Revisiting kind predication[1]

Janek Guerrini

Institut Jean Nicod, Department of Cognitive Studies, Ecole Normale Supérieure, EHESS, CNRS, PSL University

June 2024

Abstract
English bare plurals and Italian definite plurals are considered kind-denoting as they support kind predication, as in 'lions are extinct'. In this work, I argue that tools used for referential plurals, such as the distributive operator DIST, should be extended to kind-denoting plurals. This is compatible with the standard view of kinds as as intensional sums (Chierchia, 1998). As a result, at least three distributional puzzles fall in line. Unlike singular indefinites, kind-denoting plurals: (i) are compatible with both contingent and law-like generalizations (Lawler, 1973; Greenberg, 2002), (ii) support cumulative predication (Nickel, 2008; Kirkpatrick, 2022), and (iii) can exhibit near-universal force in non-generic contexts (Condoravdi, 1994; Dayal, 2004).
Concerning (i), all generalizations, contingent and law-like, have traditionally been assumed to involve generic quantification. This paper posits that bona fide generic quantification is instead exclusive to the LF of law-like generalizations ('Madrigals are polyphonic.'/'A madrigal is polyphonic'). Singular indefinites, as property-denoting, are predicted to support such generalizations just like kind-denoting plurals, as the silent quantificational adverb ***Gen*** can be restricted both by properties and by kinds. I propose that accidental generalizations result from an LF in which the predicate is distributed over members of the kind in the actual world via DIST. DIST acts on sums, not properties, hence we predict that kind-denoting plurals, but not singular indefinites, have such an LF, i.e. one that supports accidental generalizations: 'Madrigals are popular' is perceived as true, whereas 'A madrigal is popular' isn't.
This view sheds light on a surprising novel data point from Italian, where a relative clause in the subjunctive mood modifying the subject DP forces a law-like reading of the generalization: I show that ***Gen***, but not DIST, gives rise to an LF licensing the subjunctive, thus forcing a law-like flavor. By employing DIST, we also correctly predict that, like plural predication, distributive kind predication is homogeneous (Löbner, 2000) and shows exception tolerance. Similar strategies address the infelicity of singular indefinites in puzzles **(ii)** and **(iii)**.
I conclude the paper considering existential uses of bare plurals in episodic generalizations in English, illustrating that these are not merely non-maximal versions of kind-predication. Certain expressions cannot denote kinds due to their descriptive content, yet appear in existential episodic sentences. Combining this insight with the view defended for puzzles **(i)**, **(ii)**, and **(iii)** prompts a fresh look at Chierchia's (1998) theory of cross-linguistic variation of the interpretation of nominals and the Nominal Mapping Parameter it proposes. With appropriate adaptations, this device can successfully predict the interpretational properties of English and Italian bare and definite plurals.

[1] Acknowledgments to be added. Comments very welcome (guerrinijanek@gmail.com).

Contents

1 Introduction

Standard theories of genericity take plural generics to have essentially the same logical form as singular indefinite generics, as illustrated in (1) and (2) (Krifka *et al.*, 1995).

(1) **English** (bare plurals versus singular indefinites):

a. Lions hunt.
b. A lion hunts.

$\Big\}$ = $\textsc{Gen}_x[\text{lion}(x)][\text{hunts}(x)]$

(2) **Italian** (definite plurals versus singular indefinites):

a. I leoni cacciano.
The lions hunt.
'Lions hunt.'
b. Un leone caccia.
A lion hunts.
'Lions hunt.'

$\Big\}$ = $\textsc{Gen}_x[\text{lion}(x)][\text{hunts}(x)]$

It has long been known that this cannot be the case, as the distribution of bare plural generics is very different from that of singular indefinites. In this paper, I show that generalizations with kind-denoting plurals do not necessarily involve generic quantification as in (1a) and (2a). Instead, they can involve forms of kind predication mediated by a distributive operator, which makes their LFs very close to the LFs of sentences with referential plurals such as 'the lions hunt'. This will explain the full difference in distribution between kind-denoting plurals and singular indefinites.

1.1 The difference in distribution between generalizations with kind-denoting plurals and singular indefinites

1.1.1 Kind-denoting plurals support accidentally flavored generalizations

Kind-denoting plurals and singular indefinites diverge in at least three ways. First, while both singular and plural generics are compatible with law-like generalizations, only plural ones can capture accidentally flavoured generalizations (Lawler, 1973; Burton-Roberts, 1977; Cohen, 2001; Greenberg, 2002, 2004).

(3) **English:**

LAW-LIKE:

a. Large Language Models utilize Deep Learning. true
b. A Large Language Model utilizes Deep Learning. true

ACCIDENTAL:

c. Large Language Models are popular. true
d. A Large Language Model is popular. false

(4) **Italian:**

LAW-LIKE:

a. Gli LLM usano il Deep Learning.
   The LLMs use the Deep Learning.
   'Large Language Models utilize Deep Learning.' true

b. Un LLM usa il Deep Learning.
   A LLM uses the Deep Learning.
   'An LLM utilizes Deep Learning. true

ACCIDENTAL:

c. Gli LLM sono popolari.
   The LLMs are popular.
   'Large Language Models are popular.' true

d. Un LLM è popolare.
   A LLM is popular.
   'A Large Language Model is popular. false

1.1.2 Kind-denoting plurals support cumulative predication

A second way in which plural generics come apart form singular indefinite generics is that the former, but not the latter, are compatible with cumulative predication (Nickel, 2008; Kirkpatrick, 2022).

(5) **English:**

a. Elephants live in Africa and in Asia.
b. #An elephant lives in Africa and in Asia.

(6) **Italian:**

a. Gli elefanti vivono in Africa ed in Asia.
   The elephants live in Africa and in Asia.
   'Elephants live in Africa and in Asia.

b. #Un elefante vive in Africa ed in Asia.
   An elephant lives in Africa and in Asia.
   'Elephants live in Africa and in Asia.

1.1.3 Kind-denoting plurals can have near-universal force in non-generic sentences

The third contrast concerns English. Unlike singular indefinites, bare plurals can be read near-universally in sentences where there is no generic quantification. These are sentences with stage-level predicates (Condoravdi, 1994) and with verbs with episodic aspect (Dayal, 2013; Chierchia, 2022).

(7) Episodic:

a. Birds are migrating. $\{\exists, \forall\}$
b. A bird is migrating. $\{\exists, *\forall\}$

(8) Stage level: *There is a ghost on campus...*

a. Students are scared. $\{\exists, \forall\}$

b. A student is scared. $\{\exists, *\forall\}$

The main reason to think that there is no generic quantification in (7a) or (8a) is to be found in the absence Quantificational Variability Effects with overt quantificational adverbs (cf. Berman 1991; Condoravdi 1994). This is because we know that ***Gen*** is a covert quantificational adverb (Lewis, 1986; Krifka *et al.*, 1995), and therefore expect it to pattern with its overt cousins. In short, uncontroversial generic sentences pattern as in (9): (9b), constructed by adding 'rarely' to (9a), has a reading whose meaning is very close to 'few birds fly'.

(9) a. Birds fly.
'Typical birds fly.'

b. Birds rarely fly.
Can mean: 'Few birds fly'.

By contrast, if we add 'rarely' to (7a), we do not get such a reading.

(10) Birds are rarely migrating.
Cannot mean: 'few birds are migrating'.

1.2 The parallelism between referential and kind-denoting plurals

I argue that English bare plurals and Italian definite plurals have these properties simply because they are plurals. More specifically, on one parse of 'lions hunt', the meaning of the sentence is almost equivalent to the meaning of 'the lions (*of the entire world*) hunt'. Using tools that are independently motivated by the treatment of referential plurals – mainly, the distributive and the cumulative operator –, we can explain the contrasts in (3)-(8). There are at least two reasons why associating kind-denoting plurals and referential plurals is appealing.

First, English bare plurals and Italian definite plurals can denote kinds, and kinds are standardly taken to denote *plural* entities made up by all members of the category at a given world (i.e., intensional sums; cf. Chierchia, 1998). The main argument to view Italian definite plurals and English bare plurals as kind-denoting is that they can be arguments of kind-specific predicates like 'extinct' – unlike singular indefinites. (cf. Carlson, 1977, and much subsequent work).

(11) **English**:

a. Dodos are extinct.

b. #A dodo is extinct.

(12) **Italian:**

a. I dodo sono estinti.
The dodos are extinct.
'Dodos are extinct.'
b. #Un dodo è estinto.
A dodo is extinct.
'A dodo is extinct.'

The second reason for which the hypothesis described above is prima facie appealing is that the range of readings displayed by referential plurals is parallel to the range of readings displayed by kind-denoting plurals, as shown in the table below for English bare plurals – and the facts are parallel for Romance definite plurals.

Type of Reading	Definite Plurals	English bare plurals
Collective/kind predication	'The students are numerous.'	'Lions are extinct.'
Distributive/generalization about individuals	'The students are American.'	'Lions hunt.'
Cumulative	'The girls greeted the boys.' (In the reading: 'Every girl greeted some boy, and every boy was greeted by some girl.')	'Elephants live in Africa and in Asia.' (In the reading: 'Every elephant comes from either Africa or Asia, and Africa and Asia both have elephants in them.')
"Ambiguous", between... "each of them separately", (distributive) or "all of them together" (cumulative)	'The students lifted the piano'	'Lions kill 1000 zebras a year.' (Krifka & Gerstner, 1996)

Claims that kinds can receive an interpretation close to that of referential plurals have appeared at different times in the literature for at least the first and the third puzzle. Krifka *et al.* (1995) briefly suggest that the contingent flavor of genericity might be the result of direct kind predication rather than of generic quantification. Mari (2010) defends a similar hypothesis for Italian definite plurals, when trying to explain different patterns of exception tolerance between singular indefinite and definite plural generics. Dayal (2004b) proposes that with non-generic predicates of individuals (e.g., episodic or stage level as in (7)-(8)), English bare plurals are interpreted as the maximal sum of members of the kind at the situation of evaluation. Here we will pursue this idea in full generality, and show that, coupled with the novel idea of distribution of a predicate over the sum of members of the kind, it allows to account for the full distributional difference between singular indefinites and bare plurals.

Capitalizing on the analogy between referential plurals and kind-denoting plurals means what follows. Taking the example of the puzzle in (3)-(4), I argue that kind-denoting plurals, when combined with predicates of individuals, are structurally ambiguous between two logical forms:

(i) one that is parallel to the LF of singular indefinite generics, giving rise to the law-like reading; cf. (13)-a.
(ii) one that is parallel to distributive predication with referential plurals, giving rise to the accidental reading; cf. (13)-b.

(13) $[\![\text{ Lions hunt}]\!] = \begin{cases} \text{a. } \textbf{\textit{Gen}}\,\big([\![\text{Lions}]\!], [\![\text{hunt}]\!]\big) & \approx \textbf{\textit{Gen}}\big([\![\text{A lion}]\!], [\![\text{hunts}]\!]\big) = [\![\text{A lion hunts.}]\!] \\ \text{b. } \textsc{dist}\big([\![\text{Lions}]\!], [\![\text{hunt}]\!]\big) & \approx \textsc{dist}\big([\![\text{The lions}]\!], [\![\text{hunt}]\!]\big) = [\![\text{The lions hunt.}]\!] \end{cases}$

This structural ambiguity makes it possible to provide a precise implementation for the conjecture that generalizations with kind-denoting plural subjects are ambiguous between two logical forms, each giving rise to generalizations of a different flavor (cf. e.g. Cohen 2001).

For concreteness, in this paper I will work in a framework similar (though not identical) to Chierchia's (1998) formalism concerning kinds and genericity, but nothing in the insight illustrated in (13) hinges on stipulating a too specific architecture.
In fact, all that is required is (a) that English bare plurals and Italian definite plurals can denote kinds and (b) the fact that they can enter the restrictor of quantificational adverbs. Fact (a) guarantees that they can denote sums of individuals (as DIST applies to sums), fact (b) guarantees that they can be in the restrictor of ***Gen*** (as ***Gen*** is a silent quantificational adverb, cf. Krifka *et al.*, 1995, among many others). Fact (a) is independently motivated by the acceptability of sentences such as (11a) and (12a), fact (b) is motivated by the acceptability of sentences such as (14) and (15):

(14) Lions often hunt.
   a. $\textbf{\textit{Often}}\big([\![\text{Lions}]\!], [\![\text{hunt}]\!]\big)$

(15) I leoni spesso cacciano.
The lions often hunt.
'Lions often hunt.'
   a. $\textbf{\textit{Spesso}}\big([\![\text{I leoni}]\!], [\![\text{cacciano}]\!]\big)$

My hypothesis of a structural ambiguity in plural generics is corroborated by a surprising novel data point. In Italian, mood modulates whether or not an accidental reading is available. This is illustrated in (16): when the subject DP is modified by a relative in the indicative mood, the sentence is compatible with both readings. When, instead, it is modified by a relative in the subjunctive, the sentence is only compatible with a law-like reading.

(16) I candidati che si {**presentano/presentino**} con molto anticipo non
The candidates that REFL. {present-**ind.**/present-**subj.**} with much advance not
vengono assunti.
get-ind. hired.
*'Candidates that {show up-**ind.**/show up-**subj.**} far in advance don't get hired.'*
   a. **Situation compatible with the law-like reading:**
   Nervous people unwanted. A rule disqualifies whoever shows up too early.
   {**ind.**$^{\checkmark}$**/subj.**$^{\checkmark}$}
   b. **Situation compatible with the accidental reading:**
   'Oh, how funny!...People who showed up very early happened not to get hired.'
   {**ind.**$^{\checkmark}$**/subj.**$^{\#}$}

Since Farkas's (1981) work, it is known that the restrictor of generic sentences is among the modal environments licensing the Italian subjunctive (see also Panzeri, 2006). Given the hypothesis that plural generics are ambiguous between two LFs, the facts in (16) are entirely expected: the subject DP is interpreted in the intensional environment provided by the restrictor of the generic quantifier in (17a), but not in (17b).

(17) a. ***Gen***$\big($[[I candidati che si presentino in anticipo]], [[non vengono assunti]]$\big)$
b. DIST$\big($[[I candidati che si presentino in anticipo]], [[non vengono assunti]]$\big)$

As a result, a subject DP modified by a relative in the subjunctive can only have the logical form in (17a), as (17b) does not license the subjunctive, leaving the law-like reading as the only possible outcome.

This paper is structured as follows. In section 2, I show more in detail how extending DIST to kinds allows us to resolve puzzles concerning flavors of generalizations, including the novel data point from Italian just presented. In section 3, I show how this theory explains cumulative readings of plural kind terms. In section 4, I treat the near-universal/existential alternation of English bare plurals with episodic and stage-level predicates.

2 Accidentally flavored generalizations with kind-denoting plurals

2.1 Assumptions

For concreteness, I will make three main formal assumptions: first, that kinds are functions from worlds to maximal sums; second, that ***Gen*** applies somewhere between the VP and the subject DP; and third, that ***Gen*** is type-theoretically flexible.

Assumption 1: kind formation

Nouns start out as properties. An operation of kind formation can turn them into kinds:

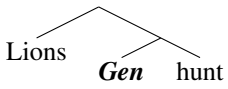
(18) $^{\cap}[\lambda w.\lambda x.P_w(x)] = \begin{cases} \lambda w.\iota P_w & \text{if there are } P\text{s at } w \\ \text{undefined} & \text{otherwise} \end{cases}$ Chierchia (1998)

Depending on specific parameters, a language either achieves this via the definite article, as Italian does, or has it apply covertly within the NP, as English does (cf. Chierchia, 1998; Dayal, 2004; Cohen, 2021).

Assumption 2: kinds within generics

Generic generalizations feature a silent quantificational adverb that has a meaning

close to that of a modalized universal quantifier like "generally" (Lewis, 1986; Krifka *et al.*, 1995).



The scope of ***Gen*** is its c-command domain, while its restriction is what locally c-commands it (following Chierchia, 1995; 1998).

(19) $[\![\textbf{\textit{Gen}}]\!] = \lambda P.\lambda x.\text{GEN}_{s,y}\left[y \leq x \wedge C(y,s)\right]\left[P_s(y)\right]$

(20) a. Lions hunt. '*Generally, lions hunt*'
b. $\text{GEN}_{x,s}\left[x \leq {}^{\cap}\mathit{lions}_s \wedge C(x,s)\right]\left[\mathit{hunt}_s(x)\right]$

And this generalizes to Italian definite plurals.

Assumption 3: singular indefinites

The singular indefinite cannot denote a kind, as it does not support kind predication.

(21) a. #A dodo is extinct.
b. Dodos are extinct.

However, it can participate in generic readings.

(22) A lion hunts. '*Generally, if x is a lion, it hunts.*

Other determiners can enter the restriction of ***Gen***.[2]

[2]Not any quantificational determiner can enter the restriction of ***Gen***. The usual test to understand whether a GQ can enter the restrictor of ***Gen*** is to see whether it can provide a suitable restriction for overt Q-adverbs. This is the case of 'two':

(23) Two pretenders to the throne often hate each other.
=OFTEN([[two pretenders to the throne]],[[hate each other]])
☞**The sentence can mean:** Often, if *x* and *y* are pretenders to the throne, they hate each other.

However, this is not so for, e.g., 'every':

(24) Every pretender to the throne feels anxiety.
$\not\approx$ 'Generally, if *x* is every pretender to the throne, *x* feels anxiety.

(25) Every pretender to the throne often feels anxiety.
$\neq$ OFTEN([[every pretender to the throne]],[[feels anxiety]])
☞**The sentence cannot mean:** Often, if *x* is every pretender to the throne, *x* feels anxiety.

This issue is beyond the scope of the present paper, but since Q-adverbs are usually restricted by a property, we do expect there to be an alignment between those quantifiers that can(not) receive property-level interpretations in e.g. copulas and those that can(not) restrict ***Gen***, which seems to be the case.

(26) a. Mary and Bob are two lawyers.
b. *John is every lawyer.

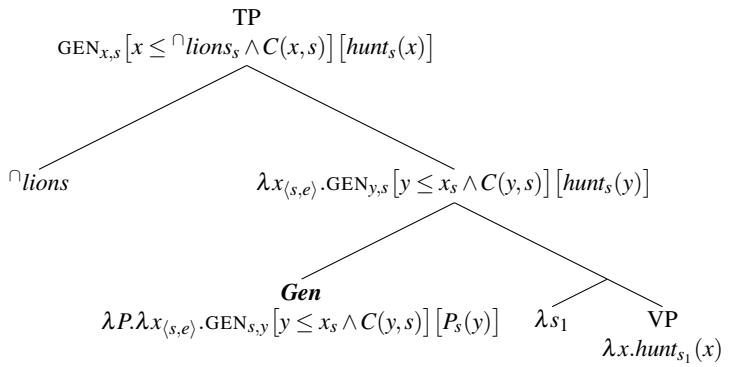
(27) Two pretenders to the throne hate each other.
'*Generally, if x and y are pretenders to the throne, they hate each other.*'

One could view ***Gen*** as simply unselective, as in Lewis (1986), and thus binding any open variables. In this case, its multiple indexing in LFs would simply be an explicit indication of which variables are being bound. On a different approach, ***Gen*** is selective, and its multiple indexing reflects its compositional behaviour (see, for instance, Chierchia, 1995). I will not take a stance on these issues here; for compositional clarity, though, I will assume a perspective in which ***Gen*** is selective. In this perspective, one must assume that ***Gen*** is type-theoretically polymorphous, as it can take as an input both kind-denoting plurals and quantificational determiners.

For simplicity, I will here assume that determiners that can enter the restriction of ***Gen*** provide it with a property (see e.g. Van Geenhoven 1998 or McNally 1992 for views of indefinites as properties). Almost equivalently, one could assume they denote generalized quantifiers, and that ***Gen*** type-shifts them into a property (as in, e.g., Chierchia 1995).[3] Either way, we expect an alignment between determiners that can enter the restrictor of ***Gen*** and determiners that can receive property-level interpretations e.g. in copulas, which seems to be correct (cf. footnote 2).

Plural generics and singular indefinite generics thus wind up having very similar meanings, although the two compositions differ.[4]

(30) Lions hunt.



The reasons why quantifiers like 'every' cannot receive property-level interpretations are discussed, e.g., in McNally (1998a).

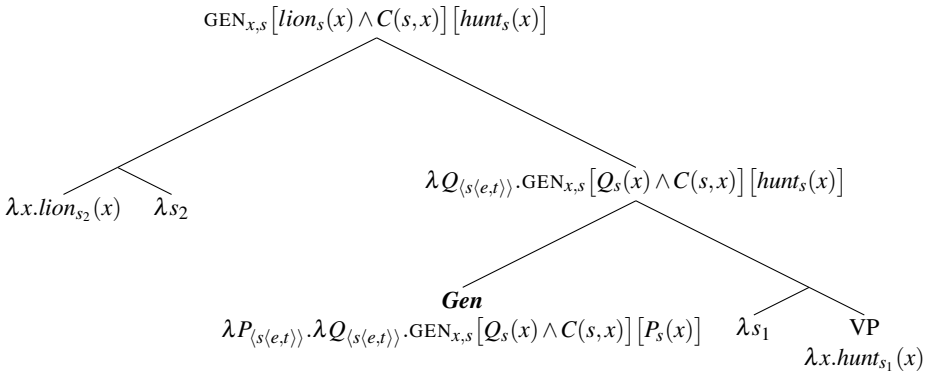
[3] As in what follows:

(28) a. $\text{BE} = \lambda\mathcal{Q}_{\langle e,t\rangle,t}.\lambda x.\mathcal{Q}\left(\lambda y.y = x\right)$ (Partee, 2002)
b. $[\![\text{John is a lawyer}]\!] = \left[\left[\lambda\mathcal{Q}.\lambda x.\text{BE}(\mathcal{Q})(x)\right]\right](\lambda P.\exists x.lawyer(x) \wedge P(x))(john) = lawyer(john)$

(29) $\left[\lambda\mathcal{Q}.\text{GEN}_{x,s}[\text{BE}(\mathcal{Q})_s(x)][hunt_s(x)]\right](\lambda P.\exists x.lion_s(x) \wedge P_s(x)) =$
$\text{GEN}_{x,s}[lion_s(x) \wedge in(x,s) \wedge C(x,s)][hunt_s(x)]$

[4] Note that here I am simplifying the denotation of VPs, for ease of exposition; but things are likely more complex. Refer to the appendix for this.

(31) A lion hunts.



One last caveat concerns the usage made here of ***Gen*** as an intensional operator quantifying over worlds (and individuals), following Krifka *et al.* and Chierchia (1998) among many others. Others have argued that it is best to think of ***Gen*** as selectively quantifying over events, as is the case of De Swart (1991); yet others have made use of a ***Gen*** that ranges over situations, as for instance Dayal (2004a). Once again, this is of no great importance here. We will see that all that matters to the account is that kinds need not be interpreted inside the restriction of ***Gen***, and that one can instead directly distribute predicates over them. This can be achieved in any of these frameworks. As the variety of approaches to genericity is quite significant, the formal assumptions made here are made for concreteness, and should not be taken as a full committal to their respective frameworks.

2.2 Flavors of genericity

Let us now turn to the contrasts in (3)-(4), repeated below in (32) and (33):

(32) **English:**

LAW-LIKE:

a. Large Language Models utilize Deep Learning. true

b. A Large Language Model utilizes Deep Learning. true

ACCIDENTAL:

c. Large Language Models are popular. true

d. A Large Language Model is popular. false

(33) **Italian:**

LAW-LIKE:

a. Gli LLM usano il Deep Learning.
The LLMs use the Deep Learning.
'Large Language Models utilize Deep Learning.' true

b. Un LLM usa il Deep Learning.
A LLM uses the Deep Learning.
'An LLM utilizes Deep Learning. true

ACCIDENTAL:

c. Gli LLM sono popolari.
   The LLMs are popular.
   'Large Language Models are popular.' true

d. Un LLM è popolare.
   A LLM is popular.
   'A Large Language Model is popular. false

The common pattern is summarized in the table below.

	LAW-LIKE FLAVOR	ACCIDENTAL FLAVOR
KIND-DENOTING PLURAL	✓	✓
SINGULAR INDEFINITE	✓	*

There is no consensus analysis of this contrast. Krifka *et al.* (1995) first raised the possibility that accidental readings of kind-denoting plurals may be felicitous because they involve kind predication, as in (34), and not generic quantification, as in (35) (see Carlson, 1977, too).

(34) $[\![\text{popular}]\!]\big([\![\text{Large Language Models}]\!]\big)$

(35) $\textbf{\textit{Gen}}\big([\![\text{Large Language Models}]\!], [\![\text{popular}]\!]\big)$

Cohen (2001) argued against this: clear direct kind predication with bare plurals resists modification by Q-adverbs, as shown in (36a), unlike characterizing sentences, as in (36b). Accordingly, since ***Gen*** is a silent Q-adverb, this suggested that it is absent in kind predication, but present in accidental generalizations.

(36) a. *Lions are usually extinct.
     b. Madrigals are usually popular.

Cohen also observed that sentences like (37) involve scope ambiguities, which are hard to account on Krifka *et al.*'s proposed non-quantificational LF.

(37) Madrigals are popular with exactly one music fan.
     a. There is exactly one music fan such that madrigals are popular with them.
     b. For each madrigal, there is exactly one music fan with whom it is popular.

Others have argued against Krifka *et al.*'s idea by invoking the behavior of bare plurals with respect to binding: (38a) does not mean that the cat kind likes the cat kind, as in (38b) (Chierchia, 1998 a.o.).

(38) a. Cats like themselves.

b. $like(^{\cap}cats, ^{\cap}cats)$

These observations are important, as they show that Krifka *et al.*'s idea cannot be implemented as is: in general, fully non-quantificational theories of generalizations with kind-denoting plurals are bound to make completely wrong predictions.[5] What we need is *distributive* kind predication, as we will see in the next section. In 2.7, we will see that this counters the criticisms above quite naturally.

Following the observations in (36)-(38), two families of views developed. A good representative of 'ambiguity' theories is Cohen (2001). Partly based on the criticisms of Krifka's idea of direct kind predication from (36)-(38a), Cohen proposes that bare plural generics are ambiguous between a 'rule' reading and a probabilistic reading, while singular indefinite generics can only refer to rules (see also Krifka, 2003; cf. Mari *et al.*, 2012). Greenberg (2002, 2004, 2007) is a good representative of 'one meaning' theories: accordingly, bare plural generics unambiguously involve GEN, just like singular indefinites. However, bare plurals may induce a different accessibility relation for GEN than singular indefinites, compatible with accidental generalizations. The view I am about to present is clearly an 'ambiguity' theory, although one that is significantly different from Cohen's. In fact, in spirit it is closest to Krifka *et al.*'s original idea, as we will see, in a way that counters the criticisms mentioned above.

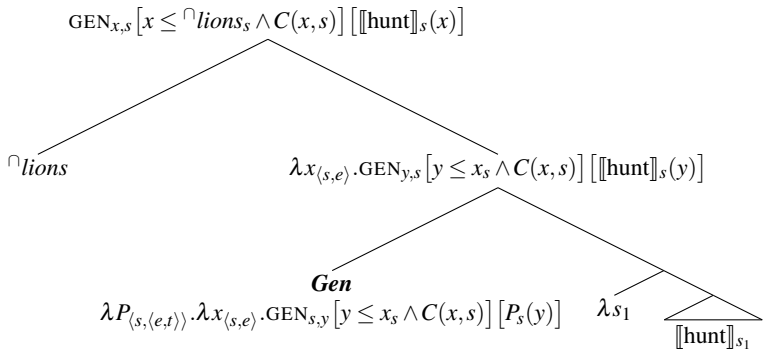
2.3 Analysis

I propose that sentences having kind-denoting plurals as subjects are structurally ambiguous between two forms:

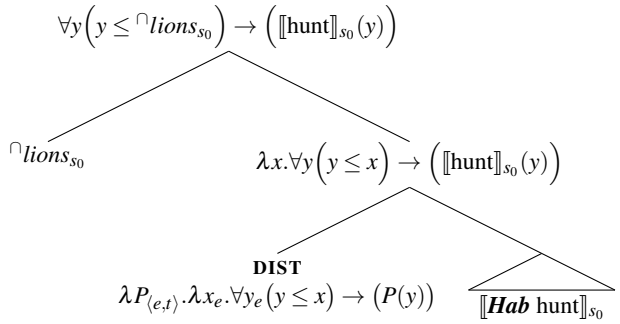
- A form where the world variable of the kind remains abstracted over, and the kind enters the restriction of the generic quantifier. Let us call this the Bona Fide Generic reading. Cf. structure in (39).
- A form where the kind is interpreted at the evaluation world and the predicate denoted by the verb is distributed over the atoms that are parts of the kind at that world. Importantly, there is thus no generic quantification over members of the kind. Let us call this the Distributive Kind Predication parse. Cf. structure in (40).

(39) **Bona Fide Genericity**
Lions hunt. *(and the Italian equivalent)*

[5] See e.g. Liebesman (2011) for one such theory.



(40) **Distributive Kind Predication.**
Lions hunt. *(and the Italian equivalent)*



DIST applies to pluralities. The point made here is simply that this includes kinds with a saturated world variable.[6] Whether the kind denoted by 'lions' is in the restriction of ***Gen*** (and thus has its world variable bound by GEN), or has its world variable saturated by the evaluation world determines whether we have a modal generalization or an accidental one: (39) tells us something about the nature of lions; (40) tells us something about the properties of actual lions. This insight does not depend on how we specify the low part of the tree, which is why here it is left underspecified; it only depends on whether or not 'lions' is in the restriction of ***Gen***. I refer the reader to section 2.5 and to the Appendix to this paper for comments on the low parts of the tree of (39) and (40).

At this point, we want to explain why singular indefinite generics cannot receive accidental readings. The singular indefinite cannot denote a kind, and therefore does not support the application of DIST. Instead, it can either enter the restriction of the generic

[6] It is sometimes assumed that Italian definite plurals do not directly denote kinds like English bare plurals, but come to denote kinds via abstraction over the world parameter (e.g. Chierchia, 1998). This is of no great importance here: what matters is that in the Distributive Kind Predication reading the subject DP is evaluated with respect to the evaluation world, whereas in the Bona Fide Generic reading its world variable is bound by ***Gen***. In Chierchia's perspective we would therefore write the subject DP as $\iota x.(\textit{early-candidate}_{s_0}(x))$ in the Distributive Kind Predication reading, and as $\lambda s.\iota x.(\textit{early-candidate}_s(x))$ in the Bona Fide Generic reading – but this ends up being equivalent to the LFs we have in the two structures above.

quantifier, or acquire existential force via an existentially closed choice function, as standard. The existential reading is very marginal, but generated by the grammar, as it can e.g. be made more salient with appropriate restrictions ('A lion I know hunts').

(41) A lion hunts.

a. **Bona Fide Genericity.**
$\textbf{\textit{Gen}}\big(\lambda s.[\![\text{a lion}]\!]_s, \lambda s'.[\![\text{hunts}]\!]_{s'}\big)$

b. **Existential interpretation.**
$\exists f.[\![\textbf{\textit{Hab}}\ \text{hunts}]\!]_{s_0}\big(f\big([\![\text{a lion}]\!]_{s_0}\big)\big)$

These facts solve the puzzle. The Bona Fide Generic reading is a *modal generalization*, and thus gives us a law-like reading. The distributive predication reading tells us something about the habits of *actual* lions.[7]

	LAW-LIKE FLAVOR	ACCIDENTAL FLAVOR
BONA-FIDE GENERIC	✓	*
DISTRIBUTIVE PREDICATION	*	✓

Which means:

	LAW-LIKE FL./BONA-FIDE GEN.	ACCIDENTAL FL./ DIST. K. PRED.
SINGULAR INDEFINITE	✓	*
BARE PLURAL	✓	✓

2.4 Homogeneity and its removal

As is standard, DIST is weaker than a universal quantification such as the one expressed by *each*. When combining with definites, it can be seen as the source of two much discussed phenomena, known as homogeneity and non-maximality. Homogeneity refers to polarity reversals like the one exemplified in (43), where 'the kids' behaves near-universally in a positive sentence, but near-existentially in a negative sentence (Schwarzschild, 1996; Löbner, 2000; Spector, 2013; Križ, 2015; Križ & Spector, 2021; Bar-Lev, 2021; Feinmann, 2020, among many others).

(43) a. The kids are American. $\sim \forall$
b. The kids are not American. $\sim \neg\exists$

[7] ***Gen*** can involve modal bases of different natures – it has been long observed that (42) is most easily read with a deontic flavor.

(42) A knight upholds honor.

Here again, we see that the corresponding bare plural generic is ambiguous between a modal generalization (this time most saliently deontic) or a descriptive one. This corresponds to the same structural ambiguity that is argued for here, with the deontic generic supplied by the bona fide generic parse, and the descriptive generalization by the distributive kind predication parse.

'Non-maximality' essentially designates exception tolerance: (43a) can still be used, in certain contexts, if one or two kids are not American; and (43b) if one or two are (cf. Lasersohn, 1999, a.o.). Homogeneity and non-maximality have been shown to go hand-in-hand (cf. Malamud, 2012; Križ, 2015; Križ & Spector, 2021, a.o., and most of the subsequent contributions about plurals). This can be seen quite clearly by comparing the sentences in (43) with minimally contrasting sentences containing 'all', where the two phenomena disappear at once. First, 'all' removes homogeneity, as is known since at least Löbner (2000): negating (43a) negates a sentence with a meaning close to a negated existential; negating (44a) simply yields a sentence with the force of a negated universal.

(44) a. The kids are all American. $\forall$
b. The kids are not all American. $\neg\forall$

Second, 'all' removes non-maximality, too, as has been known at least since Brisson (1998, 2003): regardless of context, (44a) cannot be used if one or two kids are American – unlike (43a) (and similarly for (44b) as compared to (44b)) (see also Lasersohn, 1999, and his notion of a 'slack regulating' expression).

Notice that the same pattern, concerning both homogeneity and non-maximality, holds for generalizations involving bare plurals (cf. Löbner, 2000).

(45) a. Lions hunt. possibly non-maximal, $\sim \forall$
b. Lions don't hunt. possibly non-maximal, $\sim \neg\exists$

(46) a. Lions all hunt. maximal, $\forall$
b. Lions don't all hunt. maximal, $\neg\forall$

Employing DIST ensures that the distributive kind predication LF (cf. (40)) behaves non-maximally and homogeneously like definites, and that its homogeneity can be removed via 'all'. Whatever explains homogeneity and non-maximality with definite plurals can be extended to distributive kind predication with bare plurals.[8]

It is also well-known that generic sentences in general are homogeneous and non-maximal. While their exception tolerance was among the first facts observed concerning their behavior, dating back at least to Lawler (1973), the fact that they undergo polarity reversals analogous to definite plurals was first noticed by by Löbner (2000) and von Fintel (1997).[9]

[8] And, in fact, given the similarity between the two LFs, even if one does not take DIST to be the source of homogeneity and non-maximality, but sees it as a more global phenomenon, the explanation for these phenomena for definite plurals can be extended to (distributive kind predication.

[9] That this cannot be due to the negation occurring within the scope of GEN was shown by Magri (2012) through examples like (47): it is impossible to negate (46a) while maintaining that some or many lions hunt.

(47) #It's false that a lion hunts, though it sometimes/often does.

Cf. also Križ (2015).

(48) A lion hunts. possibly non-maximal, $\sim \forall$
A lion doesn't hunt. possibly non-maximal, $\sim \neg\exists$

Concerning homogeneity removal, Križ (2015) noticed that generalizations involving bare plurals can have their homogeneity removed both via 'all' (cf. (45)) and via 'always', as in (49).

(49) a. Lions always hunt. maximal, $\sim \forall$
b. Lions don't always hunt. maximal, $\sim \neg\forall$

By contrast, notice that the homogeneity of singular indefinites can only be removed via 'always'.

(50) a. A lion always hunts. maximal, $\sim \forall$
b. A lion doesn't always hunt. maximal, $\sim \neg\forall$
c. *A lion all hunts.
d. *A lion doesn't all hunt.

This pattern of homogeneity removal falls in line under the present view. Specifically, we can think of 'all' as removing homogeneity over individuals, and thus as a non-homogeneous counterpart of DIST, as is standard. Additionally, 'always' can be seen as removing homogeneity over worlds (or times, or situations), and thus as a non-homogeneous counterpart of ***Gen***, since both are quantificational adverbs. Then, we can articulate the similarities and differences between (i) sentences involving referential plurals, (ii) generalizations involving singular indefinites, and (iii) generalizations involving kind-denoting plurals:

(i) sentences with definite plurals, whose LF unambiguously involves DIST (when combining with predicates of individuals), can have their homogeneity removed by 'all', but not by 'always';
(ii) generalizations involving singular indefinites, whose LF involves ***Gen*** but not DIST, can have it removed via 'always', but not via 'all';
(iii) generalizatons with kind-denoting plurals are structurally ambiguous between two forms:
  – an LF involving DIST, whose homogeneity can be removed via 'all';
  – an LF involving ***Gen***, whose homogeneity can be removed via 'always'.

This is summarized in the table below:

	homogeneous LF(s)	Corresponding homogeneity remover(s)
Sentences with referential definite plurals	DIST	'all'
Generalizations with singular indefinites	***Gen***	'always'
Generalizations with bare plurals	DIST; ***Gen***	'all'; 'always'

2.5 Genericity and habituality

Before moving on, let us consider the two structures we have posited in 2.3 for 'lions hunt', and comment on why we have ⟦hunt⟧ in the low part of the tree of the Bona Fide Genericity LF in (39), but ⟦***Hab*** hunt⟧ in the low part of the tree in the Distributive Kind Predication LF in (40). On a prominent view of genericity, ***Gen*** is brought about by lexical aspect: this is what explains that aspect itself determines whether an indefinite is more saliently interpreted generically or existentially in a given context (Krifka *et al.*, 1995).

(51) a. A lion is hunting. *existential*
b. A lion hunts. *generic*

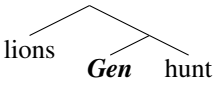
Because no ***Gen*** appears in the distributive kind predication LF in (40), I signal the presence of habitual aspect by writing ⟦***Hab*** hunt⟧. In fact, on Chierchia's (1995;1998) theory, ***Hab*** would be itself ***Gen***, as Chierchia views instances of habitual aspect such as 'John smokes' as quantifying generically over situations involving John.[10]

(52) John smokes.
Gen(⟦John⟧, ⟦smoke⟧)
$\text{GEN}_s[x \leq john \wedge C(s,x)][smoke_s(x)]$

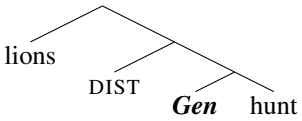
This would give us a view in which what distinguishes the distributive kind predication LF from the bona fide generic parse is simply the optional insertion of DIST above ***Gen***, while the low part of the tree is common.

(53) The two structures within a 'habituality is genericity' framework (Chierchia, 1995; 1998):
a. Bona fide generic
$\text{GEN}_{x,s}\left[x \leq {}^{\cap}lions_s \wedge C(x,s)\right]\left[\lambda x.hunt_s(x)\right]$

[10] For this to work, we have to suppose that in these cases, ***Gen*** is not looking for an $\langle s,e\rangle$ object, but for an e object. See the appendix to this paper for discussion of this point.



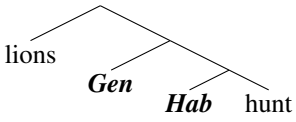
b. Distributive kind predication
$\forall x\Big(x \leq {}^{\cap}lions_{s_0}\Big) \rightarrow \Big(\text{GEN}_{y,s}\big[y \leq x \wedge C(s,y)\big]\big[hunt_s(y)\big]\Big)$



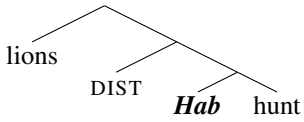
Against Krifka *et al.*'s take, others view genericity as entirely distinct from lexical aspect. Thus on e.g., Dobrovie-Sorin's (2001) take, ***Hab*** would be distinct from ***Gen***, and in fact appear below ***Gen*** in (39). In this framework, we would have ***Gen*** and DIST be *alternatively* inserted above the obligatory ***Hab***.

(54) The two structures within a 'habituality is distinct from genericity' (e.g. Dobrovie-Sorin, 2001) framework:

a. Bona fide generic:



b. Distributive kind predication



The fundamental insight of the present analysis is that kind-denoting plurals are interpreted inside the restriction of ***Gen*** in law-like generalizations and outside ***Gen*** in accidental ones. This does not hinge in any way on which of these theoretical options one chooses concerning the relationship between habituality and genericity. To show that the insight defended here can be articulated in either framework, I provide an Appendix at the end of this paper where I spell out these LFs for both cases; for ease of exposition, in the paper I will keep simplifying low parts of the tree as in section 2.3 above.

2.6 Law-likeness and the Italian subjunctive

The crucial feature of this account is that the subject DP is interpreted inside the restrictor of ***Gen*** only in the Bona Fide Generic parse. We therefore generate an additional prediction. We expect that if anything in the subject DP is subject to licensing by ***Gen***, it should only be licensed in the Bona Fide Generic parse.

This is the case of the Italian subjunctive. The subjunctive is licensed in Romance in broadly intensional environments; the parameter that changes across Romance is which environments specifically license it. In Italian, the restrictor of the generic quantifier is among these licensing environments (Farkas, 1981; Panzeri, 2006).

(55) Un cane che abbia fame abbaia.
A dog that have-SUBJ. hunger barks.
'A dog that is hungry barks' Panzeri (2006)

This prediction is correct, as we have already briefly seen in (16), repeated below:

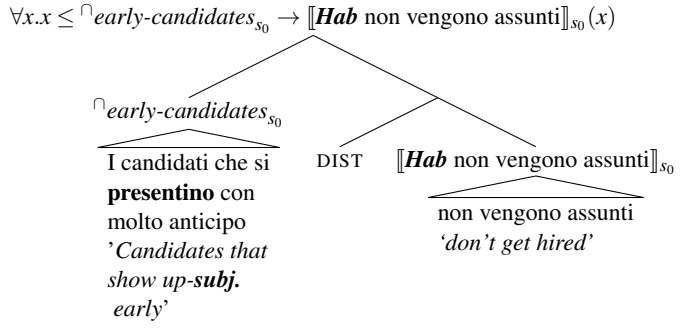
(56) I candidati che si {**presentano/presentino**} con molto anticipo non
The candidates that REFL. {present-**ind.**/present-**subj.**} with much advance not
vengono assunti.
get-ind. hired.
*'Candidates that {show up-**ind.**/show up-**subj.**} far in advance don't get hired.'*

a. **Situation compatible with the law-like reading:**
Nervous people unwanted. A rule disqualifies whoever shows up too early.
{**ind.**$^{\checkmark}$/**subj.**$^{\checkmark}$}

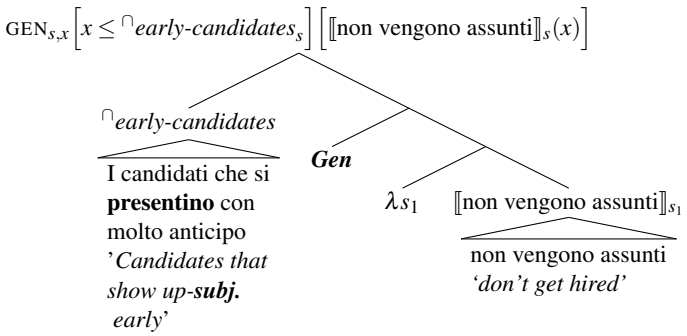
b. **Situation compatible with the accidental reading:**
'Oh, how funny!...People who showed up very early happened not to get hired.'
{**ind.**$^{\checkmark}$/**subj.**$^{\#}$}

The reasoning is as follows: we have hypothesized that accidental readings stem from an LF involving distributive predication over actual members of the kind. These are LFs in which the kind-denoting plural is not in the restictor of ***Gen***, and thus don't license the subjunctive. This leaves the Bona Fide Genericity LF as the only one available; as a result, the sentence only has a law-like reading.

- (56) Distributive kind predication parse ☞Subjunctive outside the restriction of ***Gen*** ☞subjunctive <u>not licensed</u>



- (56) Bona fide generic parse ☞Subjunctive inside the restriction of ***Gen*** ☞subjunctive <u>licensed</u>



2.7 Countering the criticisms to the idea of kind predication in accidental generalizations

Now that we have articulated and motivated the idea of a structural ambiguity, let us go back to Cohen and Chierchia's criticisms to Krifka *et al.*'s original idea of direct kind predication mentioned in **2.2**, (36)-(38). As a reminder, these concern the following points:

- **(i)** the fact that bare plurals are scopally ambiguous with respect to other indefinites,
- **(ii)** the fact that reflexives seem to bound 'individually' (and not kind-wise),
- **(iii)** the fact that direct kind predication with clear kind predicates like 'extinct' resists adverbial quantification, while predicates like 'popular' don't.

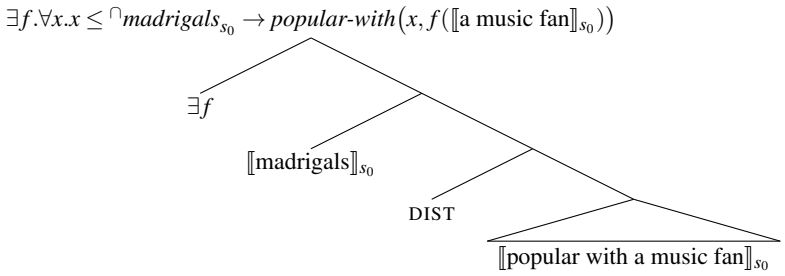
(57)
- **(i)** Scope ambiguity.
  Madrigals are popular with a music fan.
  - a. There is a single music fan with which madrigals are popular.
  - b. For each madrigal, there is a music fan with which it is popular.
- **(ii)** Binding.
  Cats like themselves.
  $\approx$ Each individual cat likes itself.
- **(iii)** Adverbial quantification.
  - a. *Lions are usually extinct.
  - b. Madrigals are usually popular.

Mediating kind predication via the distributive operator explains these facts very naturally. **(i)** Concerning scope ambiguities, we know independently that indefinites can take scope either below or above DIST.

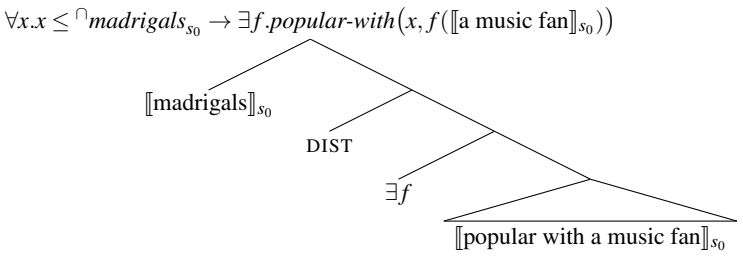
(58) The children greeted a woman.
- a. The children each greeted a possibly different woman. DIST $>\exists$
- b. There is a single woman that the children greeted. $\exists >$ DIST

The scope ambiguity of sentences like (37) is thus entirely expected.

(59) Madrigals are popular with a music fan. (wide scope)



(60) Madrigals are popular with a music fan. (narrow scope)



(ii) Concerning binding, because we resort to DIST, we correctly predict that 'cats like themselves' can mean, in its Distributive Kind Predication parse, that every subpart x of [the cat kind interpreted at the evaluation world] likes x.

(iii) Additionally, Cohen claimed that Krifka *et al.*'s idea of kind predication was incorrect because bare plurals can be bound by overt Q-adverbs in sentences with 'accidental' predicates, but not in sentences with clear kind-level predicates. In the present theory, this is explained by the fact that overt Q-adverbs can replace ***Gen*** in a parse parallel to the bona fide generic parse.

(61) Madrigals are usually popular.
$\textbf{\textit{Usually}}\big([\![\text{madrigals}]\!], [\![\text{popular}]\!]\big) =$
$\text{USUALLY}_{s,x}\big(x \leq {}^{\cap}madrigals_s \wedge C(s,x)\big)\big(popular_s(x)\big)$

Cohen (2001) (p. 189) takes facts like **(i)**, **(ii)**, and **(iii)** to argue for a rather complicated mechanism.
Accordingly, first there is an attempt to interpret a sentence like 'madrigals are popular' as direct kind predication, i.e. with an LF like $popular_{s_0}({}^{\cap}madrigals)$. Since only individuals can be popular, this LF is ruled out, and an LF with ***Gen*** is accommodated, in a way that binds individual instances of the kind. Given the possibility of distributing predicates over pluralities considered here, there is no reason to think that (a form of) kind predication is ever ruled out to begin with, and therefore no need to stipulate such a complicated accommodation mechanism.

2.8 Further data: Greenberg (2002, 2004, 2007)

In her work, Greenberg presented remarkable data points pertaining to (non-)accidentally flavored generalizations, further teasing apart kind-denoting plurals from singular indefinites.

(62) Temporally modified sentences (Greenberg, 2004).
  a. Italian restaurants are closed today.
    (i) Accidental situation: Italian restaurants in town happen to be closed today for no apparent reason.
    (ii) Law-like situation: Today is a national holiday in Italy.
  b. An Italian restaurant is closed today.
    (i) #Accidental situation: Italian restaurants in town happen to be closed today for no apparent reason.
    (ii) Law-like situation: Today is a national holiday in Italy.

(63) 'Extremely unnatural kinds' (Greenberg, 2007).
  a. Norwegian students with names ending with "s" wear thick green socks.
  b. #A Norwegian student with a name ending with "s" wears thick green socks.

This data falls in line within the present framework. LFs where the kind-denoting plural or the singular indefinite are interpreted inside the restriction of ***Gen*** are only true in contexts in which there is a law-like link between something being in the extension of the subject DP at a world and it having the VP property at that world. However, as we have seen, sentences with kind-denoting plurals have an LF where the subject DP is outside the restriction of the generic quantifier. This accounts for the fact that (62a) and (62a) have true construals: a distributive kind predication LF of (62a) is true even though there is no apparent reason for Italian restaurants to be closed.

(64) a. $[\![(62a)]\!] =$
    (i) Bona fide generic LF:
    $\textbf{\textit{Gen}}\big([\![\text{Italian restaurants}]\!], [\![\text{closed today}]\!]\big)$
    false in accidental situation
    (ii) Distributive kind predication LF:
    $\textsc{dist}\big([\![\text{Italian restaurants}]\!], [\![\text{closed today}]\!]\big)$
    true in accidental situation
  b. $[\![(62b)]\!] =$
    (i) Bona fide generic LF:
    $\textbf{\textit{Gen}}\big([\![\text{An Italian restaurant}]\!], [\![\text{closed today}]\!]\big)$
    false in accidental situation

Similarly, in (63), there is no law-like link between being a Norwegian student with a name ending with an "s" and wearing thick green socks, so that a bona fide generic LF is false; but the distributive kind predication LF of (64a) doesn't require such a link, hence the sentence has a true construal. Notice that by varying the context and

providing the law-like link that makes a bona fide generic LF true, we can make (63b) fine:

(65) Context: the Norwegian government requires all Norwegian citizens whose name ends with "s" enrolled in a university to wear thick green socks on a daily basis.

a. A Norwegian student with a name ending with "s" wears thick green socks.

In Greenberg's framework, these patterns are analysed in a rather different way. Greenberg takes ***Gen*** to be uniformly present both in Bare Plural and in Singular Indefinites; what varies is its accessibility relation. In both bare plural and singular indefinite generics, ***Gen*** quantifies over all worlds in which every member of the restrictor property has a contextually salient property, S_C, as in (66):

(66) $\forall w'[\forall x\big(P_{w'}(x) \rightarrow S_{C_{w'}}(x)\big)] \rightarrow [\forall x\big(P^{\text{cont.norm.}}_{w'}(x) \rightarrow Q_{w'}(x)\big)]$
"In all worlds where all *P*s have a contextually supplied property S_C, all contextually relevant and normal *P*s have Q"

Greenberg (2007, 2012)

What differentiates bare plural generics from singular indefinites, in her framework, is the following:

> With [Singular Indefinite] sentences, S is "associated" with P in w_0, i.e. the claim that all *P*s have S should follow from known facts / stereotypes / norms etc. we have in w_0. In contrast, with [Bare Plural] sentences no such "association" is needed. Thus, for example, when uttering Norwegian students whose name end with "s" or "g" wear thick green socks we assume that there is something that all Norwegian students whose name ends with "s" or "g" have in w_0 and that it is this property which leads to wearing thick green socks. Crucially, however, this does not follow from an existing, shared body of knowledge, stereotypes or norms. That is, there is no guarantee that it holds in other worlds which are epistemically, deontically, stereotypically, etc. accessible from w_0.
>
> (Greenberg, 2012)

While Greenberg's framework has led to a significant improvement in the understanding of the differences between singular indefinite and bare plural generics, I would like to give two reasons for which I think the account proposed in this paper is to be preferred.

First, in my account the possibility of accidental readings via distributive kind predication LFs is derived compositionally from assumptions that have independent motivations: (a), the fact that bare plurals can denote kinds (Carlson, 1977), and that kinds denote plural individuals (Chierchia, 1998); (b), the fact that the distributive operator can be inserted above the verbal complex whenever a predicate of individuals applies

to a plural individual (Schwarzschild, 1996). In Greenberg's account, the differences in accessibility relation need to be stipulated and do not have an apparent compositional reason.

Second, as we will see in section 4, bare plurals can be interpreted near-universally in e.g. progressive sentences, where singular indefinites can only be interpreted existentially (cf. (67a) and (68)). As already mentioned in the introduction, there are strong reasons to think that there is no generic quantification in such sentences, since the bare plural does not display Quantificational Variability Effects (Berman, 1991) with overt Q-adverbs – and we know that ***Gen*** is a covert Q-adverb (cf. Condoravdi 1994 for a similar argument).

(67) a. Birds are migrating.
$\approx$ all birds *(possibly, with exceptions)* are migrating.
b. Birds are sometimes migrating.
$\not\approx$ some birds are migrating.

(68) A bird is migrating. $\{\exists, *\forall\}$

Thus Greenberg's account cannot explain the distribution of bare plurals and singular indefinites in such sentences, which is nevertheless parallel to what happens with (non-)accidental generalizations. On the present theory, sentences like (67a) are simple instances of distributive kind predication; they do not involve generic quantification over members of the kind. This is parallel to what happens with accidental generalizations like 'LLMs are popular', which are likewise instances of distributive kind predication. The parallelism between the pattern given rise to by (non-)accidental generalizations and the pattern in (67) and (68) is therefore expected, and the present approach is arguably more explanatory and unificatory.

3 Cumulativity with kind-denoting plurals

3.1 Analysis: cumulative kind predication

Let us now turn to sentences like (69) and (70):

(69) Elephants live in Africa and Asia.

(70) Gli elefanti vivono in Africa e Asia.
The elephants live in Africa and Asia.
'Elephants live in Africa and Asia'

It has been known since the work of Scha (1981) that sentences containing more than one term denoting a sum can give rise to weak truth conditions:

(71) The girls greeted the boys.
Can mean: Each girl greeted some boy, and each boy was greeted by some girl.

Beck & Sauerland (2000) showed that to account for at least some of such readings, a cumulative operator $**$ is needed.

(72) $** = \lambda P_{e,\langle e,t\rangle}.\lambda y.\lambda x.$
$\forall x'\big(x' \leq x\big) \rightarrow \big(\exists y'.y' \leq y \wedge P(x,y)\big) \wedge \forall y'\big(y' \leq y\big) \rightarrow \big(\exists x'.x' \leq x.P(x,y)\big)$

This work responded to previous proposals: Scha (1981) claimed that cumulative readings arise as a result of the lexical meaning of verbs. Winter (2000) argued that cumulativity arises from dependent plurals: a sentence like (72) is accordingly interpreted something like 'the boys greeted the girls ~~that they saw first~~'. Beck and Sauerland showed that none of these analyses accounted for cases where cumulativity seems to be quite non-local, that is, where the two plurals which form the cumulative reading are separated by a constituent.

(73) These five teachers gave a bad mark to those 20 protesting students.
Can mean: Every one of the teachers gave a bad mark to one of the protesting students, and every one of the protesting students was given a bad mark by one of the five teachers.

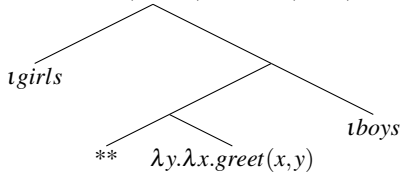
As noted by Chatain (2021) (a.o.), this doesn't necessarily mean that the mechanisms argued for by Scha (1981) and Winter (2000) never apply – rather, that they cannot apply always. Bare plurals seem to display exactly the same 'long distance' cumulativity:

(74) Conservative teachers give bad marks to protesting students.
Can mean: every conservative teacher gives bad marks to some protesting students, and every protesting student is given bad marks by some conservative teacher.

For this reason, for simplicity we will be using the cumulative operator even for more local-looking cases. Then, the approach put forward in the previous section can be quite naturally extended to account for cumulative readings of kind-denoting plurals: just like (71) can be captured with the structure in (75), (69) can be captured with the structure in (76).

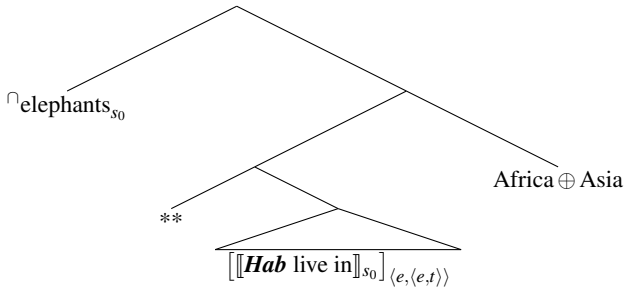
(75) The girls greeted the boys.

$\forall x\big(x \leq \iota girls\big) \rightarrow \big(\exists y.y \leq \iota boys \wedge greet(x,y)\big) \wedge \forall y\big(y \leq \iota boys\big) \rightarrow \big(\exists x.x \leq \iota boys \wedge greet(x,y)\big)$



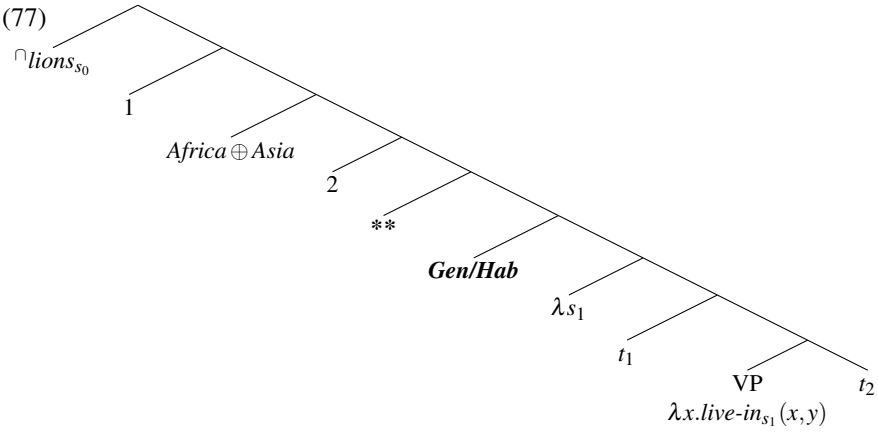
(76) Elephants live in Africa and Asia. (**Cumulative Kind Predication**)

a. $\forall x\big(x \leq {}^{\cap}\text{elephants}_{s_0}\big) \rightarrow \big(\exists y.y \leq \text{Africa} \oplus \text{Asia} \wedge [\![\textbf{\textit{Hab}} \text{ live in}]\!]_{s_0}(x,y)\big) \wedge$
$\forall y\big(y \leq \text{Africa} \oplus \text{Asia}\big) \rightarrow \big(\exists x.x \leq {}^{\cap}\text{elephants}_{s_0} \wedge [\![\textbf{\textit{Hab}} \text{ live in}]\!]_{s_0}(x,y)\big)$



If we specify the low part of the tree, i.e. if we specify [[live in]] as a generic/habitual predicate in a way parallel to what we have sketched in section 2.5, 'elephants' and 'Africa and Asia' should QR above ***Gen***. On a Chierchia-like teory, there will be ***Gen*** below $**$; on a Dobrovie-Sorin-like theory, there will be ***Hab*** below **.

(77)



Quantifier Raising in cases of 'long distance' cumulativity is independently needed for other cases of cumulativity with referential plurals, as for instance (78):

(78) Jim and Frank want to marry two dentists.
In the reading '*there are two dentists such that Jim wants to marry at least one of them and Frank wants to marry at least one of them and both dentists*

are such that either Jim of Frank want to marry them.' (Beck & Sauerland, 2000; Chatain, 2021).

3.2 Comparison to previous accounts

3.2.1 Nickel (2008)

There are two accounts of cumulative readings of sentences with bare plural subjects. Nickel (2008) proposes, in a nutshell, that cumulative readings arise because the generic operator has existential force over the 'ways of being normal' of a category.

(79) a. $[\![Gen]\!] = \lambda g_{\langle e,t\rangle}.\lambda y_k$. there is a way w of being a normal k that is salient in context c, and for every x, if x is a member of y_k and x is normal in w, then $g(x) = 1$

b. 'Elephants live in Africa and in Asia' is true at a context c iff there is a c-salient way w_1 of being a normal elephant with respect to its habitat, and all elephants that are normal in w_1 live in Africa, and there is a (different) way w_2 of being a normal elephant with respect to its habitat, and all elephants that are normal in w_2 lay eggs.

However, as shown by Kirkpatrick (2022), this hinges on Nickel's assumption that 'Elephants live in Africa and Asia' is an ellipsis of the counterpart of this sentence that involves sentential coordination, as in 'Elephants live in Africa and elephants live in Asia', and therefore involves two separate instances of generic quantification. However, 'Africa and Asia' is clearly a constituent (cf. Kirkpatrick, 2022, p. 390), and thus does not admit of phonologically deleted material and cannot be split as Nickel's analysis needs it to be split (for more details, see Kirkpatrick's discussion of this, which I find very convincing).

3.2.2 Kirkpatrick (2022)

Kirkpatrick (2022) proposes a complex situation-based semantics of the generic operator where ***Gen*** operates over properties of situations. Its restriction is interpreted contextually, and ***Gen*** always adjoins to the whole proposition. The contextual restriction proposed by Kirkpatrick denotes a question, which in a sentence such as 'Lions hunt' is pragmatically determined to be 'What do normal lions do?', or something along these lines. The interaction between this entry for ***Gen*** and pluralities generates cumulative readings.

(80) Elephants live in Africa and in Asia.

a. "...true at s just in case for all the situations s' which are part of the worlds alike to w_s with respect to causal, statistical, and dispositional dependencies and regularities, and which contain the normally located

> elephants in those worlds, those elephants cumulatively live in Africa and Asia. That means every normal elephant lives in at least one of Africa and Asia and each of Africa and Asia have at least one normal elephant living in it." (Kirkpatrick, 2022)

Crucially, Kirkpatrick argues that singular indefinite and bare plural generics involve exactly the same ***Gen***. Accordingly, then, singular indefinites do not support cumulative predication simply because they do not introduce a plurality for ***Gen*** to range over to yield cumulative genericity. This, however, makes a very precise prediction, namely that whenever a sentence with a subject bare plural and a conjunctive predicate is cumulatively true, a sentence with a subject singular indefinite and a parrallel *disjunctive* predicate should also be (non-cumulatively) true. That is, whenever sentences like (81) are true, sentences like (82) should also be true:

(81) a. Elephants live in Africa and Asia. true
b. An elephant lives in Africa or Asia. true

This is because, as is straightforward to check, the truth conditions (107) follow from those in (82a).

(82) An elephant lives in Africa or Asia.
a. "...true at *s* just in case for all the situations *s'* which are part of the worlds alike to w_s with respect to causal, statistical, and dispositional dependencies and regularities, and which contain a normally located elephant in those worlds, that elephant lives in Africa or Asia."

3.2.3 Accidental cumulative generalizations

However, this prediction is not correct, as clear from the sentences in (83) (and the facts are parallel in Italian). Cumulative predication with kind-denoting plurals is compatible with accidentally-flavored generalizations, unlike corresponding disjunctive predicates with singular indefinite generics.

(83) a. Madrigals were popular in Italy and England. true
b. A madrigal was popular in Italy or England. false

From the perspective of my account, this is entirely unsurprising: (83a) is felt to be true because in a cumulative kind predication LF the kind denoted by 'madrigals' is interpreted outside the restriction of ***Gen***. Sentence (83b) is felt to be false because the property denoted by 'a madrigal' is interpreted inside the restriction of ***Gen***, and thus suggests that there is a law-like connection between something being a madrigal and its being popular in Italy or England, which is false.

These data points by itself do not prove, however, that there are no cumulative inter-

pretations of ***Gen*** in sentences like (69), as those that Kirkpatrick argues for. It simply proves that not every cumulative reading of a sentence involving a kind-denoting plural has an LF in which the kind-denoting plural occurs below ***Gen*** in the LF. That is, it is entirely possible that an LF like (76) coexists with Kirkpatrick's hypothesized LF – in a way parallel to the structural ambiguity of the sentences examined in the previous section.

3.3 Cumulativity with Bona Fide Generic LFs and overt Q-adverbs?

Whether a cumulative bona fide generic reading exists is an empirical question. We know that cumulation can occur independently of ***Gen***, as in the LF in (76) I have argued for.

Moreover, it has been long known that there can be cumulativity *below* ***Gen*** (Corblin, 1987; Dobrovie-Sorin & Mari, 2008).

(84) Members of opposing parties sit on the left and the right of Parliament.

The LF of such sentences can be correctly predicted by simply assuming that ***Gen*** here ranges over sums and that the cumulative operator occurs in the scope of ***Gen*** – that ***Gen*** and other Q-adverbs can range on sums is generally accepted (Dobrovie-Sorin & Mari, 2008).

(85) $\text{GEN}_{X,s}\left[X \leq {}^{\cap}\textit{members-of-opposing-parties}_s \wedge C(s,X)\right]\left[[**[\lambda y.\lambda x.\textit{sit}_s]](\textit{right} \oplus \textit{left})(X)\right]$

Besides with kind-denoting expressions, we can even have cumulativity below ***Gen*** when the restriction of ***Gen*** is provided by a property/Generalized Quantifier (cf. Corblin 1987; Dobrovie-Sorin & Mari 2008).

(86) Context: switches of the brand B come in pairs and they are conceived so that when installed on the same circuit, the first one is always up and the second one is always down.
   a. Two B switches installed on the same circuit are set on up and down.
   'In general, if x and y are switches of the brand B and they are installed on the same circuit, then they are set (respectively) up and down.'

(87) $\text{GEN}_{X,s}\left[\textit{B-switch-PL}_s(X) \wedge \textit{same-circuit}_s(X) \wedge C(s,X)\right]\left[[**[\lambda y.\lambda x.\textit{set}_s]](\textit{up} \oplus \textit{down})(X)\right]$

Importantly, note that this kind of cumulative reading is much stronger than 'Elephants live in Africa and Asia': (87) says that for any pair of B switches in the same circuit, they will be respectively up and down. Instead, (69) only tells us something about the global distribution of elephants in the world, and not that for any sample of elephants, at least one of them lives in Africa and at least one of them lives in Asia – which would be way too strong, and false.

As a result, we know for sure that there can be cumulation either (i) above habitual marking, as in (76), or (ii) below ***Gen***[11] as in (84), but neither of these amounts to the LF that Kirkpatrick argues for. In fact, the LF for which Kirkpatrick argues is one where ***Gen*** *itself* is the source of cumulativity, a structure that is distinct from both (i) and (ii). In (i) and (ii) we have seen that, if we extend the Beck&Sauerland take, the source of cumulativity is simply the cumulative operator **.

We have two ways of checking whether Kirkpatrick's hypothesis is true. The first consists in checking whether we can get cumulative readings of overt Q-adverbs – since it is generally accepted that ***Gen*** is a covert Q-adverb. While the judgments are subtle, I think they show that Q-adverbs themselves are not cumulative. To see this, consider (88).[12]

(89) Context: we are on exploration on a new planet. I discover a kind of animal that lives on this planet, called wugs. I tell you:

a. Wugs are black, white, green, and red.

(i) ✓ Cumulative situation
All wugs are either entirely black or entirely white or entirely green or entirely red.

(ii) ✓ 'At-the-same-time' situation
Each wug is black, white, green, and red at the same time (e.g. each one has stripes of all four colors).

Of course, the cumulative interpretation is, while entirely possible, the less salient one in (89a) – similar facts hold of cumulative predication with referential plurals just as well. What is important is that a cumulative interpretation is completely ruled out with Q-adverbs, as in (90b-d).

(90) Same context as (90).

a. Wugs are always black, white, green, and red.

(i) ✗ Cumulative situation

[11] And thus below habitual marking if we think that ***Gen*** comes from an AspP; cf. the appendix to this paper.

[12] Judgments confirmed with two native speakers of English who are not trained linguists. To see a similarly structured example in a natural occurrence see (88a.) below:

(88) "Who's this guy?" he asked as the kitten twined about his ankles and he scooped him up in one hand.
"My nameless kitten. The one I told you about before. He was feral-his mother dropped him in the garden and 1 had to take care of him."
But you didn't give him a name?"
"Any suggestions?" Emily asked as she started doling out the food.
"Hmm." Owen inspected the kitten seriously, making Emily smile. Again. "How about Tiger?"

a. "Tigers are white and orange, though, not black."
(Excerpt drawn from Hewitt, K. (2020). *Welcome Me to Willoughby Close*. Tule Publishing Inc.)

The distributive interpretation of (88a.) is extremely unlikely, since it would be very odd to state that tigers are *both* white and orange, but then deny they are black – since tigers notoriously have a significant amount of their fur covered in black stripes. Instead, (88a.) seems to simply tell us that there are (mostly) orange tigers, and there are (mostly) white tigers, too.

(ii) ✓ 'At-the-same-time' situation

b. Wugs are often black, white, green, and red.
   (i) ✗ Cumulative situation
   (ii) ✓ 'At-the-same-time' situation

c. Wugs are {typically, generally, usually} black, white, green, and red.
   (i) ✗ Cumulative situation
   (ii) ✓ 'At-the-same-time' situation

Experimental evidence should likely be adduced to corroborate these subtle judgments. If corroborated, this data would suggest that (89a) comes about via Cumulative Kind Predication, and not via ***Gen***, unless independent evidence is adduced that motivates that ***Gen*** would behave differently with respect to cumulativity from its kin, i.e. other Q-adverbs.

A second way we have to check whether cumulative LFs with ***Gen*** obtain is to force a kind-denoting plural to be in the restriction of ***Gen***. We can use the Italian subjunctive for this, as we have seen in section 2.6.

(91) I linguisti che si occupano di semantica scrivono 1000 articoli
The linguists that REFL. deal-**ind.** of semantics write 1000 papers
all'anno.
a'year.
'Linguists working in semantics write 1000 papers a year.'

a. ✓ **Cumulative reading.**
   The whole profession (of linguists working in semantics) produces 1000 papers a year.
b. ✓ **Distributive/'generic distributive' reading.**
   Each linguist working in semantics produces 1000 papers a year.

(92) I linguisti che si occupino di semantica scrivono 1000 articoli
The linguists that REFL. deal-**subj.** of semantics write 1000 papers
all'anno.
a'year.
'Linguists working in semantics write 1000 papers a year.'

a. ✗ **Cumulative reading.**
   The whole profession produces 1000 papers a year.
b. ✓ **Distributive/'generic distributive' reading.**
   Each linguist working in semantics produces 1000 papers a year.

Once again, although the data is subtle, it seems to rule out LFs like the one hypothesized by Kirkpatrick. Indeed, on the one hand the cumulative interpretation of (91a) is naturally captured by a cumulative kind predication LF such as (93), telling us that every actual semanticist has written at least one of the 1000 papers, and each one of the 1000 papers was written by at least one semanticist.

(93) $[**[\lambda y.\lambda x.write_{s_0}(x,y)]](\textit{1000-papers})(^{\cap}\textit{linguist-working-in-semantics}_{s_0})$.

The question is whether it could, on the other hand, *also* be captured by a 'cumulative ***Gen***' LF like Kirkpatrick's. The Italian subjunctive, as we have seen in 2.6, forces an LF where the subject DP is in the restriction of ***Gen***. As a matter of fact, as shown by the unavailability of (92b), (92) does not support a cumulative interpretation. This suggests that reading (91a) of (91) can in fact *only* come about from a cumulative kind interpretation LF such as (93).

To sum up, in this section we have investigated which one of the LFs in (94a,b,c) brings about cumulative interpretations.

(94) Elephants live in Africa and Asia.

a. Kirkpatrick's (2022) LF:
$\boldsymbol{Gen}_{cumulative}[\![\text{Elephants live in Africa and Asia}]\!]$

b. Cumulative kind predication LF (this paper):
$[**[\lambda y.\lambda x.\textit{live-in}(x,y)]](\textit{Africa} \oplus \textit{Asia})(^{\cap}\textit{elephants}_{s_0})$

c. '** below ***Gen***' LF ('strong' LF):
$\text{GEN}_{X,s}\left[X \leq {}^{\cap}\textit{elephants}_s \wedge C(s,x)\right]\left[[**[\lambda y.\lambda x.\textit{live-in}(x,y)]](\textit{Africa} \oplus \textit{Asia})(X)\right]$

As to (94c), we have seen that it yields a false reading of (94), since it asserts that for any sample of elephants, some will come from Africa and some will come from Asia. (94c) can thus not be responsible for the salient true reading of (94). '** below ***Gen***' LFs are instead responsible for strong generalizations such as those expressed by 'members of opposing parties' sentences (cf. (84)), which tell us that from any sample that encompasses members of opposing parties, some will sit on the left, and some on the right of parliament.

As to (94a), the data surveyed in this section suggests that such an LF is not responsible for the salient reading of (94). That is, the semantics itself of ***Gen*** and other Q-adverbs is not responsible for cumulativity, as hypothesized by Kirkpatrick. This is for two reasons: first, overt Q-adverbs make cumulative readings disappear, as shown in (89). This is true even for Q-adverbs like 'typically', 'generally', and 'usually', which are generally held to have truth conditions very close to ***Gen***. Given the data in (89), a defendant of the (94a) LF may want to claim that ***Gen*** and overt Q-adverbs diverge with respect to cumulativity. But then, the impossibility of cumulative readings with Italian subject DPs modified by a subjunctive would be completely unexpected (cf. (92)).

This discussion appears to leave the cumulative kind predication LF (94b) as the only one standing for the salient cumulative reading of sentences such as (94). However, as mentioned, the judgments are subtle, so that further empirical work is needed. At any rate, regardless, Kirkpatrick's LF in (94a) at the very least cannot be the only one bringing about cumulative readings: we need cumulative kind predication LFs to account for the data discussed in 3.2.3, i.e. clearly accidentally flavored cumulative generalizations like (83a) ('Madrigals were popular in Italy and England').

4 The near-universal/existential alternation of English bare plurals in episodic sentences

4.1 A straightforward extension of the analysis

Unlike singular indefinites, bare plurals can be read near-universally in contexts where no item (e.g., habitual aspect) provides the sentence with generic force, specifically with stage-level predicates (Condoravdi, 1994) and with verbs with episodic aspect (Dayal, 2013; Chierchia, 2022). As we have seen, there are strong reasons to think that the near-universal construals of sentences like (95a) and (96a) are not due to generic quantification – cf. the absence of Quantificational Variability Effects, section 1.1.3.

(95) Episodic:

a. Birds are migrating. $\{\exists, \forall\}$

b. A bird is migrating. $\{\exists, *\forall\}$

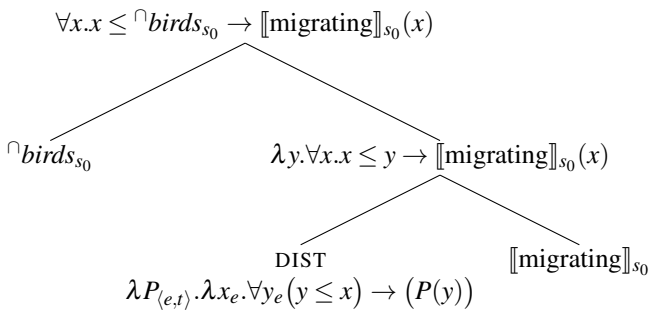
(96) Stage level: *There is a ghost on campus...*

a. Students are scared. $\{\exists, \forall\}$

b. A student is scared. $\{\exists, *\forall\}$

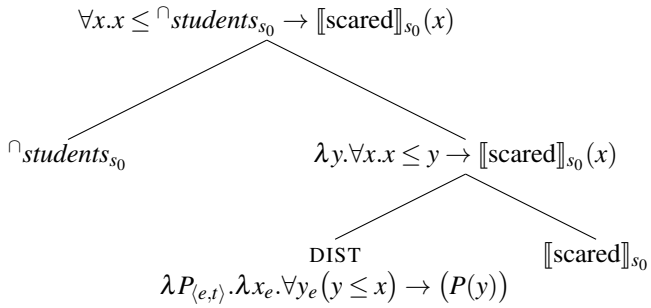
We can straightforwardly capture the near-universal readings of (95a) and (96a) by appealing, again, to an LF where the kind is interpreted with respect to the evaluation world and the predicate is distributed over it.[13]

(97) Birds are migrating. $\forall$ reading



(98) Students are scared. $\forall$ reading

[13] Strictly speaking, Condoravdi's examples are restricted to the students on campus; within a situation semantics, these can simply be seen as the maximal sum encompassing the students of the smallest 'campus' situation, along the lines of Dayal (2004b).



Notice that these uses of bare plurals are homogeneous and can be non-maximal:

(99) a. Birds are migrating. possibly non-maximal, $\sim \forall$
b. Birds are not migrating. possibly non-maximal, $\sim \neg\exists$

As mentioned in the introduction, the strong argument against the presence of a generic quantifier in such sentences consists in the absence of Quantificational Variability Effects (QVEs) – which are the traditional test prompting for the presence of generic quantification (cf. Berman 1991; Krifka *et al.* 1995 and section 1.1.3 of the present paper). Given the absence of QVEs, and thus of an LF involving ***Gen***, we correctly expect to be able to remove the homogeneity of these sentences via 'all', but not via 'always' – cf. section 2.4.

(100) a. Birds are all migrating. maximal, $\sim \forall$
b. Birds are not all migrating. maximal, $\sim \neg\forall$

(101) (In the intended QVE reading)
a. #Birds are always migrating.
b. #Birds are always migrating.

We also witness cumulativity in such non-generic environments, which are correctly predicted by straightforwardly extending the cumulative kind predication analysis argued for in section 3, as shown in (102)– while unsurprisingly no such readings are available for the singular indefinite.

(102) a. Birds are migrating towards Africa and South America.
$[**[\lambda y.\lambda x.migrating\text{-}towards_{s_0}(y)(x)]](Africa \oplus South\ America)({}^{\cap}birds_{s_0})$
b. A bird is migrating towards Africa and South America.

This further demonstrates the need for a cumulative kind predication LFs in which the kind is not interpreted in the restriction of a generic quantifier (notice similarly that (102) does not display QVEs).

(103) Birds are rarely migrating towards Africa and South America.

$\not\approx$ Few birds are migrating towards Africa and South America.

This thus adds to the point made in 3.2.3 in favor of the idea that ***Gen*** can at the very least not be the only source of cumulativity in sentences like 'Elephants live in Africa and Asia', contra Kirkpatrick's (2022) take.

4.2 Existential episodic bare plurals

One question that arises once we have captured quasi-universal readings of episodic bare plurals as above concerns how this insight should hang together with the account of sentences that at least on a descriptive level have existential force, such as (104).

(104) Bears are destroying my garden.

4.2.1 Two theoretical options

There are in principles two ways to conceive of such (descriptively) existential uses. **(i)** The first consists in saying that they are underlyingly existential; **(ii)** the second one involves assuming that they constitute cases of extreme non-maximality.

(i) Existential bare plurals are underlyingly existential

(i) Specifically, the first line consists in assuming that descriptively existential bare plurals receive a low-scoped existential interpretation, i.e. (104) receives a low-scope version of the interpretation of (105).[14]

(106) Some bears are destroying my garden.

This line is taken by a quite diverse set of accounts. Chierchia (1998) argues that English BPs unambiguously denote kinds. When interpreted existentially, as in (107), it is argued that they do so as a result of the application of the last resort type-shifting operation known as Derived Kind Predication (DKP).

(107) a. John saw dogs.

[14]Low scope is important because while plain indefinites obligatorily receive high scope under, for instance, durative modifiers, bare plurals are obligatorily low-scoped, as shown in (105).

(105) a. I have been killing some mosquitoes for an hour.
$\approx$ there are some mosquitoes that I have been killing for an hour. $\not\approx$ there are some mosquitoes that I have been killing for an hour.
b. I have been killing mosquitoes for an hour.
$\not\approx$ there are some mosquitoes that I have been killing for an hour. $\approx$I have engaged in mosquito killing for an hour

See Carlson (1977) and much subsequent work, i.e. Chierchia (2022, 2023).

b. $saw_{s_0}(^{\cap}dogs)(john) \overset{DKP}{\Rightarrow} \exists x.x \leq {}^{\cap}dogs_{s_0} \wedge saw_{s_0}(x)(john)$

Longobardi (2001) instead sees English BPs are systematically ambiguous between a kind interpretation and a weak indefinite interpretation, responsible (among other things) for existential readings. In between Chierchia and Longobardi's accounts, there are approaches that combine ambiguity and type-shifting such as Cohen (2007, 2020).

(ii) Existential bare plurals are extreme cases of non-maximality

The second line consists in saying that descriptively existential readings are extreme cases of non-maximality/exception tolerance. Extreme cases of non-maximality are known to be possible with definite plurals, as e.g. in (108):

(108) Context: we are leaving home, and I left 2 out of 30 windows open. 'We have to go back...'
a. The windows are open. Krifka (1996)

This line is taken by fewer accounts, which are generally those that are concerned with the fact that bare plurals can have universal force, too, in episodic sentences and with stage-level predicates. Dayal (2013) was the first to argue for a revision of Derived Kind Predication which simply turns a kind into its maximal sum in a given situation.

(109) If $P(s)$ applies to objects and k is a kind, then $P(s)(k) = P(s)(k_s)$, where k_s is the extension of the kind at s.

This rule was argued to account for both (descriptively) existential and near-universal readings of English Bare Plurals, where existential readings are claimed to arise as a result of a non-maximal interpretation parallel to similar cases with referential plurals (Lasersohn 1999, a.o.). In a similar vein, but within a significantly different framework, Chierchia (2022) argues that the mechanism yielding homogeneity and non-maximality in definite plurals is very similar to the one responsible for the behavior of bare plurals. In this system, thematic slots of verbs introduce discourse referents, which take universal force via innocent inclusion of their subdomain alternatives. This yields universal force for (7). As to the question of how descriptively existential readings of existential episodics come about, Chierchia speculates that they could be due to the more open-ended nature of the domain in such sentences (Chierchia, 2022, p. 506)

The insight presented here is in principle compatible with both theoretical options, but there are reasons to think that the former option is the correct one, i.e. that existential readings stem from a distinct interpretation of bare plurals that is underlyingly existential. In the remainder of this section, I lay out the reasons to think that this is the case, and articulate them with the view of kind-denoting plurals I have argued for in this paper.

4.2.2 Why existential bare plurals are not non-maximal

Consider the previously unnoticed contrast between (110) and (111).

(110) There was a press conference. Investigative journalists asked questions.
(adapted from Dayal, 2013)

a. Some investigative journalists present at the conference asked questions.
b. All investigative journalists *(possibly, with exceptions)* present at the conference asked questions.

(111) There was a press conference. Unknown journalists asked questions.

a. Some unknown journalists present at the conference asked questions.
b. #All unknown journalists *(possibly, with exceptions)* present at the conference asked questions.

Notice that 'investigative journalists', but not 'unknown journalists' supports kind predication:

(112) *(In the modern media world...)*

a. Investigative journalists are almost extinct.
b. #Unknown journalists are almost extinct.[15]

A very natural way to explain the relationship between (111) and (112) is to assume that there can be distributive kind predication (and thus a near-universal reading) just in case a bare plural can denote a kind. The bare plural in (110a), but not in (111a), can receive a near-universal reading, since the former, but not the latter, can denote a kind. The fact that 'unknown people' can still receive a near-existential interpretation shows that the source of this reading lies elsewhere than in non-maximal kind-predication. This is problematic for any view choosing line **(ii)**.

Before moving on, let me discuss some ideas put forward within the Chierchia-Dayal Neo-Carlsonian tradition concerning bare plurals that cannot denote kinds. In particular, it is usually assumed that when a bare plural cannot denote a kind because of its descriptive content, it cannot be type-shifted by $\cap$, and is thus type-shifted by $\exists$, the type-shifting operation just below $\cap$ in the hierarchy hypothesized for type-shifters in this tradition. Crucially, this process is entirely different from Derived Kind Predication: Derived Kind Predication kicks in when there is a mismatch because a predicate of individuals is applied to an argument that denotes a kind, while $\exists$ type-shifts a bare argument when for some reason it cannot denote a kind. The crucial difference is that Derived Kind predication is predicted to occur at the lowest possible scope site, while $\exists$ can take wide scope, since it practically turns the expression into an indefinite. Thus Chierchia and Dayal argue that they can predict the possibility of wide scope of expressions like 'parts of this machine', first noticed by Carlson (1977):

[15] With some pragmatic work, this sentence could work if 'unknown' is interpreted as 'not well-known'; but notice that in this case the universal reading of (111) becomes possible.

(113) #Parts of this machine are extinct.

(114) I didn't see parts of this machine.
   a. Narrow scope: ≈ I did not see any parts of this machine.
   b. Wide scope: ≈ There are parts of this machine I did not see.

Notice however that the same does not hold of 'unknown journalists', which behaves scopelessly under negation, just like 'investigative journalists'

(115) I didn't see unknown journalists.
   a. Narrow scope: ≈ I saw no unknown journalists.
   b. #Wide scope: ≈ There are unknown journalists I did not see.

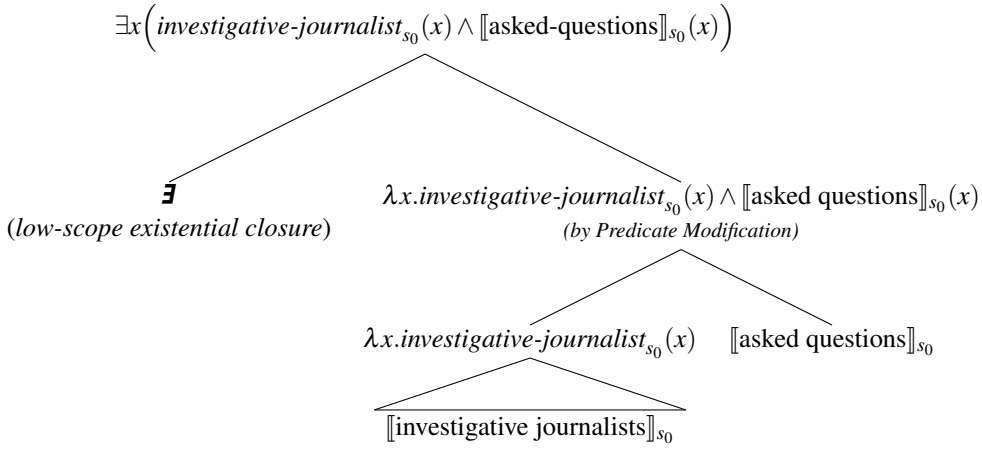
(116) I didn't see investigative journalists.
   a. Narrow scope: ≈ I saw no investigative journalists.
   b. #Wide scope: ≈ There are investigative journalists I did not see.

This parallel behavior suggests that the mechanisms giving rise to the existential reading of 'investigative journalists' and to the reading of 'unknown journalist' are the same. This pattern also lends credibility to Krifka's (2003) idea that if there is a wide scope reading of (114), it is due to specificities of 'parts of' which enable a choice-function-like behavior of the expression, instead of it not denoting a kind.

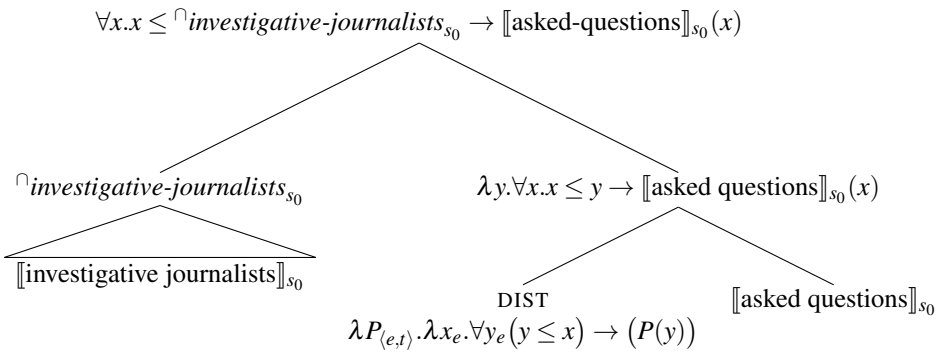
4.3 Accounting for the ambiguity

If we assume that English bare plurals are systematically ambiguous between a kind-denoting and a property-denoting expression, we can explain the ambiguity of (110) simply by (i) assuming (as is standard) that properties are existentially closed at the lowest possible level (see e.g. Cohen 2020, a.o., and references therein) and (ii) we can distribute properties over kinds.

(117) Investigative journalists asked questions. $\sim \exists$ reading



(118) Investigative journalists asked questions. $\sim \forall$ reading



Since 'unknown journalists' cannot denote a kind due to its descriptive content, it can only receive an interpretation parallel to (117).

This insight is broadly compatible with any account of English bare plurals allowing them to *alternatively* denote (I) a kind and (II) something else that gives rise to truly existential readings. This is the case of Longobardi (2001); however, Longobardi explicitly commits to the existential uses of bare plurals to stem from a 'weak indefinite' use, which however does not have any overt indefinite counterpart in English; this is not necessarily justified.

It is also compatible with Cohen's (2007; 2020) view, which like Longobardi rejects the common assumption that BPs always have the same denotation, arguing that BPs sometimes denote kinds (e.g. when arguments of kind predicates) and sometimes properties, *viz.* in existential readings (cf. Cohen, 2020, p. 58; for related views, see also Cohen & Erteschik-Shir 2002; Van Geenhoven 1996; McNally 1998b; Dobrovie-Sorin & Laca 1996; Doron 2003).

Things are different for a view like Chierchia (1998), which views English bare plurals as unambiguously denoting kinds, and get existential interpretations via DKP (cf. (107) above): the 'unknown journalists' data is difficult given that this expression has

a low-scoped existential reading without supporting kind predication. Similar remarks hold for Dayal (2013) and Chierchia (2022): since they view existential readings as non-maximal construals of some form of kind predication, the possibility of kind predication is incorrectly predicted to be necessary for the possibility of low-scoped existential readings.

4.4 Italian bare and definite plurals as disambiguations of the uses of the English bare plural

A point on which Chierchia (1998) and Longobardi (2001) diverge is the treatment of Italian bare plurals: Chierchia (1998) treats them as unambiguously kind-denoting, and thus give rise to existential interpretations via DKP, just like their English counterparts. Longobardi, instead, hypothesizes that because of a parameter-setting different from English, Italian bare plurals can only have a 'weak indefinite' use. A strong argument for 'ambiguity' views is that where English bare plurals are ambiguous between a kind reading and an existential reading, Italian bare plurals only receive an existential reading.

(119) Yesterday, at 5.10, Noah was saving lions. (Longobardi, 2001, p. 348)

a. Yesterday, at 5.10, Noah was saving the lion kind from extinction. *(kind)*

b. Yesterday, at 5.10, Noah was saving some individual lions. *(existential)*

(120) Ieri alle 5.10 Noè stava salvando leoni. (Longobardi, 2001, p. 348)
Yesterday at 5.10 Noah was saving lions.

a. #Yesterday, at 5.10, Noah was saving the lion kind from extinction. *(kind)*

b. Yesterday, at 5.10, Noah was saving some individual lions. *(existential)*

In this perspective, we can see (110) as a counterpart of (119), with the only difference that in the LF of (110) in which the bare plural is kind-denoting, there is *distributive* kind predication.

Formulating examples like (110) in Italian with a bare plural subject, we only get an existential reading, since it can only receive an LF parallel to (117).

(121) Giornalisti investigativi hanno posto domande.
Journalists investigative have asked questions.

a. Some investigative journalists present at the conference asked questions.

b. #All investigative journalists *(possibly, with exceptions)* present at the conference asked questions.

The Italian kind-denoting definite plural, instead, only has the near-universal reading, since it has a kind-denoting use, but not a property use, and thus can only have an LF parallel to (118).

(122) I giornalisti investigativi hanno posto domande.
The journalists investigative have asked questions.
a. #Some investigative journalists present at the conference asked questions.
b. All investigative journalists *(possibly, with exceptions)* present at the conference asked questions.

We can summarize the view suggested by this pattern as in (123) and (124).[16]

(125) English bare plural:
a. Kind-denoting expression, like the Italian definite plural
b. Property-denoting expression, like the Italian bare plural.

(126) $[\![\text{Investigative journalists asked questions}]\!]_{s_0} =$

a. $\text{DIST}(^{\cap}[\![\text{investigative journalists}]\!]_{s_0}, [\![\text{asked questions}]\!]_{s_0})$
$\approx$
$[\![\text{I giornalisti investigativi hanno posto domande}]\!]_{s_0}$
((122), Italian definite plural)

b. $\exists([\![\text{investigative journalists}]\!]_{s_0}, [\![\text{asked questions}]\!]_{s_0})$
$\approx$
$[\![\text{Giornalisti investigativi hanno posto domande}]\!]_{s_0}$
((121), Italian bare plural)

[16] A point worth mentioning concerns the (im)possibility of kind predication with Italian bare plurals. There is disagreement about the relevant judgments in the literature: Chierchia (1998) takes bare plurals to be felicitous as arguments of kind predicates; Longobardi (2001) takes them to not be. For what it's worth, in the author's variety of Italian they are infelicitous.

(123) Giornalisti investigativi sono estinti.
Journalists investigative are extinct.
(intended) 'Investigative journalists are extinct.'
a. For Chierchia (1998): ✓
b. For Longobardi (2001): *

If Longobardi-like judgments are confirmed, the view presented here straightforwardly makes right predictions. Native speakers of Italian that I prompted do share Longobardi's judgments. Chierchia (1998) cites some cases that significantly improve the judgment for Italian bare plurals with kind predicates, such as (124):

(124) Insegnanti davvero dediti sono estinti.
Teachers truly committed are extinct.
'Truly committed teachers are extinct.'

For such strong contexts, it is not impossible that a last-resort type-shifting operation, call it Derived Property Predication, can kick in to rescue the sentence, turning the property into its kind correlate. I leave this notoriously controversial point to future research.

Given that Italian bare plurals denote properties, we also expect them to participate in generic readings, just like singular indefinites do. Furthermore, given that they cannot denote kinds, we expect them to *not* be able to participate in non-generic accidental generalizations via distributive kind predication (cf. section 2). This predicts exactly the right pattern for what concerns the flavor of generalizations: while, as we know already, the Italian definite plural is compatible with both law-like and accidental generalizations (cf. (127)), the Italian bare plural is only compatible with law-like generalizations (cf. (128)) (cf. Cohen 2007, 2020, a.o., for very similar observations).

(127) I candidati puntuali non vengono assunti.
The candidates punctual not get hired.
'Punctual candidates don't get hired.' *(Italian definite plural)*

a. ✓ **Context compatible with the law-like reading.**
(bona fide generic LF)
Respectful people unwanted. A rule disqualifies whoever shows up on time.

b. ✓ **Context compatible with the accidental reading.**
(distributive kind predication LF)
'Oh, how funny!...People who show up on time happen not to get hired.'

(128) Candidati puntuali non vengono assunti.
Candidates punctual not get hired.
∼'Any punctual candidates don't get hired' *(Italian bare plural)*

a. ✓ **Context compatible with the law-like reading.**
(bona fide generic LF)
Respectful people unwanted. A rule disqualifies whoever shows up on time.

b. ✗ **Context compatible with the accidental reading.**
(distributive kind predication LF)
'Oh, how funny!...People who show up on time happen not to get hired.'

5 Conclusion

Let us summarize what we have done. Some plural terms can both denote kinds and be the subject of sentences expressing generalizations. In such sentences, they have a very different distribution from singular indefinites. By assuming that plural kind-denoting terms can refer to the maximal sum of kind members in the evaluation world, and by applying distributive and cumulative operators to these sums, we have seen that we can fully predict the distinct distribution patterns displayed by kind-denoting plurals and singular indefinites.

More specifically, we've demonstrated that some sentences traditionally assumed to contain generic quantification at LF, as for instance accidental generalizations, in fact do not.

(129) LLMs are popular.

This allowed us to capture the pattern that unites accidental generalizations like (129) and near-universal construals of episodic sentences such as (130): both are supported by kind-denoting plurals, but not by singular indefinites.

(130) Bears are hibernating.

Generic quantification can indeed simply not be the source of the near-universal construal of (130), since sentences like (130) do not display Quantificational Variability Effects, unlike uncontroversially generic sentences.

(131) a. Bears are rarely hibernating.
$\not\approx$ 'Few bears are hibernating'.

(132) a. Birds fly.
b. Birds rarely fly.
$\approx$ 'Few birds fly'.

The fact that (129), in its salient accidental reading, in fact does not involve generic quantification is not without consequences. Traditionally, all generalizations involving kind-denoting plurals have been thought to uniformly involve ***Gen***. For this reason, the distinct distributions of bare plurals and singular indefinites have often been taken as an argument to complexify the interpretation of the generic quantifier, as for instance in Greenberg's (2007) theory of the exception tolerance of generics. Recognizing that many of such sentences have a reading in which in fact there is no generic quantification over members of the kind makes the task of understanding their exception tolerance more manageable.

In other words, we no longer must stipulate layers of complexity in the interpretation of ***Gen*** to capture the fact that bare plurals have a different pattern of exception tolerance as compared to singular indefinites. Instead, we should on the one hand understand the exception tolerance of non-generic accidental and episodic generalizations involving kind-denoting plurals on a par with non-maximality in referential plurals, as already argued by Mari (2010). Indeed, they can both be removed via 'all'. On the other hand, the exception tolerance of bona fide generic LFs with kind-denoting plurals such as those of sentences like (132a) ought to be compared directly to the exception tolerance of genuine generic quantification involving singular indefinites. It is well-known that generic quantification itself displays homogeneity and non-maximality, which can be removed via 'always'. We saw that as a result we can predict the similarities and differences between the homogeneity and non-maximality of referential plurals, kind-denoting plurals, and singular indefinites: 'all', as a non-homogeneous counterpart of DIST, can remove the homogeneity of referential or kind-denoting plurals, but not of unambiguous generics like singular indefinites; 'always', as a non-homogeneous counterpart of ***Gen***, can remove the homogeneity of kind-denoting plurals and of singular indefinites, but not of unambiguous sum-denoting devices like referential plurals.

(133) Homogeneity removal in...

a. ...referential plurals:
   (i) The bears are all brown.
   (ii) #The bears are always brown.

b. ...kind-denoting plurals:
   (i) Bears are all brown.
   (ii) Bears are always brown.

c. ...singular indefinites:
   (i) #A bear is all brown. *(in the intended reading)*
   (ii) A bear is always brown.

The task of understanding the interpretation of genericity is still complicated, but at least we are dealing with one and only one GEN across different forms of generic sentences.

We said we expect distributive kind predication to display a kind of non-maximality similar to referential plurals. In this connection, while providing a distributive kind predication analysis for sentences like (132), we demonstrated that existential episodic bare plurals like (134) clearly have a distinct interpretational source from kind predication, and thus do not constitute undocumented and extreme cases of non-maximality.

(134) Bears are destroying my garden.

This is essentially because expressions that do not admit a kind-level interpretation nor a near-universal interpretation in episodic sentences still admit an existential interpretation in episodic sentences:

(135) a. *No kind predication:*
   *Unknown journalists are extinct.

b. *Existential interpretation but no near-universal interpretation:*
   Unknown journalists asked questions. $\{*\forall, \exists\}$

This allowed us to see that English bare plurals are in fact ambiguous between a kind-level and a property-level interpretation, as has already been advocated on different grounds (cf. Cohen 2007, 2020). Moreover, we saw that their two different uses find exact and unambiguous counterparts in Italian, where the bare plural can only be existential in episodic sentences, while the definite plural can only be universal, as re-illustrated in (137).

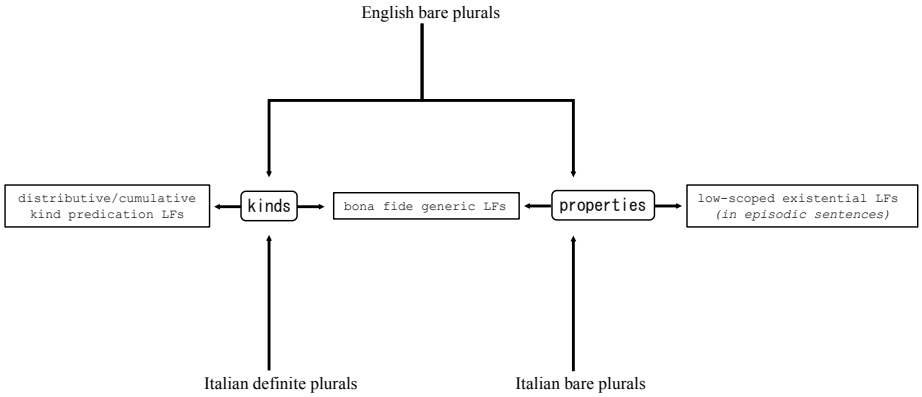
(136) a. Investigative journalists asked questions. $\{\forall, \exists\}$

b. Giornalisti investigativi hanno posto domande.
   Journalists investigative have asked questions.
   '(Some) investigative journalists asked questions' $\{*\forall, \exists\}$

c. I giornalisti investigativi hanno posto domande.
   The journalists investigative have asked questions.
   '(The) investigative journalists asked questions' $\{\forall, *\exists\}$

This can be made sense of within a framework in which Italian bare plurals unambiguously denote properties, Italian definite plurals unambiguously denote kinds, and English bare plurals are ambiguous between kinds and properties, as re-summarized in the diagram in (137):

(137)



Let me conclude, then, with a perspective for future research. As we have seen, the data in (135) and (137) is hard to accommodate within Chierchia's (1998) theory of cross-linguistic variation of the interpretation of bare nouns. I believe, however, that it suggests an overall perspective on these phenomena that is much in line with its original spirit. Chierchia (1998) proposes that there is a parameter regimenting the mapping of items that are syntactically labeled 'N' onto semantic objects, specifying whether they can map onto an argument (i.e. a kind) and/or onto a predicate (a property). Chierchia proposes that English can map nouns both onto kinds and onto properties, while Italian can map them only onto properties.

(138) Chierchia's (1998) Nominal Mapping Parameter: N $\mapsto$ [$\pm$*arg*, $\pm$*pred*]
  a. English: N $\mapsto$ [+*arg*, +*pred*]
  b. Italian: N $\mapsto$ [–*arg*, +*pred*]

If we understand (138a) as stating that English bare plurals can *systematically* denote either semantic object (departing on this aspect from Chierchia, 1998), we obtain their pervasive ambiguity that is summarized in the diagram in (137). Just like Chierchia (1998), we still expect that the only way Italian has to achieve reference to kinds is through a definite determiner. As to the Italian bare plural, the syntactic literature abounds with evidence that it is headed by a null determiner D^0 (cf. Chierchia 1998; Longobardi 2001 and references therein). There has been much debate on what the semantics of this determiner is; within the framework just sketched, there is no reason to not treat it as simply semantically vacuous, passing onto the next node the property input it takes.[17]

[17]This is in line with what happens in copulas. French, which does not allow for syntactically null determiners, resorts to '*des*' to provide properties for codas of copulas. Instead, Italian can provide them via bare nouns.

There is still much to be done to understand how this framework could be extended beyond Germanic and Romance, so that this work is an attempt-in-progress. I hope however to have demonstrated the fruitfulness of two points: (i) hypothesizing that forms of kind predication obtain outside the boundaries traditionally attributed to it, both for our understanding of genericity and of non-generic generalizations, and (ii) taking them to be essentially parallel to referential plural predication in terms of semantic composition (e.g. distributivity) and pragmatic behavior (e.g. homogeneity and non-maximality).

(139) French:
a. Ces animaux sont *{des} ours.
These animals are *des* bears.
'These animals are bears.'
Italian:
b. Questi animali sono orsi.
These animals are bears.
'These animals are bears.'

References

Bar-Lev, M.E. (2021) An implicature account of homogeneity and non-maximality. *Linguistics and Philosophy* **44**, 1045–1097.

Beck, S. & Sauerland, U. (2000) Cumulation is needed: A reply to winter (2000). *Natural Language Semantics* .

Berman, S.R. (1991) *On the semantics and logical form of wh-clauses*. University of Massachusetts Amherst.

Brisson, C. (2003) Plurals,'all', and the nonuniformity of collective predication. *Linguistics and philosophy* **26**, 129–184.

Brisson, C.M. (1998) *Distributivity, maximality, and floating quantifiers*. Rutgers The State University of New Jersey-New Brunswick.

Burton-Roberts, N. (1977) Generic sentences and analyticity. *Studies in Language* **1**, 155–196.

Carlson, G.N. (1977) *Reference to kinds in English*. Ph.D. thesis, University of Massachusetts Amherst.

Chatain, K. (2021) *Cumulativity from Homogeneity*. Ph.D. thesis, Massachusetts Institute of Technology.

Chierchia, G. (1998) Reference to kinds across language. *Natural language semantics* **6**, 339–405.

Chierchia, G. (2022) 'People are fed up; don't mess with them.' Non-quantificational arguments and polarity reversals. *Journal of Semantics* **39**, 475–521.

Chierchia, G. (2023) Kinds, properties and atelicity. *Semantics and Linguistic Theory*, pp. 62–87.

Cohen, A. (2001) On the generic use of indefinite singulars. *Journal of Semantics* **18**, 183–209.

Cohen, A. (2007) Between kinds and properties: Bare plurals across languages. *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**, 125–165.

Condoravdi, C. (1994) *Descriptions in Contexts*. Ph.D. thesis, Yale University.

Corblin, F. (1987) *Indéfini, défini et démonstratif. Constructions linguistiques de la référence*. Droz, Genève.

Dayal, V. (2004a) Licensing by modification. *Ilha do Desterro Florianópolis* **47**, 217–238.

Dayal, V. (2004b) Number marking and (in)definiteness in kind terms. *Linguistics and Philosophy* **27**, 393–450.

Dayal, V. (2013) *On the Existential Force of Bare Plurals Across Languages*, pp. 49–80. Caponigro, Ivano and Cecchetto, Carlo. Cambridge University Press.

De Swart, H. (1991) *Adverbs of Quantification: A Generalized Quantifiers Approach*. Ph.D. thesis, Rijksuniversiteit Gröningen.

Dobrovie-Sorin, C. (2001) Adverbs of quantification and genericity. *Proceedings of IATL 17*.

Dobrovie-Sorin, C. & Laca, B. (1996) Generic bare NPs. *Unpublished manuscript* .

Dobrovie-Sorin, C. & Mari, A. (2008) Generic plural indefinites: sums or groups? *Proceedings of NELS*, vol. 37, p. 205.

Doron, E. (2003) Bare singular reference to kinds. *Semantics and Linguistic Theory*, pp. 73–90.

Farkas, D. (1981) *Intensionality and Romance subjunctive clauses*. Ph.D. thesis, Dissertation.

Feinmann, D. (2020) *Lexical illusions,(non-) maximality, and invisible gaps*. Ph.D. thesis, University of Sheffield.

Greenberg, Y. (2002) Two types of quantificational modalized genericity, and the interpretation of bare plural and indefinite singular nps. *Semantics and Linguistic Theory*, vol. 12, pp. 104–123.

Greenberg, Y. (2004) *Manifestations of genericity*. Routledge.

Greenberg, Y. (2007) Exceptions to generics: Where vagueness, context dependence and modality interact. *Journal of Semantics* **24**, 131–167.

Greenberg, Y. (2012) Genericity and (non) accidentalness. *Recherches linguistiques de Vincennes* pp. 163–190.

Kirkpatrick, J. (2022) Generic conjunctivitis. *Linguistics and Philosophy* **45**.

Krifka, G. & Gerstner, M. (1996) Pragmatic strengthening in plural predications and donkey sentences. *Semantics and Linguistic Theory*.

Krifka, M. (1996) Pragmatic strengthening in plural predications and donkey sentences. *Semantics and linguistic theory*, pp. 136–153.

Krifka, M. (2003) Kinds of kind reference: Bare plurals–ambiguous or not? *University of Washington presentation* .

Krifka, M., Pelletier, F.J., Carlson, G., Ter Meulen, A., Chierchia, G. & Link, G. (1995) Genericity: an introduction. *The Generic Book* .

Križ, M. (2015) *Aspects of Homogeneity in the Semantics of Natural Language*. Ph.d. dissertation, University of Vienna, Vienna.

Križ, M. & Spector, B. (2021) Interpreting plural predication: Homogeneity and non-maximality. *Linguistics and Philosophy* **44**, 5–54.

Lasersohn, P. (1999) Pragmatic halos. *Language* pp. 522–551.

Lawler, J. (1973) Studies in english generics. *University of Michigan Papers in Linguistics* **1**.

Lewis, D. (1986) *Quantificational Adverbs*. D. Reidel, Dordrecht.

Liebesman, D. (2011) Simple generics. *Noûs* **45**, 409–442.

Löbner, S. (2000) Polarity in natural language: Predication, quantification and negation in particular and characterizing sentences. *Linguistics and Philosophy* **23**, 213–308.

Longobardi, G. (2001) How comparative is semantics? A unified parametric theory of bare nouns and proper names. *Natural language semantics* **9**, 335–369.

Magri, G. (2012) No need for a dedicated theory of the distribution of readings of english bare plurals. *Semantics and Linguistic Theory*, pp. 383–402.

Malamud, S.A. (2012) The meaning of plural definites: A decision-theoretic approach. *Semantics and Pragmatics* **5**, 3–1.

Mari, A. (2010) Another look at Italian generic sentences. *Romance Linguistics* **2011**.

Mari, A., Beyssade, C. & Del Prete, F. (eds.) (2012) *Genericity*, vol. 43. OUP Oxford.

McNally, L. (1998a) Existential sentences without existential quantification. *Linguistics and Philosophy* pp. 353–392.

McNally, L. (1998b) Stativity and theticity. events and grammar, ed. by susan rothstein, 293-307.

Nickel, B. (2008) Generics and the ways of normality. *Linguistics and Philosophy* pp. 629–648.

Panzeri, F. (2006) Subjunctive relative clauses. *Texas Linguistics Society* .

Partee, B. (2002) Noun phrase interpretation and type-shifting principles. *Formal semantics: The essential readings* pp. 357–381.

Scha, R. (1981) Distributive, collective, and cumulative quantification. *Formal Methods in the Study of Language* (eds. J. Groenendijk, T. Janssen & M. Stokhof), vol. 2, pp. 483–512, Mathematisch Centrum, Amsterdam.

Schwarzschild, R. (1996) *Pluralities*. Springer.

Spector, B. (2013) Homogeneity and plurals: From the strongest meaning hypothesis to supervaluations. *Sinn und Bedeutung*, vol. 18.

Van Geenhoven, V. (1996) *Semantic Incorporation and Indefinite Descriptions*. Ph.D. thesis, University of Tübingen, Tübingen, Germany, published by CSLI, 1998.

von Fintel, K. (1997) Bare plurals, bare conditionals, and only. *Journal of Semantics* **14**, 1–56.

Winter, Y. (2000) Distributivity and dependency. *Natural language semantics* **8**, 27–69.

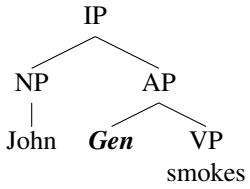
Appendix: two ways of specifying the LF below DIST in sentences with habitual aspect

In section 2 (and throughout the paper) we have been working without specifying low parts of the trees, as theories diverge in what makes them up. However, the insights presented do not require us to take a stance on this. The purpose of this appendix is to spell out what the LFs might look like on two different potential theories: one holding that ***Gen*** is contributed by habitual aspect; one holding that genericity and habituality are distinct notions.

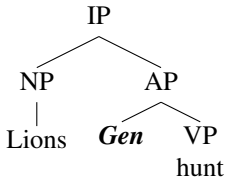
Habituality as genericity

Chierchia (1995, 1998), takes ***Gen*** to be part of verbal aspect and to contribute both habituality and genericity.

(140)



(141)

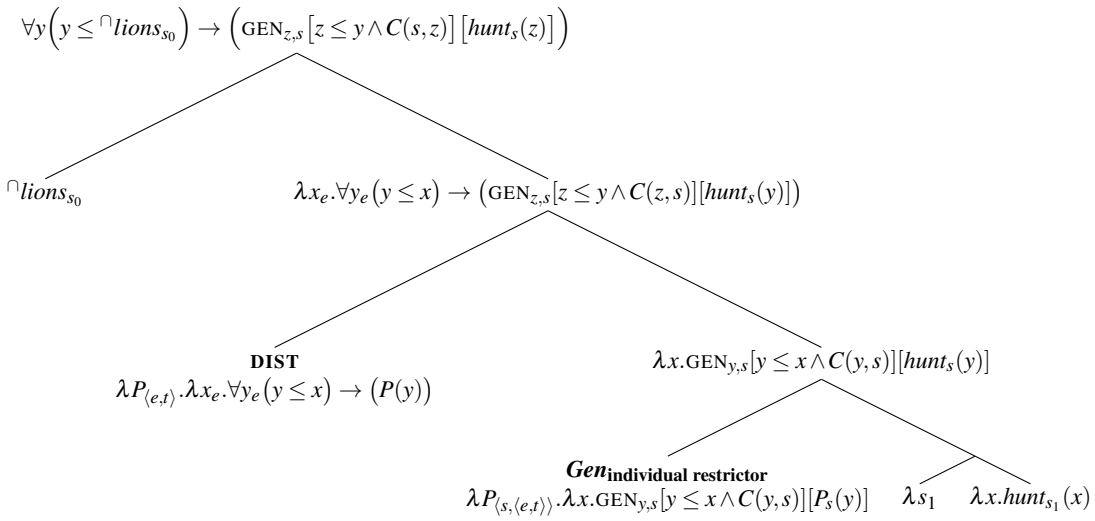


(142) a. John smokes.
b. $\textsc{Gen}_{x,s}[x \leq john \wedge C(x,s)][smoke_s(x)]$

Notice that since the restrictor individual is atomic, the parthood relation will trivially yield John in $x \leq john$. One thing that Chierchia does not discuss is that this view needs to assume that the ***Gen*** restricted by 'John' and the ***Gen*** restricted by 'lions' need to be slightly different in that the former should be restricted by an entity (type e), while the latter should be restricted by an individual concept (type $\langle s, \langle e,t \rangle \rangle$). I will not discuss the complex questions that this poses within Chierchia's system, and simply assume that this is the case, since the purpose of this subsection is not to commit to Chierchia's proposal, but to show that the insights presented above are broadly compatible with Chierchia's framework.

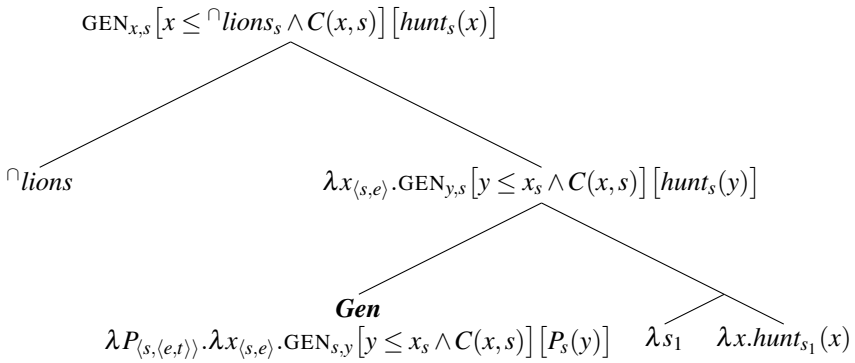
The Distributive Kind Predication parse of 'lions hunt' can be paraphrased as 'every actual lion is such that it generally hunts (i.e., *has the habit of hunting*)'. Since we are distributing over entities of type e (like 'John'), we will opt for the ***Gen*** requiring an e-typed restrictor. We still have a co-variation with worlds since the world appears in the C restrictor.

(143) Lions hunt. **Distributive Kind Predication**



The bona fide generic parse instead is a straightforward specification of the one presented in the paper.

(144) Lions hunt. **Bona fide genericity**



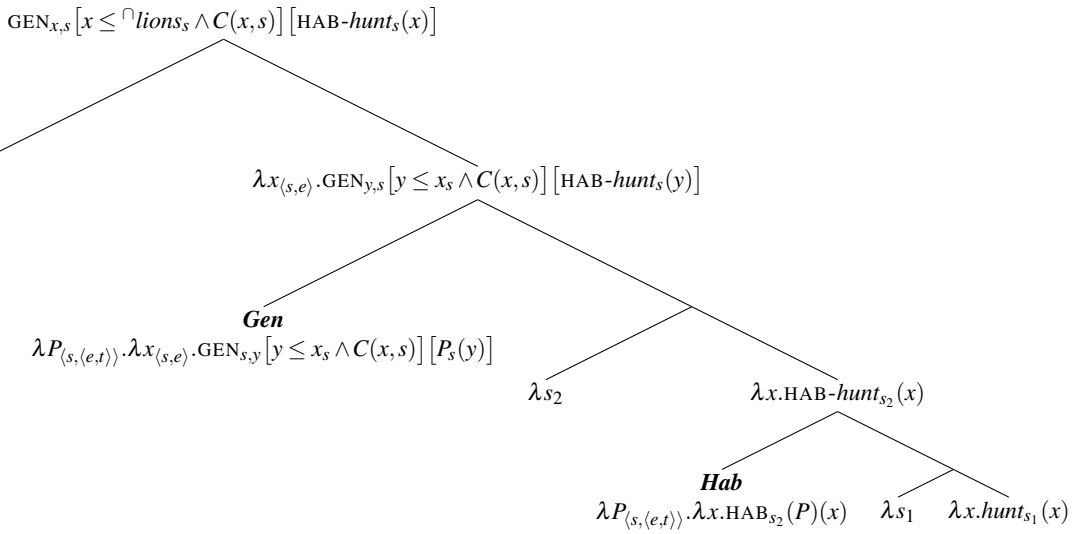
To summarize, on this theory DIST applies on top of a ***Gen*** that comes obligatorily with habitual aspect.

Habituality as distinct from genericity

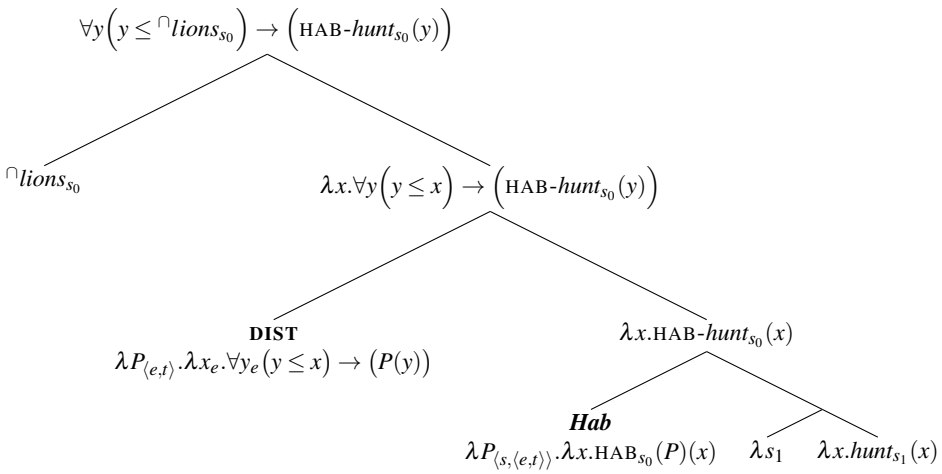
Suppose habitual aspect contributes simply a habitual item ***Hab***, turning the root meaning of the verb into a habitual predicate (see, e.g., Dobrovie-Sorin 2001 for a view along these lines). In this case, in both the LFs we postulate there will be a ***Hab***: in the bona fide genericity parse, it will appear below ***Gen***; in the distributive kind predication parse, it will appear below DIST.
Let us work with an underspecified HAB operator that takes a property $P_{\langle s,\rangle e,t\rangle\rangle}$ and returns the corresponding habitual property $\text{HAB}_s(P)$, i.e. the property of habitually P-ing at world s.

To avoid clutter, I will write $\lambda x.\text{HAB-}hunt_{s_0}(x)$ for $\lambda x.\text{HAB}_{s_0}\big(\lambda s.\lambda y.hunt_s(y)\big)(x)$.

(145) **Bona Fide Genericity**
Lions hunt.



(146) **Distributive Kind Predication.**
Lions hunt.



To summarize, on this theory, we have exactly identical lower parts of the tree.

- In (146) (Distributive Kind Predication, cf. (40)), under DIST, and in (145) (Bona Fide Genericity, cf.(39)), under ***Gen***:

$$[\![\textbf{\textit{Hab}}]\!]_s(\lambda s'.\lambda x.hunt_{s'}(x)) = \lambda x.\text{HAB-}hunt_s(x)$$