Journal of Linguistics (2025), **61**, 265–300
doi:10.1017/S0022226724000148

Journal of Linguistics
CAMBRIDGE UNIVERSITY PRESS

RESEARCH ARTICLE

Non-agreeing degree constructions

Jon Ander Mendia and M.Teresa Espinal

Universitat Autònoma de Barcelona, Edifici B, Campus UAB, 08193 Bellaterra, Spain
Corresponding author: Jon Ander Mendia; Email: jon.ander.mendia@gmail.com

Received: 25 October 2022; **Revised:** 06 March 2024; **Accepted:** 09 April 2024

Keywords: agreement; copular clauses; degrees; measurement; Spanish

Abstract

This paper deals with a construction, which we dub Non-Agreeing Degree (NAD) constructions, with the distinguishing property that the agreement pattern between subjects and degree predicates is optionally disrupted, even in languages (like Spanish) where verbs commonly agree with their subjects. We show that the agreeing versus non-agreeing alternation comes with important semantic differences for the interpretation of the degree construction. We provide a first systematic description of this type of constructions and postulate a formal syntactic and semantic analysis. We argue that NAD constructions are characterized by degree predicates that introduce a non-conventional nominal scale and by subjects that are interpreted as equally non-conventional units of measurement. We postulate an intensionalization process on the subject of NAD constructions, which we capture via a general nominalization function that allows a default as well as an ordinary agreement pattern between subject and copula.

1. Introduction

It is common for natural languages to be furnished with means of expressing whether an object has more or less of a certain property than some other object. In languages that have them, these properties, usually referred to as being *gradable*, are prototypically expressed by lexical items, such as adjectives and adverbs. In turn, gradable expressions themselves may be further modified by other types of *degree modifiers*, like those introduced by comparative and superlative morphology, adverbs like *much, very*, and so on.

No doubt prototypical degree constructions like adjectives and their projected functional structures provide the best opportunities to investigate how expressions of degree at large work in natural language. But gradability is not just a property of adjectives and adverbs. Indeed, although they have received much less attention in the literature on *degree expressions*, nominal expressions may as well be used to express gradable properties, as in *Bill is a big stamp-collector or Bill is more of a stamp-collector than Liz.*

The mechanisms that underlie such non-canonical degree contexts remain largely understudied and mysterious. Thus, the broader goal of this paper is to shed further light into this lesser studied area of gradability by paying attention to a variety of degree constructions in which a degree modifier acts on an otherwise non-gradable nominal. In order to do so, we investigate a hitherto understudied phenomenon, one with the distinguishing grammatical feature of displaying a seeming agreement disruption between the subject and the main predicate of the clause even in languages where predicates must agree with their subjects. The following examples provide a minimal pair illustrating the agreeing versus non-agreeing contrast in Spanish.[1]

(1) (a) Tres libros son { demasiados / suficientes }
three books are too-much.PL enough.PL
'Three books are {too many / enough}.'
(b) Tres libros es { demasiado / suficiente }
three books is too-much enough
'Three books is {too much / enough}.'

Example (1a) is an ordinary sentence with no agreement disruption, as subject and predicate agree in plural number marking. Its semantic interpretation simply states that three books count as too many books (for whatever purpose is relevant in the context). But also possible are variants like (1b), with what seems like a disrupted agreement pattern on the surface. Nevertheless, despite the agreement mismatch, the sentence is perfectly grammatical. Contrasts like those in (1) are ubiquitous among a large variety of languages, including Romance and Germanic families, but throughout the paper, we focus on Spanish examples.

This type of construction thus seemingly involves a systematic violation of a fundamental grammatical principle, namely, subject-verb agreement. More important for us, however, is the fact that examples like that in (1b) are not fully semantically equivalent to (1a) but come instead with important truth-conditional differences. Intuitively, the sentence in (1a) states that a quantity of three books exceeds (or is sufficient for) some threshold of book quantities. But this may not be so for (1b). What counts as too much in this second case is largely underspecified: it could be virtually *any* property that may be sensibly predicated of its subject, *three books.* For instance, (1b) could refer to the fact that reading, writing, summarizing or reporting three books is too much (to meet certain criteria), that the weight of three books exceeds some contextually relevant limitation (e.g. they are too heavy to carry in a flimsy plastic bag), that the height of a stack of three books would be too much (to fill in a gap in a bookshelf), etc.

While the truth-conditional differences between the minimally different (1a) and (1b) are fundamental, the semantic underspecification can nevertheless be reduced by providing an overt nominal complement to the degree predicates *demasiado* and *suficiente.* Consider (2). Notice that in (2a) not only the overt nominal complement must be formally identical to the nominal in subject position, but degree expressions must also agree in number with the

[1] All examples are given in present tense, but the claims and arguments we discuss are independent of this choice.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

complement noun.[2] In (2b), by contrast, there is not only lack of subject-verb agreement but the degree expression cannot be plural, as illustrated in (3).

(2) (a) Tres libros { *es / son } { demasiados / suficientes } libros
three books is are too-much.PL enough.PL books
'Three books are {too many / enough} books.'

(b) Tres libros { *es / son } { demasiado / suficiente } { peso / dinero / trabajo / esfuerzo / lectura }
three books is are too-much enough weight money work effort reading
'Three books is {too much / enough} {weight / money / work / effort / reading}.'

(3) *Tres libros { es / son } { demasiados / suficientes } { pesos / dineros / trabajos / esfuerzos / lecturas }
three books is are too-much.PL enough.PL weight.PL money.PL work.PL effort.PL reading.PL

Thus, generally speaking, the purely syntactic effects of the agreement disruptions observed in like (1b) and (2b) seem to come along with non-trivial consequences for their semantic interpretations, an effect that is yet to be explained. For concreteness, throughout the rest of the paper, we will refer to cases such as (1b) and (2b) as Non-Agreeing Degree (NAD) constructions.

NAD constructions are not limited to expressions of excess and sufficiency, like those in (1b) and (2b) but, in fact, generalize quite broadly to a variety of other degree modifiers, as shown in (4).[3]

(4) (a) *Comparatives*
En ajedrez dos torres { es / ?son } mejor (que una reina)
in chess two towers is are better than a queen
'In chess two towers is better than a queen.'

(b) *Superlatives*
Tres juguetes { es / ?son } lo mejor (que le puedes regalar)
three toys is are the best that him can gift
'Three toys is the best that you can gift him.'

[2] The nominal complement of the degree head may also be a hyperonym of the noun in subject position.

(i) (a) Tres novelas son demasiados libros
three novels are too-much.PL books
'Three novels are too many books.'

(b) Dos juguetes son suficientes regalos
two toys are enough.PL presents
'Two toys are enough presents.'

[3] As the question marks in examples (4a, b, d) indicate, the status of the singular and plural variants of NAD constructions is not the same. While singular variants are unequivocally good, for reasons unknown to us, plural variants do not show such a wider range of acceptability. Thus, although we will continue to provide both variants, our main goal is to provide a general account of NAD constructions as exemplified by the singular copula, hoping that future research will clarify the differences between the two variants.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(c) *Equatives*
Cuatro pizzas pequeñas { es / son } lo mismo que dos grandes
four pizzas small.PL is are the same that two big.PL
'Four small pizzas is the same as two big ones.'

(d) *Proportionals*[4]
Más de dos hijos { es / ?son } { mucho / bastante / poco }.
more than two children is are much quite–a–bit little
'More than two children is {a lot / little}.'

The main goal of this paper is twofold, one descriptive and one theoretical. Descriptively, we provide a first investigation of the syntactic distribution as well as the accompanying semantic effects of NAD constructions, with a focus on predicates of excess and sufficiency. From a theoretical standpoint, our overarching goal is, in a nutshell, to investigate the syntactic and semantic principles that underlie alternations, such as those in (1) and (2). More concretely, the main question that we set to answer in this paper pertains to the syntax-semantic mapping puzzle raised by minimal pairs, such as (1) and (2): how can the different semantic interpretations associated with these minimal pairs be accounted for? On the way to answering this question, we will also address the issue of number mismatch: how can the different agreement patterns observed in these minimal pairs be accounted for?

Foreshadowing the upcoming discussion, our main claims about NAD constructions are as follows. From a purely syntactic standpoint, the pairs (1a, b) and (2a, b) share the fact that they are degree predicational sentences. However, semantically, they both perform different tasks. We suggest that semantically, NAD constructions like (1b) and (2b) are like other kinds of ordinary measuring constructions, such as (5). That is, the subject of a NAD construction introduces nominal expressions that may (*kilos*) or may not (*books*) be directly compatible with the dimension specified in the predicate (i.e. *peso* 'weight').

(5) Tres kilos { es / son } { demasiado / suficiente } peso
three kilos is are too-much enough weight
'Three kilos is too {much / enough} weight.'

The intuition we pursue is that the semantic role of *three books* in (1b) and (2b) above is the same as that of *three kilos* in (5): to state that a plurality of three units of books (exactly like three units of kilos) exceeds/is sufficient with respect to some contextually relevant threshold of weight. We propose to break down the division of labor that leads to this semantic interpretation of NAD constructions as involving the following ingredients:

- A nominal (possibly covert) such as *weight, money, work, effort*, etc., that contributes the required dimension along which to build a relevant scale.

[4] The semantics of *mucho* 'much' presents some particular complications that we will largely ignore here. Most notably, statements with *mucho* (and *many/much* in English) are subject to systematic ambiguities between so-called absolute and proportional interpretations, and even a 'reverse proportional' interpretation according to some authors. For recent discussions (see Dobrovie-Sorin & Giurgea 2021 and Romero 2021).

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

- A degree head expressing some form of comparison to a degree, such as *too much* and *enough*. Importantly, and unlike other types of gradable predicates, these heads do not by themselves determine any specific dimension.
- A copula BE.
- A subject that is interpreted as providing a unit of measurement.

We further propose that subjects of NAD constructions, if they are to provide such units of measurement, must be non-extensional, an intensionalization process that we propose to capture via a general nominalization function. The postulated predication over non-extensional subjects comes, in turn, with additional consequences, which we discuss now. First, subject-verb agreement in NAD constructions is rendered irrelevant, as already pointed out in (2b).

There are two important things to note out of the comparison between (1b) and (2b): (i) plural or singular copulas are both possible, and (ii) irrespective of the number morphology on the verbal form, there is no discernible semantic difference between these NAD constructions: they both convey the same proposition and thus share the same truth-conditions. That is, when measuring weight, money, etc., a three-book unit exceeds or is close to a certain threshold contextually fixed. We take these two properties to be characteristic of NAD constructions. Notice, furthermore, that in (2b) only the copula may 'agree' in plural with the subject. The Degree Phrase complement of the copula instead shows no trace of such putative agreement process. However, this is not canonical in Spanish, where predicative copular constructions require the copula and its complement to share phi-features, as illustrated in (2a). Together, these facts suggest that agreement in NAD constructions must be distinguished from the syntactic operation Agree (Chomsky 2000, 2001).

The second important piece of evidence suggesting that subjects of NAD constructions are non-extensional is that they don't need to be witnessed to be true: unlike (1a) or (2a), neither (1b) nor (2b) imply the existence of values for sets of three books, such that they are too heavy. Instead, the subjects in the latter group of sentences convey 'any three-book-entity' has such-and-such property.[5]

The remainder of the paper is organized as follows. Section 2 introduces the syntactic and semantic properties that characterize NAD constructions, such as the requirement of a degree predicate (with a copula BE, a degree head and a nominal complement), and provides an extensive discussion of the types of expressions that may and may not appear as subjects of NAD constructions. Section 3 presents the syntactic structure of predicational NAD constructions and discusses the semantic ingredients of the expression of excess and sufficiency.

[5] NAD constructions could also be conceived as instances of lexical polysemy, whereby nouns contribute two main senses to the truth-conditions of the sentence: an 'individual' sense and a 'degree' sense (see e.g. Rett 2014, 2018; cf. Brasoveanu 2009). We suggest to depart from such accounts on the grounds that (i) polysemous terms do not typically have additional effects on other types of grammatical processes (such as agreement), (ii) because they do not lend themselves easily to cases of co-predication (a hallmark of polysemous predicates; see discussion in Rett 2018), (iii) polysemy-based analyses would suffer from over-predictive power, as the distribution of NAD constructions is heavily restricted to certain syntactic environments, even when semantically equivalent constructions are, in principle, available and (iv) because if we were to invoke polysemy, we would be missing a generalization, namely, that NAD constructions constitute essentially measuring constructions with subjects acting as units of measurement. To be clear, we are not claiming that nominals may not be polysemous and denote more than one sense (one of which may itself be represented as a degree), only that we believe the source of NAD constructions is not to be found there.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

In this section, the semantics of standard gradable predicates are compared to the semantics of degree heads in combination with plural nominal complements (as in (1a) and (2a)). Section 4 presents the semantic composition of NAD constructions, both with an overt and a covert nominal complement (as in (1b) and (2b)).

2. Syntactic Make-up of NADs and Their Semantic Properties

This section provides a description of the syntactic distribution of the different components that make up NAD constructions. More concretely, we seek to answer the following three questions: (i) What kinds of predicates are involved in NAD constructions? (ii) What kinds of syntactic phrases may appear as subjects of NAD constructions? And (iii) What are the restrictions in each case?

2.1. Degree predicates

Generally speaking, predicates expressing some form of measurement or comparison, e.g. indicating degrees of difference or similarity, form good NAD constructions. This is true of the following constructions: comparatives, superlatives, equatives, proportionals (see (4)), as well as expressions of excess and sufficiency, such as *be too much* or *be sufficient*, which are the ones we focus on in this paper. We have already seen what such NAD constructions look like in (1b) and (2b), characterized syntactically by a seemingly disrupted agreement pattern.

We focus now on the properties and restrictions of the three pieces that make up the predicate of this construction: the copula BE, the degree head and the nominal complement of the degree predicate.

2.1.1. The copula

We begin first by noting that NAD constructions are strictly limited to (i) predicational copular sentences with (ii) degree predicates that express some form of measurement or comparison. Therefore, the examples in (6) are not NAD constructions, since their predicates do not involve any form of measurement or comparison and, furthermore, they only show ordinary agreement patterns.

(6) (a) Cinco defensas { *puede / pueden } frenar al equipo contrario
five defenders may.SG may.PL stop to–the team rival
'Five defenders may stop the rival team.'

(b) Tres coches mal aparcados { *bloquea / bloquean } la salida
three cars bad parked.SC block.SG block.PL the exit
'Three poorly parked cars may block the exit.'

It is important to remark that the limitations of the non-agreeing variants in (6) to form grammatical NAD constructions are syntactic. For instance, one could imagine that a NAD construction in (6a) could mean that a number of defenders equal to five has the required ability to stop the rival team. Such meanings are perfectly expressible via *bona fide* NAD constructions, as in (7).

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(7) (a) Cinco defensas { es / son } suficiente para frenar al
five defenders is are enough to stop to-the
equipo contrario
team rival
'Five defenders is enough to stop the rival team.'

(b) Tres coches mal aparcados { es / son } suficiente para
three cars bad parked.SC is are enough to
bloquear la salida
block the exit
'Three poorly parked cars is enough to block the exit.'

We take it, thus, that NAD constructions require predicates that overtly establish some form of measurement or comparison. In fact, some predicates actually are found to be preferred as NAD constructions in their most common uses. For instance, dimensional nouns that can be predicates directly of units of measurement – such as *distance, volume, weight*, etc. – yield better results as NAD constructions in spite of their disrupted agreement, in contrast with ordinary agreeing counterparts.[6] Consider the data in (8) and (9).

(8) (a) Tres casas { es / son } suficiente distancia
three houses is are enough distance
'Three houses is enough distance.'

(b) *Tres casas son suficientes distancias
three houses are enough.PL distances

(9) (a) Dos pintas { es / son } suficiente volumen de cerveza
two pints is are enough volume of beer
'Two pints is enough volume of beer.'

(b) *Dos pintas son suficientes volúmenes de cerveza
two pints are enough.PL volumes of beer

It seems clear then that expressing some form of measurement/comparison is necessary, but as it turns out, this is by no means sufficient. Consider measure verbs such as *pesar* 'to weigh', etc. These types of predicates may form interesting semantic pairs with NAD constructions, as illustrated by the pair *be enough weight* vis-à-vis *weigh enough*; for instance, if *10 kgs is enough weight* (for some purpose), then certainly *10 kgs weighs enough*, too. Nevertheless, these types of predicates are ruled out in NAD constructions.

[6] Notice that in cases where the measure nominal (e.g. *peso* 'weight') has a dual life as the head of a measure phrase (i) and as a sortal noun (ii), the resulting sentence with plural agreement is not ungrammatical, but its truth-conditions are different from its NAD counterpart.

(i) (a) Tres kilos { es / son } demasiado peso
three kilos is are too-much weight
'Three kilos is too much weight.'

(b) Tres kilos { *es / son } demasiados pesos
three kilos is are too-much.PL weights
'Three kilos are too many weights.'

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(10) (a) *NAD construction*
Tres libros { es / son } { demasiado peso / *demasiados pesos }
three books is are too-much weight too-many weights
'Three books is too much weight.'

(b) *Measure verb*
Tres libros { *pesa / pesan } demasiado
three books weighs weigh too-much
'Three books weigh too much.'

(11) (a) *NAD construction*
Tres horas { es / son } { demasiado tiempo / *demasiados tiempos }
three hours is are too-much time too-many times
'Three hours is too much time.'

(b) *Measure verb*
Tres horas { *dura / duran } demasiado tiempo
three hours lasts last too-much time
'Three hours last too long.'

In both (10) and (11), we find the same exact contrasting pattern. The two (a) examples show that full plural agreement with the predicate is ungrammatical. These are the baseline NAD constructions. Instead, the (b) cases involve a verbal predicate modified by the degree predicate of excess *demasiado* 'too much' expressing that its subject exceeds a certain threshold along the dimension determined by the verbal predicate itself. These only admit ordinary subject-verb plural agreement patterns, which we take as evidence that they cannot form NAD constructions. In other words, verbal predicates like *pesar* 'to weigh' and *durar* 'to last' cannot partake in NAD constructions even though its nominal counterpart *peso* 'weight' and *tiempo* 'time' can.[7]

We must be careful, however, when assessing the semantic status of the two grammatical variants of pairs, such as those presented in (10) and (11). Consider for clarity the following minimal pair, formed by the NAD construction in (12a) and the agreeing variant in (12b).

(12) (a) Tres libros { es / son } demasiado peso
three books is are too-much weight
'Three books is too much weight.'

(b) Tres libros pesan demasiado
three books weigh too-much
'Three books weigh too much.'

[7] The only possible counterexamples to this generalization that we could consider involve a few verbal predicates expressing sufficiency (like *bastar, alcanzar, llegar* 'to be enough') and excess (like *sobrar* 'to be too much').

(i) ??Dos kilos de manzana { basta / sobra / llega } / sobra para la compota.
two kilos of apple is–enough is-too-much for the compote
'Two kilos of apples {suffices / is too much} to make compote.'

We found more cross-speaker variation with these than with other NAD constructions, so we will not discuss them further in this paper. What seems to be interesting, at any rate, is that there seem to be some ill-understood differences across these types of verbal predicates.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

The meaning difference between (12a) and (12b) is ostensible, and thus the two sentences cannot be taken to be semantically analogous. (12a) states that, on a scale of weight, three books, *any* three books, exceed some contextually determined threshold of weight. (12b) instead states that there are some three books, say *b*1, *b*2 and *b*3 that weigh too much (either individually or jointly). Conceptually, (12a) is a statement about weight, where three-book objects are claimed to exceed a certain weight threshold, whereas (12b) is a statement about the weight of some three books.

2.1.2. The degree head

There is an interesting limitation to note about the requirement to have a degree expression in NAD constructions. Most strikingly, NAD constructions must always be interpreted as modified by a degree expression, either overtly or covertly. Consider (13).

(13) (a) Tres libros { es / son } (demasiado / suficiente) peso
three books is are too-much enough weight
'Three books {is / are} {a lot of / enough} weight.'

(b) Tres coches { es / son } (demasiado / suficiente) dinero
three cars is are too-much enough money
'Three cars {is / are} {a lot of / enough} money.'

While the examples in (13) without the degree predicate *demasiado* or *suficiente* are not ungrammatical, they only accept an interpretation according to which three books / cars count either as an amount of weight (in (13a)) or an amount of money (in (13b)). This type of interpretation is more natural with nouns such as *money*, which retains its amount interpretation also under expressions of paucity, such as *apenas* and negation:[8]

(14) (a) Tres millones { es / son } dinero
three millions is are money
'Three millions is (a [significant] amount of) money.'

(b) Tres millones no { es / son } dinero
three millions not is are money
'Three millions is not (a [significant] amount of) money.'

(c) Tres millones apenas { es / ?son } dinero
three millions hardly is are money
'Three millions is not much money.'

What cases such as (13) and (14) cannot mean is that three books have the property of being weight, three cars have the property of being money and three millions have or lack the property of being money. The conclusion is that NAD constructions do not admit a bare counterpart: they must always be interpreted as degree expressions, either because they include an explicit degree expression, or because such degree expressions are covertly understood in the context.

[8] We thank an anonymous reviewer for pointing this out to us.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

2.1.3. Nominal complement

NAD constructions place virtually no restrictions on the type of nominal that may appear as complement to the degree predicate. Example (2b) above provides already a good array of different nominals (*peso* 'weight', *dinero* 'money', *trabajo* 'work', *esfuerzo* 'effort', *lectura* 'reading'). Note that these nominals need not be either abstract or gradable, and thus also include sortal count nouns, such as *huerto* 'garden' or *ordenador* 'computer', as illustrated in (15).

(15) (a) Tres hectáreas de tomate { es / son } demasiado huerto
three hectares of tomato is are too-much garden
'Three hectares of tomatoes is too much garden.'

(b) Dos pantallas { es / son } suficiente ordenador
two screens is are enough computer
'Two screens is enough computer.'

While any nominal may partake in NAD constructions, no non-nominal may. We have already discussed (10b) and (11b) with measure verbs. One could also imagine that adjectives, being the prototypical way to express a gradable property, would be grammatical in such contexts. They are not, however: simply swapping the nominal with an adjective results in ungrammaticality. Consider the minimal contrast in (16).

(16) (a) Tres libros { es / son } demasiado peso
three books is are too-much weight
'Three books is too much weight.'

(b) *Tres libros { es / son } demasiado pesado
three books is are too-much heavy

In fact, any such alternations lead to ungrammaticality. Moreover, with adjectival predicates, subjects must always agree with the copula:

(17) (a) Tres libros { *es / son } muy pesados
three books is are very heavy.PL
'Three books are very heavy.'

(b) Tres coches { *es / son } muy caros
three cars is are very expensive.PL
'Three cars are very expensive.'

Adjectival predicates like *pesado* 'heavy' and *caro* 'expensive' may form ordinary agreeing predicative structures, such as those in the agreeing variants of (17). Because of this limitation, NAD constructions where the complement to the degree predicate is not explicitly provided (see e.g. (1b) above) are such that only a nominal expression may be recovered, but not an adjective. A reason for this behavior might be that the associated scale of adjectives is conventional by hypothesis, that is, they are lexically fixed to some scale. The associated scale of nominals instead depends on the nominal itself and, in most cases, on the context. For instance, although *weight* is limited to denote along a single dimension, scales built on top of more abstract dimension names, such as *work, effort, trouble*, etc., provide different ways to determine what counts as being 'work', 'effort', etc.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

Summing up, the best NAD constructions are formed by predicational copular sentences with some form of degree head, namely, a head that expresses excess or sufficiency, and a nominal complement. NAD constructions may also take a possibly covert nominal as its complement. From a semantic perspective, NAD constructions provide a way to use ordinary nominals as non-conventional units of measurements, that is, units of measurement that are made on the fly without prior agreement as to how their corresponding scale is determined.

2.2. Subjects

When it comes to NADs' subjects, Quantifier Phrases (QPs) headed by cardinal numerals, either modified or not, make the best and most natural subjects, as illustrated in (18).

(18) ({ Más de / Menos de / Unos }) cuatro libros { es / son } demasiado
more of less of some four books is are too–much
{More than / Less than / Some} four books is too much.'

In sharp contrast with how naturally such examples are construed, other existential as well as universal quantifiers cannot be subjects of NAD constructions.

(19) (a) *{ Varios / Pocos / Algunos / Muchos / Unos } libros { es /
several few some many some books is
son } demasiado
are too–much

(b) *{ La mayoría de / Ambos / Cada uno de los / Todos estos }
the majority of both each one of the all these
libros { es / son } demasiado
books is are too–much

As an anonymous reviewer pointed out to us, singular subjects like the indefinite in (20a) and (21a) below give rise to similar interpretations as those conveyed by NAD constructions, but notice that in these examples the number morphology on the copula must be singular. This is independent of the possibility of ascribing (20a) and (21a) a NAD-like interpretation, one whereby a single apple (any one apple) and a single mistake (any one) exceeds the relevant threshold of fruit amount and stir amount. (20b) and (21b) parallel those in (1a) and (2a) with non-canonical agreement with the postverbal Noun Phrase (NP).

(20) (a) Una manzana { es / *son } demasiada fruta
an/one apple is are too-much fruit
'An/One apple is too much fruit.'

(b) Una manzana { *es / son } demasiadas manzanas
an/one apple is are too-many apples
'An/One apple is too many apples.'

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(21) (a) Un fallo { es / *son } mucho revuelo
a/one mistake is are much stir
'A/One mistake is too much stir.'
(b) Un fallo { *es / son } muchos fallos
a/one mistake is are many mistakes
'A/One mistake is many mistakes.'

If we look at definite determiners, it may appear at first glance that definite descriptions are also ruled out. Determiner Phrases (DPs) headed by either the definite article or other definite demonstratives yield ungrammatical results as subjects of NAD constructions:

(22) *{ Los / Estos / Aquellos } libros { es / son } demasiado
the.PL these those books is are too–much

Still, there are cases where definite descriptions may form good subjects of NAD constructions. This is especially apparent when the nominal inside the definite description is abstract, typically deverbal, resulting in an eventive denotation of the subject. Example (23a) below shows that conjoined definite DPs must agree with the main predicate of the sentence, as indicated by the ungrammaticality of the singular copula (i.e. (23a) corresponds to a non-predicational identificational copular sentence). The critical example in (23b) shows that with NAD constructions an agreeing copula is not required, conforming thus to the familiar predicational NAD pattern we have seen so far (e.g. (1b) and (2b)).[9]

(23) (a) La lectura y la presentación del libro { *es / son } dos
the reading and the presentation of.the book is are two
cosas diferentes
things different.PL
'The reading and the presentation of the book are two different things.'
(b) La lectura y la presentación del libro { es / son }
the reading and the presentation of.the book is are
demasiado trabajo
too–much work
'The reading and the presentation of the book is too much work.'

While highly reminiscent of (22), examples like those in (24) (provided to us by an anonymous reviewer) present interesting contrasts with (23):

(24) Las escaleras { *es / son } demasiado esfuerzo ya
the stairs is are too–much effort already
'The stairs are too much effort now.'
https://www.laopiniondemurcia.es/opinion/2021/10/23/vive–58702668.html

[9] A reviewer pointed out that, according to Real Academia Española (RAE) (2009:2568), the possibility of a singular copula in (23b) may be due to the fact that the speaker conceives the reading and the presentation of the book as just one entity. We do not think this is the case, since in (23a) they are identified as being two different things/events. Rather, (23a) is a non-predicational identificational copular sentence, while (23b) is a predicational NAD construction.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

On the surface, the main differences between (23b) and (24) are two: a lack of optionality in agreement and an ordinary non-eventive head noun in subject position in the latter. Were (24) grammatical with the singular copula, it would seem to suggest that our characterization of subjects in NAD constructions was incomplete or mistaken: as shown in (22)/(23b), only a reduced number of definite descriptions yield grammatical results, and DPs such as *las escaleras* in (24) is not one of them. The ungrammaticality of (24) in singular, when compared to (23b), suggests that, in fact, it is syntactically distinct to our NAD constructions. The pattern is, moreover, quite generalized: any type of plural definite phrase may appear as a subject in (24), but not in NAD constructions:

(25) { Tus escaleras / Esas escaleras / La escalera A y la B } {
your stairs those stairs the stair A and the B
*es / son } demasiado esfuerzo
is are too–much effort
'{Your stairs / Those stairs / Stairs A and B} are too much effort.'

There are also important semantic differences between (24)/(25) and NAD constructions: unlike subjects of NAD constructions, the subjects of (24)/(25) refer to (extensional) individual entities, particular set of stairs.[10] These differences in agreement and interpretation lead us to believe that NAD constructions, understood as a natural class, exclude cases such as (24), which, in turn, may require a separate treatment from the one we offer in this paper.

In a very similar type of variation on the eventive definite DPs illustrated in (23) above, we find that clauses (both non-finite (26) and finite (27)) may also appear in subject position of NAD constructions. We first show in (26a)/(27a) below that conjoined clauses trigger plural agreement with the copula, whereas in (26b)/(27b), we point out how in the context of NAD constructions, the agreement pattern is reversed. Interestingly, note that conjoined infinitives (26b) and conjoined clauses (27b) do not admit plural copulas, in spite of being subjects of degree predicates. We do not have an explanation for this restriction, but what is critical for us is the possibility of the singular variant, as attested above (see footnote 3, too).

(26) (a) Leer y resumir un libro { *es / son } dos cosas diferentes
read and summarize a book is are two things different.PL
'To read and to summarize a book are two different things.'

[10] Moreover, unlike NAD constructions, examples like in (24)/(25) do not seem to be possible in episodic contexts. Consider the contrast in (i):

(i) (a) ??El año pasado las escaleras fueron demasiado esfuerzo
the year past the stairs were too–much effort
Lit.: 'Last year, the stairs were too much effort.'
(b) El año pasado la lectura de tres libros fue demasiado esfuerzo
the year past the reading of three books was too–much effort
'Last year, reading three books was too much effort.'

We leave this issue for future study.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(b) Leer y resumir un libro { es / *son } demasiado trabajo
read and summarize a book is are too–much work
'To read and to summarize a book is too much work.'

(27) (a) Que lea y que resuma un libro { *es / son } dos
that read and that summarize a book is are two
cosas diferentes
things different.PL
'That (s)he reads and summarizes a book are two different things.'

(b) Que lea y que resuma un libro { es / *son }
that read and that summarize a book is are
demasiado trabajo
too–much work
'That (s)he reads and summarizes a book is too much work.'

In general, the broader observation is that event-denoting expressions, such as non-finite subjects and propositional-denoting expressions, such as full clauses are good NAD subjects. In addition to these, we can also include deadjectival nominals, as shown below:

(28) La anchura y la altura de la maleta { es / son } demasiado
the width and the height of the suitcase is are too–much
(para llevarla cómodamente)
to carry.it comfortably
'The width and the height of the suitcase {is / are} too much (to carry it comfortably).'

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 combine with degree predicates whose head is a verb conveying sufficiency, such as *bastar*, *alcanzar*, *llegar* 'to be enough', or excess, such as *sobrar* 'to exceed' (see footnote 7). The preposition *con* may appear modifying numeral QPs, definite DPs and non-finite clauses that otherwise would be ungrammatical. Its most remarkable feature is its ability to rescue two types of statements. First, it may rescue cases where the source of the ungrammaticality lies in the type of subject employed, as in (19) and (21) above, and forces a singular copula.

(19') Con { varios / pocos / algunos / muchos / unos } libros { es /
with several few some many some books is
*son } demasiado
are too–much
Lit.: 'With {a variety / few / some / many / sm} books is enough.'

(22') Con { los / estos / aquellos } libros { es / *son } demasiado
with the.PL these those books is are too–much
Lit.: 'With {the / these / those} books is enough.'

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

In addition, the preposition *con* may also rescue cases where sufficiency is lexically specified in a single verbal head, possibly as the result of spelling out the full degree predicate.[11]

(29) (a) *(Con) tres libros basta
with three books is–enough
'Three books is enough.'
(b) *(Con) dos kilos de manzana alcanza
with two kilos of apple suffices
'Two kilos of apples is enough.'
(c) *(Con) ir al trabajo y sentarse en el despacho sobra
with go to.the work and sit in the office exceeds
'Going to work and sitting in the office is more than enough.'

In sum, NAD constructions are but one in a family of constructions characterized by the 'disruption' of a canonical agreement pattern, where subject and predicate all share the same phi-feature specifications, a not uncommon property of Spanish copular sentences (see RAE 2009, chapters 33, 37).[12]

2.3. Semantic building blocks

So far, we have limited the discussion to the syntactic components and distribution of the different phrases partaking in NAD constructions. It is nevertheless important to note that the semantic effects observed are homogeneous across all these different manifestations of NAD constructions: the expression of a dimension, a degree and a unit of measurement are always required. Let us illustrate this with (1), repeated for convenience.

(1) (a) Tres libros son { demasiados / suficientes }
three books are too–much.PL enough.PL
'Three books are {too many / enough}.'
(b) Tres libros es { demasiado / suficiente }
three books is too–much enough
'Three books is {too much / enough}.'

[11] A possible reason for the ubiquity of *con* headed subjects of NAD constructions could be due to verbal elision of an infinitive. For this reason, we will leave these cases out of our main focus (see Mendia & Espinal 2023 for details on the rescuing capacity of *con*).

(i) (a) Con (recibir) pocas sesiones de fisio basta
with get few sessions of physical–therapy suffices
'Getting a few PT sessions suffices.'
(b) Con (echar) alguna manzana llega (para hacer el pastel)
with put some apple suffices to make the cake
'Putting in some apple suffices to make the cake.'

[12] Notice that number is not the only disrupted feature in the grammar of Spanish. See Höhn (2016) for person mismatches in so-called unagreement constructions of the sort illustrated below.

(i) Las mujeres denunciamos las injusticias
the women denounce.PAST.1PL the injusticies
'We women denounced the injusticies.' (*apud* Hurtado 1985: 187, ex (1))

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

We are interested in determining what the meaning of (1b) is and how it differs from its mandatorily agreeing counterpart in (1a). The intuition we pursue is that, while statement (1b) is about books, (1b) is about something else: for a writer who signed a contract, it could be work, commitment, effort; for a pre-schooler who has to carry them, it could be too much weight; for a Barnes and Noble executive, it could be too many to give away; for a struggling worker, it could be too expensive to buy, etc. None of these possible interpretations are available in (1a).

This description provides a good hint as to what the semantic ingredients of NAD constructions might be. For good measure, consider first what the role of ordinary gradable adjectives is in sentences like *Jane is too tall.* The main predicate *tall* expresses a relation between an (extensional) individual and a degree along some conventionally determined dimension – *height* in this case. The modifier *too* expresses that the degree provided by the adjective exceeds a certain contextually provided threshold. With this in mind, consider now the following case, taken from (13b) above:

(13) (b) Tres coches { es / son } demasiado dinero
three cars is are too–much money
'Three cars {is / are} a lot of money.'

Clearly, we do not typically use cars to measure amounts of money, and yet that is precisely what the NAD construction in (13b) expresses: that a cost-unit consisting of three cars exceeds a certain contextually determined threshold. The result is similar to the task performed by ordinary gradable adjectives, albeit one achieved by different means. The semantic ingredients required to capture such an interpretation for (13b) above seem to include three components:

- The source of a dimension. This is the role of the nominal complement that is mandatory in NAD constructions (either explicitly provided or recovered from the context). In (13b), this is provided by the nominal *dinero* 'money'.
- A degree head like *demasiado* 'too much' and *suficiente* 'enough' (in addition to *mucho* 'much', comparative or superlative morphology, etc.). The role of this head is to introduce some form of comparison between a contextually provided degree, namely, a threshold on the dimension provided by the nominal; and
- A subject that acts as a unit of measurement, that is, a subject that provides the measure that must be interpreted on the scale built upon the dimension provided by the nominal in predicate position.

From a semantic standpoint, we suggest that the copula BE in predicational sentences denotes the *identity function* for $\langle e,t\rangle$ functions: the function of type $\langle\langle e,t\rangle,\langle e,t\rangle\rangle$ that maps any $\langle e,t\rangle$ function to itself.

The semantic task performed by the subject *tres coches* in (13b) above is less like the type of relation between individuals and degrees that has been posited for adjectival gradable predicates, and more analogous to numeral QPs with nominals that conventionally (i.e. lexically) denote units of measurement, such as *kilo.* Of course, different degree heads may contribute different semantic roles or even require different analytic pieces. But the general semantic contribution of the three pieces required to capture the interpretation of NAD constructions prevails across configurations. Thus, the difference between NAD

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

constructions and sentences with standard gradable main predicates (such as adjectives) seems to be that while adjectives denote relations between extensional entities and degrees along a conventionally associated scale, nominal complements of the degree head in NAD constructions simply provide the *name* of the dimension that the degree head employs to express the threshold it denotes.

In what follows, we will assume this proposed characterization and take for granted that subjects of NAD constructions are semantically interpreted as providing a measuring unit, used to locate a degree on the basis of a scale whose dimension is either retrieved from the context or provided by the nominal in the post-copular position.

3. Baseline Analysis

3.1. NADs as predicational copular sentences

As we have seen in the previous section, one of the most notorious definitory properties of NAD constructions is their limitation to copular environments. Copular sentences have been traditionally divided into predicational (30a) and non-predicational ones, the latter including equative (i.e. identity) (30b), identificational (30c) and specificational sentences (30d).

(30) (a) Mark is a doctor — *predicational*
(b) Samuel Clemens is Mark Twain — *non-predicational: equative*
(c) That's Mark — *non-predicational: identificational*
(d) The problem is Mark — *non-predicational: specificational*

According to Higgins (1973), the subject and predicate of these four types of copular sentences are assumed to have different referential properties, which – after Mikkelsen's (2005: 130) type-theoretic unification – are reduced to (31).[13]

(31)

Clause type	*Example*	*Subject*	*Predicate*
Predicational	*Susan is a doctor*	e	$\langle e,t\rangle$
Specificational	{*The winner/That*} *is Susan*	$\langle e,t\rangle$	e
Identity	{*She/That woman*} *is Susan*	e	e

We submit that NAD constructions fit better the type of predicational copular clauses. This is better seen in comparison to otherwise semantically equivalent variants, such as (32), with a definite description in subject position and predicates such as *be too much.*

[13] The original classification in Higgins (1973) with four types of copular sentences in (30) looks like (i):

(i)

Type	*Subject*	*Predicate*
Predicational	referential	predicational
Identity	referential	referential
Identificational	referential	identificational
Specificational	superscriptional	specificational

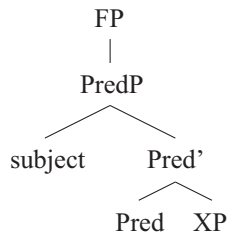
https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(32) El peso de tres libros es demasiado (peso)
the weight of three books is too–much weight
'The weight of three books is too much weight.'

A predicational analysis of NAD constructions involves a referential subject of type *e* and a predicate of type $\langle e,t\rangle$, raising the issue as to whether numeral DPs, such as *three books*, can truly perform such a semantic task. As an anonymous reviewer suggests, this could be indicative of a new type of copular construction in Mikkelsen's (2005) classification, one where both constituents are of a predicative $\langle e,t\rangle$ type. Nevertheless, we believe that subjects of NADs are indeed referential: their referents are abstract in the same way that the referent of (32) above is abstract. Our own analysis, presented in detail in Section 4, involves lowering the subject to a referential type.[14] Notice that lowering the predicate to a referential type amounts to saying that expressions such as *be too much weight, be the same as two pizzas,* etc. are referential, which does not look like a tenable analysis for these cases.

From a syntactic standpoint, assume that in copular sentences, the predication is mediated by the projection of a functional head Pred (Bowers 1993, Svenonius 1994, Adger & Ramchand 2003 and others), as represented in (33).

(33) Syntactic structure of predicational copular sentences.



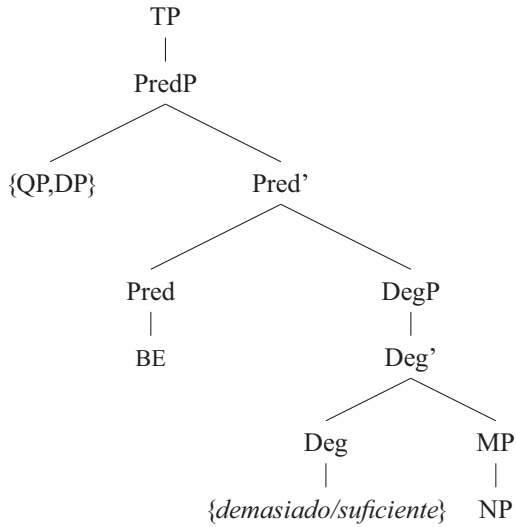
In the specific case of NAD constructions, the Pred head corresponds to the copular verb BE, which will move to the head of the Functional Phrase responsible for Tense. The predicate XP, which in regular predicational copular sentences may either correspond to nouns, adjectives or prepositions, in the specific case of NAD constructions must be a Degree Phrase containing an NP that introduces a nominal scale (through the mediation of a required Measure Phrase). Finally, the subject of NAD constructions must be a QP with a (modified) cardinal head or (non-extensional) DP (as exemplified in Section 2.2). This means that the predication characteristic of NAD constructions is uniformly represented as in (34).[15]

[14] Alternatively, as a reviewer has pointed out to us, one might claim that the subjects of NAD constructions are quantificational with the proviso that not all quantificational statements must have witnesses to be true. This would lead to lifting the subject to a quantificational type $\langle\langle e,t\rangle,t\rangle$. For the time being, we leave this alternative aside, and in Section 4, we only present a compositional analysis of NAD constructions according to which subjects of NADs are nominalized at the level of Predication Phrase (before they are moved to Specifier of TP; see the structure in (34)). On recent studies on witness-based quantification see, among others, von Fintel & Keenan (2018) and Cooper (2023).

[15] See also Moro (1997) for a raising syntactic analysis of existential copular sentences, according to which the complement of BE is a Small Clause with two constituents, one of which is involved in a raising operation. This type of analysis would require a lot of accommodation to be able to account for our NAD constructions (in which the complement of BE is a DegP) and, in particular, for the contrast between (1a, b) and (2a, b). We, therefore, leave aside this type of analysis.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(34) Basic structure of NAD constructions.



Note that the question of flexible agreement of NAD constructions is not entirely resolved by the syntactic properties introduced so far. Plural agreement can be claimed to correspond to the pre-copular canonical agreement, after a (plural) QP/DP is raised to Spec,TP: the [iϕ] and [EPP] (Extended Projection Principle) features of QP/DP will check the [uϕ] and [uEPP] features of T. However, it is unclear how singular agreement could be derived. Bearing in mind that agreement with the NP in post-copular position is not uncommon cross-linguistically in inflectional languages, one might hypothesize that singular agreement corresponds to post-copular non-canonical (inverse) agreement with the NP in complement position. However, there are two main problems with this kind of approach: for this to happen, the NP1 is expected to be defective for phi-features and NP2 is expected to be referential.[16] Given that none of these conditions apply in NAD constructions, we abandon this approach. In Section 4.1, we consider an alternative, according to which, once the NP1 is nominalized, plural agreement is no longer a requirement; in other words, singular number on the copula is a post-syntactic option after a semantic nominalization operation has occurred at Logical Form (LF).

3.2. The basic semantics of sufficiency and excess

In this section, we focus on the contrast between gradable phenomena expressed by means of adjectives and by means of nominal scales.

[16] This phenomenon has been previously discussed by Moro (1997) for Italian, Heggie (1988) for French and English, den Dikken (1998) and Heycock (2012) for Germanic languages, Costa (2004) for Portuguese and Alsina & Vigo (2014) for Catalan. These analyses mostly rely on movement of both NP1 and NP2, or only of NP1 to a pre-copular position. See also Béjar & Kahnemuyipour (2017) for an alternative account to NP2 agreement that dissociates it from the syntax of inversion.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

3.2.1. Adjectival predicates and degree modifiers

A common way to capture gradable phenomena in natural languages is to assume that certain expressions, such as adjectives, degree modifiers, etc., contain degree arguments that are lexically associated with scales.[17] Degrees provide a direct way of representing how much of something an object has. For our purposes, we will assume that degrees are primitives, atomic types in the model (of type *d*).[18] With degrees, gradable adjectives are typically expressed as relations between individuals and degrees, (35a). The value of the degree argument can also be additionally utilized by degree morphology (such as the comparative morpheme *-er*, degree modifiers like *very*, etc.) to impose further restrictions on its interpretation. Bare gradable adjectives, that is, with no such overt degree morphology, are often proposed to combine first with a null degree morpheme POS, for 'positive form' (originally introduced by von Stechow 1984, (35b)):

(35) (a) $[\![\text{tall}]\!] = \lambda d.\lambda x.tall'(x) = d$
(b) $[\![\text{POS}]\!]^C = \lambda G_{\langle d,\langle e,t\rangle\rangle}.\lambda x_e.\exists d\left[G(x) = d \wedge d > ST^C(G)\right]$

POS serves a double function: it allows the whole Adjective Phrase to be predicated of an individual, and it relates the degree argument of the adjective to an appropriate contextually supplied standard of comparison.[19] Such standard of comparison is usually understood as an average, a prototypical value or the norm that is expected on the dimension provided by the gradable predicate.[20] This is typically computed on the basis of the comparison class identified in the context. Consider a sentence like (36):

(36) Jane is tall

If Jane happens to be a third grader, then the comparison class to properly compute the truth conditions of (36) will help determine what is the standard or typical height of third graders, disregarding other individuals. We can thus represent the meaning of (36) as follows:

(37) $[\![(36)]\!]^C = \exists d\left[tall'(jane') = d \wedge d > ST^C(tall')\right]$

Excess and sufficiency expressions like *too* and *enough* express something slightly different, however: They express that the degree of an individual on some scale is not above

[17] For early uses of degree semantics applied to gradable predicates, see Seuren (1973), Cresswell (1976), Klein (1980, 1991), von Stechow (1984), Heim (1985), Bierwisch (1989), among others. See Morzycki (2016) for a gentle introduction to modification and degree semantics.

[18] Degrees come very handy in order to construct scales, tuples $\langle D_{\Delta i}, \geq_{\Delta i}\rangle$ including a set of degrees $D_{\Delta i}$ along some dimension Δ and an ordering relation $\geq_{\Delta i}$. The ordering $\geq$ is non-strict, and thus it is also transitive, antisymmetric and reflexive. A scale is then defined as a set of degrees with ordering relation $\geq$ that is linear and dense.

[19] We represent this context dependency by introducing a parameter *C* on the interpretation function with the superscript *C*, as in $[\![.]\!]^C$. We follow the tradition of writing '$ST^C(tall')$' to express that the standard degree is set to the dimension conventionally associated to the gradable predicate.

[20] The reasons to adopt POS have to do with compositional transparency and the fact that in some languages positive forms are morphologically marked (e.g. Mandarin; see Sybesma 1999).

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

or below what is standard or prototypical but some other conventionally determined threshold. Both standards and thresholds are most often underspecified and vague and can thus be questioned, disagreed with, etc. But there are some intuitive differences between them as well. Consider the examples in (38).

(38) (a) Jane is too tall
(b) Jane is tall enough

These examples, while still vague and underspecified, locate the source of their vagueness on a notion different than the standard of comparison. The statements simply assert that Jane exceeds or does not reach a certain threshold that may, but need not coincide with the standard. That standards and thresholds may be different is supported by contrasts such as those illustrated in (39).

(39) (a) #Jane is tall_{ST} {but not tall_{ST} / she's tall_{ST} in fact}
(b) Jane is tall_{ST} {but not too tall_{TH} / too tall_{TH} in fact}
(c) Jane is tall_{ST} {but not tall_{TH} enough / tall_{TH} enough in fact}

Only the first example yields a contradiction, since Jane cannot be both tall and not tall (not at least without further qualifications). This shows that unmodified positive adjectives rely on fixing a comparison class to be interpretable, since otherwise, they would lack the means to find a suitable standard. But the follow-ups in examples in (39b, c) above do not rely on a comparison class. We must only determine whether Jane exceeds or not the relevant threshold.

Let us assume then that interpreting (39b, c) requires comparing Jane's degree of tallness to some contextually supported threshold TH^C. Given that we are interested in upper (for *too*) and lower (for *enough*) bounds, we determine two context dependent boundaries, TH^C_{max} and TH^C_{min}. We propose the following lexical entries for *too* and *enough* (which we take to be identical to *demasiado* and *suficiente* in Spanish):[21]

(40) (a) $[\![\text{too}]\!]^C = \lambda G_{\langle d,\langle e,t\rangle\rangle}.\lambda x_e.\exists d\left[G(x) = d \wedge d > TH^C_{max}(G)\right]$
(b) $[\![\text{enough}]\!]^C = \lambda G_{\langle d,\langle e,t\rangle\rangle}.\lambda x_e.\exists d\left[G(x) = d \wedge d \geq TH^C_{min}(G)\right]$

Essentially, *too* means 'more (than)' and *enough* just means 'not less (than).' The difference is that the comparison is not relative to a standard (as with bare adjectives) or some other linguistically determined degree (as with comparatives). Instead, the comparison is done relative to some conventionally (or possibly conversationally) determined threshold.

We can now see how two expressions such as *too tall* and *tall enough* are interpreted relative to different threshold degrees: a maximal threshold for *too* and a minimal threshold for *enough.* We illustrate this by providing the interpretations of the two sentences in (38) above.

[21] We ignore, here, the question of whether expressions of excess and sufficiency lexically convey a modal component, as well as the fact that they optionally take clausal complements. For a recent discussion, see Grano (2022).

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

(41) (a) $[\![(38a)]\!]^C = \exists d\left[tall'(jane') = d \wedge d > TH^C_{max}(tall')\right]$

(b) $[\![(38b)]\!]^C = \exists d\left[tall'(jane') = d \wedge d \geq TH^C_{min}(tall')\right]$

3.2.2. Degree heads and nominal scales

We turn next to the case of nominals modified by degree expressions. Consider again (2a):

(2) (a) Tres libros { *es / son } { demasiados / suficientes } libros
three books is are too–much.PL enough.PL books
'Three books are {too many / enough} books.'

Under the assumption that ordinary nominals typically denote (extensional) properties, we face a problem if we try to combine *too* and *enough* directly with an ordinary property like *books*, since the lexical entries provided in the formulas in (40) are tailored to combine with gradable predicates. A usual reaction is to posit some type of phonologically null syntactic structure that nevertheless acts as a semantic glue between the degree predicate and the NP, in this case, by introducing a degree argument and linking it to the nominal predicate.[22] Following the syntactic structure introduced in (34) above, we will call this projection a Measure Phrase, whose head M takes a nominal argument of a predicative type and returns a gradable predicate, as the formula in (42) expresses.[23]

(42) $[\![M]\!]^C = \lambda P_{\langle e,t\rangle}.\lambda n_d.\lambda x_e.\mu_P(x) = n$

The semantic task of M is thus to take an ordinary property of individuals, such as the denotation of an ordinary nominal like *books*, and introduce a degree variable *d* that can later be used up by other degree predicates and modifiers, such as *demasiados* and *suficientes.* The gradable predicate mimics the ordinary meaning of adjectives, with the only difference being that the dimension of measurement is set by the nominal itself, rather than being lexically conventionalized. When applied to some individual, M will produce a set of degrees that represents their corresponding amount along some scale. The determination of the scale and its dimension, although context dependent, is not entirely unconstrained, however. In the case of plural nominals, as is the case with (2a) above, the relevant dimension of the scale is invariably a cardinality one, and the dimension is fixed simply to express a scale of a number of individuals, $|x| = n$ (see, e.g. Rett 2014, Solt 2009, 2015, Wellwood 2019

[22] The idea that a covert operand mediates between NPs and degree predicates of various sorts has a long tradition, going back at least to the null functional nouns NUMBER and AMOUNT in Kayne (2005). In a similar fashion, Schwarzschild (2006) poses a syntactic null head Mon (which stands for 'monotonicity') connecting quantity words to nominal expressions by introducing a dimension of measurement.

[23] This is not the only possibility. Another common strategy is to simply provide (at least) some nominals with a degree argument of their own, such that the meaning of some noun N would mimic that of gradable predicates: $[\![N]\!] = \lambda d.\lambda x.N(x) = d$ (see, e.g. Morzycki 2009). As a reviewer pointed out to us, this seems to be the case with certain nominals, as in *Three books is a chore to read.* Yet another option would be to have M denote an ordinary relation between individuals and degrees and adopt a new rule of composition that allows to combine the two directly (such as, e.g. Degree Argument Introduction in Solt 2015, modeled following Variable Identification in Kratzer 1996).

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

a.o.).[24] Composing the meaning of (2a) up to the level of Pred' looks as follows (where '*' corresponds to the pluralizing operator in Link 1983).

(43) (a) $[\![\text{NP}]\!] = \lambda x_e.{}^*book'(x)$
(b) $[\![\text{MP}]\!] = [\![\text{M}]\!]([\![\text{NP}]\!]) = \lambda n_d.\lambda x_e.\mu_{|{}^*book'|}(x) = n$
(c) $[\![\text{Pred'}]\!] = [\![\text{BE}]\!]([\![\text{DegP}]\!]([\![\text{MP}]\!])) =$
$= \lambda x_e.\exists d[\mu_{|{}^*book'|}(x) = d \wedge d \geq TH^C_{\{max/min\}}(|{}^*book'|)]$

In order to interpret the numeral QP in subject position, we will adopt the view that numerals express nominal modifiers, as defended at length by Ionin & Matushansky (2006, 2018) (see also Bylinina & Nouwen 2020), yielding the following denotation for the full QP.[25]

(44) $[\![\text{tres libros}]\!] = \lambda x_e.{}^*book'(x) \wedge |x| = 3$

We now have two predicates, PredP and QP of type $\langle e,t\rangle$ that cannot, without further assumptions, combine in the usual way via Function Application. Here, we will simply assume the type-shifting operation A from Partee (1987), that shifts the type of an $\langle e,t\rangle$ predicate into a generalized quantifier (type $\langle\langle e,t\rangle,t\rangle$), introducing existential quantification on the way.

(45) $[\![A]\!] = \lambda\alpha_{\langle e,t\rangle}.\lambda\beta_{\langle e,t\rangle}.\exists x_e[\alpha(x) \wedge \beta(x)]$

The resulting composition of (2a), after this lifting operation has applied over the subject, is as follows:

(46) (a) $[\![\text{QP}]\!] = [\![\text{A}]\!]([\![\text{tres libros}]\!]) = \lambda\beta_{\langle e,t\rangle}.\exists x_e[{}^*book'(x) \wedge |x| = 3 \wedge \beta(x)]$
(b) $[\![\text{PredP}]\!] = [\![\text{A}]\!]([\![\text{tres libros}]\!])([\![\{\text{demasiados/suficientes}\}\ \text{M libros}]\!]) =$
$= \exists x[{}^*book'(x) \wedge |x| = 3 \wedge \exists d[\mu_{|{}^*book'|}(x) = d \wedge d \geq TH^C_{\{max/min\}}(|{}^*book'|)]]$
$\Leftrightarrow \exists x[{}^*book'(x) \wedge |x| = 3 \wedge 3 \geq TH^C_{\{max/min\}}(|{}^*book'|)]$

The resulting denotation of (2a) in the formula (46b) expresses that there is a cardinality of three books that exceeds or is close to some contextually determined threshold of book quantities. To be sure, the only available interpretation is one where three books count as *too many / enough books*; no other interpretation is possible.

[24] Many languages realize this division morpho-phonologically: while *many* in English only applies to plural (countable) entities and expresses numerosity or cardinality, *much* applies to mass (uncountable) entities and expresses an amount of some substance (as in *much wine*) or even an abstract concept (as in *much love*). We believe that this follows from independent restrictions imposed by PL. Notice that the key contrast is not between PL nouns versus abstract nouns but between morphologically PL and morphologically SG nouns. PL morphology requires counting, which, in turn, requires having access to the atoms in the extension of the noun (see, e.g. Scontras 2022 for a recent exposition). This difference tracks many morphological phenomena across languages, such as the choice of *much/many* in English, the use of *tantos* versus *tanto* in Spanish, among many others.

[25] The full definition is slightly more complicated, as it requires a means of counting where, for some numeral *n*, all and only *n*-many individuals are counted. For recent discussion, see Champollion (2017), Rothstein (2017) and Ionin & Matushansky (2018), among others.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

The meaning composition of (1a) would parallel the derivation in (46), with the only difference that the nominal complement of the degree head appears to be elided.

(47) $[_{PredP}[_{QP}$ tres libros$]$ $[_{Pred'}$ son $[_{DegP}$ {demasiados/suficientes} $[_{MP}$ M $[_{NP}$ ~~libros~~$]]]]]$

Note that the difference with adjectival constructions (see Section 3.2.1) is quite apparent. Adjectives require contextually supplied information at two different levels in order to be successfully interpreted: They require a comparison class and a standard of comparison. For example, in order to interpret *Jane is tall* in (36), we first noted that the standard (average) of tallness varies depending on whether our comparison class is comprised of, for example, NBA players or 10-year-old children. Nominals in constructions like (1a) and (2a) do not show the same dependency on comparison classes. There is no relevant subset of books to be detected nor standards of comparison. There is again no notion of what counts as an 'average' number of books. Instead, the interpretations of (1a) and (2a) rely crucially on the notion of threshold, but this is not associated with the nominal itself but with the degree predicates *too/enough.*

While this difference between nominal and adjectival predicates might seem too obvious to mention, a caveat is in order here. The dimension of the nominal scale is set by the joint action of the context and information provided by the nominal. In the case of plural count nouns, the associated scales invariably range over quantities of things, that is, the corresponding dimension is always set to express cardinalities, and thus fixing such scales does not require much contextual support. This is so because on a scale of book quantities, three books rank higher than two books, which rank higher than one book, and so on, and little to no context manipulation will be able to alter those facts.

4. Semantic Composition of NAD Constructions

4.1. A general theory of NAD constructions

Consider (2b) as a working case.

(2) (b) Tres libros { es / son } { demasiado / suficiente } { peso / three books is are too–much enough weight
dinero / trabajo / esfuerzo / lectura }
money work effort reading
'Three books is {too much / enough} {weight / money / work / effort / reading}.'

In NAD constructions, complement nominals, such as *weight, work*, etc., are used to establish a dimension of measurement, with the help of context. Take for instance the case of *money* in (2b). What makes three book entities count as too much or enough money? We have well established units of measurement for scales along the dimension of cost/money (say dollars or euros), but clearly (2b) is not deploying those units of measurement. Instead, the role of *money* is to determine some aspect of cost, of which three books can be meaningfully said to determine one such unit of measurement. While this is relatively apparent in the case of money, things get more underspecified with other types of (typically abstract) nouns, such as *work* or *effort*, or even sortal count nouns,

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

such as *huerto* 'garden' or *ordenador* 'computer' (see (15)). In what sense do we mean that *three books* counts as *d*-much / *d*-enough on a scale build upon the dimension of 'work'? There is no single answer to this question, and different contexts will support different interpretations. For the proofreader, it will mean that three books exceed some threshold of proofreading work (or are sufficient with respect to it), for the author, the dimension will be set according to a dimension of amount of work in terms of book writing, and so on. In a way, any sense that falls within the denotational space of a nominal and can be meaningfully said to be part of its conceptual space might be exploited in order to build an *ad hoc* dimension.[26] And this is, we argue, precisely the main *raison d'être* of NAD constructions: to provide the means of constructing scales built upon ad hoc dimensions. In the next paragraphs, we explain how to capture the semantic properties of NAD constructions with our current assumptions.

In examples such as (2b), the semantic role of the two nominals is always the same: N1 (the subject) is interpreted as some unit of measurement that is located along a scale built upon the dimension provided by N2. At the end of the day, the only limitations to the pair of nominals we find in NAD constructions have to do with notional or conceptual considerations about what makes sense to be predicated of what: while it may be sensible to use physical books to measure weight (or even time, by considering the time it takes to read a book), it may not be so natural to use books to measure viscosity, electric charge and so on; however, whether this is possible or not, it is ultimately only determined by context.

With these considerations in mind, composing the meaning of (2b) for a complement noun such as *peso* 'weight' up to the level of Pred' looks as follows:

(48) (a) $[\![\text{NP}]\!] = \lambda x_e.weight'(x)$

(b) $[\![\text{MP}]\!] = [\![\text{M}]\!]([\![\text{NP}]\!]) = \lambda n_d.\lambda x_e.\mu_{weight'}(x) = n$

(c) $[\![\text{Pred'}]\!] = [\![\text{BE}]\!]([\![\text{DegP}]\!]([\![\text{MP}]\!])) =$
$= \lambda x_e.\exists d[\mu_{weight'}(x) = d \wedge d \geq TH^{C}_{\{max/min\}}(weight')]$

The meanings in (48) are fully parallel to those in (43): the nominal *weight*, although interpreted as a predicate of individuals in (48a), provides the dimension to build a measure of entities on a contextually determined scale in (48b) and (48c). Now, recall that a sentence such as (49a), to which we assign the structure in (49b) would not be appropriately represented by means of the logical form in (49c).

(49) (a) Tres libros {es / son} {demasiado / suficiente} peso

(b) [$_{\text{PredP}}$ [$_{\text{QP}}$ tres libros] [$_{\text{Pred'}}$ {es / son} [$_{\text{DegP}}$ {demasiado / suficiente} [$_{\text{MP}}$ M [$_{\text{NP}}$ peso]]]]]

(c) $[\![(49a)]\!]^{C} =$
$\exists x[^{*}book'(x) \wedge |x| = 3 \wedge \exists d[\mu_{weight'}(x) = d \wedge d \geq TH^{C}_{\{max/min\}}(weight')]]$

[26] Another way to state this is that any QUALE in the denotational space of the nominal may be picked up to provide the relevant dimension. If *writing* is a quale of *book*, we may use the latter to determine a unit of measurement of the former: *Three books is too much writing.* See Pustejovsky (1995) and much subsequent work for the formalization of QUALIA information in the lexicon.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

Interpretations like (49c) miss a general point, since (49a) is not a statement about books: It is a statement about weight, using books as weight units; in other words, books are the entities whose weight can be measured on a scale of weight. This is, in full, parallel to statements such as *Three kilos is too much weight*: it is not a statement about (any particular) kilos, it is a statement about weight. The formula in (49c) fails to capture this fundamental property of NAD constructions. Note also that the NAD construction in (49a) has the inference that there are sets of three books, not any three particular books whose weight exceeds (or is sufficient for) a certain threshold; in other words, to properly capture the truth-conditions of a NAD statement, we must avoid a requirement that a quantificational statement should have witnesses. The statement in (49a) might be true even if it is not possible to find values to the variable bound by *three books*, such that these values are books and are too heavy or heavy enough. This observation is crucial to rule out other types of valency shifting operations on the subject. The formula in (49c) shows that this is the case for type lifters such as A, as defined in (45), which do not avoid such unwelcome existential entailments. But so do a number of type-shifting operations that nominalize the subject from a property type to an individual type (i.e. shifts from $\langle e,t\rangle$ to e). We provide three common possible alternatives below: Choice Functions (Reinhart 1997, Winter 1997), the iota definite description operator (Sharvy 1980, Link 1983) and the epsilon indefinite description operator (Hilbert 1922, Bierwisch 1989, von Heusinger 1997):

(50) (a) *Choice functions*
$\exists f \exists d[CH(f) \wedge \mu_{weight'}(f(\{x : {}^{*}book'(x) \wedge |x| = 3\})) = d \wedge$
$\wedge\, d \geq TH^{C}(weight')]$
There exists a way of choosing a three book individual such that its weight equals or exceeds TH^{C}.

(b) *Iota operator*
$\exists d[\mu_{weight'}(\iota x.[{}^{*}book'(x) \wedge |x| = 3]) = d \wedge d \geq TH^{C}(weight')]$
The weight of the unique maximal plural individual in the extension of {x : x is three books} equals or exceeds TH^{C}.

(c) *Epsilon operator*
$\exists d[\mu_{weight'}(\varepsilon x.[{}^{*}book'(x) \wedge |x| = 3]) = d \wedge d \geq TH^{C}(weight')]$
The weight of some x or other such that x is three books equals or exceeds TH^{C}.

As the paraphrases above indicate, none of these alternatives will do: (50a) conveys something too strong, it commits us to a way of choosing a three book individual that equals or exceeds the relevant threshold, which is not the intended meaning. (50b) fails because it requires finding the unique maximal individual consisting of three books, which need not exist. (50c) is weaker than (50b) in that it does not presuppose any uniqueness, but all the same, it commits us to the existence of one three book individual or other that is then said to equal or exceed the relevant threshold. In short, neither of the alternatives in the formulas in (50) account for the fact that *three books* is not interpreted as referring, predicating or quantifying over ordinary individuals.

Our solution to this problem involves treating the subject of NAD constructions non-extensionally. The idea is simple: Subjects of NAD constructions denote entity correlates of

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

properties, interpreted via a nominalized function (à la Chierchia 1984, McNally 1997). Consider the definition in (51).

(51) If α is a 2-place predicative expression, $^{\downarrow}\alpha$ is a singular term, its corresponding entity correlate

What is crucial about this proposal is that subjects of NAD constructions do not denote or quantify over ordinary token entities. Rather, they denote or quantify over something more abstract, some form of higher order entity, which McNally (1997) modeled formally as a *nominalized function* (or *entity correlate of a property*) as expressed in (51), drawing from Chierchia & Turner's (1988) property theoretic semantics. The main motivation for Chierchia (1984) and Chierchia & Turner (1988) to introduce entity correlates in the theory was that we can ascribe properties to other properties, as in *fun is fun* and *goodness is good.* They capture this by turning properties-as-functions (which correspond to their predicative uses) into their entity correlates (which correspond to their uses as arguments), thereby 'nominalizing' them.[27]

(52) $[\![\text{tres libros}]\!] = {}^{\downarrow}(\lambda x_e.{}^{*}book'(x) \wedge |x| = 3)$

An entity correlate is a sort of abstract individual, the reification of the property it is a correlate of. It is thus sortally different from Carlson's (1977) object-level entities (sometimes also referred to as tokens). Entity correlates are also similar but ultimately different from the notion of 'trope' in that entity correlates are not particularized properties: tropes are particular manifestations of properties in individuals, and thus they serve as natural referents of nominalizations such as *Jane's height, Socrates' wisdom*, etc. (Moltmann 2004, 2009). Entity correlates are not specific in the same way, as they do not invoke any one particular manifestation of a property itself but resemble instead an ideal of such property.

In this respect, our conception of an entity correlate resembles somewhat that of a *kind* (Carlson 1977), an analogy heightened by the similarity between our nominalizing function '$^{\downarrow}$' and Chierchia's (1998) popular rendition of the kind forming operation, '$^{\cap}$'. Nevertheless, we believe there are empirical as well as formal reasons to avoid treating subjects of NAD constructions as kinds, derived via the operator '$^{\cap}$'. Most notably, when QPs of the form 'Numeral NP' are interpreted as denoting kinds in Spanish, only a sub-kind interpretation is available (Borik & Espinal 2015): in (53), the numeral quantifies over whale-subkinds.

(53) Dos ballenas se han extinguido
two whales CL have extinguished
'Two whales are extinct.'

[27] McNally (1997) further proposed that any NP with a predicative use (as demonstrated by their ability to appear as the pivots in existential sentences and in predicative positions of copular sentences) could be interpreted as a nominalized function. McNally treated numerals very close to the way we do, as introducing cardinality restrictions on the denotation of NPs (but she did so by appealing to their instantiated discourse references).

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

If subjects of NADs were interpreted as kinds, we would expect them to quantify over sub-kinds of the noun they modify, just like in (53) above. This is not so, however: NADs like (1b) and (2b) do not convey that there are three kinds of books exceeding a certain threshold of weight, nor do they mean that there are three kinds of books whose instances exceed such and such threshold. All else being equal, it does not seem right to subsume the referents of NADs' subjects under kind interpretations.

Our alternative nominalizer '$^{\downarrow}$' does not commit us to kinds, since entity correlates may but need not be kinds. Entity correlates are formal objects, abstractions of properties, bringing in no a priori ontological commitment. As long as we are able to find (or make up on the fly) a referent for them, they shall not fail to refer (they are, in this sense, not very different from situations, degrees, and other abstract objects typically employed in semantic analysis). In this respect, we take kinds to be a proper subclass of entity correlates of properties, and this is the difference that the distinction between our '$^{\downarrow}$' and '$^{\cap}$' (as discussed in Chierchia 1998) is intended to capture.[28]

With all this in mind, we return to the interpretation of (2b) by means of our nominalizing operator '$^{\downarrow}$', represented in (54) below:

(54) (a) $[\![\text{QP}]\!] = {}^{\downarrow}(\lambda x_e.{}^{*}book'(x) \wedge |x| = 3)$

(b) $[\![\text{PredP}]\!] = {}^{\downarrow}[\![\text{tres libros}]\!]([\![\{\text{demasiado/suficiente}\}\ \text{M peso}]\!]) =$
$\exists d[\mu_{weight'}({}^{\downarrow}(\lambda x_e.{}^{*}book'(x) \wedge |x| = 3)) = d \wedge d \geq TH^{C}_{\{max/min\}}(weight')]$

Feeding an entity correlate to the degree predicate, we obtain a statement about weight, not about books and, moreover, we avoid making incorrect existential claims about books. The denotation of the representation in (54b) then amounts to saying that the weight of the entity correlate of the property of being three books is at least as great as some contextually determined weight threshold. In other words, we use books as units of a measure of weight, as desired.

How exactly does an entity correlate then turn into a unit of weight? Ordinary nouns such as *books* cannot ordinarily be used as units of weight measurements; for instance, one cannot typically say that they bought *three books of vegetables*, meaning that they bought vegetables weighing as much as three books. We suspect that part of the reason for this behavior (and the reason why conventionalized units of measurement are helpful in general) is because *books* are not uniform objects with respect to dimensions such as weight, length, etc., as not all books weigh the same. Nevertheless, by obtaining the entity correlate of the property of being *three books*, we are indeed referencing an abstract object that is nonetheless uniform: uniform with respect to quantity, as the property that leads to the nominalization is comprised of three-book individuals only (Scontras 2017). We suspect, however, that such entity correlates are not just uniform with respect to quantity but with respect to other dimensions of which they may sensibly be predicated. Thus, being an idealization, the entity correlate of three books will, in addition to being uniform with respect to a quantity, involve a uniform weight, length, etc. but also a uniform amount of work, money, effort, etc. In this uniformity resides their ability to serve as units of measurement.

[28] For more discussion on this point, see McNally (1997, 2009).

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

Extending this analysis to NAD constructions with null nominal complements (see (1b)) is straightforward. Assume first a contextually determined phonologically null nominal predicate DIM^C, complement to the head M.

(55) (a) $[_{PredP}\ [_{QP}$ tres libros$]\ [_{PredP'}$ {es / son} $[_{DegP}$ {demasiado / suficiente} $[_{MP}$ M $[_{NP}$ ~~peso~~$]]]]]$

(b) $[_{PredP}\ [_{QP}$ tres libros$]\ [_{PredP'}$ {es / son} $[_{DegP}$ {demasiado / suficiente} $[_{MP}$ M $[_{NP}$ $DIM^C]]]]]$

The reasons for positing a null nominal here as well are mainly two: (i) as we have discussed in previous sections, only nominals are allowed in degree predicates of NAD constructions; and (ii) semantically, we need a nominal that provides the name of the relevant dimension and that can be measured. We write DIM^C to remind us of this dimension-setting role of the nominal. When combined with M, the whole Measure Phrase denotes a relation between degrees and individuals, but one where the dimension is not set conventionally (lexically) but instead compositionally, by combining together M and its nominal complement.

Consider once again (2b) with a singular copula:

(2) (b) Tres libros es { demasiado / suficiente } { peso / dinero /
three books is too–much enough weight money
trabajo / esfuerzo / lectura }
work effort reading
'Three books is {too much / enough} {weight / money / work / effort / reading}.'

The way we account for it is as follows: (i) the postulated nominalization operation applies to Spec,PredP; (ii) this semantic operation gives as output an abstract entity, which makes it possible that (iii) at Spell-Out, a default third-person singular be instantiated on the copula. The relevance of this analysis is that an LF operation appears to be relevant at the time of the mapping from the structural representation of meaning to exponence.[29]

To sum up, in this section, we have argued what the derivation of NAD constructions is, with overt as well as covert nominals in complement position of the degree head. We have shown that the meaning of NAD constructions is heavily underspecified, and without further contextual aids, there is no telling what the relevant scale is. This is so because, referring once more to our (1b) and (2b) examples, any aspect of being a book, or any possible relation to being a book that may be brought by invoking the name *book* can be retrieved to and utilized as the relevant dimension to fix a measuring scale. It could be that any unit of a number of books is too heavy, or too expensive or too much to keep up with, etc. This interpretation is, in turn, completely devoid of any commitment to the existence of three books, and, in fact, any plurality of three books would be taken to exceed (or be sufficient with respect to) the set threshold. These are fundamentally evaluative scales that rely on the multiple senses that are attributed to the interpretation of lexical nominals.

[29] See Bobaljik & Wurmbrand (2012) for the view that LF (broadly conceived) is calculated first and determines PF. See also Cyrino & Espinal (2015, 2020) for arguments in support of the hypothesis that agreement in Romance must not be necessarily considered a phenomenon of narrow syntax and that post-syntactic agreement is also relevant in this group of languages.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

4.2. General assessment

We now have an analysis of NAD constructions that has been developed on the basis of numeral subjects. NAD constructions, however, come in different shapes, and it remains to be seen how our proposed analysis extends to accommodate the rest of cases explored in Section 2, as well as the observed limitations.

Looking at subjects, we observe that, from an analytical point of view, the only well-forming requirement our analysis requires is that the subject must be nominalized. Our analysis imposes this restriction on the grounds that subjects must be referential, but intensionalized entities, interpreted as entity correlates of properties in a predicative copular construction, where they simply provide the argument the degree predicate is seeking. Consequently, we expect expressions for which nominalizing operations are readily available to form good NAD constructions and, conversely, we expect other types of expressions for which nominalization is not an option to yield ungrammatical results.

We begin discussing the case of subjects that are ruled in by our analysis. We have now seen how unmodified numeral constructions are easily treated as we suggest, but the account extends seamlessly to cases of modified numeral constructions as well, which can also be constructed as properties. From a semantic standpoint, this is unsurprising: While numerals establish an equality relation to the cardinality of an object (e.g. $\{x : |x| = 4\}$), modified numerals simply vary in terms of the type of relation they express (e.g. *more than four* expresses the property $\{x : |x| > 4\}$, etc.). Moreover, the fact that like unmodified numerals, modified numerals may appear in positions admitting only properties confirms this point:

(56) (a) Jane and Clove are two composers
(b) Jane and Clove are less than three composers

Interestingly, this view also correctly sanctions the fact that, while *más de la mitad* 'more than half' is a good NAD subject *la mayoría de* 'most / the majority of' is not: While the former can be construed again as a relation between a number and the cardinality of an object, the latter is a definite description and thus imposes more stringent conditions on its denotational space and its ability to be modified by further semantic operations.

So what kind of definite descriptions are then ruled in versus out of NAD constructions by our account? First, definite descriptions headed by ordinary extensional object denoting NPs (including demonstratives and possessives) are correctly ruled out. These are typically extensional objects that refer to actual objects in the world and impose, in addition, certain requirements on the domain (such as presupposing the existence and uniqueness of their referents). We have argued extensively that NAD constructions require, instead, intensional individual objects, ideals of properties that do not have to be realized in the actual world and place no additional constraints in the context. Ordinary definite descriptions have actual referents, and thus do not fit the bill (see discussion around (22) through (25) above).

There is, nevertheless, a natural class of definite descriptions that yield grammatical results as subjects of NAD constructions. These are definite descriptions headed by event-denoting (deverbal; (23)) or dimension-denoting (deadjectival; (28)) noun phrases. That deadjectival subjects perform well is perhaps unsurprising, given that they typically constitute the same type of nominals that may appear as complements to the degree expression, such as *height*, *weight*, etc. Event-denoting deverbal nouns instead are closer to non-finite subjects, which have long been argued to have nominalized interpretations (as first discussed

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

by Chierchia 1984). Our analysis extends seamlessly to such constructions, and, in addition, correctly captures the truth-conditional equivalence between the two types of subjects – when such minimal pairs exist. Notice that speakers allow 'overtly' nominalizing non-finite clauses with the definite determiner.

(57) (a) (El) leer el Quijote es suficiente
the read the Quijote is enough
'To read El Quijote is enough.'
(b) La lectura del Quijote es suficiente
the reading of.the Quijote is enough
'The reading of El Quijote is enough.
(c) $\exists d[\mu_{\underline{dim}}(^{\downarrow}(\lambda e_v.read'(e) \wedge Th(e) = EQ)) = d \wedge d \geq TH^{C}_{min}(DIM^{C})]$

Similar observations can be made of clausal subjects as well (see (26b)/(27b) above). Summing up, our analysis accounts for (i) clausal subjects, both finite and non-finite, either with an overt definite determiner or without; (ii) nominalizations morphologically derived from adjectives and verbs and (iii) numeral NPs of various kinds (by our own hypothesis). Note, additionally, that nothing in our account rules out, in principle, singular subjects as long as they conform to any of the cases in (i) through (iii) – although in these cases, plural copulas are ruled out, as there is no single target for a goal seeking to check a plural feature; this is exemplified in (20a)/(21a) above.

Lastly, we focus on the case of subjects that our analysis rules out. Chief among these are quantified phrases, such as *todo* 'all', *cada* 'each', *algunos* 'some', *varios* 'some', etc. (see examples in (19) above) in subject position. These expressions quantify over instances of objects and do not have sensible interpretations of type *e* (Partee 1987). In addition, our nominalizing function only applies to predicates (type $\langle e,t \rangle$), but quantificational expressions also lack sensible interpretations as predicates, as explicitly shown by the examples in (58).

(58) (a) *Jane is every composer
(b) Jane y Clove son { *muchos / *varios / *pocos / *la mayoría
Jane and Clove are many some few the majority
de } compositores
of composers
(c) Jane y Clove son { *cada compositor / *todos los
Jane and Clove are each composer all the
Compositores }
composers

This means that, as a consequence, our nominalizing operation would not be able to apply to such quantificational expressions when they appear in subject position of NAD constructions, even if we were to assume a prior shift from a generalized quantifier type to a predicative type ($\langle\langle e,t \rangle,t \rangle$ to $\langle e,t \rangle$).

Notice, too, that nothing in our analysis precludes singular NPs from appearing in subject position, although they do not conform to the narrow criteria we provided for NAD constructions – since they do not allow singular-plural alternations on the copula. Our

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

semantic analysis, however, extends all the same to such constructions: nothing in the semantics of the nominalizing function precludes applying to, e.g. *una manzana* 'one apple' and *un fallo* 'one mistake,' with the numeral *one* (see (20a) and (21a)).

Our account most straightforwardly sanctions the class of expressions that may appear in subject position of NAD constructions, but as we saw in Section 2.1, there are certain limitations that affect the class of predicates that are allowed in NADs. Concretely, neither adjectives (e.g. *heavy*) nor verbs expressing some form of measurement (e.g. *weigh*) may form NAD constructions. Our account is rather agnostic as to why this is the case, and thus compatible with a number of analytical possibilities.

For one, we suspect that the reason why adjectives may not form good NADs is related to the fact that they perform fundamentally different semantic tasks. Adjectives being relations between (extensional) individuals and degrees, they are not easily predicated of other types of expressions. For instance, the most natural way to express that three kilos is an amount of weight exceeding some threshold is through a NAD construction:

(59) (a) Three kilos { ??is / *are} too heavy *Adjective*
(b) Three kilos is too much weight *Noun (NAD)*

Thus, even nominals expressing units of measurement along the scale conventionalized by a given adjective may not be subjects of said adjective.

Verbal non-copular verbs seem to be limited in a different fashion. As an anonymous reviewer suggests, it seems that verbs expressing measurement heavily rely on fixed units of measurements, and they may take as arguments no nominals other than those expressing such conventionalized units.

(60) (a) This bag weighs three { kilos / *books }
(b) This bag exceeds that one by three { kilos / *books }

Overall, we believe that our analysis provides an accurate descriptive and explanatory analysis of a construction that has been unnoticed in the literature on Spanish, one which raises interesting theoretical challenges for the theory of grammar: the possibility that degree predicates introduce a non-conventional nominal scale, the possibility that subjects be interpreted as non-conventional units of measurement and the possibility that a singular number on the copula verb be a post-syntactic option after a semantic operation of nominalization has applied at LF. Our analysis also offers promising venues to fully understand the limitations we find in the distribution of predicates, but we leave for future research aspectual restrictions as those mentioned in footnote 10.

5. Conclusion

This paper presents an analysis of a construction with a unique number disrupt pattern, which we dubbed Non-Agreeing Degree constructions. These constructions involve (i) an overt degree predicate, such as *demasiado* 'too', *suficiente* 'enough', a comparative, a superlative, a proportional, *mucho* 'much', etc., in a predicational copular sentence; (ii) a nominal complement of the degree head that provides the relevant dimension for the scale that the degree predicate acts on; (iii) a nominalized property in subject position, denoting the entity

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

correlate of such property and acting semantically as a unit of measurement on the scale determined by the nominal and (iv) a copula that can take a default singular morphophonological form at the time of allomorph selection (or lexical insertion).

In a sense, NAD constructions are the means offered by natural languages to use *ad hoc* units of measurements on scales that have heavily underspecified dimensions, in the sense that any property that can meaningfully be related to the nominal in the Measure Phrase may act as a proper dimension for that nominal.

The main feature of our proposed analysis is that NAD constructions involve predicational copular clauses where the lack of agreement pattern of the copular verb reflects the outcome of a semantic process. This semantic process is better detected where the result involves non-canonical agreement patterns, as in cases with plural subjects (e.g. (1b)/(2b)). This is not to say, however, that there cannot be singular NAD constructions, it only means that agreement will remain unaffected in such cases (as in (20a) and (21a)). It also means that, all else being equal, there may be NAD constructions where no covert semantic process is involved because the denotation of the subjects is of the right sort, as with deadjectival and deverbal nominalizations. And, in fact, there may be other means, possibly language specific, that contribute to NAD construction interpretations, as we discussed around the examples in (29).

Generally speaking, we typically measure weight with kilos and not with books: deploying dedicated conventional units of measurement such as kilos is the ordinary mechanism present in natural languages to determine how much we have of something. The main take-away of this paper is that natural languages allow additionally for constructions of measurement that do not rely on conventional units of measurement. In fact, the cases of NAD constructions discussed here are relevant not only for constructions of measurement but also as an investigation of the different ways in which natural languages may build scales that do not rely on conventionally determined, lexically based scales, as is the case with adjectives. In the analysis of NAD constructions discussed in this paper, scales are built by simply mentioning (or else by contextually recovering) the name of a dimension, and then using an abstract object, an intensionalized entity, as a unit of measurement on that scale. The result is not only semantically sound and conceptually unproblematic but also expressible in a variety of natural languages through NAD constructions, as we argued for and illustrated on the basis of Spanish examples.

Acknowledgments. Jon Ander Mendia is currently affiliated with the University of the Basque Country UPV/EHU & IKERBASQUE, Basque Foundation for Science, 48940 Leioa, Biscay, Spain. We thank the audiences at InSemantic2022, Sinn und Bedeutung 2023 and NELS53 for helpful discussion on the topics presented in this paper. We thank also the three reviewers of the *Journal of Linguistics* for their detailed and helpful comments. We also acknowledge financial support from the following institutions: Spanish Ministerio de Ciencia e Innovación (PID2020-112801GB-I00), Generalitat de Catalunya (2021SGR787) and AGAUR (BP2020-00121).

References

Adger, David & Gillian Ramchand. 2003. Predication and equation. *Linguistic Inquiry.* 34(3). 325–359.

Alsina, Álex & Eugenio M. Vigo. 2014. Copular inversion and non-subject agreement. In Miriam Butt & Tracy Holloway King (eds.), *Proceedings of the LFG14 Conference*, 5–25. Stanford CSLI Publications.

Béjar, Susana & Arsalan Kahnemuyipour. 2017. Non-canonical agreement in copular sentences. *Journal of Linguistics.* 53. 463–499.

https://doi.org/10.1017/S0022226724000148 Published online by Cambridge University Press

Bierwisch, Manfred. 1989. The semantics of gradation. In Manfred Bierwisch & Ewald Lang (eds.), *Dimensional adjectives: Grammatical structure and conceptual interpretation*, 71–261. Berlin: Springer.

Bobaljik, Jonathan D. & Susi Wurmbrand. 2012. Word order and scope: Transparent interfaces and the 3/4 signature. *Linguistic Inquiry.* 43(3). 371–421.

Borik, Olga & M.Teresa Espinal. 2015. Reference to kinds and to other generic expressions in Spanish: Definitveness and number. *The Linguistic Review.* 32(2). 217–275.

Bowers, John. 1993. The syntax of predication. *Linguistic Inquiry.* 24(4). 591–656.

Brasoveanu, Adrian. 2009. Measure noun polysemy and monotonicity: Evidence from Romanian pseudopartitives. In A. Schardl, M. Walkow & M. Abdurrahman (eds.), *Proceedings of NELS* 38, 139–150. Amherst, MA: GSLA Publications.

Bylinina, Lisa & Rick Nouwen. 2020. Numeral semantics. *Language and Linguistics Compass.* 14. e12390. doi: https://doi.org/10.1111/lnc3.12390.

Carlson, Gregory. 1977. *Reference to kinds in English*. Amherst, MA: University of Massachusetts at Amherst dissertation.

Champollion, Lucas. 2017. *Parts of a whole*. Oxford: Oxford University Press.

Chierchia, Gennaro. 1984. *Topics in the syntax and semantics of infinitives and gerunds*. Amherst, MA: University of Massachusetts, Amherst dissertation.

Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics.* 6(4). 339–405.

Chierchia, Gennaro & Raymond Turner. 1988. Semantics and property theory. *Linguistics and Philosophy.* 11. 261–302.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Roger Martin, David Michaels & Juan Uriagereka (eds.), *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, 89–156. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), Ken Hale*: A life in linguistics*, 1–52. Cambridge, MA: MIT Press.

Cooper, Robin. 2023. Witness-based quantification. In *From perception to communication: A theory of types for action and meaning*, 296–349. Oxford: Oxford University Press. doi:10.1093/oso/9780192871312.003.0008.

Costa, João. 2004. Subjects in Spec,vP: Locality and Agree. In Ana Castro, Marcelo Ferreira, Valentine Hacquard & Andrés P. Salanova (eds.), *Romance, op. 47: Collected papers on Romance syntax*, vol. 47 MIT Working Papers in Linguistics, 1–15. Cambridge, MA: MIT.

Cresswell, Max J. 1976. The semantics of degree. In Barbara H. Partee (ed.), *Montague grammar*, 261–292. New York: Academic Press.

Cyrino, Sonia & M.Teresa Espinal. 2015. Bare nominals in Brazilian Portuguese: More on the DP/NP analysis. *Natural Language and Linguistic Theory.* 33. 471–521.

Cyrino, Sonia & M.Teresa Espinal. 2020. On the syntax of Number in Romance. *Studia Linguistica.* 74(1). 165–203.

den Dikken, Marcel. 1998. Predicate inversion in DP. In Artemis Alexiadou & Chris Wilder (eds.), *Possessors, predicates and movement in the determiner phrase*, 177–214. Amsterdam: John Benjamins.

Dobrovie-Sorin, Carme & Ion Giurgea. 2021. Proportional "many"/"much" and "most". In Hana Filip (ed.), *Countability in natural language*, 14–51. Cambridge: Cambridge University Press.

Grano, Thomas. 2022. Enough clauses, (non)finiteness, and modality. *Natural Language Semantics.* 30. 115–153. doi:https://doi.org/10.1007/s11050-022-09190-w.

Heggie, Lorie. 1988. *The syntax of copular structures*. Los Angeles, CA: University of Southern California dissertation.

Heim, Irene. 1985. Notes on comparatives and related matters. Manuscript, University of Texas at Austin. https://semantics.uchicago.edu/kennedy/classes/w11/comparatives/docs/heim85.pdf.

Heycock, Caroline. 2012. Specification, equation and agreement in copular sentences. *Canadian Journal of Linguistics.* 57(2). 209–240.

Higgins, Roger. 1973. *The pseudo-cleft construction in English*. Boston, MA: MIT dissertation.

Hilbert, David. 1922. Neubegründung der Mathematik: Erste Mitteilung. *Abhandlungen aus dem Seminarder Hamburgischen Universität*, 1: 157–177. English translation in: Mancosu, Paolo. 1998. *From Brouwer to Hilbert, the Debate on the Foundations of Mathematics in the 1920s*. 198–214. Oxford University Press, New York.

Höhn, Georg F. K. 2016. Unagreement is an illusion. Apparent person mismatches and nominal structure. *Natural Language and Linguistic Theory.* 34. 543–592. doi:10.1007/s11049-015-9311-y.

Hurtado, Alfredo. 1985. The unagreement hypothesis. In Larry King & Catherine Maley (eds.), *Selected papers from the Thirteenth Linguistic Symposium on Romance Languages*, 187–211. Amsterdam: John Benjamins.
Ionin, Tania & Ora Matushansky. 2006. The composition of complex cardinals. *Journal of Semantics.* 23. 315–360.
Ionin, Tania & Ora Matushansky. 2018. *Cardinals: The syntax and semantics of cardinal-containing expressions*. Cambridge, Massachusetts: The MIT Press.
Kayne, Richard S. 2005. On the syntax of quantity in English. In *Movement and silence*, 176–214. Oxford University Press.
Klein, Ewan. 1980. A semantics for positive and comparative adjectives. *Linguistics and Philosophy.* 4(1). 1–45.
Klein, Ewan. 1991. Comparatives. In A. von Stechow & D. Wunderlich (eds.), *Semantik/semantics: An international handbook of contemporary research*, 673–691. Berlin: De Gruyter.
Kratzer, Angelika. 1996. Severing the external argument from its verb. In Johan Rooryck & Laurie Zaring (eds.), *Phrase structure and the lexicon*, 109–137. Dordrecht, The Netherlands: Kluwer Academic Publishers.
Link, Godehard. 1983. The logical analysis of plurals and mass terms. In R. Bauerle, C. Schwarze & A. von Stechow (eds.), *Meaning, use and interpretation of language*, 302–323. Berlin: De Gruyter.
McNally, Louise. 1997. *A semantics of the English existential construction*. New York: Garland Press.
McNally, Louise. 2009. Properties, entity correlates of properties, and existentials. In Anastasia Giannakidou & Monika Rathert (eds.), *Quantification, definiteness, and nominalization*, 163–187. Oxford: Oxford University Press.
Mendia, Jon Ander & M.Teresa Espinal. 2023. A note on sufficiency predicates. In Suet-Ying Lam & Satoru Ozaki (eds.), *Proceedings of the 52 Annual Meeting of the North East Linguistic Society*, 199–208. Amherst, MA: GSLA Publications.
Mikkelsen, Line. 2005. *Copular clauses. Specification, predication and equation*. Amsterdam: John Benjamins.
Moltmann, Friederike. 2004. Nonreferential complements, derived objects and nominalizations. *Journal of Semantics.* 21(1). 1–43.
Moltmann, Friederike. 2009. Degree structure as trope structure: A trope-based analysis of positive and comparative adjectives. *Linguistics and Philosophy.* 32(1). 51–94.
Moro, Andrea. 1997. *The raising of predicates. Predicative Noun Phrases and the theory of clause structure*. Cambridge: Cambridge University Press.
Morzycki, Marcin. 2009. Degree modification of gradable nouns: Size adjectives and adnominal degree morphemes. *Natural Language Semantics.* 17(2). 175–203.
Morzycki, Marcin. 2016. *Modification*. Cambridge: Cambridge University Press.
Partee, Barbara. 1987. Noun phrase interpretation and type-shifting principles. *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers.* 8. 115–143.
Pustejovsky, James. 1995. *The Generative Lexicon*. Cambridge, MA: The MIT Press.
RAE (Real Academia Española). 2009. *Nueva Gramática de la Lengua Española*. Madrid: Espasa Libros.
Reinhart, Tanya. 1997. Quantifier scope: How labor is divided between QR and Choice Functions. *Linguistics and Philosophy.* 20(4). 335–397.
Rett, Jessica. 2014. The polysemy of measurement. *Lingua.* 143. 242–266.
Rett, Jessica. 2018. Individual/degree polysemy. The emergence of number conference. Handout. OSU. https://linguistics.ucla.edu/people/Rett/Rett_2018_degree_polysemy.pdf
Romero, Maribel. 2021. The many readings of many: POS in the reverse proportional reading. *Linguistics and Philosophy.* 44. 281–321.
Rothstein, Susan. 2017. *Semantics for counting and measuring*. Cambridge: Cambridge University Press.
Schwarzschild, Roger. 2006. The role of dimensions in the syntax of noun phrases. *Syntax.* 9. 67–110.
Scontras, Gregory. 2022. On the semantics of number morphology. *Linguistics and Philosophy.* 45. 1165–1196.
Seuren, Pieter A. M. 1973. The comparative. In F. Kiefer & Ruwet N. (eds.), *Generative grammar in Europe*, 528–564. Dordrecht: Reidel.
Sharvy, Richard. 1980. A more general theory of definite descriptions. *Philosophical Review.* 89. 607–64.
Solt, Stephanie. 2009. *The semantics of adjectives of quantity.* New York: The City University of New York dissertation.
Solt, Stephanie. 2015. Q-adjectives and the semantics of quantity. *Journal of Semantics.* 32(2). 221–273.
Svenonius, Peter. 1994. *Dependent nexus: Subordinate predication structures in English and the Scandinavian languages*. Santa Cruz, CA: University of California, Santa Cruz dissertation.
Sybesma, Rynt. 1999. *The Mandarin VP.* Boston: Kluwer.
Wellwood, Alexis. 2019. *The meaning of more*. Oxford: Oxford University Press.

Winter, Yoad. 1997. Choice functions and the scopal semantics of indefinites. *Linguistics and Philosophy.* 20. 399–467.
von Fintel, Kai & Edward L. Keenan. 2018. Determiners, conservativity, witnesses. *Journal of Semantics.* 35. 207–217. doi:10.1093/jos/ffx018.
von Heusinger, Klaus. 1997. Definite descriptions and choice functions. *Logic, Language and Computation.* 5. 61–91.
von Stechow, Arnim. 1984. Comparing semantic theories of comparison. *Journal of Semantics.* 3(1–2). 1–77.

Cite this article: Mendia, Jon Ander and Espinal, M.Teresa. 2025. "Non-agreeing degree constructions." *Journal of Linguistics*. 61, 265–300. doi:10.1017/S0022226724000148