

# Additive free choice items

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## 1 Data of interest

In this paper, we aim to account for the distribution and interpretation of a class of items in Romanian, i.e. the free choice (FC) elements illustrated in (1), to which we will refer as ADD-FCIs. We will show that the internal composition of ADD-FCIs, as well as their distribution, differs from that attested for other free choice paradigms discussed in the literature.

- (1) a. Orişicine ar suna azi, sunt ocupată.  
DISJ-ADD-who COND.3SG ring today am busy  
'Whoever calls today, I'm busy.'  
b. Orişicum ai da-o, situaţia e gravă.  
DISJ-ADD-how COND.2SG give-it situation is dire  
'However you look at it, the situation is dire.'

Morphologically, ADD-FCIs are a more complex variant of the regular universal free choice items and are made up of the following elements:

- (i) the disjunction 'ori' + the additive/scalar particle 'şi' + a *wh*-word.

Let us take a closer look at each component. *Ori* is a disjunctive particle and can occur either on its own or be reduplicated to express a disjunctive utterance; it can disjoin any syntactic constituents, including questions.

- (2) Ana a mâncat (ori) salată ori supă.  
Ana has eaten DISJ salad DISJ soup  
'Ana ate (either) salad or soup.'

The disjunctive element *ori* can productively combine on its own with a *wh*-word, giving rise to universal free choice items (FCIs) like *oricine*=disj+who 'anyone' or *orice*=disj+what 'any(thing)' (e.g., Farkas 2013, Caponigro and Fălăuş 2018).

- (3) a. Oricine poate veni la petrecere.  
DISJ-who may come to party  
'Anyone may come to the party.'  
b. Alege orice carte îţi place!  
pick.IMP.2SG DISJ-what book you.DAT like  
'Pick any book you like.'

The second element entering the composition of ADD-FCIs is the particle *şi*. This particle can function as a conjunctive element (it can also be reduplicated) (4a), as an additive particle (4b) and as a scalar particle<sup>1</sup> (4c). Anticipating our analysis, we gloss this element as ADD throughout.

- (4) a. Ana a mâncat (şi) salată şi supă.  
Ana has eaten ADD salad ADD soup  
'Ana ate (both) salad and soup.'  
b. Ana a mâncat şi salată.  
Ana has eaten ADD salad  
'Ana ate salad too.'

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<sup>1</sup>This scalar meaning can be strengthened via the addition of a concessive particle *până/chiar* 'really'.

- c. Și Ana a venit la petrecere.  
 ADD Ana has come to party  
 'Even Ana came to the party.'

Note however that unlike *ori*, the particle *și* cannot, on its own, morphologically combine with a *wh*-word (\**și-cine*). The particle *și* can combine with a *wh*-word only as long as the disjunctive particle is also present (DISJ+ADD+WH). This pattern is fully productive in Romanian—all FCIs double as ADD-FCIs:<sup>2</sup>

<i>wh</i> -word	FCIs (DISJ+WH)	ADD-FCIs (DISJ+ADD+WH)
<i>cine</i> 'who'	<i>oricine</i>	<i>orișicine</i>
<i>care</i> 'which'	<i>oricare</i>	<i>orișicare</i>
<i>ce</i> 'what'	<i>orice</i>	<i>orișice</i>
<i>când</i> 'when'	<i>oricând</i>	<i>orișicând</i>
<i>cum</i> 'how'	<i>oricum</i>	<i>orișicum</i>
<i>cât</i> 'how much'	<i>oricât</i>	<i>orișicât</i>
<i>unde</i> 'where'	<i>oriunde</i>	<i>orișiunde</i>
<i>de ce</i> 'why'	<b>X</b>	<b>X</b>

Turning now to their distribution, ADD-FCIs and universal FCIs partially overlap in their distribution, as illustrated by their acceptability in unconditional structures:

- (5) a. Oricine/ Orișicine ar suna azi, sunt ocupată.  
 DISJ-who DISJ-ADD-who COND.3SG ring today am busy  
 'Whoever calls today, I'm busy.'  
 b. Oricum/ Orișicum ai da-o, situația e gravă.  
 DISJ-how DISJ-ADD-how COND.2SG give-it situation is dire  
 'However you look at it, the situation is dire.'

Meaning-wise, ADD-FCIs convey that even extreme/unlikely cases should be considered, an aspect that we will discuss in more detail in Section 3. For instance, the use of ADD-FCIs in (5) is conveying that even if the queen of England were to call, I still wouldn't be available.

The distribution of ADD-FCIs is, however, more restricted than that of plain universal FCIs. First, unlike regular FCIs, ADD-FCIs are restricted to unconditional constructions bearing the conditional mood, as attested by their unacceptability with the indicative future in (6a) or with a possibility modal verb (6b):

- (6) a. Oricine /\*orișicine va suna azi, sunt ocupată.  
 DISJ-who DISJ-ADD-who will.3SG ring today am busy  
 'Whoever is going to call today, I'm busy.'  
 b. Orice/ \*orișice poți mânca, voi fi mulțumită  
 DISJ-what DISJ-ADD-what can.2SG eat, will.1SG be pleased  
 'Anything you can eat, I'll be pleased.'

Second, for most of our informants the conditional mood on its own is not sufficient to license ADD-FCIs; these speakers find (7) unacceptable, an otherwise ideal licensing environment for a plain FCI.

<sup>2</sup>We argue that this is due to the fact that in Romanian standalone *wh*-phrases in non-interrogative contexts cannot act as quantifiers.

- (7) Aş vorbi cu oricine/ \*orişicine la telefon acum.  
 cond.1sg talk with DISJ-who DISJ-ADD-who on phone now  
 ‘I would talk with anyone on the phone right now.’

Taking stock, we see that ADD-FCIs have two puzzling distributional properties which we aim to derive compositionally: (i) restriction to unconditionals, and (ii) obligatory use of conditional mood. In the following, we will argue that this restricted distribution and the interpretation of ADD-FCIs result from a requirement introduced by the element that sets them apart from regular FCIs, i.e. the particle *şi*.

## 2 The relevance of ADD-FCIs

The properties of ADD-FCIs in Romanian are, to our knowledge, unattested elsewhere in the realm of free choice or *wh*-based elements. To see this more clearly, it will be useful to look briefly at the internal composition of FCIs attested crosslinguistically, as well as the use of particles in polarity systems. Finally, we will consider in more detail the connections between FCI and unconditionals discussed in the literature. This will help us flesh out the issues raised by the ADD-FCI paradigm investigated in this paper.

### 2.1 Particles and free choice paradigms

It is by now well-documented that quantificational and polarity-sensitive paradigms across languages include various connectives, additive and scalar particles (e.g., Haspelmath 1997, Chierchia 2013, Szabolcsi et al. 2014, Szabolcsi 2018, Mitrović forthcoming). As far as FCIs (some of which double as negative polarity items) are concerned, they fall under two main morphological patterns<sup>3</sup>.

One group is represented by languages where FCIs include a disjunctive particle and an indefinite or a *wh*-word. We have already illustrated this pattern with the Romanian plain FCIs discussed above. Haspelmath (1997:166) mentions a few other languages where FCIs include a *wh*-word and an element translatable as ‘or’: Korean, Russian, Hungarian, Basque, Latvian, Ossetic, Hausa, and West Greenlandic.

The other group is represented by languages where FCIs include an indefinite or a *wh*-word plus a conjunctive or a focus-sensitive particle (additive ‘also, too’ or scalar ‘even’). Well-known examples include Hindi *ek bhii*, lit. *also/even+one*, Malayalam *aarum* lit. *and/also/even+who*, Hungarian *akárki*, lit. *even+who* (see e.g. Haspelmath 1997, Slade 2011, Szabolcsi 2018, Jayaseelan 2001 for discussion and further examples).

A number of existing analyses of both kinds of free choice paradigms aim to derive their meaning compositionally, taking into account the contribution of the (disjunctive or the conjunctive/additive) particle to the free choice behavior (see e.g. Caponigro and Fălăuş 2018, Szabolcsi 2019). The pattern we discuss in this paper is more complex and involves a previously unobserved combination of particles, with both a disjunctive and an additive particle. Consequently, none of the existing analyses applies straightforwardly. The challenge in the case of ADD-FCIs is to see how the different elements combine compositionally and determine how the meaning of the disjunctive and the additive particle at the word-internal level compares with their meaning elsewhere in the language.

<sup>3</sup>Here we focus on word-level composition and set aside more complex paradigms, such as free choice paradigms involving various verbal forms, e.g. ‘want/please’ (Spanish *cualquiera*), ‘it may be’ (French *wh + que ce soit*, Italian *qualsiasi*), ‘no matter’ (French *n’importe + wh*), see Haspelmath (1997: Ch. 6)

## 2.2 Unconditionals and free choice

ADD-FCIs are licensed in unconditionals, i.e. sentences like those in (8):

- (8) Whoever comes to the party, it will be fun.

Rawlins (2008, 2013) uses the term ‘constituent unconditional’ to describe this type of structure, while the typological literature (e.g. Haspelmath & König 1998) refers to them as ‘universal concessive clauses’.<sup>4</sup> In his detailed study of English unconditionals, Rawlins (2008) identifies a number of key properties for constructions like the one in (8). Morphosyntactically, they involve an adjunct *wh*-clause, where the *wh*-word is modified by *-ever* and obligatorily fronted. Semantically, unconditionals come with an implication that the choice of alternative in the antecedent does not matter, a property referred to as ‘relational indifference’. A related observation is that unconditionals entail their consequent, i.e. the main clause—(8) for example entails that the party will be fun. Finally, unconditionals can have a speaker-ignorance implication, as evidenced by the incompatibility with a *namely* continuation (a test first used in Dayal 1997 for *-ever* free relative clauses):

- (9) Whoever comes to the party (# namely Alfonso), it will be fun.

Unconditionals are to be distinguished from concessive conditional clauses, like those in (10):

- (10) Even if someone uninvited comes, the party will be fun.

We will not discuss the differences between the two constructions in this paper (but see Haspelmath and König 1998 and Erlewine 2020 for relevant discussion). We will simply note that in Romanian, both FCIs and ADD-FCIs are ruled out from this type of conditionals.

Moving beyond English, there seems to be quite a lot of variation in the way unconditionals are realized cross-linguistically (see Haspelmath and König 1998 for an overview of strategies used in the languages of Europe). However, there are a number of recurring morphosyntactic elements, which turn out to be relevant for our understanding of ADD-FCIs. The first one we already mentioned, namely the presence of a (typically fronted) *wh*-element (either bare or modified *wh*-word). The second ingredient that is pervasive in unconditionals across languages is a focus particle akin to ‘also’ or ‘even’, e.g. Dutch *ook*, German *auch*, Greek *ke*, Bulgarian *i*. Finally, many languages use conditional or subjunctive mood in unconditionals. These elements do not necessarily co-occur, although they might. For instance, in addition to the fronted *wh*-word, the Dutch unconditional in (11a) uses the focus-sensitive particle *ook*, the French one in (11b) uses the subjunctive mood, whereas in Greek and Kannada, we see both the particle and the mood markers (12a-b).

- (11) a. Dutch (Haspelmath & König 1998: 611)  
Waar ze ook maar heen gaat, hij zal haar nooit verlaten.  
where she also only to goes he will her never leave  
‘Wherever she goes, he will never leave her.’  
b. French

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<sup>4</sup>Rawlins also discusses other well-documented types of unconditionals across languages, e.g. so-called headed unconditionals, e.g. *No matter/Regardless of who comes to the party, it will be fun* and alternative unconditionals, e.g. *Whether Alfonso or Joanna comes to the party, it will be fun*. To this, we can add doubling unconditionals, e.g. *Venga quien venga, estará contento* ‘Whoever comes, I’ll be happy’, most recently discussed in Šimík (2019). In Romanian, these are realized by constructions that are unrelated to free choice items, so we will set them aside in the rest of the paper. Accordingly, we use the term ‘unconditionals’ as an abbreviation for ‘constituent unconditionals’.

Quoi que ce soit                      que je fasse, la situation reste compliquée.  
 what that it be.SUBJ.3sg that I do.SUBJ the situation stays complicated  
 ‘Whatever (it is that) I do, the situation is complicated.’

- (12) a. Greek (Haspelmath & König 1998: 611)  
 Opudipote ke na pi, afts pot den ta tin engatalpsi.  
 REL-where-ever also SUBJ goes he ever not FUT her will.leave  
 ‘Wherever she goes, he will never leave her.’  
 b. Kannada (Haspelmath 1997: 136)  
 Avalu estu heei-d-ar-uu keel-al-ee illa.  
 she how.much tell-PAST-COND-even listen-INF-EMPH NEG  
 ‘However much she was told, she didn’t listen.’

The Romanian data we investigate in this paper has all these ingredients, although the internal composition of ADD-FCIs (with an additive particle as an infix in a *wh*-based free choice item) is, to our knowledge, previously unobserved. We will show that each one of these components ends up contributing to the interpretation and the restricted distribution of ADD-FCIs.

As far as the interpretation of unconditionals is concerned, the literature has mostly revolved around the issue of whether they are related to questions Rawlins (2008, 2013) or rather to free relatives (Izvorski 2000, Hirsch 2016, Šimík 2019, Simik forthcoming). Recent work on this topic also focuses on the connection between unconditionals and free choice phenomena across languages and explores unified analyses (Szabolcsi 2019, Gonzalez and Lohiniva 2020, Balusu 2019). The data available so far shows that most *wh*-based indefinites used in unconditionals can also be used in typical free choice environments (and sometimes negative polarity ones as well). We already illustrated this for FCIs in Romanian above and (13) provides further examples from English and French, where the *whoever* and *quoi que ce soit* are licensed by a possibility modal:

- (13) a. You can invite whoever you want to the party.  
 b. Marie peut lire quoi que ce soit.  
 Marie can read what that it be.SUBJ.3sg  
 ‘Marie can read anything.’

The connection between FC and unconditionals is not free of restrictions though. In particular, it has been observed that FC *any* cannot be used, or is at best marginal in unconditionals (Szabolcsi 2019):

- (14) a. You may bring anything you like to the potluck.  
 b. ??Anything you bring to the potluck, the guests will be happy.

This paper brings to light the opposite pattern: Romanian ADD-FCIs are items that are licensed in unconditionals, but ruled out from typical free choice environments, e.g. modal contexts, generic statements, imperatives. The cross-linguistic picture that needs to be accounted for thus looks as follows:

	FC environments	Unconditionals
<i>whoever, oricine (Rom), akárki (Hun), quoi que ce soit (Fr), etc.</i>	✓	✓
<i>anything</i>	✓	✗
<i>orişicine</i>	✗	✓

### 3 A compositional account of FCIs

Our analysis of ADD-FCIs builds on recent alternative-based approaches to free choice phenomena and free choice items (add references xxx). Before we develop an explicit account for the restricted distribution of ADD-FCIs, we introduce our assumptions about regular FCIs, focusing on two core properties: (i) universal-like interpretation (Section 3.1) and (ii) distribution restricted to modal contexts (Section 3.2). We then turn to the licensing of FCIs in unconditionals (Section 3.3 and 3.4).

#### 3.1 Deriving the universal component

We couch our analysis within the grammatical approach to deriving implicatures and adopt the approach in Fox (2007) for deriving free choice inferences for disjunctions and existential quantifiers (see Meyer 2015 for a more recent overview of the phenomenon). To offer a quick recap, the puzzle posed by free choice inferences is that the use of disjunction in the scope of a possibility modal like in (15a) gives rise to a stronger quasi-conjunctive reading, as in (15b). This FC inference cannot be derived by standard semantic or even pragmatic machinery.

- (15) a. Jenny can visit Anna or Betty.  $\Diamond(p \vee q)$   
 b. Jenny can visit Anna and and she can visit Betty.  $\Diamond p \wedge \Diamond q$

The general schema corresponding to such inferences is provided in (16): an assertion of a sentence as in (16a) gives rise to the FC inference in (16b). This is a useful generalization to have since the role of *OP* can also be played by plurals, *there* constructions, negated universal quantifiers, etc..<sup>5</sup>

- (16) a.  $OP(A \vee B)$   
 b.  $OP A \wedge OP B$

Fox (2007) has argued that the FC inference can and should be derived in the grammar, on a par with scalar implicatures. Within the grammatical approach to scalar implicatures, as laid out in Chierchia et al. (2012), implicatures arise as the result of a syntactic ambiguity resolution in favor of an LF which contains a covert exhaustivity operator *EXH* (building on work in Groenendijk and Stokhof 1984, Chierchia 2004, Spector 2006, Fox 2007, among others). Scalar elements activate alternatives and the grammar integrates these alternatives in within the meaning of the utterance by means of this exhaustification operator which is similar to overt *only* in that it negates all stronger alternatives. There are two important caveats: (i) unlike *only*, this operator also asserts its prejacent, and (ii) stronger alternatives are negated but only as long as no contradiction results when their negation is conjoined with the assertion. These two points are encoded in its semantics below where  $\mathcal{IE}(p, \text{Alt}(p))$  is meant to pick out those alternatives which are innocently excludable, that is, whose negation does not lead to a contradiction:

- (17)  $\text{EXH}(p) = p \wedge \forall q [q \in \mathcal{IE}(p, \text{Alt}(p)) \rightarrow \neg q]$   
 where  $\mathcal{IE}(p, \text{Alt}(p)) = \cap \{C' \subset \text{Alt}(p) : C' \text{ is a max subset of } \text{Alt}(p) \text{ s.t. } \{\neg q : q \in C'\} \cup \{p\} \text{ is consistent}\}$

<sup>5</sup>It is crucial to note that one other set of operators that fit the schema above are anti-additive operators which also license inferences from (16a) to (16b). The main difference between these sets of operators, however, is the fact that the inference with anti-additive operators is a logical entailment ( $\neg(p \vee q) \rightarrow \neg p \wedge \neg q$ ) whereas the inference with FC operators is not ( $\Diamond(p \vee q) \not\rightarrow \Diamond p \wedge \Diamond q$ ).

In the case of a disjunction, the first question to ask is what the relevant alternatives are. In order to derive its scalar implicature, the conjunctive alternative becomes relevant, and the result of applying EXH is in fact the strengthened exclusive interpretation that only one of the disjuncts is true.

- (18) LF: EXH [ $p \vee q$ ]  
 a.  $\text{Alt}(p \vee q) = \{p \vee q, p, q, p \wedge q\}$   
 b.  $\llbracket \text{EXH} [p \vee q] \rrbracket = (p \vee q) \wedge \neg(p \wedge q)$

Turning back to the FC inference of modalized disjunctive sentences, the relevant alternatives appear to be the individual disjuncts Sauerland (2004), Alonso-Ovalle (2006). Unlike in the case above, however, these alternatives cannot be negated without giving rise to a contradiction.

- (19) LF: EXH [ $\Diamond[p \vee q]$ ]  
 a.  $\text{Alt}(\Diamond(p \vee q)) = \{\Diamond(p \vee q), \Diamond p, \Diamond q\}$   
 b.  $\llbracket \text{EXH} [\Diamond[p \vee q]] \rrbracket = \Diamond(p \vee q) \wedge \neg \Diamond p \wedge \neg \Diamond q = \perp$

Following an insight by Kratzer and Shimoyama (2002) that the strengthened, implicature-enriched meanings of the individual alternatives are actually relevant, Fox (2007), as well as Alonso-Ovalle (2006) and Chierchia (2006) but within a different framework, proposes that the relevant LF is one employing recursive exhaustification, as in (20). The enriched, pre-exhaustified, alternatives are those in (20a) and amount to saying that it's only the case that  $p$  is possible, and it's only the case that  $q$  is possible. Taking as a concrete example (15), the alternatives would be that Jenny can visit Anna but not Betty and that Jenny can visit Betty but not Anna. Negating these alternatives, in conjunction with the assertion amounts to the conjunctive FC interpretation that Jenny can visit Anna and she can visit Betty.

- (20) EXH[EXH[ $\Diamond[p \vee q]$ ]]  
 a.  $\text{Alt}(\text{EXH}(\Diamond(p \vee q))) = \{\text{EXH} \Diamond(p \vee q), \text{EXH} \Diamond p, \text{EXH} \Diamond q\}$   
 $= \{\Diamond(p \vee q), \Diamond p \wedge \neg \Diamond q, \Diamond q \wedge \neg \Diamond p\}$   
 b.  $\text{EXH}(\text{EXH}(\Diamond(p \vee q))) = \Diamond(p \vee q) \wedge \neg(\Diamond p \wedge \neg \Diamond q) \wedge \neg(\Diamond q \wedge \neg \Diamond p)$   
 $= \Diamond p \wedge \Diamond q$

For the purposes of deriving the FC implicature we disregarded the SI but note that its presence is crucial. The reason for this is that otherwise we would predict FC implicatures to arise just as easily for non-modalized sentences; in other words, we would derive a conjunctive interpretation for plain disjunctive sentences. If, however, the SI is computed, the negation of the enriched alternatives cannot be added consistently: *not only p* and *not only q* are inconsistent with *p or q and not both*.

- (21) EXH[EXH[ $p \vee q$ ]]  
 a.  $\text{Alt}(\text{EXH}(p \vee q)) = \{\text{EXH}(p \vee q), \text{EXH } p, \text{EXH } q, \text{EXH}(p \wedge q)\}$   
 $= \{(p \vee q) \wedge \neg(p \wedge q), p \wedge \neg q, q \wedge \neg p\}$   
 b.  $\text{EXH}(\text{EXH}(p \vee q)) = (p \vee q) \wedge \neg(p \wedge q) \wedge \neg(p \wedge \neg q) \wedge \neg(q \wedge \neg p)$   
 $= p \wedge q$

So far we have discussed the case of FC implicatures with disjunction. The same mechanism as above can be employed to derive the universal implicature for existential quantifiers in modalized contexts, an implicature that is optional with plain existentials (such as the simple



indefinite *a* in English) and obligatory with FCIs (such as *any*) (22a)-(22b).

- (22) a. Jenny can visit a/any friend.  
b. Jenny can visit Anna, she can visit Betty and she can visit Carla.

The only difference in this case is that the alternatives are taken to be sub-domain alternatives: if the existential quantifies over a domain *D*, the alternatives will be smaller domains *D'*.

To illustrate our assumptions about FCIs, let us go through a concrete example. We assume that universal FCIs are, at their base, existential quantifiers following Chierchia (2013), Dayal (2013), Szabolcsi (2019) and pace Dayal (2004), Menéndez-Benito (2010), Aloni 2019 (see Alonso-Ovalle and Menendez-Benito forthcoming for a recent overview on free choice items). In the case of a universal FCI like *any*, which has the denotation in (23a), the relevant scope configuration is one where the existential quantifier takes scopes above the modal, as in (23b). The final interpretation is provided in (23c), which for a domain with three individuals amounts to a three-way disjunction, abbreviated as on the last line where *a*, *b*, *c* stand in for the corresponding propositions.

- (23) Jenny can visit any friend.  
a.  $\llbracket \text{any} \rrbracket = \lambda P. \lambda Q. \exists x \in D [P(x) \wedge Q(x)]$ , where  $D = \{\text{Anna, Betty, Carla}\}$   
b. LF:  $[\text{any friend}_i [\text{Jenny can visit } t_i]]$   
c.  $\llbracket \text{Jenny can visit any friend} \rrbracket = \exists x \in D [\text{friend}(x) \wedge \Diamond \text{visit}(\text{Jenny}, x)]$   
 $= \Diamond a \vee \Diamond b \vee \Diamond c$

What sets FCIs (and more generally items that are polarity-sensitive) apart from plain existentials is the obligatory activation of alternatives, which amounts to obligatory exhaustification. In the case at hand, the relevant alternatives are the sub-domain alternatives, which look as in (24a). Using the same procedure as above and the pre-exhaustified alternatives in (24b), we derive the strengthened universal interpretation in (24c), represented as  $\llbracket \dots \rrbracket^+$ .

- (24) a. Domain Alternatives:  $\exists x \in D' [\text{friend}(x) \wedge \Diamond \text{visit}(\text{Jenny}, x)]$ , where  $D' \subset D$
- $$\left\{ \begin{array}{ccc} & \Diamond a \vee \Diamond b \vee \Diamond c & \\ \Diamond a \vee \Diamond b & \Diamond b \vee \Diamond c & \Diamond a \vee \Diamond c \\ \Diamond a & \Diamond b & \Diamond c \end{array} \right\}$$
- b. Exhaustified Alternatives:  $\text{EXH}[\exists x \in D' [\text{friend}(x) \wedge \Diamond \text{visit}(\text{Jenny}, x)]]$ , where  $D' \subset D$
- $$\left\{ \begin{array}{ccc} & \Diamond a \vee \Diamond b \vee \Diamond c & \\ \Diamond a \vee \Diamond b \wedge \neg \Diamond c & \Diamond b \vee \Diamond c \wedge \neg \Diamond a & \Diamond a \vee \Diamond c \wedge \neg \Diamond b \\ \Diamond a \wedge \neg \Diamond b \wedge \neg \Diamond c & \Diamond b \wedge \neg \Diamond a \wedge \neg \Diamond c & \Diamond c \wedge \neg \Diamond a \wedge \neg \Diamond b \end{array} \right\}$$
- c.  $\llbracket \text{Jenny can visit any friend} \rrbracket^+ = \forall x \in D [\text{friend}(x) \rightarrow \Diamond \text{visit}(\text{Jenny}, x)]$   
 $= \Diamond a \wedge \Diamond b \wedge \Diamond c$

This procedure strengthens an existential to a universal. The end result is identical in the case of the universal FCIs we discussed in Romanian. Accordingly, the denotation of the Romanian equivalent of *anyone*, i.e. *oricine*, is as in (25a). However, due to the morphological make-up of FCIs (disjunction + *wh*-word), their internal composition is different. Here, we adopt Caponigro and Fălăuș (2018)'s account of FCIs in Romanian (and in particular their use in free relatives) and assume that on their non-interrogative uses, *wh*-words lack quantificational force and behave like (vacuous) set restrictors, as illustrated in (25b) for the *wh*-word *cine* 'who'. The alternative-triggering component is the prefix *ori*-, which turns the *wh*-word from

a non-quantificational item into a full-fledged existential FC element:

- (25) a.  $\llbracket \text{oricine} \rrbracket = \lambda Q. \exists x \in D[\text{human}(x) \wedge Q(x)]$   
 b.  $\llbracket \text{cine}_{\langle et, et \rangle} \rrbracket = \lambda P. \lambda x. [\text{human}(x) \wedge P(x)]$   
 c.  $\llbracket \text{ori-} \rrbracket = \lambda R_{\langle et, et \rangle}. \lambda P_{\langle e, t \rangle}. \lambda Q_{\langle e, t \rangle}. \exists x \in D[(R)(P)(x) \wedge Q(x)]$

### 3.2 Deriving the restricted distribution of FCIs

Let us now turn to the other defining property of FCIs, namely their restricted distribution. Typical environments include possibility modals (as illustrated in the previous section), generic statements or imperatives. Crucially however, they cannot occur in episodic or necessity modal statements unless they are subtriggered (Legrand 1975). Subtriggering a FCI amounts to including a post-nominal modifier, usually in the form of a relative clause.

- (26) a. Jenny visited any friend \*(that came to the party).  
 b. Jenny must visit any friend \*(that came to the party).

There are different proposals in the literature that account for this distributional restriction and which are compatible with the approach adopted here. The prevailing intuition in the literature has been that the set of individuals in the intersection of the nominal and the verbal property must vary across the worlds of the modal base (a requirement that Dayal (2009) calls 'fluctuation'). More recent variants of this requirement, discussed as the Viability Constraint, have been proposed by Dayal (2013) and adopted by Szabolcsi (2019). As Dayal describes it, this constraint is meant to build in "a kind of modal distributivity, requiring that each exhaustified alternative hold in some subset of accessible worlds." (p. 102)

(27) **Viability constraint (VC)**

[...FCI...] is felicitous iff there exists a model  $M$ , world  $w$ , and a conversational background  $g(w)$ , such that each exhaustified alternative is true at  $w$  w.r.t. to some subset of  $\cap g(w)$ .

In episodic sentences, i.e. in the absence of a modal, there is only one accessible world, the world of evaluation. Accordingly, VC cannot be satisfied. What about modal contexts? The viability constraint is evaluated at the smallest propositional constituent containing the FCI. If the FCI were interpreted under the modal, there would be only one world of evaluation and so VC would not be satisfied. But recall from the previous section that the FCI takes scope above the modal. After exhaustification (assuming once again  $D=\{a,b,c\}$ , the enriched meaning of the modal statement looks as in (28a) for a sentence with a possibility modal (22) and as in (28b) for a sentence with a necessity modal:

- (28) a.  $\forall x \in D[\text{friend}_w(x) \rightarrow \exists w': \text{ACC}(w, w'). \text{visit}_{w'}(\text{Jenny}, x)]$   $\Diamond a \wedge \Diamond b \wedge \Diamond c$   
 b.  $\forall x \in D[\text{friend}_w(x) \rightarrow \forall w': \text{ACC}(w, w'). \text{visit}_{w'}(\text{Jenny}, x)]$   $\Box a \wedge \Box b \wedge \Box c$

Let us start with the possibility modal and assume the models in (29). This statement would be true in a model like  $M_1$ , but VC would not be satisfied (as  $a$  is true in all worlds). Similarly for  $M_2$ . No such problem arises in  $M_3$ , where the assertion is true and VC is satisfied. Turning now to a case where the FCI co-occurs with a necessity modal, it is easy to see that none of the three models would work: the assertion is false in  $M_1$  and  $M_3$ , and  $M_2$  does not satisfy VC. More generally, for a sentence with the enriched interpretation in (28b), there is no model in which the assertion, the FC implicature and viability can all be satisfied since the assertion

and the VC are incompatible with each other.

- (29)  $W = \{w_1, w_2, w_3\}; \forall w \text{ friend}_w = \{a, b, c\}$
- a.  $M_1: \text{jenny.visits} = \{\langle w_1, \{a, c\} \rangle, \langle w_2, \{a\} \rangle, \langle w_3, \{a, b, c\} \rangle\}$
  - b.  $M_2: \text{jenny.visits} = \{\langle w_1, \{a, b, c\} \rangle, \langle w_2, \{a, b, c\} \rangle, \langle w_3, \{a, b, c\} \rangle\}$
  - c.  $M_3: \text{jenny.visits} = \{\langle w_1, \{a\} \rangle, \langle w_2, \{b\} \rangle, \langle w_3, \{c\} \rangle\}$

In subtriggering contexts, such as (26), it is argued that the postnominal quantifier contains a covert modal (which in many languages is made salient by the use of subjunctive mood, as discussed in Quer 1998 among others). The interpretation of (26a) is thus as follows:

- (30)  $\forall x \in D \exists w': \text{ACC}(w, w'). [[\text{friend}_{w'}(x) \wedge \text{at-the-party}_{w'}(x)] \rightarrow \text{visit}_{w'}(\text{Jenny}, x)]$

This amounts to modalizing the statement with respect to speaker's beliefs about the friends who were at the party (rather than with respect to the set of friends in the actual world). This is meant to leave room for uncertainty on the part of the speaker about friends who may not have been at the party. Accordingly, viability is satisfied by allowing the set of friends who were at the party and are visited by Jenny to vary across worlds.

Finally, let us also discuss the licensing of FCIs in generic statements such as (31):

- (31) a. Any student works hard.  
 b. LF:  $[\text{any student}_i [\text{GEN } [t_i] [\text{works hard}]]]$

As before, the FCI takes wide scope, meaning that the LF looks as in (31b). The generic operator involves universal quantification. So the question is why is the FCI licensed here, but not in a statement with a necessity modal such as (26b)? The intuition is similar to what we saw in subtriggering cases: the statement in (31a) is not about students in the actual world (i.e. a fixed domain), but rather a statement where the domain of students can vary across worlds. Evidence in favor of this comes from the unacceptability of a generic statement with a partitive, which arguably anchors the interpretation to a fixed domain, e.g. *Any of these students works hard*. This intuition is implemented by assuming that the world variable on *student* is existentially bound. The initial assertion thus looks as in (32a) and the enriched meaning, computed after exhaustification, as in (32b):

- (32) a.  $\exists x \in D \exists w': \text{ACC}(w, w'). [\text{student}_{w'}(x) \wedge [\text{GEN}_{w''} : \text{ACC}(w', w'')]. [\text{in}_{w''}(x)] [\text{work-hard}_{w''}(x)]]]$   
 b.  $\forall x \in D \forall w': \text{ACC}(w, w'). [\text{student}_{w'}(x) \rightarrow [\text{GEN}_{w''} : \text{ACC}(w', w'')]. [\text{in}_{w''}(x)] [\text{work-hard}_{w''}(x)]]]$

Once we allow students to vary across worlds, we have models like  $M_4$ , with worlds like  $w_2$  in which the only student is *a* and worlds like  $w_3$  in which the only student is *b*. The enriched meaning requires that any student in any world is such that they work hard in all accessible worlds. Viability is satisfied in this model: the exhaustified alternative *only student a works hard in all accessible worlds* is true in the worlds exemplified by  $w_2$  and similarly for *only student a works hard in all accessible worlds* with respect to  $w_3$ . This captures the licensing of the FCI in generic contexts.

- (33)  $M_4: \text{student} = \{\langle w_1, \{a, b\} \rangle, \langle w_2, \{a\} \rangle, \langle w_3, \{b\} \rangle\};$   
 $\text{work-hard} = \{\langle w'_1, \{a, b\} \rangle, \langle w'_1', \{a, b\} \rangle,$   
 $\langle w'_2, \{a\} \rangle, \langle w'_2', \{a\} \rangle,$   
 $\langle w'_3, \{b\} \rangle, \langle w'_3', \{b\} \rangle\}$

Note that the configuration above amounts to having two layers of modality. The same mechanism is at work in sentences where the generic is replaced with an overt modal, e.g. *Any student must work hard* (once again in contrast with the unacceptability of the partitive version *Any of these students must work hard*).

Summing up, we see that for a statement involving universal quantification over worlds (i.e. generic or necessity modal) to work, both the domain associated with the NP and the one associated with the VP must be able to vary. If something blocks this variation, e.g. the partitive in *\*Any of these students must work hard* or an indexical, as in *\*Any pilot must be flying this plane* (where the presence of ‘this plane’ anchors the VP wrt the actual world), viability is not satisfied and the FCI is not licensed.

We will not discuss here further how VC is satisfied in other environments licensing FCIs, and simply refer the interested reader to Dayal (2013), Szabolcsi (2019) (as well as Chierchia 2013 for a different implementation of this constraint). We now turn to the way in which this approach captures the behavior of FCIs in unconditionals.

### 3.3 The semantics of unconditionals

In this subsection we outline two recent analyses of unconditionals, as laid out in Rawlins (2008) and Szabolcsi (2019). The unconditional constructions we are interested in here are those akin to (34), namely structures involving a fronted adjunct *wh*-clause. In English, these structures almost always involve a *wh-ever* phrase, (34a), while in Romanian they are formed either with the FCI *ori-wh* or the ADD-FCI *oriși-wh*, (34b). The ultimate goal of this section is to present a viable analysis of these constructions that derives their universal-like interpretation compositionally and consistently with the derivation discussed above for FCIs.

- (34) a. Whoever may come, it will be fun.  
 b. Ori(și)cine ar veni, va fi frumos.  
 DISJ-(ADD)-who COND.3SG come will be nice  
 ‘Whoever may come, it will be nice.’

The starting point is the universal interpretation of these sentences. Rawlins pursues the intuition that the interpretation of an unconditional amounts to the conjunction of as many conditionals as there are individuals in the domain of the FCI. Specifically, for a sentence like (34a), the intuition is that it amounts to the same interpretation as the conjunction in (35):

- (35) If Jenny will come, it will be fun, if Betty will come, it will be fun, and . . .

#### 3.3.1 Rawlins 2008

Rawlins derives this interpretation in the following steps:<sup>6</sup>

1. The antecedent *whoever comes* denotes a Hamblin question, namely a set of propositions as below (Hamblin, 1973).

$$(36) \quad \llbracket \text{whoever may come} \rrbracket = \lambda p. \exists x \in D[p = \lambda w. x \text{ may come in } w]$$

2. There is a covert modal, akin to what is assumed to be the case in *if* conditionals, and the *wh*-clause acts as the restrictor of this conditional, similarly to how the antecedent of

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<sup>6</sup>We follow here the presentation in Hirsch (2016).

a conditional acts as the restrictor of the modal (Lewis, 1975, Kratzer, 1977, Heim, 1983).

$$(37) \quad \llbracket \Box \rrbracket = \lambda p. \lambda q. \lambda w. \forall w': \text{ACC}(w, w'). [p(w') \rightarrow q(w')]$$

3. The modal and the consequent combine point-wise with the set-denoting antecedent, with the final result being a set of conditionals.

$$(38) \quad \llbracket [\Box \text{ whoever may come}] [\text{it will be fun}] \rrbracket \\ = \lambda p. \exists x \in D [p = \lambda w. \forall w': \text{ACC}(w, w'). x \text{ may come in } w' \rightarrow \text{it will be fun in } w']$$

4. Finally, a universal quantificational operator  $Op$  acts on the set of propositions and returns their intersection.

$$(39) \quad \llbracket [Op[\Box \text{ whoever may come}]] [\text{it will be fun}] \rrbracket \\ = \lambda w. \forall p [\exists x \in D [p = \lambda w'. \forall w'': \text{ACC}(w', w''). x \text{ may come in } w'' \rightarrow \text{be fun in } w''] \\ \rightarrow p(w)]$$

One issue that has already been pointed out with this proposal is the stipulation of the high universal operator meant to deliver the overall universal interpretation. Not only is this choice of operator arbitrary, but it also fails to offer the desirable unification between the universal interpretation of FCIs and that of unconditionals, a unification called for by the fact that in a number of languages the same elements are used in both run of the mill FC environments, as well as in unconditionals, e.g. Romanian *oricine* ‘whoever/anyone’.

For the aforementioned reasons, we will instead adopt a more recent analysis by Szabolcsi (2019) which we believe succeeds in establishing a parallel between unconditionals and traditional FC constructions.

### 3.3.2 Szabolcsi 2019

The gist of her proposal is as follows: show that an unconditional denotes, at its core, an existential over conditionals and argue that this existential statement undergoes obligatory recursive exhaustification, delivering the enriched conjunctive interpretation. The trick underlying this proposal is establishing how the existential quantifier, otherwise embedded in the clause acting as the antecedent of the conditional, can escape it and take wide scope over the conditional. One piece of support for allowing this quantification to occur higher in the structure is the obligatory fronting of the FCI; *akár* expressions, and similarly *ori(și)* expressions overtly move to a position whereby they can take higher scope than otherwise. This movement is crucially not available for *any* in English but it is for *wh*-based elements, hence the unacceptability of *any* in unconditionals.

There are a number of different proposals to derive this exceptional wide scope. Szabolcsi herself follows Kratzer and Shimoyama (2002) and takes quantificational particles like Hungarian *akár* or Romanian *ori* to signal a higher existential silent quantifier in the structure. We provide the step-by-step derivation for an unconditional like *Whoever will come, it will be nice* below. For reference, we also present a tree lifted from Szabolcsi’s paper for the unconditional *Whoever called, we chatted*.

1. The adjunct clause denotes a set of propositions which gets existentially lifted ( $\exists$ -lift) into an existential quantifier over propositions:

$$(40) \quad \llbracket \text{whoever will come} \rrbracket = \lambda P. \exists x \in D [P(\lambda w. x \text{ will come in } w)]$$

2. The consequent clause ‘it will be nice’ is lifted into an object that can act as the consequent of a conditional looking for an antecedent:

$$(41) \quad \llbracket \text{it will be nice} \rrbracket = \lambda r. \forall w \in \text{Acc}_w [r(w) \rightarrow \text{it will be nice in } w]$$

3. Functional application delivers an existential over conditionals.

$$(42) \quad \begin{aligned} &\llbracket \text{whoever will come} \rrbracket (\llbracket \text{it will be nice} \rrbracket) \\ &= \exists x \in D [\forall w \in \text{Acc}_w [x \text{ will come in } w \rightarrow \text{it will be nice in } w]] \end{aligned}$$

4. This disjunction undergoes recursive exhaustification delivering a conjunction:

$$(43) \quad \llbracket (42) \rrbracket^+ = \forall x \in D [\forall w \in \text{Acc}_w [x \text{ will come in } w \rightarrow \text{it will be nice in } w]]$$

This then takes the consequent clause as an argument and delivers the existential quantifier over conditionals. At the topmost level the exhaustification associated with the disjunctive particle is invoked and a conjunction of conditionals is derived.

$$\begin{array}{l} (23) \quad \{ \text{Akárki} / \text{akár } K \text{ akár } M \} \text{ telefonált,} \quad \text{elbeszélgettünk.} \\ \quad \quad \text{'Whoever / Whether } K \text{ or } M \text{ called, we chatted'} \\ \\ \forall w, e [\text{call}(k)(w, e)] [\text{chat}(w, e)] \wedge \forall w, e [\text{call}(m)(w, e)] [\text{chat}(w, e)] \\ \quad \quad \text{strengthening} \downarrow \\ \lambda P [P(\lambda w, e. \text{call}(k)(w, e)) \vee P(\lambda w, e. \text{call}(m)(w, e))] (\lambda r [\forall w, e [r(w, e)] [\text{chat}(w, e)]]) \\ = \forall w, e [\text{call}(k)(w, e)] [\text{chat}(w, e)] \vee \forall w, e [\text{call}(m)(w, e)] [\text{chat}(w, e)] \\ \quad \quad \text{quantifying-in} \downarrow \\ \lambda P [P(\lambda w, e. \text{call}(k)(w, e)) \vee P(\lambda w, e. \text{call}(m)(w, e))] \quad \lambda r [\text{if } (r) (\lambda w, e. \text{chat}(w, e))] = \\ \quad \quad \quad \lambda r [\forall w, e [r(w, e)] [\text{chat}(w, e)]] \\ \quad \quad \quad \downarrow \quad \quad \quad \text{lift to consequent} \downarrow \\ \exists\text{-lift} \downarrow \quad \quad \quad \text{elbeszélgettünk} \\ \{ \text{akárki telefonált} / \text{akár } K \text{ akár } M \text{ telefonált} \} \quad \lambda w, e. \text{chat}(w, e) \\ \lambda p [p = \lambda w, e. \text{call}(k)(w, e) \vee p = \lambda w, e. \text{call}(m)(w, e)] \end{array}$$

### A Charlow-esque implementation, for fun (can definitely be skipped)

Another option is to derive this meaning via the Charlow 2019 method for deriving exceptional wide scope to indefinites. Below we present the step-by-step composition of the meaning of an unconditional structure. We are assuming the same underlying structure as that for a conditional sentence where the indefinite takes widest scope, with the only difference being the unpronounced conditional operator *if* and the overt quantifier fronting.

- (44) *Oricine va veni, va fi frumos.*  
FCI will come will be nice  
'Whoever comes, it will be nice.'

1. The adjunct *wh*-clause hosting the FCI *oricine va veni* ‘whoever will come’ denotes a set of propositions at its core, as many propositions as there are elements in the domain of quantification of the FCI. It gets existentially lifted into a generalized quantifier over proposi-

tions; this step being the crucial point at which the existential is essentially instructed to take wide scope.  $(\langle st, t \rangle \rightarrow \langle stt, t \rangle)$

(45) existential lift: (a)  $\rightarrow$  (b)

- a.  $\llbracket \text{oricine va veni} \rrbracket = \lambda p. \exists x \in D[p = \lambda w. x \text{ will come in } w]$
- b.  $\llbracket \text{oricine va veni} \rrbracket = \lambda P. \exists x \in D[P(\lambda w. x \text{ will come in } w)]$

2. The consequent clause *va fi frumos* ‘it will be nice’ is lifted into an object that can act as the consequent of a conditional looking for an antecedent  $(\langle s, t \rangle \rightarrow \langle st, t \rangle)$

(46) lift to consequent: (a)  $\rightarrow$  (b)

- a.  $\lambda w. \text{it will be nice in } w$
- b.  $\lambda r. [\text{if } (r)(\lambda w. \text{it will be nice in } w)] = \lambda r. \forall w \in \text{Acc}_@ [r(w) \rightarrow \text{it will be nice in } w]$

3. The adjunct *wh*-clause takes the consequent as an argument and delivers an existential over conditionals.

(47)  $\llbracket \text{oricine va veni} \rrbracket (\llbracket \text{va fi frumos} \rrbracket)$   
 $= \lambda P. \exists x \in D[P(\lambda w. x \text{ will come in } w)] (\lambda r. \forall w \in \text{Acc}_@ [r(w) \rightarrow \text{it will be nice in } w])$   
 $= \exists x \in D[\forall w \in \text{Acc}_@ [x \text{ will come in } w \rightarrow \text{it will be nice in } w]]$

4. At this point, this disjunction of conditionals undergoes recursive exhaustification to deliver the final strengthened conjunctive interpretation.

(48)  $\llbracket \text{oricine va veni, va fi frumos} \rrbracket^+$   
 $= \forall x \in D[\forall w \in \text{Acc}_@ [x \text{ will come in } w \rightarrow \text{it will be nice in } w]]$

### 3.4 The modal component in unconditionals

Turning next to the VC requirement, Szabolcsi argues that unlike in the case of FCIs in traditional modal statements, in unconditionals the VC is checked on the adjunct *wh*-clause alone, rather than on the conditional statement underlying each alternative. This is because if VC were checked on the entire unconditional *Whoever may come, it will be fun*, the VC would require there to be worlds where *if Mary comes, it will be fun* is true and worlds where it is not. Intuitively, however, that is not what the VC seems to be after. Instead, the variation seems to be with respect to the antecedent clause alone, namely that there be worlds where Mary comes, and worlds where she doesn’t, and so on for each individual.

What we see in unconditionals then is very similar to what we see in generics and subtriggering statements (which involve covert modality), namely that the extension of the noun must vary across worlds. This is further supported by the fact that even sentences that use an episodic past have a generic/iterative/habitual flavor:

(49) Oricine a venit, m-am bucurat.  
 FCI has come me-was pleased  
 ‘Whoever came, I was happy.’

Checking that the VC is satisfied amounts to checking that, for every alternative  $x \in D$ , there are worlds where  $x$  came and worlds where  $x$  didn’t come. And all worlds where  $x$  came are worlds where the speaker was pleased.

Concretely, for the FCI to be licensed, the presupposition in (50a) needs to be satisfied:

- (50) a.  $\forall q[q \in \lambda p[p = \lambda w. x \text{ comes in } w] \rightarrow [\exists w.q(w) \wedge \exists w.\neg q(w)]]$   
*lit.:* for every alternative to the *wh*-adjunct clause, that alternative needs to be true in some world and false in some other world.  
 b.  $\forall q[q \in \{a \text{ comes}, b \text{ comes}, c \text{ comes}\} \rightarrow [\exists w.q(w) \wedge \exists w.\neg q(w)]]$

In our toy example where  $D = \{a, b, c\}$ , this amounts to the requirement in (50b). This condition would not be satisfied in  $M_1$ , but it would be satisfied in  $M_2$ , as for each  $x$  in  $D$ , there are worlds where  $x$  will come and worlds where  $x$  will not come.

- (51) a.  $M_1: \{\langle w_1, \{a, b, c\} \rangle, \langle w_2, \{a, b, c\} \rangle, \langle w_3, \{a, b, c\} \rangle\}$   
 b.  $M_2: \{\langle w_1, \{a\} \rangle, \langle w_2, \{b\} \rangle, \langle w_3, \{c\} \rangle\}$

## 4 A compositional account of additive FCIs

In the previous section we showed how the universal interpretation of *oricine* comes about in modalized sentences as well as in unconditional sentences in a uniform manner, namely by assuming an underlying existential interpretation for the quantifier and having its host proposition undergo obligatory recursive exhaustification. The goal of this section is to understand how additive FCIs are interpreted in light of what we know about regular FCIs.

### 4.1 The contribution of *și*

In this subsection we discuss the contribution of the particle *și* is, especially as it relates to its uses as a stand-alone particle. We propose that *și* makes the same contribution, both as an infix and as a stand-alone particle. Recall that *și* can function as a conjunctive particle (52a), an additive particle (52b) and a scalar particle (52c).

- (52) a. Ana a mâncat (și) salată și supă.  
 Ana has eaten ADD salad ADD soup  
 ‘Ana ate (both) salad and soup.’  
 b. Și Ana a mâncat salată.  
 ADD Ana has eaten salad  
 ‘Ana ate salad too.’  
 c. Și Ana a venit la petrecere.  
 ADD Ana has come to party  
 ‘Even Ana came to the party.’

We argue that the baseline interpretation of the particle *și* is that of an additive, rather than of a scalar particle; the conjunctive interpretation is essentially the same as the additive while the scalar interpretation is the result of a further possibly covert scalar operator. The contribution of the additive particle *și* in (52b) is that someone else ate. Following Nicolae (2020) and building on Mitrović and Sauerland (2016) and Szabolcsi (2017), we propose that this inference can be derived via exhaustification of the assertion with respect to its pre-exhaustified variant, as in (53a); the alternative is derived by replacing the focus associate of *și*, namely *Ana*, with a relevant alternative. The result of exhaustification is derived in (53b), namely that the prejacent and a relevant alternative are both true.

- (53) Let  $p = \lambda w. \text{Ana ate in } w$ ;  $q = \lambda w. \text{Betty ate in } w$ .  
 a.  $\llbracket \text{și Ana ate} \rrbracket = p$



- b.  $\llbracket \text{\textit{\textsf{ş}}i Ana ate} \rrbracket^+ = \llbracket \text{EXH} \rrbracket(\llbracket \text{\textit{\textsf{ş}}i Ana ate} \rrbracket)$
- c.  $\text{Alt}(\text{\textit{\textsf{ş}}i Ana ate}) = \{p, \text{EXH } p\} = \{p, p \wedge \neg q\}$
- d.  $\begin{aligned} \llbracket \text{\textit{\textsf{ş}}i Ana ate} \rrbracket^+ &= \llbracket \text{EXH} \rrbracket(\llbracket \text{\textit{\textsf{ş}}i Ana ate} \rrbracket) \\ &= p \wedge \neg (p \wedge \neg q) \\ &= p \wedge q \end{aligned}$

When *ş*i functions as an infix, we propose that its focus associate is the FC existential quantifier. The exhaustification happens with respect to the pre-exhaustified prejacent, the alternatives for which are distinct domains  $D' = \{d, e\}$ . Exhaustification with respect to a different domain will deliver the intuitively correct meaning that ADD-FCIs are, at their core, existential quantifiers over domains larger than those of the corresponding FCI *oricine*. The only way to increase the domain of quantification is by including marginal entities, which by their very nature will correspond to entities not thought to be relevant or likely. This straightforwardly delivers the fact that the use of ADD-FCIs is associated with an emphatic effect, akin to the scalar presupposition accompanying scalar particles like *even*.

(54) Let  $p(x) = \lambda w. x$  will come in  $w$

- a.  $\llbracket \text{oricine will come} \rrbracket = \llbracket \text{oricine will come} \rrbracket = \exists x \in D [p(x)]$
- b.  $\llbracket \text{oricine will come} \rrbracket^+ = \llbracket \text{EXH} \rrbracket(\llbracket \text{oricine will come} \rrbracket)$
- c.  $\begin{aligned} \text{Alt}(\text{oricine will come}) &= \{\exists x \in D [p(x)], \text{EXH}[\exists x \in D [p(x)]]\} \\ &= \{\exists x \in D [p(x)], \exists x \in D [p(x)] \wedge \neg \exists x \in D' [p(x)]\} \end{aligned}$
- d.  $\begin{aligned} \llbracket \text{oricine will come} \rrbracket^+ &= \exists x \in D [p(x)] \wedge \neg [\exists x \in D [p(x)] \wedge \neg \exists x \in D' [p(x)]] \\ &= \exists x \in D [p(x)] \wedge \exists x \in D' [p(x)] \\ &= \exists x \in D' [p(x)] \end{aligned}$

Note that the result of this *ş*i-induced exhaustification is weakening locally but strengthening globally. Assuming *ş*i exhaustification occurs first, we go from existential quantification over a smaller domain to existential quantification over a larger domain (weakening).

$$(55) \quad \begin{aligned} \llbracket \text{oricine may come, it will be nice} \rrbracket &= \exists x \in D' [\forall w [p_w(x) \rightarrow q_w]] \\ &\quad \uparrow \\ \llbracket \text{oricine may come, it will be nice} \rrbracket &= \exists x \in D [\forall w [p_w(x) \rightarrow q_w]] \end{aligned}$$

Once the recursive exhaustification induced by *ori* occurs, however, the result will be stronger than if *ş*i had not applied: from universal quantification over a domain  $D$  to universal quantification over the larger domain  $D'$ .

$$(56) \quad \begin{aligned} \llbracket \text{oricine may come, it will be nice} \rrbracket^+ &= \forall x \in D' [\forall w [p_w(x) \rightarrow q_w]] \\ &\quad \downarrow \\ \llbracket \text{oricine may come, it will be nice} \rrbracket^+ &= \forall x \in D [\forall w [p_w(x) \rightarrow q_w]] \end{aligned}$$

[side note: the order of exhaustification could be reversed without affecting the final interpretation, but for reasons related to what we will discuss next, the application of *ş*i exhaustification should precede that of *ori* exhaustification.]

## 4.2 The mood restriction

Recall the contrast from the introduction, repeated below in (57), which shows that the conditional mood is necessary to license ADD-FCIs.

- (57) a. Oricine/ Orişicine      ar      suna azi,    sunt ocupată.  
DISJ-who DISJ-ADD-who COND.3SG ring today am busy  
'Whoever may call today, I'm busy.'  
b. Oricine    /\*orişicine      va      suna azi,    sunt ocupată.  
DISJ-who DISJ-ADD-who will.3SG ring today am busy  
'Whoever is going to call today, I'm busy.'

We argue that the presence of *şi* makes the use of the indicative mood in the unconditional construction lead to a presupposition failure. We follow Schlenker (2005) who argues that the indicative carries a presupposition that the worlds under consideration, say the set of accessible worlds, are only those in the context set (CS), whereas a non-indicative mood carries no such presupposition. The intuition we want to pursue is the following: The additional (unlikely/remote) entities introduced by *şi* make VC unsatisfiable since the worlds under consideration are only those in the CS and in those worlds the propositions corresponding to those additional entities will always be false. In order to satisfy VC, a larger set of worlds needs to be considered, hence the move to the conditional mood, which carries no restriction about the worlds under consideration, thus allowing even more remote worlds to be considered and in turn even more remote entities to be considered.

**The compositional puzzle** The question at this point is the following: at which level does the exhaustification associated with the additive particle occur? There are, in principle, two possibilities, either at the embedded, adjunct level, or at the matrix level. Either way, the exhaustification associated with the additive particle *şi* will occur before the FC exhaustification associated with the disjunctive particle *ori*. Recall that the exhaustification operator is defined to act on propositions, so regardless of where it occurs, its sister will need to be a proposition. What does this mean if we want to apply it at the embedded level? EXH would need access to a proposition, but neither Szabolcsi's nor Charlow's approach delivers a propositional-type object corresponding to the adjunct phrase. The only way to achieve a proposition for Szabolcsi/Charlow would be by applying the existential closure at the level of the antecedent, but doing so would block the existential from taking higher scope. So there is no way, within this type of system, to deliver the domain widening at the embedded level.

At the matrix level, on the other hand, there is no problem having the EXH operator apply right after the quantifying in (Szabolcsi's system) or the existential closure (Charlow's) takes place, delivering the required interpretation.

So we are left with the following conclusion: the exhaustification called for by the additive particle can only occur at the matrix level.

Recall that Szabolcsi argues that the VC is checked at the level of the adjunct clause, essentially by checking that each member of the proposition set is true in some worlds and false in other worlds. The issue, however, as laid out above, is that the contribution of *şi*, if assumed to be achieved via application of an EXH operator, can only take place at the matrix level, meaning that at the point where the VC is checked, the set associated with the adjunct will be the same with or without *şi*. In other words, if we maintain that the VC must be checked at the adjunct level, then it will essentially be blind to the contribution made by *şi*. We are thus left with a puzzle as to how to make the contribution of *şi* (which in turn we take to be responsible for the conditional mood requirement) visible to VC.

## 5 Summary and open issues

But what about non-unconditional sentences, where the conditional mood is present?

- (58) %Aş vorbi cu oricine la telefon acum.  
COND.1SG talk with ADD-FCI on phone now  
'I would talk with anyone on the phone right now.'

Our analysis predicts these to be acceptable. As mentioned in Section 1, there is speaker variation wrt the acceptability of ADD-FCIs in these contexts, but the extent of this variation is still a matter of empirical investigation. However, even for speakers who accept (58), the unconditional is a better licenser. The question then is what it is about unconditionals that makes them such hospitable environments for ADD-FCIs.

This is clearly a more general question about the semantics of unconditionals, which goes beyond ADD-FCIs. More generally, there is growing cross-linguistic evidence that unconditionals act as licensors of various otherwise ruled out configurations, a tendency which emphasizes the need for a better understanding of the properties of unconditionals. In addition to ADD-FCIs, examples encountered so far include:

- indeterminates in Japanese, which normally need a particle like *-ka/-mo* to acquire a quantificational meaning, can be bare in unconditionals:

- (59) Dare-ga ko-yooga(-\*mo/\*ka), Taro-wa yorokob-u daroo.  
who-NOM come-SUBJ-MO/KA Taro-TOP please-PRES will  
'Whoever will come, Taro will be pleased.' (Nakanishi and Hiraiwa 2019)

- doubling unconditionals discussed in Šimík (2019):

- (60) Venga quien venga, estaré contento.  
come.SUBJ.3SG who come.SUBJ.3SG be.FUT.1SG happy  
'Whoever comes, I'll be happy'

- Dayal and Bhatt (in a handout on the polar interrogative particle *kyaa*): 'In ordinary question, *wh*-phrases cannot combine with *hii* 'only' or *bhii* 'even/also'. However, when *wh*-phrases appear in unconditionals, they can combine with these elements.'
- V. Dayal (p.c.): *Whether Mary comes \*(or not), I'll be fine.*

## References

- Alonso-Ovalle, Luis. 2006. Disjunction in alternative semantics. Doctoral Dissertation, University of Massachusetts at Amherst, Amherst, MA.
- Caponigro, Ivano, and Anamaria Fălăuș. 2018. Free choice free relatives in Italian and Romanian. *Natural Language and Linguistic Theory* 36:323–363.
- Charlow, Simon. 2019. The scope of alternatives: indefiniteness and islands. *Linguistics and Philosophy* 43:427–472.
- Chierchia, Gennaro. 2004. Scalar implicatures, polarity phenomena, and the syntax/pragmatics interface. In *Structures and Beyond*, ed. Adriana Belletti, volume 3, 39–103. Oxford University Press.
- Chierchia, Gennaro. 2006. Broaden your views: Implicatures of domain widening and the ‘logicality’ of language. *Linguistic Inquiry* 37:535–590.
- Chierchia, Gennaro. 2013. *Logic in Grammar*. Oxford University Press.
- Chierchia, Gennaro, Danny Fox, and Benjamin Spector. 2012. Scalar implicatures as a grammatical phenomenon. In *Semantics: An International Handbook of Natural Language Meaning*, ed. C. Maienborn, P. Portner, and K. von Stechow, volume 3, 2297–2332. New York, NY: Mouton de Gruyter, Berlin & Boston: de Gruyter edition.
- Dayal, Veneeta. 2004. The universal force of free choice any. *Linguistic Variation Yearbook* 4:5–40.
- Dayal, Veneeta. 2009. Variation in English free choice items. In *Universals and Variation: Proceedings of GLOW in Asia VII*, ed. R. Mohanty and M. Menon.
- Dayal, Veneeta. 2013. A viability constraint on alternatives for free choice. In *Alternatives in Semantics*, ed. Anamaria Fălăuș, 88–122. Palgrave Studies in Pragmatics, Language and Cognition.
- Farkas, Donka. 2013. The semantics of determiners. In *A reference grammar of Romanian*, ed. Carmen Dobrovie-Sorin and Ion Giurgea, 175–230. Amsterdam: John Benjamins.
- Fox, Danny. 2007. Free choice disjunction and the theory of scalar implicatures. In *Presupposition and Implicature in Compositional Semantics*, ed. Uli Sauerland and Penka Stateva, 71–120. New York: Palgrave Macmillan.
- Gonzalez, Aurore, and Karoliina Lohiniva. 2020. A compositional semantics for free choice constituent unconditionals. In *Sinn und Bedeutung (SuB) 24*, volume 1, 223–241. Osnabrück/Berlin: Osnabrück University and Humboldt University of Berlin.
- Groenendijk, Jeroen, and Martin Stokhof. 1984. Studies on the semantics of questions and the pragmatics of answers. Doctoral Dissertation, University of Amsterdam, Amsterdam, Netherlands.
- Hamblin, C. L. 1973. Questions in Montague English. *Foundations of Language* 10.
- Haspelmath, Martin, and Ekkehard König. 1998. Concessive conditionals in the languages of Europe. In *Adverbial constructions in the languages of Europe*, ed. Johan van der Auwera, 563–640. de Gruyter. URL <https://doi.org/10.1515/9783110802610.563>.
- Heim, Irene. 1983. On the projection problem for presuppositions. In *West Coast Conference on Formal Linguistics*, volume 2, 114–125.
- Hirsch, Aron. 2016. A compositional semantics for *wh-ever* free relatives. In *Sinn und Bedeutung (SuB) 20*, ed. N. Bade, P. Berezovskaya, and A. Schöller, 341–358.
- Kratzer, Angelika. 1977. What ‘must’ and ‘can’ must and can mean. *Linguistics and Philosophy* 1:337–355.

- Kratzer, Angelika, and Junko Shimoyama. 2002. Indeterminate pronouns: The view from Japanese. In *Tokyo Conference on Psycholinguistics*, ed. Yukio Otso, volume 3, 1–25.
- Lewis, David. 1975. Adverbs of quantification. In *Formal semantics of natural language*, ed. Edward L. Keenan, 3–15. Cambridge: Cambridge University Press.
- Menéndez-Benito, Paula. 2010. On universal free choice items. *Natural Language Semantics* 18:33–64. URL <https://doi.org/10.1007/s11050-009-9050-x>.
- Meyer, Marie-Christine. 2015. An Apple or a Pear. Free Choice Disjunction. To appear in Wiley’s Companion to Semantics.
- Mitrović, Moreno. forthcoming. *Microsemantics*. Series in Natural Language & Linguistic Theory. Springer.
- Mitrović, Moreno, and Uli Sauerland. 2016. Two conjunctions are better than one. *Acta Linguistica Hungarica* 63:471–494.
- Nicolae, Andreea C. 2020. Negative polarity additive particles. To appear in the Proceedings of the 2<sup>nd</sup> Workshop on Logic, Language, and Meaning: Monotonicity in Logic and Language.
- Rawlins, Kyle. 2008. (Un)conditionals: an investigation in the syntax and semantics of conditional structures. Doctoral Dissertation, UC Santa Cruz.
- Rawlins, Kyle. 2013. (Un)conditionals. *Natural Language Semantics* 21:117–178.
- Sauerland, Uli. 2004. Scalar implicatures in complex sentences. *Linguistics and Philosophy* 27:367–391.
- Schlenker, Philippe. 2005. The lazy frenchman’s approach to the subjunctive. In *Proceedings of Going Romance XVII*, ed. Twan Geerts, Ivo van Ginneken, and Haïke Jacobs, 269–309.
- Šimík, Radek. 2019. Doubling unconditionals and relative sluicing. *Natural Language Semantics* 28:1–21. URL <https://doi.org/10.1007/s11050-019-09157-4>.
- Slade, Benjamin. 2011. Formal and Philological Inquiries Into the Nature of Interrogatives, Indefinites, Disjunction, and Focus in Sinhala and Other Languages. Doctoral Dissertation, University of Illinois. URL <http://semanticsarchive.net/Archive/TdhYTM3Y/>.
- Spector, Benjamin. 2006. Aspects de la pragmatique des opérateurs logiques. Doctoral Dissertation, Université Paris-VII, Paris, France.
- Szabolcsi, Anna. 2017. Additive presuppositions are derived through activating focus alternatives. In *Proceedings of the 21st Amsterdam Colloquium*, ed. Alexandre Cremers, Thom van Gessel, and Floris Roelofsen, 455–464.
- Szabolcsi, Anna. 2018. Two types of quantifier particles: Quantifier-phrase internal vs. heads on the clausal spine. *Glossa: A Journal of General Linguistics* 3:69.
- Szabolcsi, Anna. 2019. Unconditionals and free choice unified. In *Semantics and Linguistic Theory (SALT) 19*, 320–340. NYU ms.
- Szabolcsi, Anna, James Doh Whang, and Vera Zu. 2014. Quantifier words and their multifunctional(?) parts. *Language and Linguistics* 15:115–155.