A NEO-CARLSONIAN APPROACH TO BARE PLURAL NOMINALS IN ROMANIAN AND FRENCH[*]

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Abstract   In this paper we investigate Bare Plurals (BPs; NP_{PL}) in English and Romanian and Bare Plural Partitives (BParts; *des NP_{PL}*) in French. Romanian BPs and French BParts only share with English BPs the existential interpretation with obligatory narrow scope. We propose that this reading shared by all three comes from the same pieces: a non-kind-selecting predicate, a kind-denoting argument, and a special combination operation 'Derived Kind Predication' (DKP) gluing the two together by providing local existential quantification over instances of the kind. French BParts only have this reading because the partitive *de* spells out DKP. The kind and generic patterns for English, French, and Romanian fall out once we consider what happens when we remove DKP from this structure.

Keywords   Bare Plurals, Bare Partitives, Kinds, Derive Kind Predication (DKP), English, Romanian, French

1   Introduction

The distribution and interpretation of Bare Plurals (BPs; e.g., *dogs* in *Dogs barked.*) is known to vary across languages (Chierchia 1998, Dayal 2004, Dayal 2011, a.o.). For example, BPs are available in English (Carlson 1977), but in Romance they either have a more limited distribution (cf. Longobardi 2001 for Italian, McNally 2004 for Spanish, Dobrovie-Sorin et al. 2006 for Romanian, a.o.) or they are altogether not allowed as in French (Roy 2001, a.o.).[1] Even when

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[1]Constructions that seem to escape this restriction in French are coordinated structures, (ia), and predicative structures, (ib). See Heycock and Zamparelli (2003), a.o., and Beyssade (2011) and Mari and Martin (2008), respectively for details about those particular constructions.

> (i) a. Chiens et   chats avaient tous l'air   très sale.
>   dogs   and cats have   all   the.appearance very dirty
>   'Dogs and cats all look very dirty.'   (Heycock and Zamparelli, 2003:5)

acceptable, BPs across Romance do not all allow all the readings that English BPs do, which has led to many different analyses for various languages.

In this paper we revisit this issue by comparing the case of English, Romanian, and French. Form-wise, Romanian patterns with English against French in that the former two have BPs while French uses Bare Partitives (BParts). Meaning-wise, however, Romanian patterns with French against English because they both lack the kind and generic interpretations of English BPs; at the same time, all of English BPs, Romanian BPs, and French BParts share the narrow scope existential reading (§2). We propose a unified account from which both their similarities and differences follow (§3.2 and §4.2).

2   Data

Form-wise, Romanian seems to pattern with English against French; the English BPs (NP_{PL}) in (1) can be rendered by BPs in Romanian, (2), but not in French, (3), where a BPart (*des NP_{PL}* 'of.the NP_{PL}')[2] form has to be used instead, (4).[3]

(1) a. Kids came by us.   *English BPs*
     b. I ate biscuits with my milk.

(2) a. Au   venit pe la noi copii.   *Romanian BPs*
         have come by   us kids

     b. Am   mâncat biscuiți cu   lapte.
         have eaten   biscuits with milk

(3) a. *Enfants sont venus chez nous.   **French BPs*
          kids   are   come by   us

     b. *J'ai   mangé biscuits dans mon lait.
          I.have eaten   cookies in   my   milk

(4) a. Des   enfants sont venus chez nous.   *French BParts*
         of.the kids   have come by   us

     b. J'ai   mangé des   biscuits dans mon lait.
         I.have eaten   of.the biscuits in   my   milk

Meaning-wise, however, Romanian seems to pattern with French against English; specifically, they both differ from English BPs in the same way in that they only allow an existential interpretation with obligatory narrow scope (see Dobrovie-Sorin et al. 2006 for Romanian and Roy 2001 for French). We will show this step-by-step below.

To begin with, unlike English BPs, Romanian BPs and French BParts cannot denote kinds. When combined with kind-level predicates, they only yield an existential subkind reading. That

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        b. Ils   sont professeurs.
            they are professors
            'They are professors'

[2]Following Chierchia (1997), we use this label to denote an NP introduced by a complex determiner derived from the contraction of the preposition *de* ('of') with the plural definite article *les*.

[3]The French examples in (3) are from Chierchia (1998:355).

is, while (5a) means that the whole bear kind is on the verge of extinction, the corresponding sentences in Romanian and French mean that there exist some subkinds of the bear kind (e.g., the grizzly bears, the polar bears) that are on the verge of extinction, (5b).

(5) *Kind-level predicates*

    a. ✓Kind reading

       Bears are on the verge of extinction.   *English*

    b. *Kind reading / ✓∃-Subkind reading

      i. Urşi   sunt pe cale   de dispariţie.   *Romanian*
         bears are   on verge of extinction

      ii. Des   ours sont en   voie d'extinction.   *French*
         of.the bears are   on.the verge of.extinction

Furthermore, Romanian BPs and French BParts do not generally yield the generic interpretations allowed by English BPs.[4] To illustrate, consider the English sentence in (6a). (6a) is interpreted as saying that all dogs typically bark. By contrast, the corresponding sentences in Romanian and French can only get an existential reading, (6b), i.e., that some dogs bark.

(6) *Generic contexts*

    a. ✓Universal reading

       Dogs bark.   *English*

    b. *Universal reading / ✓Existential reading

      i. Câini latră.   *Romanian*[5]
         dogs bark

      ii. Des   chiens aboient.   *French*
         of+the dogs   bark

To get a kind and a generic reading, French and Romanian use the definite article, as illustrated below.

(7) ✓Kind reading

    a. Urşi+i   sunt pe cale   de dispariţie.   *Romanian*
       bears.the are   on verge of extinction

    b. Les ours sont en   voie d'extinction.   *French*
       the bears are   on.the verge of.extinction

(8) ✓Generic reading

    a. Câini+i latră.   *Romanian*
       dogs.the bark

    b. Les chiens aboient.   *French*
       the dogs   bark

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[4]Note that French BParts can have a generic reading in some specific constructions such as *ça*-constructions (Roy 2001, a.o.) Those constructions would need to be explored in further research.

[5]In Romanian there is a strong pressure for such BP subjects to occur post-verbally – thus, *Latră câini* 'bark dogs' instead of *Câini latră* 'dogs bark'. We will discuss this again in §3.2 (see esp. Fn. 10).

Nevertheless, Romanian BPs and French BParts share important properties with English BPs (and more generally, with BPs across languages). In particular, in episodic contexts they are all interpreted as indefinites and therefore yield an existential reading, (9).

(9) *Episodic contexts*
  ✓Existential reading

  a. Yesterday, Zoe met firemen. *English*

  b. Ieri,   Zoe a   întâlnit pompieri. *Romanian*
     yesterday Zoe has met   firemen

  c. Hier,   Zoé a   rencontré des   pompiers. *French*
     yesterday Zoe has met   of.the firemen

Crucially, under their existential interpretation, Romanian BPs and French BParts, as English BPs, always take low scope when co-occurring with scope-taking expressions, (10). As illustrated in (10a), English and Romanian BPs as well as French BParts all take low scope with respect to negation.[6] Moreover, when they co-occur with adverbial modifiers such as *for three hours*, the latter takes wide scope with respect to the BPs and BParts, (10b). Finally, English and Romanian BPs as well as French BParts are all interpreted under the scope of intensional verbs such as *want*, (10c).

(10) *Scopelessness*

  a. *Narrow scope* ✓¬ > BP, *BP > ¬

     i. Zoe didn't meet firemen. *English*

     ii. Zoe nu a   întâlnit pompieri. *Romanian*
         Zoe not has met   firemen

     iii. Zoé n'a   pas rencontré de pompiers. *French*
          Zoe NE.has not met   of firemen
          'Zoe didn't meet any firemen.'

  b. *Differentiated scope* ✓Adv > BP, *BP > Adv

     i. Zoe killed rabbits for three hours. *English*

     ii. Zoe a   omorât iepuri timp de trei ore. *Romanian*
         Zoe has killed rabbits time of three hours

     iii. Zoé a   tué des   lapins pendant trois heures. *French*
          Zoe has killed of.the rabbits during three hours
          'For three hours, Zoe killed different rabbits.'

  c. *Opacity* ✓want > BP, *BP > want

     i. Zoe wants to meet firemen. *English*

     ii. Zoe vrea să întâlnească pompieri. *Romanian*
         Zoe wants to meet   firemen

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[6]Note that, surprisingly, in French the definite article *les* disappears when a BPart occurs under the scope of negation. We assume that *de NP$_{PL}$* has the same structure and meaning as *des NP$_{PL}$* elsewhere.

iii. Zoé veut rencontrer des pompiers. *French*
Zoe wants meet of.the firemen
'What Zoe wants is to meet firemen, he would be happy to meet any firemen.'

To summarize, we have shown in this section that meaning-wise Romanian BPs behave as French BParts in that they both only share with English BPs the existential interpretation with obligatory narrow scope.

	Kind	Generic	Episodic	Scope wrt QPs
English BPs	✓	✓	∃	Narrow scope
Romanian BPs	*	*	∃	Narrow scope
French BParts	*	*	∃	Narrow scope

Table 1: Interpretations of English BPs, Romanian BPs and French BParts

Given these data, a theory of BPs crucially needs to capture that (1) English and Romanian BPs as well as French BParts take obligatorily narrow scope with respect to other scope taking expressions and (2) unlike English BPs, Romanian BPs and French BParts cannot denote kinds nor can they have a generic interpretation; to express a kind and a generic reading, Romanian and French have to use the definite article.

3   The neo-Carlsonian approach to BPs

3.1   English BPs

Nouns are usually assumed to denote properties, type $\langle e,t \rangle$. However, as we have seen, in many languages bare plural nouns can appear in argument positions. This poses an obvious compositionality issue (type mismatch between a verbal meaning looking for an argument of type e and the bare plural of type $\langle e,t \rangle$). In an influential proposal, Chierchia (1998) proposes that the meanings associated with BPs are the result of certain typeshifting mechanisms that work together to resolve these issues. The proposal derives Carlson's (1977) crucial insight that BPs in English denote kinds, and also explains the cases where they give rise to readings other than a kind reading.

To begin with, Chierchia (1998) assumes an ontology in which the domain of individuals forms a complete atomic join semi-lattice, with the individual-sum operation $\oplus$, the part relation $\leq$, atoms AT, and the operator ι that picks out the maximal element of a set. Singular common nouns such as *dog* are characteristic functions true of individual dogs. Plural common nouns are true of pluralities (sets) of dogs. Pluralization is a function PL that applies to a set of atoms (property ranging over atoms) and yields the set of pluralities built from them (property ranging over pluralities).

(11)   Singular and plural count nouns:

    a. $[\![\text{dog}]\!] = \lambda w . \lambda x . [dog(w)(x)]$

    b. $[\![\text{PL}]\!] ([\![\text{dog}]\!]) = \lambda w . \lambda x . [\neg dog(w)(x) \wedge \forall y[y \leq x \wedge AT(y) \rightarrow dog(w)(y)]]$

In addition to Partee's (1987) $\exists$ and ι, two new typeshifting operations are introduced – 'Down', $\cap$, which turns a property ranging over pluralities into a kind (the maximal plural individual at a world), and 'Up', $\cup$, which extracts from a kind its instantiations at a world.

(12)   Typeshifting operations:

$$\exists: \quad \langle e,t \rangle \Rightarrow \langle\langle e,t \rangle, t\rangle \quad P \Rightarrow \lambda P'.\exists y[P'(y) \wedge P(y)]$$
$$\iota: \quad \langle e,t \rangle \Rightarrow e \quad \lambda y.[y \leq x] \Rightarrow x$$
$$\text{Down, } \cap: \quad \langle s,\langle e,t \rangle\rangle \Rightarrow \langle s,e \rangle \quad P \Rightarrow \lambda w.\iota P(w) \text{ (if P can have a kind correlate)}$$
$$\text{e.g., } [\![dogs]\!] = {}^{\cap}dogs = \lambda w.\iota dogs(w)$$
$$\text{Up, } \cup: \quad \langle s,e \rangle \Rightarrow \langle s,\langle e,t \rangle\rangle \quad k \Rightarrow \lambda w.\lambda x.[x \leq k(w)] \text{ (where } k \text{ is a kind)}$$
$$\text{e.g., } {}^{\cup}({}^{\cap}dogs) = \lambda w.\lambda x.[x \leq {}^{\cap}dogs(w)]$$

The readings of English BPs can then be obtained as follows. When a plural count noun, type $\langle e,t \rangle$, composes with a kind-selecting predicate, type $\langle se,... \rangle$, the type mismatch can be fixed by typeshifting via $^{\cap}$ (so long as the nominal property has a kind-correlate). This is how English BPs get their kind reading, (13).

When a plural count noun, type $\langle e,t \rangle$, composes with non-kind-selecting predicates, typeshifting via $^{\cap}$ (assumed to be able to apply effortlessly, at the level of the NP) doesn't help – there is still a type mismatch. Of course, the mismatch can be fixed overtly via various determiners, but what we want to determine is what can happen if the plural noun remains bare. If the BP is in a generic context, the mismatch can be fixed by movement of the kind-denoting ($^{\cap}$ -typeshifted) BP into the restriction of the genericity operator Gn (via a process of accommodation); Gn is able to apply to kinds, and yields modalized universal quantification over instances of the kind, (14). If the BP appears in an episodic context, the type mismatch can be fixed via a sort-adjusting typeshifting operation called 'Derived Kind Predication' (DKP); if a meaning applies to individuals but gets a kind-denoting ($^{\cap}$ -typeshifted) BP, this operation says that the meaning should instead apply to existentially-quantified instances of the kind, (15).[7]

(13) $[\![\text{Dodos are extinct}]\!] = [\![\text{are extinct}]\!]_{\langle \text{se,t}\rangle}({}^{\cap}dodos)_{\langle \text{s,e}\rangle}$

(14) $[\![\text{Dogs bark}]\!] = Gn\, x, s[{}^{\cup\cap}dogs(x) \wedge Contain(x,s)][bark(x)]$

(15)   Derived Kind Predication (DKP, Chierchia 1998:364):[8]
       If P applies to ordinary individuals and k denotes a kind, then $P(k) = \exists x[{}^{\cup}k(x) \wedge P(x)]$.
       E.g., $[\![\text{Dogs are barking}]\!] = \exists x[{}^{\cup\cap}dogs(x) \wedge are\ barking(x)]$.

To sum up, the neo-Carlsonian approach to English BPs helps us capture all of their readings – the kind, the generic, and the narrow scope existential reading.

But, given that all of $\exists$, ι, and $^{\cap}$ are able to take us from a predicate type to an argument type, why should we always resort to $^{\cap}$ in our attempts to fix the type mismatch? This question is especially relevant in the generic and episodic cases where $^{\cap}$ doesn't even help us all the way (the $^{\cap}$ -typeshifted nominal meaning needs to be further processed with $^{\cup}$and quantified over, both of which are provided by Gn or DKP).

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[7]See Chierchia (1998:365) for why we might want to achieve this via a typeshifting operation mediating the composition of verbal predicates with kind-denoting arguments rather than via a lexical incorporation mechanism (as the one proposed, e.g., by Van Geenhoven 1996).

[8]As given, the rule works for properties only. For relations it would have to be as follows:

(i)   Derived Kind Predication (DKP, Chierchia 1998:364):
      If R applies to ordinary individuals and k denotes a kind, then $R(k) = \lambda y.\exists x[{}^{\cup}k(x) \wedge R(y,x)]$.
      E.g., $[\![\text{Tom chased mice}]\!] = \exists x[{}^{\cup\cap}mice(x) \wedge chased(Tom,x)]$.

To motivate and regulate this system of typeshifting, Chierchia (1998) posits the following general typeshifting principles:

(16)   General typeshifting principles:

   a. *The Nominal Mapping Parameter:* NPs can be: [+pred,+arg] (English), [+pred,-arg] (Italian), [-pred,+arg] (Mandarin Chinese).

   b. *Avoid Structure:* Apply SHIFT at the earliest level.

   c. *Blocking Principle:* For any typeshifting operation π and any X: $*\pi$X if there is a determiner D such that for any set X in its domain, $D(X) = \pi(X)$.

   d. *Ranking:* $^\cap > \{\iota, \exists\}$.

Chierchia (1998)'s typeshifting principles help us make sense of the use of $^\cap$ to derive the various readings of English BPs. The Nominal Mapping Parameter says that languages may be set differently w.r.t. whether they allow their NPs to be primitively both argumental or predicative or both. If we say that English is set as [+pred, +arg], this means we are allowed to use $^\cap$ at the level of the NP. The Avoid Structure principle says we should typeshift as early as we can. That is, not only are we allowed to use $^\cap$ at the level of the NP, but in fact we should, if nothing prevents us. The Blocking Principle says that typeshifting is prevented if the language has an overt determiner that can do the same job. English does not have any overt determiner with the meaning of $^\cap$, so we are allowed to use $^\cap$ freely. In contrast, English has a definite article, so ι cannot apply freely; also, it has a singular indefinite article but no plural indefinite article, so $\exists$ can apply freely only in the plural. Finally, the Ranking says that if both $^\cap$ and $\exists$ can apply freely, $^\cap$ takes precedence – and in English it essentially only loses in cases where the noun cannot have a kind correlate,[9] in which case $^\cap$ cannot apply (see (12) for this precondition on its use). All these together explain why, so long as it can have a kind correlate, an English BP in an argument position defaults to a $^\cap$ (kind) meaning.

In this section we have reviewed the neo-Carlsonian approach to English BPs and how it can help us make sense of their various readings. Can a similar neo-Carlsonian approach help us make sense of Romanian BPs and French BParts also?

3.2   Proposal, Part 1: Romanian BPs and French BParts

Recall that, while in English a PL(NP) can give rise to a kind, generic, or narrow scope existential reading, in Romanian and French a definite article (henceforth abbreviated as *DefRo* and *DefFr* respectively) is needed to get the kind and the generic reading, and the narrow scope existential reading arises in Romanian via PL(NP) (as in English) but in French via *des* PL(NP) – that is, *de* + definite article + PL(NP). We summarize these in Table 2 (based on the data in §2). What are the underlying differences between English, Romanian, and French that produce this variation, and how can we make sense of them all within the same neo-Carlsonian setup?

Let's consider first the kind and the generic reading. Here Romanian and French seem to pattern together against English – they both require the use of a definite article. We propose that all the differences between English and Romanian/French in this respect come from two factors: (1) the fact that while English NPs are [+pred, +arg], Romanian and French NPs are [+pred, -arg], which means that while English NPs can undergo $^\cap$ at the NP-level, Romanian and French cannot

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[9]E.g., *parts of that machine* does not correspond to any kind.

	Kind	Generic	Narrow scope existential
En	PL(NP)	PL(NP)	PL(NP)
Ro	*DefRo* PL(NP)	*DefRo* PL(NP)	PL(NP)
Fr	*DefFr* PL(NP)	*DefFr* PL(NP)	*de+DefFr* PL(NP)

Table 2: English BPs and their counterparts in Romanian and French

– to get to an argumental type they have to project a D; and (2) the fact that Romanian and French additionally share a dislike for null D's, which is manifested in the fact that, even at DP level, they prefer to get at the $\cap$ meaning through the definite article. We propose that this definite article either denotes ι (but can be silently intensionalized into $\cap$ via lambda abstraction over worlds; a possibility also suggested by Chierchia 1998 for Italian) or is ambiguous between ι and $\cap$. Taking into account the fact that Romanian seems to have more tolerance for silent elements in the DP than French (given the fact that it allows BPs in places where French doesn't), we will suggest the former solution for Romanian and the latter for French (but see §5 for a potential alternative).

Let's consider now the existential reading. Here English and Romanian seem to pattern together against French – they both get this reading through BPs, while French gets it via BParts. We propose that all the differences between English/Romanian and French in this respect come from one major factor: English and Romanian resort to a covert DKP mechanism, while French uses an overt DKP mechanism in the form of the partitive morpheme *de*. Let's take each of these in turn. In episodic contexts English had $\cap$-typeshifted NPs (kind meaning) which couldn't compose with the verbal meaning due to type mismatch (the verbal predicate was looking for an individual-type argument), and this is what prompted the covert DKP typeshifting mechanism. We argue that Romanian BPs are exactly the same, modulo the fact that $\cap$- typeshifting happens for them at the level of the DP. But we previously said that in Romanian the use of the overt definite article trumps the use of the covert $\cap$. Note however that we did not say that $\cap$ could never happen, but merely that it is dispreferred due to the ban on null D's. Its use is however not blocked – while $\cap$ means the same as a definite article denoting ι but being covertly intensionalized to yield a $\cap$ meaning, the overt definite article on its own denotes only ι, so it cannot block $\cap$ (see Chierchia, 1998 for the same suggestion for Italian). Thus, we propose that in these episodic contexts Romanian BPs behave exactly like English BPs – they undergo typeshifting via $\cap$ and this in turns triggers covert DKP, which yields the narrow scope existential meaning.[10,11] French BParts yield the exact same meaning, only in a different way. They too involve reference to kinds through the use of the definite

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[10]The dislike for null D's continues to manifest itself in the fact that Romanian BPs are best in governed or otherwise prominent positions – objects, postverbal subjects, focused or heavy subjects, etc.

[11]Crucial support against an alternative incorporation analysis for the narrow scope existential readings of Romanian BPs comes from the fact that in contexts where the BP does not have a kind-correlate these BPs behave like plain indefinites, just as in English. E.g., the example below can have both a transparent (there are some parts of that machine, a, b, c such that John is looking for them) and an opaque (John is looking for random parts) reading:

(i) Ion   caută   părți din mașina   aceea.
     John is.looking.for parts of   machine.the that

article in the composition of BParts (which, as we suggested, can denote $^\cap$). And they too involve DKP, only this is not done covertly, but overtly through *de*.[12]

In Table 3 in the top row we summarize the interpretation possibilities for an English BP and how they are derived on a neo-Carlsonian approach, and in the following rows we show how the same readings can be obtained in Romanian and French.

	Kind	Generic	Narrow scope existential
En	$[_{NP}{}^\cap (PL(NP))]$	$Gn_{x,s}[^{\cup\cap}(PL(NP))(x)\dots][]$	$^\cap [_{NP}PL(NP)] + \text{DKP}$
Ro	$[_{DP}{}^\wedge(DefRo_\iota (PL(NP)))]$	$Gn_{x,s}[^{\cup}{}^\wedge(DefRo_\iota (PL(NP)))(x)\dots][]$	$^\cap [_{DP}PL(NP)] + \text{DKP}$
Fr	$[_{DP} DefFr{\cap} (PL(NP))]$	$Gn_{x,s}[^{\cup}(DefFr{\cap} (PL(NP)))(x)\dots][]$	$DefFr{\cap} (PL(NP)) + de_{DKP}$

Table 3: English BPs and their counterparts in Romanian and French

In this section we explored some straightforward ways in which the neo-Carlsonian approach to English BPs can be extended to make sense of Romanian BPs and French BParts. First, English BPs differ from Romanian BPs/French BParts in that the former can get their kind meaning exclusively through typeshifting with $^\cap$ while the latter prefer to build it from overt material in the DP; this captures their patterns with respect to kind and generic readings. Second, English BPs/Romanian BPs differ from French BParts in that the former undergo DKP covertly while the latter do so overtly, through *de*.

While the first part of our proposal simply uses Chierchia's (1998) neo-Carlsonian analysis of English BPs to reason about Romanian and French, the second part regarding covert vs. overt DKP raises new and non-trivial questions.

As a covert typeshifting operator, it was easy to define DKP such that the existential quantifier it introduces always takes narrow scope with respect to other scope-taking operators, or to make it work for both properties and relations. Neither of these is trivial to achieve if DKP is an overt morpheme that needs its own stable lexical entry. In particular, there are challenges at the compositional level. A DKP meaning is quantificational (it introduces existential quantification), so this lexical entry cannot be of type *e*. At the same time, it is a special type of quantificational meaning since it can only take narrow scope with respect to any other scope-taking operator, thus it cannot be type $\langle et,t\rangle$ either (because then it would be able to move and take wide scope). We could give it a different type where it is neither, that is, where, instead of behaving as an argument, it behaves as a function, taking the verbal meaning as an argument. But then we would have to give it a different meaning for the case where the BPart combines with a property (BPart subjects) as opposed to a relation (BPart objects). There is, however, a way to overcome this third challenge – by using event semantics. While it might seem odd to resort to say that we need event semantics to give the lexical entry of what otherwise looks like some type of a preposition/determiner, it is no

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[12]Another language in which DKP seems to be realized overtly is Maori, a Polynesian language of New Zealand. Maori DPs introduced by the indefinite determiner *he* could be analyzed in the same way as Romanian BPs and French BParts (cf. Chung and Ladusaw 2004 for more details about Maori *he*).

(i)   he   tandata
     DET person
     $[_{DP} he_{DKP} [_{DP} {}^\cap [_{NP} tangata]]]$

longer so odd if we think of it as another way to introduce kind-denoting arguments into the event structure, similar to the thematic role heads customarily assumed in event semantics.

In the following section we explore this last solution. Any type of event semantics can be used to implement it. We will use Champollion's (2015) quantificational event semantics.[13]

4   Multiple ways to introduce arguments

4.1   Quantificational event semantics

Champollion (2015) proposes that verbs are generalized quantifiers over events, (17). As usually assumed in event semantics, arguments are introduced into the derivation via thematic role heads, (18). Once all the syntactic arguments of the verb have been introduced, a closure operator brings us back to a truth value, (19). The derivation of a simple sentence with arguments of type *e* is shown in (20).

(17) $[\![\text{see}]\!] = \lambda f_{\langle v,t \rangle}.\exists e[see(e) \wedge f(e)]$

(18) $[\![\text{Ag/Th-}e]\!] = \lambda V_{\langle vt,t \rangle}.\lambda x_e.\lambda f_{\langle v,t \rangle}.V(\lambda e_v.[f(e) \wedge Ag/Th(e) = x])$[14]

(19) $[\![[\text{closure}]]\!] = \lambda e_v.true$

(20) $[\![\text{John saw Mary}]\!] = \exists e[see(e) \wedge Ag(x) = John \wedge Th(x) = Mary]$

$$
\begin{array}{c}
t \\
\diagup \diagdown \\
[\text{closure}] \quad \langle vt,t \rangle \\
\diagup \diagdown \\
\text{John} \quad \langle e,\langle vt,t \rangle \rangle \\
\diagup \diagdown \\
\boxed{\text{Ag-}e} \quad \langle vt,t \rangle \\
\diagup \diagdown \\
\langle e,\langle vt,t \rangle \rangle \quad \text{Mary} \\
\diagup \diagdown \\
\langle vt,t \rangle \quad \boxed{\text{Th-}e} \\
\text{saw}
\end{array}
$$
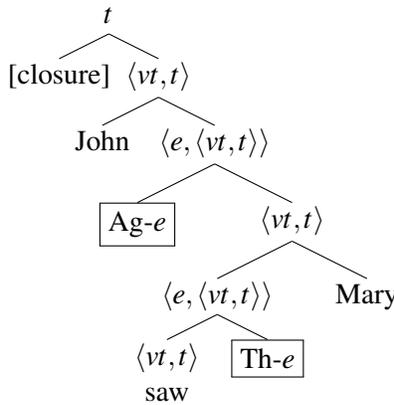
Below we extend this picture with other ways of introducing arguments.

4.2   Proposal, Part 2: Covert vs. overt DKP

We regard thematic role heads as a reflection of the lexical properties of the verb.[15]   Verbal meanings that lexically select for individuals will come with a thematic role head Ag/Th-*e* which

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[13]Because we believe it has better empirical coverage than previous ways of doing event semantics. In particular, it offers solutions for how to overcome previous issues with negation and *for*-adverbials in event semantics.

[14]We depart from Champollion in making the thematic role head a sister to a node on the verbal spine rather than to the DP. This is because we regard these thematic role heads as projections of the lexical properties of the verb. Insofar as we can tell, this departure does not affect the core of Champollion's proposal.

[15]We do not comment on the connection between this semantic notion of thematic role introducers and the syntactic notion of applicative heads. For a discussion see, e.g., Pylkkänen (2008) and references therein.

creates an argument slot of type *e* and is defined as above in (18). In addition to this we propose that verbal meanings that lexically select for kinds will come with a thematic role head Ag/Th-$\langle s, e \rangle$ which creates an argument slot of type $\langle s, e \rangle$ and is defined as below in (21). Furthermore, we propose that DKP is in fact a modified version of Ag/Th – a thematic role head Ag/Th-DKP (either a typeshifted version of Ag/Th-*e* or a separate primitive Ag/Th-DKP) operating on the verbal spine and enabling verbal meanings that lexically select for individuals to compose with arguments that are kind-denoting and defined as below in (22). Lastly, we propose that French *de*, which we have argued is essentially an overt type of DKP, is a typeshifter operating on the nominal spine and enabling nominal meanings that are kind-denoting to compose with verbal meanings that are non-kind-selecting, (23).[16]

(21) $[\![\text{Ag/Th-} \langle s, e \rangle]\!] = \lambda V_{\langle \text{vt,t} \rangle} . \lambda x_{\langle \text{s,e} \rangle} . \lambda f_{\langle \text{v,t} \rangle} . V(\lambda e_\text{v} . [f(e) \wedge Ag/Th(e) = x])$

(22) $[\![\text{Ag/Th-DKP}]\!] = \lambda V_{\langle \text{vt,t} \rangle} . \lambda x_{\langle \text{s,e} \rangle} . \lambda f_{\langle \text{v,t} \rangle} . \exists z [^\cup x(z) \wedge V(\lambda e_\text{v} . [f(e) \wedge Ag/Th(e) = z])]$

(23) $[\![\text{de}_{DKP}]\!] = \lambda y_{\langle \text{s,e} \rangle} . \lambda Q_{\langle e, \langle \text{vt,t} \rangle \rangle} . \lambda f_{\langle \text{v,t} \rangle} . \exists z [^\cup y(z) \wedge Q(z)(f)]$

We illustrate our overall proposal for the kind, the generic, and the narrow scope existential readings with trees on pages 14-15. Figure 1 illustrates the kind readings of English BPs and their counterparts in Romanian and French (combining our proposal in §3.2 with (21)). Figure 2 illustrates the generic readings of English BPs and their counterparts in Romanian and French (combining our proposal in §3.2 with a Gn recast in event semantics). Finally, the narrow scope existential readings of English and Romanian BPs are shown in Figure 3 (which combines our proposal in §3.2 with (22)) and of French BParts in Figure 4 (which combines our proposal in §3.2 with (23)). If we assume that negation or *for*-adverbials are only introduced after all the arguments have been added in, that will ensure that English BPs, Romanian BPs, and French BParts on their existential reading will always take scope below them.[17]

5   Conclusion

We bring together three old sets of data concerning English BPs, Romanian BPs, and French BParts and seek a unified solution that would capture both their similarities and their differences.

We make two main points. First, English BPs, Romanian BPs, and French BParts all involve reference to kinds, albeit differently, and a neo-Carlsonian approach can help us make sense of their variation. Second, arguments can be introduced into the structure in different ways, via

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[16]It is possible that English and Romanian in fact use the same strategy (DKP-modification on the nominal spine) as French, only covertly. We don't know of any evidence that could help us choose one way or another for English, but there is some evidence that Romanian might indeed be like French in that earlier stages of Romanian used to have BPart structures also. The Romanian BPart however never really took off and eventually disappeared. See Tănase-Dogaru (2013), Tănase-Dogaru and Uşurelu (2015) for evidence of this in Romanian and Carlier and Lamiroy (2014) for similar observations about Spanish. For more on the evolution of *de* from a preposition to an article in various Romance languages see Carlier (2007).

[17]Note that this is not necessarily the consensus position. Champollion (2011:12-15) "Let us adopt this point of view as well here and require of our framework that we must be able to interpret for-adverbials at VP-level. One certainly does not want to be forced by the choice of one's framework to take a position on the scope of for-adverbials, as there is currently no consensus on whether they attach below or above the subject."

different types of thematic role heads. In addition to the traditional event semantics Ag/Th-*e* head for individuals we propose the thematic role head Ag/Th-$\langle s, e \rangle$ for kinds. When these fail due to type mismatch, additional mechanisms are available, depending on the language: a one step Ag/Th-DKP (English and Romanian) and a two-step Ag/Th-*e* on the verbal spine plus *de*=DKP (French).

While our proposal improves on previous accounts by providing a more general cross-linguistic solution, it also opens up new questions:

- The differentiated pattern that we see in Romanian vs. French bare plural nominals – where Romanian uses bare plural nouns and French uses bare plural partitives – seems to extend to some degree to singular bare nominals also – where Romanian uses bare singular nouns and French uses bare singular partitives, and in both cases we also notice a massification effect. This is to be expected on the neo-Carlsonian approach on which plural count nouns and bare singular mass nouns both get a default kind reading. However, not all the examples that work for French work for Romanian, and the other way around, so that means that more work needs to be done to explain the variation.

- On our analysis the French partitive *de* has a more complex meaning than a regular partitive preposition. This is different from how the corresponding Italian partitive *de* is treated in, e.g., Chierchia (1997). However, we believe our analysis is justified as French BParts and Italian BParts do not behave the same – while French BParts can crucially give rise only to a narrow scope existential reading, Italian BParts are essentially like plain indefinites and can take both narrow and wide scope with respect to other scope-taking operators. We leave cross-linguistic variation among BParts to future research.

- We proposed that in Romanian the $^{\cap}$ meaning is derived via $^{\wedge} DefRo_\iota(PL(NP))$, and thus that the Romanian definite article always denotes ι. However, in discussing the Romanian supine nominalization, Iordăchioaia and Soare (2015) claim that the Romanian definite article must in fact be ambiguous between an ι meaning and a $^{\cap}$ meaning – that is, the same as what we claimed for French. This poses no difficulty for our analysis of the kind and the generic readings – they would simply look the same as French. However, it challenges our story (based on Chierchia's 1998 Shift, Avoid Structure, and Blocking principles) about why the definite article doesn't show up in existential readings also. We said that silent $^{\cap}$ can apply because, although it means the same thing as $^{\wedge} DefRo_\iota(PL(NP))$, the latter does not block it due to the fact that its overt component – $DefRo_\iota$ – does not mean the same thing as $^{\cap}$. However, if the definite article can in fact mean $^{\cap}$, we expect it to block silent $^{\cap}$. But then we would predict that it is possible for the narrow scope existential reading to arise from a non-kind-selecting verbal meaning followed by $DefRo$ (PL(NP)) – which is clearly not the case. This challenge is however quite easy to overcome. If the Romanian definite article is really ambiguous between an ι and a $^{\cap}$ reading, then when it composes with a non-kind-selecting verbal meaning it can simply use its ι meaning. We then propose that the narrow scope existential meaning is ruled out by a principle favoring unambiguous spellout configurations, – non-kind-selecting verb + $(PL(NP))$ (even if it requires $^{\cap}$ and covert DKP) – over ambiguous ones – non-kind-selecting verb + $DefRo_{\{\iota, \cap\}}$.[18] This would

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[18]The reason why French has recruited *de* to give rise to the narrow scope existential meaning might be due precisely to this pressure to choose an unambiguous spellout configuration combined with a higher pressure than Romanian to not have a null D.

explain why to get the narrow scope existential reading Romanian resorts to spelling out $(PL(NP))$ (followed by $\cap$ and covert DKP) rather than $DefRo\cap(PL(NP))$. Thus, even if Iordăchioaia and Soare's (2015) turns out to be right, it is still possible to maintain our basic neo-Carlsonian reasoning.

- Finally, in Fn. 6 we signaled that under the scope of negation the definite article that is part of the complex determiner *des* in French BParts is not spelled out. This fact doesn't follow from our proposal. Under the hypothesis that $\cap$ is spelled out as the definite article in French, we would expect the latter to be always spelled out when a DP denotes a kind. This looks like an interesting fact that it would be worth pursuing. We leave it to further investigation.

(24)   ⟦Bears are on the verge of extinction⟧ $=$ *on-the-verge-of-extinction*$(^{\cap}bears)$
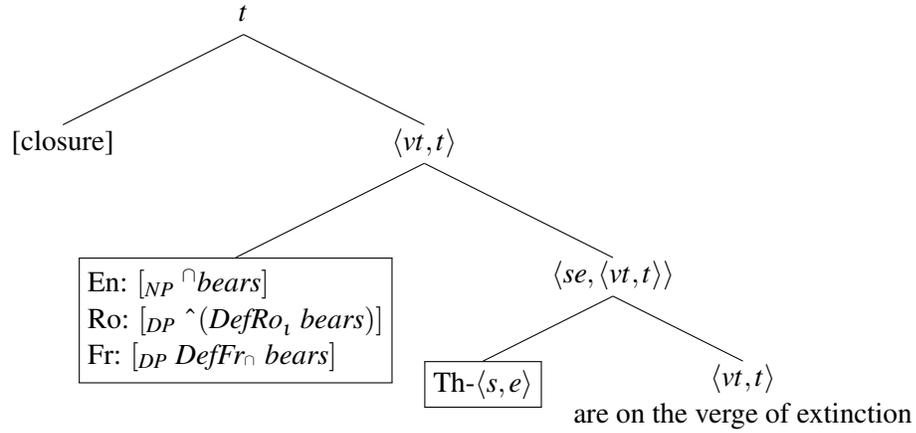
Figure 1: The kind reading of English BPs and of their counterparts in Romanian and French

(25)   ⟦Dogs bark⟧ $= \forall z \forall w \forall e[Acc_{w_0}(w) \wedge{}^{\cup\cap}dogs(z) \wedge C_w(e)(z) \rightarrow \exists e[bark(e) \wedge Ag(e) = z]]$

Assuming the following event semantics version of Chierchia (1998:367)'s Gn:
⟦Gn⟧ $= \lambda P_{\langle e,t\rangle} . \lambda y_{\langle s,e\rangle} . \forall z \forall w \forall e[Acc_{w_0}(w) \wedge {}^{\cup}y(z) \wedge C_w(z)(e) \rightarrow P(z)]$
'For every z which is an instantiation of the y-kind, in every accessible world w in which there is a going around event by z, ...'
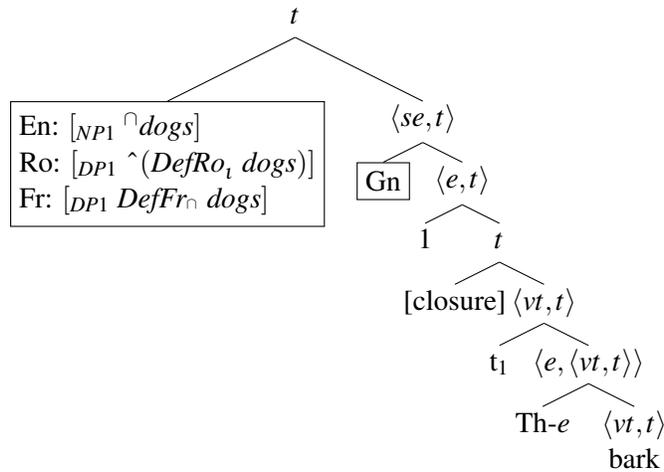
Figure 2: The generic reading of English BPs and of their counterparts in Romanian and French

(26) ⟦John chased dogs for three hours⟧
$= $ ⟦for three hours⟧ $[\lambda f_{\langle v,t\rangle} . \exists z[^{\cup\cap}x(z) \wedge \exists e[f(e) \wedge chase(e) \wedge Ag(e) = j \wedge Th(e) = z]]]$
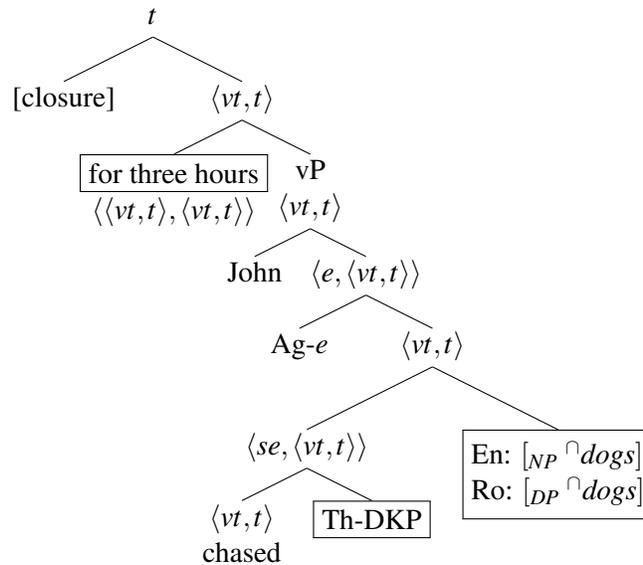
Figure 3: The existential reading of English BPs and Romanian BPs

(27) ⟦John chased dogs for three hours⟧
$= $ ⟦for three hours⟧ $[\lambda f_{\langle v,t\rangle} . \exists z[^{\cup\cap}x(z) \wedge \exists e[f(e) \wedge chase(e) \wedge Ag(e) = j \wedge Th(e) = z]]]$
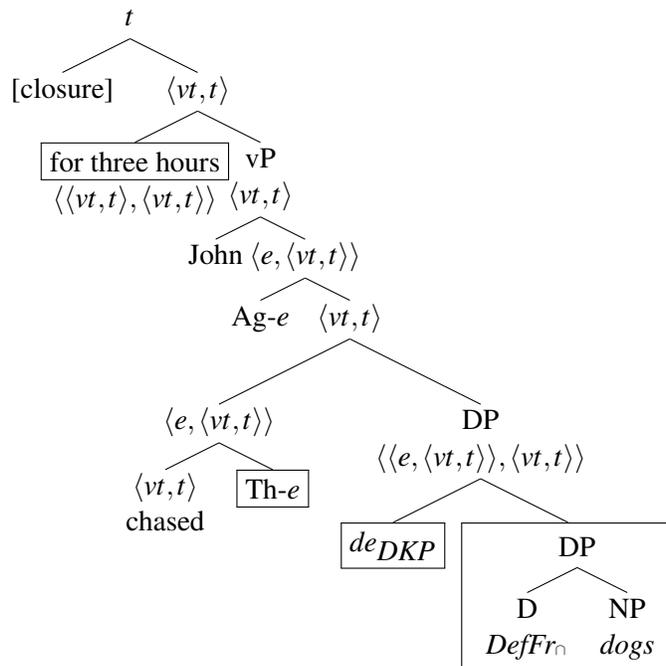
Figure 4: The existential reading of French BParts

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