

Generic and kind interpretations of nominal expressions with and without articles: experimental evidence from native and non-native speakers

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1

Collaborators

- **Collaborator on the genericity project:**
 - Silvina Montrul (University of Illinois at Urbana-Champaign)
- **Collaborators on specific languages:**
 - Brazilian Portuguese: H elade Santos (University of Illinois at Urbana-Champaign)
 - Korean: Ji-Hye Kim (Soongsil University)
 - Spanish: Monica Crivos (Universidad CAECE sede Mar del Plata)
 - Russian: Vadim Philippov (Orel State University)

2

Research program

- Goal: to experimentally investigate the distribution of nominals with generic and kind interpretations:
 - with native speakers of languages that have articles
 - with second language learners whose native languages have articles
 - with second language learners whose native languages do not have articles

3

Motivation for this research program

- There is much semantic literature on the distribution of different NP/DP forms in different types of generic environments, across languages
 - (e.g., Vegnaud & Zubizarreta 1992; Krifka et al. 1995; Longobardi 2001; Chierchia 1998; Dayal 2004, Schmitt & Munn 1999, 2002; Munn & Schmitt 2005; M uller 2002, 2003, among many others)
- But there is disagreement on the judgments
 - and little or no experimental investigation into how linguistically na ive native speakers interpret nominals in generic contexts
- And very little is known about the processes involved in the second language acquisition of generic/kind interpretation
 - most prior work on articles in second language acquisition has focused on non-generic environments

4

Broad research questions

- RQ1: Do the judgments of linguistically na ive native speakers support existing semantic proposals of generic/kind interpretation?
- RQ2: Is there evidence for cross-linguistic transfer in the acquisition of kind/generic interpretations by second language learners?
- RQ3: Do learners show sensitivity to distinctions between different types of generic/kind readings, even when this distinction is not morphologically encoded in their native language?

5

Roadmap for this talk

- Part 1. The expression of genericity in languages with articles
 - native speakers of English, Spanish and Brazilian Portuguese
- Part 2. The acquisition of the expression of genericity by learners whose native languages have articles
 - Spanish-speaking learners of English
 - English-speaking learners of Spanish
- Part 3. The acquisition of the expression of genericity by learners whose native languages do not have articles
 - Russian-speaking learners of English
 - Korean-speaking learners of English

6

Part 1.

The expression of genericity in languages with articles

7

Genericity in English

- Three types of NPs can be used in generic contexts
- **Definite singulars:**
 - The hummingbird is a bird.
- **Indefinite singulars:**
 - A hummingbird is a bird.
- **Bare plurals:**
 - Hummingbirds are birds.
- But not...
- **Bare singulars:** *Hummingbird is a bird
 - bare singulars are entirely ungrammatical in English
- **Definite plurals:** #The hummingbirds are birds
 - ok on non-generic reading → refers to a specific group of hummingbirds



8

Two different types of genericity (see Krifka et al. 1995)

- **Type 1: genericity at the NP-level**
 - the NP is kind-denoting, and hence compatible with kind predicates (*be extinct*, *be common*, etc.)
 - Dodo birds are extinct.
- **Type 2: genericity at the sentence level**
 - the sentence has a characterizing reading, through the presence of a generic operator
 - Cats (typically) like milk.

9

Kind-reference and types of generics

- Subjects of kind predicates (*be extinct*, *be common*, etc.) denote kinds (Carlson 1977)
- **Bare plurals and definite singulars can denote kinds, indefinite singulars cannot (Krifka et al. 1995):**
 - Dodo birds are extinct.
 - The dodo bird is extinct.
 - #A dodo bird is extinct.



10

Types of generics

- **Indefinite singular generics have generic readings only when they occur in characterizing sentences**, where they are bound by a generic operator
- **Bare plurals, in contrast, can denote kinds at the NP level:**
 - **The Ambiguity approach** (Krifka 1988, Wilkinson 1991, Diesing 1992):
 - bare plurals are ambiguous between kind readings ('Dodo birds are extinct') and indefinite readings, on which they can be bound by a generic operator ('Cats like milk') or an existential operator ('Cats are in the room').
 - **The Kind analysis** (Carlson 1977, Chierchia 1998):
 - bare plurals always denote kinds, and operators quantify over members of the kind
- **Definite singulars can denote kinds at the DP level:**
 - but not necessarily through the same mechanism as bare plurals

11

Definite singular generics and the 'well-defined kind' (WDK) restriction

- **Definite singulars are restricted to species or well-defined kinds** (Carlson 1977, Vergnaud & Zubizarreta 1992, Krifka et al. 1995):
 - The brown bear is a dangerous animal.
 - #The angry bear is a dangerous animal.
- **There is no WDK restriction on bare plurals:**
 - Brown bears are dangerous animals.
 - Angry bears are dangerous animals.
- **Some analyses:**
 - **Vergnaud & Zubizarreta (1992):** singular definite generics are [+species], and must denote prototypes
 - **Chierchia (1998):** singular definite generics are formed via a massifying operation applied to a singular count noun
 - **Dayal (2004):** singular definite generics denote taxonomic entities

12

English vs. Romance

- English has bare plural but not definite plural generics:
 - ✓ Dodo birds are extinct.
 - # The dodo birds are extinct
 - ✓ The dodo bird is extinct
- For Spanish and most other Romance languages, it's just the opposite:
 - * Pájaros dodo están en extinción.
 - ✓ Los pájaros dodo están en extinción.
 - ✓ El pájaro dodo está en extinción.
- Brazilian Portuguese is in the middle: both bare plural and definite plural generics

13

Genericity in Brazilian Portuguese (BrP)

- Five different options for expressing genericity (Schmitt & Munn 2002, Müller 2002)



- Definite singular: ✓O beija-flor é uma ave.
 - Indefinite singular: ✓Um beija-flor é uma ave.
 - Bare singular: ✓Beija-flor é ave.
 - Definite plural: ✓Os beija-flores são aves.
 - Bare plural: ✓Beija-flores são aves.
- All mean 'Hummingbirds are birds' / 'A/the hummingbird is a bird'

- Which of these are cases of NP-level vs. sentence-level genericity?
- Which (if any) are subject to the WDK restriction?

14

Empirical questions: unresolved issues in the literature

- In Brazilian Portuguese, is NP-level genericity (kind readings) available...
 - only to definite singulars & definite plurals (Müller 2002)?
 - or to bare plurals and bare singulars as well (Schmitt & Munn 2002)?
- Is the WDK restriction...
 - a property of definite singular generics in English, but not in Romance (Vergnaud & Zubizarreta 1992)?
 - or a general property of definite singular generics cross-linguistically (Dayal 2004)?
 - or a property of both definite singular *and* definite plural generics in Brazilian Portuguese (Müller 2002)?

15

Semantic framework adopted for this work: Chierchia (1998), Dayal (2004)

- Semantic operators (from Partee 1987): ι and \cap
- The extensional ι operator: $\iota: \lambda P \iota x [P_s(x)]$
 - maps properties to the maximal individual satisfying that property
 - the semantics of canonical definiteness
- The intensional \cap operator: $\cap: \lambda P \lambda s \iota x [P_s(x)]$
 - maps properties to functions from situations to the maximal entity that satisfies that property in that situation
 - the semantics of kind-formation
- These operators can in principle apply either overtly or covertly
- The **Blocking Principle** (Chierchia 1998): if a language has an overt determiner that lexicalizes a particular operation, this blocks the covert application of this operation

16

Cross-linguistic differences (Dayal 2004)

- English: the definite article lexicalizes ι
 - definite readings of bare NPs are blocked by the existence of the definite article
 - \cap can apply covertly, but yields kinds only for plurals → bare plurals have kind readings
- Romance languages (Spanish, French, Italian...): definite articles lexicalize both ι and \cap
 - definite plurals have both definite and kind readings
 - bare plurals cannot have either
- But what about Brazilian Portuguese, which allows both definite and bare plurals to have generic readings?

17

Dayal (2004): ι is central to definiteness, while \cap is peripheral

- Option 1: Definite articles lexicalize only ι , while \cap applies covertly (English)
 - definite plurals have only canonical definite readings
 - bare plurals have kind readings, and are blocked from having canonical definite readings
- Option 2: Definite articles lexicalize both ι and \cap , and the Blocking Principle is enforced for both (Spanish, French, Italian)
 - definite plurals have both canonical definite and kind readings
 - bare plurals are blocked from having either
- Option 3: Definite articles lexicalize both ι and \cap , but the Blocking Principle is enforced for ι only (some dialects of German – Krifka et al. 1995) → can also account for Brazilian Portuguese
 - definite plurals have both canonical definite and kind readings
 - bare plurals have kind readings, but are blocked from having canonical definite readings

18

Singular generics (Dayal 2004)

- **Canonical definite readings (derived by ι) include:**
 - non-generic (e.g., anaphoric, familiar) definite readings
 - **singular kind readings:** definite singular generics are derived by ι applied to a taxonomic NP
 - **the WDK restriction is a pragmatic consequence of denoting a taxonomic entity**
- **Plural vs. singular generics:**
 - plural generics (*lions* in English, *the lions* in Romance): "the kind whose members have a property of being lions"
 - singular generics (*the lion* in English and Romance): "the taxonomic entity 'lion'"
- Support: taxonomic NPs can combine with different determiners, are not restricted to singular generics
 - The lion (=the species of lion) is dangerous.
 - Every lion (=every species of lion) is dangerous.
 - A lion (=a subspecies of lion) is dangerous.

19

Summary of Dayal's proposal, for languages with definite articles

	canonical, non-generic definites	singular kind terms	plural kind terms
derived by	the ι operation	the ι operation applied to a taxonomic NP	the Π operation
definiteness marking?	obligatory	obligatory	varies by language: can be obligatory (Spanish), optional (Brazilian Portuguese), or obligatorily absent (English)
subject to the WDK restriction?	n/a	yes	no

20

Experimental study

- Goal: to experimentally test the predictions of Dayal's (2004) account for the distribution of nominals with kind and generic readings, in English, Spanish, and Brazilian Portuguese

Ionin, Montrul and Santos. 2011. Lingua

21

Predictions based on Dayal's (2004) proposal

- **Prediction #1: definiteness marking is obligatory with singular kind terms (derived by ι)**
 - if bare singulars are grammatical (as in BrP), they are indefinite terms (which can occur in generic sentences), but the *Blocking Principle* prevents them from being kind terms
- **Prediction #2: languages vary in whether definiteness marking is required with plural kind terms (derived by Π)**
 - definiteness marking may be obligatory (Spanish), optional (BrP), or obligatorily absent (English)
- **Prediction #3: the WDK restriction is a pragmatic consequence of denoting a taxonomic entity**
 - the WDK restriction is attested with definite singular kind terms cross-linguistically, but not with plural kind terms

22

Methodology

- **Participants:**
 - 22 native English speakers (in Illinois)
 - 16 native Spanish speakers (in Argentina and in Illinois)
 - 19 native Brazilian Portuguese speakers (in Brazil)
- **Task: Acceptability Judgment Task (AJT)**
 - each item is a story followed by 5 different continuations
 - participants rate each continuation as (un)acceptable in the context of the story, on a scale from 1 (unacceptable) to 4 (acceptable)
 - 10 categories X 4 items per category = 40 items total
 - 20 test items (NP type varied)
 - 20 filler items (tense/aspect varied)
 - task administered on the web, via survey gizmo

23

Test item format

- Five continuation types for the test items: subject NP varied
 - definite singular
 - indefinite singular
 - bare singular
 - definite plural
 - bare plural
- **Focus here on two of the test categories:**
 - **Kind-reference category**
 - **Generic genericity**
- The other three categories were control / distracter categories:

24

Test categories

- **Set-up for 'Kind-reference' category:**
 - a well-defined kind is established (WDK restriction respected)
 - the target sentence contains a kind predicate (*be extinct, be widespread, etc.*)
- **Set up for 'Generic' category:**
 - the kind is not well-defined (WDK restriction violated)
 - the target sentence is characterizing

25

Kind-reference category, English

- I really like going to the zoo. Unfortunately, there are many animals that can't be found in a zoo, or anywhere else. It's very sad. For example...
 - **The dodo bird is extinct.**
 - A dodo bird is extinct.
 - Dodo bird is extinct.
 - The dodo birds are extinct.
 - **Dodo birds are extinct.**

26

Kind-reference category, Spanish

- **Realmente me encanta ir al zoológico. Desafortunadamente hay muchos animales que ya no se pueden encontrar en un zoológico, ni en ninguna otra parte. Es una lástima porque por ejemplo...**
 - **El pájaro dodo está en extinción.**
 - Un pájaro dodo está en extinción..
 - Pájaro dodo está en extinción.
 - **Los pájaros dodo están en extinción.**
 - Pájaros dodo están en extinción.

27

Kind-reference category, BrP

- **Eu gosto muito de ir ao zoológico. Infelizmente, há vários animais que nós não vemos mais no zoológico ou em nenhum outro lugar. É muito triste! Por exemplo...**
 - **O pássaro dodô está extinto.**
 - Um pássaro dodô está extinto.
 - Pássaro dodô está extinto.
 - **Os pássaros dodô estão extintos.**
 - **Pássaros dodô estão extintos.**

28

Predictions for Kind-reference category

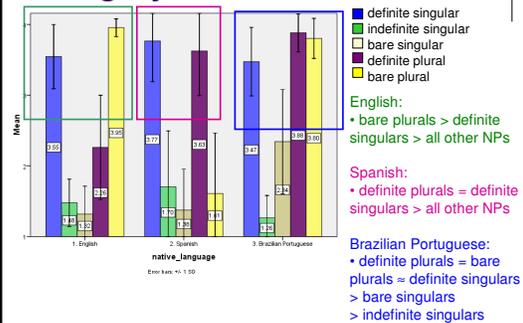
NP-type	English	Spanish	Brazilian Portuguese
definite singular	√The dodo bird is extinct.	√El pájaro dodo está en extinción.	√O pássaro dodô está extinto.
indefinite singular	#A dodo bird is extinct.	#Un pájaro dodo está en extinción.	#Um pássaro dodô está extinto.
bare singular	*Dodo bird is extinct.	*Pájaro dodo está en extinción.	#Pássaro dodô está extinto.
definite plural	#The dodo birds are extinct.	√Los pájaros dodo están en extinción.	√Os pássaros dodô estão extintos.
bare plural	√Dodo birds are extinct.	*Pájaros dodo están en extinción.	√Pássaros dodô estão extintos.

√= predicted to be acceptable with kind reading
 #=predicted to be unacceptable with kind reading
 *=entirely ungrammatical

Prediction based on Dayal (2004)

29

Results: Kind-reference category



30

Generic category (English)

- My brother has been in a bad mood lately. And no wonder – his apartment is so uncomfortable, it must be very depressing to live there. And he has a very dim and unpleasant overhead light. I told him he should buy a new lamp – something pleasant. For example, I know that...
 - The green lamp is very relaxing.
 - A green lamp is very relaxing.**
 - Green lamp is very relaxing.
 - The green lamps are very relaxing.
 - Green lamps are very relaxing.**

31

Generic category (Spanish)

- Mi hermano ha estado de mal humor últimamente. Y no me extraña: su apartamento es tan incómodo que debe ser deprimente vivir allí. Tiene una lámpara de techo muy tenue y desagradable. Le dije que se debería comprar una lámpara nueva, algo más agradable. Por ejemplo, sé que...
 - La lámpara verde es muy relajante.
 - Una lámpara verde es muy relajante.**
 - Lámpara verde es muy relajante.
 - Las lámparas verdes son muy relajantes.**
 - Lámparas verdes son muy relajantes.

32

Generic category (BrP)

- O meu irmão tem estado de mal humor ultimamente. Não sem motivo: o apartamento dele é muito desconfortável e deve ser muito deprimente morar lá. E ele tem um lustre com uma luz muito fraca e desagradável. Eu disse a ele que ele deveria comprar uma luminária nova: alguma coisa agradável. Por exemplo, eu sei que...
 - A luminária verde é muito relaxante.
 - Uma luminária verde é muito relaxante.**
 - Luminária verde é muito relaxante.**
 - As luminárias verdes são muito relaxantes.**
 - Luminárias verdes são muito relaxantes.

33

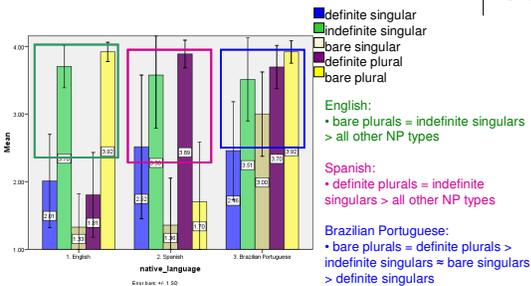
Predictions for the Generic category

NP-type	English	Spanish	Brazilian Portuguese
definite singular	#The green lamp is very relaxing.	#La lámpara verde es muy relajante.	#A luminária verde é muito relaxante.
indefinite singular	√A green lamp is very relaxing.	√Una lámpara verde es muy relajante.	√Uma luminária verde é muito relaxante.
bare singular	*Green lamp is very relaxing.	*Lámpara verde es muy relajante.	√Luminária verde é muito relaxante.
definite plural	#The green lamps are very relaxing.	√Las lámparas verdes son muy relajantes.	√As luminárias verdes são muito relaxantes.
bare plural	√Green lamps are very relaxing.	*Lámparas verdes son muy relajantes.	√Luminárias verdes são muito relaxantes.

√= predicted to be acceptable with generic reading
 #=predicted to be unacceptable with generic reading
 *=entirely ungrammatical

Prediction based on Dayal (2004) 34

Results: Generic category



35

Examining the predictions

- Prediction #1: definiteness marking is obligatory with singular kind terms (derived by *l*)**
 - if bare singulars are grammatical (as in BrP), they are indefinite terms (which can occur in generic sentences), but the *Blocking Principle* prevents them from being kind terms
- Prediction supported:**
 - bare singulars in BrP were rated significantly higher in the Generic category than in the Kind-reference category (and significantly below definite singulars in the Kind-reference category)
 - evidence that bare singulars are indefinites (which can be bound by a generic operator), not kind terms
 - caveat: the ratings of bare singulars in the Generic category were not as high as expected (more on this later)

36

Examining the predictions

- Prediction #2: languages vary in whether definiteness marking is required with plural kind terms (derived by \cap)
 - definiteness marking may be obligatory (Spanish), optional (BrP), or obligatorily absent (English)
- Prediction supported: the three languages showed three different patterns
 - in English, bare plurals were rated significantly higher than definite plurals, in both test categories
 - in Spanish, definite plurals were rated significantly higher than bare plurals, in both test categories
 - in BrP, definite and bare plurals were rated equally high, in both test categories
 - **bare plurals in BrP can be kind terms: definiteness marking is optional**

37

Examining the predictions

- Prediction #3: the WDK restriction is a pragmatic consequence of denoting a taxonomic entity
 - the WDK restriction is attested with singular definite kind terms cross-linguistically, but not with plural kind terms
- Prediction supported:
 - **in all three languages, definite singulars were rated low in the Generic category, where the WDK restriction was violated** (significantly lower than definite singulars in the Kind-reference category; and significantly lower than other target NP types in the Generic category)
 - no other NP type was found to be subject to the WDK restriction

38

More on BrP bare singulars

- BrP bare singulars are used more in casual / informal / oral registers
 - the task was written and formal, and this may have lowered the ratings of bare singulars
 - the Kind-reference category may have been particularly formal, and this may account for the low ratings
 - need auditory presentation of the sentences, and less formal contexts
- Even if formality was a confound:
 - **there is clear evidence that bare singulars are not derived by ι** applied to a taxonomic NP: unlike definite singulars, bare singulars were not found to be subject to the WDK restriction
 - if bare singulars *can* be kind terms in BrP, they must be derived in some other way: possibly by \cap applied to a number-neutral NP (Dobrovie Sorin and Pires de Oliveira 2008)
 - more research required

39

Part 1: conclusion

- The findings are consistent with Dayal (2004), or with any other proposal that...
 - explains why definiteness marking is optional with plural kind terms but obligatory with singular kind terms, even in a language which allows bare singular arguments
 - explains why singular kind terms but not plural kind terms are subject to the WDK restriction
- Evidence for universality in how singular kind terms vs. plural kind terms are derived
- Experimental studies can provide evidence for or against semantic theories

40

Part 2.

The acquisition of the expression of genericity by learners whose native languages have articles

41

Cross-linguistic transfer in second language (L2) acquisition

- Transfer from the first language (L1) to the L2 is well-attested at the levels of phonology and syntax (for overviews, see Odlin 1989, Gass & Selinker 1992, White 2003)
- Recent studies have also found transfer at the level of semantics (overview in Slabakova 2008)
- Learning a new interpretation of a lexical item or syntactic structure is often found to be easier than unlearning an existing interpretation (Slabakova 2006, Gruter et al. 2010)
- **Is there L1-transfer in the interpretation of plural NPs in generic contexts when the two languages (English and Spanish) differ? Is L1-transfer equally pervasive in both English→Spanish and Spanish→English directions?**

42

Prior studies of transfer with articles



- **Positive L1-transfer with article semantics is attested:**
 - L1-Spanish L2-English learners are quite accurate at using articles in non-generic environments (where Spanish is like English), in comparison to L2-learners from article-less L1s (Ionin, Zubizarreta & Bautista Maldonado 2008; cf. Hawkins et al. 2006)
- **But what about generic contexts, where Spanish behaves differently from English? Is negative L1-transfer attested?**

43

Prior studies of generic interpretation in L2-acquisition



- Slabakova (2006): a study of **bare plural** interpretation in generic contexts in the English → Italian and Italian → English direction:
 - learning that bare plurals can be generic in English was easier than learning that they *cannot* be generic in Italian
- Serratrice, Sorace, Filiaci and Baldo (2009): a study of **bare plural and definite plural interpretation by English/Italian bilingual children**
 - in English, both bilingual and monolingual children overaccepted bare plurals with non-generic readings, as well as definite plurals with generic readings → difficulty learning about when definite vs. bare plurals are appropriate
 - in Italian, monolingual children were very good at accepting definite plurals and rejecting bare plurals; bilingual children overaccepted bare plurals, especially with generic readings
 - **overall, learning about (un)grammaticality (in Italian) was easier than learning about interpretation (in English)**

44

Experimental study



- **Goal:** to examine whether there is L1-transfer in the interpretation of definite and bare plural NPs by L1-English L2-Spanish and L1-Spanish L2-English learners
- **Focus on plural generics:**
 - In English, bare plurals have generic readings, definite plurals do not
 - In Spanish, definite plurals have both generic and non-generic readings, bare plurals are ungrammatical in preverbal subject position

Ionin, Montrul and Crivos. Under review at *Applied Psycholinguistics*

45

The English → Spanish direction



- **Definite plurals (*los tigres*):**
 - L1-transfer would lead learners to treat *los tigres* as obligatorily non-generic
 - **learning task:** learn the generic reading of *los tigres*
 - **EASY!** can learn from positive evidence: *los tigres* in generic sentences and with kind predicates
- **Bare plurals (*tigres*):**
 - L1-transfer would lead learners to treat *tigres* as grammatical with generic interpretation
 - **learning task:** unlearn the generic reading of *tigres*
 - **still EASY:** bare plurals in Spanish are in general ungrammatical in preverbal subject position (with some exceptions), and this is much emphasized in classroom instruction
 - the learning task is about **grammaticality**: have to learn that bare plurals are ungrammatical in subject position, with any interpretation



46

The Spanish → English direction



- **Bare plurals (*tigres*):**
 - L1-transfer would lead learners to disallow *tigres* with generic readings, and more generally in preverbal position
 - **learning task:** learn that bare plurals can appear in preverbal subject position, and learn the generic reading of bare plurals
 - **EASY!** can learn from positive evidence: bare plurals in subject position, in generic sentences and with kind predicates
- **Definite plurals (*the tigers*):**
 - L1-transfer would lead learners to allow both generic and non-generic readings for *the tigers*
 - **learning task:** have to unlearn the generic reading of definite plurals
 - **HARD!** the unlearning cannot proceed from positive evidence alone
 - **preverbal definite plurals are grammatical in English:** the learning task is about **interpretation**: have to learn that definite plurals lack the generic reading, and have only the specific reading



47

Methodology



- **Tasks:**
 - the AJT described in Part 1
 - cloze tests of English/Spanish proficiency
- **Participants in the English study:**
 - 22 native English speakers (same as in Part1)
 - 32 L1-Spanish L2-English learners, classroom learners in Argentina (15 low/intermediate proficiency, 17 high-proficiency)
- **Participants in the Spanish study:**
 - 16 native Spanish speakers (same as in Part1)
 - 31 L1-English L2-Spanish learners, classroom learners in Illinois (16 low/intermediate proficiency, 15 high proficiency)

48

Kind-reference category (focus on sentences with plural NPs)

- I really like going to the zoo. Unfortunately, there are many animals that can't be found in a zoo, or anywhere else. It's very sad. For example...
 - The dodo birds are extinct.
 - Dodo birds are extinct.**
- Realmente me encanta ir al zoológico. Desafortunadamente hay muchos animales que ya no se pueden encontrar en un zoológico, ni en ninguna otra parte. Es una lástima porque por ejemplo...
 - Los pájaros dodo están en extinción.**
 - Pájaros dodo están en extinción.

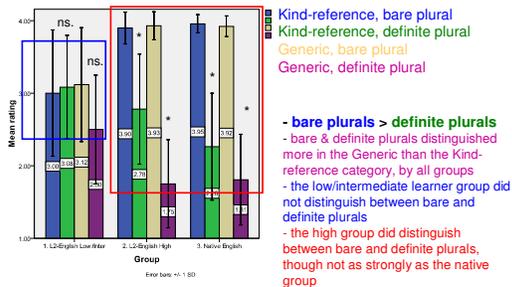
49

Generic category (focus on sentences with plural NPs)

- My brother has been in a bad mood lately. And no wonder – his apartment is so uncomfortable, it must be very depressing to live there. And he has a very dim and unpleasant overhead light. I told him he should buy a new lamp – something pleasant. For example, I know that...
 - The green lamps are very relaxing.
 - Green lamps are very relaxing.**
- Mi hermano ha estado de mal humor últimamente. Y no me extraña: su apartamento es tan incómodo que debe ser deprimente vivir allí. Tiene una lámpara de techo muy tenue y desagradable. Le dije que se debería comprar una lámpara nueva, algo más agradable. Por ejemplo, sé que...
 - Las lámparas verdes son muy relajantes.**
 - Lámparas verdes son muy relajantes.

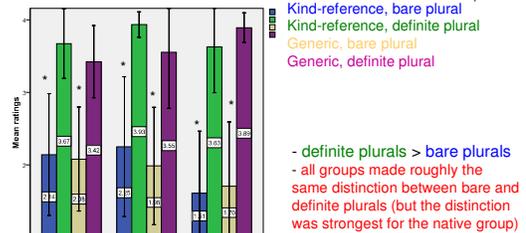
50

Results: Kind-reference and Generic categories, English study



51

Results: Kind-reference and Generic categories, Spanish study



52

L1-transfer with generic/kind interpretation

- Spanish → English direction:
 - clear evidence for L1-transfer: both learner groups rated definite plurals too high with kind/generic readings, and the low/intermediate group also rated bare plurals too low
 - recovery from L1-transfer is attested: the high group was more target-like than the low/intermediate group
- English → Spanish direction:
 - the role of L1-transfer is not much in evidence: even at the low/intermediate level, learners behaved like native speakers, rating bare plurals low and definite plurals high
 - (however, L1-transfer was attested for some individual learners)

53

Part 2: conclusion

- L1-transfer is attested in the interpretation of plural NPs in generic/kind contexts by L2-learners
- But the extent of L1-transfer depends on the learning task: **learning about (un)grammaticality is easier than learning about interpretation**
- L1-English L2-Spanish learners have to learn that in preverbal position, bare plurals are ungrammatical and definite plurals are grammatical → this is easy
- L1-Spanish L2-English learners have to learn when bare plurals vs. definite plurals are appropriate in English → this is difficult

54

Part 3.

The acquisition of the expression of genericity by learners whose native languages **do not** have articles

55

Prior studies on the L2-acquisition of English articles by learners from article-less L1s

- Most studies have focused on *non-generic environments* (Huebner 1983, Master 1987, Thomas 1989, among others):
 - errors of article omission and article misuse in non-generic contexts
- Access to semantic universals (Ionin, Ko and Wexler 2004):
 - L2-English learners from article-less L1s (Russian and Korean) make non-random errors of article misuse
 - overuse of *the* is constrained to specific indefinites, and overuse of *a* is constrained to non-specific definites
 - proposal: L2-learners have access to universal semantic distinctions (definiteness and specificity) but have trouble learning which one is appropriate for English
- What about articles in *generic contexts*?

56

Semantics vs. morphology: some background assumptions

- Semantics is universal:
 - all languages can make reference to specific entities and to kinds, and can make generalizations about entities
- But semantics-morphology mappings are language-specific:
 - not all languages morphologically mark definites vs. indefinites, generic vs. non-generic NPs, or different types of genericity
- The nature of L2-acquisition (Slabakova 2008):
 - L2-learners have full access to universal semantic distinctions
 - But learning language-specific morphology-semantics mappings may be problematic
 - This makes specific predictions for L2-acquisition of singular generics

57

Singular generics in L2-English

- English **indefinite** singular generics:
 - regular indefinites, bound by a generic operator
 - if learners have acquired the basic meaning of the English indefinite, they should have no problem with indefinites in characterizing sentences
- English **definite** singular generics:
 - semantically distinct from regular (non-generic) definites
 - if learners have acquired the basic meaning of *the*, they have learned that definites can denote individuals
 - but, this does not guarantee that learners will also know that definites can denote species / taxonomic entities

58

Experimental study

- Goal: To examine whether L2-English learners coming from article-less L1s (Russian and Korean) are capable of distinguishing between NP-level and sentence-level genericity, and between definite and indefinite singular generics in English
- Russian uses bare plurals & bare singulars for kind-reference and in characterizing sentences
- Korean uses bare singulars, and possibly bare plurals, for kind-reference and in characterizing sentences (Kim 2005, Nemoto 2005)

Ionin, Montrul, Kim and Philippov. Under review at Language Acquisition

59

Generic interpretation in Russian

- Characterizing sentences with well-defined kinds:
 - Burye medvedi zimoy vpadajut v spjachku → bare plural
Brown bears hibernate in winter.
 - Buryj medved' zimoy vpadajet v spjachku → bare singular
Brown bear hibernates in winter.
- Characterizing sentences with non-well-defined kinds:
 - Rasserzhennye medvedi ochen' opasny. → bare plural
Angry bears are very dangerous.
 - Rasserzhennij medved' ochen' opasen. → bare singular
Angry bear is very dangerous.
- True kind reference (with kind predicates):
 - Pticy dodo ischezli s lica zemli. → bare plural
Dodo birds have disappeared from the face of the earth.
 - Ptica dodo ischezla s lica zemli. → bare singular
Dodo bird has disappeared from the face of the earth.

60

Generic interpretation in Korean

- **Characterizing sentences with well-defined kinds:**
 - ?Pwulkom-tul-un wihemha-n tongmwul-tul-i-ta. → bare plural
Brown bear-Pl-Top dangerous-Ad animal-Pl-Cop-Decl
 - Pwulkom-un wihemha-n tongmwul-i-ta. → bare singular
Brown bear-Top dangerous-Ad animal-Cop-Decl
- **Characterizing sentences with non-well-defined kinds:**
 - ?Hwa(ka)na-n kom-tul-un wihemha-n tongmwul-tul-i-ta. → bare plural
angry-Ad bear-Pl-Top dangerous-Ad animal-Pl-Cop-Decl
 - Hwa(ka)na-n kom-un wihemha-n tongmwul-i-ta. → bare singular
angry-Ad bear-Top dangerous-Ad animal-Cop-Decl
- **True kind reference (with kind predicates):**
 - Toto-say-tul-un myelconghay-ss-ta. → bare plural
Dodo-bird-Pl-Top extinct-Past-Decl
 - Toto-say-nun myelconghay-ss-ta. → bare singular
Dodo-bird-Top extinct-Past-Decl

61

Acquiring the distinction between singular generics

- **L1-transfer is of no help:**
 - bare singulars in Russian/Korean encompass the meanings of definite and indefinite singular generics
- **L2-instruction is of little or no help:**
 - all three types of English generics are usually lumped together, the distinction between types of genericity is not clearly discussed
- **The input is hard to analyze:**
 - *The dog is a faithful pet / A dog is a faithful pet* → what's the difference?
 - In order to distinguish definite and indefinite singular generics in the input, learners first need to understand the distinction between sentence-level vs. NP-level genericity



62

Hypothesis: singular generics in L2-acquisition

- **Hypothesis:** L2-English learners are sensitive to the distinction between sentence-level and NP-level genericity, even when it is not morphologically encoded in their L1
- **Prediction 1:** sensitivity to types of genericity, combined with the semantics of indefinites, should lead to correct acceptance of indefinites with sentence-level but not with NP-level genericity
- **Prediction 2:** definite singular generics may be more difficult to acquire, because they involve learning an additional specification on the definite article (that it marks species / taxonomic entities)

63

Methodology

- **Tasks:**
 - the AJT described in Part 1
 - cloze test of English proficiency
- **Participants:**
 - 22 native English speakers (same as in Part 1)
 - 33 L1-Russian L2-English classroom learners in Russia
 - 45 L1-Korean L2-English classroom learners in Korea
 - both groups included learners from low/intermediate to high proficiency
 - but, the Russian group had higher average English proficiency than the Korean group
 - therefore, the groups are not compared directly; focus on the pattern within each group

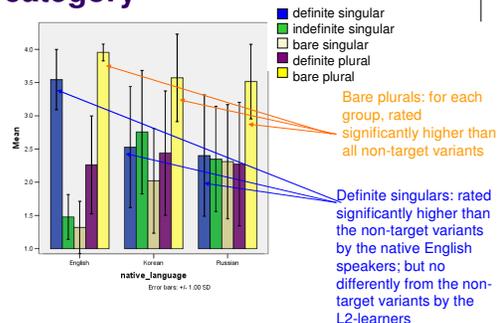
64

Kind-reference category, English

- I really like going to the zoo. Unfortunately, there are many animals that can't be found in a zoo, or anywhere else. It's very sad. For example...
 - a) **The dodo bird is extinct.**
 - b) A dodo bird is extinct.
 - c) Dodo bird is extinct.
 - d) The dodo birds are extinct.
 - e) **Dodo birds are extinct.**

65

Results: Kind-reference category



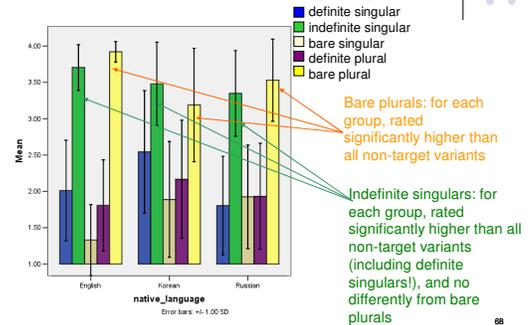
66

Generic category (English)

- My brother has been in a bad mood lately. And no wonder – his apartment is so uncomfortable, it must be very depressing to live there. And he has a very dim and unpleasant overhead light. I told him he should buy a new lamp – something pleasant. For example, I know that...
 - a) The green lamp is very relaxing.
 - b) **A green lamp is very relaxing.**
 - c) Green lamp is very relaxing.
 - d) The green lamps are very relaxing.
 - e) **Green lamps are very relaxing.**

67

Results: Generic category



68

Summary: indefinite singular generics

- Sensitivity to subtle semantic distinctions
- L1-Russian and L1-Korean L2-English learners **were quite accurate with English indefinite singular generics**:
 - accepted them with sentence-level genericity (Generic category)
 - rejected them with NP-level genericity (Kind-reference category)
 - even though Russian and Korean make no such distinction → bare singulars are used in both cases
- Learners' performance is consistent with the view that **indefinite singular generics are just regular indefinites → nothing special needs to be learned**

69

Summary: definite singular generics

- Particular difficulty with definite singular generics, for both Russian and Korean speakers
 - L1-Russian and L1-Korean L2-English learners did not accept definite singular generics, even at advanced proficiency levels
 - But they did accept definite singular NPs in the control anaphoric singular context → the learners were familiar with the basic meaning of *the*, but not its generic meaning
- This is consistent with the view that **definite singular generics are semantically distinct from regular definites**
- A further complicating factor: definite singular generics are low-frequency, restricted to academic / formal contexts (Biber et al. 1999) → learners may not receive enough input to learn the meaning of definite singular generics
- But input alone cannot explain the fact that learners are able to distinguish between types of genericity with indefinite singular generics

70

Back to the predictions

- **Prediction 1**: sensitivity to types of genericity, combined with the semantics of indefinites, should lead to correct acceptance of indefinites with sentence-level but not with NP-level genericity
 - **Prediction supported**
- **Prediction 2**: definite singular generics may be more difficult to acquire, because they involve learning an additional specification on the definite article (that it marks species / taxonomic entities)
 - **Prediction supported**

71

Part 3: conclusion

- L2-learners are sensitive to semantic distinctions related to article choice:
 - definiteness vs. specificity (Ionin et al. 2004)
 - sentence-level vs. NP-level genericity (this study)
- **But, learning language-specific semantics-morphology mappings is particularly difficult**:
 - learning that articles encode definiteness rather than specificity (Ionin et al. 2004)
 - learning that English *the* has an additional generic interpretation (this study)

72

Larger implications

- **Access to Universal Grammar is not lost with age:**
 - adult learners are sensitive to semantic distinctions which are not morphologically marked in their L1 and not (much) emphasized in the L2-classroom
 - → evidence for access to semantic universals through UG
- **Learning exactly which meanings are encoded by morphemes in the L2 is particularly difficult:**
 - consistent with the proposal of Slabakova (2008) that inflectional morphology is the 'bottleneck' of the L2-acquisition process

73

Remaining questions

1. Does L1-transfer influence the acquisition of singular generics when both the L1 and the L2 have articles?
 - L1-Spanish L2-English learners – from Part 2 – were more accurate with singular generics, in both categories, than the learners from article-less L1s
 - but, even the L1-Spanish L2-English learners were more accurate with indefinite singular generics than with definite singular generics!
2. If Dayal (2004) is right, then singular kind terms are derived by the same operation as regular definites (/, applied to a taxonomic NP):
 - So why are taxonomic readings of definites so difficult for learners?

74

Back to the broad research questions

- RQ1: Do the judgments of linguistically naïve native speakers support existing semantic proposals of generic/kind interpretation?
 - **YES, the proposal of Dayal (2004) in particular**
- RQ2: Is there evidence for cross-linguistic transfer in the acquisition of kind/generic interpretations by second language learners?
 - **YES, but the extent of L1-transfer depends on the learning task**
- RQ3: Do learners show sensitivity to distinctions between different types of generic/kind readings, even when this distinction is not morphologically encoded in their native language?
 - **YES, learners distinguish the two types of genericity with indefinite singular generics – but not with definite singular generics**

75

Overview across studies: plural generics

- **English, Spanish and BrP correspond to three different options of how genericity is encoded:**
 - English: bare plurals have generic/kind readings, definite plurals do not
 - Spanish: definite plurals have generic/kind readings, bare plurals do not
 - BrP: both definite and bare plurals have generic/kind readings
- **Transfer affects the interpretation of plural NPs in L2-English and L2-Spanish**
 - but L1-transfer is greater when the learning task is about interpretation (Spanish→English direction) than when it is about (un)grammaticality (English→Spanish direction)

76

Overview across studies: singular generics

- **There is universality in the expression of generic/kind readings with singular NPs:**
 - indefinite singular generics in English, Spanish and BrP cannot denote kinds; the source of genericity is at the sentence level
 - definite singular generics in English, Spanish and BrP are kind-denoting, and subject to the WDK restriction
- **Singular generics in L2-acquisition:**
 - L2-English learners from article-less L1s are sensitive to the different types of genericity, as evidenced by performance with indefinite singular generics
 - but, they are unfamiliar with the taxonomic interpretation of singular definites

77

Open questions

- What is the status of bare singular generics in Brazilian Portuguese (and other languages)?
- How does transfer with generic/kind readings play out with other L1/L2 combinations?
- Why is learning about interpretation easier than learning about (un)grammaticality: is this primarily a function of the instruction that learners receive, or a more general fact about adult language learning?
- Why do definite singular generics present particular difficulty for learners? Is frequency a factor?

78

Further research directions



- **With native speakers:**
 - in preparation: further investigation of bare singulars in Brazilian Portuguese (auditory presentation of contexts)
 - in preparation: testing of generic/kind readings in Hebrew, which also allows bare singulars (in collaboration with Nora Boneh, Hebrew University in Jerusalem)
- **With learners: further investigation of transfer**
 - testing in progress: third language acquisition of Brazilian Portuguese generics by speakers of English and Spanish
 - in preparation: acquisition of English generics by native speakers of Brazilian Portuguese (in collaboration with Elaine Grolla, University of Sao Paolo)

79

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80

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81

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82