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## WHEN ‘WIDENING’ IS TOO NARROW

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**Abstract** Current proposals that characterise the widening effect of F(ree) C(hoice) I(tems) as an implicature all require additional stipulations and leave a number of observations unexplained. We propose instead that free choiceness results from ensuring that every member of the restriction is equivalent to every other member with respect to the scope. Whereas this general profile is subject to lexical variations within and across languages, it accounts for the family resemblance of FCI.

### 1. The rise of widening

Recent work in semantics based on Kadmon and Landman’s (1993) ‘widening’ characterizes central properties of FCIs as implicatures (Aloni and van Rooij to app; Chierchia 2005; Kratzer and Shimoyama 2002). The general strategy is to use pragmatic principles to derive distribution and intuitive values of FCIs, such as *any* or *qualunque/qualsiasi* in Italian. Some approaches embed a disjunction under a modal ( $\Box/\Diamond$ ) operator and derive, for instance,  $\Diamond A \wedge \Diamond B$  from  $\Diamond(A \vee B)$ . Others (Chierchia) aim at unifying Negative Polarity Items (NPI) and FCI. In spite of their differences these approaches share the idea that FCI and NPI lead to ‘stronger’ interpretations than their plain indefinite counterparts (*any* vs. *a* or *some*, etc.), because they favour the strongest element(s) in given classes of alternatives.

### 2. The fall of widening

One may point out at least four problems raised by these approaches.<sup>1</sup> First, Kamp (1978) and Zimmermann (2000) have shown that FC implicatures are cancellable, as expected for implicatures, see (1a). But this phenomenon has no counterpart with standard FC items (1b,c,d).

- (1) a. You may reach the island by boat or by plane, but I don’t remember which

<sup>1</sup>A general, as yet unsolved, question concerns the definition of alternatives, which varies across the different works (e.g., see (Aloni and van Rooij) for a discussion of (Kratzer and Shimoyama 2002)). For space reasons, we do not discuss this point here.

[does not implicate : You may reach the island by boat and you may reach the island by plane]

- b. \*You may consult any file, but I don't remember which<sub>English</sub>
- c. \*Tu peux consulter n'importe quel fichier, mais je ne sais plus lequel<sub>French</sub>
- d. \*Puoi consultare qualsiasi file, ma non mi ricordo più quale<sub>Italian</sub>

Second, universal FC items, found in Scandinavian (Sæbø 2001) or in French (Jayez and Tovena 2005a), are not taken into account because widening makes sense for existential/indefinites. Third, modification of the FC phrase ('subtriggering', after LeGrand 1975) sometimes redeems sentences, see *\*Any student was excluded* (a) vs. *Any student who cheated was excluded* (b). The infelicity of (a) is attributed to the undue extension of the restriction domain (Carlson (1981) followed by many others), and (a) is taken to mean 'every student in the universe was excluded'. As pointed out in (Jayez and Tovena 2005a), this may work for some carefully chosen sentences but does not explain (i) why (b) could not mean 'every student who cheated in the universe was excluded'<sup>2</sup> and (ii) why there has to be a conceptual connection between the modifier property (e.g., having cheated) and the scope property (being excluded), as shown by the infelicity of *??By pure chance, any student who had a blue shirt also wore jeans*. Fourth, the derivation of the universal value may create difficulties. Chierchia proposes that *any*-like items are existential indefinites that exploit domain widening to generate implicatures that enrich the semantic content. Suppose we have a maximal domain  $D$  that satisfies a certain restriction, and its associated lattice  $D_{\subseteq}$  over  $\wp(D)$ . Chierchia reasons that choosing the maximal domain  $D$  conveys that no point of  $D_{\subseteq}$  is excluded as a possible source of instantiation for the variable, say  $x$ , introduced by *any*. For a sentence like *I saw any student who wanted to see me*, starting from (a), he derives the implicature (b), where  $ST$  is the restriction,  $S$  the scope and  $\Box_{bel,sp}$  corresponds to the speaker's beliefs (Chierchia 2005, p. 30).

(a)  $\Box_{bel,sp}(\exists x \in D(ST(x) \ \& \ S(x)) \rightsquigarrow$

(b)  $\forall D' \subset D \Box_{bel,sp}(\exists x \in D'(ST(x) \ \& \ S(x)) \Rightarrow \exists x \in D - D'(ST(x) \ \& \ S(x)))$ .

(b) is obtained by standard Gricean reasoning, local (recursive) implicature strengthening proposed by Chierchia and a transition from  $\neg \Box_{bel,x} \phi$  to  $\Box_{bel,x} \neg \phi$  (the 'epistemic step' of (Sauerland to app) discussed in (Tovena 2000)). Together with (a), (b) entails that the speaker believes that every element of  $D$  satisfies the scope, i.e. that she saw every student who wanted to see her.

Consider now a sentence such as *Mary saw at least one student of the group that wanted to see her*. Let  $D$  be the set of students of the group who wanted to see Mary. The above derivation would presumably be blocked at the level of the epistemic step. Since the speaker expresses uncertainty about the number of students Mary saw, we cannot assign sufficient knowledge to her. Why can't we get the same effect with the micro discourse *Mary saw any student who wanted to see her, ??but probably not John* ? According to Chierchia, *any* demands that the alternatives it triggers be used

<sup>2</sup>Nor why *you may consult any file* should not refer to all the files in the world.

(that they be ‘active’, in his terms). First, the traditional distinction between cancellable (conversational) and non-cancellable (conventional) implicatures is thereby blurred, because requiring that the alternatives remain active is equivalent to assign to *any* an undefeasible universal meaning. We concede that it is not impossible that this meaning has emerged from the kind of implicature derivation indicated by Chierchia. However the crucial point is that it is no longer open to suspension or cancellation and that, in this respect, it constitutes a core meaning of *any*. Second, it is unclear why the speaker did not choose *every* instead of *any* in those cases. What is the specific contribution of the latter? Why would the speaker bother to trigger implicatures, that cannot be cancelled, instead of delivering a plain semantic instruction? Third, why is a sentence like ??*You must pick any card of the pack* odd while *You may pick any card of the pack* is not? In both cases, the strong implicature of *any* is satisfied and widening is limited by mentioning a particular pack.

### 3. Free choiceness as free choiceness

#### 3.1. The intuition

The title of this section makes it clear that for us the phenomenon of free-choiceness has to do with freedom of choice. Indeed, the general idea behind the analysis presented in (Jayez and Tovena 2005a; Jayez and Tovena 2005b) is that a FCI signals that the subsets of members of the restriction are on equal footing with respect to the property of satisfying or not satisfying the scope, or, in other terms, that, at speech time, we cannot single out a particular subset of members by means of their satisfying or not satisfying the scope. This is apparent in simple examples like *Pick any card* where all the cards are presented as equivalent possible choices. The manifestation of this intuition is more convoluted with strictly universal FCIs such as the French item *tout*, which can be anomalous with imperatives (*\*Prends toute carte* intended as *Pick every card*). Such sentences are out because the set of cards to be picked is determined at speech time as the restriction set itself.

#### 3.2. Irreferential and epistemic FCI

For space reason, we will focus only on the irreferential French FC determiner *n’importe quel* (NQ), partially similar to *any*, and on the epistemic *un N quelconque* (UQ), partially similar to the Italian *un N qualunque* and the German *irgendein*. NQ is an *irreferential* FCI (Jayez and Tovena 2005b), that is, it is not compatible with an interpretation under which a subset of the restriction satisfies or does not satisfy (2a,b) the scope in the current world.<sup>3</sup> UQ is an *epistemic* indefinite FC determiner. It is not compatible with an interpretation under which the speaker knows that certain members of the restriction satisfy or do not satisfy the scope (2c,d).

<sup>3</sup>Actually, the notion of irreferentiality is more general since it extends to any world (real or imaginary), the speaker is referred to (Jayez and Tovena 2005a) for details.

- (2) a. \*<sup>??</sup>Marie a rencontré n'importe quel diplomate  
 Mary met FCI diplomat  
 b. \*<sup>??</sup>Marie a rencontré n'importe quel diplomate, mais pas mon frère  
 Mary met FCI diplomat, but not my brother  
 [context: the speaker's brother is a diplomat]  
 c. Marie a rencontré un diplomate quelconque  
 d. \*<sup>??</sup>Marie a rencontré un diplomate quelconque, (mais pas) mon frère

As shown in (Farkas 2002) a formal rendering of such constraints needs to address the three cases of independent, dependent and modalized variables. For modalized variable, it is important to distinguish between the existence/knowledge of the restriction and the determination of the set of satisfiers. For instance, in (3) the speaker may know which files are allowed. What is required is that he cannot *determine* at speech time which file(s) will be consulted or not consulted.

- (3) Tu peux consulter un fichier quelconque  
 You may consult FCI file

As explained in (Jayez and Tovena 2005a), this means that the restrictions on FC items must take into account *all* the accessible worlds, and, technically that the  $\diamond$ -operators must be replaced by corresponding  $\Box$ -operators on the same set of accessible worlds. If  $M$  is a right-associative sequence of modal operators, we note  $M^\Box$  the sequence obtained from  $M$  by replacing each  $\diamond$  operator by its  $\Box$ -counterpart. (4) is a simplified version of the constraint in (Jayez and Tovena 2005b), extended to cover the case of irreferential items. We assume a DRT representation with modal operators

- (4) Let  $x$  be the variable introduced by a FCI in a DRS  $K = [x : R[x] S[x]]$ , where  $R$  is the restriction and  $S$  the scope. Let  $M$  be the (possibly null) modal sequence characterizing the possible worlds where  $K$  is evaluated and  $f_{-X}$  be the assignment function that is undefined for any  $x \in X$  and coincides with  $f$  otherwise. If  $K$  is interpreted with the help of an assignment function  $f$ , then:
1. If the FCI is UQ, the sentence is appropriate only under an interpretation that does not entail:  
 $\exists x(\Box_{bel,sp}.M^\Box(f_{-\{x\}}(R) \ \& \ f_{-\{x\}}(\neg)(S)))$
  2. If the FCI is NQ, the sentence is appropriate only under an interpretation that does not entail:  
 $M'(\exists x(M''^\Box(f_{-\{x\}}(R) \ \& \ f_{-\{x\}}(\neg)(S))))$ , where  $M'$  is the largest initial subsequence of  $M$  ending with an operator having wide scope on NQ and  $M = M'.M''$ .

(4.1) predicts the anomaly of (2d) where the preferred interpretation entails  $\exists x(\Box_{bel,sp}(diplomat(x) \ \& \ \neg met(m, x)))$ . More complex examples involving an alternation of modals and quantifiers can also be dealt with. For instance, *Il est possible que chaque étudiant ait à lire un livre quelconque* ('It is possible that each student must read some book or other') is predicted to be fine only if the speaker does not identify any book that one of the students should read. (4.2) accounts for the oddness of <sup>??</sup>*Il est*

*possible que Marie ait rencontré n’importe quel diplomate* (‘It is possible that Mary met any diplomat’). *Il est possible que* prevents NQ from taking wide scope, producing the offending form  $\diamond(\exists x\phi)$ , which entails that a particular diplomat has been met in at least some epistemic alternative, thus violating irreferentiality (see (Horn 2000, p. 170, ex. 60) for a parallel observation on *any*).

### 3.3. The problem of subtriggering

Elaborating on (Jayez and Tovena 2005a) we propose that subtriggering reflects a dependency between properties.

- (5) a. ??Any student of the class was excluded  
 b. ??Tout étudiant de la classe a été renvoyé  
 c. ??Qualsiasi allievo della classe è stato espulso  
 d. Any student of the class who had cheated was excluded  
 e. Tout étudiant de la classe qui avait triché a été renvoyé  
 f. Qualsiasi allievo della classe che avesse imbrogliato è stato espulso

Subtriggered episodic sentences like the students examples (5d-f) have a standard implicative structure of the form  $\alpha = [x : student(x) cheater(x)] \Rightarrow [ : excluded(x)]$ . If there are cheating students and  $\alpha$  is true, (4) is violated. However, by emphasizing a dependency between properties, subtriggering contributes an additional logical form  $\beta = \Box_r([x : student(x) cheater(x)] \Rightarrow [excluded(x)])$ , where  $r$  is some modal base corresponding to a set of rules (physical, deontic, legal, etc.). The modal operator is  $\Box_r$ , thus it is required that there is no  $x$  in the current world ( $w$ ) such that  $\Box_r(student(x) \& cheater(x) \& (\neg)excluded(x))$ , a constraint which can be met when there are cheating and excluded students in the current world. So, the logical form  $\beta$  is compatible with (4).  $\beta$  is an implicature favoured by the intuitive relation between the properties of the restriction and the scope. However, the existence of such an implicature is not sufficient. For instance, it might be clear from the context that all the students of the class cheated, but this would not license (5a,b,c). So, we assume that the conventionalized licensing condition requires the lexico-syntactic form to be able to trigger an implicature of dependency. In addition to providing an account of subtriggering, this assumption sheds light on the following puzzle. Dayal (2005) strengthens her previous claim that the behaviour of *any* results from the combination of its modal force with the constraint of *Contextual Vagueness (CV)*. CV says that *any* is out when it refers to a contextually fixed or salient set. E.g., in (6), *any* is strange because it either refers to absolutely any student in the universe (modal force, (6a)) or to a fixed set (violation of CV, (6b)). Yet, adding a spatio-temporal restriction does not improve (6a), see (6c), and adding a suitable property does improve (6b), see (6d), although the reference to a fixed set is preserved. One might argue that, in (6d), the set of registered students is not ‘contextually fixed’ since there is no presupposition that such a set exists, in contrast with the definite description in (6b). However, there is no improvement of (6b) if we suppress the presupposition by using an indefinite, see (6e).

- (6) a. \*<sup>?</sup>? Mary talked to any student  
b. \*<sup>?</sup>? Mary talked to any student of the class  
c. \*<sup>?</sup>? At yesterday's meeting, Mary talked to any student  
d. Mary talked to any student who had registered for her course  
e. \*<sup>?</sup>? At yesterday's meeting, Mary talked to any student of a class

#### 4. Conclusion

We have shown that the explanatory power of widening is weak and that the notion can even be misleading. Where does its intuitive attractiveness come from? We conjecture that the 'widening effect' is an implicature that reflects the equivalence between the members of the restriction imposed by FCIs: a possible reason for the speaker emphasizing this equivalence is that she does not put any limit on the choice of a particular member.

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