Number Agreement with Weak Quantifiers in Basque

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1. The Phenomenon

It has been noted (Txillardegi 1978; Rotaetxe, 1979; Irigoien, 1985; EGLU 1985; Etxepare, 2000) that so called 'vague' weak quantifiers (Qs) in Basque only optionally agree in number with the inflected verb (2a-b), unlike other plurality denoting nominals, which trigger obligatory agreement (1):

(1) Ikasleak ikusi ditut/*dut
student-D-pl seen I-have.pl/I-have.sg
'I have seen (the) students'

(2) a. Bezero asko etorri da/dira gaur
customer many come is/are today
'Many customers came today'

b. Ikasle gutxi ikusi dut/ditut gaur
student few seen aux.sg/aux.pl today
'I've seen few students today'

The notion of what we mean by 'vague' weak Q can be intuitively grasped from the following contrast:

(3) a. Mila ikasle etorri dira/*da
thousand student come aux-pl/aux-sg
'One thousand students came'

b. Milaka ikasle etorri dira/da
thousand-suffix student come aux-pl/sg
'Thousands of students came'

Whereas (3a), involving a definite quantity, triggers plural agreement, (3b), which involves a non-definite quantity (equivalent to *thousands of* in English), only optionally triggers agreement. Cardinal Qs, in the varieties we focus on here, always trigger plural agreement. Vague Qs constructed out of them, on the other hand, may not.

The present paper offers a preliminary analysis of the phenomenon. We claim that non-agreeing Qs (n-a Qs) are not counting expressions, but measure phrases. Measures constitute the other quantificational domain in Basque that presents an agreement alternation in number:

(4) Hiru litro ardo edan du/ditu
three litter wine drunk aux-sg/aux-pl
'He/she drank three litters of wine'

We may wonder what the agreement alternation is: is it an alternation between plural number features and singular ones? Or is the singular agreement form just a default, selected in the absence of any number feature? It is not easy to answer to this query looking at the inflected forms directly. However, if we move to other syntactic contexts, the answer seems to favor the conclusion that 3rd singular agreement, in the context of vague Qs in Basque, is just a default, with no correspondence with actual number features. One such context is provided by secondary predication, which requires agreement in number (see Artiagoitia, 1994).

(5) Ikasleak nekatu(*ak) antzeman ditut
students tired-pl found aux.pl
'I found the students tired'

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(5) contains a Small Clause predicate *nekatuak* 'tired' which obligatorily agrees in number with the subject *ikasleak* 'students'. Now consider the contrast in (6):

(6) a. Ikasle asko nekatuak antzeman ditut
student many tired.pl found aux-pl
'We found many students tired'

b. * Ikasle asko nekatua antzeman dugu
student many tired.sg found aux-sg
'We found many students tired'

Whereas a vague Q that agrees in plural with the inflected verb licenses a secondary predicate with a plural suffix *-k* on it, a vague Q that does not agree in plural can not license singular agreement in the secondary predicate either. The conclusion seems to be that agreement in singular with the Qs that do not agree in plural is impossible, and that therefore, the relevant Q forms must lack number features, either plural or singular. That the problem is in number agreement and not, say, in the ability of n-a Qs to license a secondary predication is shown by the following fact: if we allow for a secondary predicate that does not have number, secondary predication with n-a vague Qs becomes possible. One such configuration involves the so-called partitive suffix, which does not agree in number in Basque. The partitive suffix may follow a secondary predicate in Basque under certain semantic conditions (see Etxepare, 2003; Zabala, 1993, 2003). When the partitive suffix substitutes for the [D+number] suffix, secondary predication with vague Qs becomes possible (7):

(7) Ikasle asko nekaturik dago
student many tired-part is-loc
'Many students are tired'

The paper is organized as follows: in §2 we spell out the main claims of our paper. §3 presents the received analysis concerning the agreement alternation in Basque. §4 provides arguments against this view. §5 shows that n-a Qs must be interpreted distributively. This imposes certain restrictions in the class of predicates they can co-occur with. §6 discusses the nature of the Qs involved in the agreement alternation. It is shown that the relevant Qs are so-called degree-Qs (Doetjes, 1997): Qs which combine with any syntactic constituent as long as it can be interpreted cumulatively. §7 discusses the semantic basis of predicate sensitivity. §8 proposes a syntactic structure for n-a Qs. §9 concludes.

2. The Hypotheses

The main hypotheses we defend in this paper are the following: we argue that n-a Qs are conceptually measures. Basque shows that measures head their own functional projection in the expanded structure of the Noun Phrase. This functional projection is placed in between the Classifier Phrase, where division occurs, and the Number Phrase, where counting occurs (following Borer, 2005). Besides projecting a dedicated functional structure, we also show that n-a Qs are sensitive to the nature of the predicates they associate to. Measure Phrases seem to measure both individuals and events, as long as the latter denote non-trivial part-whole structures. The predicate sensitivity of measuring Qs, we claim, has two sources: (i) the monotonicity constraint proposed by Schwarzschild (2002) as holding of measure functions universally; (ii) a homomorphism relation (Krifka, 1989; Nakanishi, 2004, 2007) which maps the denotation of a NP into the denotation of the predicate. The predicate sensitivity of n-a Qs can thus be viewed as the result of this mapping relation.

3. The Received View: Non-Agreeing Cases as Masses

The descriptive grammar of the Academy of the Basque Language (1985: 223-224) assimilates the absence of number agreement with weak Qs to the absence of number in mass terms.

(8) a. Haragi asko jaten du
meat much eat-hab aux.sg
'He eats a lot of meat'

b. Haragi asko jaten ditu
meat many eat-hab aux.pl
'He eats many types of meat'

The presence of number agreement in (8b) triggers a count interpretation of the mass term *haragi* 'meat', which comes to denote a set of individualized meat types. The grammar of the Academy suggests that the absence of number agreement with count terms has the opposite effect: it converts count terms into mass terms. The grammar comments on the following sentences in (9):

(9) a. Liburu asko erosi dut
book many bought aux-sg
'I bought many books'

b. Liburu asko erosi ditut
book many bought aux-pl
'I bought many books'

According to the Academy's grammar, (9a-b) do not have the same interpretation: whereas "in (9a) we consider a mass of books; in (9b) we consider one book and then another one, and so on" (1985: 223). Slightly adapting the Academy's idea for the argument's sake: number morphology coerces masses into counts, whereas absence of number morphology coerces counts into masses.

4. On the Purported Mass Properties of Non-Agreeing Qs

It can be shown however that n-a Qs are not mass terms. As a starting point, we consider Pelletier's (1975) well-known thought experiment to characterize mass terms. He proposes the existence of two imaginary machines, that he calls the Universal Grinder and the Universal Objectifier. For the Universal Grinder, we are to imagine a device that can grind anything, no matter how big or small. Into one end of the device "is inserted an object of which some count expression is true, and from the other end spews forth the finely-ground matter of which it is composed. So a hat is entered into the grinder and after a few minutes there is hat all over the floor" (from Pelletier and Schubert, 1989:342). This is so despite the fact that we could also have said that there is felt all over the floor, using a mass expression. Examples of this type "show that many count expressions can be seen to already have within them a mass sense or a mass use" (ibidem, 343). Taking the word *sagar* 'apple' as our putative count term, we could take (10) to involve the mass coming out of the Universal Grinder:

(10) Entsaladak sagar pixkat dauka
salad-D-erg apple bit has
'The salad has a bit of apple in it'

However, the sentence in (11), with a n-a Q, does not involve a mass term, in Pelletier's sense: what I have seen in (11) is not scattered pieces of student, but a number of students, all of them of a piece.

(11) Ikasle asko ikusi dut gaurko batzarrean
student many seen I-have today's meeting-D-in
'I have seen a lot of students in today's meeting'

True, the force of this argument against a mass-approach to n-a Qs depends on the force of Pelletier's metaphor to characterize mass terms as a whole. We know that in this sense, the metaphor is not comprehensive enough. Other mass terms appear to reflect objects that we would better locate in the entering side of the machine. This is the case of mass terms like *furniture* or *crockery* (Chierchia, 1998): ground-up furniture and furniture do not mean the same, despite the mass status of the term. In any case, even with simple ambiguous nouns such as *apple*, the mass-approach falls short of accounting for the range of interpretations that n-a cases have. Consider a sentence like (12):

(12) Plater honetan sagar asko ikusten dut
dish this-in apple many see aux-sg
'I see a lot of apple in this dish' or 'I see a lot of apples in this dish'

As shown by the translations, n-a Qs can be interpreted in two ways: either as mass terms, referring to a quantity of apple, or as referring to a plural set of (whole) apples. In other words: the sentence in (12) can be interpreted as making reference to, say, a dish containing a set of piled-up entire apples. The mass-approach has nothing to say about this second interpretation.

5. The Distributive Character of the Non-Agreeing Qs

One of the characterizing properties of n-a Qs is their distributive nature (Etxepare, 2000). This sets certain restrictions in the kind of predicate they can attach to.

5.1. Collective and Distributive Readings

Consider the contrast between (13) and (14):

(13) Azkenean gazte askok altxatu behar izan zuten harria
finally young many-erg lifted must have aux-pl stone-D
'Finally, many youngsters had to lift the stone'
√ collective / √ distributive

(14) Azkenean gazte askok altxatu behar izan zuen harria
finally young many-erg lift must have aux-sg stone-D
'Finally, many youngsters had to lift the stone'
* collective / √ distributive

(13) involves an agreeing vague Q. This yields two possible readings for the predicate: a distributive one, where each of the youngsters lifts the stone, and a collective one, where the entire set of youngsters lifts the stone. (13) also allows intermediate readings, where the set of youngsters divides in small groups to lift the stone. The range of distributive readings in (13) is typical of count plural entities (see Krifka, 1992). Unlike (13), (14) only allows a strict distributive reading, where youngsters individually lift the stone, and several stone-liftings (as many as there are youngsters) occur.

5.2. Collective Predicates

N-a Qs are incompatible with collective predicates (predicates that do not allow event distribution). The examples in (15)-(16) contain a predicate that does not naturally allow atomic distribution. Whereas agreeing Qs can be combined with those predicates, n-a ones cannot:

(15) Ikasle ohi asko festa horretan topatu ziren/*zen
student ex many-erg party that-in meet aux-pl/aux-sg
'Many ex students met at that party'

(16) Mozio hori, zinegotzi askok adostu zuten/*zuen
motion that councilmen many-erg agreed aux-pl/aux-sg
'That motion, many councilmen reached an agreement on it'

Having a meeting or reaching an agreement denote relations that require more than one individual and give rise to collective readings. Predicates that denote such a relation are incompatible with n-a Qs.

5.3. Once-Only Predicates

Consider (17):

(17) Polizi askok kolpatu dute/du manifestaria
policemen many-erg beat aux-pl/aux-sg demonstrator-D
'Many policemen have beaten the demonstrator'

A predicate like *manifestaria kolpatu* 'beat the demonstrator' does not make reference to a unique event: it is something that can happen more than once, even with the same demonstrator (leaving aside fatal events). In this context both the agreeing and the n-a Q are possible. Now take (18). It contains the predicate *putrea hil* 'kill the vulture'. This is something that can only occur once, if the same vulture is involved. Let us call this type of predicate 'once-only predicate'. Once-only predicates can not combine with n-agreeing Qs, as shown below. The reason must be the same that precludes the occurrence of n-a Qs with collective predicates. Although once-only predicates are not collective, they don't license a distributive relation, by definition. But n-a Qs must be interpreted distributively.

(18) Baserritar askok hil zuten/*zuen putrea
farmer many-erg kill aux-pl/aux-sg vulture-D
'Many farmers killed the vulture'

6. Non-Agreeing Qs as Measures

Together with their vagueness and their predicate sensitivity, there is a further property that characterizes the Qs entering into the agreement alternation: they seem to operate across a large class of domains. This set of domains includes plurals nouns, with and without agreement:

(19) Plural agreement:
a. Ikasle asko etorri dira gaur
student many come are today
'Many students came today'

No agreement:
b. Ikasle asko etorri da gaur
student many come is today
'Many students came today'

(20) Mass nouns:
Jonek garagardo asko edan du gaur
Jon-erg beer many drunk aux today
'Jon drank a lot of beer today'

And it extends also to the verbal domain. Simple vague Qs like *asko* 'much/many', *gutxi* 'few/little', *ugari* 'abundant', *gehiegi* 'too much' can be used as adverbial Qs:

(21) Jonek asko dantzatu du
Jon-erg many danced aux.sg
'Jon danced a lot'

In this sense, vague weak Qs in Basque correspond to what Doetjes (1997, 2001) calls "degree-Qs": Degree Qs are insensitive to the categorial properties of the phrase they combine with, as far as the latter can be interpreted cumulatively. Cumulativity can be defined in the following terms:

(22) Cumulativity (Krifka, 1998):
$\forall X \subseteq UP[\mathrm{CUMP}(X) \leftrightarrow \exists x,y[X(x) \wedge X(y) \wedge \neg x=y] \wedge \forall x,y[X(x) \wedge X(y) \rightarrow X(x \oplus y)]]$

Doetjes (1997) argues that Degree Qs measure their domain of quantification. In other words, that they are measures. We think that the following naturally applies to Basque n-a Qs:

(23) Non-agreeing Qs in Basque are Measures

7. A Semantic Approach to Predicate Sensitivity

7.1. Monotonicity in the Nominal Domain

Measures (in general) show some semantic restrictions on the nominal expression:

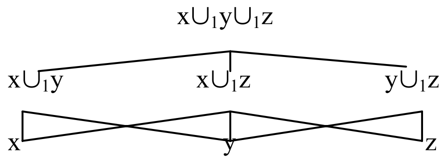
(24) a. three litres of wine b. * three degrees of wine

According to Schwarzschild (2002, 2006) the measure function must be monotonic with respect to the noun it combines with.

(25) a measure function μ is monotonic relative to domain I iff: (i) there are two individuals x, y in I such that x is a proper subpart of y; and (ii) $\mu(x) < \mu(y)$

As expressed in (25), being monotonic for a measure function means that it tracks the part-whole structure of the denotation of the noun. A common way to represent that nouns' denotations have part-whole structures is by means of a lattice structure (Link 1983).

(26)



Now, Schwarzschild argues that if we assume this to be the structure of the denotation of a noun it is possible to explain the contrast in (24). The measure function *Volume* in (24a) is monotonic with respect to the noun *wine* because if a quantity of wine has a certain volume, then every proper subparts of it will have a lower volume, and superparts of it will have larger volumes. On the other hand, the measure function temperature in (24b) is non-monotonic with respect to the noun *wine* because if the wine has a certain temperature, it is not necessarily true that proper subparts of it will have a lower temperature and that superparts of it will have a higher temperature.

7.2. Monotonicity in the Verbal Domain

Basque n-a Qs do not only show semantic restrictions on the nominal domain: as we saw, they also show certain restrictions on the verbal domain, i.e. they are 'predicate sensitive'. Those restrictions must at least include the impossibility of combining with collective predicates and once-only predicates. In order to account for these restrictions, we adopt the idea that predicates (as is the case for nouns) can also be represented by a part-whole structure (Nakanishi 2004, 2007). We assume that the denotation of a verb contains an event argument *e* (Davidson 1967) and that what a verb denotes can be expressed by a lattice of events (Landman, 2000). Then, the measure function that applies to the VP will have to be monotonic with respect to the part-whole structure denoted by this VP.

(27) a measure function μ is monotonic relative to domain E of events iff: (i) there are two events e_1, e_2 in E such that e_1 is a proper subpart of e_2; and (ii) $\mu(e_1) < \mu(e_2)$

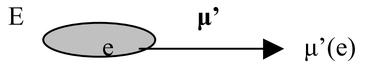
The monotonicity constraint in the verbal domain can account for why n-a Qs can not combine with once-only predicates, with categorical predicates, and with collective predicates. Note that once-only predicates do not denote part-whole structures since they make reference to a single event and something like *kill the vulture* have no proper subparts of vulture-killing. Collective predicates, as opposed to distributive ones, denote a single event, and again, there will be no part-whole structure of events. Now, if this is the case, n-a Qs (being measure functions) will not be able to apply to these predicates monotonically. This is why n-a Qs can only combine with predicates that denote a non-trivial part-whole structure. Basque agreeing weak Qs on the other hand can combine with any predicate since they show no restriction on the verbal domain and do not have to apply to predicates monotonically.

7.3. Homomorphism

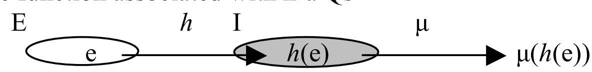
As we just mentioned, n-a Qs quantify over both nouns and verbs, but how can this property be explained? One possibility is to create a homomorphism function between individuals and events allowing measures to measure both. What a homomorphism function does is preserve some structural relation defined on its domain in a similar relation defined in its range, as in $h(e_1 \cup_E e_2) = h(e_1) \cup_T h(e_2)$ (cf. Krifka, 1989, for a homomorphism analysis for events). Nakanishi (2004, 2007) uses the homomorphism analysis for split Measure Phrases. We extend Nakanishi's analysis to Basque n-a Qs. Nakanishi argues that there is a homomorphism function from events denoted by the VP to individuals denoted by the NP. Then, given a measure function for individuals and a homomorphism function from E to I, it is possible to derive a measure function μ' for events. If we take this proposal as correct, it would follow from here that Basque n-a Qs could measure both individuals and events.

In (29), a measure function applies to individuals mapped from events by a homomorphism function *h*. If the derived measure function μ'(e) in (28) is equal to μ(*h*(e)) in (29) (a measure function applying to individuals mapped from events). By mapping events to individuals and measuring the range of that mapping, Basque n-a Qs will be able to measure at the same time individuals (since μ applies to the output of *h*(e)) and events (since the derived μ' applies to e). In this way, n-a Qs indirectly measure events by measuring individuals. This analysis captures the observation that a n-a Q operates both on the VP denotation and on the denotation of the host NP, measuring individuals.

(28) A measure function associated with n-a Qs

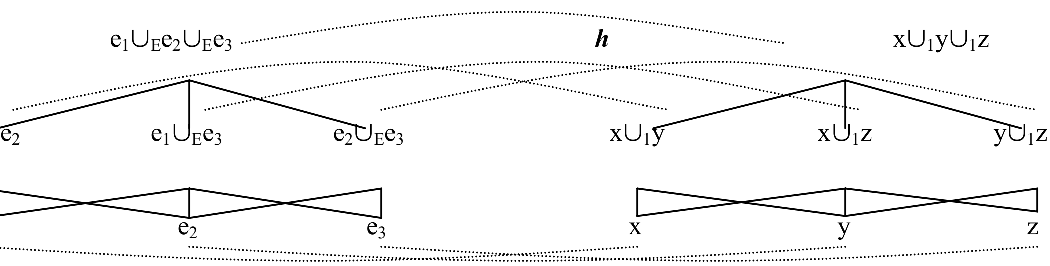


(29) A measure function associated with n-a Qs



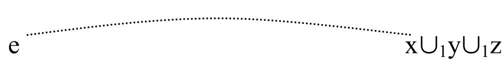
If this is correct, n-a Qs will have to be monotonic relative, not just to the part-whole structure of the VP, but to the part-whole structure of a nominal domain mapped from a verbal domain. The incompatibility of n-a Qs with once-only predicates and with categorical predicates can be explained as before: these predicates have no part-whole structure of events and as a consequence there will be no homomorphism function that can be applied to the domain of events. Now, we also know that n-a Qs force distributive readings (cf §5). In order to obtain this reading, let us suppose that a verb like *make a table* can be pluralized and can form a lattice of make-a-table events, if so, there can be a homomorphism from the event lattice to a lattice of boys (individuals) (Nakanishi 2004, 2007). A measure function can apply monotonically to the range of the homomorphism function, i.e. the lattice of boys, because the homomorphism function preserves the part-whole structure of the lattice of events.

(30)



Thus, in the distributive reading the n-a Q will measure events as *many* (assuming that $e_1 \cup_E e_2 \cup_E e_3$ are *many* events), and this is mapped into the individuals $x \cup_1 y \cup_1 z$. The individual $x \cup_1 y \cup_1 z$ consists of x, y, z, each of whom will be taken to be an agent of an atomic e.g. make-a-table event e_1, e_2, e_3. On the other hand, the collective reading is ungrammatical due to the fact that there would only be a single make-a-table event e and the boys would also form a single agent. Then, it will be impossible to apply a measure function monotonically because the single event will have no part-whole structure.

(31)



8. Syntactic Structure

Our syntactic analysis of the alternation builds on Borer (2005), who argues that all nouns are unspecified for any properties (including the mass/count property) and that in the absence of any grammatical specification and unless more syntactic structure is added, nouns denote masses (as the default case). In order to interact with the count system nouns' denotations need to be portioned-out. This portioning-out function is realized by means of a classifier, but classifiers, Borer argues, are not exclusive to languages like Chinese and can also be found in other languages. In English, what accomplishes the portioning-out function will be the plural marker *-s*, which Borer considers a classifier.

With all this in mind, the syntactic structure proposed by Borer for nominals is the one in (36): first we have a NP (which will be mass by default), above the NP we have the Classifier Phrase (ClP) where the portioning-out function takes place, dominating the ClP we have the Quantity Phrase or Number Phrase (NumP) which is responsible for the assignment of quantity to stuff (i.e. masses) or to divisions of it (i.e. where the counting occurs), and finally, above all, we have the DP projection.

(32) a. [DP [NumberP [ClassifierP [NP]]]]

According to Borer, both ClP and NumP may be missing from the structure. When the ClP is absent, the noun is interpreted as mass. This is basically what we have in (32b) where we provide an example of the structure of a mass noun combined with a weak Q. So, we start with the NP *money*, since we want this NP be interpreted as a mass term, there will be no portioning-out function, that is, there will be no ClP present in the structure. Then, in order to quantify the stuff denoted by the NP *money* the NumP must be present and this is where the English Q *much* is placed.

(32) b. Masses: $[_{DP}\ [_{NumberP}$ much $[_{\cancel{ClassifierP}}\ [_{NP}$ money]]]]

In (32c) we have an example of a count term (combined with a weak Q); just because we want to interpret the noun as count, more structure than in (32b) is needed. As in (32b), we start with an NP person, a mass term by default. However, in order to interact with the count system the NP needs to be portioned-out, i.e. we need a ClP present in the structure, and this portioning-out function is fulfilled by plural inflection *-s* in English. Once the stuff has been divided by the classifier, the portioned-out stuff can be counted, and this is exactly what the Qs *many* or *three* do in NumP position.

(32) c. Counts: $[_{DP}\ [_{NumberP}$ many/three $[_{ClassifierP}$ -s $[_{NP}$ person]]]] (English)

Borer's analysis faces some problems when we consider Basque data: it would make no difference between Basque agreeing and n-a Qs and they would both appear in NumP position. Furthermore, recall that among the Basque agreeing Qs we have numerals, and numerals always agree with the predicate in number as shown in (33), in opposition to what happens with vague Qs in Basque.

(33) Hiru ikasle berandu iritsi dira/*da
three student late arrive aux.pl/aux
'Three students arrived late'

We think, considering the differences between agreeing and n-agreeing Qs in Basque, that we have evidence enough to conclude that agreeing Qs are counting Qs while n-agreeing Qs are measures (cf. §6). What we propose then is that measures head their own functional projection in the expanded structure of the Noun Phrase: the Measure Phrase (MP). As shown in (34), the MP is placed just in between the ClP (where division occurs) and the NumP (where counting occurs).

(34) [DP [Number Phrase [**Measure Phrase** [Classifier Phrase [NP]]]]

Assuming the structure in (34) as correct, let us see now how the different uses of a vague Q like asko 'many/much' would fit in this structure.[1] In combination with mass terms, the structure will be the one in (35). The noun *garagardo* 'beer' in (35) will be interpreted as a mass term due to the fact that there is no ClP in the structure, and hence, no portioning-out of the stuff. Above the NP we will have the MP, where the n-a Q *asko* will appear, measuring the quantity of beer.

(35) **Mass nouns:** garagardo asko $[\ldots [_{MP}$ asko $[_{NP}$ garagardo]]]
beer much

We have seen in initial sections that n-a Qs need the NP they combine with to have atomic structure (cf. §3-4). It follows from here that n-a Qs do not measure masses and therefore the

[1] Note that Basque is a head final language. However, we leave aside directionality in this paper.

portioning-out function is needed; in other words, the ClP must be present in the structure. We assume that there is a covert classifier head in Basque (represented as ∅ in (36)) that portions-out stuff.[2] According to Borer, once you portion-out stuff there is no other possibility but to count on it by means of a counter (numerals, Qs, etc.) which would appear in the NumP position. Basque n-a Qs show that this is not necessarily so and that it is possible to not be in NumP position and still need the stuff be portioned-out in order to measure it. Thus, the structure we propose for n-a Qs is the one in (36): first we have the noun *ikasle* 'student' which enters the structure as a default mass term; it must be portioned-out in order to combine with n-a Qs (which do not measure masses) which will be placed in MP position. It is exactly in the functional projection MP where the structure stops, going no higher than that (i.e. there will be neither NumP nor DP projected). The structure we propose for n-a Qs in (36) is the one that allows the application of the homomorphism function permitting these elements measure individuals denoted by the NP and events/states denoted by the VP.[3]

(36)	**N-a Qs:**	ikasle asko [-agr] student MANY	$[_{MP}$ asko $[_{ClP}$ ∅ $[_{NP}$ ikasle$]]]$ ⇒ *homomorphism*

Finally, Basque agreeing Qs are considered simple counters and as a consequence they will appear in NumP position. Of course, these Qs quantify over portioned-out stuff and the presence of the ClP with a covert classifier head will also be necessary in these cases. Thus, first in (37) we have the noun *ikasle* 'student' which as in (40) enters the structure as a default mass term; it must be portioned-out in order to combine with the counting system, hence the ClP is necessary. Above the ClP we will have NumP where the agreeing Q appears assigning quantity to the portioned-out stuff.

(37)	**Agreeing Qs:**	ikasle asko [+agr] student many	[… $[_{NumP}$ asko $[_{ClP}$ ∅ $[_{NP}$ ikasle$]]]$

9. Conclusions

We have shown that n-a Qs in Basque are conceptually measures. Based on the differences between agreeing and n-a Qs and observing that the latter do not behave as counters (i.e. they can not appear in NumP position) we have proposed a new syntactic structure for NPs where measures head their own functional projection. This projection is placed in between the ClP and the NumP. We have also shown that n-a Qs are sensitive to the nature of the predicates they associate to and that Measure Phrases seem to measure both individuals and events/states, as long as the latter denote non-trivial part-whole structures. The predicate sensitivity of measuring Qs has been explained using the monotonicity constraint (Schwarzschild, 2002) and a homomorphism function (Krifka, 1989; Nakanishi, 2004, 2007).

References

Borer, H. 2005. *In name only*. Oxford: OUP.
Doetjes, J. 1997. *Quantifiers and selection*. PhD, Leiden.
Etxeberria, U. 2005. *Quantification and domain restriction in Basque*. PhD, EHU-UPV.
Etxeberria, U. & R. Etxepare. forthcoming. *Low aspects of the NP in Basque*, ms., IKER-CNRS.
Etxepare, R. 2000. '*Asko*-ren zenbait alderdi'. Lapurdum V.
Krifka, M. 1989. 'Nominal reference, temporal constitution, and quantification in event semantics'. In R. Bartsch et al. (eds.), *Semantics and contextual expression*. Dordrecht: Foris. 75-115.
Landman, F. 2000. *Events and Plurality*. Dordrecht:Kluwer Academic Publishers.
Link, G. 1983. 'The Logical Analysis of Plurals and Mass Terms: A Lattice Theoretical Approach'. In Bäuerle, R., et al. (eds.), *Meaning, Use, and Interpretation of Language*, Berlin: Walter de Gruyter. 302-323.
Nakanishi, K. 2007. 'Measurement in the nominal and the verbal domain'. Linguistics & Philosophy 30: 235-276.
Schwarzschild, R. 2006. 'The role of measurement in the syntax of noun phrases'. Syntax 9.1: 67-100.

[2] For the relation between the overt plural marker in Basque and the portioning out function above see Etxeberria and Etxepare (forthcoming). For the syntactic position of the overt plural marker in Basque, see Etxeberria (2005).
[3] See Etxeberria and Etxepare (forthcoming) for a rationale for this process.

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