# 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** suficiente**s**
              three apple.PL  BE.PL enough.PL
              'Three apples are enough'

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

Example (1a) shows the sufficiency predicate *suficiente* 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.[1]

(2)    a.    Tres  manzanas **son**     suficiente**s** { manzana**s** / *comida**s** }
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.[2,3]

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[1]In some cases it is possible to use hypernyms as well:

(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.

[2]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.

[3]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.

(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
         {Several / Few / Some / Many } apples is enough'
     b.  *{ La mayoría de / Todas las / Ambas } manzanas es      suficiente
            the majority of  all       the both   apple.PL  BE.SG enough.SG
         {Most / The majority of the / All the / Both } apples is enough'
     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 indef-
inites such as those in (4a) result in ungrammaticaliy, 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*.

(8)  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 ungrammatical cases we have encountered so far grammatical, with the notable exception of subjects with strong quantifiers.[4]

(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

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[4]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:

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

   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
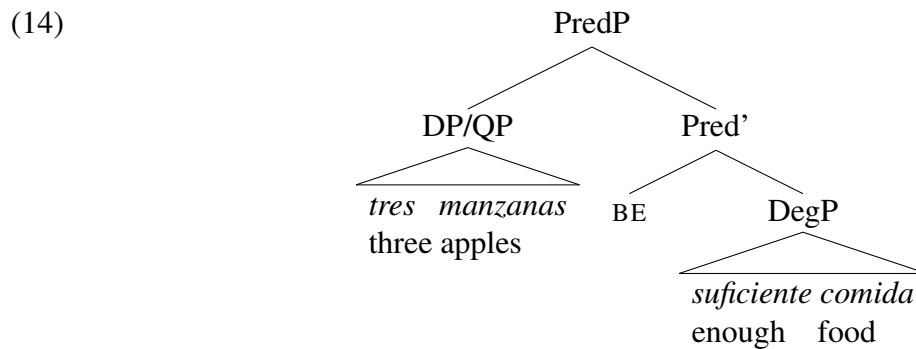     'It suffices with washing and grinding the apples'

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*.

(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.[5] 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.

(14)

```
                            PredP
                   _____/      _____
                  /                        \
               DP/QP                      Pred'
              /     \                    /     \
        tres  manzanas              BE        DegP
        three apples                         /    \
                                      suficiente comida
                                      enough   food
```

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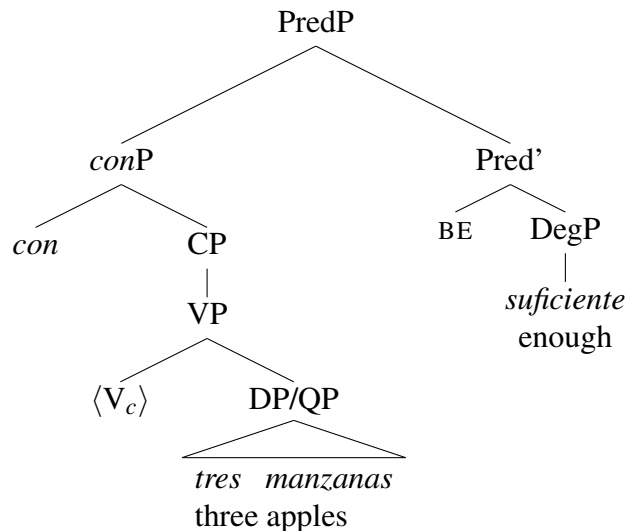
(15)   *Con tres  manzanas **es**      suficiente  comida
        with three apple.PL  BE.SG enough.SG food

We suggest therefore that *con* subjects signal a larger structure involving a full CP with a possibly elided infinitive in subordinate position.[6]

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[5]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.

[6]Here we take verbs like *bastar*, *alcanzar*, *llegar*, etc. to be the spell-out of Pred'.

(16)

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                              PredP
                   _____
                  /                        \
                conP                       Pred'
             ____/____                    __/__
            /         \                  /     \
          con          CP              BE      DegP
                       |                        |
                       VP                    suficiente
                   ____/____                  enough
                  /         \
                ⟨Vc⟩        DP/QP
                           _____△_____
                          tres  manzanas
                          three apples
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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

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, subjects in the subordinate clause may take any form, including that of universal quantifiers, 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'

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 exceeds 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).[7]

(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

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

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[7]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.

(i)   a.  *Lavar     y   comer tres manzanas { son      suficientes / bastan    }
          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'

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)).

We proposed to account for this behavior by postulating that in fact such *con*-subjects may not be nominal, but instead *con*-constructions have clausal subjects, either finite or nonfinite. 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 exceed a certain contextually determined threshold. In other words, apples are used a 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 exceed 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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