Concessive scalar particles: Symmetric vs. non-symmetric alternatives. The case of Spanish *siquiera*

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Abstract

Polarity items have been analyzed as existential quantifiers that introduce alternatives into the semantic derivation (Krifka 1991; 1995; Kratzer & Shimoyama 2002; Chierchia 2013). Under this approach, variation in the polarity system can be reduced to variation in the types of alternatives that polarity items introduce (Chierchia 2013). We present a case of dialectal variation within the polarity system that can be treated along these lines. The paper focuses on Spanish *siquiera*, a concessive scalar particle. Concessive scalar particles (Slovenian *magari*, Greek *esto*, and Spanish *siquiera*) (Crnič 2011a; b) are polarity items licensed in a variety of downward entailing environments, where they can be paraphrased with English *even*, and in modal environments, where they can be paraphrased with English *at least*. The paper shows that the interpretation and distribution of Spanish *siquiera* differs between Iberian and Andean Spanish. We propose that *siquiera* shares the same assertive core across dialects, but differs in the types of alternatives that it introduces.

Keywords: concessive scalar particles, alternatives, exhaustification, Spanish, Andean Spanish

1 Introduction

An influential line of research maintains that polarity items are existential quantifiers. Polarity items differ from ordinary existential quantifiers, however, in that they introduce into the semantic derivation alternative meanings, which, following standard practice, we will simply call 'alternatives.' The alternatives that polarity items introduced are used by external operators to possibly strengthen their core existential meaning (Krifka 1991; 1995; Kratzer & Shimoyama 2002; Chierchia 2013).

An important contribution of the alternative-based analysis of polarity items is the realization that the diverse behavior of polarity items can be reduced to a small number of parameters of variation that have to do with the types of alternatives that these items introduce (see, e.g. Chierchia 2013.) This paper presents a case of dialectal variation within the polarity system and shows that it can be treated along these lines.

The paper deals with a class of polarity items called 'concessive scalar particles' (Crnič 2011a; b), which includes Slovenian *magari*, Greek *esto* (Giannakidou 2007), and Spanish *siquiera*. These polarity items are licensed in a variety of non-veridical contexts: downward entailing environments, and modal contexts. The paper focuses on Spanish *siquiera* (Herburger 2003; Lahiri 2010; Alonso-Ovalle 2009; 2016). It shows that the interpretation and distribution of *siquiera* in two varieties of Spanish (Iberian, and what we call 'Andean' Spanish) overlap in downward entailing environments, but differ in episodic and modal contexts. The paper does not seek to provide an exhaustive analysis of *siquiera*. In both dialects, *siquiera* is licensed in other environments, like questions, that the

paper does not focus on.[1] Our goal is to predict the overlap and differences in episodic sentences, downward entailing, and modal environments, with the hope that our approach can fuel further research in the crosslinguistic differences of concessive scalar particles. We leave the study of other environments to future research.

Building on previous analyses (Alonso-Ovalle 2016), we assume that *siquiera* introduces alternatives into the semantic derivation. We propose, further, that the core meaning of *siquiera* is shared by different dialects, and that differences across dialects can be reduced to differences in the type of alternatives that *siquiera* introduces.

The paper is organized as follows. Section 2 introduces concessive scalar particles and situates *siquiera* within the class. To provide some theoretical background, section 3 reviews the analysis of these items presented in Crnič 2011a; b. Section 4 presents some challenges to the extension of Crnič's analysis to Spanish *siquiera*: section 4.1 reviews a challenge previously pointed out in Alonso-Ovalle 2016, and section 4.2 explains the challenge posed by Andean Spanish data. The latter challenge extends to all other approaches that seek to derive the deviance of concessive scalar particles in positive episodic sentences. Section 5 introduces the Alternative-based Analysis of *siquiera* proposed by Alonso-Ovalle (2016) which we extend to account for the distribution and interpretation of Andean Spanish *siquiera* in section 6. Section 7 introduces an issue for further research, and section 8 defends our analysis against an alternative. Section 9 concludes.

2 *Siquiera* within the class of concessive scalar particles

We start by laying out the empirical landscape that we will be concerned with. In section 2.1 we introduce the class of concessive scalar particles, with the help of data with Slovenian *magari* (Crnič 2011a; b). Section 2.2 situates *siquiera* within this class, adding new data on the dialectal variation of this item. Section 2.3 concludes by extracting two questions posed by the data, which will be the focus of the paper.

2.1 Concessive scalar particles: *magari*

Crnič (2011a; b) uses the term 'concessive scalar particles' (CSPs) to refer to a class of focus sensitive items that have a superficially similar distribution and interpretation. The class includes Slovenian *magari*, Greek *esto*, and Iberian Spanish *siquiera*.

Concessive scalar particles are polarity items. As illustrated below with Slovenian *magari*, these items are deviant in positive episodic environments (1), but licensed in a variety of non-veridical environments: in downward entailing environments (2a-d)[2], in questions (3), and in modal environments (4).

[1] For the behavior of Iberian Spanish *siquiera* in questions, and an extension of the type of analysis that we will entertain here to that environment, see Alonso-Ovalle 2016.

[2] *Magari* is ungrammatical under clausemate negation, but licensed in that environment if embedded further under a downward entailing operator, as shown in (i).

(i) a. # Peter ni osvojil magari BRONASTE medalje.
Peter not win magari bronze medal
'Peter didn't win even a bronze medal.'
b. Janez dvomi, da Peter ni osvojil magari BRONASTE medalje.
Janez doubts that Peter not win magari bronze medal
'John doubts that Peter didn't win even a bronze medal.' (Crnič 2011a: p. 107)

(1) * Janez je prebal magari *Sintaktične Structure*.
Janez AUX read:3SG MAGARI Syntactic Structures
'John read even *Syntactic Structures*.' (Crnič 2011a: p. 105)

(2) a. Vsak študent, ki je rešil magari ENO samo nalogo, je zdelal izpit.
Every student who AUX solved:3SG MAGARI one alone exercise has passed exam
'Every student that solved even one single exercise passed the exam.'

b. Janez dvomi, da bo Peter odgovoril na magari ENO vprašanje.
Janez doubt:3SG that AUX Peter answer on MAGARI one question
'John doubts that Peter will answer even one question.'

c. Janez je končal letnik brez da bi rešil magari ENO nalogo.
Janez AUX finished:3SG year without that AUX solve MAGARI one exercise
'John finished the school year without solving even one exercise.'

d. Če Peter osvoji magari BRONASTO medaljo, bo postal junak.
if Peter win:3SG MAGARI bronze medal will become hero
'If Peter wins even (just) the bronze medal, he will become a hero.'
(Crnič 2011a: p. 106)

(3) Je Janez rešil magari ENO nalogo?
AUX John solve MAGARI one exercise?
'Did John solve even one exercise?' (Crnič 2011a: p. 107)

(4) a. Za potni-list mi mora Janez poslati magari POSKENIRANO sliko.
for passport me must John send MAGARI scanned photo
'To get a passport, John must send at least a scanned photo.'

b. Preberi magari SINTAKTIČNE STRUKTURE.
read:IMP MAGARI Syntactic Structures
'Read at least Syntactic Structures.' (Crnič 2011a: pp. 107-108)

The translations of the examples above show that the meaning contribution of concessive scalar particles in downward entailing contexts and in questions can be paraphrased with English *even*. In downward entailing contexts like (2a), concessive scalar particles convey a strengthening effect: unlike its counterpart without *magari*, the sentence in (2a) conveys that every student that solved exercises, even if they did so minimally, passed the exam. In questions, concessive scalar particles convey, like *even*, a negative bias: a speaker uttering (3) expects a negative answer.

With a necessity modal, like in (4a), the interpretation of concessive scalar particles can be paraphrased with English *at least*. In (4a), *magari* conveys a 'settle for less' (Kadmon & Landman 1993) or sufficiency effect. The counterpart of (4a) without *magari* conveys that John needs to send a scanned photo. Adding *magari* indicates that a scanned photo is sufficient: the sentence conveys that John needs to send a photo and *can*, but does not *need* to, send a scanned one.

Magari is also licensed by possibility modals, as in (5), which Crnič glosses with *even*. In this environment, *magari* conveys a free choice effect: that all types of contextually relevant photos are allowed. If normal photos and scanned photos are under discussion, (5) conveys that John may send a regular photo and that he may send a scanned photo too.

(5) Za potni-list mi anez lahko pošlje magari POSKENIRANO sliko
for passport me John can send MAGARI scanned photo.
'To get a passport, John may send me even a scanned photo.'
(Crnič 2011a: pp. 108)

Alonso-Ovalle (2016) pointed out that there are differences in interpretation across concessive scalar items. In this paper, we will see that *siquiera* overlaps in interpretation with *magari* in downward entailing environments and with necessity modals, but that there are differences in episodic contexts and with possibility modals. We turn our attention to *siquiera* next.

2.2 Concessive scalar particles: *siquiera*

In this section we will situate *siquiera* within the class of concessive scalar particles. We survey the behavior of *siquiera* in downward entailing contexts in section 2.2.1. In section 2.2.2, we present a preliminary survey of the behavior of *siquiera* in modal contexts. The data presented in sections 2.2.1 and 2.2.2 shows parallels between *siquiera* and *magari.* Section 2.2.3 introduces differences between these two items. Some of the differences concern differences in the behavior of *siquiera* across dialects. Finally, section 2.3 concludes by highlighting two questions posed by the data, which will be the focus of the paper.

2.2.1 Downward entailing environments

Herburger (2003) noted that, distributionally, *siquiera* behaves like a weak negative polarity item. *Siquiera* is deviant in positive episodic environments (6), but licensed in a variety of downward entailing contexts and in questions, environments in which English *any* is also licensed. We find *siquiera* under sentential negation (7a), in the restrictor of a universal quantifier (7b), under the scope of *doubt* (7c), under the scope of *sin* ('without') (7d), in the antecedent of conditionals (7e), in the standard clause of excessive constructions (7f), and in questions (8).

(6) * Juan leyó siquiera el [primer]$_F$ capítulo.
Juan read:3SG SIQUIERA the first chapter

(7) a. No lo sabía (ni) siquiera [Héctor]$_F$.
not it knew:3SG (NI) SIQUIERA Héctor
'Not even Hector knew it.' (Herburger 2003: p. 248)

b. Todos los estudiantes que hablaron siquiera [una]$_F$ vez llevaban pantalones
All the students that spoke:3PL SIQUIERA one time wore:3PL trousers
amarillos.
yellow
'Every student who spoke at least once wore yellow trousers.'
(Alonso-Ovalle 2016: p. 192)

c. Dudo que siquiera [Héctor]$_F$ haya venido.
doubt:1SG that SIQUIERA Héctor has:PST.SUBJ come
'I doubt that even Hector came.' (Herburger 2003: p. 249)

d. Creía que María la Coja estaría en el estudio, pero había
thought:3SG that María the Lame would.be in her studio but had:3SG
desaparecido sin dejar siquiera [una nota]$_F$.
disappeared without leave:INF SIQUIERA a note
'He thought that Maria the Lame would be in her office, but she had disappeared without even leaving a note.' (Alonso-Ovalle 2009: p. 7)

e. Si el fútbol atendiera siquiera [un poco]$_F$ a la lógica, el Barcelona
if the soccer follow:SUBJ.3SG SIQUIERA a bit to the logic, the Barcelona
arrollaría al Getafe.
would.crush to.the Getafe
'If soccer followed logic even a bit, the Barcelona would crush the Getafe.'
(Alonso-Ovalle 2009: p. 7)

f. El clima del viernes era demasiado malo para siquiera [intentar]$_F$ un
the weather of.the Friday was:3SG too bad to SIQUIERA try:INF a
lanzamiento.
launching
'The Friday weather was too bad to even try a launching.' (Alonso-Ovalle 2009: p. 7)

(8) ¿Leyó siquiera el [primer]$_F$ capítulo?
read:3SG SIQUIERA the first chapter
'Did he even read the first chapter?' (Alonso-Ovalle 2009: p. 7)

Like other concessive scalar particles, *siquiera* conveys a strengthening effect in downward entailing contexts. This is illustrated for sentential negation in (9). The first sentence in (9a), without *siquiera*, conveys that Pedro did not read the first chapter. This is compatible with him having read other contextually relevant chapters, as the second sentence conveys. In (9b), the counterpart of (9a) with *siquiera* makes a stronger claim: that Pedro did not read the first chapter or any other contextually relevant chapter, namely the second or third, rendering the continuation inconsistent.

(9) a. Pedro no leyó el primer capítulo pero leyó el segundo y el tercero.
Pedro not read:3SG the first chapter but read:3SG the second and the third
'Pedro didn't read the first chapter but he read the second and the third.'

b. Pedro no leyó siquiera el [primer]$_F$ capítulo # pero leyó el segundo
Pedro not read:3SG SIQUIERA the first chapter but read:3SG the second
y el tercero.
and the third
'Pedro didn't even read the first chapter but he read the second and the third.'

The sentences in (10) illustrate the same effect with conditionals. The conditional in (10a) conveys that the addressee wins the bet if she scores ten points. This is compatible with her losing the bet if she scores twenty points, as the continuation indicates. The conditional in (10b), with *siquiera* in its antecedent, makes a stronger claim: that the addressee wins the bet if she scores 10 points or more, rendering the continuation inconsistent.

(10) a. Si marcas diez puntos en el juego, ganas la apuesta, pero si marcas veinte
if score:2SG ten points in the game, win:2SG the bet but if score:2SG twenty
puntos, la pierdes.
points it lose:2SG
'If you make ten points in the game, you win the bet but if you make twenty points you lose it.'

b. Si marcas siquiera [diez puntos]$_F$ en el juego, ganas la apuesta # pero si
If score:2SG SIQUIERA teb points in the game, win:2SG the bet, but if
marcas veinte puntos, la pierdes.
score:2SG twenty points it lose:2SG

'If you make ten points or more in the game, you win the bet but if you make twenty points you lose it.'

Herburger contrasts the distribution of bare *siquiera* with that of *ni siquiera*, which seemingly combines the negative concord element *ni* ('not even') with *siquiera*. *Ni* shows typical negative concord behavior. As is well known, Spanish is a 'non-strict' negative concord language (Giannakidou & Zeijlstra 2017). In such languages, postverbal negative concord elements ('n-words') require a preverbal negative licensor, but preverbal ones don't. This is illustrated in (11) below:

(11) a. *(No) vino ningún estudiante.
NEG came:3SG NINGÚN student
'No student came.'

b. Ningún estudiante vino.
NINGÚN student came
'No student came.'

The focus sensitive particle *ni* replicates the pattern, as seen below:

(12) a. *(No) vino ni $[\text{Juan}]_F$.
NEG came:3SG NI Juan
'Not even Juan came.'

b. Ni $[\text{Juan}]_F$ vino.
NI Juan came:3SG
'Not even Juan came.'

The same is true in cases where *ni* combines with minimizers e.g. *un alma* (Vallduví 1994) or with *siquiera*, as the examples below illustrate:

(13) a. *(No) habló ni un alma.
NEG spoke:3SG NI a soul
'Not even a soul spoke.'

b. Ni un alma habló.
NI a sould spoke:3SG
'Not even a soul spoke.'

(14) a. *(No) vino ni siquiera $[\text{Juan}]_F$.
NEG came:3SG NI SIQUIERA Juan.
'Not even Juan came.'

b. Ni siquiera $[\text{Juan}]_F$ vino.
NI SIQUIERA Juan came:3SG
'Not even Juan came.'

Like any other negative concord items, *ni siquiera* has a more restricted distribution than weak negative polarity items like English *any*. We have seen that, like *siquiera*, *ni siquiera* is licensed under sentential negation or under the preposition *without* (15a), as is the case with other negative concord items. However, unlike *siquiera*, *ni siquiera* is *not* licensed in the antecedent of conditionals (15b) or in questions (15c). In the paper, we will focus on *siquiera*, leaving the issue of how our analysis of *siquiera* is expected to interact with the negative concord item *ni* to further research.

(15) a. Juan compró la casa sin ni siquiera $[\text{preguntar}]_F$ el precio.
Juan bought:3SG the house without NI SIQUIERA ask:INF the price
'Juan bought the house without even asking for the price.'

b. * Si Juan participara ni siquiera [un poco]$_F$ en clase, le iría
if Juan participated:SUBJ.3SG NI SIQUIERA a little in class, it would.go
mejor.
better

c. * ¿Leyó ni siquiera el [primer]$_F$ capítulo?
read:3SG NI SIQUIERA the first chapter?

2.2.2 Modal environments

After Herburger (2003), Lahiri (2010) and Alonso-Ovalle (2009; 2016) noticed that, at least in Iberian Spanish, *siquiera* is not restricted to downward entailing contexts, but that it is also licensed in upward entailing environments: under modals and imperatives, and in the nuclear scope of other universal quantifiers, as shown in (16).[3]

(16) a. Tienes que ir a la piscina siquiera [una]$_F$ vez.
have-to:2SG that go to the pool SIQUIERA one time
'You have to go to the pool at least once.'

b. ¡Lee siquiera el [primer]$_F$ capítulo !
read:IMP SIQUIERA the first chapter
'Read at least the first chapter!'

c. Todos los estudiantes hablaron siquiera [una]$_F$ vez.
all the students spoke:3PL SIQUIERA one time
'All the students spoke at least once.' (Alonso-Ovalle 2016: p. 193)

As claimed for other concessive scalar particles, in the contexts in (16), *siquiera* conveys a 'settle for less' or sufficiency effect that can be paraphrased with English *at least*. The counterpart of the sentence in (16a) without *siquiera* conveys that the addressee needs to go to the swimming pool once. The sentence in (16a) conveys that the addressee needs to go to the pool and that she can (but doesn't need to) go only once. Without *siquiera*, (16b) asks the addressee to read the first chapter. With *siquiera*, the addressee can, but does not have to read only the first chapter. Without *siquiera*, (16c) conveys that all the students spoke once, but with *siquiera* that they all spoke once or more.

2.2.3 Variation across concessive scalar particles: *siquiera* across dialects

In downward entailing contexts, questions, and with necessity modals (including imperatives), *siquiera* and *magari* pattern alike, for the most part. The only difference is that *magari* is not licensed under the immediate scope of negation, as we saw.[4] We summarize this in Table 1 below.

While superficially similar, concessive scalar particles differ. Alonso-Ovalle (2016) shows that Spanish *siquiera* departs from Slovenian *magari*, as described in Crnič 2011a; b, and from Greek *esto*, as described in Giannakidou 2007. One difference between *siquiera* and *magari* is that, as seen with (16c) above, *siquiera* is licensed in non-modal upward entailing contexts, like the nuclear scope of universal quantifiers. In this paper, we will deal with further variation in the class of concessive scalar items by focusing on dialectal variation in the distribution and interpretation of *siquiera*.

[3] These are also environments where *ni siquiera* is not licensed: the counterparts of the examples in (16) with *ni siquiera* are ungrammatical.

[4] Unless negation is further embedded in a downward entailing operator, see footnote 2.

Table 1: *Siquiera* and *magari*: similarities.

	Slovenian *magari*	Spanish *siquiera*
clausemate negation	*	✓
restrictor of a universal determiner	✓	✓
scope of negative predicates	✓	✓
scope of *without*	✓	✓
if-clauses	✓	✓
universal modals	✓	✓
questions	✓	✓

The key data point is that in some Spanish varieties, which we will refer to with the generic term 'Andean Spanish,' *siquiera* has a more liberal distribution than in Iberian Spanish.[5] In Andean Spanish, *siquiera* appears in downward entailing contexts, in questions, and in modal environments, as described above, with roughly the same interpretation. However, these varieties also allow *siquiera* in positive episodic environments, as (17) illustrates:

(17) Siquiera Messi fue a [Medellín]$_F$
SIQUIERA Messi went:3SG to Medellín
'At least Messi went to Medellín.'
https://twitter.com/andresgom/status/350786800068984833

The contribution of Andean Spanish *siquiera* in positive episodic environments can be paraphrased with English *at least*, as in other upward entailing environments: like its counterpart without *siquiera*, the sentence in (17) conveys that Messi went to Medellín; on top of that, the use of *siquiera* in (17) conveys most naturally that Messi did not go to other cities that the speaker would have preferred.[6]

[5] Escobar (2011) defines Andean Spanish as "a dialect spoken mainly in the Andean region of various South American countries. In defining it as a dialect, we are acknowledging that it has native speakers who grew up speaking Spanish in this region ... Considering that Andean Spanish refers to a dialect spoken in different and immediately adjacent regions of the Andes, some of its linguistic features vary across these regions." In the present work, the term *Andean Spanish* refers to Spanish varieties spoken in the Andean region of Colombia, Bolivia and Peru where most of the data have been found. We acknowledge that the label can be misleading, since there might be some non-Andean varieties that may have the same use, and there might be Andean varieties that do not behave as described. We stick to the use, nevertheless, in the absence of a better term.

[6] In Andean Spanish, *siquiera* in episodic sentences translates as English *at least*. However, *at least* in English has two readings i.e. an epistemic and a concessive one (Nakanishi & Rullmann 2009). To confirm the acceptability of Andean Spanish *siquiera* in positive episodic sentences and determine which of the two readings of English *at least* Andean Spanish *siquiera* has in such contexts, a pilot study was conducted using a 'yes/no acceptability judgement task'. *Siquiera*-sentences were presented in two types of stories (contexts), one type was consistent with an epistemic interpretation of *at least* but excluded a concessive interpretation; the other type was consistent with a concessive interpretation, but excluded an epistemic interpretation. In a face-to-face setting, participants read the contexts, which were followed by a target sentence containing a *siquiera*-sentence. Twenty-three subjects, all native speakers of different dialects of Spanish, were asked to judge whether the *siquiera*-sentence was accepted in the context and to justify their answer. The results showed two populations. In a first group, two Chileans, one Venezuelan, one Salvadorian, and six Iberian Spanish speakers rejected *siquiera* and replaced it by Spanish *al menos* 'at least'. In contrast, a second group of six Bolivians, six Colombians and one Peruvian speaker accepted the target sentence, but only under the concessive interpretation. Furthermore, previous to the pilot study regarding the acceptability of *siquiera* between speakers from different Spanish varieties, an online questionnaire was carried out in which forty Bolivian native speakers of Spanish participated. Using a forced-choice task, subjects were presented with *siquiera*-sentences that were preceded by concessive contexts. Four options were provided: two crucial options and two distractors. The crucial options were: a) sentences paraphrasing *siquiera* with concessive *at least* (Nakanishi & Rullmann 2009), and b) a sentence conveying that the target sentence was meaningless. Results showed that in 86.5% of the time participants chose the option that paraphrased *siquiera* with concessive *at least*.

There are further differences between Iberian Spanish and Andean Spanish, which concern the behavior of these items with possibility modals: Andean Spanish allows *siquiera* with these modals, but Iberian Spanish doesn't. We note these differences in Table 2 below, but postpone their discussion until section 6.3, for ease of exposition. For now, we will focus on the difference between Iberian Spanish and Andean Spanish in positive sentences. The main reason to do so is that the behavior of Andean Spanish *siquiera* is puzzling from the perspective of the description of concessive scalar particles presented in Crnič 2011a; b, or Alonso-Ovalle 2009; 2016, since these works put forth analyses that are tailored to capture the deviance of these items in positive episodic sentences.

Table 2: *Siquiera* and *magari*: differences

	Slovenian *magari*	*siquiera*$_{\text{Iberian Spanish}}$	*siquiera*$_{\text{Andean Spanish}}$
positive episodic context	*	*	✓
nuclear scope of a universal determiner	*	✓	✓
necessity modals	✓	✓	✓
possibility modals	✓	*	✓

2.3 The focus of the paper

The data discussed above pose questions about the crosslinguistic differences between concessive scalar particles. In this paper, we will focus on the differences internal to Spanish. We highlight two questions that the contrast between Iberian and Andean Spanish poses:

Q1. What underlies the partial overlap in the interpretation of *siquiera* and the difference in its distribution across dialectal varieties?

Q2. Where else do we see this type of variation in the landscape of polarity items? How do the two types of *siquiera* relate to other polarity elements?

These two questions will be the focus of the paper.

To understand the behavior of *siquiera* across dialectal varieties, we will build on the alternative-based analysis of *siquiera* proposed by Alonso-Ovalle (2016), which we extend to capture the behavior of *siquiera* in Andean Spanish.

The alternative-based analysis treats *siquiera* on a par with free choice items and considers *siquiera* as a focus sensitive propositional operator that contributes i) a core existential meaning and ii) a set of propositional alternatives that an external operator must exclude to strengthen the core existential meaning. The alternatives that *siquiera* introduces cannot be excluded without deriving a pathological meaning when this item is unembedded. When *siquiera* is embedded under a downward entailing operator or a necessity modal, the alternatives can be excluded, and their exclusion derives the attested interpretation.

The answers that the paper provides to the two questions above are the following: with respect to the first question, the paper puts forth the hypothesis that Andean Spanish *siquiera* introduces only a subset of the alternatives that its counterpart in Iberian Spanish introduces. This hypothesis predicts the interpretation of *siquiera* in Andean Spanish to overlap with that of its Iberian Spanish counterpart while, at the same time, it captures the attested differences in distribution. With respect to the second question, the paper essentially treats Andean Spanish *siquiera* as a scalar item, rather than a free choice item.

To introduce our analysis, we will begin by laying out some theoretical background in Section 3 that will help appreciate the puzzle posed by the behavior of Andean Spanish in episodic sentences.

We will use Crnič's analysis of *magari* as a starting point. We will then discuss in Sections 4.1 and 4.2 some challenges to the extension of Crnič's analysis of *magari* to Spanish *siquiera*: Section 4.1 will review a challenge previously pointed out in Alonso-Ovalle 2016; Section 4.2 will explain the challenge posed by the behavior of Andean Spanish *siquiera*.

3 Background

3.1 The EVEN plus Weak Associate Analysis

According to the EVEN plus Weak Associate Analysis presented in Crnič 2011a; b, concessive scalar particles decompose into two focus sensitive propositional operators: EVEN and AT LEAST. This is illustrated for *siquiera* in (18b).

(18) a. * Juan leyó siquiera el [primer]$_F$ capítulo .
b. LF: EVEN$_{C_2}$ AT LEAST$_{C_1}$ [Juan read the [first]$_F$ chapter]

AT LEAST takes as arguments a contextually set of alternatives (the value of a covert variable (C_n), represented in the LF above as a subscript) and a proposition p (its 'prejacent'). The value of C_n, which we will represent in boldface type ($\mathbf{C}_n$), is a subset of the focus semantic value of the sister of AT LEAST$_{C_n}$. AT LEAST conveys the presupposition that p is the most likely alternative in $\mathbf{C}_n$.[7] When this presupposition is met, AT LEAST weakens p by mapping it to the proposition that p or a less likely alternative in $\mathbf{C}_n$ is true, as shown in (19a). EVEN also takes a set of alternatives $\mathbf{C}_n$ (again, a subset of the focus semantic value of the sister of EVEN), and a proposition p. It triggers the presupposition that p is not the most likely alternative in $\mathbf{C}_n$, and, when the presupposition is met, it returns p, as shown in (19b).[8]

(19) a. $[\![\text{AT LEAST}_{C_n}]\!]^c =$
$\lambda p : \forall q \in \mathbf{C_n}[(q \neq p) \rightarrow (q \lhd_c p)].\ \lambda w.\exists q \in \mathbf{C_n}[q \trianglelefteq_c p \wedge q(w)]$
b. $[\![\text{EVEN}_{C_n}]\!]^c =$
$\lambda p : \exists q \in C_n[p \lhd_c q].p$

3.2 Positive episodic environments

If nothing intervenes between EVEN and AT LEAST, as in (18b), the presuppositions of AT LEAST and EVEN contradict each other, and, as a result, the sentence is predicted to always be undefined, capturing its deviance.

To illustrate, assume that in (18b), $\mathbf{C}_1$ is the set of propositions in (20):[9]

(20) $\left\{ \begin{array}{l} \lambda w.\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}), \\ \lambda w.\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}), \\ \lambda w.\text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.}) \end{array} \right\}$

Under this assumption, AT LEAST will trigger the presupposition that reading the 1st chapter is the most likely proposition in $\mathbf{C}_1$. When this presupposition is met, AT LEAST yields the proposition that Juan read the 1st chapter or the 2nd chapter or the 3rd chapter.

[7] Notation: following Crnič ,'$p \lhd_c q$' conveys that p is less likely in context c than q is and '$p \trianglelefteq_c q$' that p is at least as likely as q in context c.

[8] Notation: Throughout the paper, we will follow the metalanguage convention of Heim & Kratzer (1998): the expression between the colon and the period captures the definedness condition of the function.

[9] Notation: 'j' refers to the semantic value of *John*, '1st ch.' to the semantic value of *the first chapter*, '2nd ch.' to the semantic value of *the second chapter*, etc ...

(21) $[\![\text{AT LEAST}_{C_1}\,[\text{Juan read the [first]}_{\text{F}}\text{ chapter.}]]\!]^c =$

$$\lambda w : \lambda w'.\ \text{READ}_{w'}\ (\text{j}, 1^{\text{st}}\ \text{ch.}) \rhd_c \left\{ \begin{array}{l} \lambda w'.\text{READ}_{w'}\ (\text{j}, 2^{\text{nd}}\ \text{ch.}), \\ \lambda w'.\text{READ}_{w'}\ (\text{j}, 3^{\text{rd}}\ \text{ch.})\} \end{array} \right\}.\ \begin{array}{c} \text{READ}_w(\text{j}, 1^{\text{st}}\ \text{ch.}) \\ \vee \\ \text{READ}_w(\text{j}, 2^{\text{nd}}\ \text{ch.}) \\ \vee \\ \text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.}) \end{array}$$

EVEN, on its turn, requires the proposition that it operates over (the proposition that Juan read the 1st or 2nd or 3rd chapter) to be less likely than one of its alternatives, which, we are going to assume, are the propositions in (22) below:[10]

(22) a. $[\![\text{AT LEAST}_{C_1}\,[\text{Juan read the [first]}_{\text{F}}\text{ chapter.}]]\!]^c =$
$\lambda w.\text{READ}_w(\text{j}, 1^{\text{st}}\ \text{ch.}) \vee \text{READ}_w(\text{j}, 2^{\text{nd}}\ \text{ch.}) \vee \text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.})$

b. $[\![\text{AT LEAST}\ _{C_1}\,[\text{Juan read the [second]}_{\text{F}}\text{ chapter.}]]\!]^c =$
$\lambda w.\text{READ}_w(\text{j}, 2^{\text{nd}}\ \text{ch.}) \vee \text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.})$

c. $[\![\text{AT LEAST}_{C_1}\,[\text{Juan read the [third]}_{\text{F}}\text{ chapter.}]]\!]^c =$
$\lambda w.\text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.})$

The presupposition triggered by EVEN can never be met. This is so because all the alternatives to the prejacent of EVEN entail the prejacent of EVEN, and if a proposition p entails a proposition q, then p cannot be more likely than q, since the set of worlds where p is true is a subset of the set of worlds where q is. We record this principle in (23).

(23) If $p \subseteq q$, then $p \trianglelefteq_c q$
If a proposition p entails a proposition q, q cannot be less likely than p

The LF in (18b) is then associated with a pathological meaning, a proposition that is undefined for any possible world w.

When a downward entailing operator intervenes between EVEN and AT LEAST, the problematic entailment relations between the prejacent of EVEN and its alternatives are reversed. As a result, the presuppositions of AT LEAST and EVEN are not contradictory, and the predicted meaning is not pathological anymore. We will illustrate this next.

3.3 Downward entailing environments

Consider now the sentence in (24a) and its LF in (24b):

(24) a. Juan no leyó siquiera el [primer]$_{\text{F}}$ capítulo .
Juan NEG read:3SG SIQUIERA the first chapter
'Juan didn't even read the first chapter.'

b. LF: EVEN_{C_2} **NEG** AT LEAST_{C_1} [Juan read the [first]$_{\text{F}}$ chapter]

In this case, sentential negation intervenes between EVEN and AT LEAST. When a downward entailing operator intervenes between the two operators, the problematic entailment relations between the prejacent of EVEN and its alternatives are reversed. As before, AT LEAST contributes

[10] Notice that we are disregarding the presuppositions of the alternatives. The alternative in (22a) should presuppose that the proposition that Juan read chapter 1 is at the bottom of the likelihood scale. This would contradict the presuppositions of (22b) and (22c), which would require other propositions to be at the bottom of the likelihood scale. The presuppositions of the alternatives are then contradictory. We follow here Crnič 2011b, who also assumes that the presuppositions of the prejacent of EVEN are disregarded in the alternatives. This behavior needs to be investigated. There are other presuppositional elements, like personal pronouns, whose alternatives do not seem to contribute a presupposition in focus contexts (Sauerland 2013). Other presuppositional items whose alternatives seem presuppositionally inert are singular definites (von Heusinger 2007) and factive and change of state verbs (Walker 2012) have also been observed to be inactive in focus alternatives.

the presupposition that the proposition that Juan read the first, second, or third chapter is more likely than the proposition that he read the second or the third, or the proposition that he read the third chapter. This presupposition should project over negation. The prejacent of EVEN_{C_2} is now the proposition that Juan did not read the first, second, or third chapter, in (25):[11]

(25) $[\![\text{NEG AT LEAST}_{C_1}[\text{Juan read the [first]}_{\text{F}}\text{ chapter}]]\!]^c =$

$$\lambda w : \lambda w'.\ \text{READ}_{w'}(\text{j}, 1^{\text{st}}\text{ ch.}) \rhd_c \left\{ \begin{array}{c} \lambda w'.\text{READ}_{w'}(\text{j}, 2^{\text{nd}}\text{ ch.}), \\ \lambda w'.\text{READ}_{w'}(\text{j}, 3^{\text{rd}}\text{ ch.}) \end{array} \right\} .\neg \left[\begin{array}{c} \text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \\ \vee \\ \text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \\ \vee \\ \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.}) \end{array} \right]$$

The alternatives to the prejacent of EVEN, in (26a-c), are now entailed by it. As a result, the presupposition of EVEN (that its prejacent is not the least likely alternative) can be satisfied. No pathological meaning is derived this time, correctly predicting that *siquiera* is not deviant in this case.

(26) a. $\lambda w.\neg[\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \vee \text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \vee \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})]$

b. $\lambda w.\neg[\text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \vee \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})]$

c. $\lambda w.\neg\text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})$

Besides predicting the availability of *siquiera* in downward entailing environments, this analysis correctly predicts the strengthening effect of *siquiera*, illustrated again in (27a-b) below. This is so because the local weakening of AT LEAST results in global strengthening. The first sentence in (27b) conveys that Juan did not read any chapter. It therefore contradicts the continuation. The proposition that Juan did not read any chapter is stronger than the proposition denoted by the counterpart of (27b) without *siquiera*, in (27a), which simply conveys that Juan did not read the first chapter.

(27) a. Pedro no leyó el primer capítulo pero leyó el segundo y el tercero.
Pedro NEG read:3SG the first chapter but read:3SG the second and the third
'Pedro didn't read the first chapter but read the second and the third.'

b. Pedro no leyó siquiera el [primer]$_{\text{F}}$ capítulo # pero leyó el segundo y el tercero.
Pedro NEG read:3SG SIQUIERA the first chapter, but read:3SG the second and the third
'Pedro didn't read any chapter, but read the second and the third.'

4 Two challenges

We have seen that the EVEN + Weak Associate analysis is successful in capturing the interpretation of *siquiera* in downward entailing contexts and the deviance of Iberian Spanish *siquiera* in positive episodic environments. Nevertheless, the analysis faces challenges when dealing with the behavior of *siquiera* in other upward entailing contexts, including the acceptability of Andean *siquiera* in positive episodic sentences. We review the first challenge in Section 4.1, and the second in Section 4.2.

4.1 For *siquiera*, the EVEN presupposition is too strong

In downward entailing contexts EVEN and AT LEAST together contribute presuppositions that can be jointly satisfied. In fact, in cases like (24), repeated below in (28), negation intervenes between

[11] We use the term 'prejacent' to refer both to the syntactic argument of a functional expression and to its semantic value.

AT LEAST and EVEN and the EVEN presupposition is undetectable, because it is entailed by the AT LEAST presupposition. To see this, recall that in (28) AT LEAST contributes the presupposition that (29a) is more likely than (29b) and (29c). (30a) is also necessarily more likely than (30b) and (30c). The scale reverses under negation: the negation of (30c) will be more likely than the negation of (30b) and (30a). The negation of (30a) is the prejacent of EVEN, so the EVEN presupposition is guaranteed to be satisfied if the AT LEAST presupposition is.

(28) a. Juan no leyó siquiera el $[\text{primer}]_F$ capítulo .
Juan NEG read:3SG SIQUIERA the first chapter
'Juan didn't even read the first chapter.'

b. LF: EVEN_{C_2} **NEG** AT LEAST$_{C_1}$ [Juan read the $[\text{first}]_F$ chapter]

(29) a. $\lambda w.\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.})$

b. $\lambda w.\text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.})$

c. $\lambda w.\text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})$

(30) a. $\lambda w.\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \vee \text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \vee \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})$

b. $\lambda w.\text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \vee \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})$

c. $\lambda w.\text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})$

This raises the question of whether the presupposition of EVEN can ever be detected in cases where *siquiera* is licensed. Alonso-Ovalle (2016) shows that when the presupposition of EVEN is detectable, it is too strong: it rules out *siquiera* sentences that should not be ruled out. For both Iberian and Andean Spanish, we can see that with the help of upward entailing environments such as the scope of modals and the nuclear scope of a universal quantifier. For reasons of space, we are only going to consider the second case.[12] Consider (31):

(31) a. Todos los estudiantes hablaron siquiera $[\text{una}]_F$ vez.
all the students spoke:3PL SIQUIERA one time
'Every student spoke AT LEAST once'

b. LF: EVEN_{C_3} every [student] [λ_1 AT LEAST$_{C_2}$ t_1 spoke $[\text{once}]_F$]

Assuming that the presupposition contributed by AT LEAST projects universally, in (31c) AT LEAST will contribute the presupposition that every student is more likely to speak once or more than only once. The EVEN presupposition requires the proposition that every student spoke once or more to be less likely than the proposition that every student spoke more than once. The sentence in (31) can nevertheless be uttered in a context where the students are shy and not expected to speak, and where, therefore, the EVEN presupposition fails.

Under the EVEN + Weak Associate analysis, the interpretation and distribution of concessive scalar particles is regulated by the interplay of the AT LEAST and EVEN presuppositions. We have just seen that there are reasons to believe that the predicted EVEN component cannot characterize the interpretation of *siquiera*, because it is too strong. The dialectal variation that we anticipated above casts doubts on the clash of presuppositions that rule out *siquiera* in positive unembedded sentences, since Andean Spanish is perfectly fine in those contexts. The data from Andean Spanish poses a challenge not just to Crnič's theory, but for those theories that are tailored to derive the ungrammaticality of concessive scalar particles in positive unembedded sentences.

[12] For modals, the reader is referred to Alonso-Ovalle 2016.

4.2 A new puzzle: Andean Spanish *siquiera*

The distribution of *siquiera* in Andean Spanish overlaps with that of *siquiera* in Iberian Spanish. Andean Spanish *siquiera* is licensed in downward entailing contexts, modal contexts, and questions, as illustrated in (32a-c).

(32) a. No intentó siquiera [gritar]$_F$. Ella nunca había emitido una palabra ...
NEG tried:3SG SIQUIERA scream:INF. She never had emitted:3SG a word ...
'She did not even try to scream. She had never said a word.'
(Rek, Centa (2002). *El árbol del paraíso*. Eva de la costilla. Santa Cruz de la Sierra, Bolivia. Banco de datos CORPES [online]. https://apps2.rae.es/CORPES/)

b. El periodista debe hacer todos los días siquiera [una media]$_F$ hora de gimnasia literaria ...
The journalist must do all the days SIQUIERA a half hour of exercises literary ...
'The journalist must do at least half an hour of literary gymnastics every day.'
(Suárex, Marco Fidel. *Sueños de Luciano Pulgar*, III 1923 Colombia. Banco de datos CORDE [online]. https://corpus.rae.es/cordenet.html)

c. ¿Quién [imagina]$_F$ siquiera lo que pasó con nosotros después de separarnos de Fernando en la quebrada del Churo?
who imagine:SC SIQUIERA it that passed:3sg with us after of split:INF.US of Fernando in the gully of.the Churo?
'Who even imagines what happened to us after leaving Fernando behind in the Churo's gully?'
(Siles del Valle, Juan Ignacio (2007) *Los últimos días del Che*. Barcelona: Debate, 2007. Banco de datos (CORPES) [online].https://apps2.rae.es/CORPES/

However, as anticipated above, Andean Spanish *siquiera* differs from Iberian Spanish *siquiera* in that it is also licensed in positive episodic sentences, as (33) shows.

(33) Siquiera el Barça ganó [la liga]$_F$
SIQUIERA the Barça won:3SG the League
'At least the Barça won the League.'
https://twitter.com/jorg3peralta/status/335519565209542656

The behavior of Andean Spanish *siquiera* in positive episodic environments is puzzling from the perspective of the description of concessive scalar particles presented in Crnič 2011a; b, but also in Giannakidou 2007, Alonso-Ovalle 2009 and Alonso-Ovalle 2016, since these analyses are tailored to capture the deviance of concessive scalar particles in that environment.

The challenge that (33) poses for the EVEN plus Weak Associate Analysis is this: in (33), there is no operator that could intervene between EVEN and AT LEAST, and in the absence of such operator, the presuppositions of these two morphemes should deliver contradictory presuppositions, rendering (33) deviant.

For (33) to be associated with non-contradictory presuppositions, we would have to assume that Andean Spanish *siquiera* is not decomposed into EVEN and AT LEAST, but that it perhaps corresponds to only one of these two morphemes. However, neither EVEN nor AT LEAST alone captures the interpretation of *siquiera* in Andean Spanish.

First, consider EVEN alone. The sentence in (33) can be uttered in a context where the Barça won the league but not a more difficult tournament, which the team would be less likely to win. In the LF in (34), EVEN will require that the Barça winning the National League be less likely than the

Barça winning any other contextually relevant tournament, so the EVEN presupposition wouldn't be satisfied in the type of context that we are considering, counter to fact.

(34) LF: EVEN_{C_1} [el Barça ganó [la Liga.]$_F$]

Consider now the potential LF of (33) in (35), where we only have AT LEAST. In (35), AT LEAST would trigger the presupposition that the Barça winning the National League is more likely than the Barça winning any of the other contextually relevant tournaments. This presupposition would allow (33) to be uttered in the context discussed above. However, AT LEAST weakens its prejacent, and predicts (35) to denote that the Barça won some tournament or other. This is consistent with the Barça not winning the National League, and, so (35) will fail to convey that the Barça won the National League. The discourse in (36), with the LF in (35) for its first sentence, is expected not to be deviant, contrary to fact.

(35) LF: AT LEAST_{C_1} [el Barça ganó [la Liga]$_F$]

(36) # Siquiera el Barça ganó la Liga pero no ganó la Liga.
SIQUIERA the barca won:3SG the League but NEG won:3SG the League
(Intended, but unavailable:) 'The Barça won a tournament, at least, but it didn't win the League.'

We conclude, then, with a puzzle. The behavior of *siquiera* in positive episodic sentences is puzzling not only if *siquiera* decomposes into EVEN and AT LEAST, but also if it corresponded to only one of these two morphemes.

In the next section we consider an alternative analysis of *siquiera* in Andean Spanish. We take as starting point an analysis of *siquiera* along the lines of that presented in Alonso-Ovalle 2016. We will see that a minimal extension of this analysis will cover the Andean Spanish data. We propose that in (contemporary) Iberian Spanish *siquiera* triggers 'symmetric' alternatives (alternatives whose disjunction is equivalent to the assertion (Schwarz 2016)), like other polarity elements do (Chierchia 2013), but that in Andean Spanish *siquiera* only triggers scalar alternatives, like other scalar non-polarity elements do. *Siquiera* shares a core assertive meaning in both varieties, while the variation concerns the type of alternatives that *siquiera* introduces in each variety.

5 An alternative-based analysis of Spanish *siquiera*

In this section we will lay out the analysis of Iberian Spanish *siquiera* presented in Alonso-Ovalle 2016. As in the EVEN plus Weak Associate analysis, this analysis explains the deviance of Iberian Spanish *siquiera* in positive episodic sentences by deriving a pathological meaning, in this case a contradiction. We will illustrate this point in Section 5.1. We will then see in Sections 5.2 and 5.3 that non-pathological meanings are derived in downward entailing environments and with necessity modals.

5.1 Positive episodic environments

In the analysis presented in Alonso-Ovalle 2016, *siquiera* is treated as a focus sensitive propositional operator which, like AT LEAST and EVEN in the EVEN plus Weak Associate analysis, weakens its prejacent. For illustration, we assume a two-tier system computing an ordinary meaning ($[\![\cdot]\!]^o$) and alternatives ($[\![\cdot]\!]^{alt}$) in tandem (Rooth 1985; Krifka et al. 1995; Chierchia 2013).

We start by considering (37a), together with the LF fragment in (37b).

(37) a. * Juan leyó siquiera el [primer]$_F$ capítulo .
Juan read:3SG SIQUIERA the first chapter

b. LF: siquiera$_{C_1}$ [Juan read the [first]$_F$ chapter] (fragment)

In (37b) *siquiera* takes a covert free variable ranging over sets of propositional alternatives, represented as a subscript C_1. Like we did before, we will use $\mathbf{C_n}$ for the value of C_n. We assume $\mathbf{C_n}$ is a subset of the focus semantic value of the prejacent of *siquiera*$_{C_n}$. *Siquiera*, like other concessive scalar particles, presupposes that the propositions in $\mathbf{C_n}$ are ranked in a contextually determined scale $\geq$, which we take to be a parameter of the interpretation function. We do not restrict the scale to be one necessarily representing the relative likehood of the alternatives. To illustrate, we will assume the set of alternatives and contextual scale in (38).

(38) a. $\mathbf{C}_1 = \left\{ \begin{array}{c} \lambda w.\ \text{READ}_w(\text{j}, 1^{\text{st}}\ \text{ch.}), \\ \lambda w.\ \text{READ}_w\ (\text{j}, 2^{\text{nd}}\ \text{ch.}), \\ \lambda w.\ \text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.}) \end{array} \right\}$

b. *Contextually determined scale* :
$\lambda w.\ \text{READ}_w(\text{j}, 1^{\text{st}}\ \text{ch.}) > \lambda w.\ \text{READ}_w(\text{j}, 2^{\text{nd}}\ \text{ch.}) > \lambda w.\ \text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.})$

At the ordinary meaning level, *siquiera* requires its propositional argument not to be ranked at the top of the contextually determined scale and, when this requirement is met, it weakens its argument by mapping it to the proposition that is true at a world w if its prejacent or a higher ranked alternative is true in w, as seen in (39). For now, we will illustrate the interpretation of *siquiera* with scales where the prejacent of *siquiera*$_{C_n}$ ranks at the bottom and mostly ignore the scalar presupposition until Section 7, where we briefly touch upon the nature of the scale.

(39) a. $[\![(37b)]\!]^{o,\geq}$ is defined iff $\exists p \in \mathbf{C_1}[p > \lambda w.\ \text{READ}_w(\text{j}, 1^{\text{st}}\ \text{ch.})]$

b. When defined, $[\![(37b)]\!]^{o} =$
$\lambda w.\ \text{READ}_w(\text{j}, 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w(\text{j}, 2^{\text{nd}}\ \text{ch.}) \vee \text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.})]$

Siquiera introduces two alternatives into the semantic derivation: its prejacent (the proposition that Juan read the 1st chapter, in this case) and the proposition that is true in a world w if at least one proposition ranked higher than the prejacent is true in w, as shown in (40).

(40) $[\![(37b)]\!]^{\text{alt}} = \left\{ \begin{array}{c} \lambda w.\ \text{READ}_w(\text{j}, 1^{\text{st}}\ \text{ch.}), \\ \lambda w.[\text{READ}_w(\text{j}, 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j}, 3^{\text{rd}}\ \text{ch.})] \end{array} \right\}$

As for other free choice items (Chierchia 2013), we assume that a covert exhaustivity operator O makes use of these alternatives. The complete LF for (37a) is (41):

(41) LF: O siquiera$_C$ [Juan read the [first]$_F$ chapter]

O strengthens its prejacent by excluding any of the alternatives to the prejacent that are not entailed by it, as in (42).[13]

(42) $[\![\text{O}(\text{S})]\!]^{o} = \lambda w.\ [\![\text{S}]\!]^{o}(w)\ \&\ \forall p \in [\![\text{S}]\!]^{\text{alt}}\ [\neg p(w) \vee [\![\text{S}]\!]^{o} \subseteq p]$

In the case at hand, the alternatives to the prejacent of O are *symmetric* (Schwarz 2016): their disjunction is equivalent to the prejacent, as shown in (43).[14]

(43) a. *Prejacent of O*:
$\lambda w.\text{READ}_w(\text{j},\ 1^{\ \text{st}}\ \text{ch.}) \vee\ [\text{READ}_w(\text{j},\ 2^{\ \text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\ \text{rd}}\ \text{ch.})]$
$\Leftrightarrow$

[13] We follow Chierchia (2013) in defining the exhaustification operator O in such a way that exhaustification can lead to a contradiction, under the assumption that the pathological meaning that O yields is behind the deviance of polarity items that are not licensed. This differs from the contradiction-free exhaustifier presented in Fox 2007.

[14] Notation: in our metalanguage, we use '$\cup$' for the extension of $\vee$ to expressions of type <s,t>. To make formulas easier to read, we will ignore the scalar presupposition conveying information about how the prejacent of *siquiera* is ranked with respect to its alternatives. We will also drop the interpretation function parameter $\geq$.

b. *Disjunction of alternatives to the prejacent of O*:
$\lambda w.\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \cup \lambda w.\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\text{ ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\text{ ch.})]$

In (41), the covert O accesses the alternatives in (40) and strengthens its propositional argument (43a) by excluding those alternatives that it does not entail, as seen in (44). Since the prejacent entails that one of the alternatives is true; the strengthening over these 'symmetric' alternatives derives a contradiction. This accounts for the deviance of *siquiera* in positive episodic sentences.[15]

(44) $\lambda w.\ [\![(43a)]\!]^{\text{o}}(w)\ \&\ \forall p \in (40)[\neg p(w) \vee [\![(43a)]\!]^{\text{o}} \subseteq p] =$
$\lambda w.\ \ \text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \vee\ \ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\text{ ch.}) \vee\ \ \text{READ}_w(\text{j},\ 3^{\text{rd}}\text{ ch.})] \wedge$
$\neg\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \wedge\ \neg\text{READ}_w(\text{j},\ 2^{\text{nd}}\text{ ch.}) \wedge \neg\text{READ}_w(\text{j},\ 3^{\text{rd}}\text{ ch.})$
$\Leftrightarrow\ \ \bot$

5.2 Downward entailing environments

In downward entailing contexts, we assume that *siquiera* takes scope under negation, as in (45). Negation combines pointwise with the alternatives introduced by *siquiera* in (47) resulting in the set of alternatives in (48).

(45) a. Juan no leyó el [primer]$_{\text{F}}$ capítulo .
b. LF: O NEG siquiera$_C$ [Juan read the [first]$_{\text{F}}$ chapter]

(46) $[\![\text{siquiera}_C\ \text{[Juan read the [first]}_{\text{F}}\ \text{chapter]}]\!]^{\text{o}} =$
$\lambda w.\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \vee \text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \vee\ \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})$

(47) $[\![\text{siquiera}_C\ \text{[Juan read the [first]}_{\text{F}}\ \text{chapter]}]\!]^{\text{alt}} =$
$\left\{ \begin{array}{c} \lambda w.\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}), \\ \lambda w.\ [\text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \vee\ \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})] \end{array} \right\}$

(48) $[\![\text{NEG siquiera}_C\ \text{[Juan read the [first]}_{\text{F}}\ \text{chapter]}]\!]^{\text{alt}} =$
$\left\{ \begin{array}{c} \lambda w.\neg[\text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.})], \\ \lambda w.\ \neg[\text{READ}_w(\text{j}, 2^{\text{nd}}\text{ ch.}) \vee\ \text{READ}_w(\text{j}, 3^{\text{rd}}\text{ ch.})] \end{array} \right\}$

Negation breaks the symmetry of the alternatives. The prejacent of O, in (49a), is not equivalent to the disjunction of its alternatives, in (49b). All alternatives are weaker than the prejacent of O, and so is its disjunction. The prejacent of O can only be true if both the prejacent of *siquiera* and all its alternatives are false in w (i.e. it is true if Juan did not read any chapter) while the union of the alternatives to the prejacent of O can be true when only the prejacent of *siquiera* or only its alternatives are false.

(49) a. *Prejacent of* O:
$\lambda w.\neg\ \text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.}) \wedge\ \neg\ \text{READ}_w(\text{j},\ 2^{\text{nd}}\text{ ch.}) \wedge \neg\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\text{ ch.})$
$\Rightarrow\ \ \not\Leftarrow$
b. *Disjunction of alternatives to the prejacent of* O:
$[\lambda w.\ \neg\ \text{READ}_w(\text{j}, 1^{\text{st}}\text{ ch.})] \cup\ [\lambda w.\ \neg[\text{READ}_w(\text{j},\ 2^{\text{nd}}\text{ ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\text{ ch.})]]$

Since the prejacent of O in (45b) entails its alternatives, the strengthening operator O applies vacuously, as shown in (50).

(50) $[\![(45b)]\!]^{\text{o}} =$
$\lambda w.\ (49a)(w) \wedge \forall p\ \in\ (48)[\neg p(w) \vee (49a) \subseteq p] =$
$\lambda w.\neg\ \text{READ}_w\ (\text{j}, 1^{\text{st}}\text{ ch.}) \wedge \neg\ \text{READ}_w(\text{j},\ 2^{\text{nd}}\text{ ch.}) \wedge \neg\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\text{ ch.})$

[15] As mentioned above, for the sake of readability, we ignore the scalar presupposition of *siquiera*.

Again, the weakening induced by *siquiera* results in overall strengthening as illustrated in (51a-b). In the absence of *siquiera* (51a), the sentence allows a higher alternative to be true while the sentence containing *siquiera* (51b) does not since it implies that the hearer did not read any chapter.

(51) a. Pedro no leyó el primer capítulo pero leyó el segundo y el tercero.
Pedro NEG read:3SG the first chapter but read:3SG the second and the third
'Pedro didn't read the first chapter but read the second and the third.'

b. Pedro no leyó siquiera el [primer]$_F$ capítulo # pero leyó el segundo y el tercero.
Pedro NEG read:3SG SIQUIERA the first chapter but read:3SG the second and the third
'Pedro didn't read the first chapter #but read the second and the third.'

5.3 Modal environments

As discussed above, *siquiera* conveys a 'settle for less' effect with necessity modals. For instance, the sentence in (52), featuring *siquiera* and a necessity modal, can be appropriately uttered in a scenario where the speaker wants the hearer to go to the pool more often than once per week, but he knows that the hearer might not do so. In that scenario, the speaker can utter (52) to convey that the hearer can, but need not, go to the pool only once a week.

(52) Tienes que ir a la piscina siquiera [una]$_F$ vez por semana.
have-to:2SG that go:INF to the pool SIQUIERA one time per week
'You have to go to the pool at least once per week.'

Let us consider what happens when *siquiera* scopes below the modal operator, as in (53b).

(53) a. Juan tiene que leer siquiera el [primer]$_F$ capítulo .
Juan have-to:3SG that read:INF SIQUIERA the first chapter
'Juan has to read at least the first chapter.'

b. LF: □ siquiera$_C$[Juan read the [first]$_F$ chapter] (fragment)

In the ordinary meaning dimension, *siquiera* weakens its argument by mapping it to the proposition that is true at a world w if its prejacent or a higher ranked alternative is true in w, in this case the proposition that Juan reads at least one of the three contextually relevant chapters, as seen in (54).

(54) $[\![(47)]\!]^o = \lambda w.\ \text{READ}_w$ (j, 1st ch.) $\vee$ [READ_w(j, 2nd ch.) $\vee$ READ_w (j, 3rd ch.)]

The alternatives introduced by *siquiera* grow pointwise with the necessity modal, resulting in the set of alternatives in (55).

(55) [[have to siquiera$_C$ [Juan read the [first]$_F$ chapter]]]^{alt}=

$$\left\{ \begin{array}{c} \lambda w.\ \Box\ \text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}), \\ \lambda w.\ \Box\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j}\ \ 3^{\text{rd}}\ \text{ch.})] \end{array} \right\}$$

Notice that, just like negation, the modal breaks the symmetry of the alternatives introduced by *siquiera*. Consider the LF in (56). The prejacent of O (in (57a)) is not equivalent to the disjunction of its alternatives, in (57b). The disjunction of the alternatives in fact asymmetrically entails the prejacent: while the proposition expressed by the prejacent is true in a model like the one in (58) below, the disjunction of the alternatives is not.

(56) LF: O □ siquiera$_C$[Juan read the [first]$_F$ chapter]

(57) a. *Prejacent of* O:
$\lambda w.\ \Box\ [\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee \text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$
$\Leftarrow$
b. *Disjunction of the alternatives to the prejacent of* O:
$[\lambda w.\ \Box\ \text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.})] \cup\ [\lambda w.\ \Box\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})]]$

(58)

	permitted worlds
w_1:	Juan reads the 1st chapter and no other chapter
w_2:	Juan reads the 2nd chapter and no other chapter
w_3:	Juan reads the 3rd chapter and no other chapter

Without symmetric alternatives, the strengthening operator O yields the proposition in (59). Since this proposition does not entail the union of its alternatives, the strengthening operator O does not give rise to a contradiction. The proposition in (59) entails that the addressee can read only the first chapter, thus capturing the 'settle for less' effect.

(59) $[\![(56)]\!]^{\text{o}} =$
$\lambda w.\ \Box\ [\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})] \wedge$
$\neg\Box\ [\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.})] \wedge\ \neg\Box\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

Consider now what happens when *siquiera* co-occurs with a possibility modal, as in (60). In Iberian Spanish (60) is infelicitous.

(60) # Juan puede leer siquiera el [primer]$_{\text{F}}$ capítulo .
Juan can read:INF SIQUIERA the first chapter

The infelicity of (60) is expected under the present analysis. To see why, we will assume that *siquiera* scopes below the possibility modal. As we have seen before, *siquiera* weakens its prejacent. This is shown below:

(61) a. LF: $^{\text{IS}}\text{siquiera}_C$ [Juan read the [first]$_{\text{F}}$ chapter] (fragment)
b. $[\![(60b)]\!]^{\text{o}} =$
$\lambda w.\ \text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

The alternatives grow up pointwise with the possibility modal, as seen in (62).

(62) LF: $[\![\text{can}\ ^{\text{IS}}\text{siquiera}_C\ [\text{Juan read the [first]}_{\text{F}}\ \text{chapter}]]\!]^{\text{alt}} =$
$\{\lambda w.\ \Diamond\ \text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}), \lambda w.\ \Diamond\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]\}$

This time, the modal does not break the symmetry of the alternatives. The prejacent of O, in (64a), entails (and it is in fact equivalent to) (64c), the union of the alternatives in (64b). If (64a) is true, then there is a permitted world where at least one of the alternatives is true and, thus, the union of the alternatives, in (64c), is also true. Likewise, if either of the alternatives in (64b) is true, the prejacent of O is too.

(63) LF: O $\Diamond\ ^{\text{IS}}\text{siquiera}_C$[Juan read the [first]$_{\text{F}}$ chapter]

(64) a. *Prejacent of* O:
$\lambda w.\ \Diamond\ [\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee \text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$
b. *Alternatives to the prejacent of O* :
$\{\lambda w.\ \Diamond\ \text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}), \lambda w.\ \Diamond\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]\}$
c. $\lambda w.\ \Diamond\ \text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \cup \lambda w.\ \Diamond\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

Since the symmetry of the alternatives is not broken, when the strengthening operator O applies, it derives a contradiction, as seen below:

(65) $[\![(57)]\!]^{o} =$
$\lambda w.\ \Diamond\,[\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})] \wedge$
$\neg\,\Diamond\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \wedge \neg\Diamond[\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})]$
$\Leftrightarrow \bot$

To summarize: up to this point, we have shown how the Alternative-based Analysis captures the behavior of Iberian Spanish *siquiera*, in particular its deviance in positive episodic contexts and its interpretation in DE and modal contexts.[16]

Next, we will get back to the Andean Spanish data. We will see that a small modification of the analysis extends easily to cover those data.

6 The alternative-based analysis and *siquiera* in Andean Spanish

We will start by presenting in Section 6.1 an analysis of Andean Spanish *siquiera* under which the only difference with Iberian Spanish *siquiera* is the type of alternatives that this item introduces. We will then see in Section 6.2 that this analysis predicts no difference between Iberian Spanish and Andean Spanish *siquiera* in downward entailing contexts. Section 6.3 shows that no significant difference is predicted with necessity modals either, but that a difference is predicted with possibility modals, in line with the data. Finally, Section 6.4 shows that no pathological meaning is derived in positive episodic sentences, thus predicting the contrast between Iberian Spanish and Andean Spanish in this environment. Section 6.5 concludes.

6.1 A scalar alternative

Recall that in both Iberian and Andean Spanish, *siquiera* is licensed in downward entailing and in upward entailing (modal) environments, where it has a strengthening effect, and a 'settle for less' effect with necessity modals, respectively. We have also seen that Andean Spanish contrasts with Iberian Spanish in that *siquiera* can also appear in positive episodic environments in that variety. We will propose that the difference between Iberian and Andean Spanish does not rely on the assertive component of *siquiera*, which is identical, but on the types of alternatives that *siquiera* introduces.

We will assume that in Andean Spanish, *siquiera* does not introduce two alternatives, but only one, namely the alternative that conveys that at least one proposition ranking higher than the prejacent is true, which we will refer to as the 'more than p' alternative or 'scalar' alternative. This is shown in (68).

(66) LF: $^{\text{AS}}\text{siquiera}_{C_1}$ [Juan read the [first]$_{\text{F}}$ chapter] (fragment)

(67) When defined, $[\![(66)]\!]^{o} =$
$\lambda w.\ \text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

(68) $[\![(66)]\!]^{\text{alt}} = \{\lambda w.\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]\}$

We will start by seeing that this assumption does not affect the distribution or interpretation of Andean Spanish *siquiera* in downward entailing contexts.

[16] For an extension of this analysis to questions, see Alonso-Ovalle 2016.

6.2 Downward entailing environments

The proposition denoted by (69b) is in (70), and its alternative in the singleton set in (71).

(69) a. Juan no leyó siquiera el primer capítulo .
Juan not read SIQUIERA the first chapter
'Juan did not even read the first chapter.'
b. LF: NEG ^{AS}siquiera$_C$ [Juan read the [first]$_F$ chapter] (fragment)

(70) When defined, $[\![(69b)]\!]^o =$
$\lambda w.\ \neg$ READ$_w$ (j, 1st ch.) $\wedge\ \neg$ READ$_w$ (j, 2nd ch.) $\wedge\ \neg$ READ$_w$ (j, 3rd ch.)

(71) $\{\lambda w.\ \neg$ READ$_w$ (j, 2nd ch.) $\wedge\ \neg$ READ$_w$ (j, 3rd ch.)$\}$

The alternative in (71) is asymmetrically entailed by the proposition in (70). The proposition in (70) is true if Juan didn't read any of the contextually relevant chapters, while the alternative is true when Juan didn't read the second or the third. As before, O applies vacuously, returning the meaning of its prejacent. In a downward entailing context like this one, the weakening induced by *siquiera* turns into overall strengthening, as we saw before, thus capturing the strengthening effect that *siquiera* has in both; Iberian and Andean Spanish.

(72) LF: O NEG ^{AS} siquiera$_C$ [Juan read the [first]$_F$ chapter]

(73) When defined, $[\![(72)]\!]^o =$
$\lambda w.\ \neg$ READ$_w$ (j, 1st ch.) $\wedge\ \neg$ (j, 2nd ch.) $\wedge\ \neg$ (j, 3rd ch.)

Let us consider now what happens in modal contexts.

6.3 Modal environments

When a necessity modal intervenes between O and *siquiera*, as in (74), the ordinary meaning is again identical to the one obtained for *siquiera* in Iberian Spanish with a necessity modal, as seen in (75): the proposition expressed by the LF fragment in (74b) conveys that Juan has to read at least one of the contextually relevant chapters contextually ranked higher than the first chapter.

(74) a. Juan tiene que leer siquiera el [primer]$_F$ capítulo .
Juan have-to read SIQUIERA the first chapter
'Juan has to read at least the first chapter.'
b. LF: $\Box$ ^{AS}siquiera$_C$ [Juan read the [first]$_F$ chapter] (fragment)

(75) $[\![(74b)]\!]^o =$
$\lambda w.\ \Box$ [READ$_w$ (j, 1st ch.) $\vee$ [READ$_w$ (j, 2nd ch.) $\vee$ READ$_w$ (j, 3rd ch.)]]

The alternative introduced by *siquiera* combines pointwise with the necessity modal to derive the singleton set of alternatives in (76), which contains the proposition that Juan has to read the second or third chapters.

(76) LF: $[\![$have to siquiera$_C$ [Juan read [first]$_F$ chapter]$]\!]^{alt} =$
$\{\lambda w.\ \Box$ [READ$_w$ (j, 2nd ch.) $\vee$ READ$_w$ (j, 3rd ch.)]$\}$

As was the case with downward entailing environments, the alternative to the prejacent of O in the LF in (77), asymmetrically entails the prejacent of O, as seen below.

(77) LF: O $\Box$ ^{AS}siquiera$_C$ [Juan read the [first]$_F$ chapter]

(78) a. *Prejacent of O*:
$\lambda w.\ \Box\ [\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$
$\Leftarrow$

b. *Alternative to the prejacent of O*:
$\lambda w.\ \Box\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

When the strengthening operator O applies over the modal and its prejacent we obtain the proposition in (79), which conveys that Juan has to read a chapter but does not have to read the second or the third. This proposition captures the 'settle for less' effect in that, as it was the case for Iberian Spanish, it entails that Juan can read only the first chapter.

(79) $[\![(77)]\!]^{\text{o}} =$
$\lambda w.\ \Box\ [\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})] \wedge$
$\neg\ \Box\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

Let's move now to the possibility modal contexts. Recall that in Iberian Spanish, *siquiera* is infelicitous in such a context. In our analysis, this corresponds to the derivation of a pathological meaning, a contradiction. In Andean Spanish, *siquiera* is felicitous with possibility modals. The example in (80) provides an illustration.

(80) Juan puede leer siquiera el [primer]$_{\text{F}}$ capítulo, (todavía es posible)
Juan can read:INF SIQUIERA the first chapter still is:3SG possible
'Juan can read at least the first chapter.' (It is still possible)

The sentence in (80) conveys that Juan cannot read more than the first chapter but that he can read the first. This interpretation is predicted under our current assumptions. To see that, consider the LF in (81), with *siquiera* scoping under the possibility modal:

(81) LF: O $\Diamond$ $^{\text{AS}}$siquiera$_C$ [Juan read the [first]$_{\text{F}}$ chapter]

The prejacent of O expresses the proposition in (82), which conveys that Juan is allowed to read a chapter. The alternative to the prejacent is the proposition in the set in (83), which conveys that he can read the second or the third.

(82) $\lambda w.\Diamond[\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]]$

(83) $\{\lambda w.\ \Diamond\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]\}$

As illustrated below, the alternative asymmetrically entails the prejacent. Consequently, when the strengthening operator O applies, no contradiction is derived. The strengthened meaning conveys that Juan is permitted to read the first chapter, but not permitted to read the second or third, as illustrated in (85).

(84) a. *Prejacent of* O:
$\lambda w.\Diamond[\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]]$
$\Leftarrow$

b. *Alternative to the prejacent of* O:
$\lambda w.\ \Diamond\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

(85) $[\![(81)]\!]^{\text{o}} =$
$\lambda w.\Diamond[\text{READ}_w\ (\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]] \wedge$
$\neg\ \Diamond[\text{READ}_w\ (\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w\ (\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

We then derive the contrast between Iberian Spanish and Andean Spanish with respect to the interpretation of sentences with possibility modals.

To conclude this subsection, we should add a note about the interpretation of Andean Spanish with necessity modals, in particular, about the extent to which the interpretation of sentences containing *siquiera* and necessity modals overlaps between Andean Spanish and Iberian Spanish.

In sentences with necessity modals, we have seen that we correctly expect a 'settle for less' effect in both varieties. Yet, the attentive reader will have realized that the meaning that we predict for Andean Spanish *siquiera* in sentences with necessity modals, while conveying a 'settle for less' effect, is weaker than the one that we predict for Iberian Spanish. To illustrate, consider (77) and (79), repeated below as (86) and (87):

(86) LF: O $\Box$ ^{AS}siquiera$_C$ [Juan read the [first]$_F$ chapter]

(87) $[\![(86)]\!]^o =$
$\lambda w.\ \Box\ [\text{READ}_w\ (j,\ 1^{st}\ ch.) \vee \text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \text{READ}_w\ (j,\ 3^{rd}\ ch.)]$
$\wedge\ \neg\ \Box\ [\text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \text{READ}_w\ (j,\ 3^{rd}\ ch.)]$

While (87) does not entail that Juan is required to read the first chapter, it is nevertheless *compatible* with that possibility. The predicted meaning in Iberian Spanish, repeated in (88) below, explicitly excludes that Juan is required to read the first chapter.

(88) $\lambda w.\ \Box\ [\text{READ}_w\ (j,\ 1^{st}\ ch.) \vee \text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \text{READ}_w\ (j,\ 3^{rd}\ ch.)]$
$\wedge\ \neg\ \Box\ \text{READ}_w\ (j,\ 1^{nd}\ ch.) \wedge \neg\ \Box\ [\text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \text{READ}_w\ (j,\ 3^{rd}\ ch.)]$

We will assume that a further pragmatic strengthening can be invoked to exclude the possibility that Juan is required to read the first chapter. We assume that *siquiera* can take either wide or narrow scope with respect to the necessity modal. When it takes wide scope, we derive the interpretation in (89b) below, which conveys that Juan has to read the first chapter, but doesn't have to read the second or third.

(89) a. LF: O ^{AS}siquiera$_C$ $\Box$ [Juan read the [first]$_F$ chapter]

b. $\lambda w.\ [\Box\ \text{READ}_w\ (j,\ 1^{st}\ ch.) \vee \Box\ \text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \Box\ \text{READ}_w\ (j,\ 3^{rd}\ ch.)] \wedge$
$\neg\ [\Box\ \text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \Box\ \text{READ}_w\ (j,\ 3^{rd}\ ch.)] \Leftrightarrow$
$\lambda w.\Box\ \text{READ}_w\ (j,\ 1^{st}\ ch.) \wedge \neg\ \Box\ \text{READ}_w\ (j,\ 2^{nd}\ ch.) \wedge \neg\ \Box\ \text{READ}_w\ (j,\ 3^{rd}\ ch.)$

This interpretation is naturally expressed by the counterpart of (89a) in (90), without *siquiera*, with an exhaustive interpretation for focus. We then expect manner considerations to favor (90) over (89a) to express this meaning, and assume that, upon hearing (91), hearers can exclude (89b), since that meaning would have been expressed by (90) when focus is read exhaustively.

(90) LF: $\Box$ [Juan read the [first]$_F$ chapter]

(91) Juan tiene que leer siquiera el [primer]$_F$ capítulo .
Juan have-to read:INF SIQUIERA the first chapter
'Juan has to read at least the first chapter.'

We strengthen the meaning in (79), repeated below in (92), by assuming that (93) is true. The second conjunct in (87) entails that the consequent in (93) is false, and, so, since we assume that (87) is true, the antecedent in (93) must be false, excluding that Juan is required to read the first chapter.

(92) $\lambda w.\ \Box\ [\text{READ}_w\ (j,\ 1^{st}\ ch.) \vee \text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \text{READ}_w\ (j,\ 3^{rd}\ ch.)] \wedge$
$\neg\ \Box\ [\text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \text{READ}_w\ (j,\ 3^{rd}\ ch.)]$

(93) $\lambda w.\neg[\Box\ \text{READ}_w\ (j,\ 1^{st}\ ch.) \wedge \neg\ \Box\ \text{READ}_w\ (j,\ 2^{nd}\ ch.) \wedge \neg\ \Box\ \text{READ}_w\ (j,\ 3^{rd}\ ch.)]$
$\Leftrightarrow$
$\lambda w.\Box\ \text{READ}_w\ (j,\ 1^{st}\ ch.) \rightarrow [\Box\ \text{READ}_w\ (j,\ 2^{nd}\ ch.) \vee \Box\ \text{READ}_w\ (j,\ 3^{rd}\ ch.)]$

With this comment, we turn next to the main difference between *siquiera* in Iberian Spanish and Andean Spanish: its behavior in positive episodic sentences.

6.4 Positive episodic contexts

Given the nature of the alternative that we assume *siquiera* introduces in Andean Spanish, we do not expect the meaning of positive episodic sentences containing this item to be contradictory. Let's illustrate this.

In (94) *siquiera* weakens its argument, as previously shown, by mapping it to the proposition that is true at a world w if its prejacent or a higher ranked alternative is true in w (95). The alternative to the LF fragment in (94b) is the proposition in the set in (96).

(94) a. Juan leyó siquiera el [primer]$_F$ capítulo .
Juan read:3SG SIQUIERA the first chapter
'Juan read at least the first chapter.'

b. LF: ^{AS}siquiera$_C$ [Juan read the [first]$_F$ chapter]

(95) When defined, $[\![(94)]\!]^o =$
λw READ$_w$ (j, 1st ch.) $\vee$ [READ$_w$ (j, 2nd ch.) $\vee$ READ$_w$ (j, 3rd ch.)]

(96) $\{\lambda w$ [READ$_w$ (j, 2nd ch.) $\vee$ READ$_w$ (j, 3rd ch.)]$\}$

As in the previous case, the alternative to the prejacent of O in (97) asymmetrically entails it.

(97) LF: O ^{AS}siquiera$_C$ [Juan read the [first]$_F$ chapter]

(98) a. *Prejacent of* O:
λw.READ$_w$ (j, 1st ch.) $\vee$ [READ$_w$ (j, 2nd ch.) $\vee$ READ$_w$ (j, 3rd ch.)]
$\Leftarrow$

b. *Alternative to the prejacent of* O:
λw. [READ$_w$ (j, 2nd ch.) $\vee$ READ$_w$ (j, 3rd ch.)]

The covert exhaustivity operator O strengthens its propositional argument by excluding the alternative, as shown in (99). The resulting meaning conveys that Juan read the first chapter, but that he didn't read the second or the third.

(99) λw. READ$_w$(j, 1st ch.) $\vee$ [READ$_w$(j, 2nd ch.) $\vee$ READ$_w$(j, 3rd ch.)]
$\wedge$ [$\neg$ READ$_w$(j, 2nd ch.) $\wedge$ $\neg$ READ$_w$(j, 3rd ch.)]

In cases where the higher alternatives would have been preferred, this derives a 'concessive effect' in keeping with the intuitions—that the speaker would have preferred for Juan to have read the second or third chapter but that he read the first one only.

6.5 Summary

We have provided a natural extension of the Alternative-based Analysis of *siquiera* that derives the behavior of this item in Andean Spanish. We explained the grammaticality of Andean Spanish *siquiera* in negative and modal contexts and derived its interpretation, which is similar to the interpretation of Iberian Spanish *siquiera* in those environments. The type of alternative that *siquiera* introduces in Andean Spanish explains its grammaticality in positive episodic sentences, where it contrasts sharply with its counterpart in Iberian Spanish.

The analysis that we have presented remains silent about the type of alternative ranking that is invoked. We will not have much to say about this issue on this paper, but, before concluding, we want to add a few remarks on the topic in the next section.

7 The scale of *siquiera*

An issue that our analysis has not attended to is the nature of the propositional ranking that *siquiera* invokes. In this section, we would like to briefly comment on the nature of that scale.

Let us get started by summarizing in a few words what we have said about the interpretation of Andean Spanish *siquiera* in positive episodic sentences: the sentence in (94), repeated below, conveys that Juan only read the first chapter. This falls from the predicted exhaustification, as seen in (100c):

(100) a. Juan leyó siquiera el [primer]$_F$ capítulo .
Juan read:3SG SIQUIERA the first chapter
'Juan read at least the first chapter.'

b. LF: O ^{AS}siquiera$_C$ [Juan read the [first]$_F$ chapter]

c. $[\![(100b)]\!] =$
$\lambda w.$ READ$_w$ (j, 1st ch.) $\vee$ [READ$_w$(j, 2nd ch.) $\vee$ READ$_w$(j, 3rd ch.)] $\wedge$
[$\neg$ READ$_w$ (j, 2nd ch.) $\wedge$ $\neg$ READ$_w$ (j, 3rd ch.)]

When commenting on the perceived interpretation, we added that in cases where the alternatives are contextually ranked in terms of speaker preferences, (100) conveys that Juan reading a higher chapter would have been preferred.

In positive episodic environments, Andean Spanish *siquiera* is naturally associated with a 'concessive interpretation', which conveys that the prejacent is less preferred than other alternatives but it is not the least preferred option. Consider, for instance, the naturally occurring example in (101):

(101) Siquiera Messi fue a [Medellín]$_F$, para que vea lo que es una
SIQUIERA Messi went:3SG to Medellín so that see:SUBJ.3SG CL that is an
chimba de ciudad.
amazing of city
'At least Messi went to Medellín to see what an amazing city it is.'
https://twitter.com/andresgom/status/350786800068984833

By uttering (101), the speaker conveys i) that she would have preferred Messi having gone to other Colombian cities (presumably because they are more amazing than Medellín for her), and ii) that Messi going to other cities would have been even worse for the speaker (presumably because they are less amazing than Medellín for her.)

We have been assuming that at the ordinary meaning level *siquiera* weakens its argument by mapping it to the proposition that is true at a world w if its prejacent or a higher ranked alternative is true in w. On top of that, we have assumed that *siquiera* conveys a scalar presupposition, which we have mostly ignored. We have assumed that the scalar presupposition of *siquiera* requires its prejacent not to be ranked at the top of the contextually determined scale. Cases where the prejacent of *siquiera* is the highest alternative are indeed clearly deviant. For instance, if there are only three chapters that Juan could have read and the speaker would have preferred Juan to read the third over the second or first, (102) is perceived to be deviant.

(102) # Juan leyó siquiera el [tercer]$_F$ capítulo .
Juan read:3SG SIQUIERA the third chapter
'Juan read at least the third chapter.'

The deviance of cases like (102) can be captured by letting *siquiera* impose the requirement that its prejacent be the lowest ranked proposition in the scale (Crnič 2011a; b; Alonso-Ovalle 2016) or by a weaker requirement that it is not the highest ranked, as we have assumed. In the examples that we used, the prejacent of *siquiera* was naturally understood as the lowest proposition in the set of

alternatives. This is consistent with the first option. The 'concessive' interpretation in cases like (101), which indicates that a lower alternative than the prejacent exists, suggests that the weaker requirement is more appropriate.

Nakanishi & Rullmann (2009) claim that there are two types of *at least* in English: epistemic *at least* and concessive *at least*. Concessive *at least* invokes a scale of speaker preferences and requires that there be alternatives ranked over and *under* the prejacent. If *siquiera* simply conveys that its prejacent is not highest ranked, its interpretation would be consistent with the existence of alternatives that rank lower than the prejacent.

Given the natural concessive interpretation of *siquiera* in Andean Spanish, a question remains: do we want *siquiera* to impose the requirement that its alternatives be ranked with respect to the preferences of the speaker?

We believe that the answer is no: we want *siquiera* to be merely *consistent* with the use of speaker preference rankings (which, in many contexts, would be the most natural type of ranking.) The argument for this view comes from the interpretation of *siquiera* in downward entailing environments. Consider, for instance, the example in (103a), which we assume has the LF in (103b), where *siquiera* scopes under negation:

(103) a. María no me engañó siquiera [una]$_F$ vez.
María not me cheated:3SG SIQUIERA one time
'María did not cheat on me even once.'

b. NEG [siquiera$_C$ [María me engañó [una]$_F$ vez]]

Consider now the two scenarios in (104):

(104) a. *Masochistic Juan*. Juan and María are a couple. Juan likes his partners to cheat on him, the more the better.

b. *Loyal María*. Juan and María are a loyal couple. Neither of them has ever cheated on the other. Juan would not have liked María to cheat on him.

The sentence in (103a) can be used by Juan in either scenario: in (104a), Juan would use (103a) to indicate (i) that María has never cheated on him, and (ii) that he would have preferred María to cheat on him; in (104b) Juan could use (103a) to simply convey that María never cheated on him.

Suppose that *siquiera* encoded a requirement that the alternatives to its prejacent be ordered on a speaker preference scale. The fact that (103a) can be used in the context in (104a) would be expected: *siquiera* would presuppose that Juan would prefer María cheating on him more than once, and that presupposition would project over negation. But that would be too restrictive: the fact that (103a) can be used in the context in (104b), where Juan would not have preferred María to cheat on him twice or more than once, would not be expected.

Siquiera needs to be more flexible in the types of scales that it invokes. The data that we have discussed is expected on the assumption that the alternatives that *siquiera* invokes are ordered based on likelihood (with the alternatives higher than the prejacent being less likely). Concessive-like interpretations could be derived from scales where the less likely alternatives happen to be more preferred. We leave the investigation of whether more restrictive requirements on the ranking are needed to later work.

With this observation, we finish the presentation of our analysis. We will conclude the paper by discussing and arguing against an alternative analysis in the next section.

8 An alternative analysis?

We have proposed that cross-dialectal differences between concessive scalar particles can be actually reduced to lexically encoded information about the types of alternatives that these items

contribute to the semantic derivation. In doing so, the analysis that we endorsed falls within the spirit of recent proposals that reduce differences across languages or items to a small number of parameters of variation (see, for instance, Krifka 1991, Krifka 1995 and, for a more recent and full-fledged proposal, Chierchia 2013.)

In the theory of polarity items presented in Chierchia 2013, polarity items can differ with respect to the types of alternatives that they introduce, like we proposed Iberian Spanish and Andean Spanish *siquiera* do. They can also differ along other dimensions. For instance, under Chierchia's analysis, universal and existential free choice items differ with respect to their scopal behavior: universal free choice items like English *any* take obligatory scope over modal operators, while existential free choice items, like German *irgendein* or Spanish *algún* do not.

A question emerges: could we derive the difference between Iberian Spanish *siquiera* and Andean Spanish *siquiera* as a matter of scope?[17]

The fact that Iberian Spanish *siquiera* is ungrammatical in positive episodic sentences but Andean Spanish is not could, under certain assumptions, be attributed to the same type of scopal difference that underlies the difference between universal and existential free choice items in Chierchia's theory. In what follows, we will consider this possibility and argue against it.

Consider the LF in (41), repeated in (105) below, which corresponds to a positive episodic sentence containing Iberian Spanish *siquiera*.

(105) LF: O $^{\text{IS}}$siquiera$_C$ [Juan read the [first]$_{\text{F}}$ chapter]

In (105) the prejacent of O denotes the proposition in (106a) and contributes the stronger alternatives in (106b) and (106c). As we have seen before, these alternatives are symmetric (their disjunction is equivalent to the prejacent of O), so negating both of them amounts to negating the prejacent of O, which derives a contradiction, as (107) shows. The obligatory derivation of a contradiction is, in our view, behind the ungrammaticality of Iberian Spanish *siquiera* in positive episodic sentences.

(106) a. $\lambda w.\ \text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

b. $\lambda w.\ \text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.})$

c. $\lambda w.\ \text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})$

(107) $\lambda w.\ \text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})] \wedge$
$\neg\text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.}) \wedge\ \neg\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \wedge \neg\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})$
$\Leftrightarrow \bot$

We have also seen that a necessity modal intervening between O and *siquiera* breaks the symmetry of the alternatives and, therefore, avoids the derivation of a contradiction. In the LF in (108), the prejacent of O, in (109a), is not equivalent to the disjunction of its alternatives, and, so, the LF in (108) denotes a contingent proposition, in (110).

(108) LF: O $\Box$ $^{\text{IS}}$siquiera$_C$ [Juan read the [first]$_{\text{F}}$ chapter]

(109) a. $\lambda w.\ \Box\ [\text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})]]$

b. $\lambda w.\ \Box\ \text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.})$

c. $\lambda w.\ \Box\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

(110) $\lambda w.\ \Box[\text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.}) \vee\ [\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee\ \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})]] \wedge$
$\neg\Box\text{READ}_w(\text{j},\ 1^{\text{st}}\ \text{ch.}) \wedge\ \neg\Box[\text{READ}_w(\text{j},\ 2^{\text{nd}}\ \text{ch.}) \vee \text{READ}_w(\text{j},\ 3^{\text{rd}}\ \text{ch.})]$

Scoping *siquiera* over the modal preserves the symmetry of the alternatives. While the alternatives are the same, the prejacent of O in the LF in (111) is now stronger and, in fact, equivalent to the disjunction of the alternatives. As a result, (111) denotes a contradiction.

[17] Thanks to an anonymous reviewers for making us entertain this possibility.

(111) LF: O ^{IS}siquiera$_C$ □ [Juan read the [first]$_F$ chapter]

(112) a. $\lambda w.$ □ [READ$_w$(j, 1 st ch.)] ∨ □[READ$_w$(j, 2 nd ch.) ∨ READ$_w$(j, 3 rd ch.)]]
b. $\lambda w.$ □ READ$_w$(j, 1 st ch.)
c. $\lambda w.$ □ [READ$_w$(j, 2 nd ch.) ∨ READ$_w$(j, 3 rd ch.)]

(113) $\lambda w.$ □[READ$_w$(j, 1 st ch.)] ∨ □[READ$_w$(j, 2 nd ch.) ∨ READ$_w$(j, 3 rd ch.)]] ∧
¬□READ$_w$(j, 1 st ch.) ∧ ¬□[READ$_w$(j, 2 nd ch.) ∨ READ$_w$(j, 3 rd ch.)]
⇔⊥

The contrast between (108) and (111) raises a question. A number of works assume that declarative sentences are implicitly modalized via a covert declarative operator ranging over the epistemic alternatives of the speaker (see, for instance, Alonso-Ovalle & Menéndez-Benito 2010 or Meyer 2013). If we make this assumption, then the LFs of positive episodic sentences would actually look like (108) and (111). This move would lead to an alternative way of deriving the contrast between Iberian Spanish and Andean Spanish *siquiera* in positive episodic sentences: we could assume that Iberian Spanish *siquiera* is forced to scope over this covert operator, deriving a contradiction, while Andean Spanish is not.

One should probably be suspicious of the nature of the type of scopal constraint under discussion. Given our previous discussion about the interpretation of Iberian Spanish *siquiera* in modal environments, the wide scope constraint would have to force *siquiera* to scope over covert modals, but not overt ones. Be as it may, we think that the assumption that Andean Spanish *siquiera* is implicitly modalized in positive episodic sentences is on the wrong track, because the meanings that this hypothesis predicts are too weak. Consider, for instance, the Andean Spanish example in (100), repeated in (114) below.

(114) Juan leyó siquiera el [primer]$_F$ capítulo .
Juan read:3SG SIQUIERA the first chapter
'Juan read at least the first chapter.'

We noted above that (114) entails that the speaker believes that Juan read the first chapter. If the LF of (114) were as in (109a) above, with a covert modal ranging over the doxastic alternatives of the speaker, and the alternatives are the ones we assume, that would not be the case. The proposition in (110) merely entails that the speaker considers that Juan read the first chapter a possibility (and that he considers the possibility that the speaker read more than one also a possibility.) The predicted meaning lets us expect the sentence in (114) to be felicitous in scenarios where the speaker is not sure whether Juan read the first chapter or not, contrary to fact.

One could entertain the possibility that the covert modal is not epistemic. There is a class of polarity items that convey agent indifference. Spanish *uno cualquiera* (Alonso-Ovalle & Menéndez-Benito 2018) belongs to that class. To illustrate, the sentence in (115) conveys that Juan grabbed a book and that he was indifferent to the book he grabbed.

(115) Juan cogió un libro cualquiera.
Juan grabbed a book CUALQUIERA
'Juan grabbed a random book.'

Chierchia (2013) suggests that cases like this involve a covert bouletic modal ranging over the preferences of the agent.[18] One may want to consider the possibility that a covert bouletic modal rescues Andean Spanish *siquiera* from deriving a contradiction in positive episodic sentences.

We are also skeptical of this possibility, though. For one, the priority modality associated with random choice indefinites is anchored to a volitional agent. While we have noticed that unembedded

[18] For arguments against this hypothesis, see Alonso-Ovalle & Menéndez-Benito (2018).

siquiera can convey that the alternatives are preferred to the associate of *siquiera*, those are speaker, rather than agent preferences. To give a concrete example: in contrast with (115), the sentence in (114) does not convey that Juan read a chapter and that he was indifferent between reading the first chapter or another contextually relevant chapter.

We also find *siquiera* in sentences with no volitional verbs, like (116).

(116) Juan se cayó siquiera a [un lado]$_{F}$ de la piscina.
Juan SE fell SIQUIERA to a side of the pool
'At least Juan fell to the side of the pool.'

We could still consider the possibility that the elusive covert modal is a covert modal ranging over the preferences of the speaker, so that, for instance, the first sentence in (101), repeated in (117) below, would receive the LF in (118a), where the modal ranges over the worlds compatible with what the speaker prefers. Under this analysis, (117) would convey that the speaker wanted Messi to go to a city and that both the possibility that Messi went to Medellín and the possibility that he went to a different city are OK with him, as in (118b), where we assume that the contextually relevant cities are Medellín (m), Bogotá (b), and Cartagena (c).

(117) Siquiera Messi fue a [Medellín]$_{F}$.
SIQUIERA Messi went:3SG to Medellín
'At least Messi went to Medellín.'

(118) a. LF: O $\Box$ ^{IS}siquiera$_{C}$ [Messi went to [Medellín]$_{F}$.]
b. $\lambda w.\ \Box[\text{WENT}_w(\text{m,m}) \vee\ [\text{WENT}_w(\text{m,b}) \vee\ \text{WENT}_w(\text{m,c})]] \wedge$
$\neg\Box\text{WENT}_w(\text{m,m}) \wedge\ \neg\Box[\text{WENT}_w(\text{m,b}) \vee \text{WENT}_w(\text{m,c})]$

The problem is that (117) entails that Messi went to Medellín, but the proposition in (118a) doesn't: first, (118a) conveys that the speaker wants Messi to go to a city, not that he went to a city; second, even if the covert modal conveyed that its prejacent is true in the actual world, that prejacent is the proposition that Messi went to a city, not the proposition that he went to Medellín.

Based on the observations discussed above, we conclude that Andean Spanish in positive episodic sentences with *siquiera* are not implicitly modalized and abandon the hypothesis that the difference between Iberian Spanish and Andean Spanish is one of scope with respect to a modal operator.

9 Conclusions

In this paper, we have shown that the distribution and interpretation of *siquiera* in Andean Spanish poses an interesting puzzle when contrasted with its Iberian Spanish counterpart. Andean Spanish *siquiera* shows the same interpretation of Iberian Spanish *siquiera* in downward entailing contexts, in modal sentences (and, while not directly described in the paper) in questions, while, at the same time, it is licensed in positive episodic sentences. The contrasts between these two items raise a number of questions, amongst them the following two:

Q1 What underlies the partial overlap in the interpretation and the difference in distribution of *siquiera* across dialectal varieties?

Q2 Where else do we see this type of variation in the landscape of polarity items? How do the two types of *siquiera* relate to other polarity elements?

In our way to answering these two questions, we have reviewed two analyses of *siquiera*: the EVEN plus Weak Associate analysis entertained in Crnič 2011a and Crnič 2011b, and the Alternative-based Analysis presented in Alonso-Ovalle 2016. Both analyses are designed to capture the deviance

of concessive scalar particles in positive episodic sentences and, therefore, face a challenge with Andean Spanish *siquiera*. We have seen, however, that a natural extension to the Alternative-based Analysis allows for a straightforward answer to the two questions above. We have entertained and discarded some modifications to the EVEN plus Weak Associate analysis, we leave open whether this type of analysis could also be modified to account for the contrast between Iberian and Andean Spanish.

According to the Alternative-based Analysis, Iberian Spanish *siquiera* introduces two alternatives into the semantic derivation. In positive episodic sentences and in sentences with possibility modals, but not in modal sentences with necessity modals or in downward entailing environments, these alternatives are 'symmetric': their disjunction is equivalent to the assertion, and, therefore, cannot both be excluded without deriving a contradiction.

Within this setup, we have proposed as an answer to Q1 that *siquiera* has the same assertive content in both Spanish varieties, but that they mainly differ concerning on the type of alternatives that they introduce. Andean Spanish *siquiera* introduces only one of the alternatives that Iberian Spanish *siquiera* introduces. This alternative is never symmetric, and, as a result, exhaustification does not derive a contradiction, accounting for the fact that Andean Spanish *siquiera* is licensed in contexts where its counterpart in Iberian Spanish is not.

As an answer to Q2, we note that the type of alternatives that Iberian Spanish introduces are similar to the type of alternatives introduced by other polarity elements, while the alternative that Andean Spanish conveys is similar to those of other scalar non-polarity items.

It remains to be seen whether the line of analysis that we have followed in this paper can shed light on other dimensions of variation with the class of concessive scalar particles. There are initial signs that it may. An anonymous reviewer points out that in River Plate Spanish *siquiera* is restricted to downward entailing environments only. It would be interesting to determine the extent to which this claim holds. If it does, it can reflect a parameter of variation within the class. Chierchia (2013) points out that some free choice items do not tolerate being in downward entailing environments and speculates that this may reflect a property of a covert exhaustifier that blocks exhaustification in case the process is vacuous, as in (119)

(119) $[\![\mathrm{O}^{+}(\mathrm{S})]\!]^{o}$ is defined only in case $[\![\mathrm{O}^{+}(\mathrm{S})]\!] \subset [\![S]\!]$.
When defined = $\lambda w.\ [\![\mathrm{S}]\!]^{o}(w)\ \&\ \forall p \in [\![\mathrm{S}]\!]^{alt}\ [\neg p(w) \vee [\![\mathrm{S}]\!]^{o} \subseteq p]$

Building on (119), it would be worth exploring whether River Plate Spanish *siquiera* depends on a curious variety of external exhaustifier that would block exhaustification if the process is *not* vacuous, as in (120). We leave this remark here at the level of pure speculation for now, as a way of conclusion.

(120) $[\![\mathrm{O}^{=}(\mathrm{S})]\!]^{o}$ is defined only in case $[\![\mathrm{O}^{=}(\mathrm{S})]\!] = [\![S]\!]$.
When defined = $\lambda w.\ [\![\mathrm{S}]\!]^{o}(w)\ \&\ \forall p \in [\![\mathrm{S}]\!]^{alt}\ [\neg p(w) \vee [\![\mathrm{S}]\!]^{o} \subseteq p]$

Abbreviations

AUX = auxiliary, CL = clitic, INF = infinitive, IMP = imperative, NEG = negation, PL = plural, PST = past, SG = singular, SUBJ = subjunctive. We gloss *se* as SE, *magari* ad MAGARI, *siquiera* as SIQUIERA, and *ni siquiera* as NI SIQUIERA.

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Authors' contributions

Our names are listed in alphabetical order. Both authors have contributed equally.

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