

Generics and Bare Plurals I: Reference to Kinds

Tom Ralston // tomgiralston@gmail.com

Semantics Research Seminar, UCL, Winter 2026

1 Genericity

1.1 Generics and bare plurals in English

There are two related phenomena that fall under the heading of **genericity**: characterising sentences and kind predication.

(1) *Characterising sentences*

- | | |
|-----------------------------------|----------------------------|
| a. Potatoes contain vitamin C. | <i>bare plural</i> |
| b. The potato contains vitamin C. | <i>definite singular</i> |
| c. A potato contains vitamin C. | <i>indefinite singular</i> |

(2) *Kind predication sentences*

- a. Potatoes were first cultivated in South America.
- b. The potato was first cultivated in South America.
- c. ??A potato was first cultivated in South America.

Characterising sentences say what is generally true of member of a kind.

Kind predication sentences predicate a property directly of a kind.

In English, bare plurals (BPs) have other, non-generic, uses too:

(3) *Episodic sentences*

- a. Mice are running around my kitchen.
 $\approx \exists x(x \text{ are mice } x \text{ are running around my kitchen})$
- b. Dogs were everywhere.
 $\approx \forall x \exists y(y \text{ are dogs and } y \text{ were in } x)$
- c. Everybody read books on giraffes.
 $\approx \forall x \exists y(y \text{ are books on giraffes and } x \text{ read } y)$

(4) *Functional BPs*

- a. In 1985, there was a ghost on campus...
Students were afraid (Condoravdi, 1994).

- b. It's that time of year, autumn...

Leaves are turning yellow and ducks are flying south (Schubert & Pelletier, 1987).

BPs with an existential interpretation are upward entailing. We can use this as a test to identify these interpretations (Krifka et al., 1995):

(5) *Generic BPs*

- a. Ravens are black. $\nRightarrow$ Birds are black.
- b. Classical logicians are intelligent. $\nRightarrow$ Logicians are intelligent.

(6) *Existential BPs*

- a. Ravens are nearby. $\Rightarrow$ Birds are nearby.
- b. Classical logicians are working. $\Rightarrow$ Logicians are working.

1.2 Two separate issues

1.2.1 Structural questions about BPs

- Are BPs definites or indefinites? Or both?
- Are BPs ambiguous?
- What is the semantic type of BPs?
- Do characterising sentences contain a covert generic operator?

1.2.2 The meaning of characterising sentences

A separate question concerns the meaning of characterising sentences. This is a difficult question because these sentences exhibit a wide variability in their strength (Leslie, 2008):

(7) *Variable strength*

- a. Dogs are mammals.
- b. Dogs are furry.
- c. Dogs give birth to live young.
- d. Dogs attack children.

This variability makes generics difficult to analyse, because most simple theories will meet counterexamples somewhere. On the other hand, highly complex theories are hard to justify because of the cognitive and structural simplicity of generics.

2 Reference to kinds

Carlson (1977a, 1977b) hypothesised that *all* English BPs refer to kinds, including those in episodic sentences. We will discuss those sentences later, but for now we will look at generics.

2.1 Evidence of reference to kinds in generic sentences

2.1.1 Kind-selecting predicates

Many BPs (and definite singulars) are felicitous with ‘kind-selecting predicates’, including *widespread*, *abundant*, *scarce*, *invented...*, *extinct*, *evolved from...* These predicates cannot apply to individual members of a kind, but can apply to a kind as a whole.

- (8) a. {Dodos are/The dodo is} extinct.
- b. Thomas Edison invented {filament lightbulbs/the filament lightbulb}.
- c. {Black rats/The black rat} reached Australia by ship.
- d. {Woolly mammoths/The woolly mammoth} disappeared 5000 years ago.
- e. Gender stereotypes are widespread.

These predicates are odd with quantified subjects, allowing only ‘taxonomic’ readings where available (i.e. where subordinate kinds, not individuals, are quantified over; Dayal, 2004).

- (9) ??All gender stereotypes are widespread.
- (10) a. {All/Most} dinosaurs are extinct.
- b. *Can only mean*: All/most species of dinosaur are extinct.

It is not possible to get a kind-level reading of these predicates with an indefinite singular argument.¹

- (11) a. #A dinosaur is extinct.
- b. #Thomas Edison invented a filament lightbulb.
- c. #A gender stereotype is widespread.
- d. #A black rat reached Australia by ship.
- e. #A woolly mammoth disappeared 5000 years ago.

¹Notice, though, that taxonomic or individual readings are possible for these sentences.

2.1.2 Substitution of *this kind of X*

With the appropriate demonstration, it is possible to substitute a BP noun phrase for *this kind of X* and preserve the generic meaning.

- (12) a. Dogs are furry.
b. This kind of mammal is furry.
- (13) a. Birds lay eggs.
b. This kind of animal lays eggs.
- (14) a. Dodos are extinct.
b. This kind of animal is extinct.

2.1.3 Mixed kind-predication/characterising sentences

It is straightforward to mix kind-selecting predicates and predicates that select for individuals:

- (15) Pandas like very restricted foods and are therefore an endangered species (Cohen, 2020).

This is also possible with an anaphoric pronoun (Carlson, 1977b):

- (16) Dinosaurs are extinct because they ate kelp.

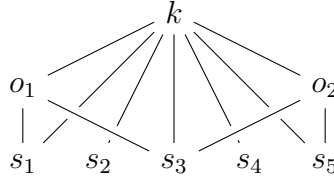
2.2 Carlson's (1977a) theory

2.2.1 The multi-level ontology

Carlson proposed a multi-level ontology, split in **kinds**, **objects**² and **stages**. Objects are persistent individuals (like a dog, a person, a brick). Stages are the spatiotemporal 'slices' of objects. Objects are the spatiotemporal slices of kinds. Since stages are realisations of objects and objects are realisations of kinds, stages are realisations of kinds.³ Kinds are related to their object- and stage-members by the realisation relation R , where $R(x^i, y^n)$ means that x of sort i is a realisation of y of sort n .

²In subsequent literature, **individual** is often used instead of **object**, especially in discussions of *individual-level predicates* (Kratzer, 1995).

³This assumes the realisation relation is transitive.



Carlson’s main theoretical contribution was to argue that BPs always refer to kinds. Semantically, kinds are just like any other objects in the domain, which he represents as generalized quantifiers. The formal translation of a characterising sentence like (1a) is then very simple, where p^k is the kind, POTATO:

- (17) a. $\llbracket \text{potatoes} \rrbracket = \lambda P.P(p^k)$
 b. $\llbracket \text{contain vitamin C} \rrbracket = \lambda x.\text{contain.vit.C}(x)$
 c. $\llbracket (1a) \rrbracket = \llbracket \text{contain vitamin C} \rrbracket(\llbracket \text{potatoes} \rrbracket) = \text{contain.vit.C}(p^k)$

Kind-predication sentences get the same translations:

- (18) a. $\llbracket \text{were first cultivated in South America} \rrbracket = \lambda x.\text{first.cultivated.in.SA}(x)$
 b. $\llbracket (2a) \rrbracket = \llbracket \text{were first cultivated in South America} \rrbracket(\llbracket \text{potatoes} \rrbracket) = \text{first.cultivated.in.SA}(p^k)$

The proposal is to hide all the messiness of the generics in the metaphysics. The variable strength of generics is not explained in the semantics. The semantics only see something like set inclusion: (1a) is true iff $p^k \in \{x \mid x \text{ contains vitamin C}\}$. The variably strong characterising sentences in (7) all have the same kind of translation:

- (19) a. $\text{mammal}(d^k)$
 b. $\text{furry}(d^k)$
 c. $\text{give.birth.to.live.young}(d^k)$
 d. $\text{attack.children}(d^k)$

What explains the variability is the variability in what it takes for a kind to instantiate each property.⁴

⁴This very simple proposal has recently been endorsed by the philosophers David Liebesman and Ofra Magidor (Liebesman, 2011; Liebesman & Magidor, 2025).

2.2.2 Distributive readings

The problem with these translations is that they don't attribute enough 'structure' to BPs. As Carlson was aware, they predict the wrong readings for sentences with bound pronouns:

- (20) Dogs obey their masters.
- a. *Expected interpretation*: The kind DOG obeys the master of DOG.
 - b. *Attested interpretation*: Generally, each dog x_i obeys the master of x_i .

There is a more general issue here, which is that generic BPs enter into scope ambiguities in transparent contexts (Schubert & Pelletier, 1987):

- (21) Storks have a favourite nesting area.
- a. There is place that is the favourite nesting area of storks in general. *collective*
 - b. In general, each stork has a favourite nesting area. *distributive*

The two readings can be forced with the following continuations (Cohen, 2001):

- (22)
- a. ...which is in Africa.
 - b. ...which other storks try to capture.

I'll call these **collective** and **distributive** readings, as they are highly reminiscent of a related phenomenon with non-generic plurals (Ralston, 2026; cf. de Vries, 2017):

- (23) The cows have a favourite kind of grass.
- a. There is a kind of grass which is the favourite of the cows (exactly one kind of grass total). *collective*
 - b. For each cow there is a kind of grass which is their favourite (one kind of grass per cow). *distributive*

The simple analysis above only predicts the first reading, where the indefinite takes widest scope, since there are no other operators in the translation. This gives us good reason to think that there is some operator in the sentence binding variables and entering into scope interactions with quantifiers and connectives.

2.2.3 The unary generic operator

Carlson originally proposed a predicate modifier, which shifts predicates that can be true of individuals into predicates that can be true of kinds.

$$(24) \quad Gn : f_{\langle e^o, t \rangle} \mapsto f_{\langle e^k, t \rangle}$$

Gn is a function that maps functions from individuals to truth values on to functions from kinds to truth values.

Which function does Gn represent? Carlson doesn't say. But it gives the following translation for (21):

$$(25) \quad Gn([\lambda x^o. \exists y(\text{fav.nesting.area.of}(y)(x^o))])(d^k)$$

The value that satisfies the existential quantifier can vary from stork to stork, so we get the distributive reading. However, in order to generate the kind-level reading in (21a), Carlson has to make an additional assumption: many predicates are **ambiguous** between a kind- and an object-level reading.

$$(26) \quad \llbracket \text{have a favourite nesting area} \rrbracket = \lambda_{x^k}. \exists y(\text{fav.nesting.area.of}(y)(x^k))$$

This phenomenon is very general: it is easy to generate what look like 'kind-level' readings of object-level predicates when they contain a bound pronoun or quantifier.

- (27) a. Canadian academics are supported by a single granting agency (Schubert & Pelletier, 1987).
 b. *Can mean:* There is one granting agency that supports (all) Canadian academics.
- (28) a. Cats only like themselves.
 b. *Can mean:* The only animals that cats like are cats.

These predicates are not like *extinct*: they are intuitively about objects, yet the scope/binding suggests that their arguments are kinds (at least on Carlson's theory).

If many predicates are ambiguous in this way, it is less clear what licences the insertion of Gn when a kind term meets a predicate that is ambiguous between an object- and a kind-level interpretation. Why is the kind-level reading not forced when the object-level reading is nonsense or necessarily false?

2.3 Chierchia (1998)

Carlson treated BPs as **names of kinds**. That is defensible for English, but it leaves a lot of questions about the cross-linguistic expression of genericity unanswered.

Chierchia developed a theory similar to Carlson's, based on cross-linguistic data which shows that many languages use definite plurals where English uses BPs. This is a bit of a puzzle for theories

that analyse English BPs as indefinites: *why do languages which otherwise resemble each other in their use of indefinites and definites differ in this way?* (Farkas & de Swart, 2007). Chierchia's response is that they do *not* differ in this way. Instead, they differ in the ways that definiteness can be articulated.

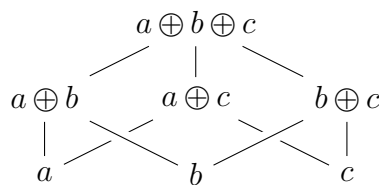
The general paradigm for Italian:

- (29) *(I) cani abbaiano. *characterising sentence*
the_{pl} dogs bark
'Dogs bark.'
- (30) *(I) cani sono rari. *kind predication*
the_{pl} dogs are rare
'Dogs are rare.'

Chierchia followed Carlson's assumption that all English BPs refer to kinds. The challenge is to explain why some languages use definites to refer to kinds, while others use BPs.⁵ The picture that Chierchia presents is one in which kinds are *nominalisations* of properties, i.e. they are of **argument** type, rather than **predicative** type. English allows BPs to be of either type; Romance languages (generally) only allow BPs to be of predicative type.

2.3.1 Mereological semantics for plurals

Chierchia adopts the mereological analysis of plurals, where plural count nouns denote the algebraic closure of singular count nouns (Link, 1983). The domain is structured by the mereological parthood relation, $\leq$. The closure of the set $P = \{a, b, c\}$, $*P$, can be represented as a semi-lattice, where the lines represent parthood relations:



ι picks out the maximal element of a set (if there is one). In the lattice above, $a \oplus b \oplus c$ is the maximal element, as it has every other element as a part, so ι^*P refers to $a \oplus b \oplus c$. There is no maximal element of $\{a, b, c\}$, which is why maximality reduces to uniqueness for singular count nouns.

⁵Chierchia focuses mainly on Romance (definite plurals) vs. Germanic (BPs), as well as languages without articles like Chinese, which uses bare (numberless) nouns in generics (see Yang, 2001).

2.3.2 Type-shifting

To implement the idea of a mapping between kinds and properties in the formal semantics, Chierchia proposes some type-shifting operations (from Partee, 1986) that allow NPs to shift between these types.

Type-shifting operations

Properties Properties are of predicative type, $\langle s, \langle e, t \rangle \rangle$.

Kinds Kinds are of argument type, $\langle s, e \rangle$.

nom $nom(\cap)$ maps properties on to kinds ($nom : f_{\langle s, \langle e, t \rangle \rangle} \mapsto f_{\langle s, e \rangle}$).

iota $iota(\iota)$ maps sets on to their maximal element ($iota : f_{\langle e, t \rangle} \mapsto f_e$).

pred $pred(\cup)$ is the inverse of nom . It maps kinds back on to properties ($pred : f_{\langle s, e \rangle} \mapsto f_{\langle s, \langle e, t \rangle \rangle}$).

$$\llbracket \cap P \rrbracket = \begin{cases} [\lambda s. \iota P_s], & \text{if } [\lambda s. \iota P_s] \text{ is in } K, \\ \text{undefined} & \text{otherwise} \end{cases}$$

where K is the domain of all kinds
and P_s is the extension of P in s .

$$\llbracket \cup d \rrbracket = \begin{cases} [\lambda s_s. \lambda x_e. x \leq d_s], & \text{if } d_s \text{ is defined,} \\ [\lambda s_s. \lambda x_e. FALSE] & \text{otherwise} \end{cases}$$

Theorem 1 For all $d \in K$, $\cap \cup d = d$

Theorem 2 For all P such that $\cap P \in K$, $\cup \cap P = P$

Unlike Carlson, who viewed kinds as a special sort of individuals, Chierchia constructs kinds out of D_e and D_s (cf. Krifka, 1987). At any world w , a kind is identified with the sum of the instances of the property at w .

2.3.3 Kind predication

In English, count nouns denote properties, which are not of the right type to be arguments of (kind-level) predicates. nom repairs the type mismatch:

$$(31) \quad \llbracket \text{are extinct} \rrbracket_w(\llbracket \text{dodos} \rrbracket) =$$

$$[\lambda d_{\langle s, e \rangle}. \text{extinct}_w(d)](\lambda w_s. \lambda x_e. \text{dodos}_s(x)) \quad \text{type mismatch}$$

$$[\lambda d_{\langle s, e \rangle}. \text{extinct}_w(d)](\cap [\lambda w_s. \lambda x_e. \text{dodos}_s(x)]) = \text{extinct}_w(\lambda s. \iota \text{dodos}_s) \quad \text{repair by nom}$$

2.3.4 Characterising sentences

Like Carlson, Chierchia assumes that a generic operator distributes predicates over kind terms. Unlike Carlson's, Chierchia's generic operator is like an adverb of quantification, e.g. *generally*, which relates two open sentences. The restrictor of *gen* needs a property, so the kind term is shifted back by *pred*:

$$(32) \text{ gen}(x, s)[\cup \cap \text{potatoes}_s(x) \wedge C(x, s)][\text{contain.vitamin.C}_s(x)]^6$$

It is generally true of pairs of objects x and situations s that if x is among the potatoes in s (and x is contextually relevant in s), x contains vitamin C in s .

Making the effects of the type-shifts more explicit:

$$(33) \text{ gen}(x, s)[x \leq \iota \text{potatoes}_s \wedge C(x, s)][\text{contain.vitamin.C}_s(x)]$$

2.3.5 Cross-linguistic variation

Why does English apparently allow *nom* for bare NPs, whereas Italian doesn't? We need to say that the definite article in English encodes the meaning of *iota*, while the Italian definite article can encode either *iota* or *nom*. Then we need a general linguistic principle governing the type-shifting:

Blocking Principle For any type-shifting operation τ and any X:
 $\# \tau(X)$ if there is a determiner D such that for any X in its domain: $D(X) = \tau(X)$.
(Don't do covertly what you can do overtly)

This predicts that Italian bare NPs cannot undergo type-shifting by *nom*; Italian must use its definite article instead. Since English has no determiner encoding the meaning of *nom*, it is always potentially available as type-shifting operation.

3 The unified analysis of BPs

The hypothesis that all English BPs refer to kinds makes intuitive sense for characterising/kind predication sentences, but it is quite counterintuitive for BPs with existential force, e.g. (3a) does *not* mean: the kind MOUSE is running around my kitchen. So why even entertain it? A simple alternative hypothesis is that these BPs are just plural indefinites, whose meaning differs only from *a NP* in the plurality of the NP.

⁶ $C(x, s)$ means that x is contextually relevant in s . This is supposed to explain the exception-tolerance of generics.

3.1 Differences between BPs and indefinites

Here is some data which suggests that BPs are not just plural indefinites from Carlson (1977a, 1977b).

3.1.1 No transparent readings

- (34) a. Bob wants to meet a police officer. (*wants* > $\exists$ / $\exists$ > *wants*)
b. Bob wants to meet police officers. (*wants* > $\exists$ / $\ast\exists$ > *wants*)

3.1.2 Narrow scope with negation

- (35) a. Bill didn't see a lion. ($\exists$ > $\neg$ / $\neg$ > $\exists$)
b. Bill didn't see lions. ($\ast\exists$ > $\neg$ / $\neg$ > $\exists$)

3.1.3 Differentiated scope

- (36) a. Max killed a rabbit for three hours. ($\ast 3 \text{ hours}$ > $\exists$ / $\exists$ > 3 hours)
b. Max killed rabbits for three hours. (3 hours > $\exists$ / $\ast\exists$ > 3 hours)
- (37) a. A dog was everywhere. ($\ast\forall$ > $\exists$ / $\exists$ > $\forall$)
b. Dogs were everywhere. ($\forall$ > $\exists$ / $\ast\exists$ > $\forall$)
- (38) a. A building will burn in Berlin and Frankfurt. ($\ast in$ > $\exists$ / $\exists$ > *in*)
b. Buildings will burn in Berlin and Frankfurt. (*in* > $\exists$ / $\ast\exists$ > *in*)

3.1.4 Anaphora

- (39) Anne is trying to find a teacher/sm teachers. Bella is trying to find him/them too.
(*only true if Anne and Bella are trying to find the same teacher(s)*)
- (40) Anne is trying to find teachers. Bella is trying to find them too.
(*true if Anne and Bella are looking for different teachers*)

3.2 Some more evidence in favour of a unified analysis

3.2.1 More anaphora

Generic BPs can serve as the antecedents for anaphoric pronouns in episodic contexts, and vice versa.

- (41) a. My mother hates raccoons because they stole her sweet corn last summer.
 b. Raccoons have stolen my mother's sweet corn every year, so she really hates them a lot.

3.2.2 *This kind of X* in episodic sentences

Existential interpretations of *kind of X* are possible in episodic sentence.

- (42) Some kind of dog is in the next room.
 (43) I saw this kind of animal at the zoo today.

3.2.3 Mixed characterising and episodic sentences

Schubert and Pelletier (1987) gave the following examples of sentences that mix generic and existential interpretations:

- (44) ?Snakes, which are reptiles, are in my garden.
 (45) ?Snow is white and is falling throughout Alberta.

I find these much worse than the mixed kind/characterising sentences above, but if these are good, it would be more evidence in favour of the unified analysis.

Carlson's conclusion English BPs are not plural indefinites.

3.3 Derived kind predication

For Chierchia, the data suggesting that BPs are not plural indefinites are explained by a type-shifting operation that is available when an episodic predicate (e.g. *are running*) is applied to a kind.⁷

Derived kind predication (DKP)

If P is an episodic predicate and k is a kind,

$$P(k_{\langle s, e \rangle}) = \exists x (^{\cup}k(x) \wedge P(x))$$

This generates the existential readings of sentences like (3a):

⁷Carlson proposes something very for kind-denoting arguments of stage-level predicates.

$$(46) \quad [\lambda x_e. x \text{ are running around my kitchen}](\cap \text{mice}) = \\ \exists x(\cup \cap \text{mice}(x) \wedge x \text{ are running around my kitchen}) \quad \text{by DKP}$$

Chierchia allows DKP to operate either at the point of lambda conversion or after all arguments have been combined. This explains the narrow scope tendency of episodic BPs, since the existential quantifier is only introduced when the episodic predicate combines with a kind term. So even when a BP object undergoes movement and raises to a position that would give rise to a wide-scope reading for an indefinite, we only get the narrow scope reading:

$$(47) \quad \text{Bobs wants to meet police officers.} \\ [[\text{police officers}] [\lambda_i [\text{Bob wants} [\text{Bob meets } t_i]]]] \\ \text{wants}(b, (\text{meets}(b, \cap \text{police.officers})) = \\ \text{wants}(b, (\exists x(\cup \cap \text{police.officers}(x) \wedge \text{meets}(b, x)))) \quad \text{by DKP}$$

This enough to give us a comprehensive and unified analysis of the English BP. This picture – known as the *neo-Carlsonian* theory – is not uncontroversial, but is widely accepted to be at least roughly correct.

4 The nature of kinds

Kinds play a central role in the neo-Carlsonian theory. But we haven't yet said anything interesting about what kinds are supposed to be.

What is a kind?

- All lexical common nouns are associated with a kind (Chierchia, 1998).
Prediction: *Ns are P* has an acceptable reading for all lexical *N* and some kind-level *P*.
- Kinds are associated with a stable regularity. What counts as a stable regularity is not set by the grammar. Whether a property is judged to correspond to a kind depends on facts about human psychology that may vary between individuals and cultures (Carlson, 1977a; Chierchia, 1998; Ritchie & Knobe, 2020).
Prediction: properties that are 'gerrymandered' or 'unnatural' are infelicitous in generic sentences – see (49).

- Kinds are not exhausted by a finite set of entities (Carlson, 1977a; Prasada, 2012).
Prediction: NPs referring to bounded set of objects are not acceptable with kind-level predicates – see (50).
- Kinds cannot have at most one instance in all worlds (Chierchia, 1998).
Prediction: Bare singular nouns cannot refer to kinds – see (48).

4.1 Bare nouns that don't refer to kinds

4.1.1 English bare singulars

It might appear that the neo-Carlsonian account makes a false prediction about the availability of *nom* for English bare singular common nouns. These are unacceptable in all configurations in English:

- (48) a. #Dog barks.
b. #Dog is extinct.
c. #Dog is running.

Why can *nom* not map $\llbracket \text{dog} \rrbracket$ on to a kind? Chierchia explains this in terms of what it is to be a kind (i.e. which functions are in the set K). When P is a singular count noun, ιP necessarily refers to just one individual at each index for which it is defined. He says that it is inconsistent with the notion of a kind that it should have a single member at every world/index. That means that *nom* is undefined for all singular count nouns. One worry here is that the constraint seems a bit *ad hoc*: what other reason is there to think that individual concepts that denote at most one object at an index are not kinds?

4.1.2 Unnatural properties

BPs that pick out unnatural or gerrymandered properties are odd in characterising and kind predication sentences:

- (49) a. ?Alligators in the New York sewer system are intelligent (Carlson, 1977a).
b. ??Broken old shoes that Leo left behind are rare (Chierchia, 1998).

For Chierchia, this is again explained by the domain condition on *nom*:

$[\lambda s_s. \iota \llbracket \text{broken old shoes that Leo left behind} \rrbracket_s]$ is not a kind, so the composition crashes because of an irreparable type-clash. This raises a question: which functions are in the domain of kinds?

Ideally, we would have an independent way of establishing which functions are kinds. The comments above are a bit hand wavy: they don't make specific predictions about which BPs denote kinds. In fact, things generally go the other way: infelicity with kind-level predicates is typically used as a *diagnostic* for failure to refer to a kind.

4.1.3 Indexical bare plurals

So-called 'indexical' BPs are bad in characterising and kind-predication sentences:

- (50) a. ?People in the next room are intelligent.
 b. ??Books that Bill bought yesterday are widespread.

They also exhibit transparent/opaque ambiguities that kind-denoting BPs don't exhibit (Carlson, 1977a):

- (51) a. Bill believes that people in the next room are about to leave. (*bel* > $\exists/\exists$ > *bel*)
 b. *Can mean*: There are some people in the next room and Bill believes that they are about to leave. (Bill need not believe that they are in the next room.)

Assume that *nom* is undefined for these BPs. Then DKP won't be available either, since DKP is only available for kind-denoting terms. How does the existential reading arise? BPs that are not type-shifted by *nom* may instead be shifted by $\exists$, which turns a property into a generalised quantifier:

- (52) $\llbracket \exists P \rrbracket = \lambda s_s. \lambda Q_{\langle s, \langle e, t \rangle \rangle}. \exists x (P_s(x) \wedge Q_s(x))$
 (53) $\llbracket \exists [\text{people in the next room}] \lambda_i [\text{Bill believes } [t_i \text{ are about to leave}]] \rrbracket$
 $[\lambda s_s. \lambda Q_{\langle s, \langle e, t \rangle \rangle}. \exists x (\text{people.in.the.next.room}_s(x) \wedge Q(x))](\lambda s_s. \lambda x. \text{believes}_s(b, \text{about.to.leave}(x))) =$
 $\exists x (\text{people.in.the.next.room}_s(x) \wedge \text{believes}_s(b, \text{about.to.leave}(x)))$

The crucial assumption needed to block wide-scope readings of kind-denoting BPs is that *nom* outranks $\exists$, so that $\exists$ is only available when *nom* is not (Chierchia, 1998; Dayal, 2004).⁸

⁸Chierchia proposes that *iota* and $\exists$ are both ranked equally, below *nom*. But Dayal (2004) points out that in languages without articles (e.g. Russian, Hindi), both kind-denoting and ordinary definite readings of bare nouns are possible. Chierchia's ranking predicts that the definite readings should be ruled out because *nom* is available. Dayal proposes instead ranking *iota* and *nom* equally, above $\exists$. This retains the desired predictions for English (where *iota* is blocked by the overt article, *the*).

Why is $\exists$ not blocked by *some*?

By the *Blocking Principle*, we might expect $\exists$ to be blocked by the indefinite determiner *some*, as *iota* is blocked by *the*.

If the meaning of *some* is a choice function (e.g. Schwarz, 2011), then it has a different meaning to $\exists$. This claim is motivated independently by the exceptional scope properties of *some NP*.

4.2 Unmotivated type-shifting?

A feature of Chierchia's theory is that there is a lot of type-shifting. In (32), the BP is type-shifted from a property to a kind, then back to a property in the restrictor of *gen*. If English BPs start out denoting properties, why do they need to be shifted into kinds in the first place (Krifka, 2003)? If we skip the detour through kinds, we could then have simpler representations like this:

$$(54) \text{ } gen(x, s)[potatoes_s(x) \wedge C(x, s)][contain.vitamin.C_s(x)]$$

DKP looks even more suspect. Consider the type-shifting required to generate the truth-conditions for (55).

$$(55) \text{ Dogs are running.}$$

$$PROPERTY \Rightarrow_{nom} KIND \Rightarrow_{DKP} EXISTENTIAL$$

This is strange, since there is a more direct route to the existential reading: $\exists$ goes straight from a property to an existential quantifier. What principle would licence *nom* when its application results in an uninterpretable structure? If type-shifts are licenced only when there is a type 'mismatch' (i.e. a branching node $\{\alpha, \beta\}$ where neither $\llbracket \alpha \rrbracket$ is in the domain of $\llbracket \beta \rrbracket$ nor $\llbracket \beta \rrbracket$ is in the domain of $\llbracket \alpha \rrbracket$) (Partee & Rooth, 1983), then at least some of the shifts are not licenced.

4.2.1 Kinds as topics

Cohen (2007, 2020) suggests a response to the first problem: English BPs must be shifted to kinds because properties cannot be topics. If, as he assumes, every sentence must have a topic, *nom* is required to supply a topic for (56). GEN is then introduced when a kind argument combines with an individual-level predicate to repair the type mismatch:

$$\begin{array}{ll} (56) \text{ } [potatoes [contain vitamin C]] & \text{no topic} \\ \quad [[\wedge potatoes]_{\langle s, e \rangle} [contain vitamin C]_{\langle e, t \rangle}] & \text{type mismatch} \\ \quad [[\wedge potatoes]_{\langle s, e \rangle} [GEN [contain vitamin C]]_{\langle \langle s, e \rangle, t \rangle}] & \text{type repair} \end{array}$$

Cohen and Erteschik-Shir (2002) use this same observation to explain existential readings of BPs. In (3a), the topic of the sentence can be provided by *my kitchen* – they call this spatiotemporal location a **stage topic**. *nom* is not licenced because the sentence has a topic, which is why *mice* has only an existential interpretation (after type-shifting by $\exists$):

(3a) Mice are running around my kitchen.

Sentences like (57) are ambiguous, depending on whether the topic is *that forest* or *orangutans*:

(57) Orangutans live in that forest.

- a. *Can mean*: There are orangutans that live in that forest.
- b. *Can mean*: It is generally true of orangutans that they live in that forest.

Since *live* is an individual-level predicate, this ambiguity is not expected on the neo-Carlsonian theory. If focus indicates that *that forest* is the topic (especially with focus on *orangutans*), *nom* is not licenced, and the BP is type-shifted by $\exists$ (the (a) reading). If prosodic focus indicates that *orangutans* is the topic, the BP is shifted by *nom* (the (b) reading).

4.2.2 Inherent genericity

On Carlson's (and Cohen's) account, the presence of the generic operator can be explained by a mismatch between the predicate and its argument: an individual-level predicate applying to a kind. The operator is introduced to reconcile the mismatch.

This explanation is not available to Chierchia, since the BP starts out denoting a property. Instead, Chierchia (1995) argued that GEN is required for all individual-level predicates.

(58) John is a smoker. $\Rightarrow$

$gen(s)[C(j, s)][smoker_s(j)]$

But GEN can't be part of the lexical meaning of these predicates, because it can take scope over connectives:

(59) Sheep are black or white.

- a. *Can mean*: In general, sheep are either black or white. GEN > or
 $gen(x, s)[\cup^\cap sheep_s(x)][black_s(x) \vee white_s(x)]$
- b. *Can mean*: Either, in general, sheep are black, or, in general sheep are white. *or* > GEN
 $gen(x, s)[\cup^\cap sheep_s(x)][black_s(x)] \vee gen(x, s)[\cup^\cap sheep_s(x)][white_s(x)]$

If *gen* were generated by a type-shift necessitated by a type mismatch, then we would have an explanation for its presence in characterising sentences and the fact that it is not pronounced. But since that option is not available to Chierchia, we need a story about the source of *gen*.

4.2.3 Is DKP responsible for existential readings?

We can test whether existential readings of BPs arise by DKP, by checking whether BPs that don't denote kinds exhibit the same scope tendencies as kind-denoting BPs in episodic sentences. The prediction is that these BPs should behave like singular indefinites/plural indefinites with *some*. We already saw one difference between kind and non-kind BPs above in (51a), where *people in the next room* allowed for a transparent reading. But that case is an outlier, as the non-kind BPs pattern with kind BPs in other respects (Carlson, 1977a; Dayal, 2013; Guerrini, 2026):

- (60) Bill didn't see people in the next room. ($\neg > \exists / * \exists > \neg$)
 (61) Max killed rabbits in the first cage for three hours. ($3 \text{ hours} > \exists / * \exists > 3 \text{ hours}$)
 (62) Dogs I used to own were everywhere. ($* \forall > \exists / \exists > \forall$)

If DKP is responsible for the lack of a wide scope reading of these BPs, then they must denote kinds. But if that is right, we have lost the explanation for the infelicity of (50), since that was supposed to be explained by the failure of these BPs to denote kinds.

Another challenge for this view is that Italian, a language in which BPs cannot refer to kinds, uses BPs for the existential readings and definite plurals for generic readings (Guerrini, 2026; Longobardi, 2001).

- (63) Ieri alle 5.10 Noè stava salvando leoni.
 yesterday at 5.10 Noah was saving lions
 'Yesterday at 5.10 Noah was saving some lions' (not 'saving the species')

The DKP hypothesis predicts that Italian should use kind-denoting definite plurals for episodic readings. Otherwise, Chierchia has to say that Italian BPs *do* denote kinds, but never when they combine with kind-level predicates. The simpler hypothesis is that Italian BPs are properties whose existential reading arises by a type-shifting operation like $\exists$.

4.2.4 Derived Property Predication

As suggested above, it would be more natural to move straight from a property interpretation of BPs to an existential one, without taking the detour through kinds. The idea is that when we have a type-mismatch, it can be repaired locally by $\exists$. The idea goes back to Krifka (2003); Guerrini (2026) calls this mechanism *Derived Property Predication* (DPP):

Derived Property Predication $P_{\langle e,t \rangle}(Q_{\langle e,t \rangle}) = \exists x(P(x) \wedge Q(x))$

Let's see how that would work compositionally for (60):

- (64) $[[\text{people in the next room}]_{s_0} [\lambda_i [\text{not} [\text{Bill see}_{s_0} t_i]]]]$
 $\llbracket \text{not} \rrbracket(\llbracket \text{Bill see}_{s_0} t_i \rrbracket)$
 $[\lambda p. \neg p](\llbracket \lambda x. \lambda y. \text{see}_{s_0}(y, x) \rrbracket(\llbracket t_i \rrbracket)(b))$
 $\lambda z. [\lambda p. \neg p](\llbracket \lambda y. \text{see}_{s_0}(y, z) \rrbracket(b))$
 $\lambda z. [\lambda p. \neg p](\llbracket \text{see}_{s_0}(b, z) \rrbracket)$
 $\lambda z. [\lambda p. \neg p](\llbracket \text{see}_{s_0}(b, z) \rrbracket(\llbracket \text{people in the next room} \rrbracket_{s_0}))$
 $[\lambda p. \neg p](\llbracket \text{see}_{s_0}(b, \llbracket \text{people in the next room} \rrbracket_{s_0}) \rrbracket)$
 $[\lambda p. \neg p](\llbracket \text{see}_{s_0}(b, [\lambda x. \text{people.next.room}_{s_0}(x)]) \rrbracket)$ *mismatch repaired by DPP*
 $[\lambda p. \neg p](\exists x(\text{people.next.room}_{s_0}(x) \wedge \text{see}_{s_0}(b, x)))$
 $\neg \exists x(\text{people.next.room}_{s_0}(x) \wedge \text{see}_{s_0}(b, x))$

As Krifka notes, it is important for this derivation that the trace left behind by the BP is not typed, which allows for DPP to apply *after* beta-conversion (i.e. within the scope of negation). That is what forces the narrow-scope reading, even when the BP has moved above negation.

References

- Carlson, G. N. (1977a). *Reference to kinds in english* [Doctoral dissertation, University of Massachusetts Amherst].
- Carlson, G. N. (1977b). A unified analysis of the english bare plural. *Linguistics and Philosophy*, 1(3), 413–457. <https://doi.org/10.1007/BF00353456>
- Chierchia, G. (1995). Individual-Level Predicates as Inherent Generics. In G. N. Carlson & F. J. Pelletier (Eds.), *The Generic Book* (pp. 176–223). University of Chicago Press.
- Chierchia, G. (1998). Reference to kinds across languages. *Natural Language Semantics*, 6(4), 339–405. <https://doi.org/10.1023/A:1008324218506>
- Cohen, A. (2001). On the generic use of indefinite singulars. *Journal of Semantics*, 18(3), 183–209. <https://doi.org/10.1093/jos/18.3.183>
- Cohen, A. (2007). Between kinds and properties: Bare plurals across languages. In T. Friedman & M. Gibson (Eds.), *Semantics and Linguistic Theory* (pp. 53–70).
- Cohen, A. (2020). *Something out of nothing: The semantics and pragmatics of implicit quantification*. Brill.
- Cohen, A., & Erteschik-Shir, N. (2002). Topic, Focus, and the Interpretation of Bare Plurals. *Natural Language Semantics*, 10(2), 125–165. <https://doi.org/10.1023/A:1016576614139>
- Condoravdi, C. (1994). *Descriptions in context* [Doctoral dissertation, Yale University].
- Dayal, V. (2004). Number marking and (in)definiteness in kind terms. *Linguistics and Philosophy*, 27(4), 393–450. <https://doi.org/10.1023/B:LING.0000024420.80324.67>

- Dayal, V. (2013). On the existential force of bare plurals across languages. In C. Cecchetto & I. Caponigro (Eds.), *From Grammar to Meaning: The Spontaneous Logicality of Language* (pp. 49–80). Cambridge University Press. <https://doi.org/10.1017/CBO9781139519328.006>
- Farkas, D., & de Swart, H. (2007). Article choice in plural generics. *Lingua*, 117(9), 1657–1676. <https://doi.org/10.1016/j.lingua.2006.06.011>
- Guerrini, J. (2026). Distributive kind predication. *Natural Language Semantics*, (34), 85–136. <https://doi.org/10.1007/s11050-025-09245-8>
- Kratzer, A. (1995). Stage-Level and Individual-Level Predicates. In G. N. Carlson & F. J. Pelletier (Eds.), *The Generic Book* (pp. 125–175). University of Chicago Press.
- Krifka, M. (with Gerstner, C.). (1987). An Outline of Genericity. *SNS-Bericht* 87-25, 1–34.
- Krifka, M. (2003). Bare NPs: Kind-referring, Indefinites, Both, or Neither? *Semantics and Linguistic Theory*, 13(1), 180–203. <https://doi.org/10.3765/salt.v13i0.2880>
- Krifka, M., Pelletier, F. J., Carlson, G. N., ter Meulen, A., Chierchia, G., & Link, G. (1995). Genericity: An Introduction. In G. N. Carlson & F. J. Pelletier (Eds.), *The Generic Book* (pp. 1–124). University of Chicago Press.
- Leslie, S.-J. (2008). Generics: Cognition and Acquisition. *The Philosophical Review*, 117(1), 1–47. <https://doi.org/10.1215/00318108-2007-023>
- Liebesman, D. (2011). Simple generics. *Noûs*, 45(3), 409–442. <https://doi.org/10.1111/j.1468-0068.2010.00774.x>
- Liebesman, D., & Magidor, O. (2025). *Property versatility and copredication*. Oxford University Press. <https://doi.org/10.1093/9780191915291.001.0001>
- Link, G. (1983). The logical analysis of plurals and mass terms: A lattice-theoretical approach. In R. Bäuerle, C. Schwarze, & A. v. Stechow (Eds.), *Meaning, use, and interpretation of language* (pp. 302–323). De Gruyter. <https://doi.org/10.1515/9783110852820.302>
- Longobardi, G. (2001). How Comparative is Semantics? A Unified Parametric Theory of Bare Nouns and Proper Names. *Natural Language Semantics*, 9(4), 335–369. <https://doi.org/10.1023/A:1014861111123>
- Partee, B. H. (1986). Noun phrase interpretation and type-shifting principles. In J. Groenendijk, D. D. Jongh, & M. Stokhof (Eds.), *Studies in discourse representation theory and the theory of generalized quantifiers* (pp. 115–144). De Gruyter. <https://doi.org/10.1515/9783112420027-006>
- Partee, B. H., & Rooth, M. (1983). Generalized Conjunction and Type Ambiguity. In R. Bäuerle, C. Schwarze, & A. V. Stechow (Eds.), *Meaning, Use, and Interpretation of Language* (pp. 361–383). De Gruyter. <https://doi.org/10.1515/9783110852820.361>
- Prasada, S. (2012). Mechanisms for characterizing kinds and classes. *Recherches linguistiques de Vincennes*, (41), Article 41, 45–62. <https://doi.org/10.4000/rlv.2058>
- Ralston, T. (2026). *Collective and distributive readings of bare plurals*.
- Ritchie, K., & Knobe, J. (2020). Kindhood and essentialism: Evidence from language. In M. Rhodes (Ed.), *The Development of Social Essentialism* (pp. 133–164). Academic Press. <https://doi.org/10.1016/bs.acdb.2020.05.005>
- Schubert, L. K., & Pelletier, F. J. (1987). Problems in the representation of the logical form of generics, plurals and mass nouns. In E. Lepore (Ed.), *New directions in semantics* (pp. 385–451).
- Schwarz, B. (2011). Long Distance Indefinites and Choice Functions. *Language and Linguistics Compass*, 5(12), 880–897. <https://doi.org/10.1111/j.1749-818X.2011.00315.x>

- de Vries, H. (2017). Two kinds of distributivity. *Natural Language Semantics*, 25(2), 173–197. <https://doi.org/10.1007/s11050-017-9133-z>
- Yang, R. (2001). *Common nouns, classifiers, and quantification in chinese* [Doctoral dissertation, Rutgers, The State University of New Jersey].