

Todo in Brazilian Portuguese: All or Every or Neither?*

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1. Introduction

The quantifier *todo* in Brazilian Portuguese (BP) may take a bare Noun Phrase (NP) (1), a singular (2) or a plural (3) Definite Description (DD) as its argument. The readings are not symmetrical though. Sentence (1) has only a distributive interpretation. Sentences (2) and (3) are ambiguous between collective and distributive readings.

- (1) Toda família construiu uma jangada.¹
All family built a raft
'All families built a raft'
- (2) Toda a família construiu uma jangada.
All the family built a raft
'All of the family built a raft'
- (3) Todas as famílias construíram uma jangada.
All the families built a raft
'All the families built a raft'

In sentence (1), *todo* seems equivalent to the English quantifier *every*² As expected for a distributive quantifier, *todo*+NP does not yield grammatical sentences with collective predication. The contrast between (4) and (5) illustrates this fact. On the other hand, the behavior of *todo* in sentences (2) and (3) is much more similar to the behavior of the English quantifier *all*. *Todo*+DD may be distributive (see (6) and (7)), but it also allows for collective readings (see (2) and (3)).

- (4) Toda família dormiu bem.
all family slept well

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¹ Nothing hinges on the choice of a collective noun as the argument of *todo*. All kinds of nouns are possible as will be shown by other examples in the paper. We chose 'família' because it allows us to use the same paradigm throughout.

² We do not claim that *todo*+NP and *every*+NP are totally equivalent (see Quadros Gomes 2004 and Negrão 2002).

'Every family slept well'

- (5) *Toda família construiu a jangada.³
all family built the raft
'Every family built the raft'
- (6) Toda a família dormiu bem.
all the family slept well
'All of the family slept well'
- (7) Todas as famílias dormiram bem.
all the families slept well
'All the families slept well'

This paper addresses the following questions: (i) is *todo* ambiguous between *every* and *all*? (ii) is *todo* a real quantifier or is it just an adjectival-like constituent? (iii) what is the semantic value of *todo*?

We will claim that *todo* in BP is not ambiguous between the meaning of *every* and *all*, and that it performs the same operation in all contexts it occurs. The different readings of the sentences it participates in are argued to stem from the different denotations of its arguments. We will claim that *todo* is a distributive universal quantifier that is able to quantify over partitions of both its restriction and its nuclear scope. It differs from quantifiers like *every* because it may take DDs as its argument, and because it can effect partitions within the atoms or eventualities in the denotations of its restriction and of its nuclear scope.

The paper is structured as follows. Section 2.1 presents Link's (1983) account of the English quantifier *all*, and confronts it to the BP data on *todo*. In section 2.2, Dowty's (1986) approach to *all* is presented and evaluated. The two approaches are compared and evaluated against the BP data in sections 2.3. and 2.4. Section 3 discusses Brisson's (2003) analysis of *all* and applies it to BP. We present our analysis of *todo* in section 4. Finally, section 5 summarizes our conclusions.

2. All is a Quantifier

In this section, we discuss Link (1983) and Dowty (1986) approaches to *all+pluralDD* sentences. They all claim that *all* is a universal distributive quantifier, but offer different accounts of its compatibility with collective predicates. We point out the advantages and problems of each of these approaches.

2.1. Link's 1983 Account

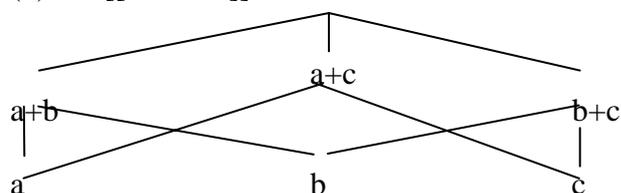
Link's (1983) theory of plurals sets up a relationship between singular common nouns like *família* ('family') and its plural *famílias* ('families'), making use of lattice structures and of a *part of* (\leq) relation. In Link's theory the denotation of a singular common noun is made of atoms. The denotation of a noun like *família* for a world with only three families is represented in (8). The denotation of its plural is made of both atoms and molecules as represented by a structure like the one in (9).

³ Sentence (5) has a possible iterative reading that means that each family gathered in the room in different times. Crucially this reading is not collective.

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(8) $[[\text{família}]] = a \quad b \quad c$

(9) $[[\text{famílias}]] = a+b+c$



Verbal predicates may be either distributive (e.g. 'sleep well'), or collective (e.g. 'gather in the hall'). According to Link, distributive predicates are atomic and may be pluralized, that is, they are structures like (8) that may be turned into structures like (9). Collective predicates, on the other hand, have only molecules in their extensions.

Distributive readings with plural DDs are the result of the application of an implicit distributive operator (D). This operator introduces universal quantification over the atoms in the denotation of the subject, as claimed by the Meaning Postulate in (10). (10) says that if a predicate is distributive, it applies to every atom in the denotation of its subject. A sentence with a distributive predicate, like (11a), and its logical form in (11b), are equivalent to a universal quantification over the atoms in the denotation of 'the families' (11c).

(10) ${}^D P \leftrightarrow \forall x (Px \rightarrow \text{Atomic}' x)$

- (11) a. The families slept well.
 b. ${}^D \text{'slept.well' (the.families')}$
 c. $\forall x [x \leq \text{the.families}' \rightarrow x \leq \text{slept.well}']$

Link analyzes *all* as a universal quantifier over the denotation of the plural subject. A sentence with a distributed predicate such as (12a) has a meaning that is expressed by classical universal quantification (12b). Because of Meaning Postulate (10), one may infer that, for Link, *all* is redundant with distributive predicates.

- (12) a. All the families slept well.
 b. $\forall x (\text{family}' x \rightarrow \text{slept.well}' x)$

Nevertheless, collective predicates can combine with *all* (see (13)). In order to maintain that *all* is a distributive universal quantifier, Link proposes an interpretation for *all*, which introduces a distributed predicate related to the original collective predicate. He posits an operator that is part of the denotation of *all*. It applies to a collective predicate and yields a corresponding distributive predicate that says that each member in the denotation of the subject must take part in the event denoted by the predicate. Sentence (13) then, according to Link, is equivalent to (14).

- (13) All the families built the raft.
 (14) The families built the raft and every student took part in building the raft.

Link's proposal seems able to describe well the interpretations of both distributed and collective predication interpretations of the BP sentences with

todo+pluralDD. A distributive sentence like (15a) is equivalent to its English translation (12), and has the same 'classical' universally quantified logical form as represented in (15b). And a collective sentence like (16a), which is the translation of (13), has the logical form in (16b). (16b) says that all the families, as a group, built the raft and that every individual family – somehow – took part in building the raft. Note that, for Link, plural DDs denote the (contextually determined) maximal sum in the denotation of the plural noun *famílias* (a+b+c in (9)).

- (15) a. Todas as famílias dormiram bem.
 all the families slept well
 'All the families slept well'
 b. $\forall x$ (family' x \rightarrow slept.well' x)
- (16) a. Todas as famílias construíram a jangada.
 all the families built the raft
 'All the families built the raft'
 b. built.the.raft' (the.families') $\wedge \forall x$ (x is an atom of 'the.families' \rightarrow took.part.in.building.the.raft' x)

In summary, according to Link, *all* is a distributive universal quantifier over the atomic elements in the plural subject. With collective predicates, it creates a new predicate from the original collective predicate, and distributes it over the atoms in the denotation of the plural subject. In the next section we will discuss Dowty's approach to the behavior of *all+pluralDD* in collective predication. We will see that *all*, like *todo+pluralDD*, is grammatical with some, but not all, collective predicates, a fact that remains unexplained under Link's account.

2.2. Dowty's Account

Dowty (1986) agrees with Link in that *all* is a universal, distributive quantifier. The behavior of *all* with collective predicates is not attributed to its lexical meaning, but to the fact that some of these predicates have distributive subentailments as parts of their meanings. Dowty points out that, although it is true that *all* is compatible with many collective predicates, there are some cases of collective predication that are not compatible with *all*. Dowty's examples carry on to *todo+pluralDD* in BP, which is ungrammatical with "pure cardinality predicates" (17), and also with the collective readings of "additional collective predicates" (18). The contrast between sentences (17a-18a) and sentences (17b-18b) shows that the ungrammaticality of the b-sentences is due to the presence of *todo*.

- (17) a. Os coalas são numerosos na Austrália.
 the koalas are numerous in-the Australia
 'Koalas are numerous in Australia'
 b. *Todos os coalas são numerosos na Austrália.
 all the koalas are numerous in-the Australia
 'All the koalas are numerous in Australia'
- (18) a. Os senadores aprovaram o aumento por unanimidade.
 the senators approved the raise by unanimity

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'The senators passed the pay raise unanimously'

- b. **Todos os senadores aprovaram o aumento por unanimidade.*
all the senators approved the raise by unanimity
'All the senators passed the pay raise unanimously'

Dowty claims that some collective predicates have entailments that apply to individuals ("distributive subentailments"), whereas others don't. The contrast between the a- and b-sentences in (17-18) also shows that *todo* is inherently distributive. Note that the sentences become ungrammatical when the predicate cannot be somehow distributed. What *todo* seems to do is to introduce a universal quantifier which is able to distribute the subentailments to every individual in a plural subject.

Dowty's advantage over Link is that, in placing the means of distributivity, the subentailments, on the predicates he is able to explain why the combination of *all* in collective predication and some predicates is ungrammatical. In the next section, we see how Link's and Dowty's accounts fare when faced with the occurrences of *todo+singularDD* and *todo+NP*.

2.3 *Todo+singularDD*

Neither Link, nor Dowty mention the occurrence of *all* with singular definite descriptions, but, with appropriate changes, their points carry on to *todo+singularDDs* in collective predication sentences. Sentence (19a) can be paraphrased as (19b), if one follows Link. The problem with the linkian logical form in (19c) – and for any analysis of *todo+DD* as universal quantification – is that the members of the family denoted by the DD *a família* in (19a) are not atoms in Link's sense. The DD *a família* denotes an atom by itself, so that, the members of *a família* are, if we are to carry on the atomic metaphor, sub-atomic, so to say. Remember that singular DDs denote the unique member of the class (in a certain context).

- (19) a. *Toda a família construiu a jangada.*
all the family built the raft
'All of the family built the raft'
b. The family built the raft and each member of the family took part in the building of the raft.
c. built.the.raft' (the family') $\wedge \forall x$ (member.of.the.family' x \rightarrow took.part.in.building.the.raft' x)

If we carry on Link's analysis to *todo+singDD* in distributed predication sentences, it comes out as universal quantification over "parts" of the entity denoted by the singular DD, as illustrated by sentence (20a) and its logical form in (20b).

- (20) a. *Toda a família dormiu bem.*
all the family slept well
'All of the family slept well'
b. $\forall x$ (member.of.the.family' x \rightarrow slept.well' x)

Dowty's points carry on to *todo+singularDDs* in collective predication contexts. The subentailments get distributed over "parts" of the denotation of the

subject. Again, cardinality predicates (21) and additional collective predicates (22) cannot be distributed, whereas collective predicates with subtailments can (23).

- (21) *Toda a família Müller é numerosa na Austrália.
 all the family Müller is numerous in-the Australia
 'All of the Müller family is numerous in Australia'
- (22) *Todo o Senado aprovou o aumento por unanimidade.
 all the Senate approved the raise by unanimity
 'The Senate passed the pay raise unanimously'
- (23) Toda a família construiu a jangada.
 all the family built the raft
 'All of the family built the raft'

In summary, in *todo+singularDD* phrases, *todo* behaves exactly parallel to *todo+pluralDD* phrases – it is a distributive universal quantifier over parts of the denotation of the singular DD. With collective predication, it distributes subtailments or sub-activities of the collective predicate.

2.4 Todo+NP

How does *todo+NP* fit into this picture? Why is it ungrammatical with collective predicates? Matthewson 2001 in her analysis of *all+bare plural*, claims that the bare plural denotes a kind. If this is so, why is *todo* unable to distribute subtailments of a collective predicate over members of the kind, as it does for DDs? In other words, if the bare noun in the restriction of *todo* denotes a kind, and is of the same semantic type as DDs, why doesn't sentence (24a) have the logical form in (24b)?

- (24) a. *Toda família constrói a jangada. (*collective reading*)
 all family builds the raft
 'All families build the raft'
- b. $\forall x$ (member.of.the.kind.family' $x \rightarrow$ takes.part.in.building.the.raft' x)

We claim that the NP in the restriction of *todo* denotes a predicate. Then there is no entity so that its parts (or members) can be said to take part in the activity denoted by the collective predicate, and there is no individual that could perform the collective action.

As for *todo+NP* with distributed predicates, the analysis within Link and Dowty approaches is straightforward: in such a context, *todo* is a classical universal distributive quantifier as expressed by the logical form (25b) of sentence (25a).

- (25) a. Toda família dorme bem.
 all family sleeps well
 'All families sleep well'
- b. $\forall x$ (family' $x \rightarrow$ sleeps.well' x)

The behavior of *todo+NP* does not parallel the behavior of *todo+DD*. *Todo+NP* is not grammatical with collective predicates. Nonetheless, in the contexts

in which it may occur, it is still a distributive universal quantifier. We conclude that the different behavior of *todo* in this context is due to the different kind of restriction.

In section III, we discuss a different proposal for the semantics of *all*. One that argues that *all* is not a determiner-quantifier, but a domain widener adjunct.

3. All is not a Quantifier: Brisson 2003

3.1 The account

Brisson (2003) claims that *all* is not a quantifier.⁴ Quantification in *all*-sentences is attributed to the presence of a D(istributive) operator. The effect of *all* is to add the presupposition that the domain-of-quantification must be maximal (the Maximality Effect). Distributive readings depend on the occurrence of the D-operator. The occurrence of *all*, on its turn, is dependent on the occurrence of the D-operator. Consequently, sentences with or without *all* have exactly the same truth conditions. They only differ in that *all* contributes a domain-adjusting, non-truth conditional meaning.

In the literature on plurals, it has been widely observed that a sentence like (26) allows for exceptions (see Landman 1989, 1996 and Lasnik 1995, among others). Brisson's D-operator works very much in the same way as Link's. In order to explain the tolerance of exceptions, she follows Schwarzschild (1996) and claims that the D-operator is always accompanied by a context-dependent domain selection variable Cov_i .⁵ This variable adjusts the domain of quantification so that it may ignore non-relevant exceptions. In (26b), we have the Linkian logical form for sentence (26a). The logical form in (26c) incorporates the variable Cov_i .⁶ The difference between the two logical forms is that in (26c), the quantifier ranges only over the individuals that belong to Cov_i . And Cov_i may exclude some individuals of the group denoted by 'the families'.

- (26) a. The families sleep well.
b. ${}^D\text{sleep.well}'(\text{the.families}') = \forall x [x \leq \text{the.families}' \rightarrow x \leq \text{sleep.well}']$
c. $\forall x [(Cov_i x \wedge x \leq \text{the.families}') \rightarrow x \leq \text{sleep.well}']$

Brisson spells out her proposal within event semantics. She follows Kratzer (1994, 1996) and assumes that the subject-argument is external, that is, it is not an argument of the verb. Translated into event semantics, (26a) asserts the existence of an event, which contains several subevents: these subevents are individual sleeping-well events for each family (27).⁷

- (27) $\exists e \forall x \exists e' [[Cov_i x \wedge x \leq \text{the.families}'] \rightarrow [\text{sleep.well}' e' \wedge \text{Ag } x, e'] \wedge e' \leq e]$

According to the author "...*all* interacts with the quantification introduced by the D-operator to rule out the nonmaximality that a D operator normally allows... The function of *all* is to disallow the choice of an ill-fitting cover" (p.141). The logical form of (28) then is just like (27). The only difference is that *all* adds to the sentence

⁴ See Partee 1995 for a claim along these lines.

⁵ The value assigned to Cov is a set of subsets of the universe of discourse. We won't review the formal definition of Cov , but refer the reader to Brisson's paper and to Schwarzschild 1996.

⁶ Cov is indexed because there may be more than one Cov per sentence.

⁷ For details about the formalism see Brisson 2003. Ag stands for the agent role.

the presupposition that *Cov* must not leave any individual in the denotation of the subject out (see (28b)). In Brisson's terms *all* demands the choice of a *good-fitting Cover*.⁸

- (28) a. All the families slept well.
 b. $\exists e \forall x \exists e' [[Cov_i x \wedge x \leq \text{the.families}'] \rightarrow {}^D[\text{sleep.well } e' \wedge \text{Ag } x, e'] \wedge e' \leq e]$
Instruction: Select a good-fitting *Cov*(ver).

Collective or distributive readings with *all* must be derived in exactly the same way as collective and distributive readings of the corresponding sentences without it. In order to explain the fact that *all* can combine with some collective predicates, Brisson claims that the reason why a subclass of these predicates is compatible with the D-operator is that they have a subcomponent DO in their meaning. This is Brisson's way of spelling out Dowty's subtailments or Taub's activity component.

DO is a predicate that denotes a general 'activity' and is defined in (29). States and achievements lack DO. It is the complex internal structure of activities and accomplishments that will allow distributivity to be introduced on either the whole event or just part of it. DO is composed with the lexical meaning of the corresponding verb by an operation called event composition. For example, event composition of (29) and (30) yields (31), which states that an event of carrying has as its subpart an event of doing. Note that the Agent argument is an argument of the DOing event.⁹

- (29) $DO = \lambda x \lambda e [\text{DO } e \wedge \text{Ag } x, e]$
 (30) $\text{built.the.raft}' = \lambda e [\text{built.the.raft}' e]$
 (31) $\lambda x \lambda e [\text{built.the.raft}' e \wedge \exists e' [\text{DO } e' \wedge \text{Ag } x, e' \wedge e' \leq e]]$

We may now spell out the meaning of a distributive sentence with an activity predicate. (32c-d) express possible equivalencies of the logical forms in (32b). Note that the D-operator may either take scope over the whole predicate (32c) or just over its DO subpart (32d). That means that it may either distribute the whole event or only its activity subpart.

- (32) a. The families built a raft.
 b. ${}^D\text{built.the.raft}' (\text{the.families}')$
 c. $\lambda x \lambda e {}^D[[\text{built.the.raft}' e] \wedge \exists e' [\text{DO } e' \wedge \text{Ag } x, e' \wedge e' \leq e]] (\text{the.families}')$
 d. $\lambda x \lambda e [\text{built.the.raft}' e \wedge \exists e' {}^D[\text{DO } e' \wedge \text{Ag } x, e' \wedge e' \leq e]] (\text{the.families}')$

When the predicate is composed with its plural subject and the meaning of the D-operator is spelled out, the different readings come out very clearly. The logical form in (33) expresses the case where D operates over the whole predicate (32c). This sentence asserts the existence of a separate *built.the.raft* event (*e'*) for each one of the families (modulo nonmaximality). And each of these events has its own activity subpart (*e''*). This is, as expected, the distributive reading of the sentence.

- (33) $\exists e [\forall x \exists e' [[Cov_i x \wedge x \leq \text{the.families}'] \rightarrow [[\text{built.the.raft } e'] \wedge \exists e'' [\text{DO } e'' \wedge \text{Ag } \text{the.families}, e'' \wedge e'' \leq e']] \wedge e' \leq e]$

⁸ We refer the reader to Brisson's paper for the formal definition of a *good-fitting Cover*.

⁹ For the precise calculations and details of the formalism, see Brisson 2003.

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The logical form in (34) expresses the case where D operates over the DO predicate (32d). This sentence states that there is an event of carrying the piano, which has a complex DO subpart. Its DO subpart is actually a plural event consisting of a separate DOing event for each one of the students (modulo nonmaximality). This is the collective reading.

- (34) $\exists e[\text{built.the.raft}' e] \wedge \exists e'[\forall x \exists e''[[\text{Covi } x \wedge x \leq \text{the.families}'] \rightarrow [\text{DOe}'' \wedge \text{Ag the.families}' e'' \wedge e'' \leq e']] \wedge e' \leq e]$

Again, the contribution of *all* will be the addition of a requirement that we should pick out a good fitting Cover, that is, that the domain must be maximal. The only difference between the meaning of sentences (35) and (32) is that (35) tolerates no exceptions, that is, every family must have either individually built the raft or taken part of a building.the.raft event.

- (35) All the families built the raft.

We now turn to Brisson's account of the ungrammaticality of *all* with collective states and achievements. Her general point is that *all* needs distributivity to be licensed, and these predicates do not license any sort of distributivity. When one tries to apply the D-operator to these predicates the result is semantically ill-formed. Take a sentence like (36) with a collective state predicate. Since the predicate has no DO subpart, there are no subevents that can be distributed. And if one tries to distribute the event of being-numerous the result does not make sense.

- (36) The koalas are numerous in Australia.

Brisson's approach gives a very nice and principled account of Taub's generalization and of Dowty's sub-entailments. Activities and achievements can be distributed because they have an 'activity' predicate as part of their meaning, which can be affected by a D(istributive)-operator. It is also very elegant in the sense that it reduces the role of *all* to the Maximizing Effect, while placing the explanation of *all*'s distributivity in an independently needed D-operator. Next we discuss how Brisson's proposal fares when faced with BP data.

3.2. Brisson's approach applied to BP

As the other approaches discussed in the sections above, Brisson's approach is designed to take care of *all+pluralDD* sentences. And it carries on very well to the corresponding *todo+pluralDD* in BP. The two readings of (37) come out just in the same way Brisson derives the readings of (32a). The parallel sentence with *all* (38) is accounted for in the same way plus the addition of the domain widening instruction.

- (37) As famílias construíram a jangada.
the families built the raft
'The families built a raft'

- (38) Todas as famílias construíram a jangada.

all the families built the raft
'All the families built a raft'

The problems arise when we try to understand the other occurrences of *todo*. Sentences with *todo+singularDD* should not license D-operator because, according to Brisson, the D-operator is only licensed by a plural DPs. Sentence (39) has only a collective reading where there is only one raft-building event for the whole family. Nevertheless, sentence (40) is ambiguous between a collective reading and an iterative reading just as its plural counterpart in (38). Where, in Brisson's account, would the distributed reading come from if there is no D-operator available?

(39) A família construiu a jangada.
the family built the raft
'The family built the raft'

(40) Toda a família construiu a jangada.
all the family built the raft
'All of the family built the raft'

We could, of course, extend the use of the D-operator to singular DPs. But then we would have to explain why only the sentence with *todo* (40), but not the sentence without *todo* (39) gets the distributed reading. Another way around the problem is to claim that there are at least two *todos*, one that occurs with plural DDs and another that occurs with singular DDs. This would be a very counter-intuitive move because, as we have been arguing, the behavior of *todo+singular DD* is totally parallel to the behavior of *todo+pluralDD*.

Todo+NP sentences are not supposed to license a D-operator, according to Brisson's account, since their subjects are singular NPs. Therefore, distributivity should be attributed to the presence of a quantifier. This leads us back to the (counter-intuitive) claim that there are at least two, and perhaps three *todos*. Again, we could take the bare noun that is the argument of *todo* to denote a kind and to be a DP instead of a NP. If we do that, and, at the same time assume that the D-operator can apply to kinds (even if they are singular), we would still be left with the puzzle of the absence of collective readings with kinds. We conclude that Brisson's approach does not account for the whole array of data referring to *todo* in BP. It does not work for *todo+singularDD* nor for *todo+NP*. It would lead us to postulate three different *todos* - a very counter-intuitive solution.

4. Our Account

In this section we claim that *todo* in BP is always a universal distributive quantifier. The Maximizing Effect is a byproduct of its universality. We start by showing that distributivity does not depend on plurality, and also that the distributivity of collective predicates does not depend on the presence of DO. Next, we argue that *todo* is able to effect sub-atomic partitions in the denotations of both its restriction and of its nuclear scope. Consequently, the grammaticality of *todo* depends both on the denotation of its nominal argument and on the denotation of the predicate.

First, we want to point out that what is at stake for the grammaticality of sentences with *todo* is not only the kind of predicate, but also the denotation of the

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nominal that is the argument of *todo*. Sentence (41) with *todo+pluralDD* is a collective state predication and is correctly predicted to be ungrammatical by Dowty's, Taub's and Brisson's approaches. Sentence (42) is the same sentence with a different subject. Surprisingly, it is perfectly grammatical. Note that the difference between (41) and (42) is that the common noun in (42) is collective.

(41) *Todos os coalas são numerosos na Austrália.
all the koalas are numerous in-the Australia
'All koalas are numerous in Australia'

(42) Todas as famílias são numerosas na Austrália.
all the families are numerous in-the Australia
'All families are numerous in Australia'

The same contrast shows up with *todo+singularDD* and *todo+NP*. Sentences (43-44) with an activity collective predicate and a singular DD is ungrammatical. The same sentence becomes grammatical if we give it a collective singular DD as an argument for *todo* (45-46).

(43) *Toda a criança ocupou a sala.
all the child filled the room
'All of the child gathers in the room'

(44) *Toda criança ocupa a sala.
all child fills the room
'All children fill the room'

(45) Toda a família ocupa a sala.
all the family fills the room
'All of the family fills the room'

(46) Toda família ocupa a sala.
all family fills the room
'All families fill the room'

Contrary to what has been claimed about collective predicates, we see that any predicate can be distributed with *todo*. One cannot say of each koala that it is numerous, but one can say of each family that it is numerous (41 *versus* 42). The same explanation works for the contrast between (43-44) and (45-46). One cannot say of a child that it fills the room, but one may say of a family that it does so.

This generalization works the other way around as well – not all distributable predicates can be automatically distributed. Sentence (47) says that every part of a sofa is heavy, which does not make sense. Sentence (48), on the other hand, says that all parts of a sofa are wet, and that makes sense.

(47) *Todo o sofá é pesado.
all the sofa is heavy
'All of the sofa is heavy'

- (48) Todo o sofá está molhado.
all the sofa is wet
'All of the sofa is wet'

We see that, although it is true that only activities and accomplishments are able to produce collective readings of sentences with *todo*, it is not true that real group predicates cannot be distributed. Brisson is right in that it is the activity component of a verb's lexical meaning that is responsible for allowing parts of the same event (subevents) to be distributed. However, collective predicates do not need to have a DO component in order to be distributed.

The second point we would like to make is that distributivity in *todo*-sentences of BP does not depend on plurality of one of the verbal arguments as Brisson claims, and Link, Dowty and Taub seem to imply. The contrast between sentences (49) and (50) shows that very acutely. While sentence (49) has only a collective reading – the family builds the raft together –, sentence (50) is ambiguous between a collective and an iterative reading, in which the same raft is re-built over and over again by each member of the family. One must conclude that distributivity is introduced by *todo*.

- (49) A família construiu a jangada.
the family built the raft
'The family built the raft'
- (50) Toda a família construiu a jangada.
all the family built the raft
'All of the family built the raft'

Our third point is that *todo* is always distributive: it establishes a one to one universal relation in all contexts it occurs. What distinguishes it from quantifiers like *every* or *each* (or from *cada* in BP) is that it is able to distribute both subparts of its nominal argument and of its predicate. Because of this, many combinations are possible as we will see in the examples (51-56) below.

- (51) Todas as crianças dormiram bem.
all the children slept well
'All the children slept well'
Reading: *Each individual in the denotation of 'the children' per sleeping event*
- (52) Toda a família dormiu bem.
all the family slept well
'All of the family slept well'
Reading: *Each individual in the denotation of 'the family' per sleeping event*
- (53) Toda criança/família dorme bem.
all child/ family sleeps well
'All children/families sleep well'
Reading: *Each individual in the denotation of 'child'/'family' per sleeping event.*
- (54) Todas as crianças ocuparam a sala.

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all the children filled the room

'All the children filled the room'

Reading: *Each individual the denotation of 'the children' per 'sub-gathering' event*

(55) Toda a família ocupou a sala.

all the family filled the room

'All the family gathered in the hall'

Reading: *Each individual in the denotation of 'the family' per 'sub-gathering' event*

(56) Toda família ocupa a sala.

all family fills the room

'All families fill the room'

Reading: *Each individual family in the denotation of 'family' per gathering event.*

Ambiguities happen when more than one type of distributive relation is possible. In sentence (57), one can distribute families either per building events or per building subevents of a single building-event. Correspondingly, in sentence (58), members of 'the family' may be paired with different building events or with distinct subevents of a unique raft-building event. Sentence (59), however, has only one possible reading: one raft-building event per family.

(57) Todas as famílias construíram uma jangada.

all the families built a raft

'All the families built a raft'

Possible readings:

a. *one family per raft-building event*

b. *one family per raft-building sub-event*

(58) Toda a família construiu uma jangada.

all the family built a raft

'All of the family built a raft'

Possible readings:

a. *one member of the denotation of 'the family' per raft-building event*

b. *one member of the denotation of 'the family' per raft-building sub-event*

(59) Toda família constrói uma jangada.

all family builds a raft

'All families build a raft'

Reading: *Each family in the denotation of 'family' per raft-building event.*

These possibilities don't seem to be available to other distributive quantifiers. We conclude that the large array of possible combinations is due to the fact that *todo* can partition both the denotation of its nominal argument and of its predicate argument. Plus the fact that it may take both singular and plural DDs, and NPs as its nominal arguments. DDs denote entities that can be taken as agents of collective predications.

Let's take stock of what we have seen so far. We have seen that *todo*-sentences are always distributive, and we have shown that, for *todo*-sentences in BP, distributivity does not depend on the existence of a plural nominal argument, or, for collective predicates, on the presence of a DO predicate in the meaning of the verb. We have also shown that the grammaticality of *todo*-sentences depends on the compatibility between their nominal arguments and its predicates. In order to account for this array of facts, we claim that *todo* is a universal distributive quantifier that takes both a nominal and a verbal argument either as wholes or as composed of parts. The Maximality Effect is just a byproduct of its universality.

5. Summary and Conclusions

We have gone through the semantics of the quantifier *todo* both in distributive and in collective predication contexts. Different proposals - Link 1983, Dowty 1986, Taub 1989 and Brisson 2003 - for the English quantifier *all* have been discussed and evaluated. The first three assume that *all* is a universal distributive quantifier. They differ in their explanation for the fact that *all* is grammatical in (some) collective contexts. Brisson, on the other hand, argues that *all* is not a quantifier but a domain widener, and that distributivity is only due to the presence of a D(istributive)-operator.

We have evaluated these approaches not only for the similar *todo+pluralDD* in BP, but also for *todo+singularDD* and *todo+NP* in BP. None of them is able to deal with the array of data from *todo*-sentences in BP. We show, contrary to the other approaches, that what is at stake in determining the grammaticality of sentences quantified by *todo* is not only the kind of predicate, but also the kind of subject. *Todo* is claimed to be a universal distributive quantifier, as in Link, Dowty and Taub. Our thesis is that it operates both over its verbal argument and over its predicate, and is able to partition both of them into sub-parts. Our approach has the advantage of not posing any ambiguity for the quantifier *todo*, and of compositionally deriving its effects on distinct contexts.

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