Plural indefinite descriptions with *unos* and the interpretation of number[1]

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Abstract

It has been noticed that indefinite descriptions with the Spanish determiner unos *(plural-"one") have a group denotation (Villalta 1994). That meaning has been explained within DRT (Laca and Tasmowski 1996, Gutiérrez Rexach 2001).* Unos *introduces a group referent variable in the discourse, which is associated to an atomic condition and does not trigger box-splitting (Gutiérrez Rexach 2001). However, the group interpretation is unstable, and there are cases in which* unos*-DPs may have an individual reading too. We suggest that instability is best understood as an epistemic fact.* Unos *is not a semantic determiner of the plural noun that follows it but it is composed with a covert group-denoting noun, which restricts the variable domain to sets of groups. The plural noun denotes the member's class and is related to the covert group term through a group-constitute function (Barker 1992). The group interpretation is unstable because it relies on our implicit knowledge of a covert group-denoting nominal head. The variability in the group interpretation also shows the role of perception in processing groups. We propose an explanation of the instability of* unos *in terms of Kratzer's version of a Skolem Choice Function.* Unos *denotes a Perspectival Choice Function that combines with a predicate denoting a set of groups and returns a unique group. We use the perspectival argument to represent the holder of the beliefs from which the implicit meaning is inferred. When the perspectival argument is underspecified, the* unos*-phrase denotes a*

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fuzzy group, which we dub a cluster. When it is anchored to the speaker, the content of the cluster becomes transparent and the distributive reading of the group may arise. We extend the Spanish case to Galician and Catalan.

1.   A number mismatch problem

Using the cardinal number "one" as an indefinite determiner for singular count nouns is a very common referring mechanism found in many unrelated natural languages (Givon 1981, Haspelmath 1997, Dryer 2005).[2] Dryer (2005) reports the use of "one" for the singular indefinite article in Lezgian (Caucaso), Mei-thei (Tibeto-Butman), Limbu (Tibeto-Burman, Nepal), Pa'a (Chadic, Nigeria), Remo (Munda, India). However, generalizing "one" as an indefinite determiner for the plural is not as frequent. The plural-"one" indefinite article is found in Romance Languages: it is used in Catalan (*uns*, *unes*), Old French (*uns*, *unes*), Galician (*uns*, *unhas*), Portuguese (*uns*, *umhas*), Romanian (*unii*, *unele*) and Spanish (*unos*, *unas*). But not all Romance languages have extended the use of "one" as indefinite article to the plural. Italian has developed a "partitive arti-cle" (*dei*, *della*) to convey a plural indefinite meaning similar to *unos*-DPs, and Modern French has substituted the old plural indefinite article *uns*, *unes* by a partitive article *des*. [3] The following sentences illustrate the use of plural-"one" as indefinite article:[4]

(1)   *Els   mariners   van amuntegar* **unes   caixes**   *al*   (Catalan)
       the   sailors   piled   one.PL boxes   P_the
       moll.
       docks
       'The sailors piled a group of boxes on the docks.'

(2)   ***Uns   noivos*** *están a falar   no   outeiro.*[5]   (Galician)
       ONE.PL   couple   are   P talk   on_the hill
       'A couple are talking on the hill.'

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2. The reason could lie in the close relation between counting and referring. Making reference to discrete entities may start as a counting act. The basic unit used for counting is obtained from mapping oneself onto other entities. After several counting acts, an abstract concept of unit is obtained. Then, the unit thus excerpted may be used for epistemic reference.

3. The distribution of the French and the Italian partitive article, though, is not completely equiv-alent to the distribution of the Romance plural-"one" indefinite article, because it also appears in contexts where Iberian Romance Languages would use a bare plural noun.

4. The following abbreviations will be used: ACC accusative; CL clitic; DEF definite article; DP determiner phrase; F feminine; GEN genitive; IND indicative; LOC locative; NP nominal phrase; P preposition; PL plural; PST past tense; QP quantifier phrase; SG singular; SUBJV subjunctive.

5. The phonetic evolution of Galician plural masculine *uns*, instead of *unos*, proves that the cardinal was used as an indefinite article from the origins.

(3)   *"calças de buen panno en sus camas metió,*
        hoses   of   good   cloth   in   his   legs   put
        'he (the Cid) covered his legs with hoses of good cloth'

        *sobr'ellas **unos**   **çapatos** que a   grant huebra son;"*
        over_them ONE.PL shoes   that of great work   are
        'he put over them a pair of shoes that are a great work.'
        (Song of Mio Cid, 1207: vv 3085/3086) (Spanish)

(4)   *"… et   fallan la   (…) en **unas**   **cueuas** que*
             and find   CL.F.ACC   in   ONE.PL caves   that
        y   a."
        there is
        'and one can find it in some caves there.'
        (Alfonso X, Lapidario, ca. 1250) (Spanish)

(5)   *unii   barbati*   (Romanian)
        ONE.PL men
        (Malison 1987: 251)

(6)   *Ochii   unor   fete   frumoase.*   (Romanian)
        eye.DET.PL ONE.GEN.PL girl.GEN beautiful.GEN.F.SG
        'The eyes of ONE.PL beautiful girls.'
        (Malison 1986: Ex. 555)

The use of "one" as a plural indefinite article does not seem to be constrained
to a particular family of languages. It appears in languages that belong to un-
related family groups, such as Basque, Lavukaleve (Dryer 2005) or Miskito
(Salamanca 1988, Plank 1994):

Basque:[6]

(7)   *Ibai.an   badaude emakume bat.zuk*
        river.LOC are   woman   ONE.PL
        'There are a group of women in the river.'

(8)   *Katu bat.zuk jardinean   lotan   daude.*
        cat   ONE.PL garden.LOC dream are
        'A group of cats are sleeping in the garden.'

Miskito indefinite determiner (Salamanca 1988, Plank 1994):

(9)   *aras   kum*
        horse   one
        'a horse'

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6. Julen Manterola, personal communication.

(10)   *aras   nani*
      horse   PL
      'horses'

(11)   *aras   siksa   nani   kum.kum*[7]
      horse   black   PL   ONE.PL
      'a group of black horses'

(12)   *kanege   ro.vo*
      family   ONE.PL
      'a group of families'
      (Lavukaleve, Dryer 2005)

Czech (singular mas/fem/neuter: *jeden*, *jedna*, *jedno*; plural: *jedny*), Russian (singular mas/fem/neuter: *odín*, *odná*, *odnó*; plural: *odní*) and Bulgarian (singular mas/fem/neuter: *edin*, *edna*, *edno*; plural: *edni*) have morphological plural number marking on the numeral "one":

(13)   *jedn.y   nuzky*   (Czech)
      ONE.F.PL   scissors.F
      'one pair of scissors'

(14)   *odni   ochki*   (Russian)
      ONE.PL   glasses.PL
      'one pair of glasses'

(15)   *Edni   kotki   igraiat   na   dvora.*   (Bulgarian)
      ONE.PL   cat   playing   in   yard
      'A group of cats are playing in the yard.'

The uncommon use of plural-"one" as indefinite article seems to be a natural fact, given the contradiction that results from combining the unit-denoting numeral word with a plural-denoting nominal expression. One way in which natural languages seem to have solved that contradiction is by reinterpreting plural-"one" as a collectivizing word. That seems to be the solution adopted by Iberian Romance languages.

   The collective meaning of indefinite descriptions with plural-"one" has been studied for Spanish *unos* by Villalta (1994), Laca and Tasmowski (1996), and Gutiérrez Rexach (2001). They propose that *unos* is a collectivizing determiner

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7. Specificity is marked in Miskito by means of the definite article *ba*, which may be combined with *kum*:

   (i)   *aras   nani   kumkum   ba*
       horse   PL   ONE.PL   DEF
       'the horses'

that contributes the group meaning obtained in *unos*-DPs. They make a contrastive study of indefinite descriptions with the determiners *unos* and *algunos* ("some".PL), which may appear in DPs that are ambiguous between a collective and a distributive interpretation. They argue that the group-denoting *unos*-phrase crucially differs from the collective interpretation of the *algunos*-phrase in that *unos* seems to have an inherent lexical group meaning that *algunos* lacks.

In this paper I propose an analysis for the semantics of group-denoting *unos*-DPs that aims at giving a general account for group expressions, and which takes into consideration the role of perception in fuzzy group calculations.

The structure of the paper is as follows: In Section 2 we will consider some of the empirical facts adduced by Villalta, Laca and Tasmowski, and Gutiérrez Rexach in their analysis of *unos* as a "collectivizer" determiner, and we will review the account they propose to capture that meaning. After, we will consider some of the problems for their analysis and we will suggest a modifying proposal that could solve those difficulties. In Section 3 we will study the problem of the number mismatch in the *unos*-phrase. We will argue that *unos*-DPs differ from ambiguous weak/strong *algunos*-DPs in that the *unos*-phrase denotes a group that is unstable, and does not describe a plural individual which is ambiguous between a collective and a distributive interpretation. We will, then, propose that *unos* is the semantic determiner of a null nominal head, which is responsible for restricting the domain of the variable to group sorts. In Section 4 we will apply Kratzer's (1998) concept of Perspectival Choice Function to calculate the epistemic interpretation of the plural-"one" indefinite determiner. In Section 5 we will use the perspectival choice function analysis to give an epistemic account of the distributive reading of the group denoted by "*unos*-DP".

2.   Some relevant data and previous accounts

Villalta (1994), Laca and Tasmowski (1996), and Gutiérrez Rexach (2001) have observed for Spanish that plural indefinite descriptions with the determiner *unos* ('ONE'.PL) denote a group entity. *Unos* crucially differs in this semantic value from other plural indefinite determiners, such as cardinals or the existential plural quantifier *algunos* ("some"), in that the *unos*-phrase denotes a plural referent that is interpreted as a unique plural individual with an opaque part structure, and not as a cumulative sum of atoms. The following data supports their view:

1. *Unos*-DPs cannot be the relevant argument of Individual-level predicates that denote inherent properties of the individual entities of a class. Individual-level predicates select individual-denoting strong DPs (Milsark 1977, Ladusaw

1994, Dobrovie-Sorin 1997), and weak indefinite descriptions with *unos* do not contribute such an argument. By contrast, *algunos*-DPs, which, like "some"-DPs, are ambiguous between a weak and a strong reading, may appear as the relevant argument of those predicates on the strong reading. The *algunos*-phrase has, on such an interpretation, a presuppositional meaning equivalent to "some of the NP":

(16)   a. *#Unos   gatos   son   negros.*
             ONE.PL cats   are   black
             'A group of cats are black.'
         b. *Algunos   gatos   son   negros.*
             some.PL cats   are   black

Some Galician and Catalan examples that illustrate that restriction are given below:

(17)   a. *#Unhas   formigas   son   louras.*   (Galician)
             ONE.PL   ants   are   yellow
             'A group of ants are yellow.'
         b. *Algunhas formigas   son   louras.*
             some.PL   ants   are   yellow

(18)   a. *#Unes   cloïses   són   rosses.*   (Catalan)
             ONE.PL   clams   are   yellow
             'A group of clams are yellow.'
         b. *Algunes   cloïses   son   rosses.*
             some.PL   clams   are   yellow

    2. Romance plural-"one" indefinite determiner differs from the plural existential quantifier *algunos* or from cardinals in that the plural indefinite determiner cannot induce distributive dependencies over some other indefinite in its scope:

(19)   *Unos   estudiantes hicieron una   presentación.*
         ONE.M.PL students   made   a   presentation
         'A group of students made a presentation.'

(20)   *Unhas   raparigas están a   abrir unha fiestra.*
         ONE.F.PL girls   are   P open   a   window
         'A group of girls are opening a window.'

(21)   *Unes   pageses   varem   plantar una*
         ONE.F.PL peasant-women planted   a
         fageda.
         beech-tree wood
         'A group of peasant-women planted a beech tree wood.'

Algunas, *algunhas*, *algunes* may have scope over an indefinite on their strong reading. In that case, the indefinite description has a presuppositional interpretation equivalent to "some of the NP":

(22)   *Algunos estudiantes hicieron una presentación.*
        some   students   made   a   presentation
        'Some of the students made a presentation.'

(23)   *Algunhas raparigas están a abrir unha fiestra.*
        some   girls   are P open a   window
        'Some of the girls are opening a window.'

(24)   *Algunes   pageses   varem   plantar una fageda.*
        some.F.PL   peasant-women   planted   a   beech wood
        'Some of the peasant-women planted a beech wood.'

    3. The *unos*-phrase cannot be interpreted as the range of a binominal distributive construction (Safir and Stowell 1989, Gil 2005), or the antecedent of the distributive numeral *sendos* ("respective", "one each"):

(25)   #*Unos   marineros durmieron cada uno en una cama*
        ONE.PL sailors   slept   each one in a   bed
        diferente.
        different
        'A group of sailors slept each in a different bed.'

(26)   #*Unos   pastores   han   comprado sendas   ovejas.*
        ONE.PL shepherds have bought   NUMDISTR   sheep
        'A group of shepherds have bought their respective sheep.'

(27)   *Cuatro pastores   han   comprado sendas   ovejas.*
        four   shepherds have bought   NUMDISTR   sheep
        'Four shepherds have bought their respective sheep.'

    4. *Unos*-DPs cannot be the antecedent of a reflexive or reciprocal pronoun (Gutiérrez Rexach, 130: 35):

(28)   **Unas   muchachas se   miraron   a sí   mismas en el*
        ONE.PL girls   SE look.PST P self   same   in the
        espejo.
        mirror
        'A group of girls looked at themselves in the mirror.'

(29)   *Algunas muchachas se   miraron   a sí   mismas.*
        some   girls   SE look.PST P self   same
        'Some of girls looked at themselves.'

(30) *Unas   muchachas   se   miraron   la   una   a   la   otra.*
     ONE.PL   girls   SE   look.PST   the   one.PL   P   the   other
     'A group of girls looked at each other.'

(31) *Algunas   muchachas   se   miraron   las   unas   a   las   otras.*
     some   girls   SE   look.PST   the   one.PL   P   the   others
     'Some of girls looked at one another.'

For Gutiérrez Rexach, the ungrammaticality of the sentences above is produced by the incompatibility of the group meaning of *unos*-DPs with a distributive interpretation that reflexive and reciprocal anaphors impose on their plural antecedents. Reflexive and Reciprocal anaphors "denote functions that require access to the atoms of the plural individuals" described by their antecedents (Gutiérrez Rexach 2001: 130).

   5. *Unos*-DPs can be the relevant argument of collective argument-selecting predicates such as *rodear* "surround", *reunirse*, "gather", *amontonar* "pile", in the sentences below:

(32) *Unes   formigues   envoltaven   el   pastís.*   (Catalan)
     ONE.PL   ants   surrounded   the   cake
     'A group of ants surounded the cake.'

(33) *Unos   estudiantes   se   reunieron   en   el   pasillo.*   (Spanish)
     ONE.PL   students   SE   gathered   in   the   corridor
     'A group of students gathered in the corridor.'
     (Gutiérrez Rexach 2001: 120, ex. 17b)

(34) *Os   mariñeiros   xuntaron   unhas   caixas   no*   (Galician)
     the   sailors   gather   one.PL   boxes   on_the
     peirao.
     docks
     'A group of sailors gather some boxes on the docks.'

In sum, the interpretation of number of plural indefinite descriptions with *unos* and with *algunos* is of a different kind. *Unos* triggers a group meaning that blocks the access to the internal structure of the plural referent. By contrast, *algunos*-DPs are ambiguous between a weak and a strong interpretation. On the weak interpretation, *algunos*-DPs denote the numerosity of a set. On the strong one, they are presuppositional and they may be used in distributive constructions.

   How does the *unos*-phrase obtain its group meaning? Where does that value lie? What does it depend on? Is that group meaning achieved by the same mechanism that contributes a collective meaning on weak *algunos*-DPs?

   Villalta, Laca and Tasmowski, and Gutiérrez Rexach argue that the group meaning of *unos*-DPs can be attributed to a lexical feature of the indefinite

determiner. *Unos* is analyzed as a "group marker" (Villalta) or as a collectivizer determiner (Gutiérrez Rexach 2001: 116). Gutiérrez Rexach proposes that the collective interpretation of *unos* and *algunos* is conveyed by different means: As a lexical feature with the group determiner *unos* and as a discourse property with *algunos*.

Laca and Tasmowski (1996) apply Heim's (1982) analysis of the English singular indefinite determiner *a* to the Spanish plural determiner *unos*. *Unos* has no quantificational force of its own. Like singular *a*-DPs, the *unos*-DP contributes a discourse referent whose domain is restricted by the descriptive content of the noun. Laca and Tasmowski argue that the *unos*-phrase stands for a free group-denoting e-type variable, which acquires the force of any operator with scope over it that may bind it, as for instance, a generic operator, an adverbial quantifier or existential closure. Laca and Tasmowski represent sentence (35) below, in its generic interpretation, as (36).

(35)   *Unos   millonarios   no   viajan   en   segunda   clase.*
        ONE.PL   millionaires   not   travel   in   second   class
        'Those ones who are millionaires do not travel in second class.'

(36)   GEN(X) [millionaires (X)]$_{\text{Restriction}}$ ¬[travel in second class (X)]$_{\text{Scope}}$
        (Laca and Tasmowski 1996: 113, ex. 6a′)

By contrast, *algunos*-DPs are ambiguous between a quantificational interpretation and a referential one, as was proposed by Fodor and Sag (1982), and by Diesing (1992) for English indefinite descriptions with weak determiners.

Gutiérrez Rexach (2001) builds his account in Dynamic Semantics. He departs from Ladusaw's (1994) psychological reinterpretation of Milsark's weak/strong distinction, which, in Ladusaw's opinion, arises as a side effect of the kind of judgment performed when uttering the sentence that includes the indefinite DP.[8] Ladusaw proposes that the cognitive nature of the weak/strong

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8. Ladusaw (1994) proposes that the semantic fact captured by Milsark's generalization, expressed in (i), can be viewed as a side effect of the nature of the mental act performed by the speaker:

(i)   Properties may only be predicated of strong NPs
           (= I-L predicates must have strong subjects) (Ladusaw 1994: 221, ex. 6)

Two such mental acts that are relevant for the strong/weak distinction are "presentations" and "judgments". A "presentation" consists in the description of an object, which can be an individual ("black cats") or an eventuality ("there are black cats sleeping in the garden"). A "judgment" is a mental act of affirmation or denial, and uses as its base a presentation. Judgments can be formed by a simple or by a complex basis. Thetic judgments have a simple basis. They are expressed, for instance, by sentences used to describe an object (an entity or an eventuality). Categorical judgments are compound. They are made of a presentation of an object, which is brought to our attention, and a predication of affirmation or a denial on that

distinction can be captured if the ontology of semantic entities includes objects (individuals, eventualities), descriptions of objects, and properties.

Gutiérrez Rexach formalizes the mental acts responsible for the weak/strong meaning of indefinite descriptions as discourse construction steps in Dynamic Semantics. A Discourse Representation Structure consists of referents and atomic conditions on those referents. Referents are introduced in the discourse by determiners. The noun that acts as the restriction, and the predicate that has that nominal expression as argument are represented as conditions on those referents.

Gutiérrez Rexach represents Ladusaw's descriptions (thetic judgments) by an atomic condition (a single basic condition) on the discourse referent, and Ladusaw's properties (categorical judgments) by a duplex condition on the referent. Weak determiners introduce a discourse referent and a single basic condition. Strong determiners introduce a discourse referent and a duplex condition, or else, introduce a new discourse referent and a condition linking it to a previous referent.

Unos and *algunos* differ in their lexical meaning and in the discourse steps that are compatible with that meaning. *Unos* introduces a group-denoting referent in the discourse. This referent is associated to an atomic, basic condition. It does not trigger box splitting (Gutiérrez Rexach 2001: 113). That explains why the *unos*-phrase only appears in thetic judgments (descriptions). Moreover, the referent is subject to a discourse-novelty constraint, which Gutiérrez Rexach formalizes as "a no linking constraint" (p. 113). That restriction accounts for the fact that *unos* can be used to introduce a referent for the first time but it cannot be referentially linked to a previous introduced entity. The group denotation of the referent "blocks the possibility of the introduction of a duplex condition by distributive expansion" (Gutiérrez Rexach 2001: 151).

Algunos introduces a plural individual (not a group) discourse referent. Weak and strong meanings are derived from discourse processes. The distributive interpretation is obtained when the referent is subject to a duplex and a linking condition; that is, when the sentence expresses a categorical judgment. The group meaning in *algunos* results when the sentence expresses a thetic judgement (a description) and the referent is subject to a basic condition.

In sum: the group meaning denoted by indefinite expressions with *unos* and *algunos* is achieved in a different way: as a lexical feature with *unos*, and as a discourse property with *algunos*.

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object. The subject of a categorical judgment is "presupposed" in the sense that a condition for making the judgment is that 'the mind of the judger must be directed first to an individual, before the predicate can be connected to it'." (Ladusaw 1994: 222).

2.1.   Some problems for analyzing unos *as a group marker*

The hypothesis that the group denotation of *unos*-DPs is induced by a lexical feature of the meaning of the determiner encounters the problem that such a group meaning is not constant, but in several contexts, *unos*-DPs may also have distributive reading:

a. *Unos*-DPs can be the relevant argument of distributive Stage-level predicates (*dormir* "sleep", *cantar* "sing", *nacer* "be born", *caminar* "walk"):

(37)   *Unos   gatos duermen en el   jardín.*
          ONE.PL cats   sleep   in   the garden
          'A group of cats sleep in the garden.'

Why is it that the *unos*-phrase cannot be the relevant argument of Individual-level predicates, which denote properties of individuals, but it can be the relevant argument of Stage-level predicates that describe an inherently individual activity? Is *unos*, after all, an ambiguous determiner, like *algunos* or cardinals?

b. In contrastive topic contexts, *unos*-DPs seem to cancel the ban on appearing with Individual-level predicates:

(38)   *Unos   gatos son negros, otros   son blancos.*   (Spanish)
          ONE.PL cats   are black   others are white
          'Some cats are black, some others are white.'

(39)   *Unhas   formigas son louras, outras son*   (Galician)
          ONE.PL ants   are yellow, others are
          vermellas.
          red
          'Some ants are yellow, some others are red.'

(40)   *Unes   cloïses són rosses, altres son blanques.*   (Catalan)
          ONE.PL clams   are yellow, others are white
          'Some clams are yellow, some others are white.'

c. Futhermore, the *unos*-phrase, when composed with a specifying relative clause complement, can be interpreted as the range of a binominal distributive construction:

(41)   **Unas   llaves abren una puerta cada una.*
          ONE.PL keys   open   a   door   each one
          'A bunch of keys open a door each.'

(42)   *Unas   llaves que compré   ayer   abren cada una*
        ONE.PL keys   that I bought yesterday open   each one
        una puerta distinta del   coche.
        a   door   different of-the car
        'A bunch of keys I bought yesterday open each a different door of the car.'

d. When *unos* is combined with *cuantos* ("many") or *pocos* ("few"), as in "*unos cuantos* NP", it does not necessarily have a group meaning, but it can have either a distributive or a collective interpretation:

(43)   *Unos   cuantos invitados se   comieron un plato de*
        ONE.PL many   guests   SE   eat   a   plate of
        jamón.
        ham
        'A few guests eat a plate of ham.'

(44)   *Unas   pocas cajas llegaron rotas.*
        ONE.PL few   boxes arrived broken
        'Some few boxes arrived broken.'

In sum, the group reading of *unos*-DPs seems to be unstable, since there are contexts in which the atoms of the group can be accessed. That weakens the empirical basis we could have to analyze *unos* as a collectivizer.

Perhaps a better option could be to analyze *unos* as an ambiguous determiner, like *algunos* and cardinals. On such an analysis, *unos* would introduce a plural-individual referent, and the group meaning of the *unos*-phrase would arise as a side effect from its weak interpretation. However, if we adopt such an option and hence, assign the same lexical feature of a plural-individual to the variables introduced by *unos* and *algunos*, we will need to think of an alternative explanation to the one presented by Gutiérrez Rexach for the important differences that separate *unos*-DPs from *algunos*-DPs in the unmarked contexts illustrated by sentences (16)–(34).

Our option will be to maintain Laca and Tasmowski's, and Gutiérrez Rexach's proposal about the collectivizing nature of *unos* and to explain the distributive cases as marked ones. We will suggest, though, a modification for Laca and Tasmowski, and Gutiérrez Rexach's analyses that takes into consideration the contribution that *unos* makes to the semantics of number of the DP in which it appears. We will explain the marked cases, in which *unos*-DPs may have distributive interpretation, as an effect of the contribution that the speaker's acquaintance with the referent may have on the interpretation of the *unos*-phrase. We differ from Laca and Tasmowski, and Gutiérrez Rexach in the framework we use in our explanation. We formalize our account in Truth-Conditional Semantics rather that in Dynamic Semantics. Moreover, we do not

account for the speaker's knowledge as discourse process steps but we rather represent it as a perspectival notion that may be contextually parameterized.

The remainder of the paper will be structured as follows: In the next section we will study the problem of the number mismatch posed by *unos*. In Section 4 we will present our analysis of *unos* as a perspectival choice function. We will depart from Kratzer's version of a Skolem Choice Function. The perspectival argument of the choice function will enable us to account for the role of the speaker's familiarity with the referent in making available the marked distributive reading of the *unos*-phrase.

3.   The interpretation of number in *unos*-DPs

In the section above we saw that assuming that the group denotation of *unos*-DPs is due to a feature encoded in the lexical meaning of the determiner *unos* is too strong a claim, because of the unstable nature of the group denotation. In this section we propose that the group denotation is an implicit meaning contributed by a covert noun, which is licensed by the indefinite determiner.

What does cause *unos* to be unstable? We suggest that the key to understanding the variability of the group denotation of *unos* lies in solving the problem of a number mismatch present in *unos*-DPs. There appears to be a contradiction in the meaning of number expressed by the lexical content of *unos* and by its plural morpheme. On the one hand, *unos* seems to have kept its etymological cardinal meaning of "one" and as such, it denotes a number n=1 of entities of the type referred by the noun that it is combined with. But on the other, that lexical meaning is contradicted by the general meaning of the plural morpheme affixed to the determiner.

Unos crucially differs from the plural existential quantifier *algunos* in the semantic role that the plural morpheme has on it. The plural morphology of *algunos* denotes a quantity plural, but the plural morpheme of *unos* stands for an uninterpretable feature. The semantic contribution of *unos* to the quantity denotation of *unos*-DPs is derived from its etymological meaning of unity that *unos* encodes in its root.

How does *unos* saturate its lexical meaning of "unity"? To do so, *unos* needs to be combined, like an ordinary cardinal word would do, with an atom-denoting nominal expression. But the plural noun in the *unos*-phrase does not provide such a domain. We suggest that *unos* is not directly composed with the plural noun that follows it, but it is composed with a covert noun whose domain of interpretation is a class of group atoms. *Unos* is not, thus, a direct semantic determiner of the plural noun, but of that group-denoting covert noun.

Unos differs in that interpretation from *algunos*, which directly quantifies over the atomic entities of a domain described by the plural noun. Thus, in

contrast to *unos gatos* ("ONE.PL cats"), *algunos gatos* ("some.PL cats") does not have the denotation "some group of cats", but has a meaning that could be paraphrased as "some atoms of the class cat". That is, it denotes a plural individual that may have either a distributive or a collective interpretation.[9]

We propose the following syntactic structure for "*unos* N.PL", which aims at representing the selectional properties of the plural-"one" indefinite determiner:

(45) $[_{DP}\textbf{unos}[_{NP} e.\text{GROUP} [\ldots [_{NP}\text{N.PL}]]]]$

Unos is a singleton indefinite. It lexically expresses the numerosity n = 1 of atoms of the kind referred to by a covert group-denoting sortal noun "*e*.GROUP", and licenses it. Applying a Heim-style analysis for indefinite descriptions to the syntactic structure above, we could give the following denotation for "**unos** *e*.GROUP":

(46) $[[\textbf{unos } e.\text{GROUP}]]^g = \lambda x \in g(D_e).\text{ATOM}(x) \ \& \ \{x\}= |1| \ \& \ \text{GROUP}(x)$

The indefinite determiner introduces a variable x whose domain D is restricted to the set of entities that have the property of being an abstract unit "atom", and whose cardinality is "1". The implicit group term "e.GROUP" stands for a sortal group-property. It restricts the domain of the variable to the set of atomic entities intensionally defined by having a group-property.

In what way is the meaning of a group expression different from the meaning of a plural individual one? Group-denoting expressions differ from plural individual-denoting ones on the linguistic level at which the operation that forms them applies. A plural individual-denoting expression is obtained by plural morphology or by NP-conjunction, while a group-denoting one is formed in the lexicon.

For the semantics of plural individuals, we assume Link's (1983) algebraic account of plurality. A plural individual-referring expression denotes a domain of a structured collection of atomic entities that is obtained by the closure of

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9. Luisa Martí (2006) gives a compositional account that relates the denotation of *algunos*, a generalized quantifier of type $\langle\langle\, e,t\rangle t\rangle$, to that of the denotation of *unos*. In her opinion, *alg-* is the segment that contributes the context-sensitivity of *algunos* NPs, which is absent in *unos*-phrases. She proposes the following denotation for that segment, where C stands for a contextual variable:

(i) $[[\textbf{alg-}]]=\lambda C_{\langle e,t\rangle}.\lambda g_{\langle e,t\rangle}.\lambda f_{\langle e,t\rangle}.\exists xC(x) = 1 \ \& \ g(x) = 1 \ \& \ f(x) = 1$

(i) expresses that *alg-* takes three arguments: a contextually relevant set, C, the set contributed by the noun *g*, and the set contributed by the predicate *f*. She proposes a compositional semantics for *algunos chicos* as:

(ii) $[[\textbf{algunos chicos}]] = \lambda_{\langle e,t\rangle}.\exists xC(x) = 1 \ \& \ x \text{ is a plural boy individual } \& \ f(x)$

the nominal predicate under sum formation. A plural individual is built from atomic ones by the star * operator, which takes any two atoms and returns an individual sum. It may also be built from previously formed sums. Sums are, thus, cumulative. For instance, the plural individual-denoting nominal predicate "cats" results from applying the *-operator to the atom-denoting nominal predicate "cat", or to plural individuals already formed:

(47) $[[\textbf{cats}]] = \lambda P_{\langle e,t \rangle}.\lambda x_e.{}^*P(x)([[\textbf{cat}]]) = \lambda x.{}^*\textbf{cat}(x)$

A plural individual formed by sum closure has a transparent part structure because the primitive atoms used to build the sum are always available from the variable.

By contrast, a group-denoting noun, such as "committee", "team", "army", "tribe", "group", "set", "dozen", "couple" or "family", describes a plural individual that has been already formed in the lexicon as an atom, and has, hence, an opaque part structure.[10] The individuals of the plurality denoted by an intransitive group term cannot be directly accessed, for instance, by verbal plural agreement, because they are expressed by lexical features of the group-denoting noun:

(48) *El ejército chino están luchando entre si.* (Spanish)
the army chinese are fighting among themselves
'The Chinese army are fighting among themselves.'

(49) *O exercito chinés están a loitar entre eles.* (Galician)
the army chinese are fighting among themselves

(50) *L'esercito cinese stanno lottando tra di loro.* (Italian)
the_army chinese are fighting among P themselves

However, it is possible to refer to the internal parts of a transitive group-denoting term if it is used as a transitive noun.[11] The following Spanish examples illustrate that possibility:

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10. For Barker (1992), group terms are the only real group-denoting expressions. Conjoined NPs or plurals denote plural individuals and not groups.

11. Brucart (1997: 172) observes that the possibility of plural agreement depends crucially on the presence of the plural noun that describes the members' class: "La posibilidad de la concordancia *ad sensum* depende de la existencia de una coda en plural:

(i)   a.   *La mayoría de los estudiantes piensan aprobar.*
the majority of the students think pass_the_exam
      b.   **La mayor parte de la gente ven la televisión"*
the major part of the people watch the television
(Brucart 1997: 172–173, ex. 28a, 28b)

(51)   *Los   soldados   del   ejército   chino   están   luchando*
       the   soldiers   of_the   army   chineses   are   fighting
       entre   si.
       among   themselves
       'The soldiers of the chinese army are fighting among themselves.'

(52)   *El   ejército   de   soldados   chinos   están   luchando   entre*
       the   army   of   soldiers   chinese   are   fighting   among
       si.
       themselves
       'The army of chinese soldiers are fighting among themselves.'

The sentences above have a transitive group-denoting subject, "army of chinese soldiers", and in both sentences, the internal parts are accessible, although only in the first sentence the members-denoting plural noun is the head of the phrase. In (51) the members-denoting plural noun "soldiers" heads the complex NP, and the verb agrees *ad formam* with it (Corbett 2003). In (52) the members-denoting noun complements the group-denoting head "army of chinese soldiers", and the verbs agrees *ad sensum* with the members-denoting complement.[12]

   The compositional meaning of the relation between a group and its parts has been represented as function application. It has been proposed that a group is related to its members through a constitute relation (Link 1984, Barker 1992, Landman 2004, Winter 2001).[13]

   Baker (1992) gives a model-theoretic account for the semantics of intransitive and transitive group terms. The Model is a tuple $\langle E, +, [\![.]\!], f \rangle$. The set E is the domain of discourse, $+$ is the join operator, $[\![.]\!]$ is the interpretation function, which maps expressions onto their denotations, and f is the membership function, which maps E into E so that $f(a+b) = f(a) + f(b)$ (f is an automorphism in E). Barker represents the Membership Function, as it is expressed by the relational use of the English preposition "of" in a transitive group-denoting NP like "committee of (the) men", as follows (Barker 1992: 75, ex. 15b):

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12. *Ad sensum* agreement is also used in Galician, Catalan or Italian:

   (i)   *O   exército   de   soldados   chineses   están   a   loitar   entre   eles.*
          the   army   of   soldiers   chinese   are   fighting   among   themselves

   (ii)   *L'exércit   de   soldats   xinesos   están   lluitan   entre   ells.*
          the_army   of   soldiers   chinese   are   fighting   among   themselves

   (iii) *L'esercito   dei   soldati   cinese   stanno   lotando   tra   di   loro.*
          the_army   of_the   soldiers   chinese   are   fighting   among   P   themselves

13. The constitute function associates an entity with the portions of matter that make it up (Barker 1992: 6; Link 1998)

(53) $[[\textbf{of}]] = \lambda y.\lambda Q_{\langle e,t\rangle}.\lambda x[Q(x) \& f_x(y) \leq {}^*P(z)]$

The formula above expresses that an entity x will be in the extension of a group-denoting predicate Q just in case $Q(x) = 1$ and each of the members of x, $f(y)$, is an element in the extension of the predicate $^*P$.

Let us go back to the group interpretation of *unos*-DPs and their unstable nature. We said that *unos* is not the semantic determiner of the plural noun that follows it. The plural noun describes the member's class of a covert group term selected by *unos*. We now suggest that the group meaning denoted by the *unos*-phrase is composed by the same rules used to calculate the meaning of group terms.

Before we proposed for *unos*-DPs the syntactic structure in (45), repeated below as (54), in which *unos* selects a covert group-denoting noun:

(54) $[_{DP} \textbf{unos} [_{NP} e.\text{GROUP} [\ldots [_{NP} \text{N.PL}]]]]$

The denotation we gave for "**unos** e:GROUP" was:

(55) $[[\textbf{unos}\ e.\text{GROUP}]]^g = \lambda x \in g(D_e).\text{ATOM}(x) \& \{x\} = |1| \& \text{GROUP}(x)$

Unos stands for a variable x in the domain of a singleton set $\{x\}$ whose single member has the atom-property. The domain of the variable is restricted by the covert group term.

Now we will compose the meaning of "**unos** e.GROUP" with the denotation of the plural noun in the *unos*-phrase, which describes the members' domain. As it is the case with lexically expressed group terms, we suggest that the relation between the members-denoting plural noun in the *unos*-phrase and the empty group-denoting term is mediated by a constitute function. We will base our account on Barker's Model for groups referred above.

We propose that the group denoted by *unos*-DPs is formed by a group-Constitute Function Γ, which maps a sum of individuals $^*P$ onto a group-atom $G(x)$ whose members are y:[14]

(56) $\Gamma(\lambda y.^*P(y)) = \lambda x.\text{GROUP}(x)$

We might, then, define the internal structure of a group atom x, as a property of its members, by means of a Membership Function μ:

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14. Landman (2004) proposes that the formation of a group is undertaken by a group formation operator, which he represents as "↑": The group-formation operation "shifts the semantically plural interpretation of a noun phrase like *the boys* as $\sigma(^*\text{BOY})$, the sum of the boys, to a corresponding sermantically singular interpretation, as a group atom: *the boys* regarded as a singular entity in its own right, i.e., with its part-of structure of singular boys … ignored." p. 239)

(i) $\uparrow\sigma(^*\text{BOY}) = G$

(57) $GROUP_x = \{y:\mu_x(y) \ \& \ y \in P\}$

By (57) we express that y is a member of the set $Group_x$ and y is an element in the set described by P.

   The group constitute function Γ could be represented as a relational component of the covert group term, which becomes, then, a function from a sum-denoting $\langle e,t \rangle$-predicate onto a group-denoting nominal predicate:

(58) $[[e.GROUP]] = \Gamma(\lambda y.^*P(y) \bullet \lambda x.G(x) = 1$ iff x is a group & $\forall z.\mu_x(z) \rightarrow z \leq y)$

In the representation above, the relation "being a member of" that holds for the individual that has the property P, is expressed by means of a membership function μ. $\mu_x(z)$ expresses that the element z is a member of the group x.

   As an illustration, we apply below the group-constitute function Γ to the plural noun *gatos*, "cats" to compose the group meaning in *unos gatos*, "*e*.GROUP *gatos*":

(59) $[[e.GROUP \ \mathbf{gatos}]] = [[e.GROUP]] \ ([[\mathbf{gatos}]])$
$= \lambda P_{\langle e,t \rangle}.\Gamma(\lambda y.^*P(y) \bullet \lambda x.G(x))([[\mathbf{gatos}]])$
$= \Gamma(\lambda y.^*\mathbf{gato}(y) \bullet \lambda x.G(x))$

Using the semantics of group terms to compose the group meaning of *unos*-DPs enables us to give a principled explanation for the allegedly unexpected distributive reading of the *unos*-phrase. We can access the internal structure of the group without the group losing its group property because, by means of the constitute function, we can always keep track of the relation.

   We propose that the distributive interpretation of *unos*-DPs is not directly obtained from the members' denoting plural noun, but it is indirectly derived from the inverse of the constitute function:

(60) $[[e.GROUP \ ^*P]] = \Gamma^{-1} (\lambda x.G(x) \bullet \lambda y.^*P(y)$
$= 1$ iff y is a sum & $\forall z.\mu_x(z) \rightarrow z \leq y)$

Since the variable y denotes now a sum individual the members are accesibble. The availability of the distributive reading of *unos*-DPs is not, hence, a contradiction to the group analysis, but is an interpretation that follows from the transitive nature of the covert group predicate. That is, the instability of the group denoted by *unos*-DPs is, in fact, a general property of group denoting NPs headed by a transitive group term.

   The covert group term selected by *unos* just contributes a sortal concept of group. The members-denoting plural noun can further specify the content of the group. The particular lexical meaning of such a covert noun may be

easily recovered in the case of *pluralia tantum* nouns that denote a dual entity ("boots", "gloves", "binoculars", *recién casados* "just married couple"):[15]

(61)   *unas   botas*
       ONE.F.PL   boots
       'a pair of boots'

(62)   *un   par   de   botas*
       one   pair   of   boots

The lexical contribution of the noun "pair" to the meaning of the expression "a pair of boots" copies the dual-number meaning already expressed as a lexical feature by the pluralized noun "boots". So eliding the noun "pair" has no semantic cost as far as the dual nature of the group entity is concerned. Both constructions *un par de botas* ("a pair of boots") and *unas botas*("one.PL boots") could be used with a similar meaning.

   In sum, we have proposed that the indefinite description with plural-"one" includes an implicit group-denoting transitive noun, which is licensed by the indefinite determiner:

(63)   ONE.PL e.GROUP N.PL

The implicit group term includes as a relational feature of its sortal denotation a group-constitute function Γ, which applies to an i-sum denoting nominal predicate and returns a group:

(64) $[[e.\text{GROUP}]] = \Gamma(\lambda y.*\text{P}(y) \bullet \lambda x.\text{G}(x)$
            $= 1$ iff x is a group & $\forall z.\mu_x(z) \rightarrow z \leq y)$

The internal structure of a group atom x is defined as a property of its members by means of a Membership Function μ

(65) $\text{GROUP}_x = \{y:\mu_x(y) \ \& \ y \in \text{P}\}$

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15. The plural use of the indefinite determiner "one" could have started in constructions in which a group-denoting *pluralia tantum* expression is composed as the subject of a distributive predicate that has *ad sensum* agreement:

   (i)   *Una **pareja** de novios **está** comiendo en el   restaurante.*
         one   couple   of   fiancés   is   eating   in   the   restaurant
         'A couple of frinds is eating in the restaurant.'

   (ii) *Una pareja de **novios** **están** comiendo en el   restaurante.*
         one   couple   of   fiancés   are   eating   in   the   restaurant
         'A couple of friends are eating in the restaurant.'

The inverse of the constitute function Γ^{-1} enables us to access the internal structure of the group, which we need to compose the distributive interpretation of *unos*-DPs. Γ^{-1} maps a group onto its constituent members:

(66) $[[e.\text{GROUP} *\text{P}]] = \Gamma^{-1} (\lambda x.\text{G}(x) \bullet \lambda y.*\text{P}(y)$
          $= 1$ iff y is a sum & $\forall z.\mu_x(z) \rightarrow z \leq y)$

The group meaning in *unos*-DPs is not drawn from a unique source. It is obtained, as a sortal category, from the selectional properties of *unos*, which licenses the covert group term. It is also obtained, as an inferred content, from the lexical meaning of the members-denoting plural noun. The more we rely on the selectional properties of the indefinite determiner, the less precise is the group meaning. In that case, the access to the parts may depend on our familiarity with the group. And the parts become increasingly accessible as our perception of the group object is more vivid.

It seems, in sum, that the nature of the knowledge needed to process the group meaning denoted by *unos*-DPs is heterogeneous. It includes: (a) The selectional properties of the determiner. (b) The ontological knowledge, which has to be inferred from the lexical meaning of the members-denoting plural noun. (c) The speaker's familiarity with the group. Such diverse knowledge is not necessarily obtained from the discourse. Therefore, Gutiérrez Rexach's Dynamic Semantics account does not seem to be able to explain all the semantic operations needed to calculate the group meaning of *unos*-DPs.

We suggest that an economical way to deal with the role that the inferred knowledge and the speaker's familiarity with the referent have on the interpretation of the group denoted by *unos*-DPs is to analyze the indefinite plural-"one" determiner as a perspectival choice function. That analysis will enable us to assemble the last missing piece needed to solve the puzzle of the group interpretation of plural-"one" DPs: the role of the speaker's beliefs. In the next section we will propose such an analysis. We will base our account in Kratzer's version of a Skolem Choice Function (1998).

4.   An epistemic proposal for the group denotation of *unos*-DPs. *Unos* is a perspectival choice function

In this section we will briefly introduce Kratzer's (1998) concept of perspectival choice function and then we will apply it to explain the variability of the group meaning denoted by *unos*-DPs. We propose that *unos* denotes a choice function variable that takes a group-denoting predicate and returns a unique group denoting entity, whose selection may be contextually parameterized to the holder of a perspective.

A choice function is a partial function that takes as its argument a nominal predicate that denotes a set of individuals among which it selects a unique element of the set. Hence, a choice function is of type $\langle\langle e,t\rangle,e\rangle$. Reinhart (1997) proposed that certain indefinite determiners are pronominal elements that may introduce variables over choice functions. Take, for instance, the sentence

(67)   *A tiger is climbing the tree.*

The sentence above can be interpreted as an existential statement about a choice function variable f. The choice function variable takes the predicate *tiger* and returns an individual, *a tiger*, which denotes 'the unique tiger' that f selects from the domain of tigers. That is, *a tiger* is interpreted as:

(68) $f_{\langle\langle e,t\rangle,e\rangle}(\lambda x.\textbf{tiger}(x))$

where f is a variable ranging over choice functions, and the individual selected by the choice function is in the extension of the predicate *is climbing the tree*.

A Perspectival Choice Function parameterizes the value of the choice function variable to the holder of a viewpoint. One technical way to do that is by adding an argument to the choice function variable that stands for the perspective:

(69) $f_{\langle\langle e,t\rangle,e\rangle}(y, \lambda x.\textbf{tiger}(x))$

The variable y may fix its value to the holder of a perspective, who determines the particular individual chosen by the choice function.

Perspectival choice functions were introduced by Kratzer (1998), who applied a Skolem-type Choice Function to represent the dependent readings that indefinites may obtain in sentences with quantifiers, like the sentence below:

(70)   *Every professor rewarded every student who read a book she had rec-*
         ommended.
         (Kratzer 1982: 5, Ex. 5a)

In the intermediate scope interpretation of the indefinite, the actual book picked by the choice function in (70) may be determined by the QP *every professor*. For each one of the professors the function selects a different book. To represent that dependence of the indefinite denotation on the QP, the choice function is skolemized and an implicit argument variable is added to the function. That implicit argument is bound by the *every*-phrase:

(71) $\forall x$: x is professor (x rewarded every student who read f (x, book))

Skolem Choice Functions also succeed in capturing contextual saliency, which may be induced by the overt reference to the first person, as it is illustrated by the sentence below:

(72)   *Every professor rewarded every student who read a book I had rec-*
       ommended.
       (Kratzer 1998: 5, ex. 5b)

To represent the specifying effect the first person pronoun has on the indefinite determiner interpretation we parameterize the implicit argument of the choice function to the speaker:

(73) $\forall x$: x is professor (x rewarded every student who read f (speaker, book))

In sum, by skolemizing the choice function variable that represents the indefinite determiner, we are able to express quantifier dependencies and the role of contextual salience on the interpretation of indefinites.

We will now apply Kratzer's style of perspectival choice function analysis to calculate the meaning of *unos*. Let us consider the following sentence:

(74) | *Unos* | *monos* | *gelada* | *están* | *saltando* | *de* | *árbol* | *en* |
       |----------|----------|----------|---------|------------|--------|---------|------|
       | ONE.PL | baboons | gelada | are | climbing | from | tree | to |

       árbol.
       tree
       'A group of gelada baboons are climbing from tree to tree.'

In the sentence above, *unos monos gelada* may have both a specific and an unspecific interpretation. When specific, the indefinite describes a group the speaker is acquainted with. Suppose, for instance, that the speaker, who is a naturalist doing research on gelada baboons' behavior, has witnessed the event described by sentence (74), and that she has been able to identify the group of gelada baboons, which perhaps, is made of members belonging to the same family the speaker has been following for some time.

Unos is a place holder for a singleton-denoting variable "$x \in g(D_e)$.ATOM(x) & $\{x\}= |1|$". On a specific reading of the sort of the one described above, the value assigned to the free singleton variable depends on the speaker's acquaintance with the referent. The perspectival choice function analysis enables us to account for such dependence. In the form below, we represent *unos* as a perspectival choice function f parameterized to the speaker. *Unos* is applied to the group-denoting "$\Gamma(\lambda y.$***gelada baboon***$(y) \bullet \lambda x.$G(x))" and yields a unique group of gelada baboons the speaker believes will make the sentence true:

(75) $f^{\text{speaker}}(\Gamma(\lambda y.$***gelada baboon***$(y) \bullet \lambda x.$G($x$)=1 iff x is a group & $\forall z.\mu_x(z)$ $\rightarrow z \leq y$) are climbing from tree to tree.

The above representation says that *unos* is a choice function of type $\langle\langle e,t\rangle,e\rangle$, which takes a nominal predicate denoting a non-empty set of groups of gelada

baboons out of which the speaker picks a unique group member of the set. That is, "$f^{\text{speaker}}(\Gamma(\lambda y.*\textbf{gelada baboon}(y) \bullet \lambda x.\text{G}(x)))$" expresses that the property of being a group of gelada baboons is instantiated by the unique plural individual chosen by the perspectival choice function *unos*, parameterized to the speaker.

When the speaker uses *unos monos gelada* to describe a specific group she is acquainted with, her familiarity with the group enables her to refer, if she wishes so, to its members. We represent the access to the members by the inverse of the group-constitute function:

(76) $f(z^{\text{speaker}},\Gamma^{-1}(\lambda x.\text{G}(x) \bullet \lambda y.*\textbf{gelada baboon}(y) = 1$ iff y is a sum &
        $\forall z.\mu_x(z) \rightarrow z \leq y$)) are climbing from tree to tree.

How is the non-specific reading of the *unos*-phrase composed? We suggest that on the unspecific interpretation, the choice function variable remains free. We do not have enough information to identify the particular group that makes the sentence true in the actual world. Due to a lack of identifying information, Skolemization of the choice function does not seem to be necessary:

(77) $f(\Gamma(\lambda y.*\textbf{gelada baboon}(y) \bullet \lambda x.\text{G}(x)))$ are climbing from tree to tree.

In the representation above, the underspecification of the perspectival argument, which we leave, thus, unexpressed, matches the lack of knowledge about the referent of a holder of a perspective. (77) expresses that the group described by *unos monos gelada* is not familiar to the speaker. The speaker cannot refer to the members of the group because her knowledge of the referent is imprecise.

On the unspecific interpretation, the plural indefinite description with *unos* denotes a fuzzy group. We cannot access the atoms of the group because they are not well identified, for whatever reason that may be. The speaker is vague when referring to the group, and we perceive it as a blurred bunch of entities involved in a common event. We do not know the quantity of entities that make the group, and we cannot identify the individual members. We will call that fuzzy group a cluster.[16]

In sum, in this section we have seen that using a perspectival choice function to represent the denotation of *unos* enables us to give a principled account of the role that the speaker's beliefs have on the interpretation of *unos*-DPs.

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16. Alonso Ovalle and Menéndez Benito (2002) propose for Spanish singular determiner *algun* ("some") a free-choice epistemic account. They suggest that *algun* induces a free-choice epistemic effect. The epistemic effect marks the speaker's lack of knowledge. *Algun* widens its domain to include epistemic alternatives. By using *algun*-N, the speaker signals that for each x in the domain there has to be an epistemic alternative w such that the proposition containing x is in w. The epistemic effect of *algun*-DPs comes about as a result of the interaction of epistemic modality with the domain widening that *algun* induces.

In Section 5 we will see some instances in which familiarity with the referent contributes to making the distributive reading of the group denoted by the *unos*-phrase more available. We will represent that knowledge by means of the perspectival implicit argument of the choice function. But first, we will review some differences between fuzzy-group *unos*-DPs and bare plural nouns.

4.1.   *Fuzzy group* unos-*DPs versus bare plurals*

Spanish bare plurals differ from unspecific *unos*-DPs in their semantic type and in the operation by which they compose with the main predicate. Bare plurals are interpreted as properties (Laca 1996, McNally 1995). They differ in their distribution from *unos*-DPs. Bare plurals, but not *unos*-DPs, are interpreted with narrowest scope. For instance, bare plurals are in the scope of negation or intensional verbs (*creer*, "believe", *buscar* "seek"):

(78)   a.   *A   la   reunión   no   asistieron   profesores.*
              to   the   meeting   not   attend   professors
              'Professors did not attend the meeting.'
        b.   *A   la   reunión   no   asistieron   unos   profesores.*
              to   the   meeting   not   attend   ONE.PL   professors
              'A group of professors did not attend the meeting.'
        c.   *A   la   reunión   no   asistieron   algunos   profesores.*
              to   the   meeting   not   attend   some   professors
              'Some professors did not attend the meeting.'
              (Laca 1996: 253, Ex. 35)

(79)   a.   *María   cree   que   Sara   adiestra   perros.*
              Maria   believes   that   Sara   trains   dogs
              'Maria believes that Sara trains dogs.'
        b.   *María   cree   que   Sara   adiestra   a   unos   perros.*
              Maria   believes   that   Sara   trains   P   ONE.PL   dogs
              'Maria believes that Sara trains a group of dogs.'
              (Laca 1996: 254)

Unos-DP may be used to refer to some specific dogs Maria is acquainted with in the *de re* interpretation.

(80)   a.   *María   está   buscando   libros   que   *describEN*
              Maria   is   looking for   books   that   describe.IND
              Galicia.
              Galicia

b. *María está buscando libros que describAN*
   Maria is   looking for books that describe.SUBJV
   Galicia.
   Galicia

(81) *María está buscando   unos   libros que*
      Maria is   looking for ONE.PL   books that
      describEN/AN   Galicia.
      describe.IND/SUBJV   Galicia
      (Laca 1996: 255, ex. 40)

Bare plurals are ⟨e,t⟩-type property-denoting expressions and they are composed with the main predicate by Restrict (Chung and Ladusaw 2004), which is a non-saturating composition operation, equivalent to predicate modification (Dobrovie-Sorin 1997, McNally 1995). The predicate composed by Restrict is saturated by existential closure. For instance, to compose the meaning of *Juan entrena perros.* ("John trains dogs."):

(82) RESTRICT ($\lambda x \lambda y \exists$e[**entrena**($x,y$,e)],***perro**)
      = $\lambda x \lambda y \exists$e[**entrena**($x,y$,e) & ***perro**($y$)]
      (Chung and Ladusaw 2004: 5, ex. 12)

By contrast, fuzzy group *unos*-DPs are e-type expressions and compose with the main predicate by means of Specify (Chung & Ladusaw 2004), a saturating composition operation. Specify combines a relation R with a property P and gives the value of an individual with the property P. For instance, to derive the meaning of *Juan entrena a unos perros.* ("John trains a group of dogs."):

(83) SPECIFY ($\lambda x \lambda y \exists$e[**entrena**($x,y$,e)],***perro**)
      = $\lambda x \exists$e[**entrena**(x,CF(***perro**),e)]
      (Chung and Ladusaw 2004: § 1.1)

5. Accessing the members of unos-DPs

A cluster-denoting expression can become transparent, and its atoms can be accessible to syntactic operations if the speaker gives a sufficiently rich description of the group that would enable him to individuate the atoms. The marked distributive reading, which may be obtained when the indefinite has a specific interpretation, can be favored by the deictic interpretation of tense, the informative structure, the syntactic structure, or by the presence of identifying nominal modifiers, like a relative sentence complement, or certain adjectives.

5.1.   The interpretation of tense

Stage-level verbs like *dormir* ("sleep"), *cantar* ("sing"), *nacer* ("be born"), *morir* ("die") are distributive verbs that select an atomic individual denoting subject. However, that selectional restriction does not prevent those verbs from combining with the group denoting indefinite description with *unos*:

(37)   *Unos   gatos duermen en el   jardín.*
        ONE.PL cats   sleep   in the garden

In Section 2.1 we assumed that, in those cases, the lexical meaning of the verb forces a distributive reading in the *unos*-phrase. However, it would be wrong to draw such a conclusion, because the distributive reading is not the only interpretation the indefinite may have in sentence (37). The *unos*-phrase has also a fuzzy group reading in the habitual interpretation of the present tense. We argue that the fuzzy group reading is the default interpretation of *unos*-DPs in those sentences. The distributive meaning is a marked interpretation we obtain when the tense of the verb is deictically anchored. Let us consider first the habitual reading of sentence (37).

(84)   *Unos   gatos duermen cada día en el   jardín.*
        ONE.PL cats   sleep   every day in the garden

Even though the verb lexically selects an individual-denoting subject, the sentence seems to express a single event performed by a group of cats, which is existentially quantified, rather than a plurality of events. Such an event is then interpreted inside of the scope of the habitual adverbial quantifier expression *cada día* (every day), and that adverbial quantifier is precisely the element that triggers plurality in the event. Thus, the sentence could be paraphrased as "For every day, there is an event of sleeping a group of cats in the garden."

(85)   For every day $\exists$e[sleep ONE.PL *e*.GROUP (of) cats in the garden (e)]

Suppose we include in the sentence an indefinite description that could function as a distributive share (*en un rincón*, 'in a part'):

(86)   *Unos   gatos duermen en un rincón del   jardín cada*
        ONE.PL cats   sleep   in a   part   of-the garden every
        día.
        day

In such case, the indefinite in the locative phrase *en un rincón* establishes a distributive relation with the habitual adverbial quantifier, and it does not take *unos gatos* as the range for distribution. Here also, *unos gatos* has a group interpretation, and the sentence could be paraphrased as 'The event of sleeping

a group of cats in the garden occurs every day in a different part of the garden.' Therefore, in its habitual reading, the event of sleeping a group of cats described in sentence (37) has a meaning that could be represented as:

(87)   **sleep unos**$(\Gamma(\lambda y.*\textbf{cat}(y) \bullet \lambda x.\text{G}(x)))$
        Habitual reading. Fuzzy group interpretation

In this case, sleeping is seen as a single collective event performed by a group of cats. Let us now consider the interpretation of sentence (37) anchored to the time of utterance, as it is unambiguouly expressed by the continuous tense:

(88)   *Unos   gatos están durmiendo en el   jardin.*
        ONE.PL   cats   are   sleeping   in the garden.

In such a deictic interpretation of the time of the sleeping event, the *unos*-phrase can be used to describe the range of a distributive relation:

(89)   *Unos   gatos están durmiendo en un rincón del*
        ONE.PL   cats   are   sleeping   in a   part   of-the
        jardí   cada   uno.
        garden   each   one

The sentence above describes a plurality of sleeping events performed by the individual cats of a group. Such a meaning can be formalized as (90), where the possibility of accessing the atoms of the group is represented by the inverse of the group-constitute function:

(90)   ****sleep unos**$(x, \Gamma^{-1}(\lambda z.\text{G}(z) \bullet \lambda y.*\textbf{cat}(y)))$
        Actual reading. Distributive group interpretation

How can we explain the difference in the interpretation of *unos*-DPs in the sentence with the habitual and with the actual reading of the present tense? How do we obtain the fuzzy group reading of the *unos*-phrase in the habitual event denoting sentence and the distributive meaning in the actual event denoting one? The distributive verb "sleep" selects an atomic individual subject, but it is not an anti-collective predicate. Therefore, the sentence may denote an instantiation of a single event of a group of individuals that are all gathered at the same place, performing the same action at the same time. As "**unos**$(\Gamma(\lambda y.*\textbf{cat}(y) \bullet \lambda x.\text{G}(x)))$" establishes a group unit, the collective meaning is the one obtained in the unmarked interpretation, when there is no aspect of the context that fixes the perspective. But if we anchor the time of the event to the time of the speech act, the implicit argument of the choice function is identified by the context and the individual atoms of the group denoted by the *unos*-phrase may be accessed through the inversion of the membership function:

(91) $\exists e[*\textbf{sleep\_in\_the\_garden unos}(x^{\text{NOW}},\Gamma^{-1}(\lambda z.G(z) \bullet \lambda y.*\textbf{cat}(y)))(e)$
      $\& \text{ NOW} \subseteq e]$

Thus, the individual reading we observed in (37) is not a property of the lexical verb itself but of the deictic tense.

5.2. *Identifyng modifiers*

The co-occurrence of the *unos*-DPs with identifying modifiers favors the distributive interpretation of the group. Thus, when the *unos*-phrase is combined with some adjectives, or relative clauses with the verb in indicative, that contribute to making the indefinite group specific, the indefinite group may have a distributive reading. Some of those adjectives include prenominal *ciertos* ('certain'), *determinados* ('determined'), *conocidos* ('known'), *famosos* ('famous'), etc. Bosque (2001) studies the specifying effect some of those kinds of adjectives have on indefinites. We illustrate that property of identifying modifiers in the sentences below:

(92)   *Unos   conocidos lingüistas defendían posturas*
      ONE.PL known   linguists defended points_of_view
      distintas.
      different
      'A group of well known linguists defended different positions.'

(93)   *Unos   transportistas que   pro contraté ayer*
      one.PL movers   whom I   hired   yesterday
      subieron   cada uno un piano de cola por las escaleras.
      brought_up each one a   grand_piano on   the stairs
      'Some specialized movers whom I hired yesterday each brought a grand piano upstairs.'

The adjective *conocidos* ("known") delimits the range of possible choices to a group the speaker is familiar with. The implicit argument of the perspectival choice function is, then, parameterized to the speaker, who may access the atoms of the group:

(94) $\textbf{unos}^{\text{speaker}}(\Gamma^{-1}(\lambda xG(x) \bullet \lambda y.\textbf{well\_known\_*linguist}(y)))$ defended different points of view.

Conocidos and *ciertos* differ in the contribution they make to identifying the referent chosen by the choice function. With *ciertos*, only the speaker is acquainted with the referent, but with *conocidos* the familiarity with the group is generalized to people other than the speaker.

5.3. The structure of the information

The structure of the information conveyed by the sentence has an effect on the interpretation of indefinites. Villalta (1994), Laca and Tasmowski (1996) and Gutiérrez Rexach (2001) noted that when the *unos*-phrase is contrasted in the discourse with *otros* ("others"), the plural indefinite description might function as the subject of an individual level predicate:

(34) *Unos   gatos son negros, otros   son blancos.*
      ONE.PL cats   are black, others are white

(12) **Unos   gatos son negros.*
      ONE.PL cats   are black

Why is sentence (34) acceptable while (12) is not? Such difference in acceptability judgments that puzzled us in Section 2 seems, then, to be related to the structure of the information, and not to the lexical meaning of *unos*. For sentence (12) to be acceptable, we need to contrast the group denoted by the *unos*-phrase with some other group(s) belonging to the same class. That is, *unos*-DPs may be the relevant argument of an Individual-level predicate, if it is interpreted as a contrastive topic and not just as a topic:[17]

(95)   [Unos gatos$_{CT}$] son negros, [otros x_{CT}] son blancos.

A contrastive topic presupposes a class of alternatives that the speaker wants to talk about (Krifka 1999). In the sentence above, the plural noun "cats" is perceived as a contrast class (Bird 2001) that is considered from the point of view of its subsets of groups. The two partial groups "one group of cats … other group", are compared with respect to the property of their color, and sentence (34) describes just one of the possible alternatives. Such a meaning could be paraphrased as "Considering all relevant cats, for the property of color C, I believe that one.PL *e*.GROUP (of) cats are black, and others are white". The meaning of sentence (34) could be represented as:

(96) $\forall y \subset {}^*\mathbf{cat}.\lambda C[C$ is a color $\& \ C(\mathbf{unos}(\text{speaker},\Gamma(\lambda y.{}^*\mathbf{cat}(y) \bullet \lambda x.G(x))))$
        $\& \ C(\mathbf{otros}(\text{speaker},\Gamma(\lambda y.{}^*\mathbf{cat}(y) \bullet \lambda x.G(x)))) \ ]$

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17. Topicalization of the indefinite description is not enough to enable *unos*-DPs to compose with an Individual-level predicate, as the sentences below seem to show:

(i)   a. ??[Únos$_{Topic}$] gatos son negros.
        b. ??Unos [gátos$_{Topic}$] son negros.
        c. ??[Únos gátos$_{Topic}$] son negros.

The alternatives presupposed in the sentence with "*unos … otros*" refer to the identity of the groups, and not to the number of atoms in each group. The meaning of *otros gatos* ("other cats"), as appears in sentence (34), can be para-phrased as "different cats from the ones previously mentioned". In the above representation we have analyzed the plural determiner *otros* as a function that selects as its argument a different group from the one already mentioned, which is included in the whole contrast class.

6. Conclusions

In this paper we have studied the semantics of the group interpretation obtained in plural-"one" DPs in Romance languages. We have suggested an account that aims at giving a uniform analysis for group denoting expressions, which also takes into consideration the role of the speaker's beliefs in the interpretation of the group. The compositional semantics we have proposed for plural-"one" DPs consists of the following aspects:

1. Weak plural-"one" DPs denote, in the unmarked reading, a fuzzy group, which we have dubbed a cluster. A cluster is an indefinite group whose reference is left underspecified by the speaker. Underspecification may be caused either by a coarse perception, or by lack of familiarity. It may also correspond to the speaker's deliberate intention to leave the referent vague.
2. The group meaning in the plural-"one" phrase is contributed by an implicit group-denoting transitive term licensed by the indefinite determiner, which selects a group-denoting category as a sortal concept.
3. The implicit group term is related to the plural noun in the *unos*-phase by means of a group-constitute relation (Barker 1992), which we represent as a function that maps an i-sum denoting plural nominal predicate onto a group denoting one. The access to the members can be achieved by the inversion of the function.
4. We have applied Kratzer's Perspectival Choice Function analysis to repre-sent the denotation of the specific interpretation of plural-"one" DPs. We have suggested that the plural-"one" indefinite determiner denotes a per-spectival choice function that takes a predicate denoting a set of groups and returns a unique group, which is picked by the holder of the perspective. That group may be perceived as a group or as a sum of individuals. We sug-gested that such an analysis enables us to represent the role of the speaker's beliefs in gathering the heterogeneous nature of the inferred knowledge needed to interpret the meaning of the group denoted by plural-"one" DPs.

In this paper we have aimed at finding an explanation for the contradiction posed by previous analyses of the Spanish indefinite determiner *unos* as a col-

lectivizer word. We have suggested that a perspectival approach to compose the meaning of *unos*-DPs enables us to give a principled account of the problem. The parts may be accessed through the constitute function provided that the speaker is acquainted with the referent.

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