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Universal weak NPis – is there ever freedom of choice? *

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1. Introduction

Negative Polarity Items (NPI) and Free-Choice Items (FCI) seem quite well understood nowadays, after half a century of meticulous investigation. One major breakthrough was in the early 90s when Zwarts (1990, 1998) identified two different types of NPIs with different licensing requirements, strong (e.g., *even a single X*) and weak (e.g., *any, ever*), showing that different logically definable contexts trigger different behavior with NPIs, thus opening the door to a more differentiated analysis. In the beginning, the dual nature of English *any* was not fully recognized: Klima (1964) offers a transformational analysis for *any* solely tied to negation, whereas (Vendler 1967, ch. 4) focuses on the properties of *any* in contrast to other universal quantifiers *every, each, all*. Many linguists have taken the distinction between NPI and FCI uses as substantial. Dayal (1998, 2004, 2013) in her analyses of FCI *any* involving (inherent) modality does not explicitly refer to polysemy, but she does assume two distinct semantic representations for the two manifestations of *any*.

I still contend that it is not only desirable, but really indispensable to find a semantic characterization that covers both interpretations. Meanwhile, Chierchia (2013) has come very close to this desideratum by providing and utilizing a deeper understanding of the principles that relate logic to grammar and by showing that our system of calculating meaning opens up an intricate variety of contexts that offer themselves for grammaticalization of particular items in a given language. No wonder we find ample variation among languages, but also a surprising number commonalities.

*I won't ever forget that phone call when Martin reminded me of a promise I had given, but towards which I had already developed a memory of great vagueness. He told me that if I hand in my thesis on a particular Wednesday "*dann geht sich alles aus*" – an expression that is typical of Viennese and not even translatable to Standard German, roughly meaning 'to make it' in that context. This is typical for Martin – to give existential support by saying the right words in the right moments. Now, for this worthy occasion, I feel it is due time to tighten a few of the many loose ends I left there. Thanks once more. I am also very grateful for crucial comments from an anonymous reviewer and the editors. Without their help this paper could not have attained the form (and meaning) it has got.

Both uses of *any* employ characteristic restrictions. As a NPI, *any* must reside in the scope of a downward entailing (DE) operator/quantifier (as in (1)); as a FCI it gives rise to some sort of a universal interpretation, but only in accordance with some additional restriction that prevents the application of full exhaustification within a given world (2). In other words, while the whole set of potential referents is activated, a DP headed by a FCI still refers to a singleton (set or individual), unspecific, just fulfilling the properties provided by the noun phrase. This explains why FCIs are often found in the context of certain modals that permit permutation over the set of potential referents. Notice that in (2b) the set of buttons is fixed, so widening is not a necessary condition. (2c) is an instance of subtriggering, first brought to attention by LeGrand (1975) and discussed extensively in the cited work of Dayal. In contrast, (3) shows that in simple declarative statements, neither a NPI nor a FCI interpretation is available. The sentence is perceived as ungrammatical, although it is not entirely clear which module of grammar should be made responsible for this kind of ungrammaticality – it seems that it is not syntax.

- (1) Gustav never/rarely eats anything for breakfast.
- (2) a. Any pilot could be flying this spaceship.
 b. Press any of these three buttons!
 c. Gustav talked to any woman he met at the party.
- (3) *Gustav talks to any woman.

In my thesis (Neubarth 2006), I attempted to treat *any* as having a single, unified meaning, building upon Krifka's (1995) analysis of *any* as a determiner that conveys non-specificity. A DP with *any* takes the noun as the most general property. The set of alternatives includes all DPs that denote more specific properties; the union of all alternatives "*is exhaustive in the sense that all the alternatives together make up the foreground*" (Krifka 1995, 9). In simple, upward-entailing sentences, any alternative is stronger than the sentence with *any* in the foreground. The fact, that the foreground and its alternatives are in a logical entailment relation justifies treating the assertion itself as scalar. Employing Gricean reasoning, in particular Grice's maxim of Quality, Krifka argues that by asserting the foreground, all stronger alternatives should be rendered as false (as an implicature). But if all alternatives make up the foreground, and all alternatives should be false by virtue of being stronger, then the foreground should be false as well, which leads to a contradiction. The relation of strength is reversed in downward-entailing contexts, so the foreground expresses the strongest statement with respect to all alternatives, hence no contradiction occurs.

So much for the existential interpretation of weak NPIs. But, as already noted, *any* can also attain a universal interpretation, comprising the whole set of alternatives in its meaning. Then a simple assertion as in (3) would mean that Gustav talks to every women in the whole world – since *any* is not a quantifier per se, no contextual restriction could apply, and such an interpretation is not only implausible, but logically impossible. In those cases where *any* receives an interpretation as a FCI, the denotation of *any* can either be captured by a modal or sufficiently restricted – as in the case of subtriggering.

It may be hard to find a case where one could show that a systematic distinction between NPI and FCI would be untenable. However, there is one specific context where strictly distinguishing between a NPI and a FCI *any* becomes obscure: the standard of comparison. Unlike *any*, the temporal NPI *ever*, and also its counterpart in German *jemals* (and other languages), are generally taken to be rather typical NPIs that would never function as FCIs. Nevertheless, NPIs contained in the standard of comparison clearly receive a universal and not an existential interpretation.¹ This is problematic if NPIs are taken to generally have an existential meaning (which is often used as a criterion to discern them from FCIs).

There are several ways to incorporate this into a theory dealing with NPIs and FCIs as different items. Either one could acknowledge that the standard of comparison is the only context where a FCI counterpart to the NPI *ever* can ever appear. Then the polysemy account of *any* and *ever* could be maintained, but an explanation of why the latter usually, but not always, does not show up as an FCI would need to be provided. Alternatively one could classify the occurrence of these items in the standard of comparison as NPIs ‘in disguise’, where the universal interpretation arises as an epiphenomenon.² A radically different perspective that inherently avoids this dilemma would be to regard NPIs or FCIs as two sides of the same coin, two ways of interpreting items that employ exhaustification. Naturally, I will follow this path (already laid out in Chierchia 2013). The main contribution of this paper is to present a case where the accepted distinction between NPIs and FCIs apparently breaks down, showing the need for a more differentiated and more basic conception of these grammatical items.

2. Freedom of choice or no choice at all?

What seems to trigger the behavior of the items in question (such as *any* and *ever* in English) is that they indeed come with some universal flavor.³ Krifka (1995) describes (unstressed) weak NPIs as exhaustive: the denotation of DPs with weak NPIs (but also adverbials like *ever*) comprises the entire set of possible referents that match with the properties expressed by the nominal (potentially including non-standard ones in the sense of Kadmon & Landmann 1993).

¹A brief mention of this fact is found in Schwarzschild & Wilkinson 2002, fn. 4.

²This idea was brought up by an anonymous reviewer. Although it seems to make sense in the traditional view on NPIs and FCIs, pace some typological problems (see section 3), I reckon that adopting a more general perspective that does not strictly rely on a taxonomy of NPI vs. FCI leads to a more insightful understanding of these phenomena.

³Historically, certain indefinite NPIs indeed stem from unspecific indefinites. *Any* in Old English also had a plain indefinite meaning akin to German *einig(e)* that was lost in favor of a sole NPI meaning, while acquiring a FCI meaning much later. The etymology of English *ever* is not entirely clear, but it should be noted that it has a universal meaning in word formations like *everlasting* or *forever* and conveys a universal meaning in formations with wh-elements (e.g. *whoever*, *whenever*). Also, it is part of the distributive, universal quantifier *every* and the negative temporal *never*, perhaps with little transparency nowadays. Other items stem from formations involving a distributive marker. The German counterpart to *ever*, *jemals* contains the distributive particle *je*, which is also found in *jeder* (‘every’) and *jemand* (‘somebody’). The latter was a NPI in Middle High German, with a non-NPI counterpart *etwäre* that was lost after a phase of confusion. New High German now lacks weak indefinite NPIs in the nominal domain. Hence, diachronic evidence on NPIs points to both, indefinite determiners and universal expressions, as the source of grammaticalization.

The most sensible way of capturing the semantics of weak NPIs seems to be to assign them a meaning where they actually denote the set of all possible referents that fulfill the properties denoted by the noun phrase (including cardinally modified pluralities, such as *any two X*), or, in case of *ever*, the set of all relevant (accessible) situations/times. What makes these items special is that they neither have (universal or other) quantificational force on their own, nor do they behave like regular indefinites that are assigned reference by existential closure – thus escaping exhaustification. Still, universal (the whole set) or indefinite/existential (a choice of reference not to be pursued upon the set)? In fact, these items can be interpreted either way: the grammatical context together with pragmatic principles determines if neither, one, or both of these interpretations are possible. As an illustrative example, consider a conditional with two different continuations:

- (4) If he can solve any of these four problems
- a. he must be a genius.
 - b. he has good chances to pass the test.

The partitive use of *any* shows that widening is not at stake here. In (4a) the FCI interpretation prevails, whereas in (4b) a condition is expressed that solving a single problem whatsoever still yields good chances to pass the test. These two uses of *any* are tied to two diametrical scales of expectation. While being able to solve each one of the four problems is conceived as rather unlikely in the first case, the second expresses a very low threshold to pass the test: if solving either one of the problems suffices, the whole test must be rather easy. Still two sides of the same coin? Once the full set is the domain of reference, in the second case any choice out of the domain does not make any difference. What seems to be at stake here is that on the one hand, the conditional itself provides some sort of modality, opening the way to a FCI interpretation (Dayal 2004), on the other it qualifies as a DE context that is needed for a felicitous NPI interpretation.

As already discussed, weak NPIs denote an entity out of the set of all entities that fulfill some property that is deliberately kept as unspecific as possible (Krifka 1995). Things marginally change with focus on *any* because then the alternatives become visible (not just as part of the implicature). In upward entailing contexts, stronger alternatives, which have to be true by entailment, contradict the scalar implicature stating that they should be false. However, as with other strong NPIs, reversing entailment is not sufficient alone. They also must not give rise to existential statements (containing the NPI) where the NPI would lead to contradicting implicatures again, e.g., ‘**few students read even a single book*’ (see Krifka (1995), Chierchia (2004), Neubarth (2006), among others).⁴

⁴There are three main types of strong NPIs: (i) items that contain a lexically marked minimal quantity (e.g., *budge an inch*), (ii) items that involve an operator that ranges over expectations combined with some standard minimal quantity (e.g. *even a single*), and (iii) items that consist of an additive operator in combination with a counterpart to *only* plus a minimal quantity (e.g., German: *auch nur ein X*, Italian: *anche solo*). The latter can be conceived as fully compositional: *nur/solo* restricts the set that would yield true assertions to its focus while the additive particle forces alternatives to be true, which leads to a contradiction given that the item in focus is a minimal quantity (p.c. Krifka, 2007). The other two types work in a similar fashion, with minor differences, thus forming a consistent class of grammatical items.

Most of this reasoning pertains to the existential interpretation of the items in discussion as a NPI. Returning to FCIs, Dayal (1998) identifies FCIs as involving a universal operator that leads to a presupposition failure when occurring in non-subtriggered epistemic contexts. As indicated before, the dilemma lies between an exhaustive set of potential referents and the requirement to refer to one of these referents modulo a given situation. Universal quantification in the DP domain does this, but FCIs are not universal quantifiers. For that reason, Dayal introduces the relevant contexts as constitutive to the meaning plus introducing an additional constraint that ensures that individuation of referents can be maintained. In an earlier version, she utilizes a ‘Vagueness Constraint’ in order to ensure that FCI *any* is licensed by possibility, but not by necessity operators (without further modification). More specifically, she states the requirement of indeterminacy “*as a grammatical constraint against the extension of the relevant property (the intersection of the nominal and the verbal properties) being the same in every accessible world*” (Dayal 2009, 237). Later, she refurbished the relevant condition in terms of ‘Fluctuation’, and in Dayal (2013), she formulates a ‘Viability Constraint on Alternatives’, aligning her analysis to Chierchia’s (2013) account of NPIs.

The key factor of all these accounts is that FCI *any*, while being an indefinite, hooks up to a universal operator. In Dayal’s most recent account based on a notion she defines as ‘Viability’, this universal operator arises as a (FCI) implicature, that comes about as a result of negating all exhaustified sub-domain alternatives. Viability, in simple declarative sentences, generates a direct clash with the FCI-implicature, since it states that each exhaustified alternative must be true at the world w w.r.t. some subset of the union of all conversational backgrounds $g(w)$. In simple declarative sentences this clash leads to ungrammaticality; FCI licensing contexts imply a plurality of worlds (or situations) in order to resolve that clash. There are deep insights built into this combination of free choice as an implicature and Viability. First, free choice is derived as an implicature, but more importantly, FCIs are not universal quantifiers per se. This enables a novel perspective on freedom of choice – it is virtual; any actual choice of an exhaustified alternative annihilates freedom.

3. NPIs within the standard of comparison

Weak NPIs are fully compatible with the standard of comparison, whereas strong NPIs of the sort *even a single* are not. No wonder, since the standard of comparison is a DE context, but it does not provide an anti-additive context for strong NPIs (Zwarts 1990) – or, put in other terms, strong NPIs are not acceptable because existential statements containing the NPI arise. Consider the following examples:

- (5)
 - a. He can throw mobile phones further than any (other) linguist.
 - b. *He can throw mobile phones further than even a single linguist can.

- (6)
 - a. Mutton tastes better than vegetables → Mutton tastes better than carrots.
 - b. Mutton tastes better than carrots or peas → Mutton tastes better than peas.

Example (6) shows that the standard of comparison is in fact DE. That the disjunction in (6b) acquires an interpretation as the union set is a phenomenon that has already been discussed (cf. Schwarzschild & Wilkinson 2002). Comparatives on any standard analysis invoke a universal operator that quantifies over degrees abstracted over some dimension introduced by the adjective combining with the comparative. Neglecting a bunch of important issues, the meaning of a comparative in a nutshell (mainly following Heim 2000) is that for all degrees d' tied to the standard of comparison, the degree d tied to the antecedent must be greater than d' with respect to the dimension and its implicit scalar direction. (E.g., *big* and *small* have opposing scalar directions w.r.t. to the dimension 'size'.) In other words, for every alternative to the antecedent that is provided by the standard of comparison, in order to evaluate the comparative, a degree has to be identified w.r.t. the adjectival predicate, and this degree will be compared to the value obtained from the antecedent. Notice that a universal operator is part of the meaning of comparatives. Naturally, negation scoping over a comparative does not reverse the direction of the scale associated with the adjective, but actually negates the universal (*not* $\forall d': d \geq d'$).

The case of interest is the temporal NPI *ever*. It is licensed unequivocally as an NPI in several (DE) contexts: negation, questions, conditionals, the restriction of universal quantifiers, the scope of *only* etc., and also within the standard of comparison. How can we determine if it is really a universal interpretation *ever* receives there? If we suppose a context where companies start off with a given size and tend to grow, then a sentence like (7a) indicates an expected developmental increase, still tolerating ups and downs that might even exceed the size it has at present time, whereas (7b) explicitly states that there is no point in time where the company was bigger.

- (7) a. Now, the company is bigger than it was before.
 b. Now, the company is bigger than it ever was before.

The (potentially, but not necessarily) widened temporal reference denoted by *ever* can be tested against the adverbial *again*.⁵ Adding *again* to sentence (7b) shows that a restitutive (or repetitive) interpretation is excluded because, according to the standard of comparison comprising all potential points in time, there must not have been a previous state where the size of the company was equally big or even bigger – otherwise the meaning of the comparative would be false.

- (8) *Now, the company is bigger again than it ever was.

Notice that the universal does not quantify directly over times/situations or individuals, but only indirectly, in that temporal states (or individuals) co-vary with degrees. Therefore, there is no FCI-interpretation in Dayal's (2013) sense – the universal interpretation does not arise as the consequence of a free-choice implicature, but as a result of co-variance with

⁵This adverbial can have two interpretations: a repetitive one, where *again* quantifies over situations, meaning that a particular situation has obtained before and is repeated; and a restitutive one, which is associated with a state that has already held before (as a presupposition), then not, and now holds again (cf. von Stechow 1996).

degrees. The problem is that *ever* on the one hand cannot be used in classical free-choice contexts, while, on the other hand, the standard of comparison does not provide a genuine free-choice context, but rather yields a genuine universal interpretation. So, the facts are not really conclusive, yet. Let us look at Italian, a language that provides two FCIs that are generally not used as NPIs (*qualsiasi*, *qualunque*) and a NPI that belongs to the class of n-words (*nessuno*), with special licensing properties:

- (9)
- a. Gianni è più grande di {qualsiasi / ?qualunque / ogni / *nessun'} altro della sua classe → Gianni is taller than anybody else in his class
 - b. Gianni non è più grande di {qualsiasi / qualunque / ogni} altro della sua classe → Gianni is not the tallest
 - c. Gianni non è più grande di nessun' altro della sua classe → Gianni is the smallest
 - d. Nessun' è più grande di {qualsiasi / qualunque / #ogni / nessun'} altro della sua classe → All are of equal height

The first example shows that the Italian FCI counterpart to *any*, *qualsiasi*, lives well in the standard of comparison providing a universal environment. The n-word *nessuno* is out because of the lack of a negative licenser. The negated examples (9)b./c. have different meanings. With FCI *qualsiasi*, *qualunque* and the universal *ogni* the interpretation is just the negation of the universal provided with the comparative, while the n-word, licensed by negation, seems to import negation into the standard of comparison. Therefore negation seems no longer to have scope over the universal. The n-word *nessuno* in subject position can enforce negation on its own – if no one is taller than anybody else, all must be of equal height. The second n-word lives well here, and interestingly, the universal *ogni* is odd, a fact I have no real explanation for – it seems that an n-word in subject position cannot be decomposed into negation and an indefinite, which would be needed for defining the set (*ogni altro*) of the standard of comparison.

Given these facts, we arrive at a situation where the distinction between NPIs and FCIs loses much of its justification. What I would like to argue for, following Chierchia (2013), is to assign the terms FCI and NPI a meaning that relates to the interpretation of certain grammatical items, and not to the semantics of these items. It remains to conclude this paper with an example (re-)adapted from Kadmon & Landmann (1993) and my own work:

- (10) Ich bin froh, dass ich dieses Papier (überhaupt) jemals fertig geschrieben habe.
'I am glad that I ever finished this paper.'

The context in (10) is not DE in the strict sense, but it can be taken to conform to von Stechow's (1999) Strawson entailment. Crucially, it is the strongest proposition w.r.t. (earlier, more convenient) alternative times/situations. And, applying Dayal's terminology once more, Viability can be assessed by modalizing the process of evaluating gladness.

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