Generics and Bare Plurals II: Reference to Pluralities

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1 Kind predication without kinds

So far, we have taken it for granted that kinds are needed to account for the truth-conditions of kind predications. I'll discuss two arguments in favour of that assumption and then propose an alternative that does without kinds (Ralston, 2026b).

1.1 Debunking the arguments for kinds

1.1.1 The truth-conditional argument

The first argument goes something like this:[1]

(i) An ordinary individual such as a dodo cannot be extinct.
(ii) The sentence *Dodos are extinct* is true.
(iii) The argument of the predicate *are extinct* cannot refer to an ordinary individual.
(C) It must, instead, refer to the sort of thing which can be extinct: a kind.

But the conclusion doesn't follow. We can run an equivalent argument showing that any plural NP refers to a special sort of object – call it a *group* – but this argument does not establish anything about the ontology of plural NPs:

(i) An ordinary individual such as a child cannot gather.
(ii) The sentence *The children gathered* is true (in some situations).
(iii) The argument of the predicate *gathered* cannot refer to an ordinary individual.
(C) It must, instead, refer to the sort of thing which can gather: a group.

It is an open question whether groups or composite objects are needed for the analysis of collective predicates (e.g. Landman, 1989), but this argument clearly does not settle the matter.

1.1.2 The selection argument

Here is another argument:

(i) Some bare plurals are not felicitous with kind-level predicates. For example:

(1) a. ??Bees with one wing evolved from wasps.

[1] For versions of this argument, see Carlson (1977) and Wilkinson (1991).

b. ??Grumpy school teachers are extinct.

(ii) In these examples, the bare plurals intuitively do not refer to kinds.

(C) The infelicity of the examples in (1) can be explained by a restriction on the arguments of kind-level predicates: they must denote kinds.

All that this argument establishes is that certain predicates select for biological species. The same BPs are fine with many other kind-level predicates, so this cannot establish that these BPs don't refer to kinds.

(2) a. Bees with one wing are popular/widespread/come in three sizes.

b. Grumpy school teachers are (un)popular/widespread/come in three sizes/first arrived in the British education system in the 1930s.

So this doesn't tell us much about kinds – it tells us that predicates related to species are very selective in their arguments.

1.2 Kind predication as plural predication

The alternative to the neo-Carlsonian view is that kind predication is just plural predication, so the type of kind terms is e, not $\langle s, e\rangle$ (cf. Heim, 2011). Kind-level predicates are then just a special sort of collective predicate, which can apply to pluralities without applying to any of their members. There is no semantic restriction on which BPs that can denote pluralities, although some will sound odd with biologically selective kind-level predicates. This is achieved by the *iota* type-shift.

$$[\![^{\iota}P]\!] = \begin{cases} [\iota P_{s*}], \text{ if there are } P\text{s in } s^* \\ \text{undefined otherwise} \\ \text{where } s^*\text{is the global domain of discourse} \end{cases}$$

The idea here is that English BPs are like definite descriptions without any domain restriction (cf. Guerrini & Spector, 2025). This raises a question, however: why is the distribution of BPs and definite descriptions different?

1.2.1 Substitution failures

Definite plurals are bad with kind-level predicates:

(3) a. Dodos are extinct.

b. ??The dodos are extinct.

Heim (2011) made a related observation, where a first-mention BP is fine with a collective predicate but unacceptable with a definite plural:

(4) a. Cats number over 500 million.
b. ??The cats number over 500 million.

But *number over 500 million* is not a kind-level predicate:

(5) The tweets that I have liked number over 500 million.

So the contrast cannot be explained by requiring that the argument of the predicate is a kind. Notice that (3b) and (4b) – but *not* (5) – elicit the question: *Which dodos/cats?* In cases where that question does not arise, definite plurals are fine with kind-level predicates (Ralston, n.d.):

(6) Within a short distance of Castlebar…there is a small bog-lake called Derreens. Ten years ago it was celebrated for its numerous well-sized trouts. Accidentally pike effected a passage into the lake from the Minola river, and now the trouts are extinct, or, at least, none of them are caught or seen.[2]

More generally, definite plurals are much better with kind-level predicates when they are not 'first-mention' in a discourse:

(7) My friend is an evolutionary biologist. She told me about some interesting species of bats, including Sunda flying foxes, Palawan fruit bats and dusky flying foxes. Unfortunately, the Palawan fruit bats are endangered and the dusky flying foxes are extinct.

These data suggest that there is no general prohibition on definite plurals with kind-level predicates. The contrast in (3) could then be explained by the fact that definites are generally not acceptable without an antecedent or some contextually salient entities that satisfy the description, i.e. an answer to the question, *Which dodos?*

1.2.2 Lack of specificity

We also need to explain the infelicity of indexical BPs.

(8) a. ??Computers in the next room come in three sizes.
b. The computers in the next room come in three sizes.

[2]This is from the English Web 2021 corpus (enTenTen21) (accessed via Sketch Engine). There are many similar examples to be found in that corpus.

It is helpful to consider a case where an indexical BP is fine as generic and compare it with a definite plural (Fodor, 1970):

(9) a. The cows in this field wear bells.
b. Cows in this field wear bells.

(9a) can say something about the cows *currently located in the field*, whereas (9b) seems to say something about merely possible members of the class too, i.e. if some other cow were moved into this field, it would wear a bell. BPs are used to talk about **open** classes of objects, definite plurals are used to talk about **closed** classes. To illustrate this, we can provide a discourse in which (8a) sounds good:

(10) Welcome to the Apple store. In this room you will find only our largest model of laptop, but computers in the next room come in three sizes.

This context suggests that the speaker is talking not about some specific plurality of computers but possible future computers too. This follows from the idea that BPs are like definites with no domain restriction: definites can refer to contextually salient pluralities, whereas BPs cannot. This contrast can be explained if we assume that definite descriptions take an extra argument ranging over sets of objects (Westerståhl, 1984).

(11) $[\![\text{the}]\!] = \lambda C_{\langle e,t\rangle}.\lambda P_{\langle e,t\rangle}.\iota x(P(x) \wedge C(x))$

The C variable restricts the reference of the definite to a contextually salient set of entities. Since BPs contain no C variable, they don't have this use.

1.2.3 Do we need individual concepts for kind predication?

Krifka (2003) suggests that there is an analogy between sentences with kind-level predicates like *are extinct* and examples like (12) (following Montague, 1973):

(12) a. The temperature is ninety.
b. The temperature is rising.
c. $\not\Rightarrow$ Ninety is rising.

The idea is that the verb *rise* measures the value of $[\![\text{the temperature}]\!]$ at different indices so its argument must be a function from indices to values (i.e. $\langle s, e\rangle$). Applying this idea to *are extinct*, we would say that the predicate checks the extension of $^\cap[\![\text{dodos}]\!]$ at various times. The predicate is true of an individual concept $^\cap[\![\text{dodos}]\!]$ at a time t iff the extension of $^\cap[\![\text{dodos}]\!]$ is non-empty at some time $t' < t$ and is empty at t (and, possibly, empty at all times t'', where $t < t''$).

If BPs refer to pluralities, not kinds, then the alternative analysis is: *Dodos are extinct* is true at a time t iff at some time $t' < t$ there is some x among the dodos such that x is alive at t' and there is no x among the dodos such that x is alive at t (and, possibly, there is no x among the dodos such that x is alive at any time t'', where $t < t''$). So it is not clear that e-type analysis faces a problem here.

Another prediction to test is to try to force substitution failures like in (12). Assume:

$$^{\cap}[\![\text{dodos}]\!] \neq [\lambda s_{.}[\![\text{the large flightless birds that Dutch colonists first encountered in the 16th Century}]\!]_s]$$

Then the following substitution should fail:

(13) a. Dodos are extinct.
b. Dodos are the large flightless birds that Dutch colonists first encountered in the 16th Century.
c. ⇒ The large flightless birds that Dutch colonists first encountered in the 16th Century are extinct.

But this inference is intuitively valid. Similarly, although

$$^{\cap}[\![\text{woolly mammoths}]\!] \neq [\lambda s_{.}[\![\text{Jack's favourite animals}]\!]_s]$$

the following argument is valid:

(14) a. Woolly mammoths disappeared 5000 years ago.
b. Woolly mammoths are Jack's favourite animals.
c. ⇒ Jack's favourite animals disappeared 5000 years ago.

2 Distributive kind predication

2.1 Varieties of law-likeness

Lawler (1973) presented some now famous contrasts suggesting that indefinite singular generics encode a stronger form of law-likeness than BPs:[3]

(15) **'Accidental' reading**
a. Large language models are popular. *true*

[3]Lawler was not writing about LLMs in 1973 – these are Guerrini's updated examples.

b. A large language model is popular. *false*

(16) **'Law-like' reading**

a. Large language models utilise deep learning. *true*

b. A large language model utilises deep learning. *true*

One way to explain the contrast is to assume that the accidental readings are direct kind predications, while the law-like reading involves a modal generic operator, GEN (Krifka et al., 1995).[4] If indefinite singulars never refer to kinds, then the accidental reading won't be available.

(17) a. $\text{popular}_s(^\cap\text{LLMs})$ *true*

b. $gen(x, s)[\text{LLM}_s(x)][\text{popular}_s(x)]$ *false*

(18) a. $\text{use.deep.learning}_s(x)(^\cap\text{LLMs})$ *true*

b. $gen(x, s)[\text{LLM}_s(x)][\text{use.deep.learning}_s(x)]$ *true*

But there are a few problems with this analysis. First, clear cases of kind predication sentences don't have what are known as Quantificational Variability (QV) readings (cf. Berman, 1987), where a BP (or indefinite singular) 'picks up' the quantificational force of a Q-adverb:

(19) **QV effects for characterising sentences**

a. Bears are/A bear is {seldom/often/always} brown.

b. ≈ Few/most/all bears are brown.

(20) **No QV effects for kind predication sentences**

a. Bears are {seldom/often/always} widespread.

b. ≉ Few/most/all bears are widespread.

The idea is that the Q-adverb replaces the covert GEN, generating a sentence that differs only in its quantificational force. But BPs with accidental properties do have QV readings (Cohen, 2001), which suggests that they are not simple kind predications:

(21) a. Large language models are usually popular.

b. ≈ Most LLMs are popular.

This is not conclusive, as it might just show that these sentences can contain GEN, which is not disputed. But there is much better evidence that these aren't simple kind predications: Cohen (2001) observes that there is evidence of scope ambiguity (and hence an operator) in the accidental sentences:

[4] I have been using gen for the metalanguage unselective binder; GEN is the unpronounced object-language expression.

(22) Large language models are popular with exactly one tech CEO.

a. *Can mean:* It is generally true of LLMs x that there is exactly one tech CEO y such that x is popular with y. ($OP > \exists$)

b. *Can mean:* There is exactly one tech CEO x such that LLMs are popular with x. ($\exists > OP$)

We can also get bound readings of pronouns where the value covaries for each LLM:

(23) a. Large language models are popular with their fans.

b. *Can mean:* It is generally true of each LLM x that x is popular with the fans of x.

2.2 Distributive kind predication

Guerrini's (2026) proposal is to treat this accidental reading on a par with distributive predication over pluralities. The operator present is not the modal generic operator, but an extensional distributivity operator (cf. Link, 1987; Roberts, 1987; Winter, 2001):

(24) $[\![\textsc{dist}]\!] = \lambda P_{\langle e,t\rangle}.\lambda x_e.\forall y(y \leqslant_{at} x \ \rightarrow P(y))$[5]
(Every atomic part of x is P)

With DIST scoping over the predicate in (15a), we have a structure like this:

(25) [[Large language models] [DIST [are popular]$_{s_0}$]]

The final analysis requires two more steps. First, the BP needs to be type-shifted by *nom* (to type $\langle s, e\rangle$). But the predicate wants an argument of type e, so the situation argument of the kind term is saturated by a situation variable, whose value is supplied contextually (by a variable assignment):

(26) **Distributive kind predication**
$[\![$[$^\cap$[Large language models]$_{s_0}$ [DIST [are popular]$_{s_0}$]]$]\!]$ =
1 iff $\forall y(y \leqslant_{at} {}^\cap\text{LLMs}_{s_0} \rightarrow \text{popular}_{s_0}(x))$

In the false generic reading, the situation variable is bound by the generic operator:

(27) **Bona fide generic**
$[\![$[$^\cap$[Large language models] [GEN [are popular]]]$]\!]$ =
1 iff $gen(x, s)[x \leqslant {}^\cap\text{LLMs}_s][\text{popular}_s(x)]$

[5] A mereological atom is defined: $at(x) \leftrightarrow_{df} \forall y(y \leqslant x \rightarrow y = x)$. $\ulcorner y \leqslant_{at} x \urcorner$ abbreviates $\ulcorner y \leqslant x \wedge at(y) \urcorner$.

Guerrini thinks that both structures are in principle always available. Indefinites can scope over DIST and DIST can bind variables, which explains the evidence a covert operator in (22) and (23).

2.3 Extension to functional BPs

This proposal explains the availability of an accidental reading of BPs that also have a generic reading. But there are 'quasi-universal' readings of BPs that have no generic reading. These are known as *functional* BPs, following Condoravdi (1994). Intuitively, they are roughly equivalent in meaning to definite plurals and appear to refer to the maximal plurality that satisfies the description in a situation:

(28) In 1985, there was a ghost on campus…
(The) students were afraid (Condoravdi, 1994).

(29) It's that time of year, autumn…
(The) leaves are turning yellow and (the) ducks are flying south (Schubert & Pelletier, 1987).

Functional BPs don't exhibit QV effects with Q-adverbs:

(30) a. In 1985, there was a ghost on campus…
Students were {usually/always} afraid.
$\not\approx$ {Most/all} students were afraid.

Guerrini takes this as evidence that these sentences can't contain GEN and extends his distributive kind predication theory to them:

(31) [$^\cap$leaves$_{s_1}$ [DIST [are turning yellow]$_{s_1}$]]
$\forall y(y \leqslant_{at} {}^\cap\text{leaves}_{s_1} \rightarrow \text{turn.yellow}_{s_1}(y))$

If functional readings arise by a derived kind predication LF, we predict that functional readings are not available for BPs that do not denote kinds. Guerrini thinks that this prediction is borne out because of examples with epistemic adjectives like *unknown* and *unidentified*. He uses the following test to check for a functional reading. The reasoning is that the response is felicitous only if the BP has stronger than existential force, since the response asserts that the existential is true and so cannot be taken to express a disagreement with an existential generalisation. If, however, the BP has maximal reference, the response is acceptable.

(32) a. Today, American voters are handing in their ballot.

b. That's not true! Only about 300 of them are.

(33) a. Today, unidentified voters are handing in their ballot.
(In the reading entailing: 'the identity of the voters handing in their ballots is not known to the speaker')

b. #That's not true! Only about 300 of them are.

He takes this as evidence that $^{\cap}[\![\text{unidentified voters}]\!]$ is undefined, blocking a functional reading. But the same responses are acceptable for many BPs that are assumed not to denote kinds (Dayal, 2013; Ralston, 2026a):

(34) a. It has been an extremely harsh winter…

b. Bears that survived it are emerging from their dens.

c. That's not true, only the male ones are!

(35) a. In 1985, there was a ghost on campus…

b. Students who heard the news gathered in the cafeteria.

c. That's not true, only some of them did!

(36) a. Shirts on this rack are discounted.

b. That's not true, only two of them are! (I'll take you to court for false advertising.)

That leaves us with a choice: (i) give up the restriction to kinds on *nom*, or (ii) give up the proposed analysis of functional BPs. My preference is to adopt the suggestion above: assume BPs are shifted by *iota*, not *nom*, which has no restriction for kinds. Then we can keep this analysis of functional BPs (although the 'kind' terminology is now a misnomer).

This leaves one question: why does (33a) not have a functional reading? Notice that in cases like this (and unlike cases where a functional reading is available), a plural definite description is extremely awkward (Ralston, 2026a):

(37) a. Voting is now in progress….

b. (#The) unidentified voters are handing in their ballot. *only* $\exists$

c. (The) American voters with a Social Security number beginning with a '1' are handing in their ballot. $\forall$ *or* $\exists$

(38) a. There was a press conference…

b. (#The) unknown journalists asked questions. *only* $\exists$

c. (The) journalists with White House accreditation asked questions. $\forall$ *or* $\exists$

The lack of a functional reading of (33a) could be explained by whatever rules out the definite description here. This may have something to do with the strangeness of accommodating an existence presupposition for a maximal plurality of voters who are stated to be unknown to the speaker. Whatever the explanation, (33a) does not look like good evidence that BPs that don't denote kinds have no functional reading.

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