

Reference to definite kinds

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Goal

- Definite kinds
- Spanish, Russian, Brazilian Portuguese

(1) *El dodó vivió en la isla Mauricio.*

'The dodo lived in the island of Mauritius.'

Borik & Espinal (2015), *The Linguistic Review*.

Borik & Espinal (2017a,b), submitted.

Cyrino & Espinal (2015), *NLLT*.



Claims

- **Definite kinds** (DKs) denote the kind itself, and are the expression of D-genericity in Romance (Spa, Cat, BrP).
Extension to Russian
- At the syntax-semantics interface DKs are **numberless DPs**, composed by applying a iota operator (the meaning encoded by the definite article) to the meaning of nouns (properties of kinds, of type $\langle e^k, t \rangle$), conceived as intensional entities
- Avoid: '*singular* definite generics/kind terms'

English

[common assumptions from the literature]

- (2) a. *The owl* is common/widespread/fast disappearing/often intelligent.
b. *Owls* are common/widespread/fast disappearing/often intelligent.

Carlson (1977, 2011)

- Both subjects refer to kinds
- Definite generics (2a) have a restricted distribution wrt bare plural kinds (2b) (Krifka et al. 1995, Dayal 2004)
- Focus on BPIs. Default way to refer to kinds

English

[common assumptions from the literature]

- (2) a. *The owl* is common/widespread/fast disappearing/often intelligent.
b. *Owls* are common/widespread/fast disappearing/often intelligent.

Two different semantic types of kind referring expressions:

- The definite subject in (2a) is derived by means of the ι operator
- The BPI subject in (2b) is a result of the application of the special $\text{nom}/^{\cap}$ operator

Our claims

- BPIs are not the default, most common, or standard way to refer to kinds crosslinguistically
- **DKs are the default way to express D-genericity in Romance** (Spanish, Brazilian Portuguese)
- DKs also exist in languages without articles (Russian)
- DKs name the kind or species (Jespersen 1927), whereas plural subjects refer to a (maximal) sum of representatives of the kind

Spanish

- (3) a. *El búho es común / está por todas partes /*
the owl is common / is at all parts /
desaparece rápidamente / a menudo es inteligente.
disappears rapidly / often is intelligent
'The owl is common / widespread / fast disappearing / often intelligent.'
- b. **(Los) búhos son comunes / están por todas partes /*
the owls are common / are at all parts /
desaparecen rápidamente / a menudo son inteligentes.
disappear rapidly often are intelligent
'Owls are common / widespread / fast disappearing / often intelligent.'

Main contrasts

	English (2a) – (2b)	Spanish (3a) – (3b)
definiteness	✓	×
number	✓	✓

Fundamental question

- What is exactly the role of *definiteness* and *number* in reference to kinds (and to other generic expressions)?
- We argue that:
 - Common nouns denote properties of kinds
 - The definite article turns this denotation into a DK
 - Number should be analysed as a *realization* operator (Carlson 1977, Déprez 2005), which when applied to a common noun yields properties of objects
 - DKs do not refer to any instantiation of the kind, due to the absence of number

Theoretical proposal I: the meaning of N

- Option A – common count nouns denote properties (Partee 1987; Chierchia 1984, 1998; Krifka 2004)
- Option B - common count nouns denote a kind of thing (Carlson 1977, Zamparelli 1995)
- **Option C** – common count nouns denote properties of kinds (Espinal & McNally 2007, 2011; Espinal 2010; Dobrovie-Sorin & Pires de Oliveira 2008)

Theoretical proposal I: the meaning of N

- Three arguments in support of Option C:
 1. Restrictions on modification. A modified BN in object position of HAVE-predicates denotes an intersection of properties of kinds. Espinal (2010)

- (4)a. Té parella *estable / formal*.
has partner stable formal
'(S)he has a long-term partner.'
- b. *Té parella *alta / malalta*.
has partner tall ill
- c. Té una parella *alta/malta*.
has a partner tall ill

Theoretical proposal I: the meaning of N

- Three arguments in support of Option C:
2. Property-type anaphora *en* vs. object-level anaphora *el* in Catalan. Espinal & McNally (2011)

(5)a. *Porta rellotge. En / #el porta cada dia.*
wears watch PROP it.ACC.SG wears every day
'(S)he is wearing a watch. (S)he wears one every day.'

b. *Excepcionalment ahir a la tarda va portar rellotge.*
exceptionally yesterday in the afternoon PAST wear watch
#En / el va portar fins a la nit.
PROP it.ACC.SG PAST wear until to the night
'Exceptionally, yesterday afternoon (s)he wore a watch. (S)he wore it until nightfall.'

Theoretical proposal I: the meaning of N

- Three arguments in support of Option C:

3. Number neutral interpretation of count BNs in argument position. Catalan. Espinal (2010)

(6)a. L' ametller té flor.

the almond-tree has flower

'The almond tree has bloomed.' (It could have one flower, or more than one)

b. Tinc compte corrent al Deutsche Bank.

have account checking at.the DB

'I am a client of the DB.' (I may have one account, or more than one)

Theoretical proposal I: the meaning of N

- Formal representation of the meaning of a common noun:

(7) $[[N]] = \lambda x^k [P(x^k)]$

where P = property corresponding to the descriptive content of N
 $x^k \in K$ (domain of kinds)

- We reconcile two popular views:
 - The one according to which a noun has a property denotation (Partee, i.a.)
 - The one according to which the denotation of a common noun relates to kinds rather than to objects (Carlson, Zamparelli)

Theoretical proposal I: the meaning of N \rightarrow property of k

- This approach presupposes that nouns are conceived as *intensional entities*: intensionality does not have to be brought in by any special operator (nom/ \cap , \wedge , ι , GEN)
- Assume that there are two domains in our semantic ontology: the domain of objects and the domain of kinds.
- Common nouns range over kinds: a N *dodo* looks for entities that share a dodo-property, but in the domain of kinds
- Assume that kinds are *abstract sortal concepts* (Mueller – Reichau 2011): mental representations that are used to categorize objects

Theoretical proposal I: the meaning of N \rightarrow property of k

- Kinds are *unique entities*, with *no internal structure*, which name types and classes of things
 - Conceptualizing a kind this way does not lead to a kind being intrinsically linked to the notion of plurality. Kinds are a result of generalizing over various instances, but the product of this generalization abstracts away from instantiation, and semantically behaves like an entity without any internal structure
- Kinds are *integral entities*: do not form part of a standard quantificational domain for individuals represented by a lattice structure (Link 1983)
 - Thus, kinds can be conjoined (*the dodo and the pink pigeon*), but cannot be pluralized (*the dodos, these dodos*) or combined with any quantifier (*every dodo*)

Theoretical proposal II: the meaning of the definite article

- Partee (1987): the definite article corresponds to an operation that maps any property $\langle e, t \rangle$ onto an individual denotation $\langle e \rangle$

(9) $\iota: P \rightarrow \iota x [P(x)]$

- Sharvy (1980) and Link (1983) extended the semantics of the definite article so that it could uniformly apply to singular and plural nouns
- We assume that the iota operator expresses *maximality*: it selects the *maximal / unique entity* that satisfies the property denoted by the noun

Theoretical proposal II: the meaning of the definite article

- The definite article always has the same semantic contribution.
No ambiguity
- In the case the definite article combines with a noun whose meaning is to denote properties of kinds, the iota operator selects the maximal species itself

(10)a. $[_{DP} \text{el } [_{NP} \text{dodó}]]$ - No intervener between D and N
b. $[[\text{el dodó}]] = \iota x^k [\text{dodó}(x^k)]$ - ι binds variables of kinds (x^k)

- Output: *definite kind*
- Advantage: without extramachinery we account for the DK interpretation associated with the definite article as applied to any common noun (a count noun *el dodó*, a mass noun *el agua*, an abstract noun *la semántica*)

DKs in Spanish

- (11)a. *El dodó se extinguió en el siglo XVII.* K-level
the dodo CL extinguished in the century XVII
'The dodo was extinct in the XVII century.'
- b. *El dodó vivió en la isla Mauricio.* i-level
the dodo lived in the isle Mauritius
'The dodo lived in the island of Mauritius.'

- The kind reading of the DP subject keeps the intensionality of the noun *dodó*, since the definite article simply selects the maximal / unique entity that refers to the class itself, but does not make the denotation restricted to a given world

DKs in Spanish

Arguments for the status of DKs as the default way to refer to kinds in Spanish:

1. The definite article is obligatory not only with count nouns denoting species

(12) a. *(El) *iPod* fue inventado por Steve Jobs.
(the) iPod was invented by Steve Jobs
'The iPod was invented by Steve Jobs.'

b. *(El) *agua* se encuentra por todas partes.
the water refl found for all parts
'Water is found everywhere.'

c. *(La) *Lingüística* es el estudio del lenguaje.
the linguistics is the study of.the language
'Linguistics is the study of language.'

DKs in Spanish

Arguments for the status of DKs as the default way to refer to kinds in Spanish:

2. Use of DKs in contexts where newly discovered things have to be named.

- (13) a. Thomas Alva Edison descubrió, entre otras cosas, *la bombilla*
Thomas Alva Edison discovered among other things the bulb
y el fonógrafo.
and the phonograph
- b. Alexander Fleming inventó *la penicilina.*
Alexander Fleming invented the penicillin

DKs in Spanish

Arguments for the status of DKs as the default way to refer to kinds in Spanish:

3. Descriptive generalizations (Krifka 2012), which are formulated over kinds

(14)a. *La mosca de la fruta es típica del verano.*
the fly of the fruit is typical of.the summer
'Fruit flies are typically found in the summer.'

b. *La drosophila melanogaster es típica del verano.*
the drosophila melanogaster is typical of.the summer
'Drosophila melanogaster is typically found in the summer.'

DKs in Spanish

4. Modified DKs. Restricted kinds with classifying expressions

(15)a. *El dodó {blanco, de la isla Reunión} sólo se conoce*
the dodo white from the isle Reunion only CL knows
a partir de dibujos y descripciones.
from drawings and descriptions
'The {white dodo, Solitaire of Reunion} is only known from drawings and descriptions.'

b. $[[\text{el dodó blanco}]] = \iota x^k [(\text{blanco}(\text{dodó}))(x^k)]$

- Modified kinds with classifying expressions maintain the ability of the unmodified expression *el dodó* to refer to a kind
- Built by applying kind modifiers (of type $\langle\langle e^k, t \rangle, \langle e^k, t \rangle\rangle$) to properties of kinds (of type $\langle e^k, t \rangle$)

Next question

- What can we say for a language without articles (Russian) and for a language that can omit the article (Brazilian Portuguese)?

Russian

[common assumptions from the literature]

- Both sg and pl nominal expressions can have a generic reference (Chierchia 1998, Doron 2003, Dayal 2004)

- (16) a. *Panda* naxoditsja na grani isčeznovenija.
panda.NOM.SG is.found on verge extinction.GEN
'The panda is on the verge of extinction.'
- b. *Pandy* naxodjatsja na grani isčeznovenija.
pandas.NOM.PL are.found on verge extinction.GEN
'Pandas are on the verge of extinction.'

- Plural generics are considered as more natural and preferable

Russian

[common assumptions from the literature]

- Given that (16a) is grammatical and natural, an analysis of it is needed in the theory of grammar in any case
- **Goal:** to propose an explicit analysis for composing DKs from bare nominals in Russian. We provide independent empirical support for the definiteness of apparent bare nominals in argument position of kind-level predicates and argue that definiteness is to be associated with a null D, interpreted as the iota operator
- **Hypothesis:** DKs, even in a language without articles, encode definiteness semantically and syntactically

Russian

[common assumptions from the literature]

- The correspondence between the so-called English definite generic and the Russian bare nominal with a kind reference interpretation in (16a) is usually assumed to hold merely on the basis of their apparent singular number morphology (Dayal 2004)

(16) a. *Panda naxoditsja na grani isčeznovenija.*

‘The panda is on the verge of extinction.’

- But, what appears to be a morphologically singular kind expression is, in fact, a **numberless nominal phrase**
 - We support the claim that number morphology does not always get interpreted semantically (Pereltsvaig 2011, 2013, among others); and argue that the syntactic representation and the denotation of the “singular” kind nominal expression in (16a) does not include morphosyntactic Number

DKs in Russian

- Syntactic structure and meaning:

(17) a. $[_{DP} D [_{NP} N]]$

b. $[[Def N]] = \iota x^k [P(x^k)]$

where P corresponds to the descriptive content of a noun N,
and $x^k \in K$ (i.e., the domain of kinds)

- **DKs are syntactically and semantically numberless**
- (In the representation of generic plurals like (16b) morphosyntactic number is present)

(16) b. *Pandy* *naxodjatsja na grani isčeznovenija.*
pandas.NOM.PL are.found on verge extinction.GEN
'Pandas are on the verge of extinction.'

DKs in Russian

(16) a. *Panda* *naxoditsja* *na* *grani* *isčeznovenija*.
panda.NOM.SG is.found on verge extinction.GEN
'The panda is on the verge of extinction.'

- Recall: the analysis of Spanish (and English) DKs includes the iota operator in the semantic representation
- ι is standardly assumed to correspond to the definite article
- In the absence of articles in Russian, we should be able to find independent evidence that the iota operator is present in the semantic representation of the subject argument in (16a)

DKs in Russian

Arguments for semantic definiteness:

1. Use and interpretation of these expressions in a context that requires definiteness

(18) Context: In a biology lesson, the teacher explains various things about mammals. She explains that there are many endangered species in the world, then says the following:

Kit, *naprimer,* *naxoditsja* *na* *grani* *isčeznovenija.*
whale.NOM for.instance is.found on verge extinction.GEN

The whale / #This whale / #One whale, for instance, is on the verge of extinction.

DKs in Russian

Could *kit* in (18) be indefinite?

- Commonly believed that with k-level predicates indefinite DPs can only be interpreted taxonomically (i.e., as referring to a subkind rather than to a kind). This is not the reading we obtain in (18)
- We follow Mueller-Reichau's (2011) difference:
 - K-level predicates like *to be extinct*. Familiar arguments
 - K-level predicates like *to invent*. Novel, non-familiar arguments
- It is difficult to become extinct for something that has not existed before. Therefore, *to be extinct* requires familiar entities. Presupposition of existence of instances of the kind x, as known to the hearer → definiteness

DKs in Russian

Could *kit* in (18) be indefinite?

- (19) a. *Odin kit naxoditsja na grani*
One.NOM.SG whale.NOM.SG is.found on verge
isčeznovenija.
extinction.GEN
'One whale is in danger of extinction.'
- b. *Fred izobrel odnu sčetnuju mašinu.*
Fred invented one.ACC.SG calculating.ACC.SG machine.ACC.SG
'Fred invented a mechanical calculator.'

(19a) – subkind of whale

(19b) – new kind of mechanical calculator

DKs in Russian

Could *kit* in (18) be indefinite?

(18) Context: In a biology lesson, the teacher explains various things about mammals. She explains that there are many endangered species in the world, then says the following:

Kit, *naprimer,* *naxoditsja* *na* *grani* *isčeznovenija.*
whale.NOM for.instance is.found on verge extinction.GEN

- Should the subject of (18) be indefinite, it would necessarily yield a subkind reading, but it does not

(20) $[[kit]] = \iota x^k [kit(x^k)]$

- The iota operator simply selects the unique entity that refers to the class itself (i.e., the class described by the noun *kit*), but does not make the denotation restricted to a given world

DKs in Russian

Arguments for semantic definiteness:

2. Ramchand & Svenonious (2008): D head is needed in Russian for reasons of semantic uniformity

$\langle e, t \rangle \rightarrow \langle e \rangle$

(D head should be underspecified for features like (in)definiteness, (un)specificity, etc., which are determined contextually)

DKs in Russian

DKs in Russian are DPs

- We assume a strict correspondence between syntactic and semantic representations at the syntax-semantics interface: in the case of DKs the operator that turns the meaning of a common noun into a kind expression is the iota operator, which needs to be represented syntactically (unless we want to assume that all nouns are structurally ambiguous)

(21) [_{DP} D [_{NP} N]]

- The D layer is present in the syntactic representation of DK arguments even though there is no overt realization of the D-projection

DKs in Russian

- Pereltsvaig (2006): nominal arguments can differ in size, they can syntactically correspond to full DPs or to smaller nominals (NPs, NumPs, QPs)
- DP subjects obligatorily agree with the verbal predicate, whereas small nominals do not

(22) a. V ètom fil'me igrali [pjat' izvestnyx aktërov].
in this film played.PL five famous actors.PL.GEN
'Five famous actors played in this film.'

b. V ètom fil'me igralo [pjat' izvestnyx aktërov].
in this film played.SG.NEUT five famous actors.PL.GEN
'Five famous actors played in this film.'

- Agreeing subjects allow an individuated / a specific interpretation, a non-isomorphic wide scope reading, they may control PRO and be antecedents of anaphors, whereas non-agreeing subjects do not

DKs in Russian

Syntactic arguments for a DP structure:

1. Control of PRO. Non-agreeing subjects cannot be controllers of PRO in infinitival clauses, while agreeing subjects, being full DPs, can. DK subjects can also control PRO of a purpose clause

(23) [*Pjat banditov*]_i *pytalis' /*pytalos'* [PRO_i *ubit' Džemsa Bonda*]
five thugs.PL.GEN tried.PL/*tried.SG.NEUT to.kill James Bond
'Five thugs tried to kill James Bond.'

(24) *Panda*_i *imeet neobyčnye perednije lapy čtoby*
panda.SG.NOM has.SG unusual front paws in.order.to
PRO *uderživat' stebli bambuka.*
PRO_i hold stems bamboo
'Panda has unusual front paws to hold bamboo stems.'

DKs in Russian

Syntactic arguments for a DP structure:

2. Antecedents of reflexive pronouns. Agreeing subjects can license reflexive pronouns. DKs pattern likewise.

(25) [*Pjat banditov*]_i *prikryvali* /**prikryvalo* *sebja*_i *ot* *pul'*
five thugs.PL.GEN shielded.PL/*shielded.SG.NEUT self from bullets

Džemsa Bonda

James Bond

'Five thugs shielded themselves from James Bond's bullets.'

(26) *Tigr*_i *znaet* *kak* *zaščitit'* *sebja*_i *ot* *napadenija*.
tiger.SG.NOM knows.SG how defend self from attacks

'The tiger knows how to protect itself from being attacked.'

DKs in Russian

Syntactic arguments for a DP structure:

3. Pronominal substitution. Third person pronouns can be used to substitute full DPs, but not QPs or NPs, which can only be substituted by other (quantificational and/or pronominal) elements

- (27)a. *Pjat par* *tancevali/tancevalo* tango.
five couples.PL.GEN danced.PL/danced.SG.NEUT tango
'Five couples danced tango.'
- b. *Oni* *tancevali/*tancevalo* tango.
they.PL.NOM danced.PL/*danced.SG.NEUT tango
'Five couples danced tango. They danced a tango'.

DKs in Russian

Syntactic arguments for a DP structure:

The DK agreeing subject in (28) can only be replaced by a third person pronoun *ona* 'she', thus supporting also the claim that DKs are DPs

- (28)a. *Panda* *naxoditsja* na grani isčeznovenija.
panda.SG.NOM is.found.SG on verge extinction.GEN
- b. *Ona* *naxoditsja* na grani isčeznovenija.
she.SG.NOM is.found.SG on verge extinction.GEN
- 'The panda/She is on the verge of extinction.'

DKs in Russian

Syntactic arguments for a DP structure:

4. Distribution of relative clauses

- (29) a. Petja xodit v galstuke, (*kotoryj delaet ego smešnym).
Petja goes with tie.OBL.SG which makes him funny
'Petja is a tie-wearer (It could be one or more than one tie).'
- b. Katya nosit jubku, (*kotoruju ona vseгда pokupaetsama).
Katya wear.IMP skirt.ACC.SG which she always buys.IMP self
'Katya is a skirt-wearer.' (It could be one or more than one skirt)
- c. Katya nosit *mini-jubku*, (*kotoruju ona vseгда pokupaet sama).
Katya wear.IMP mini-skirt[ACC.SG] which she always buys.IMP self
'Katya is a mini-skirt wearer.' (It could be one or more than one mini-skirt)

(29) – bare nominal objects unspecified for synt. and sem. number

DKs in Russian

Syntactic arguments for a DP structure:

(30) *Amurskij tigr, kotoryj očen' opasen, obitaet na jugo-vostoke Rossii.*
Siberian tiger which very dangerous live on south-east Russia.
'The Siberian tiger, which is extremely dangerous, lives in the south-east part of Russia'.

- DKs take relative clauses and these relative clauses can only be interpreted as non-restrictive; they provide additional information about an already established referent
- Non-restrictive relatives have been claimed to have a DP antecedent (Jackendoff 1977, Demirdache 1991, De Vries 2006, Arsenijević and Gračanin-Yuksek 2016)

DKs in Russian

- Conclusions:
 - for an articleless language like Russian kind units unspecified for syntactic number express semantic definiteness
 - the syntactic representation of DKs involves a null D, which is translated as the iota operator

Brazilian Portuguese

- Both sg and pl nominal expressions can have a generic reference, preceded or not by a definite article (Muller 2002, Dobrobie-Sorin & Pires de Oliveira 2008)

- (31) a. *O brasileiro é trabalhador.*
the.SG Brazilian is hardworking
'Brazilians are hardworking.'
- b. *Os brasileiros são trabalhadores*
the.PL Brazilian.PL are hardworking.PL
'Brazilians are hardworking.'
- c. *Brasileiro é trabalhador.*
Brazilian is hardworking
'Brazilians are hardworking.'
- d. *Brasileiros são trabalhadores.*
Brazilian.PL are hardworking.PL
'Brazilians are hardworking.'

- Variation in number agreement (Scherre 1994, Scherre & Naro 1998a,b, Costa & Figueiredo Silva 2006, Naro & Scherre 2013, among others)

Brazilian Portuguese

- DS & PO (2008): two ways of referring to kinds:
 - Bare singulars (*brasileiro*) → kind denoting BPIs in English
 - Definite singulars (*o brasileiro*) → kind denoting definite ‘singulars’ in English

Brazilian Portuguese

- Our analysis:
 - Bare singulars (*brasileiro*)
 - DK
 - Maximal sum of individuals (intensionalized and coerced by the V)
 - Definite singulars (*o brasileiro*)
 - DK
 - Atomic individual

Brazilian Portuguese

- BNs in BrP may have a generic interpretation (in preverbal position), associated with either a definite kind term or a maximal sum

(31)c. *Brasileiro* é *trabalhador*. (Müller 2002: 280, ex. (4))
Brazilian is hardworking
'Brazilians are hardworking.'

- The English translations that are usually given for this type of examples (namely, bare plurals) do not reflect the meaning of BNs appropriately and, furthermore, have influenced the analysis that linguists have provided for them in the literature
- Example (31c) is a generic sentence in which an i-level predicate combines with a generic argument that can either refer to 'the Brazilian' kind term or the maximal sum of all the individuals of this class: 'the Brazilians'

Brazilian Portuguese

- Relevant questions in BrP:
 - Is *brasileiro* in (31c) bare in the syntactic representation?
 - Is there optionality of the D?
 - Are preverbal BNs semantically definite?
- We argue that:
 - *Brasileiro* is not bare
 - The optionality of D is only apparent. The category D is required for canonical argumenthood in Romance. (Only objects of HAVE-predicates can be smaller than DPs)
 - Subjects of categorical judgments

Brazilian Portuguese

- BrP patterns with other Romance languages in requiring D for argumenthood (Longobardi 1994, 1999, 2000; Ghomeshi et al. 2009)
- A D is necessary, either overt or covert, as an argument creator and as a bearer of definiteness
- Number encoding on D

- (32) a. Os brasileiro é trabalhador.
the.PL Brazilian is hardworking.SG
'Brazilians are hardworking.'
- b. Os brasileiro são trabalhadores.
the.PL Brazilian are hardworking.PL
'Brazilians are hardworking.'
- c. *O brasileiros é trabalhadores.
the Brazilian.PL is hardworking.PL

Brazilian Portuguese

- Without a null D hypothesis it would be difficult to explain the licensing of the entity-type anaphora *ele* 'it'. This pronoun imposes strong restrictions on the antecedent it may have. It can only refer to an entity-denoting expression

- (33) a. *Os brasileiro é trabalhador. Nesta fábrica nós contratamos eles/*ele todos os meses.*
'Brazilians are hardworking. In this factory we hire **them** every month.'
- b. *Brasileiro é trabalhador. Nesta fábrica nós contratamos eles/*ele todos os meses.*
'Brazilians are hardworking. In this factory we hire **them** every month.'

Brazilian Portuguese

- Preverbal BNs express the subject of categorical judgments
- Britto (1998, 2000) postulates that categorical judgments in this language are built by means of left dislocated constructions with a full DP containing an overt determiner in a topic position, taken back by a resumptive third person pronoun

- (34) a. Brasileiro *ele* é trabalhador.
Brazilian he is hardworking
- b. Brasileiro *eles* são trabalhadores.
Brazilian they are hardworking.PL
- c. Brasileiro *pro* é trabalhador.
Brazilian is hardworking

Brazilian Portuguese

- Preverbal BNs with i-level and k-level predicates

(35)a. *Brasileiro é trabalhador.* (Müller 2002: 280, ex. (4))
Brazilian is hardworking
'Brazilians are hardworking.'

b. Não há um problema de extinção. *Panda é comum na China.*
not has a problem of extinction panda is common in.the China
'There is not a problem of extinction. Pandas are common in China.'

Brazilian Portuguese

- Preverbal BNs with i-level and k-level predicates
- The DP names a kind of thing, with no reference to the members of the kind. DK interpretation

(36)a. $[_{TOP} [_{DP} \emptyset [_{NP} brasileiro]] [_{IP} pro \acute{e} trabalhador]]$

b. $[_{TOP} [_{DP} \emptyset [_{NP} brasileiro]] [_{IP} ele \acute{e} trabalhador]]$

(37) $\lambda x^k [brasileiro(x^k) \wedge trabalhador(x^k)]$

- Plural definite DP. Generic definite plural interpretation: maximal sum of individuals of the Brazilian kind. V-driven genericity

(38)a. $[_{TOP} [_{DP} \emptyset [_{NumP} \emptyset [_{NP} brasileiro]]] [_{IP} pro \acute{e} trabalhador]]$

b. $[_{TOP} [_{DP} \emptyset [_{NumP} \emptyset [_{NP} brasileiro]]] [_{IP} eles \acute{e} trabalhador]]$

(39) $\wedge \lambda x^o \exists x^k [brasileiro(x^k) \wedge R(x^o, x^k) \wedge x^o \in Sum \wedge trabalhador(x^o)]$

Brazilian Portuguese

- Do all the examples in (31) have the same meaning?

(31) a. *O brasileiro é trabalhador.*
the.sg Brazilian is hardworking
'Brazilians are hardworking.'

- Overt definite DP with two structures:
 - One with no Number → DK interpretation
 - One with Number → atomic interpretation (only available for this type of generic sentences in contrastive contexts)

Brazilian Portuguese

- Do all the examples in (31) have the same meaning?

(31) c. *Brasileiro* é trabalhador.
Brazilian is hardworking
'Brazilians are hardworking.'

- Covert definite DP with two structures:
 - Simpler DP with no Number → DK interpretation
 - Full DP with Number → maximal sum interpretation (the Brazilians)

Brazilian Portuguese

- Do all the examples in (31) have the same meaning?

(31) b. *Os brasileiros são trabalhadores*
the.PL Brazilian.PL are hardworking.PL
'Brazilians are hardworking.'

d. *Brasileiros são trabalhadores.*
Brazilian.PL are hardworking.PL
'Brazilians are hardworking.'

(32) a. *Os brasileiro é trabalhador.*
the.PL Brazilian is hardworking.SG
'Brazilians are hardworking.'

b. *Os brasileiro são trabalhadores.*
the.PL Brazilian are hardworking.PL
'Brazilians are hardworking.'

- The presence or absence of a plural article is not to be associated with different meanings
- DP structure. D necessarily specified for plural number. Maximal sum interpretation

General conclusion

- Both in languages with and without articles reference to kinds, conceived of as integral unique entities, encode definiteness
- DKs are the default way to express D-genericity in Romance
- DKs are syntactically and semantically numberless

Thank you!!