyntactic number covertly (unlike PAs): <sup>19</sup> In sum, DE, like PAs, is bimorphemic, with a non-overt ILLE. Ultimately, this implies that Frp DE is an equivalent of PA, as will be demonstrated in this subsection.

Evidence for the presence of a non-overt ILLE in the composition of DE comes from LIAISON contexts, in which the consonant [z] or [ʒ] may appear between invariable DE and a noun with a vocalic onset (see Kristol 2014: 36, 2016: 358–59). Consider examples (15) and (16) in Frp B (from Stark & Gerards 2020: 324–25):

- (15) (a) Fa kui de tsir avwi de=z inso (Brel 5) make.prs.3sg cook.inf de meat.f.sg with de=pl onion.f.pl
  - (b) fe kwir de tsire awi **de ipõ** (Fénis 5) make.prs.3sg cook.inf de meat.f.sg with **de onion.f.pl** 'S/he brings meat to cook with onions.'

We suggest that the liaison consonant in (15a) is NOT 'a plural formative agglutinated to the start of vowel-initial nouns' (Kristol 2016: 359) but an exceptionally overt reflex of the otherwise non-overt plural ILLE,  $l\varepsilon([3])$  'the.PL'. That the liaison consonant may appear with  $l\varepsilon([3])$  'the.PL' is illustrated in (16), an example with the 'indefinite definite' mentioned in footnote 3:

(16) e fa kwe də tsə awe le=z œpõ and make.prs.3sg cook.inf de meat.f.sg with def.art=pl onion.f.pl 'And s/he brings meat to cook with onions.' (Saint-Nicolas, 3)

The liaison illustrated above facilitates the pronunciation of some strings, especially consecutive vowels. In that sense, it seems similar to the linking 'r' found in non-rhotic varieties of English in which post-vocalic /r/ is usually not pronounced (e.g. *near* [nɪə]

<sup>&</sup>lt;sup>19</sup> This is compatible with analyses that treat DE as a nominal aspectual element for unboundedness (Ihsane 2005, 2014, 2020a) or as indicating lack of individuation (Stark 2016; Stark & Gerards 2020).

vs. [nɪər]) but 'reappears' between vowels (e.g. *near and far* (i.e. [nɪər ənd fa:]). Developing this idea, the [z] found, for instance, in French expressions, such as *entre quatre-z-yeux* 'one-on-one' (lit. 'between four [z] eyes') (Kristol 2014: 36), would be analogous to the English intrusive 'r', which is neither orthographically nor etymologically justified, as in *the idea [r] is*. Kristol (2016: 359) also signals some Frp examples that are 'etymologically 'unjustified' before nouns with a vocalic onset such as in '[sīŋ ʒ u.ɪs] 'five bears' and '[ny z aran 'do:ə] 'nine swallows' (ibid).<sup>20</sup>

The postulation of a silent ILLE cooccurring with Frp DE also relies on the fact that Frp, like all Romance language varieties, has number marking on verbs and subject–verb agreement for person and plural, which requires morphosyntactic number on the D° head of the (preverbal) subject. This includes cases involving subjects formed with DE and a noun without overt number marking, such as *de loutr* 'blueberry/ies' in (12). Consider (17):

- (17) (a) dε tisy k ly maεj αto m a bajœ t.en-o dəʃ la tabk...

  DE cloth that the mine aunt me she.has given lie.PRS-SG on the table

  '(Some) cloth that my aunt gave me is lying around on the table.' (Evolène 7, 558)
  - (b) ...da pε da pama trεin-am pœ te:Ra ... DE peals of apples lie.PRS-PL on ground '... apple peels are lying around on the floor.' (StNic4, 518)

In (17a), the verb *t.en-a* 'lie.prs-sg' agrees with the singular subject ((some) cloth that my aunt gave me) and, in (17b), the verb trem-am 'lie.prs-pl' agrees with the plural subject (apple peels). In both examples, the subjects are not overtly marked for morphosyntactic number. The verb agreement with such DE-subjects represents evidence for the bimorphemic DE, with a non-overt ILLE component representing morphosyntactic number.

Further support for the equivalence between PAs and DE in Frp is provided by their syntactic distribution. In (6) and (7), for instance, the PA-nominal and the DE-nominal are both direct objects in affirmative sentences. Examples (18) and (19) illustrate the same intravarietal co-variation of PAs and DE as complements of P°.

- (18) fœ dzame nëteje lœ parlo  $\sigma = 0$  læ  $\sigma = 0$ awı the milk churns or the - or the containers with must.prs.3sg never clean.INF də l ewi tida water.f.sg luke warm PA=SG 'One must never clean the milk churns or the... or the containers with lukewarm water.' (Chalais, 592)
- (19) fa tozo læ lava awi **d ewæ bolenta** must.prs.3sg always 3pl.acc wash.inf with **de water.f.sg boiling.f.sg** 'One must always wash them with boiling water.' (Chalais, 619)

<sup>&</sup>lt;sup>20</sup> Whether this type of liaison is restricted to examples with a numeral would need to be investigated. If they are, the liaison could be added by analogy with other numerals (e.g. *deux [z] oeufs* 'two [z] eggs', *trois [z] oeufs* 'three [z] eggs'; *six [z] oeufs* 'six [z] oeufs' in French).

Additionally, example (20) shows that Frp PAs can, at least marginally, also be found in the scope of negation, which further shows that an explanation in terms of a French-like distinction between NPI (DE) vs. PPI (PA) does not apply.

(20) alo<sup>a</sup> 1 mu gra para i mdiva pa **d la tart...** so the mine grandparents 3PL eat.PST.3PL not **PA=F.SG tart** 'So, my grandparents didn't eat tart [...]' (Sixt f, 1312)

The above facts show that there is no semantic opposition in terms of PPIs vs. S-NPIs between PA- and DE-nominals in Frp. More generally, this subsection and the previous one show that Frp PA- and DE-nominals have the same semantic properties and the same distribution and that PAs and Frp DE have the same morphological composition (both comprise DE + ILLE) and the same function (providing D° with number morphology). In sum, in Frp, PA and DE are semantically and morphologically equivalent, except for a non-overt component with DE, in contrast to PA and DE in French (see Section 2).

## 4.3. Extending the discussion to bare nouns

The two number oppositions mentioned in the previous subsection – cumulative/atomic (CUM/AT) and plural/singular (PL/SG) – play a crucial role in our analysis of PAs and Frp DE (Section 4.2). In this subsection, we will extend the discussion to BNs and show that these two oppositions account for the threefold classification of indefinites: count plural – mass singular – count singular (see Section 1) (cf. Heycock & Zamparelli 2005). This will reveal that the mass/count distinction is a byproduct of these oppositions and is not (always) morphologically marked. By singular and plural, we only refer to the morphosyntactic number here.

The relevant information is summarized in Table 5: The default number marking strategies on N are provided in column A, the language varieties discussed in this paper in column B, the nominal type (PA/DE-nominals, BMNs, BPs) in column C, the two number oppositions in columns D and E, the morphemes involved (+ where this morphological information is encoded) in column F, and the resulting mass/count reading in column G. Line 2 lists the 2 values for each opposition in the language varieties under study. Plural nominals are represented in Lines 5–8 and singular nominals in Lines 10–14. Note that lines 8 and 12–13 provide only one of the possible endings as illustrations, namely the masculine plural and the feminine singular, respectively. The gray cells indicate overt morphology leading to the count reading. Note that this table does not take into account PAs in Italian because they have additional properties (small quantity/choice function) and are therefore not equivalent to BNs, for instance (see Section 3.2).

The new information in Table 5 concerns the mass/count distinction. The morphemes correlating with a count reading consist of the plural morphemes on N (lines 7 and 8), the plural ILLE component of PAs (line 5), and the singular indefinite article (line 14). Note that there are also count nominals that cannot be identified as such from their morphology: In Frp (e.g. pattern 1), *de buli* can correspond to the plural count N 'mushrooms' or the singular mass N 'mushroom'. In the language varieties under study, there are no dedicated morphemes for the mass interpretation. Mass nominals may be bare (e.g. Spanish, line 12), come with a PA (e.g. French, line 10), or come with an invariable DE (e.g. Frp, line 11). In those language varieties, the mass-count distinction is therefore not morphologically encoded

Table 5. The number and mass/count oppositions for plurals and mass indefinites in French, Italian, Spanish, and Frp

|    | A                   | В                  | С                          | D                   | Е                     | F          |                       |          | G                     |
|----|---------------------|--------------------|----------------------------|---------------------|-----------------------|------------|-----------------------|----------|-----------------------|
| 1  | Default<br>strategy | Language           | Type of nominal expression | Number opposition 1 | Number opposition 2   | Morpho     | Morphology            |          | Mass/count opposition |
| 2  |                     |                    |                            | CUM/AT              | PL/SG                 |            |                       |          | MASS/<br>COUNT        |
| 3  |                     |                    |                            | SEM<br>NBR          | MORPHO-<br>SYX<br>NBR | SEM<br>NBR | MORPHO-<br>SYX<br>NBR | location |                       |
| 4  | Plural              |                    |                            |                     |                       |            |                       | _        |                       |
| 5  | INV                 | Fr/Frp             | PA-NP                      | CUM                 | PL                    | DE         | ILLE                  | D        | COUNT                 |
| 6  |                     | Frp                | DE-NP                      | CUM                 | PL                    | DE         | (ILLE)                | D        | COUNT                 |
| 7  | SIGM                | Sp                 | BP                         | CUM                 | PL                    |            | -s                    | N        | COUNT                 |
| 8  | VOC                 | It                 | BP                         | CUM                 | PL                    |            | -i                    | N        | COUNT                 |
| 9  | Singular            |                    |                            |                     |                       |            |                       |          |                       |
| 10 | INV                 | Fr/Frp             | PA-NP                      | CUM                 | SG                    | DE         | ILLE                  | D        | MASS                  |
| 11 |                     | Frp                | DE-NP                      | CUM                 | SG                    | DE         | (ILLE)                | D        | MASS                  |
| 12 | SIGM                | Sp                 | BMN                        | CUM                 | SG                    |            | - a                   | N        | MASS                  |
| 13 | VOC                 | It                 | BMN                        | CUM                 | SG                    |            | - a                   | N        | MASS                  |
| 14 | INV, SIGM,<br>VOC   | Fr, Frp,<br>Sp, It | UNUS-NP                    | AT                  | SG                    | и          | <i>n/e</i> 'a'        | D        | COUNT                 |

(cf. Ihsane 2008 for French). What we suggest is that a mass or count interpretation can be captured by means of the two number oppositions mentioned above: The mass reading results from the combination of values (CUM, SG) (lines 10–13), whereas the count reading results from (CUM, PL) (lines 5–8) and (AT, SG) (line 14).

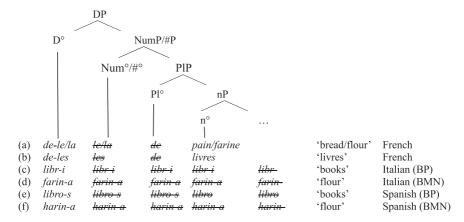
Another important aspect of Table 5 is that the plural suffixes found on Spanish and Italian nouns (lines 7 and 8) encode two number values (CUM + PL). The Italian suffix, in contrast to the Spanish one, also encodes gender (and declension), hence their different syntactic base position (Section 4.4). Extending the reasoning to the singular suffixes (lines 12–13) would imply that they encode CUM + SG. This is however less intuitive as they are generally not associated with mass readings (but with FEM; see also Harris 1991 and others on the difference between word markers in Spanish and vocalic suffixes in Italian), hence the gray shading of -a, illustrating the feminine singular, in Table 5. One option could be that, for those suffixes, semantic number remains UNSPECIFIED (no value encoded). This would allow us to refine our analysis, a welcome outcome as observed already for the default number marking strategies (see also Section 5.2 on Evolène) and may be promising for the investigation of further (Romance) language varieties. We leave this for future research.

#### 4.4. Resulting structures

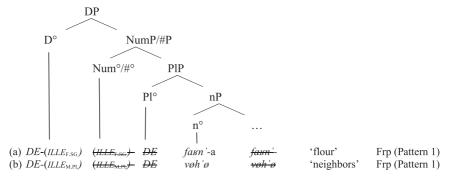
We can now turn to the syntactic structures of the indefinites under study, focusing on PA-/DE-/nominals and BNs (and excluding PAs that express a small quantity/choice function because nominals with those PAs do not correspond to BNs; see Section 3.2). The key point will be to represent both morphosyntactic number and semantic number since they play a crucial role in our analysis. Support for not collapsing the two notions is provided by mass nominals which have singular morphology (cf. Table 5, column F, middle) but are semantically plural (i.e. BMNs and nominals introduced by singular PAs, but not Frp DE-NPs, whose ILLE component is silent). Building on previous analyses (Heycock & Zamparelli 2005; Stark 2008a; Ihsane 2008, 2014; Gerards & Stark 2020), we will assume that the two kinds of number are encoded in discrete projections.

In the syntactic tree presented in Section 2, ILLE was merged in Num°/#° and DE in Div°. In the tree below, we use the label PIP (Plural Phrase; cf. Heycock & Zamparelli 2005) for the projection hosting the elements DE and -s instead of DivP. One reason is that the threefold classification of indefinites (count plural - mass singular - count singular) can be accounted for by the two number oppositions but not by an overt mass/count distinction (see Section 4.3) to which DivP is associated (see Section 2). Another reason is that the distribution of the values PL/SG and CUM/AT on two number projections (NumP/#P and PlP, respectively) accounts for the complementary distribution (or the absence thereof) of different elements: First, DE/-s/-i in Table 5 and the singular indefinite article cannot cooccur in a single NOMINAL EXPRESSION. This is because they express (contradictory) information about the nominal's denotation (cumulative vs. atomic reference); they may, however, both be found in a language variety (in different nominal expressions), precisely because they encode different values of the same head, Pl° (CUM vs. AT, respectively). Second, DE, -s, and -i (the latter illustrating the masculine plural) are in complementary distribution in a single LANGUAGE VARIETY: This is because these elements represent the same value for PlP (CUM) for different types of default number marking strategies (INV, SIGM, VOC, respectively).<sup>21</sup> What

<sup>&</sup>lt;sup>21</sup> If the DE under discussion and the vocalic plural -i in Italian are in complementary distribution as suggested here, it implies that Italian PAs involve another DE and are generated higher in the structure than French PAs. Since <a href="https://doi.org/10.1017/S0022226725100832">https://doi.org/10.1017/S0022226725100832</a> Published online by Cambridge University Press



**Figure 3.** Syntactic structures for plural and mass indefinites with overt components.



**Figure 4.** Syntactic structures for plural and mass indefinites with a non-overt component (ILLE).

differentiates DE from -s, for instance, is that DE is only semantically plural, whereas -s is also morphosyntactically plural (see Section 4.3).

Consider Figures 3 and 4, which represent the structures of the indefinites under discussion (for the actual formation of PA, see Section 2). The covert number morphemes in Figure 4 are indicated in parenthesis. Singular indefinites are not represented.

Figure 3 shows the structure of PA-nominals in French (it would be analogous for Frp) and the structure of BPs and of BMNs in Italian and Spanish. Figure 4 shows the structure of DE-nominals in Frp. In all the examples, either PA/DE or the noun (BP/BMN) provide D° with some quantificational item such as a number affix (see Section 3.1). The Frp DE combines with a non-overt ILLE component and also moves to D°: The result is thus a complex head, although the overt form does not change (i.e. DE). The BNs in D°, in contrast to PAs/DE, comprise a portmanteau suffix that encodes both semantic number and morphosyntactic number: The sigmatic -s in Spanish and the vocalic -i, illustrating the masculine

Italian PAs and French PAs do not have the same (main) function (see Section 3.2), this would not be surprising. See Pinzin & Poletto 2018, who propose that such 'high PAs' mark AmountP, introducing 'quantity'.

plural in Italian, are semantically and morphosyntactically plural. Importantly, in the proposed structures, number affixes are merged in different projections (cf. Wiltschko 2008, 2012; Alexiadou 2011; Mathieu 2014; Dali & Mathieu 2016; and others): Num°/#° (ILLE/(ILLE)), Pl° (DE, -s) and n° (portmanteau morphemes such as Italian -i).

The structures resulting from our analysis of indefinites all have a noun or an article in  $D^{\circ}$  that encode both morphosyntactic and semantic number (overtly or covertly). But crucially, the number that is always expressed overtly is semantic number (e.g. invariable DE). This allows us to refine our answer to Q3 (Section 3): The  $D^{\circ}$  head of indefinite plurals and mass singulars needs (at least) some semantic number morphology for those nominals to function as arguments.

As for Q1, the different parts of Section 4 show that Frp invariable DE is an equivalent to PAs (same function/distribution/interpretation), composed of DE and a non-overt ILLE. The following subsection examines what allows ILLE to be non-overt in many Frp varieties, but not in French (or Italian), that is, our Q2.

# 5. Why is uninflected DE possible in Frp but not in French? (Q2)

## 5.1. On the (un)availability of DE in Frp and French

In Section 4.2, we proposed that Frp DE is an equivalent to PAs. The idea is that it is bimorphemic, on a par with PAs, but that the ILLE component is non-overt. The question we are addressing here is, what allows ILLE to be non-overt in Frp but not in French? The issue is particularly intriguing since both language varieties are invariant in terms of default number marking strategy. An important difference between the two language varieties, though, is the minor nominal number marking strategies they display. In French, several classes of nouns are marked with plural (e.g. *cheval-chevaux* 'horse-horses', *travail-travaux* 'work-works', plus some isolated lexemes such as *boeuf-boeufs* 'ox-oxen'), but the number of examples affected is limited. Frp, in contrast, has one systematic minor strategy (as well as signatic -s/-\(\int\) in Evolène, which are not relevant for the point we want to make here), cf. Paciaroni et al. (to appear): The nouns affected are marked with vocalic plural and are all feminine. What we suggest therefore is that the DE-option (i.e. using DE as an equivalent to PAs) is restricted to a subclass of invariant languages which have this minor option (but see Section 5.2). Let us develop this idea, ignoring the Evolène variety for the moment (see Section 5.2).

As just mentioned, when a noun is overtly marked for plural in Frp, it is always feminine, and the marking is vocalic (see Section 3.2). This is important because, in most Romance languages, feminine (FEM) and plural (PL) are the marked values for gender and morphosyntactic number, respectively, in contrast to masculine (MASC) and singular (SG), which are the default. 'Marked' is used here in opposition to 'default', not for 'morphologically overt/realized'; cf. footnote 15. In many cases, the two kinds of markedness overlap (i.e. the opposition to default and the morphological distinction). For instance, we add an ending (morphology) to plural (not singular) nouns (Sp. *libro* 'book' vs. *libros* 'books'). It thus seems that the values FEM and PL need to be highlighted with morphological exponents. Although the reasons for this are not clear to us, we suggest that DE, as a semantically and morphologically (except for a non-overt component with DE) equivalent to PAs, is possible

when a language variety has a marking strategy (here vocalic) restricted to these two 'non-default' values: This is the case of Frp but not of French (nor Spanish/Italian). This shows that there are differences among invariant language varieties and that the typology of default number marking strategies proposed in this paper needs to be refined, for instance, by taking into account the minor strategies of a language variety (see Paciaroni et al. to appear). Note that we do not assume that a language variety with such a minor strategy will necessarily have DE: It simply means that DE would be possible. This discussion also shows that whether a strategy is a minor or a default strategy (e.g. vocalic endings in Frp and Italian, respectively) may play an important role, here in the (non-)availability of the DE-option. This means that, in Frp, the number morphology on nouns is not sufficient to allow BNs (on a par with French), but it is sufficient to allow invariable DE (unlike French).

## 5.2. On the specificities of the Frp variety in Evolène

Like other Frp varieties, Evolène has DE (but no generalized PAs) and vocalic endings on many of its feminine nouns. In addition, unlike other varieties, it has sigmatic suffixes, in particular -s on most masculine nouns but also -∫ on some feminine and some masculine nouns (cf. footnote 17). As a result, the default number marking strategy of this variety is not invariance, in contrast to the other Frp varieties, but sigmatic, as demonstrated by Paciaroni et al. (to appear). This raises several questions for the account developed here. For instance, if Evolène is sigmatic, should it not have BNs (on a par with Spanish), contrary to fact? And, if DE and the Plural -s are in the same syntactic position (see Section 4), should they not be in complementary distribution in the Evolène variety, contrary to fact?

Both issues arise from the assumption that the -s in Evolène Frp is analogous to the Plural -s in Spanish. However, we argue that this is not the case. The -s in Evolène is primarily an indicator of declension classes: It is found on the nouns of two declension classes and coexists with other endings (i.e. -\( \int \) and vocalic suffixes) characterizing further declension classes (Paciaroni et al. to appear). Therefore, we suggest that the suffix -s should be treated on a par with vocalic plural endings such as -a and -a and generated in n°, not in Pl°. This explains why the sigmatic -s in Evolène Frp can cooccur with DE: They are generated in different syntactic positions. The analysis extends to -\( \int \), which is found in a single noun class (cf. footnote 17). In contrast, Spanish Plural -s, found on all nouns, does not identify a noun class.

Furthermore, although Spanish and Evolène Frp are both sigmatic by default, they differ in that Spanish has a single number marking strategy (sigmatic), whereas Evolène Frp has several (sigmatic, vocalic, and invariance). We suggest that different labels be used for the two kinds of sigmatic language varieties: 'sigmatic' for the former and 'IC-sigmatic (IC: inflection class)' for the latter. Only the former languages allow BNs (in addition to language varieties that are vocalic by default such as Italian).

Since Evolène Frp has DE but is not invariant, the DE-option (i.e. the use of uninflected DE as an equivalent of PA) cannot be associated with INVARIANT language varieties (with a specific minor marking strategy for a subclass of nouns). The decisive criterion for this option seems to be the existence of a minor strategy that only marks feminine nouns (not necessarily all of them) for plural. In other words, FEM and PL need to be marked morphologically via a minor strategy for the DE-option to be available in a language variety. This answers Q2 although it calls for an explanation, as already mentioned.

#### 6. Conclusion

We have investigated the indefinite uninflected DE found in some Frp varieties and compared it with PAs in French/Frp and, to a smaller extent, with bare arguments in Spanish/Italian. Our aims were to identify the similarities and the differences between PAs and Frp DE and the reasons why Frp, but not French, can have DE with indefinite arguments. Since PAs are morphologically marked for number (and sometimes gender), whereas DE is not, the comparison between the two led us to investigate the role of number marking (i.e. overt realization of morphosyntactic number) in the nominal expressions of Romance. Indeed, two fundamental properties of the Romance languages under study depend on the presence/absence of number marking on N: the (im)possibility to have existential bare arguments (BNs) and the (non-)existence of PAs.

To understand the role of number marking on nominal arguments, we have built on (i) the assumption that indefinite plural and mass nominals in Romance need some number/quantification morphology in D° to function as arguments (Delfitto & Schroten 1991) and (ii) the proposal that a language variety's DEFAULT NUMBER MARKING STRATEGY ON N (i.e. sigmatic, vocalic, or invariance; cf. Maiden 2016) plays a major role in our puzzle. We proposed that the ways to satisfy the requirement of D° mentioned in (i), namely N-raising to D° and insertion of a PA, be recast in the light of (ii): N-raising, resulting in bare arguments, is restricted to language varieties whose default number marking strategy on N is sigmatic (e.g. Spanish) or vocalic (e.g. Italian) and PA insertion to invariant ones (e.g. French). Italian PAs, whose main function is not to provide number morphology, unlike French PAs, have been discarded. Frp, being invariant (except Evolène), does not have BNs. The Evolène variety, whose default strategy is sigmatic, does not have BNs because, we argued, its sigmatic endings are primarily declension indicators (cf. Paciaroni et al. to appear), unlike Plural -s in Spanish. We used the label IC-sigmatic for Evolène Frp.

Regarding DE (including the DE component of PAs), we have argued that it overtly expresses SEMANTIC number/plural and hence can satisfy the requirement of D° to encode number/quantification information. More generally, we have shown that DE is an equivalent of PAs in Frp: It has the same function, syntactic distribution, semantic properties, and composition, except that ILLE is non-overt. DE and ILLE/(ILLE) encode semantic number (cumulative reference) and morphosyntactic number (PL/SG), respectively. They are represented in two discrete syntactic projections, PIP (following Heycock & Zamparelli 2005) and NumP/#P, respectively. DE and Plural -s (e.g. Spanish), representing cumulative reference, are generated in PIP and are, hence, in complementary distribution. In Evolène Frp (the only Frp variety with sigmatic endings), DE and -s may cooccur because the -s is a declension mark merged in n° (i.e. below DE/PAs), like sigmatic -ſ and vocalic endings.

Importantly, our analysis shows that the mass/count distinction is not morphologically encoded in Romance (contra e.g. Borer 2005) but rather a byproduct of the two oppositions PL/SG and CUM/AT reference: Some indefinite count nominals cannot be distinguished morphologically from indefinite mass nominals (e.g. Frp DE-nominals with no number marking on N).

Finally, we suggested that the decisive criterion for a language variety to have DE as an equivalent of PAs is the existence of a minor strategy marking only feminine nouns (not necessarily all of them) for plural. That 'feminine' and 'plural' need some morphological exponence may be related to the fact that these values are not the default options for gender and morphosyntactic number in Romance. Whether this description extends to further language varieties needs to be investigated. The correlations we established between presence/absence

of BNs and of PAs with the default number marking strategy is corroborated by many of the language varieties in Table 2: Portuguese, Catalan, Rhaeto-Romance, which are sigmatic, and Romanian, which is vocalic, all have BNs. Occitan, which is not homogeneous (cf. Section 1), would need to be investigated. Our analysis involving default strategies is however superior to an approach building on SUFFIXATION (encompassing sigmatic and vocalic endings, cf. Guardiano et al. 2022) because it allows us to account for Evolène Frp which does not have BNs although its default strategy would be suffixation (Paciaroni et al. to appear). It is also fine-grained with distinctions between language varieties that have a specific strategy as a minor or as a default strategy (e.g. vocalic in FrP and Italian, respectively). Crucially, our analysis leaves room for enrichment, for instance with more values.

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