Situating PPIs within an alternative–based
framework of the Polarity System

Introduction: The goal of this paper is to develop an alternative–based semantics for Positive Polarity Items (PPIs). The claim is that the restricted distribution of *some*-indefinites can be derived solely from their lexical semantics and the method by which they compose with other elements in a structure, therefore doing away with notions such as anti–licensing. This account builds on recent alternative–based approaches to polarity–sensitive items (Alonso Ovalle & Menéndez Benito 2010, Chierchia 2010, Fălăuş 2010 a.o.) and shows that a unitary semantics of these "dependent" indefinites (negative polarity and free choice items) extends to PPIs, thus allowing us to view PPIs as an integral part of the Polarity System.

Background: Szabolcsi (2004), building on previous research, shows that PPIs appear to be disallowed precisely in the same environments that are preferred by NPIs, i.e. the scope of Downward Entailing (DE) operators, as shown in (1). Furthermore, elements that act as interveners in the case of NPIs have the opposite effect with PPIs, acting as rescuers of an otherwise offending configuration, illustrated in (2).

(1) a. I (*don't) see something.   (2) a. John didn't *(always) talk to someone.
     b. I *(don't) see anything.   b. John didn't (*always) talk to anyone.

Lastly, it's been observed that PPIs can occur in the scope of clausemate negation as long as they are further embedded in a DE context, as shown in (3a). The addition of a second DE operator has no effect on the acceptability of an NPI already in the scope of a DE operator.

(3) a. I ✓doubt/*know that John didn't call someone last night.
     b. I ✓doubt/✓know that John didn't call anyone last night.

Based on these observations, Szabolcsi concludes that PPIs and NPIs are sensitive to the same semantic properties. In order to predict their complementary distribution, she proposes to analyze PPIs as having two NPI features; both features are "dormant," unless in the scope of an NPI–licensor which activates both features and yet only licenses one of them, hence the need for a second NPI–licensor. This paper takes Szabolcsi's generalization a step further and integrates her insights within a more compositional account of polarity items.

Krifka (1995) and Chierchia (2010), a.o., take NPIs like *any* to be minimally different from regular indefinites in that they obligatorily activate sub–domain (D′) alternatives of the form $\{\exists x \in D'.\forall D' \subseteq D\}$. Active alternatives need to be factored into meaning, and this is done via a covert alternative–sensitive operator (akin to *only*) which requires all alternatives not entailed by the assertion to be negated; the same mechanism is assumed to be at work in deriving scalar implicatures (Chierchia, Fox and Spector 2011). NPIs are fine in DE contexts since the alternatives are all entailed by the assertion, but ungrammatical in non–DE contexts since the alternatives are stronger and negating them would contradict the assertion.

Another class of NPIs, discussed largely by Lahiri (1998), consists of those of the "emphatic" variety, exemplified by Hindi *ek bhii* 'even one,' and English minimizers *sleep a wink/give a damn*, etc.. What distinguishes these NPIs from the *any*–type is the form of their alternatives. For these NPIs, the alternatives form a totally ordered set by entailment, and make reference to a minimal degree. These items are lexically specified to select for covert *even* as their mode of exhaustification, an operator which requires the assertion to be the least likely alternative. As before, exhaustification in non–DE contexts ends up being contradictory in virtue of the assertion being entailed by the alternatives, hence most likely. On the other hand, DE contexts ensure that the assertion will be the least likely since it asymmetrically entails every alternative.

Since PPIs are free to occur in positive environments, one might be tempted to group them with FCIs. However, FCIs have been shown to be sensitive to the presence of a modal (cf. Alonso Ovalle & Menéndez Benito 2010, Fălăuş 2010). Another difference is with respect to the locality of negation: PPIs only dislike clausemate negation, while FCIs dislike even non–clausemate negation. One way to implement the idea of active alternatives is to say that NPIs and FCIs carry a focus feature, F, that is always active ($any_{[+\text{F}]}$).

Proposal: The proposal is that *some* differs from *any* in the following way. Given that PPIs can appear in plain episodic contexts, I claim that they do not obligatorily activate alternatives. Accordingly, *some* has the same feature as *any*; however, the default setting of F on *some* is [-F]. While PPIs are normally happy without active alternatives (4), in the presence of clausemate negation their alternatives do get activated (5). I attribute this to the overt negation which values F as +F, presumably due to the focal nature of negation. The key to this proposal lies in the nature of the alternatives associated with $some_{[+\text{F}]}$. What we want is for *some* PPIs to behave like minimal scalar items in the scope of negation. This is achieved by having the alternatives form a sequence of larger domains (note the contrast with NPIs).

(4) $[\![$John saw someone$_{[-\text{F}]}]\!] = \exists x \in D[\text{saw}(j,x)]$ *no active alternatives*

(5) $[\![$*John didn't see someone$_{[+\text{F}]}]\!] = \neg\exists x \in D[\text{saw}(j,x)]$ ALT: $\{\neg\exists x \in D'[\text{saw}(j,x)]:D\subseteq D'\}$

Active alternatives need to be exhaustified. Given that these alternatives are strictly ordered with respect to entailment, the exhaustifying operator called for is *even*, which requires its associate to be less likely ("$<$") than any alternative. If upon activation of alternatives we try to exhaustify immediately, as in (6), a contradiction arises in virtue of the assertion being entailed by the alternatives, hence making it most likely, contrary to the requirements of *even*.

(6) **E**[John didn't see someone$_{[+\text{F}]}$] =
   $= \neg\exists x \in D[\text{saw}(j,x)] \wedge \forall D'.D\subseteq D'[\neg\exists x \in D\ [\text{saw}(j,x)]<[\neg\exists x \in D'\ [\text{saw}(j,x)]]$ ($\bot$)

On the other hand, if we further embed the sentence in a DE context and then proceed with the exhaustification, the result will be consistent, as shown in (7).

(7) **E**[I doubt that John didn't see someone$_{[+\text{F}]}$] =
   $= \neg\neg\exists x \in D[\text{saw}(j,x)] \wedge \forall D'.D\subseteq D'[\neg\neg\exists x \in D\ [\text{saw}(j,x)]<[\neg\neg\exists x \in D'\ [\text{saw}(j,x)]]$
   $= \exists x \in D[\text{saw}(j,x)] \wedge \forall D'.D\subseteq D'[(\exists x \in D[\text{saw}(j,x)])<(\exists x \in D'[\text{saw}(j,x)])]$ ($\checkmark$)

Conclusions: The idea is that negation gets PPIs to act as minimal points on a scale, through the activation of a suitable set of domain alternatives. This requires them to be exhaustified via covert *even*, which yields a grammatical output only when PPIs are further embedded in a DE context. Their distribution follows from this approach, as do the intervention cases presented in (2). Furthermore, by assuming that these alternatives are not obligatorily activated unless in the presence of local negation, we can straightforwardly account for the stricter locality restrictions that distinguish PPIs from NPIs and FCIs which are sensitive to DE–ness, regardless of its locality. Summing up, the present analysis builds on Szabolcsi's insight by offering a compositional, alternative–based implementation of it. This proposal enables us to see what PPIs have in common with, and how they differ from other polarity sensitive items in a systematic way.

References: Alonso Ovalle, Menéndez Benito 2010, 'Modal Indefinites'. Chierchia 2010, 'Meaning as inference: the polarity system'. Chierchia, Fox, Spector 2011, 'The grammatical view of scalar implicatures'. Fălăuş 2010, 'Alternatives as sources of semantic dependency'. Krifka 1995, 'The semantics and pragmatics of polarity items'. Lahiri 1998, 'Focus and negative polarity in Hindi'. Szabolcsi 2004, 'Positive Polarity–Negative Polarity'