

## Alternatives as sources of semantic dependency\*

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**Abstract** The restricted distribution of the Romanian determiner *vreun* is puzzling in view of typologically familiar patterns of dependent indefinites. Focusing on its occurrences in modal and attitude contexts, I put forward a novel empirical generalization (‘the epistemic constraint’) and argue that its distribution is sensitive to epistemic alternatives. To account for this pattern, I endorse the unitary approach to polarity due to Chierchia (2006, 2010) and propose to derive the properties of *vreun* from its obligatory association with alternatives. The differences between *vreun* and other dependent indefinites are argued to follow from different conditions on the domain alternatives these items activate.

**Keywords:** alternatives; epistemic indefinites; polarity system; exhaustification

### 1 Introduction

This paper focuses on the properties of the Romanian determiner *vreun*, and has two objectives. First, it seeks to provide an adequate description of its restricted distribution. Refining previous observations in the literature (Farkas 2002, 2006), I argue that the occurrence of *vreun* in intensional contexts is sensitive to epistemic alternatives, and put forward a generalization that captures its use (‘the epistemic constraint’). Second, we aim to provide an explanation for the observed pattern, in a way that situates *vreun* in a broader typology of dependent indefinites. The proposed account is couched in a unified, alternative-based approach to polarity-sensitivity, due to Chierchia (2006 *et seq.*). In line with this theory, we reduce the differences between *vreun* and other dependent indefinites to essentially two factors: (i) the types of alternatives these items activate and (ii) the way these alternatives are factored into meaning by alternative-sensitive operators. The present paper can be regarded as part of a more general research program which aims to understand the parameters of variation among dependent indefinites and to offer a principled

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explanation for the attested diversity (see e.g. Giannakidou 1997, to appear, Kratzer & Shimoyama 2002, Chierchia 2006, Jayez & Tovena 2006, 2007, Alonso-Ovalle & Menéndez-Benito 2008, 2010, and references therein).

## 2 *Vreun* as a dependent determiner

The determiner *vreun* (MASC)/*vreo* (FEM) is a morphologically complex variant of the standard indefinite article *un* (MASC)/*o* (FEM), which combines with the morpheme *vre-* (from *volere* > \**vere* ‘want’), and occurs with singular countable nouns. As illustrated by the ungrammaticality of (1) below, the determiner *vreun* cannot occur in episodic sentences, i.e. qualifies as a ‘dependent’ or polarity-sensitive<sup>1</sup> item.

- (1) \*Ana a văzut *vreun* prieten / *vreo* prietenă.  
Ana have.3SG seen VREUN friend / VREUN friend.FEM

In order to account for this restriction, we first need to identify the kind of dependency observed in the distribution of *vreun*. This is not an easy task, as already shown in Farkas 2002, because *vreun* seems to resist classification in typologically familiar patterns of dependent indefinites.

### 2.1 Negative polarity contexts

The first descriptive observation is that *vreun* clearly does the work of a negative polarity item (NPI) in Romanian: it occurs in all typical negative polarity contexts<sup>2</sup>, where NPI *any* or *ever* would be used, e.g. questions (2), the scope of weak downward-entailing operators like rarely (3), *if*-antecedents or negative verbs like *doubt*:

1 Assuming a broad definition of polarity-sensitive items, characterized by ‘exclusion from positive assertions with simple past’ (cf. Giannakidou 1997 *et seq.*). In this paper, I use the terms *polarity-sensitive* and *dependent indefinite* interchangeably.

2 The distribution of *vreun* in the scope of clausemate sentential negation is more complex: as a result of the fact that Romanian is a strict negative concord language, i.e. the (morphologically negative) paradigm of n-words constitutes the default option in negative sentences. In Fălăuș 2009, I argue that this blocking effect does not constitute a valid counter-argument to an NPI-status for *vreun*, and show that the blocking can be overridden (i) in contexts where there is already an n-word in the sentence, or (ii) in order to convey domain widening.

- (2) Ai *vreo* conferință luna asta?  
Have.2SG VREUN conference month this  
'Do you have any conference this month?'
- (3) *Rar* îmi dă *vreo* explicație despre ceea ce  
Rarely me.DAT give.3SG VREUN explanation about DEM what  
face.  
do.3SG  
'Rarely does (s)he give me any explanation on what (s)he's doing.'

In addition, *vreun* is also possible in non-negative polarity environments, a very common behavior for NPIs across languages (Haspelmath 1997). More specifically, the determiner *vreun* can occur in modal contexts, as in the following example, taken from Farkas 2002: 136:

- (4) E *posibil* ca Maria să se fi întâlnit cu *vreun*  
be.3SG possible that Maria SUBJ REFL BE met with VREUN  
prieten și să fi rămas cu el în oraș.  
friend and SUBJ BE remained with him in town  
'It is possible that Maria met some friend and stayed with him in town.'

In (4), *vreun* occurs in the scope of the modal operator 'it's possible', and the sentence conveys that Maria might have met a friend, the speaker doesn't know which friend, and she might have stayed with him in town. A similar ignorance (or indifference) reading is triggered in Romanian by the existential free-choice item ( $\exists$ -FCI) *un NP oarecare* (Săvescu-Ciucivara 2007), paraphrased in (5a):

- (5) Maria *trebuie* să citească *o carte oarecare*.  
Maria must SUBJ read.3SG a book whatever  
a. 'Maria must read a certain book, the speaker doesn't know/care which book.'  
b. 'Maria must a read a book, any book is a possible option.'

Both *vreun* and *un NP oarecare* are existential elements, occurring in modal(ized) contexts, and signaling the speaker's lack of knowledge concerning the identity of the individual satisfying the existential claim. Despite this similarity, their distributions do not overlap, as illustrated by the ungrammaticality of *vreun* in the imperative in (6):

- (6) Ia *\*vreo* carte / ✓ *o carte oarecare*!  
Take *vreun* card / a card whatsoever  
'Take some card (or other).'

A more detailed empirical investigation reveals further distributional contrasts, which are unexpected given the patterns of polarity-sensitivity attested in the literature. In particular, the following set of examples indicates that *vreun* can occur under some modals (7), but not others (8):

- (7) Cu numele lui, *trebuie* să fie *vreun* aristocrat.  
With name.DEF his must SUBJ be.3SG VREUN aristocrat  
'Given his name, he must be some aristocrat.'
- (8) \**Trebuie* să iau *vreun* zbor spre Paris.  
must SUBJ take.1SG VREUN flight to Paris  
'I must take some flight to Paris.'

Likewise, *vreun* is possible under some attitude verbs (e.g. *think*, *suppose*, *assume*, *hope*), but not others (e.g. *know*, *say*, *ask*, *insist*, *want*):

- (9) *Sper* să gădesc *vreun* zbor spre Paris.  
hope.1SG SUBJ find.1SG VREUN flight to Paris  
'I hope to find a/some flight to Paris.'
- (10) \**Vreau* să iau *vreun* zbor spre Paris.  
want.1SG SUBJ take.1SG VREUN flight to Paris  
'I want to take some flight to Paris.'

We have seen that the distribution of *vreun* presents interesting overlap between its use in negative polarity (i.e. downward-entailing) contexts, and certain non-polarity contexts, where *vreun* conveys some form of ignorance. Whereas overlap *per se* is not surprising, its precise nature remains to be determined. In particular, we need a better understanding of the contrasts in (7)-(8) and (9)-(10). This is the goal of the next section, where I focus on non-negative contexts of occurrence and propose a novel descriptive generalization, dubbed 'the epistemic constraint', which captures the puzzling distribution of *vreun*.

## 2.2 The epistemic constraint

The examples above suggest that *vreun* occurs in a subset of intensional contexts (modals and attitude verbs). The intuition underlying the non-negative polarity use of *vreun* is made explicit in Farkas's work: 'the choice of *vreun* over the ordinary indefinite [...] stresses the uncertainty of the existence of a verifying value in the world of evaluation' (Farkas 2006: 19). Refining this observation, I argue that the distribution of *vreun* is governed by epistemic alternatives. More precisely, the epistemic determiner *vreun* is sensitive to what an epistemic agent, for our present

purposes, the speaker<sup>3</sup> holds to be true, as captured by the following generalization:

(11) THE EPISTEMIC CONSTRAINT

Context of occurrence: Op [... *vreun* ...]

Op *p* entails that the speaker's epistemic alternatives include *non p*-worlds

According to the epistemic constraint in (11), *vreun* occurs in the scope of propositional operators that entail that not all of the speaker's epistemic alternatives are such that the proposition below the operator, *p*, is true. In other words, the speaker countenances (possibly unlikely) *non p*-worlds. Let me now illustrate how the generalization I propose captures the distribution of *vreun* under modal operators (sections 2.2.1 and 2.2.2) and under attitude verbs (section 2.2.3).

### 2.2.1 The presumptive mood

The epistemic constraint seeks to capture the intuition that *vreun* is restricted to contexts that are 'hypothetical', where the speaker communicates she is not in a position to rule out the possibility that the proposition containing *vreun* is false. The context that straightforwardly shows the role of this 'uncertainty' component is the *presumptive* mood, a mood specialized in conveying hypotheses, and one of the prototypical contexts of occurrence for *vreun*. Morphologically, it presents different paradigms, following the pattern *modal* (future/conditional form) + *be* + *gerund* (present reading)/*past participle* (past reading). Abstracting away from its properties (cf. Irimia 2008), the only point that is relevant for our present discussion is that presumptive forms always convey a meaning of *indirect evidentiality*: there is indirect evidence (typically inferential) that a certain state of affairs might hold/might have held. By using the presumptive, the speaker conveys that her assertion is only a hypothesis, i.e. she is not in a position to exclude that things might be/have been different. The presumptive plays a crucial role in the distribution of *vreun*, as

<sup>3</sup> I set aside situations where there is more than one potential relevant epistemic agent and restrict the discussion to contexts where the epistemic agent is the speaker. Preliminary investigation on this issue indicates that *vreun* tends to be speaker-oriented, unlike e.g. *algún* (Alonso-Ovalle & Menéndez-Benito 2010):

- (i) \*Mircea crede că Maria s-a întâlnit cu *vreun* prieten. El nu știe cu cine, dar eu știu.  
Mircea thinks that Maria met VREUN friend. He doesn't know who, but I do.

A satisfactory resolution of this problem relies on a better understanding of the constraints governing the distribution of the presumptive forms (see section 2.2.1), where the identity of the epistemic agent also plays a role in the acceptability. The preliminary generalization is that whenever the embedded presumptive is possible, *vreun* is also possible, but more research is required before reaching firm conclusions on how the two factors are related.

illustrated by the following contrast:

- (12) Mașina pornește greu dimineața.  
'My car takes time to start up in the morning'.  
a. \*Are *vreo* problemă la motor.  
have.3SG VREUN problem at engine  
'It has some engine problem.'  
b. *O fi având vreo* problemă la motor.  
FUT2.3SG BE have.PRST.PART VREUN problem at engine  
'It might have/ I guess it has some engine problem.'

The intended meaning of (12) is a hypothesis on the reason why the car doesn't start up easily, but despite this hypothetical meaning, clearly indicated by the context, *vreun* is ruled out in (12a). In contrast to this, as soon as present tense is replaced by the presumptive, *vreun* becomes acceptable (12b). Since presumptive forms can only be used in situations where the speaker entertains (possibly unlikely) *non p*-worlds, the epistemic constraint is automatically satisfied. It is therefore not surprising that the presumptive mood constitutes one of the most frequent contexts of use of *vreun*.

### 2.2.2 Modal contexts

The tight connection with the presumptive emphasizes the role of the *non p*-worlds component for the acceptability of *vreun*. A closely related set of environments involves modal operators. Romanian has two modal verbs, the possibility modal *a putea* 'can' and the necessity modal *a trebui* 'must', which are used to express a wide range of modal meanings. The determiner *vreun* can occur under both these modals, but crucially, only when they are interpreted with respect to an epistemic modal base. To illustrate, consider the interaction with the necessity modal:

- (13) *Trebuie să fie vreo* restaurant turcesc în cartier,  
must SUBJ be.3SG VREUN restaurant Turkish in neighborhood  
(sunt mulți locuitori de origine turcă.)  
be.3PL many inhabitants of origin Turkish  
'There must be some Turkish restaurant in the neighborhood (there are many inhabitants of Turkish origin).'

- (14) a. \*Trebuie să trimit *vreun* articol până mâine dimineață.  
 must SUBJ write.1SG VREUN article by tomorrow morning  
 ‘I must send some paper by tomorrow morning.’
- b. \*Ca să fiu fericită, *trebuie* să mănânc zilnic *vreo*  
 That SUBJ be.1SG happy, must SUBJ eat.1SG daily VREUN  
 prăjitură.  
 cake  
 ‘In order to be happy, I must have some cake every day.’

Sentence (13) has an epistemic construal and *vreun* is perfectly acceptable. In contrast to this, when the necessity modal has a deontic (14a) or bouletic (14b) construal, *vreun* cannot be used, even if the speaker is trying to convey that she is ignorant with respect to the identity of the value taken by the *vreun*-phrase. The obvious source for this contrast lies in the modal base and the kind of alternatives that are relevant for the interpretation of the modal operator, a state-of-affairs which corroborates the hypothesis on *vreun*'s sensitivity to epistemic alternatives.

An interesting question that arises at this point concerns the way in which an epistemic modal satisfies the requirement in (11). On standard assumptions, the interpretation of an epistemic modal amounts to existential/universal quantification over epistemically accessible worlds. Hence, strictly speaking, an epistemic necessity modal like *must* conveys that in all worlds compatible with what the speaker knows, its complement proposition is true. This might look problematic for the epistemic constraint advocated so far. However, it has often been noted that in addition to quantification over epistemically accessible worlds, the meaning of an epistemic modal involves an indirect *evidentiality* component (e.g. von Fintel & Gillies 2010)<sup>4</sup>. Simplifying, epistemic modals are sensitive to the type of evidence that is relevant for the truth of *p*: upon using an epistemic modal, the speaker is not only conveying something about her beliefs, but also that she only has *indirect* evidence for her claim. As a result, this leaves open the possibility that direct evidence eventually contradicts *p*. This is the reason why epistemic modals cannot be used in contexts that set the value of *p*, and in particular when *p* is established to be true, e.g. upon looking at pouring rain, we cannot utter something like *It must be raining*. In other words, the speaker's epistemic alternatives necessarily include (possibly unlikely) *non p*-worlds, a property that proves crucial for the distribution of *vreun*. Once we take into account the full meaning of an epistemic modal, we have ways to understand how this case falls under the epistemic constraint in (11).

<sup>4</sup> The 'indirect evidence' requirement of epistemic modals is a complex and much debated issue, with no consensus on whether the restriction concerns evidence, knowledge or trustworthiness, or on whether this meaning component needs to be lexically encoded or rather derived as a conversational implicature. (see e.g. von Fintel & Gillies 2010, Kratzer to be published, and Matthewson 2010).

Summarizing, the empirical facts considered so far emphasise the importance of two factors (i) epistemic alternatives and (ii) the existence of *non p*-worlds. I now argue that this conclusion also holds for attitude contexts.

### 2.2.3 Attitude verbs

The acceptability of *vreun* in attitude contexts is once again sensitive to *epistemic* alternatives, as attested by its ungrammaticality under verbs of obligation:

- (15) \*Roxana *m-a rugat/mi-a cerut/ mi-a*  
 Roxana me-have.3SG asked/me-have.3SG requested/ me-have.3SG  
*ordonat să aduc vreun cadou.*  
 ordered SUBJ bring VREUN present  
 ‘Roxana asked/requested/ordered me to bring some present.’

More interesting are attitude predicates whose interpretation involves an *epistemic* (or doxastic) modal base, on which we now focus. According to the generalization in (11), *vreun* occurs below operators which are incompatible with situations where their complement proposition is established to be true, i.e. where the speaker only entertains *p*-worlds. This captures in a straightforward way the non-occurrence of *vreun* in factive contexts:

- (16) \**Știu că am vreun virus în calculator.*  
 know.1SG that have.1SG VREUN virus in computer  
 ‘I know I have some virus in my computer.’

Further evidence for the crucial role of the *non p*-worlds component in the acceptability of *vreun* comes from examples like (17) below:

- (17) *Cred /Bănuiesc /Sunt convins /sunt sigur că*  
 Believe.1SG /Suppose.1SG /am.1SG convinced /am.1SG sure that  
*am vreun virus în calculator.*  
 have.1SG VREUN virus in computer  
 ‘I think/suppose/I’m convinced/sure I have some virus in my computer.’

Predicates like *think* or *assume* allow for the possibility that their complement proposition be false. When we assert something like ‘I think/suppose/assume *p*’, we not only communicate that it is compatible with our beliefs that a certain state-of-affairs holds (denoted by the complement proposition *p*), but also that we are not excluding the possibility that the proposition *p* is false. Crucially, if the proposition under consideration is established to be true, the speaker cannot use *think* or *assume*. For example, in the pouring rain context, the speaker cannot truthfully utter *I*

*think/assume it is raining*. A similar ban against direct evidence establishing the truth of *p* is involved in the case of operators like *I'm convinced/sure*. What is important to notice, in this connection, is that it is not the strength of the belief that matters, or else (17) should be unacceptable. Just like in the case of epistemic modals, what seems to be relevant is the existence of a (however slight) chance that things turn out to be different, i.e. further evidence could eventually contradict *p*; in other words, the speaker countenances *non p*-worlds<sup>5</sup>.

The contrast between verbs like *think* on the one hand and factives like *know* on the other hand does not suffice to motivate the (arguably) strong constraint in (11). In particular, one might wonder whether it is not enough for the operator to be (merely) *compatible* with the existence of *non p*-worlds among the epistemic alternatives, rather than *requiring* (in the present formulation *entailing*<sup>6</sup>) it. The distribution of *vreun* under volitional verbs shows that the answer to this question is negative, and supports the proposed epistemic constraint. In this connection, consider the contrast between the verbs *want*, which precludes the use of *vreun* in its complement (18), and *hope*, which allows it (19):

- (18) \**Vreau* să iau *vreun* zbor spre Paris.  
 want.1SG SUBJ take.1SG VREUN flight to Paris  
 'I want to take some flight to Paris.'
- (19) *Sper* să gădesc *vreun* zbor spre Paris.  
 hope.1SG SUBJ find.1SG VREUN flight to Paris  
 'I hope to find a/some flight to Paris.'

This contrast is surprising: both *want* and *hope* are non-factive predicates and express that the worlds in which the embedded proposition holds are ranked high with respect to the attitude holder's preferences. Crucially however, *hope* and *want* differ with respect to their epistemic properties, a distinction which plays a role in the acceptability of *vreun*. More precisely, Scheffler (2008) identifies an *epistemic component* in the meaning of *hope*, which only makes it compatible with situations where the truth of the embedded proposition is not established, a property that *want* lacks. The relevant contrast is given in (20), which shows that *want* is compatible

<sup>5</sup> The acceptability of *vreun* in examples like (17) provides crucial evidence that we are not dealing with a nonveridical item, like Greek *kanenas*, discussed in detail in work by Giannakidou (1997 *et seq*). Whereas there is interesting distributional overlap between *vreun* and nonveridical items, the restriction to epistemic contexts, in the sense discussed here, is a significant empirical difference, which deserves a more detailed discussion than what I can do within the limits of this paper.

<sup>6</sup> One might object to the formulation of the epistemic constraint in terms of entailment. Whereas this is a reasonable concern, I think the case of volitionals indicates that a strong requirement along the lines of the one advocated here stands a better chance of capturing the facts. The account proposed for *vreun* (section 3) reformulates the epistemic constraint in a way which seeks to obviate this problem.

with *p* being established to hold (20a), while *hope* is not (20b):

- (20) It is raining and
- a. ✓ I want it to be raining/✓ that is what I want.
  - b. # I hope it is raining/#that is what I hope.

These examples show that knowledge of a fact, e.g. looking at pouring rain, makes the use of *hope* infelicitous to refer to this fact, a restriction which does not apply to *want*. In other words, whenever we use *hope*, we necessarily allow for *non p*-worlds among our beliefs, as required by the epistemic constraint in (11).

### 2.3 Intermediate summary

The discussion in this section provided evidence that the distribution of *vreun* in non-negative polarity contexts depends on the semantic properties of the embedding operator. In particular, I have proposed the epistemic constraint in (11), which holds that the (un)grammaticality of *vreun* is determined by two (closely connected) factors: (i) the epistemic (evidential) modal base and (ii) the existence of *non p*-worlds among the worlds in the modal base. This generalization enabled us to capture an otherwise puzzling set of empirical facts. Two caveats are in order. First, the description of the data is not exhaustive; in Fălăuș 2009, I adduce more evidence that any further distributional facts are amenable to one of the two categories discussed here (i) negative polarity contexts and (ii) ‘epistemic’ contexts, i.e. meeting the requirement in (11). Second, the account one provides for the (non-)occurrence of *vreun* ultimately relies on the details of the semantics assumed for the contexts under consideration. Admittedly, the discussion here abstracted away from many such details. However, by looking at things from this perspective, we uncovered an interesting pattern, which contributes to our knowledge of parameters of variation in the area of semantically dependent indefinites. The goal of the next section is to situate the observed pattern in a unified system of polarity and provide elements for an explanatory approach.

### 3 *Vreun* in the polarity system

In view of the facts we just reviewed, it should be clear that any analysis of *vreun* needs to account for the following set of (related) properties:

- (P1) **dependency** - the occurrence of *vreun* in sentences like (1) does not lead to some form of contextual inappropriateness, but rather to plain ungrammaticality. What is the source of this restriction?

- (P2) **similarities and differences** with other elements in the polarity system, in particular NPIs and  $\exists$ -FCIs, like Romanian *un NP oarecare*. Where should we situate *vreun* in the landscape of dependent indefinites?
- (P3) **the epistemic constraint** - why is *vreun* restricted to epistemic contexts?

In order to address these questions, I endorse and build on the unified account of polarity developed by Chierchia (2006 *et seq.*), which I briefly review in section 3.1 below. We will see that this framework offers a principled explanation for the dependency of polarity items (P1), by assuming an obligatory association with alternatives. Next, building on the elements responsible for cross-linguistic variation in this framework, I propose a modification that allows us to situate *vreun* in a broader typology of dependent indefinites (P2). Finally, in section 3.3, I focus on the epistemic constraint and explore a way to tackle this issue (P3).

### 3.1 A unified approach to polarity

The main intuition underlying the use of *vreun*, already present in Farkas 2002, is that we are dealing with an alternative-introducing element. In order to implement this intuition, I pursue an alternative-based approach, due to Chierchia (2006), which seeks to provide a unified analysis for attested polarity patterns, by making use of a small set of parameters of variation. Building on insights in Kadmon & Landman 1993, Krifka 1995, Lahiri 1998 and Kratzer & Shimoyama 2002, Chierchia (2006 *et seq.*) develops a unified account of the phenomenon of polarity, embedded within a more general theory of scalar implicatures. The main hypothesis is that all members of the polarity system share the property of being existentially quantified elements, which obligatorily activate *alternatives*. What makes a polarity item dependent, as opposed to, say, a simple indefinite, is the fact that the alternatives it brings in *must* be used for meaning enrichment. One of the crucial assumptions in this connection concerns the way meaning enrichment is achieved. In line with Chierchia 2006, Fox 2007, and Chierchia, Fox & Spector to appear, among others, it is assumed that strengthened interpretations can be generated *via* a grammatical device, i.e. the insertion of an exhaustivity operator *O*, roughly akin to *only*:

$$(21) \quad \llbracket O \rrbracket(Alt_{\langle st,t \rangle})(p_{\langle s,t \rangle})(w) = 1 \text{ iff } p(w) = 1 \wedge \forall q \in Alt(p)[q(w) = 1 \rightarrow p \subseteq q]$$

According to the definition in (21), the exhaustivity operator responsible for strengthening applies to a proposition *p* (the prejacent) and the set of its (propositional) alternatives ( $Alt(p)$ ) and negates all stronger alternatives to *p*.

Getting back to the phenomenon of polarity, the present theory posits the following division of labor: the alternatives activated by polarity items trigger the insertion of an exhaustivity operator, a syntactic process. The semantic component evaluates

the result of exhaustification, and determines whether it is coherent. If the result is both syntactically and semantically well-formed, the polarity item is licensed. If this is not the case, the result is ungrammatical. This is a property shared by all types of polarity items. Variation in the polarity system results from two interconnected factors (i) nature of alternatives and (ii) modes of exhaustification. Simplifying, depending on the types of alternatives polarity items introduce (domain or scalar), and the way exhaustification proceeds, we can derive the properties of the various subclasses of polarity items (e.g. negative polarity items, ‘universal’ and existential free-choice items or minimizers like *budge an inch*), which are therefore wholly reduced to the logical interaction of their lexical meaning and the ensuing implicatures. I will not get into the details of this theory, and refer to Chierchia’s work, where the aforementioned assumptions are extensively discussed and motivated. Instead, let us now restrict our attention to the analysis proposed for existential dependent items (e.g.  $\exists$ -FCIs like Italian *un NP qualunque*) and show how the proposal can be extended to capture the properties of *vreun*.

### 3.2 The area of existential dependent indefinites

One thing that is clear concerning the interpretation of *vreun* is that we are dealing with an existential element, conveying speaker’s ignorance with respect to the identity of the individual which satisfies the existential claim. This ignorance reading is characteristic of a large and heterogeneous class of dependent indefinites cross-linguistically, often referred to as *epistemic* or *modal* indefinites (see e.g. Kratzer & Shimoyama 2002, Chierchia 2006, Jayez & Tovenà 2006, 2007, Alonso-Ovalle & Menéndez-Benito 2008, 2010, and references therein). Restricting the discussion to this particular area of the polarity system, let us focus on how the theory derives the core properties of these indefinites. Consider the following sentence, with the Italian  $\exists$ -FCI *uno studente qualunque*:

- (22) Gianni *deve* interrogare ***uno studente*** qualunque  
 Gianni must examine a student whatsoever

Intuitively, we interpret (22) as saying that Gianni must examine a student and any student in the relevant domain is a possible option. How does this meaning come about? Taking morphology at face value, Chierchia argues that there are two components involved in the interpretation of an  $\exists$ -FCI: the indefinite article (*un*) and the free-choice item (*qualunque*). Both elements activate alternatives, requiring exhaustification. The indefinite part activates *scalar* alternatives, triggering an ‘exactly’ implicature. This is similar to the way a sentence like ‘I bought a book’ implicates ‘I bought no more than one book’. The free-choice element activates *domain* alternatives, which are responsible for the regular ‘free-choice’ implicature:

any member of the relevant set is an admissible option. Putting the two implicatures together gives rise to a clash, which can only be obviated in the presence of a modal operator, like *deve* in (22) above. The proposal just sketched thus offers a principled explanation for the restriction of  $\exists$ -FCI to modal contexts. Importantly, this follows from the core of the polarity system: the nature of alternatives (scalar and domain) and the way they are factored into meaning *via* exhaustification.

With this background in mind, let us now return to Romanian and see how the account can capture the distribution of *vreun*, which I have argued to be sensitive to (a subset of) modal operators. For this, it is useful to contrast *vreun* with the Romanian  $\exists$ -FCI *un NP oarecare*. In particular, we are interested in what seems to be a systematic difference between  $\exists$ -FCIs like *un NP oarecare/qualsiasi/quelconque* and ‘epistemic’ items like *algún*, *quelque* or *vreun*, as originally pointed out by Jayez & Tovená (2006), and later discussed in Alonso-Ovalle & Menéndez-Benito 2008, 2010 and Fălăuș 2009. More precisely, these studies have revealed yet another dimension along which existential dependent indefinites vary, which concerns the extent of variation (‘freedom of choice’) among the members of the restriction set. It has been shown that  $\exists$ -FCIs like *un NP qualunque/ oarecare* sustain TOTAL variation, requiring that *all* relevant alternatives in the quantificational domain should qualify as possible options. This behavior can be readily observed by considering the inappropriateness of the continuation in (23), explicitly excluding one possible value:

- (23) *Vino la petrecere cu un coleg oarecare, # dar nu cu Paul.*  
 ‘Come to the party with a colleague whatsoever, # but not with Paul.’

In contrast to this, items like French *quelque*, Spanish *algún* or Romanian *vreun* associate with PARTIAL variation: *some, but not necessarily all* alternatives qualify as possible options, as illustrated by the possible continuation in (24) below:

- (24) *E posibil ca Irina să se fi întâlnit cu vreun prieten,*  
 be.3SG possible that Irina SUBJ REFL be met with VREUN friend,  
*dar nu poate fi Luca, tocmai l-am văzut.*  
 but NEG can be Luca, just CL-have.1SG seen  
 ‘It’s possible that Irina met some friend, but it cannot be Luca, I have just seen him.’

How can we account for this difference between *un NP oarecare* and *vreun*, or more broadly, how does this systematic contrast fit with the rest of the polarity system? Building on a proposal in Alonso-Ovalle & Menéndez-Benito 2008, 2010, but making use of the ‘regular’ elements responsible for variation on the approach to polarity defended here, namely types of alternatives, I submit that *total* versus *partial* variation stems from different sizes in the domain alternatives we consider for

exhaustification: if the domain alternatives are *non-minimal*, the resulting meaning is a TOTAL free-choice interpretation: there is a single individual satisfying the existential claim, and *all* relevant alternatives qualify as possible options (*un NP oarecare*); if the domain alternatives to which we apply the exhaustification operator are *minimal* (singletons), the resulting meaning is PARTIAL variation - *some, but not necessarily all*, alternatives qualify as possible options (*vreun*).

In order to illustrate how the posited difference in domain alternatives determines the extent of variation, consider the example in (25), with the two types of existential items under a possibility modal:

- (25) Poate gădesc *o carte oarecare*<sup>7</sup> /*vreo carte* (despre Brâncuși).  
 Maybe find.1SG a book whatsoever /some book about Brâncuși

Making use of very simplified representations, which are however sufficient for our present purposes, the difference between *un NP oarecare* and *vreun* can be understood along the following lines. The LF representation in (26a) leads to the assertion in (26b):

- (26) a.  $\diamond [a \text{ book}_i [I \text{ find } t_i ]]$   
 b.  $\diamond \exists x \in D [\text{book}(x) \wedge 1(x) \wedge \text{find}(I, x)]$

This is exactly what we would have with a simple indefinite. In addition, *un oarecare / vreun* activate two kinds of alternatives, with each of these sets of alternatives calling for the insertion of an exhaustivity operator. Recall from the definition in (21) above that the exhaustivity operator applies to a proposition and the set of its propositional alternatives. In order to obtain these propositional alternatives, we replace the polarity item, which is an existential quantifier, with other members from the relevant domain of quantification  $D$ . Assuming that  $D$  contains three books,  $\{b1, b2, b3\}$ , and following Chierchia's notation, I represent the set of alternatives to the original assertion using disjunction of propositions  $a, b$  and  $c$ , where 'a' stands for  $\text{find}(I, b1)$ , 'b' stands for  $\text{find}(I, b2)$ , 'c' stands for  $\text{find}(I, b3)$ . The representation of the sentence in (25), with the exhaustivity operators corresponding to the two types of alternatives, amounts to (27) below:

- (27) a.  $O_{\text{dom-alt}} O_{\text{sc-alt}} [\diamond \exists x \in D [\text{book}(x) \wedge 1(x) \wedge \text{find}(I, x)]]$ <sup>8</sup>  
 b.  $O_{\text{dom-alt}} O_{\text{sc-alt}} \diamond (a \vee b \vee c)$

7 An accurate example with *un NP oarecare* under a possibility operator would actually involve a deontic or an ability modal, which both disallow *vreun*. This simplification does not bear directly on the illustration of *total vs partial* variation.

8 For expository reasons, we set aside other possible configurations (cf. Chierchia 2010). Note that the scope of the exhaustification operators with respect to the possibility modal determines the strength of the scalar implicature, which can have a stronger (resulting from  $O_{\text{dom-alt}} O_{\text{sc-alt}} \diamond (a \vee b \vee c)$ ) or a weaker effect ( $O_{\text{dom-alt}} \diamond O_{\text{sc-alt}} (a \vee b \vee c)$ )

As far as scalar alternatives are concerned, the two indefinites behave identically, and activate propositional alternatives of the kind ‘I find two books’, ‘I find three books’ etc., as in (28a):

- (28) a. Scalar-alternatives =  $\{\diamond\exists x \in D[\text{book}(x) \wedge n(x) \wedge \text{find}(I,x)] : n \in N\}$   
 b.  $O_{\text{sc-alt}}[\diamond\exists x \in D[\text{book}(x) \wedge 1(x) \wedge \text{find}(I,x)]]$   
 c.  $\diamond\exists x \in D[\text{book}(x) \wedge 1(x) \wedge \text{find}(I,x)] \wedge \neg\diamond\exists x \in D[\text{book}(x) \wedge 2(x) \wedge \text{find}(I,x)]$   
 d.  $O_{\text{sc-alt}}(\diamond(a \vee b \vee c)) = \diamond(a \vee b \vee c) \wedge \neg\diamond(a \wedge b) \wedge \neg\diamond(a \wedge c) \wedge \neg\diamond(b \wedge c)$

We exhaustify with respect to these alternatives, by inserting the exhaustivity operator (28b), which leads to the exclusion of all stronger alternatives. Consequently, we end up with the scalar, ‘exactly’ implicature, roughly equivalent to the representation in (28c), or, in our toy model, (28d). Nothing surprising thus far. At this point, it might be easier to grasp the difference between *un NP oarecare* and *vreun* if we put aside the scalar implicature. The scalar component is ultimately responsible for the existential interpretation, but in the remainder of the discussion, we will be exclusively concerned with the free-choice implicature.

Let us now focus on domain alternatives, where I have posited a difference between *un NP oarecare* and *vreun*. In particular, I assume that (i) non-minimal domain alternatives (abbreviated as MAX) lead to *total variation* and (ii) minimal domain alternatives (MIN) are responsible for *partial variation*. The alternative sets generated on the basis of the two kinds of domain alternatives are schematized in (29):

- (29) a. Domain alternatives we consider for exhaustification:  
 i. NON-MINIMAL (MAX)<sup>9</sup>  
 $\diamond(a \vee b) \quad \diamond(b \vee c) \quad \diamond(a \vee c)$   
 ii. MINIMAL (MIN)  
 $\diamond a \quad \diamond b \quad \diamond c$   
 b. Exhaustified domain alternatives – ‘second-order’ exhaustification:  
 i. Exhaustified MAX  
 $\diamond(a \vee b) \wedge \neg\diamond c \quad \diamond(a \vee c) \wedge \neg\diamond b \quad \diamond(b \vee c) \wedge \neg\diamond a$   
 ii. Exhaustified MIN  
 $\diamond a \wedge \neg\diamond b \wedge \neg\diamond c \quad \diamond b \wedge \neg\diamond a \wedge \neg\diamond c \quad \diamond c \wedge \neg\diamond a \wedge \neg\diamond b$

In (29a), we have the plain domain alternatives activated by each of the two dependent indefinites under consideration. The sets of alternatives in (29b) are the exhaustified version of the (plain) domain alternatives in (29a), and are obtained

<sup>9</sup> In Fălăuș 2009, the set of domain alternatives associated with  $\exists$ -FCIs also includes minimal alternatives, i.e.  $\text{MAX} = \{(a \vee b), (b \vee c), (a \vee c), a, b, c\}$ . However, Chierchia (2010) shows that the presence of minimal domain alternatives doesn’t affect the resulting meaning.

by attaching  $O$  in front of each of the alternatives in MAX/MIN. The effect of exhaustifying an alternative, e.g.  $\diamond a$  with respect to the original assertion  $\diamond(a \vee b \vee c)$  is to produce alternatives of the form  $\diamond a \wedge \neg \diamond b \wedge \neg \diamond c$  (i.e. ‘only  $a$  is possible’). Things work in a similar manner for all other alternatives in MAX and MIN.<sup>10</sup> Working things out, we compute the enriched meaning of (25), by putting together the assertion with the negation of the exhaustified alternatives:

(30) Assertion + Free-choice implicature

a. i. NON-MINIMAL DOMAIN ALTERNATIVES (MAX)

$$\begin{aligned} O_{\max} \diamond(a \vee b \vee c) = \\ \diamond(a \vee b \vee c) \wedge (\diamond(a \vee b) \rightarrow \diamond c)^{11} \wedge (\diamond(a \vee c) \rightarrow \diamond b) \wedge (\diamond(b \vee c) \rightarrow \diamond a) = \diamond a \wedge \diamond b \wedge \diamond c \quad \Rightarrow \text{TOTAL VARIATION} \end{aligned}$$

ii. MINIMAL DOMAIN ALTERNATIVES (MIN)

$$\begin{aligned} O_{\min} \diamond(a \vee b \vee c) = \\ (\diamond a \rightarrow (\diamond b \vee \diamond c)) \wedge (\diamond b \rightarrow (\diamond a \vee \diamond c)) \wedge (\diamond c \rightarrow (\diamond a \vee \diamond b)) = \\ (\diamond a \wedge \diamond b) \vee (\diamond a \wedge \diamond c) \vee (\diamond b \wedge \diamond c) \quad \Rightarrow \text{PARTIAL VARIATION} \end{aligned}$$

Exhaustification over non-minimal domain alternatives, given in (30a-i), results in standard free-choice effect, requiring that *each* alternative of  $a$ ,  $b$  and  $c$  be a possibility (TOTAL VARIATION). In contrast to this, the enriched meaning obtained by exhaustification over minimal domain alternatives, in (30a-ii), requires that if some alternative is true, at least some other must be. To put it differently, at least two of the alternatives  $a$ ,  $b$  and  $c$  are true in some world, but *not necessarily all* of them (PARTIAL VARIATION).

We thus obtain the effect of the anti-singleton constraint in [Alonso-Ovalle & Menéndez-Benito 2008, 2010](#)<sup>12</sup>, which sets apart  $\exists$ -FCIs like *un NP oarecare* from epistemic determiners like *vreun*. In the spirit of the approach I pursue, we implemented this parameter of variation as a requirement on domain alternatives (minimal versus non-minimal). The theory of polarity we endorsed can therefore

<sup>10</sup> This step is a regular move in generating the free-choice implicature, which is obtained *via* ‘second-order’ exhaustification (as argued in [Fox 2007](#)).

<sup>11</sup> By straightforward tautological transformations,  $\neg(\diamond(a \vee b) \wedge \neg \diamond c)$  is equivalent to  $\diamond(a \vee b) \rightarrow \diamond c$ , and similarly for all other exclusions.

<sup>12</sup> [Alonso-Ovalle & Menéndez-Benito \(2008, 2010\)](#) implement this restriction by assuming that *algún* introduces an anti-singleton subset selection function on the quantificational domain. The alternative-based proposal I pursue retains the basic insight that differences among dependent indefinites result from different operations on quantificational domains. At this point however, it is not entirely clear what is the source of the constraint responsible for *total* versus *partial* variation; further investigation on the properties of plural dependent items and possible competition between singular and plural forms will hopefully shed light on this matter.

straightforwardly accommodate the *total* versus *partial* variation behavior, and reduce the observed properties to a small set of primitive switches.

### 3.3 The epistemic constraint: a matter of competition?<sup>12</sup>

The most challenging property of *vreun*, relevant for the typology of dependent items, lies in the restriction to contexts where the speaker countenances *non p*-worlds. As far as I know, *vreun* differs in this regard from all other dependent items discussed in the literature<sup>14</sup>, such as *kanenas* or *algún*, which can occur under non-epistemic modals. Whereas we have arguably managed to make sense of most properties of *vreun*, at this point, we still need to derive the epistemic constraint. I do not have a full-fledged explanation, but I would like to suggest a way to tackle the problem, in the spirit of the general line we are pursuing. On the present approach to polarity, any further restriction on the distribution of *vreun* should ultimately be reducible to a difference concerning (i) alternatives or (ii) modes of exhaustification. I now explore the possibility that the epistemic constraint in (11) can be reformulated as a condition on alternatives, i.e. the requirement in (31):

(31) One of the domain alternatives must stand a chance of being false

We have seen that *vreun* (and items like *algún*, *quelque*) differ from ‘total’  $\exists$ -FCI in being associated with partial variation, requiring that not necessarily all members of the restriction set be possible values for the existential claim. Pursuing this line of thinking, assume that *vreun* imposes a stronger constraint, i.e. not only does *vreun* allow partial variation, but actually requires it:

(32) Hypothesis: *vreun* rules out TOTAL VARIATION

Let us first see how we could implement this intuition within the general framework and then discuss its consequences for the distribution of *vreun*. Consider the sentence in (33):

(33) E      *posibil* să gădesc *vreo carte* (despre Brâncuși).  
 Be.3SG possible SUBJ find.1SG some book about Brâncuși  
 ‘It’s possible that I find some book about Brâncuși.’

13 I owe this way of deriving the epistemic constraint to Gennaro Chierchia, to whom I’m grateful for helpful discussion and generous comments on the ideas presented here. Needless to say, all errors or inconsistencies are my own.

14 The determiner that seems to come closest to *vreun* in this regard is French singular *quelque*, discussed in detail in work by Jayez & Tovenà (2007). The fact that *quelque* is very uncommon in modern French makes it difficult to reach firm conclusions on the distributional overlap.

Looking only at the relevant steps in the derivation, prior to exhaustification, the assertion and the alternatives generated on the basis of domain alternatives are as given in (34b-i). In addition, as a way of implementing the ban on total variation in (32), assume that the alternatives normally responsible for total variation (saying that each alternative is a possible option, i.e.  $\diamond a \wedge \diamond b \wedge \diamond c$ ) get added to the set of alternatives we consider for *vreun* (34b-ii):

- (34) a. Assertion:  $O(\diamond(a \vee b \vee c))$   
 b. Alternatives (i) Exhaustified MIN + (ii) Total Variation  
 i.  $\diamond a \wedge \neg \diamond b \wedge \neg \diamond c$     $\diamond b \wedge \neg \diamond a \wedge \neg \diamond c$     $\diamond c \wedge \neg \diamond a \wedge \neg \diamond b$   
 ii.  $\diamond a \wedge \diamond b \wedge \diamond c$

Exhaustification over the set of alternatives in (34b) yields the following result:

- (35) Assertion + implicatures:  
 a.  $O(\diamond(a \vee b \vee c)) =$   
 $\diamond(a \vee b \vee c) \wedge \neg(\diamond(a \vee b) \wedge \neg \diamond c) \wedge \neg(\diamond(a \vee c) \wedge \neg \diamond b) \wedge \neg(\diamond(b \vee c) \wedge \neg \diamond a) \wedge \neg(\diamond a \wedge \diamond b \wedge \diamond c)$   
 b.  $= (\diamond a \wedge \diamond b) \vee (\diamond a \wedge \diamond c) \vee (\diamond b \wedge \diamond c)$    (= PARTIAL VARIATION)  
 $\wedge \neg(\diamond a \wedge \diamond b \wedge \diamond c)$    (=  $\neg$ TOTAL VARIATION)

The meaning we get for our model with three alternatives is that at least two alternatives must be true in some world, but no more than two are (they cannot all be true). This entails that *one of the alternatives must be false* (31). This requirement can only be satisfied in partial variation models<sup>15</sup>. What are the consequences for the distribution of *vreun*? Arguably, epistemic modals satisfy this requirement, just like other operators subsumed under the epistemic constraint in (11), in virtue of the fact that they necessarily allow for the (however unlikely) possibility that their complement proposition be false. In contrast to this, deontic modalities cannot meet the requirement imposed by *vreun*: if a proposition *p* is a deontic necessity, it has to be true in every world that conforms to the relevant set of obligations. Similarly, permission modals are fully compatible with total variation models, as shown by the inference of free-choice permission (e.g. Fox 2007): ‘You’re allowed to eat the cake *or* the ice-cream’ implicates ‘you’re allowed to eat the cake *and* you’re allowed to eat the ice-cream’. In other words, each disjunct is a possible option, a situation which gives rise to a clash with the partial variation requirement imposed by *vreun*. In contrast to this, the ‘total variation’  $\exists$ -FCI *un NP oarecare* is perfectly acceptable under deontic operators, as expected under the present assumptions.

Summarizing, there are two components to the proposal for *vreun*. First, we assume a strong competition with *un NP oarecare*, which we implement as a requirement to explicitly exclude the total variation inference. This allows us to make

<sup>15</sup> A similar conclusion holds for necessity modals.

sense of the epistemic constraint as a condition on domain alternatives. Second, once we take this step, the requirement imposed by *vreun* is arguably met in epistemic contexts, but gives rise to a clash with deontic modalities. Consequently, the restricted distribution of *vreun* comes out as the result of the interaction with the lexical semantics of modal operators<sup>16</sup>. The considerations above are preliminary in many respects, but hopefully they can be fleshed out to support the idea we are pursuing.

#### 4 Conclusions

Summarizing, I have argued that the distribution of *vreun* in non-negative polarity contexts is sensitive to (speaker's) epistemic alternatives, and proposed a generalization that brings together a puzzling set of environments (the epistemic constraint). Next, we situated this pattern of use within a general typology of dependent indefinites, couched in an alternative-based theory of polarity, developed by Chierchia (2006 *et seq.*). On the present proposal, *vreun* shares with all other polarity-sensitive elements the property of being an existentially quantified term, whose restricted distribution is due to obligatory activation of alternatives. The presence of these alternatives triggers the insertion of the exhaustivity operator<sup>17</sup>, which must eliminate all stronger alternatives consistently. If the result is structurally ill-formed or semantically deviant, the polarity item is ungrammatical. This line of thinking thus captures *vreun*'s *dependent character* (P1) in a principled manner, by making use of an exhaustification mechanism which has been independently argued for. Next, we can situate *vreun* in the polarity system, and understand its similarities and differences with other dependent indefinites (P2). In particular, *vreun* shares with existential free-choice items the property of activating two types of alternatives: domain alternatives (whose recursive exhaustification leads to the free-choice behavior) and scalar alternatives (responsible for the absence of universal readings). In addition, I have argued that *vreun* is associated with partial variation, as a result

16 Recent cross-linguistic work (Port 2010) shows that *total* versus *partial* variation behavior is not an inherent property of classes of dependent indefinites, but rather depends on the type of modal in the context of occurrence, thus supporting the correlation observed in Romanian.

17 More precisely, *vreun* selects for the weak exhaustification operator in (ii), responsible for NPI behavior:

$$(ii) \ O(p, ALT(p)) = O(p, ALT(p)), \text{ if } [p \not\subseteq \cap ALT(p)] \rightarrow [O(p, ALT(p)) \subset p] ; \perp, \text{ otherwise.}$$

According to (ii), the operator will be defined and lead to exhaustification (cf. (21) above) in two situations: either if  $p$  entails the conjunction of all true alternatives to  $p$  (as arguably the case in all downward-entailing contexts), or if the exhaustification of  $p$  asymmetrically entails (i.e. narrows down)  $p$ , that is, if we obtain a strengthened meaning (Chierchia 2010). This straightforwardly captures the NPI behavior of *vreun*, which we had to set aside due to space limitations.

of the fact that it activates minimal domain alternatives (a property arguably shared by *algún*, *quelque*, *un qualche*). Finally, the restriction to epistemic contexts (P3), which sets *vreun* apart from all other dependent items described in the literature, can be regarded as resulting from competition with the ‘total’  $\exists$ -FCI. The effect is that *vreun* imposes strong constraints on its quantificational domain, which in turn make *vreun* compatible with ‘partial variation’ models only.

The predictions and consequences of these hypotheses need to be further investigated, and there are both empirical and theoretical issues to be dealt with, some of which I have mentioned along the way. Similarly, the discussion in this paper did not touch upon other possible accounts, nor provided a systematic comparison between *vreun* and other dependent indefinites. Despite these limitations, the Romanian pattern we investigated contributes to our knowledge of dimensions of variation among semantically dependent indefinites, and as such constitutes progress on our way to a principled explanation for the attested diversity. The proposed analysis captures the intuition that alternatives are the key to understanding the properties of *vreun*, which have been shown to fit into a tightly regulated system. The consideration of the Romanian pattern within this general theory of polarity is mutually beneficial. On the one hand, the framework enables us to situate *vreun* in a typological perspective and account for its properties by making use of elements of variation which are arguably responsible for other polarity behaviors, thus making *vreun* less puzzling. On the other hand, if our proposal is on the right track and the system can be shown to fully accommodate *vreun*, this provides empirical and conceptual support to the present alternative-based approach, which builds into grammar the tight connection between the meaning of polarity items and their contexts of use.

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