

(Bare) plural DPs and L2 Acquisition: from generics to mass/count distinction and plurality

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Overview

- Aim to propose bare plural DPs as a key property for L2 study on genericity and mass/count distinction
- Bare plural DPs for L2 genericity
- Bare plural DPs for L2 mass/count distinction: crosslinguistic facts.
- Singular-plural distinction in Mass (vs. Count) and implications for L2 studies

Studies in L2 DPs

- L2 properties in DPs: the list is endless
 - L2 articles, genericity, mass-count distinction, number/gender agreement, clitics, binding...
- Complexity of DPs: structural and pragmatic dependency
 - E.g., Article use with definiteness/specificity - interfacing with discourse
 - E.g., Binding - local/distance antecedence
- Genericity and Mass/Count distinction
 - Relatively free from such dependency, and yet a complexity of itself

- Main Issues in L2
 - Sentence level vs NP level
 - Bare plural NPs (English) vs. Definite Plural NPs (Spanish)
 - Complex paradigm with different article use
 - Isolating and testing generic phenomenon independently for L2 learnability

⇒ Bare Plurals (BPs)!

BPs: Subject vs Object Asymmetry

- (1) a. Cats like dogs (Stative V)
b. Pandas will soon become extinct. (Kind-selecting V)
[Carlson and Pelletier, 1995, p.65]

- (2) (Kind-selecting V)
a. Shockley invented the transistor/ ?? transistors.
b. The Summerians invented the pottery wheel/ ??pottery wheels.
c. The French settlers in Mauritius exterminated the dodo/ ??dodos.
[Carlson and Pelletier, 1995, p.70-71]

Learnability Problem

- Not available in L2 input
- The contrast not taught
- L1 Korean - no such asymmetry - BPs are fine.
- Acquirable despite POS?

- Tested two groups of Korean speaking learners of English
 - EFL learners in Korea (KK) and ESL learners in the UK (KE)
 - Timed AJT and translation task

Translation Task

- (3) Kind referring generics in object position (n=8)
- a. Shockley-ka transistor-lul balmyeonghaessta.
Shockley-nom transistor-acc invented
(Shockly, invent, transistor)

Possible Target Responses:

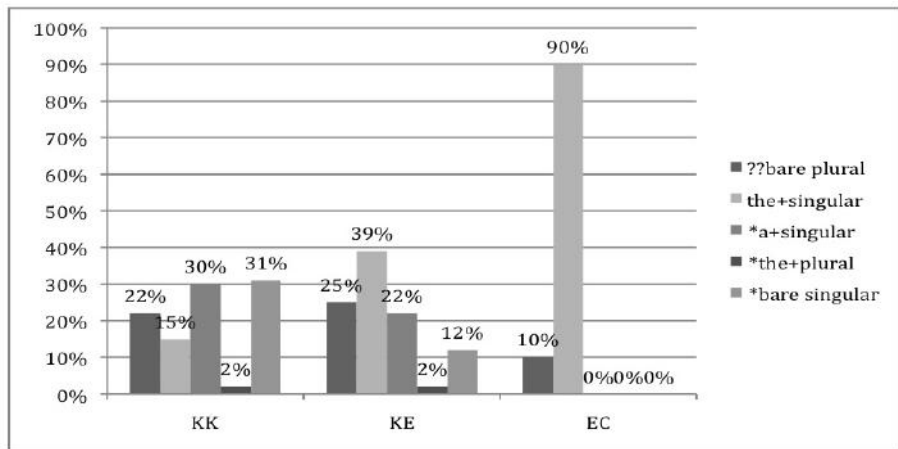
Shockley invented the transistor/??transistors.

Timed Acceptability Judgment Task

- (4)
- a. Tom has never seen a dodo. French settlers exterminated the dodo.
 - b. Tom has never seen a dodo. French settlers exterminated ??dodos.

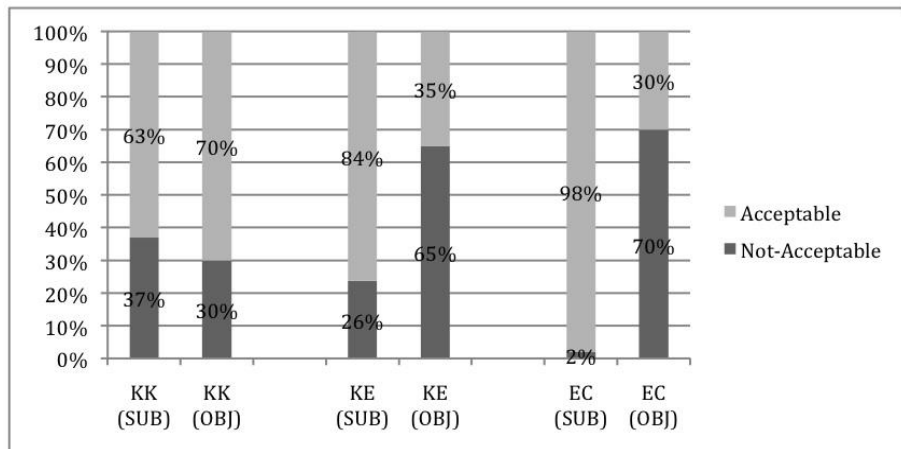
Translation Task Result

Table: Usage rates of different NP forms in object position after kind requiring verbs



Timed Acceptability Judgment Task Result

Table: Acceptability rates of bare plural NPs in object position after kind requiring verbs



Findings and follow up

- English controls tend not to prefer BPs after kind-selecting verbs
- This trend is followed by KE (but not KK)
- The individual analysis would show if the exposure period would be a predictor (via a linear regression analysis).
- If supported, BPs provide a crucial diagnostic tool for UG.

Mass-Count Distinction

- Nominal Mapping Parameter

[Chierchia, 1998; Nemoto, 2005; Snape, 2008]

- Boundedness

[Paradis, 2001]

- Individuation

[Papafragou, 2005; Inagaki, 2014]

- Vagueness

[Chierchia, 2010]

- Atomicity

[Kim, 2005; Choi et al., 2018]

Atomicity in L2: Choi et al. [2018]

- Atomic: When the smallest element can be identifiable by the nominal
 - *furniture, table, jewellery*
- Non-atomic: When there is no smallest element as such
 - *water, air, oil*

- Atomicity does not map onto the mass/count distinction in English (plural marking in yellow highlight)

Table: English nouns for each category

Category	Nouns used
Count concrete	computer, pencil, chair, boy
Count abstract	method, idea, message, topic
Mass atomic concrete	furniture, luggage, equipment, cash
Mass atomic abstract	evidence, advice, information, literature
Mass non-atomic concrete	water, gas, oil, air
Mass non-atomic abstract	happiness, courage, fun, beauty

[Choi et al., 2018, Modified from Appendix 1, p176]

- Following Kim [2005], in Korean, plural marking is suggested to occur with atomic nouns (in yellow highlight)

Category	Nouns used
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[Choi et al., 2018, Modified from Appendix 1, p176]

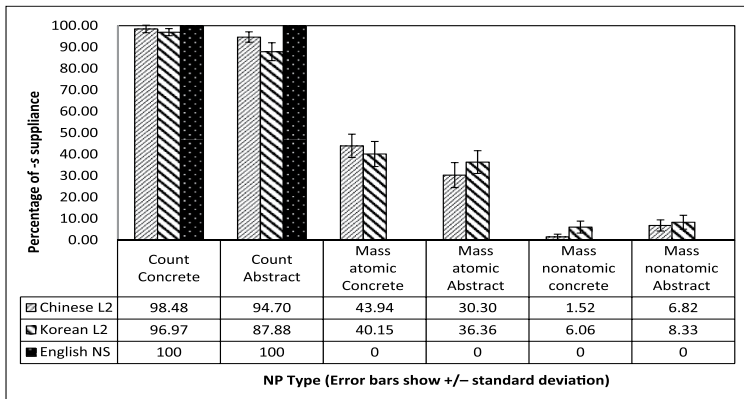
Count/Mass paradigm: English, Korean and Mandarin Chinese

	English	Korean	Mandarin Chinese
Classifiers	No (but has measure nouns)	Yes	Yes
Plural marking	Yes (-s)	Yes (- <i>tul</i>)	Yes (- <i>men</i>)
Obligatory/optional plural marking	Obligatory	Optional except with definites	Optional with [+human] nouns, impossible with [-human] nouns
Diagnostic for count/mass syntax	plural marking, numerals, indefinite article, <i>many</i> vs. <i>much</i>	plural marking	count vs. mass classifiers
The mapping between atomicity and count/mass syntax	Atomic nouns can be count or mass; Non-atomic nouns are mass	Atomic nouns are count; Non-atomic nouns are mass	Atomic nouns are count; Non-atomic nouns are mass

[Choi et al., 2018, Table 1, p156]

Similar patterns between L1 Korean and L1 Chinese groups

Figure: English Grammar Task (GT) results, Exp. 1: % of -s suppliance.



[Choi et al., 2018, Modified from Fig.1, p163]

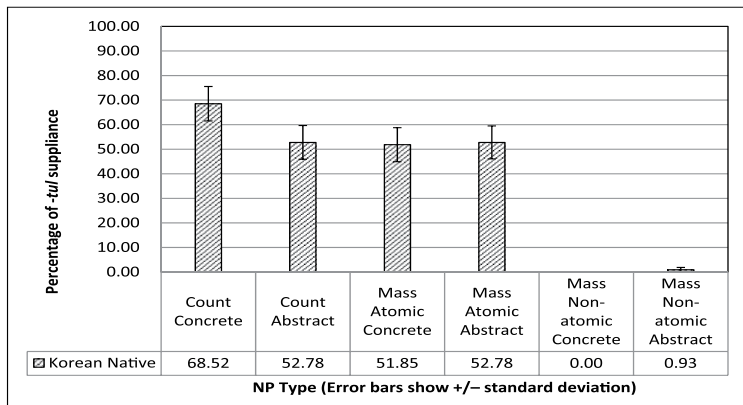
Finding 1: Atomicity as a semantic universal

- Chinese and Korean are very different in their plural marking over mass/count nouns
- The two groups patterned together.
- L2 learners rely on universal semantics - *Atomicity*
- (Allegedly) together with L1 transfer.

(Allegedly) together with L1 transfer?

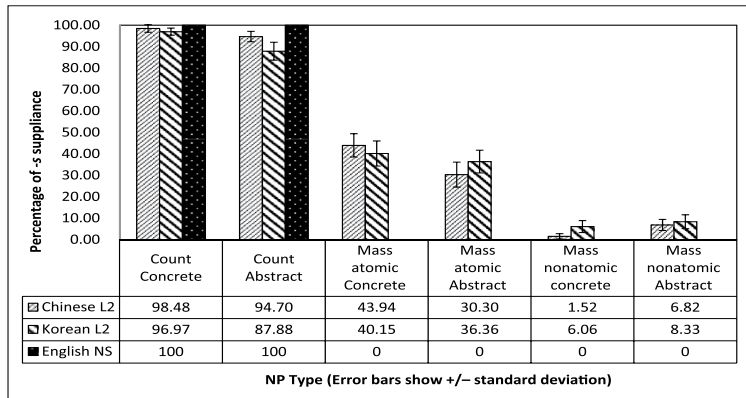
- Why the rates remaining around 50%?

Figure: Korean Grammar Task (GT) results, Exp 2, % of *-tul* suppliance



- Why L2 performance remains less than 50% in some of the mass categories?

Figure: English Grammar Task (GT) results, Exp. 1: % of -s suppliance.



[Choi et al., 2018, Modified from Fig.1, p163]

- Why such variation within mass nouns?
 - If Atomicity is a determining universal factor, why the performance in atomic mass nouns not tallying with atomic count nouns?
 - Mass always standing out as most challenging in L2 findings
 - Plural Mass: Type Shift in English
- (5)
- a. I like only three wines: chardonnay, pinot, and chianti
 - b. I like only three dogs: Irish setters, golden retrievers, and collies

[Chierchia, 2010, ex.10, p.106]

'not fully general'
'heavily context dependent'
'graded judgement'

[Chierchia, 2010, p.106]

tul in Korean: Plurality, Specificity, Distributivity

- (6) ai(-tul)-i hakkyo-ey ka-ss-ta.
child(-pl)-nom school-to go-past-decl

With *-tul*: '(The/some specific) children went to school.'

Without *-tul*: 'A/the child or (some, non-specific) children went to school.'

[Hwang and Lardiere, 2013, ex.1b, p.59]

tul in Korean: Plurality, Specificity, Distributivity

- (7) a. twu haksayng-i pheyiphe-lul ceychwulhay-ss-ta.
two student-Nom paper-Acc submit-Past-Decl
'Two students submitted one (e.g. co-authored) paper.'
'Two students each submitted a paper.'
- b. twu haksayng-tul-i pheyiphe-lul ceychwulhay-ss-ta.
two student-Pl-Nom paper-Acc submit-Past-Decl
%'Two students submitted one (e.g. co-authored) paper.'
'Two students each submitted a paper.'

[Choi et al., 2018, Modified ex.7, p.152]

tul in Korean: on non-nominals

- (8) haksayng-tul-i yelsimhi(-tul) enehak-ul kongpuha-n-ta.
student-pl-nom intently(-epl) linguistics-acc study-pres-decl

'The students study linguistics intently.'

= 'Every student studies linguistics intently.'

[Hwang and Lardiere, 2013, ex.1a, p.59]

-tul on mass nouns

- (9)
- | | | |
|----|---------------------------|-----------------------------|
| a. | wain (wine, a wine) | wain-tul (wines) |
| b. | khephi (coffee, a coffee) | khephi-tul (coffees) |
| c. | mwul (water, a water) | mwul-tul (waters) |
| d. | hayngpok (happiness) | hayngpok-tul (*happinesses) |
- e. ilsang-uy cakun hayngpok-tul
daily-life-Gen trivial happiness-Pl
'trivial instances of happiness of daily life'
(Korea JoongAng Daily, 2010)

[Choi et al., 2018, Modified from ex.9, p.153]

Plural Mass in Korean

- Plurality of a unit;
- Plurality of an instance
- Not always kind referring (type shift)

Plural Mass in Greek - Inference of abundance

Tsoulas [2008]

- In Greek, plural mass nouns trigger an inference of abundance.

- (10)
- a. Ta hionia pano sto aftokinito mu
the snows up to car my
'the snows on top of my car'
- b. Ta nera brosta apo to spiti mu
The waters in-front-of house my
'the waters in front of my house'

- English: Not possible in general
- Limited to certain contexts only

- (11)
- a. The waters of the Pacific
 - b. The sands of the Sahara
 - c. The snows of the Kilimanjaro

- Greek and English do very similar things, but;
- Greek has generalised the use of the plural to signify abundance in the case of mass nouns

Crucially, pluralised mass nouns are **still mass**

- (12) *Dio **ner-a** trehun apo to tavani.
two water-PL drip.3pl from det ceiling
'Two waters are dripping from the ceiling'

[from Tsoulas 2008, p. 135]

Other languages with pluralised mass nouns: Kuikuro (Franchetto 2013), Innu-aimun (Gillon 2015), Ojibwe (Rhodes 1990, Mathieu 2012), Blackfoot (Wiltschko 2012)

The inferences of plural

- (13) Trehun **ner-a** apo to tavani.
drip.3pl water-pl from det ceiling
'Water is dripping from the ceiling'
↷ *A lot of water is dripping*

Abundance Inference

- (14) I tighri taise **ghurunia**.
DET tiger fed pig.PL
'The tiger fed pigs.'
↷ *The tiger fed more than one pig*

Multiplicity Inference

- Kane et al. [2015] — the abundance inference is a context-dependent counterpart of the multiplicity inference

Multiplicity Inference: upward entailing contexts

(15) I tighri taise ghurunia.

DET tiger fed pig.PL

'The tiger fed pigs.'

↷ *The tiger fed more than one pig*

Multiplicity Inference

Multiplicity Inference: downward entailing contexts

(16) I tighri dhen taise ghurunia.

DET tiger NEG fed pig-PL

'The tiger didn't feed pigs.'

↯ *The tiger didn't feed more than one pig*

↷ *The tiger didn't feed any pig*

Multiplicity Inf.

Abundance inference: upward entailing contexts

- (17) Tis zebras tis epesan zahare-s.
DET zebra CL dropped sugar-PL
'The zebra dropped sugar.'

↷ *The zebra dropped a lot of sugar*

Abundance Inference

Abundance inference: downward entailing contexts

- (18) Tis zebras dhen tis epesan zahare-s.
DET zebra NEG CL dropped sugar-PL
'The zebra didn't drop sugar.'

↗ *The zebra didn't drop a lot of sugar*

↘ *The zebra didn't drop any sugar*

Abundance Inference

Multiplicity and abundance inferences — Summary

Both **multiplicity** and **abundance inferences**:

- tend to arise in upward entailing contexts
 - tend to disappear in downward entailing contexts
- not part of the lexical meaning of plural (cf. Chierchia [1998]; Alexiadou [2011])

Child and Adult L1 on Multiplicity and Abundance Inferences

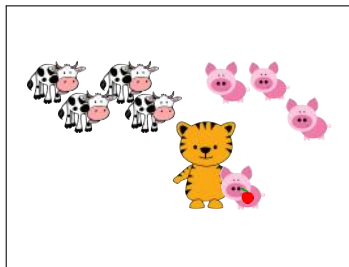
Tieu et al. [2014, 2016]

- experimental study on **multiplicity inferences** in English
- supports an implicature approach

Renans et al. [2018]

- experimental study on both **multiplicity** and **abundance inferences** in Greek
- supports an implicature approach
- provide evidence for a unified analysis of plural morphology across the mass and count divide

Plural positive condition



(19) I tighri taise ghurunia!

DET tiger fed pig-PL

'The tiger fed pigs.'

(20) a. *The tiger fed more than one pig*

b. *The tiger fed one or more pigs*

Multiplicity Inf.

Plural positive condition



- (21) Tis zebras tis epesan zahare-s.
DET zebra CL dropped sugar-PL
'The zebra dropped sugar.'

- (22) a. *Zebra dropped a lot of sugar*
b. *Zebra dropped a little or a lot of sugar*

Abundance Inf.

- Children tend to compute fewer implicatures less than adults
- In general, this is consistent with L1 literature
- But where is children's interpretation coming from?

Plurality: What does the plural marking do?

- Two or more? (exclusive reading)
- One or more than one? (inclusive reading)

- (23) If you have children, raise you hand!
- 'If you have two or more children.... '
 - 'if you have one or more than a child...'

- Two readings are possible
- The experiment results show that children allows (b) and less of (a), while adults exclusively (a)
- Plurals thus are not just about plurality as we know.
- Singular and plural Mass are more available than we know

MacDonald and Carroll [2018]

- L2 study of Mass/count distinction in English by Korean speaking learners
- The finding is that the difficulty is not on mass/count distinction, but on the understanding of plurality

Inclusive vs Exclusive reading of Plurality

- Most languages including English: both inclusive and exclusive
- Known exceptions: Korean, Turkish and West Armenian: exclusive reading

- Plurality itself need more investigation, let alone in L2 studies
- L2 mass/count distinction is implicated on plurality

On singular vs plural mass

- Singular/plural mass distinction is not common
- A systematic study is yet to be done (cf. Renans et al. [2018])
- But is it as rare as we think?

Japanese singular/plural mass: Watanabe [2017]

- Plural marking is not completely optional

- (24)
- a. Ringo-no ichibu-ga kusatteiru. ambiguous.
apple-gen part-nom is.rotten
'Part of the apple(s) is/are rotten.'
(Ambiguous, Partitive)
- b. Ichibu-no ringo-ga kusatteiru. unambiguous
part-link apple-nom is.rotten
'Some of the apples are rotten.'
(Unambiguous, Reverse Partitive)


[Watanabe, 2017, modified from ex.1, p.2]

Singular/Plural Mass as a new insight for L2 of Mass/Count distinction

- The extent of singular/plural mass nouns is still to be known
- However, more findings on this category have significant implications for SLA
- L2 studies should be extended to other languages than just L2 English
- L2 studies such as L2 Greek by Japanese L1 and English L1 would be a start.

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