## A note on sufficiency predicates\*

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# 1. Introduction

Expressions of sufficiency like *enough*, *suffice*, etc. have long attracted attention due to their complex syntactic and semantic properties. Two of the common questions concerning such constructions include whether they obligatorily require an infinitival complement (see e.g. Zhang 2018), or whether sufficiency predicates are intrinsically modal (see e.g. Grano 2022). In this paper we contribute to this body of work by studying the subjects of predicates of sufficiency, a hitherto unnoticed source of variation in constructions of sufficiency. Focusing mainly on Spanish data, we show that definite and quantificational expressions that are otherwise ungrammatical subjects of certain sufficiency predicates may nevertheless be "rescued" by the preposition *con* 'with', thereby revealing that the class of expressions that may appear in subject position of sufficiency predicates is rather heterogeneous.

# 2. Expressions of sufficiency and their subjects

# 2.1 Variation in predicates

We focus on two predicates of sufficiency in Spanish, the verb *bastar* 'suffice' and the degree expression *suficiente* 'enough'. Our starting point is the observation that certain predicates, including those of sufficiency, show a somewhat uncommon agreement pattern (see e.g. Rett 2014, Rothstein 2017 among others):

(1) a. Tres manzanas **son** suficientes three apple.PL BE.PL enough.PL 'Three apples are enough'

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b. Tres manzanas **es** suficiente three apple.PL BE.SG enough.SG 'Three apples is enough'

Example (1a) shows the sufficiency predicate *sufficiente* with ordinary subject-predicate agreement. The semantic interpretation of (1a) simply states that three apples count as a sufficient quantity of apples (for whatever purpose is relevant in the context). The variant in (1b) instead displays an uncommon agreement pattern where the plural subject no longer triggers plural agreement with the predicate, but this does not result in ungrammaticality. For this reason, Mendia and Espinal (2022) named cases such as (1b) Non-Agreeing Degree constructions (NAD constructions for short). From a semantic standpoint, however, the two are not equivalent: while in (1a) what counts as being sufficient is a certain quantity of apples, in (1b) what counts as being sufficient is instead largely under-specified. For instance, (1b) may be felicitous in a context where *peeling* three apples is considered to be enough *work* (for a certain purpose). Others contexts may be far more reaching, e.g. it could be that it is *juggling* three apples that provides a sufficient *difficulty* condition (e.g. during a juggling demonstration using apples instead of balls). Such under-specification can be somewhat alleviated by providing an overt nominal complement to the predicate of sufficiency, as in (2b). In contrast, providing such nominal complements is highly limited for (1a); only repeating the same nominal in subject position is allowed.<sup>1</sup>

- (2) a. Tres manzanas son suficientes { manzanas / \*comidas } three apple.PL BE.PL enough.PL apple.PL food.PL
   'Three apples are enough {apples / \*food}'
  - b. Tres manzanas es suficiente { comida / trabajo / dificultad } three apple.PL BE.SG enough.SG comida.SG work.SG difficulty.SG 'Three apples is enough {food / work / difficulty}'

Given this state of affairs, one would imagine that other predicates of sufficiency would show a similar behavior, but this is not so: verbal predicates of sufficiency must obligatorily agree with their subjects.<sup>2,3</sup>

(i) Tres manzanas **son** suficiente**s** fruta**s** three apple.PL BE.PL enough.PL fruit.PL 'Three apples are enough fruits'

In any case, the availability of complement nominals in agreeing variants such as (1a), (2) and (i) above clearly much more limited when compared to their non-agreeing counterparts.

<sup>2</sup>We have found that some speakers are more charitable with examples like (3b), but we are not in a position to assess the source of such possible variation. We believe that (3) describes the main contrast in the language and we will continue to assume so throughout the paper.

<sup>3</sup>In what follows we limit ourselves to the predicate *bastar*, but everything we have to say about it carries over to *alcanzar* and *llegar* as well.

<sup>&</sup>lt;sup>1</sup>In some cases it is possible to use hyperonyms as well:

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- (3) a. Tres manzanas { bastan / alcanzan / llegan } three apple.PL suffice.PL 'Three apple.PL suffice.PL'
  - b. ??Tres manzanas { basta / alcanza / llega } three apple.PL suffice.SG

## 2.2 Variation in subjects

As we previously noted in Mendia and Espinal (2022), the distribution of constructions of sufficiency that are permissible as NAD constructions is rather limited. While (possibly modified) numeral indefinites, infinitive clauses and certain types of definite descriptions yield grammatical results (4), NAD constructions are not grammatical with either non-numeral indefinites, strong quantifiers of various sorts, and definite descriptions of non-eventive nominals, (5).

- (4) a. ({ Más de / Menos de / Unas }) Tres manzanas es suficiente more than less than some three apple.PL BE.SG enough.SG '({More than / Less than / Some }) Three apples is enough'
  - b. Lavar y triturar las manzanas es suficiente wash.INF and grind.INF the apple.PL BE.SG enough.SG 'To wash and to grind the apples is enough'
  - c. La limpieza y la trituración de las manzanas es suficiente the washing and the grinding of the apple.PL BE.SG enough.SG 'Washing and grinding the apples is enough'
- (5) a. \*{ Varias / Pocas / Algunas / Muchas / Unas } manzanas es suficiente several few some many some apple.PL BE.SG enough.SG
  - b. \*{ La mayoría de / Todas las / Ambas } manzanas es suficiente the majority of all the both apple.PL BE.SG enough.SG
  - c. \*{ Las / Estas / Aquellas } manzanas es suficiente the these those apple.PL BE.SG enough.SG

The patterns with other types of sufficiency predicates such as *bastar* follow closely what we see above in (4) and (5), but with certain intriguing differences. For one, numeral indefinites such as those in (4a) provide and ill-formed sequence, thereby reproducing the previously noticed contrast between (1b) and (3b).

(6) ??({ Más de / Menos de / Unas }) tres manzanas basta more than less than some three apple.PL suffice.SG

In contrast, infinitival clauses and definite descriptions of event nominals are somewhat degraded:

- (7) a. ?Limpiar y triturar las manzanas basta wash.INF and grind.INF the apple.PL suffice.SG Int.: 'To wash and to grind the apples suffices'
  - b. ?La limpieza y la trituración de las manzanas basta the washing and the grinding of the apple.PL suffice.SG Int.: 'Washing and grinding the apples suffices'

In turn, like we saw in (5), neither non-numeral indefinites, strong quantifiers nor other types of non-eventive definite descriptions may appear in subject position of a NAD construction with *bastar*.

a. \*{ Varias / Pocas / Algunas / Muchas / Unas } manzanas basta several few some many some apple.PL suffice.SG
b. \*{ La mayoría de / Todas las / Ambas } manzanas basta the majority of all the both apple.PL suffice.SG
c. \*{ Los / Estas / Aquellas } manzanas basta the these those apple.PL suffice.SG

## 2.3 Rescuing by the preposition *con* 'with'

Our main focus in this paper is the observation that there is yet one more type of subject that is allowed with a subset of NAD constructions. These are QPs and DPs introduced by the preposition *con* 'with', which may combine with all types of sufficiency predicates (copular or not). This preposition has the ability to render some of the ill-formed sequences we have encountered so far grammatical, with the notable exception of subjects with strong quantifiers.<sup>4</sup>

- (9) a. Con { varias / pocas / algunas / muchas } manzanas es suficiente with several few some many apple.PL BE.SG enough.SG
   'With {several / few / some / many} apples is enough'
  - b. ??Con { la mayoría de / todas las / ambas } manzanas es suficiente with the majority of all the both apple.PL BE.SG enough.SG

'It {will / would} suffice with {the majority of the / all the / both} apples'

<sup>&</sup>lt;sup>4</sup>Examples with universal quantifiers like (9b) and (10b) improve significantly if instead of present tense we introduce some form of modality such as the future and the conditional:

Con { la mayoría de / todas las / ambas } manzanas { será (i) a. / sería } with the majority of all the both apple.PL BE.FUT.SG BE.COND.SG suficiente enough.SG 'With {the majority of the / all the / both} apples {will / would} be enough' Con { la mayoría de / todas las / ambas } manzanas { bastará b. / bastaría } with the majority of all the both apple.PL suffice.FUT.SG suffice.COND.SG

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- c. Con { las / estas / aquellas } manzanas es suficiente.
  with the these those apple.PL BE.SG enough.SG
  'With {the / these / those} apples is enough'
- (10) a. Con { varias / pocas / algunas / muchas / unas } manzanas basta with several few some many some apple.PL suffice.SG 'It suffices with {several / few / some / many} apples'
  - b. ??Con { la mayoría de / todas las / ambas } manzanas basta with the majority of all the both apple.PL suffice.SG
  - c. Con { las / estas / aquellas } manzanas basta with the these those apple.PL suffice.SG 'It suffices with {the / these / those} apples'

Thus, *con* subjects may also render grammatical cases where sufficiency is lexically specified in a single verbal head, such as *bastar* in (10). This is true regardless of the type of subject, and thus *con* has the ability to form grammatical variants of (3b), (6), and (7); examples (11) and (12) should be compared to (6) and (7) above.

- (11) Con ({ más de / menos de / unos }) tres manzanas basta with more than less than some three apple.PL suffice.SG 'It suffices with {more than / less than / some } three apples'
- (12) a. Con limpiar y triturar las manzanas basta with wash.INF and grind.INF the apple.PL suffice.SG 'It suffices to wash and grind the apples'
  - b. Con la limpieza y la trituración de las manzanas basta with the washing and the grinding of the apple.PL suffice.SG 'It suffices with washing and grinding the apples'

Given this state of affairs, we are interested in understanding the role of the preposition *con* in these sufficiency constructions. In particular, what makes *con* rescue otherwise ungrammatical NAD constructions? How do NADs with *con* subjects differ, both structurally as well as semantically, from *con*-less variants?

# 3. Analysis

We suggest that the preposition *con* in NAD constructions is indicative of some previously unnoticed hidden structure. From a semantic standpoint, the main intuition we pursue is that while (1b) states that three apples count as enough of *something* (e.g. enough food, enough weight, etc.), the *con* variant in (13) states that *with three apples* there will be enough *for doing something*.

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- (1b) Tres manzanas es suficiente three apple.PL BE.SG enough.SG'Three apples is enough'
- (13) Con tres manzanas es suficiente with three apple.PL BE.SG enough.SG'With three apples is enough'

We propose to capture this distinction by appealing to a structural difference between the subjects with and without *con*. NAD constructions, as we suggested in Mendia and Espinal (2022), provide ways of expressing unconventional measurements, i.e. measurement constructions where both the dimension of measurement as well as the units of measurement do not rely on conventionalized knowledge.<sup>5</sup> Summarizing somewhat, the structure of *con*less NAD constructions we proposed may be represented as follows, where *comida* 'food' is the non-conventional dimension being measured and *apples* provide the corresponding non-conventional unit of measurement.



The subject *tres manzanas* is an argument of a nominal predicate *comida*, which is in turn modified by a degree expression of sufficiency. In contrast, we take it that *con* subjects reveal a more contrived syntactic structure. In particular, we note that, unlike in (14), *con* subjects may not directly be arguments of predicates that make explicit the dimension with respect to which the QP *tres manzanas* is evaluated. In other words, *con* subjects may only combine with bare sufficiency predicates. See the contrast between (13) above and (15):

(15) \*Con tres manzanas es suficiente comida with three apple.PL BE.SG enough.SG food

We suggest therefore that *con* subjects signal a larger structure involving a full CP with a possibly elided infinitive in subordinate position.<sup>6</sup>

<sup>&</sup>lt;sup>5</sup>This stands in contrast with adjectives, for instance, which always convey their domain of measurement lexically (e.g. *heavy* may only relate individuals and degrees or measures along the dimension *weight*) and are often, but not always, associated with dedicated units of measurement, such as *kilo*, *kilometer*, etc.

<sup>&</sup>lt;sup>6</sup>Here we take verbs like *bastar*, *alcanzar*, *llegar*, etc. to be the spell-out of Pred'.



We have various reasons to believe that a structure like (16) is on the right track. First, note that it is entirely possible to add a nonfinite verb to the grammatical examples in (9a/c) and (10a/c). In these cases, the results are equally grammatical and the only observable effect is essentially semantic, since the nonfinite verb reduces the under-specification of the sentences significantly, for obvious reasons. We provide here two examples:

(17)	a.	Con pelar { varias / pocas / algunas / muchas } manzanas es					
		with peel.INF several few some many apple.PL BE.SG					
		suficiente					
		enough.SG					
		'To peel {several / few / some / many} apples is enough'					
	b.	Con pelar { las / estas / aquellas } manzanas basta					
		with peel.INF the these those apple.PL suffice.SG					
		'It suffices to peel {the / these / those} apples'					

Second, adding a nonfinite verb to ungrammatical examples such as (9b) and (10b) renders them grammatical:

(18)	a.	Con pelar { la mayoría de / todas las / ambas } manzanas es					
		with peel.INF the majority of all the both apple.PL BE.SG					
		suficiente					
		enough.SG					
		'To peel {the majority of the / all the / both} apples is enough'					
	b.	Con pelar { la mayoría de / todas las / ambas } manzanas basta					
		with peel.INF the majority of all the both apple.PL suffice.SG					
		'It suffices to peel {the majority of the / all the / both} apples'					

Third, we expect that *con* subjects being non-nominal they will trigger singular agreement with the main predicate—either in the form of default agreement or agreement with the

(16)

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CP (see discussions in e.g. Picallo 2002 and more generally Halpert 2015). This explains the ungrammaticality of any *con* subject agreeing in plural with its main predicate; the following are plural variants of (9), (10) and (11) respectively.

(19)	a.	*Con { varias / pocas / algunas / muchas } manzanas son suficientes
		with several few some many apple.PL BE.PL enough.PL
	b.	*Con { la mayoría de / todas las / ambas } manzanas son suficientes
		with the majority of all the both apple.PL BE.PL enough.PL
	c.	*Con { las / estas / aquellas } manzanas son suficientes.
		with the these those apple.PL BE.PL enough.PL
(20)	a.	*Con { varias / pocas / algunas / muchas / unas } manzanas bastan with several few some many some apple.PL suffice.PL
	b.	*Con { la mayoría de / todas las / ambas } manzanas bastan
		with the majority of all the both apple.PL suffice.PL
	c.	*Con { las / estas / aquellas } manzanas bastan
		with the these those apple.PL suffice.PL

(21) \*Con ({ más de / menos de / unas }) tres manzanas bastan with more than less than some three apple.PL suffice.PL

Fourth, all else equal, we would expect *con* to be able to embed larger phrases such as a full sized CPs in these constructions. And indeed this is the case: *con* allows full CPs with an overt complementizer and a subordinate clause in subjunctive mood. Such constructions, however, are ungrammatical in the absence of *con*, as well as with plural agreement.

- (22) a. Con que peles tres manzanas { es suficiente / basta }
   with that peel.SUBJ three apple.PL BE.SG enough.SG suffice.SG
   'For you to peel the apples is enough' / 'It suffices for you to peel the apples'
  - b. \*Que peles tres manzanas { es suficiente / basta } that peel.SUBJ three apple.PL BE.SG enough.SG suffice.SG
  - c. \*Con que peles tres manzanas { son suficientes / bastan } with that peel.SUBJ three apple.PL BE.PL enough.PL suffice.PL

Of course, *con*-subjects may take any form, including universal quantifier expressions, which were shown earlier to be ungrammatical in the absence of the nonfinite verb (see (9b) and (10b)). Thus, examples like (23) below with a universal quantifier like *todas las manzanas* are perfectly acceptable:

(23) Con que peles todas las manzanas { es suficiente / basta }
 with that peel.SUBJ all the apple.PL BE.SG enough.SG suffice.SG
 'For you to peel the apples is enough' / 'It is enough for you to peel all the apples'

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The emerging pattern for *con* subjects is thus one where its complement is either a full CP or possibly some other eventuality denoting phrase, such as a TP/vP. We believe that this result meshes well with our proposed semantic distinction between (1b) vs. (13)). We began the section by observing that while (1b) is a statement about some *thing*, in this case about what counts as sufficient food measured in term of apples. In contrast, (13) is much more open ended, and thus what counts as sufficient need not be the apples themselves. Now we understand why: if *con* subjects involve clausal structure (either finite or non-finite), they may never be able to denote ordinary object-level entities. Instead, they denote eventualities and are thus sortally ruled out as arguments of object-level predicates.

We propose that the semantic difference between the denotations of subjects with and without *con* is at the root of ungrammaticalities such as (15) above. Following the same reasoning, since non-finite subjects may not be predicated of non-eventive nominal predicates, so we expect *con* subjects to be unable to rescue such sortally mismatched predications, invariably leading to ungrammaticality. For instance, the QP *three apples* denotes a quantity of apples and thus it may be used with sufficiency predicates in measurement constructions such as (2b)), conveying that a quantity of apples reaches a certain threshold of *food* amounts. In contrast, the phrase *eating three apples* does not itself denote a quantity of apples and thus it may not serve as argument to a nominal predicate like *food*. This limitation is moreover independent of the presence of an overt non-finite verb, as shown in (24).<sup>7</sup>

(24)	a.	*Comer tres	manzanas	es	suficiente	comida
		eat.INF three	apple.PL	BE.SG	enough.SG	food.SG

- b. \*Con comer tres manzanas es suficiente comida with eat.INF three apple.PL BE.SG enough.SG food.SG
- c. Con comer tres manzanas es suficiente with eat.INF three apple.PL BE.SG enough.SG

### 4. Conclusions

Sufficiency predicates may appear in the form of NAD constructions like (1b) above, a form of degree construction with an uncommon agreement pattern where plural subjects fail to trigger plural agreement with their predicates, albeit without resulting in ungrammaticality. In this paper, we presented the novel observation that certain ungrammatical NAD con-

This type of semantic analysis is consistent but not required to for our purposes, since the syntactic proposal in (16) already accounts for the lack of plural agreement (see discussion around examples (19) through (21)).

<sup>&</sup>lt;sup>7</sup>Following much literature (e.g. Chierchia 1984), this non-finite subjects may be interpreted as nominalized events. The fact that they cannot take plural predicates, such as coordinated nonfinite clauses, provides a first indication that this might be the case for sufficiency predicates as well.

<sup>(</sup>i) y comer tres manzanas { son suficientes / bastan \*Lavar } a. wash.INF and eat.INF three apple.PL BE.PL enough.PL suffice.PL b. Lavar y comer tres manzanas { es suficiente / basta } wash.INF and eat.INF three apple.PL BE.SG enough.SG suffice.PL 'To wash and to eat three apples is enough' / 'It suffices to wash and eat three apples'

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structions built on top of sufficiency predicates may nevertheless be rendered grammatical with subjects seemingly headed by the preposition *con* 'with'.

We proposed to account for this behavior by postulating that in fact such *con*-subjects are not nominal, but instead *con*-constructions have clausal subjects, either finite or non-finite. In our proposed syntactic structure the DP/QP that is seemingly the complement of the preposition *con* is instead the complement of a possibly concealed verb predicate. This is reflected not just in the syntactic structure of *con*-constructions, but also in their semantic interpretation. We show that, unlike run-of-the-mill NAD constructions, *con*-subjects do not denote object-level entities nor amounts of such entities, but instead they denote eventualities. In combination with sufficiency predicates, the eventualities denoted by *con*-subjects are said to reach a minimum threshold that renders the whole eventuality good enough to fulfill a certain purpose; what this threshold or purpose is about, however, is often left unspecified and must therefore be recovered in context.

As a general consequence, we conclude that constructions with *con*-subjects are thus unlike NAD constructions. NAD constructions constitute a class of cross-linguistically common expressions that allow us to convey unconventional measures; e.g. (2b) is a form of stating that on a non-conventional scale of food quantities, three apples reach a certain contextually determined threshold. In other words, apples are used as measuring units in on a scale build upon the dimension of food quantity. Instead, *con*-constructions do not convey this type of unconventional measure, since they cannot make explicit an unconventional scale; there simply is no grammatical recourse to determine on what dimension—and thus on what scale—*three apples* are taken to reach the relevant threshold. This crucial difference points to a possible structural differences in the predicates of sufficiency: our results suggest that, while there is no evidence for a transitive version of *bastar*, it seems that *suficiente* may be act as a main predicate (with eventualities in *con*-constructions) or as a degree modifier (in NAD constructions).

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