Evaluability
An Alternative Approach to Polarity Sensitivity[*]

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Abstract

Based on Brandtler (2012), this paper argues that polarity items are sensitive to *evaluability*, a concept that refers to the possibility of accepting or rejecting an utterance as true in a communicative exchange. The main distinction is made between evaluable and non-evaluable utterances. The evaluable category comprises any clause that asserts, presupposes or entails the truth of an affirmative or a negative proposition. In contrast, the non-evaluable category contains clauses that do not assert, presuppose or entail the truth of an affirmative or a negative proposition.

According to the Evaluability Hypothesis, non-evaluable environments are natural hosts for both NPIs and PPIs. Hence, the occurrence of polarity items in non-evaluable clauses does not require formal licensing, and this is the reason we find both PPIs and weak NPIs in yes/no-questions and conditionals. Evaluable clauses, in contrast, are restricted environments and may only host polarity items that are formally (i.e. syntactically) licensed. Hence, NPIs require the presence of a licensing element, and PPIs require the absence of such elements. This analysis leads to an important change of perspective, as the occurrence of polarity items in negative and affirmative sentences becomes the marked, or exceptional, case.

1   Introduction

Often overlooked in discussions on polarity phenomena is the fact that 'non-negative' contexts, such as yes/no-questions and conditionals, tend to host both positive and (weak) negative polarity items in identical syntactic settings. Consider the distribution of the NPI *ever* and the PPI *still* in (1) and (2) below.

(1)   a.   Have you *ever* been to Paris?

         b.   Have you *still* that item for sale?

(2)   a.   If you *ever* go to Paris, you must see the Eiffel Tower.

       b.   If you *still* have that item for sale, I'm interested in buying it.

The pattern illustrated above is distinct from the well-known complementary distribution of PPIs and NPIs in declaratives, as shown in (3):

(3)   a.   I have **never** *ever* / *still been to Paris.

       b.   I *still* / *ever have that item for sale.

Since the pioneering work of Jespersen (1917), almost every proposed theoretical explanation of the distribution of polarity items has taken the occurrence of polarity items in negative contexts as primary, while regarding the licensing properties of the non-negative contexts in (1) and (2) as exceptional. It has been a prevalent idea that NPIs depend on some kind of formal licensing requirement in order to occur within a clause, such as being in the syntactic and/or semantic scope of a licensor of relevant properties (negation, universal quantifiers, superlatives, the restriction of *only* etc.); see e.g. Ladusaw (1979, 1980), Linebarger (1980, 1987), Progovac (1994), Giannakidou (1998 and onwards), and Horn (2002) for different proposals along this line. As yes/no-questions and conditionals may host polarity items even in the absence of an *overt* licensor, the search has been directed at finding an underlying syntactic/semantic licensing feature common to both negative and non-negative licensing contexts.

This paper changes perspective, and argues that the occurrence of polarity items in yes/no-questions and conditionals is actually the unmarked case. Based on Brandtler (2012), it is proposed that polarity items are sensitive to *evaluability*, a concept that refers to the possibility of accepting or rejecting an utterance as true in a communicative exchange. Utterances (or parts of utterances) are either *evaluable* or *non-evaluable*. According to the Evaluability Hypothesis, non-evaluable utterances are natural hosts for polarity items. Hence, the occurrence of polarity items in these environments does not require any kind of formal licensing, and this is the reason we find both PPIs and NPIs in the yes/no-questions and conditionals in (1) and (2) above. Evaluable utterances, in contrast, are restricted environments and may only host polarity items that are formally licensed. Hence, NPIs require the presence of a licensing element, as in (3a), and PPIs require the absence of such elements, as in (3b). According to the Evaluability Hypothesis, then, formal licensing is regarded as a means of 'rescuing' the polarity item from an otherwise hostile environment. If this characterization is correct, polarity items can be defined as semantically sensitive expressions that sometimes must rely on a formal dependency relation in order to fulfill their semantic requirement.

It is further argued that the notion of evaluability has structural correlates in Swedish, the language on which the discussion is primarily based: evaluable clauses have [Spec,CP], while non-evaluable clauses lack [Spec,CP]. This connection is argued to exist because of an arbitrary (but fixed) association between the edge-feature in C (see Chomsky 2008) and evaluability.

The concept of evaluability is distinct from the semantic notion of *veridicality* (see Giannakidou 1998), and it is argued that the current proposal renders better empirical

results than theories building on veridicality – at least in relation to the Mainland Scandinavian languages (Swedish, Danish and Norwegian) and English.[1] Furthermore, the present theory incorporates the notion of downward entailment (Ladusaw 1979, 1980) in a natural manner, although its applicability is restricted to evaluable environments. As a consequence, the main insight of the DE-approach is maintained under the present hypothesis.

The paper is organized in the following way. In the next section, I present a brief overview of previous theories, and the problems associated with accounting for the non-complementary distribution of NPIs and PPIs in yes/no-questions and conditionals. Section 3 gives the empirical background of this study, showing that the licensing of polarity items in Swedish correlates in a striking manner with the configuration of the C-domain. In section 4 the notion of evaluability is defined and related to Swedish clause structure, and in section 5 evaluability is related to polarity sensitivity. The connection between evaluability, polarity sensitivity and the Swedish C-domain is explicated in section 6.

2   The Problem

Although the distribution of polarity items is both empirically complex and theoretically evasive, one may roughly distinguish three different NPI-licensing patterns:

(4)   1.   Licensing by an overt clausemate licensor:
           *I have **never** ever been to Paris.*

      2.   Licensing by an overt superordinate licensor:
           *I **regret** that I ever talked to him.*

      3.   Licensing in the absence of an overt licensor:
           Have you ever been to Paris?

Within syntactically oriented approaches to polarity item licensing, the idea of polarity items as dependent expressions has been prevalent ever since Klima (1964): polarity items must be within the syntactic scope of an operator with relevant licensing properties. The obvious problem for any syntactic approach is how to account for the licensing pattern 3 above, i.e. licensing in the absence of an overt licensor. The solution, as put forward in e.g. Progovac (1994), is to assume a covert anteceding operator that binds the polarity item in its governing domain. Under this view, the feature bundle responsible for licensing may be either overt or covert, much like the overt/covert realization of case, number, or gender etc. in the world's languages.

The syntactic operator approach fails to account for the non-complementary distribution of PPIs and NPIs, however. That is, if a covert licensing operator is responsible for the licit occurrence of *ever* in (1a), then the very same operator should, in principle,

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[1]Even though the Evaluability Hypothesis should in principle be extendable to the other Germanic languages, it is beyond the scope of this paper to discuss cross-Germanic variation of polarity item licensing in any detail.

rule out the occurrence of the PPI *still* in (1b) – contrary to fact.[2] What is more, without providing a proper definition of the assumed operator, any purely syntactic account becomes close to non-explanatory, even if it were to attain descriptive adequacy.

Within semantically based approaches to polarity sensitivity, the most influential is that of Ladusaw (1979, 1980), according to which polarity sensitivity can be understood in terms of logical inferencing from sets to subsets, from the general to the specific. The prediction is that NPIs are licensed in any environment or by any operator that is *downward entailing* (DE). The denotation of a DE-expression is a monotone decreasing function, i.e. an order reversing function that allows inferences from sets to subsets. An appealing feature of Ladusaw's proposal is that the complementary distribution of NPIs and PPIs fall out naturally: NPIs are licensed in downward entailing environments, whereas PPIs are licensed in upward entailing environments.

Similar to syntactic operator approaches, however, the DE-hypothesis cannot account for the licensing pattern 3 above, albeit for entirely different reasons. Since yes/no-questions and conditionals are non-monotone – i.e. they neither allow entailments from the specific to the general (upward) *nor* from the general to the specific (downward) – their ability to host polarity items cannot be explained under Ladusaw's theory.[3]

In part conceived as a reaction to Ladusaw's hypothesis, Giannakidou's (1998 and onwards) *Veridicality Hypothesis* offers an alternative account of polarity sensitivity that does account for NPI licensing in yes/no-questions and conditionals. According to the Veridicality Hypothesis, *weak* negative polarity items, such as *ever*, *any* are licensed by nonveridicality, that is, by undetermined truth-values. *Strong* NPIs, in contrast, have a more limited distribution and are licensed by *anti*-veridicality, i.e. by clauses or operators entailing the falsity of p.[4] One major advantage of Giannakidou's theory is that polarity items are defined as semantically sensitive expressions, and need not rely on

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[2]Progovac (1994) does address the problem of PPIs in 'non-negative licensing contexts' in some detail. Assuming that the covert operator is located in C, Progovac argues that NPIs must raise to C at LF, while PPIs remain low and hence is outside the scope of the operator. While we need not go into details here, there are a number of both conceptual and empirical problems with such an analysis; the reader is referred to Horn and Lee (1995) and Brandtler (2012: section 7.2) for a critical discussion.

[3]The non-monotone status of yes/no-questions and optatives should be self-evident: they have no truth-value and are consequently not open to truth-based inferencing. With respect to conditionals, the story is somewhat more complex. The DE-status of the antecedent of conditionals is not obvious, as the following example show (taken from von Fintel 1999: 136):

i. If John subscribes to newspaper, he must be well informed $\nRightarrow$
   If John subscribes to a newspaper that he can't read, he must be well informed.

Discussing a number of similar examples, von Fintel (1999: 135 ff.) notes that "in the modern semantic and philosophical literature on conditionals, it is now taken for granted that conditionals are not monotonic in their antecedent".

[4]A propositional operator F is veridical if and only if from the truth of Fp one can infer that p is true. Otherwise, it is nonveridical. *Anti*-veridical operators entail the *falsity* of p. Note that anti-veridical operators form a subset of the nonveridical operators, since the logic inference $Fp \Rightarrow p$ is not valid for them either.

any form of syntactic scope/licensing in order to be licit within a clause; it also explains the occurrence of NPIs in nonveridical contexts in a non-stipulative manner.

But there are some severe problems associated with the Veridicality Hypothesis as well. First, similar to the syntactic account of Progovac, it does not account for the non-complementary distribution of PPIs and NPIs in conditionals and yes/no-questions. In fact, Giannakidou explicitly refrains from discussing the distribution of PPIs (1998: 19), thus making the predictions of the Veridicality Hypothesis restricted to NPIs. Second, her theory cannot without further stipulation account for the NPI-licensing pattern 2 above, i.e. long-distance licensing by emotive factive predicates like *regret*. Since complements to factive predicates are veridical, the occurrence of embedded NPIs is predicted to be impossible, contrary to fact.[5]

Although distinctly different, the theories of Progovac, Ladusaw and Giannakidou have at least two things in common: i) they build on the seemingly uncontroversial assumption that polarity items are dependent expressions, and ii) they have problems accounting for the non-complementary distribution of NPIs and PPIs. In what follows, I will argue that the problem ii) stems from the assumption i). According to the present proposal, polarity items are defined as semantically sensitive expressions that must rely on a formal dependency relation in certain environments only, namely in *evaluable* utterances. But before developing this idea further, let us first review the relevant empirical data, taken from Swedish.

3 Polarity Sensitivity in Swedish

In this section, I give a brief empirical presentation of the distribution of polarity items in Swedish. It is shown that Swedish displays a striking correlation between the structural configuration of the C-domain and the different ways polarity items may be licensed.

As the Germanic languages in general (disregarding English), Swedish is a V2-language, meaning that the finite verb in declarative main clauses must be preceded by one clausal constituent only. Following standard theory, Swedish main clauses display generalized V-to-C movement: the finite verb must raise from its base position in V to C^0. While V-to-C movement is found in all Swedish main clauses (with the exception of *wh*-exclamatives), [Spec,CP] need not be phonologically realized in all sentence types. Yes/no-questions, imperatives and optatives are linearly V1, meaning that the finite verb is not preceded by a clausal element, as shown in (6) below. The standard V2 word order is exemplified by the declarative in (5a), and its assumed structure illustrated in (5b):

(5) a. Antagligen gillar Sven inte hamburgare.
         Probably   likes Sven not hamburgers
         'Sven probably doesn't like hamburgers.'

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[5]The Veridicality Hypothesis apparently makes the correct predictions for Greek, in which NPIs in factive complements are ungrammatical. Giannakidou (2006) suggests a solution to the grammatical English cases, which builds on additional contextual factors.

b. [$_{Spec,CP}$ Antagligen [$_{C^0}$ gillar$_j$ [$_{Spec,TP}$ Sven$_i$ [$_{NegP}$ inte [$_{VP}$ t$_i$ t$_j$ hamburgare]]]]]

(6) a. Gillar Sven inte hamburgare?
likes   Sven not hamburgers

'Doesn't Sven like hamburgers?'

b. [$_{Spec,CP}$ Ø [$_{C^0}$ gillar$_j$ [$_{Spec,TP}$ Sven$_i$ [$_{NegP}$ inte [$_{VP}$ t$_i$ t$_j$ hamburgare]]]]]

Subordinate clauses, in contrast, do not generally display V-to-C movement in Swedish. The complementizer is standardly assumed to reside in C^0, effectively blocking the raising of the finite verb (see Platzack 1986). There are some systematic exceptions to this pattern, however, as complements to assertive and semi-factive predicates are well-known to allow so called embedded V2 (see e.g. Andersson 1975). Compare the standard (non-V2) subordinate clause in (7) with the embedded V2-clause in (8). Note that the raising of the finite verb affects the relative ordering between the verb and any clause adverbial.

(7) a. att   Sven *inte* **gillar** hamburgare.
that Sven not likes hamburgers

'…that Sven doesn't like hamburgers.'

b. [$_{Spec,CP}$ Ø [$_{C^0}$ att [$_{Spec,TP}$ Sven$_i$ [$_{NegP}$ inte [$_{VP}$ t$_i$ gillar hamburgare]]]]]

(8) a. att   Sven **gillar** *inte* hamburgare.
that Sven likes   not hamburgers

b. [$_{Spec,CP}$ att [$_{Spec,CP}$ Sven$_i$ [$_C$ gillar$_j$ [$_{Spec,TP}$ t$_i$ [$_{NegP}$ inte [$_{VP}$ t$_i$ t$_j$ hamburgare]]]]]]

Relating Swedish clause structure to polarity item licensing, I show in Brandtler (2012) that any Swedish clause overtly realizing [Spec,CP] displays licensing pattern 1: NPIs must be licensed by an overt clausemate licensor. This pattern is thus characteristic of declaratives (9a), *wh*-questions (9b), embedded V2-clauses (9c), non-restrictive relative clauses (9d), as well as *wh*-exclamatives:[6]

(9) a. Jag vill   *(**aldrig**) *någonsin* åka tillbaka.
I   want never   ever   go back

'I never want to go back.'

b. Vilken känd   artist turnerade *(**aldrig**) *någonsin* utanför USA?
which famous artist toured   never   ever   outside USA

'Which well-known artist never ever toured outside the U.S.?

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[6]Two things are worth emphasizing here. First, *wh*-questions do allow NPIs even in the absence of an overt licensor, in which case they often have a rhetorical flavor. In Brandtler (2012: chapt. 10), I argue that NPI-licensing in such cases is dependent on the denotation of the *wh*-word: only when the denotation of the *wh*-word is a downward entailing function does it license polarity items. Second, *wh*-exclamatives do not allow polarity items at all. This behavior is curious in itself, but can perhaps be explained by the fact that exclamatives cannot be negated either. Hence, my claim that NPIs need to be formally licensed in *wh*-exclamatives might still hold, even though this requirement, for independent reasons, cannot be satisfied. See Zanuttini and Portner (2003) for a discussion on exclamatives, and Brandtler (2012: sections 4.2.2 and 6.1.4) for a discussion on the syntax and polarity sensitivity of Swedish *wh*-exclamatives.

    c.   Han sa, att han ville   *(**aldrig**) *någonsin* åka tillbaka.
           he   said that he wanted never   ever   go back

           'He said that he never ever wanted to go back.'

    d.   Sven, som för övrigt *(**aldrig**) *någonsin* lämnat Sverige, ska   flytta
           Sven who for other never   ever   left   Sweden shall move
           till Kongo.
           to Congo

           'Sven, who by the way never ever has left Sweden, is moving to Congo.'

Swedish linear V1-clauses (lacking overt realization of [Spec,CP]), on the other hand, display licensing pattern 3, i.e. they allow NPIs even in the absence of an overt licensor. This pattern thus holds for yes/no-questions, optatives and (the antecedent of) conditionals, similar to the English examples in (1) and (2) above.

With regards to subordinate clauses, the story is somewhat more complex. In clauses introduced by the complementizer *att* 'that', NPIs are generally not grammatical unless licensed either by an overt clausemate or a superordinate licensor (licensing pattern 2). Clauses introduced by *om* 'if', however, readily allow NPIs even in the absence of an overt clausemate or superordinate licensor, and thus pattern with V1-clauses in adhering to pattern 3.[7] This licensing difference can be mapped to structural configurations as well.

Standard, non-V2 *att*-clauses in Swedish allow optional insertion of a cataphoric propositional pronoun *det* 'it' in between the finite verb and the complementizer. This possibility is indicative of [Spec,CP] in the subordinate clause, as illustrated in (10) below:

(10)   a. Jag beklagar (det) att jag sårade dig.
           I   regret   it   that I hurt   you

           'I'm sorry for that I hurt you.'

        b. Jag sa   (det) att han förmodligen skulle förlora.
           I   said it   that he probably   would lose

           'I told him he would probably lose.'

It appears that the possibility of *det*-insertion is available in most assertive and factive predicate constructions in Swedish. A similar observation has been made for English, where complements to factive predicates may be introduced by *the fact*, which led Kiparsky and Kiparsky (1970) to assume a fact operator in [Spec,CP] in these clauses. In contrast, Swedish *om*-clauses does not allow cataphoric *det*-insertion, as the sentences in (11) show:

(11)   a. Jag beklagar (*det) **om** jag sårade dig.
           I   regret   it   if I   hurt   you

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[7]One may of course argue that the complementizer *if* is a lexical instantiation of a licensing operator. As already mentioned above, the fact that both NPIs and PPIs may occur in conditionals is highly problematic for such an analysis, as PPIs then must be allowed *in spite of* this very operator. An extensive critical discussion of the operator-approach is found in Brandtler (2012: 7.2.2).

'I'm sorry if I hurt you.'

    b.   Jag undrar (*det) **om** han kommer till festen.
        I   wonder that if he comes to party.def
        'I wonder if he comes to the party.'

If the possibility of *det*-insertion is dependent on [Spec,CP], it seems reasonable to assume that [Spec,CP] is not available in *om*-clauses. Hence, *att*- and *om*-clauses are structurally different with regards to the syntactic configuration of the C-domain: *om*-clauses cannot instantiate [Spec,CP], similar to (linear) V1-clauses. The structural similarity between V1-clauses and *om*-clauses is further strengthened by the fact that both may function as the antecedent of a conditional, as illustrated in (12) below:

(12)   a.   Om du ser Maria, hälsa henne från mig.
             if   you see Maria greet her   from me
             'If you see Maria, say hello from me.'

       b.   Ser du Maria, hälsa henne från mig.
             see you Maria greet her   from me

Summarizing this discussion on Swedish, I have argued that *att*-clauses are structurally similar to V2 clauses in having a phonologically realizable [Spec,CP], while *om*-clauses are structurally similar to V1 clauses in lacking [Spec,CP]. Clauses with [Spec,CP] differ only with regards to whether the phonological instantiation of [Spec,CP] is obligatory or not. All in all, we may thus distinguish three configurations of the Swedish C-domain, based on the realization of [Spec,CP]. And intriguingly, these structural configurations can be mapped in a one-to-one fashion with the three distinct licensing patterns in (4) above. Consider (13):

(13)   1.   Licensing by an overt clausemate licensor:
            [Spec,CP] obligatorily realized

       2.   Licensing by an overt superordinate licensor:
            [Spec,CP] optionally realizable

       3.   Licensing in the absence of an overt licensor:
            [Spec,CP] non-realizable

Naturally, one must be careful when interpreting this correlation. It seems highly unlikely that the structural configuration *per se* affects the polarity sensitivity of the clause, as yes/no-questions, to mention one example, are well known cross-linguistically to host 'unlicensed' NPIs, irrespective of their syntactic structure.

But the structural fact in Swedish that 'unlicensed' NPIs are licit in *all* clauses lacking [Spec,CP], but banned from *all* clauses with [Spec,CP] certainly calls for an explanation. The crucial question we need to focus on here is *why*: why does there exist a correlation between the structural configuration of the clause and its NPI-licensing properties?

I propose that we should focus not so much on the structural configurations themselves, as on the very fact that there *are* structural differences between clauses with

different licensing properties to begin with. If the syntactic classification mirrors a semantic distinction, we can assume that this semantic distinction has a bearing on polarity phenomena as well. In the next section, I argue that the relevant semantic property relevant for both polarity item licensing and the configuration of the C-domain is *evaluability*.

4   Evaluability

Previous work on polarity phenomena has repeatedly explored the relation between negation and truth, and its relevance for polarity item licensing. The downward entailing approach of Ladusaw (1980) builds on the preserving/reversing of truth-value based inferences; the Veridicality Hypothesis as proposed by Giannakidou (1998) on the (non)availability of truth entailments. Even Progovac (1994) suggests that her polarity operator is somehow licensed by "unfixed truth-values".

The notion of truth in formal logic builds on Frege's classic conception of meaning: to know the meaning of a sentence is to know the conditions under which it is true. The judgment of a sentence as true or false thus hinges on the satisfaction of these truth-conditions. A slightly different picture of the relation between truth and falsity emerges if we change from the logico-semantic perspective to a pragmatic (or communicative) perspective.

Intuitively, what is at stake in conversation is not so much the logical or actual truth of a given statement as the *acceptance* of that statement as true. This distinction is important. According to Stalnaker (2002), accepting a proposition equals *treating* it as true, even in cases where one might suspect that it is actually not true. Observe the following passage from Stalnaker (2002: 716) (italics in original):

> To accept a proposition is to treat it as true for some reason. One ignores, at least temporarily, and perhaps in a limited context, the possibility that it is false. Belief is the most basic acceptance concept: the simplest reason to treat a proposition as true is that one believes that it *is* true. But there may be various reasons to ignore the possible situations in which some proposition is false even when one realizes that one of those possible situations may be the actual one. One may simplify or idealize in an inquiry, one may presume innocence to ensure fairness, one may make assumptions for the purpose of contingency planning, one may grant something for the purpose of an argument.

As Stalnaker points out above, it is perfectly possible to accept (i.e. to treat as true) a proposition that is demonstrably false in the actual world. This means that although the acceptance of a proposition is not entirely unrelated to the fulfillment of logical truth-conditions, it nevertheless builds on an additional set of contextual, social, and/or communicative considerations.

At the core of discourse acceptance lies the notion of *evaluability*. That is, in order to accept or deny a proposition presented to us, we must evaluate the likelihood for it

being true according to our beliefs, knowledge, inclination towards the speaker etc. In fact, we constantly evaluate all state-of-affairs presented to us – be it by observation, discovery, conversation or other kinds of perception. In reading this, you have probably already begun to evaluate whether my claim is correct or not. Consider the following passage from Lyons (1977: 777):

> As one rejects some physical entity that is offered (pushing it away so that it disappears or goes away (...)), so one may reject a proposition or a proposal. Looked at from this point of view (...) assent and dissent, rather than truth and falsity, would seem to be the notions with which we should operate in any account that we give of the difference between the assertion and the denial of *p*.

If we follow Lyons' line of reasoning, the opposition between affirmative and negative propositions is directly related to our communicative need to evaluate and accept/reject information presented to us. Within a communicative exchange, however, one can only evaluate utterances used by the speaker to assert, presuppose, or entail the truth of *p* or $\sim p$. Let us call such sentences *evaluable*.

Importantly, both affirmative and negative utterances are equally evaluable. This claim rests on the Aristotelian view of negation as a mode of predication, and is at odds with the "standard" view within modal logic of negation as a truth-functional connective. That is, instead of structurally treating $\sim p$ as "it is not the case that *p*", $\sim p$ can be treated as "it is the case that not-*p*". Under this view, a negative utterance does not assert the falsity of *p* but rather asserts (the truth of) not-*p*; cf. the discussion in Lyons (1977: 768) and Allen (2006: 5). This is why it is just as easy for the addressee to accept a negative utterance as true or false, as it is to accept an affirmative utterance.[8]

Contrasting with evaluable utterances, we find utterances by which the speaker does not assert, presuppose, or entail the truth of *p* or $\sim p$. Such utterances (or part of utterances) cannot be evaluated, as the addressee cannot assent or dissent with a sentence or a clause to which the speaker is not truthfully committed. We call such clauses *non-evaluable*. For example, it is not possible to accept or reject the propositional content of a yes/no-question, since by uttering such a question the speaker does not take responsibility for the truth of neither *p* nor $\sim p$.

In short, my notion of *evaluability* refers to the possibility of accepting or rejecting an utterance (or part of an utterance) as true. Note the focus on *possibility* here; the actual acceptance or rejection is of no relevance. Neither is the *logical* possibility of establishing the truth of a given utterance in relation to possible worlds or epistemic models. Hence, the concerns of modal logic are independent from the notion of evaluability. This is important, since it allows us to move away from truth-conditional inferencing. The question of whether an utterance is true or false does not arise, only the question of whether it is possible to *accept* that utterance as true in discourse.

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[8]Horn (1989 [2001]: chapt. 7) argues explicitly against the view of natural language negation as being an external truth-functional connective, based on the observation that "syntactically external (clause-peripheral) negation, as an iterating one-place connective on propositions, never – or hardly ever – happens [in the world's languages]", Horn (1989 [2001]: 471).

The actual evaluation process can take slightly different forms, however. One may distinguish between (at least) two kinds of evaluable utterances: i) those that are *subjected* to evaluation in the current (on-going) communicative exchange, and ii) those that are *not* subjected to evaluation in the on-going communicative exchange. I believe this distinction may capture the difference between, for instance, assertions and presuppositions in an intuitive and straightforward manner.

Both assertions and presuppositions are evaluable notions, as they are used by the speaker to affirm the truth of p or $\sim p$. On the view famously defended by Stalnaker (1978: 153), the essential effect of an *assertion* "is to change the presuppositions of the participants in the conversation by adding the content of what is asserted to what is presupposed." If the assertion is accepted by the hearer/s, the speaker has succeeded in adding new information to the conversational common ground. In this way, a (successful) assertion reduces the set of possible worlds so that "all of the possible situations incompatible with what is said is eliminated" (*ibid*).

According to the Stalnakerian view, the relation between *assertion* and *presupposition* can be summarized in the following way: a (successful) assertion becomes part of the conversational common ground (i.e. the presuppositions shared by speaker and hearer), therefore a presupposition is basically nothing but a 'previously accepted assertion'. Naturally, this claim should not be taken too literally. A presupposed proposition need not have originated as an actual assertion in a given discourse, but it is crucially *treated* as though it had.

In terms of evaluability, assertions and presuppositions can be said to differ only with regards to when and how the evaluative process takes place, as it were. *Asserted* information may be accepted or challenged by the hearer, and is as such *subjected* to evaluation in the on-going discourse. In contrast, *presupposed* information is treated as uncontroversial or already accepted information, and is as such *not subjected* to evaluation in the on-going discourse. But crucially, this does not mean that a presupposition is *non*-evaluable. It does affirm the truth of p or $\sim p$. The basic difference between the two notions is simply that an assertion is subjected to evaluation at the time of utterance, whereas a presupposition has been subjected to evaluation at a time prior to the time of utterance, or at least *functions* as though it has been. This follows naturally from the Stalnakerian view that the presuppositions of the conversational common ground are but previously accepted assertions.

Let us now illustrate the 'evaluability classification', in which the evaluable category has been divided into two subcategories in order to capture *inter alia* the difference between assertions and presuppositions:

(14)
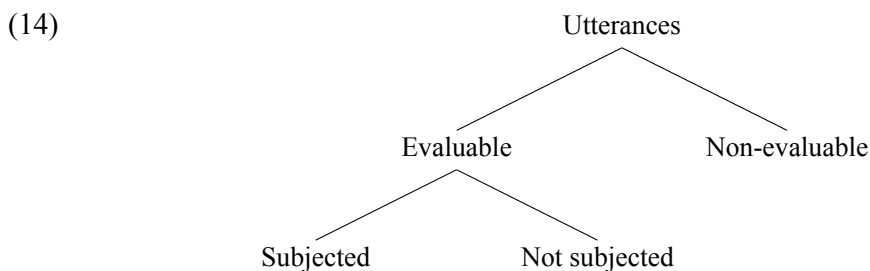
Importantly, the two evaluable subcategories do not *equal* assertion and presupposition, respectively. In the "subjected to"-class, we find not only main clause declaratives, but also sentence types which are not generally used to make assertions, such as *wh*-exclamatives, *wh*-questions and non-restrictive relative clauses. Although distinctly different, these sentence types are all possible for the hearer to evaluate (i.e. accept or reject) in the on-going communicative exchange.[9]

The "not subjected to"-category contains *that*-clauses functioning as complements to factive and non-assertive predicates, as well as restrictive relative clauses and Swedish *att*-exclamatives.[10] Hence, these sentence types express propositions that are either presupposed or backgrounded, in the pragmatic sense of being neither asserted nor presupposed.

The non-evaluable category, finally, contains sentence types which do not express any commitment on part of speaker as to the truth of p or $\sim p$, such as (the antecedent of) conditionals, yes/no-questions and optatives. For further discussion and motivation of the evaluability classification, the reader is referred to Brandtler (2012: ch. 6).
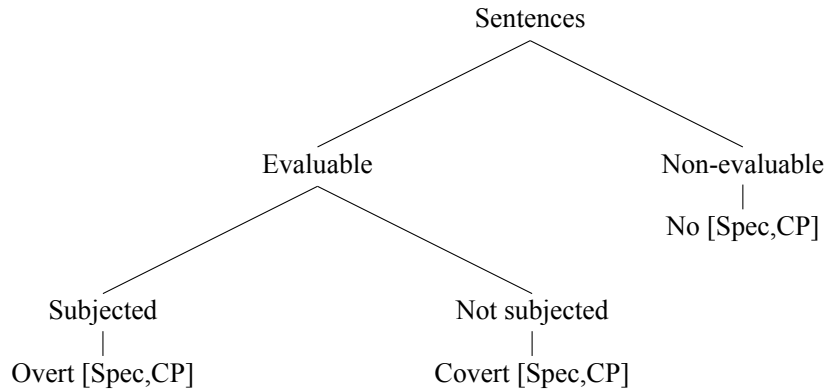
As the attentive reader no doubt has already concluded, the evaluability classification can be mapped in a one-to-one fashion with the three structural configurations in Swedish as distinguished in the previous section. Consider figure (15):

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[9]A *wh*-exclamative may be challenged by the hearer, as a reply like *I certainly have not!* is felicitous in relation to the utterance *What big feet you have!*. Non-restrictive relative clauses display a number of syntactic and semantic properties associated with main clause declaratives (see Hooper and Thompson (1973)), including the possibility of being challenged by the hearer. According to the evaluability classification, the controversial issues surrounding the question of whether subordinate clauses can be asserted is avoided, which in itself is a theoretical argument for assuming the present categorization. *Wh*-questions, finally, implicate open propositions that are cancelled when answered negatively: the answer *Nobody* effectively cancels the implication of the question *Who was late for work?* that *somebody* was late for work.

[10]Having no exact counterpart in English, Swedish *att*-exclamatives ('that'-) have the form of subordinate *att*-complements, while functioning as main clause exclamatives:

(1) Att du aldrig kan komma i tid!
     that you never can be   in time
     'I'm amazed/surprised that you're never on time!'

(15)

```
                                    Sentences
                                   /        \
                            Evaluable      Non-evaluable
                           /       \             |
                     Subjected   Not subjected   No [Spec,CP]
                         |            |
                  Overt [Spec,CP]  Covert [Spec,CP]
```

The Evaluability Classification and Swedish Clause Structure

Again, when analysing this correlation between clause structure and evaluability, one should probably focus more on the structural distinctions than on the actual structural *configurations*. The connection between [Spec,CP] and evaluability is in all likelihood language specific, and evaluability may be mirrored differently in other languages, much like the morpho-syntactic marking of such pragmatic concepts as topic/focus, politeness and modality is different cross-linguistically. This is important, as arguing that [Spec,CP] is inherently related to evaluability has rather far-reaching implications, and furthermore blurs the distinction between syntax, semantics and pragmatics. I will return to this issue in section 6 below.
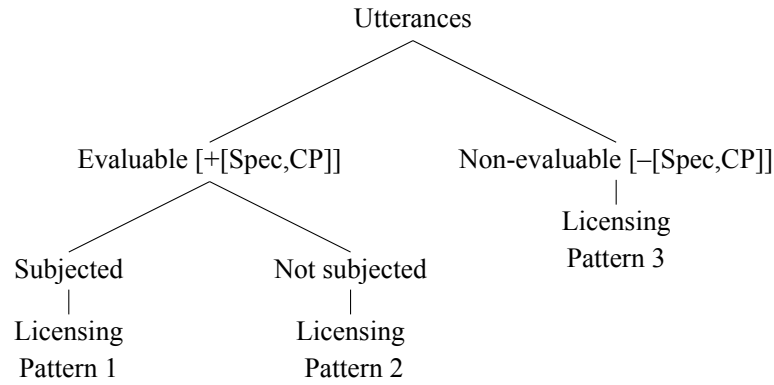
Having established the notion of evaluability and consequently mapped different sentence types to it, our next step is to relate evaluability to polarity sensitivity.

5   Evaluability as Polarity Sensitivity

In section 3, we observed an intricate correlation in Swedish between polarity sensitivity and the structural configuration of the C-domain. In the previous section, I argued that the Swedish C-domain mirrors the evaluative status of the clause. Consequently, it seems reasonable to assume a connection between evaluability and polarity sensitivity as well, as this may account for our initial observation.

By combining the evaluability classification, the configurations of the Swedish C-domain and polarity sensitivity, we get the following schema:

13

(16)

```
                                    Utterances
                          ╱                        ╲
            Evaluable [+[Spec,CP]]          Non-evaluable [–[Spec,CP]]
              ╱            ╲                          │
        Subjected      Not subjected              Licensing
            │               │                     Pattern 3
        Licensing       Licensing
        Pattern 1       Pattern 2
```

The Evaluability Classification and NPI-Licensing

As illustrated in (16), each licensing pattern is related to a distinct syntactic configuration and is characteristic of a well-defined semantic class. Let us consider the implications of these connections.

First, non-evaluable clauses host NPIs even in the absence of overt licensors, and PPIs and NPIs are not in complementary distribution. Second, evaluable clauses only allow formally licensed NPIs, and PPIs and NPIs are in complementary distribution. Taken at face value, these differences make it difficult to draw one generalized conclusion concerning the licensing and distribution of polarity items.

From the illustration in (16), the correct conclusion to draw seems to be that polarity items only *sometimes* are syntactically and/or semantically dependent, namely in evaluable clauses. In non-evaluable clauses, their occurrence is free and hence do not rely on syntactic licensing. But this may come across as a rather ineloquent conclusion, as it is but a theoretically disguised description of the empirical observations. Furthermore, by opting for this interpretation, one must simultaneously abandon the 'standard' assumption that polarity items are necessarily dependent expressions. But perhaps this is not a bad thing after all, considering the problems previous theories have had in accounting for the non-complementary distribution of PPIs and NPIs (recall section 2). The Evaluability Hypothesis presents an alternative approach that does account for the evasive syntactic and semantic dependency behavior of polarity items.

Using a simple metaphor, we may equate polarity items in non-evaluable clauses with fish in water: they occur in their right *biosphere*, as it were. Therefore, they need not rely on any kind of formal (syntactic) licensing. The fact that NPIs and PPIs equally occur in these environments falls out naturally. In contrast, polarity items in evaluable clauses are like fish on land. In order to survive in their unnatural environment, the PI must be rescued much like a fish out of water must be put within the confinement of a water tank. This is where both syntactic scope and semantic truth-based inferencing in the sense of Ladusaw comes in.

It should be emphasized that the distributional difference between strong and weak NPIs is not problematic for the Evaluability Hypothesis. One of the keys to polarity phenomena lies in acknowledging *both* the nature of the hosting environment and the

nature of the hosted item. Some *environments* are inherently hostile to all kinds of polarity items, some are inherently accepting them. Simultaneously, some *polarity items* are inherently choosy about their hosts (e.g. *until*-clauses), while others thrive in a large number of contexts (e.g. *any*, *någonsin* 'ever'). This fact does not in itself lessen the explanatory adequacy of the Evaluability Hypothesis, since it applies to the hosting environment only. Thus, the observation that strong NPIs always require overt licensing points not to a weakness of the theory, but to a semantic property of the lexical item.

Importantly, the current proposal constitutes a change of perspective from previous theories. Ever since Klima (1964), work on polarity has been set on finding *one, single* syntactic or semantic property relevant for *licensing*; preferably one that is associated to negation. According to my proposal, however, the distribution of polarity items is better thought of in terms of *sensitivity*. Furthermore, there is no immediate connection to negation or negative expectations. Syntactic or semantic *licensing* can in light of the present proposal be regarded as secondary: it is only required in those environments which do not inherently fulfill the sensitivity requirements for polarity items. This idea is explicated in the next subsection in relation to Ladusaw's DE-hypothesis; in the following subsection, the current proposal is related Giannakidou's notion of veridicality.

5.1 Evaluability and Monotonicity

As discussed in section 2, the main criticism against Ladusaw's (1980) notion of downward entailment was that it cannot be extended to yes/no-questions and conditionals. But what if this 'weakness' is not really a weakness at all, but rather a natural consequence of the fact that the notion is not applicable to (or of no relevance for) these environments?

In light of the present proposal, one may argue that the DE-hypothesis is non-applicable to a well-defined class of utterances. Intriguingly, the sentence types for which the DE-hypothesis does not account correlate in a one-to-one fashion with our non-evaluable category: the antecedent of conditionals, yes/no-questions, and *om*-complements in general (e.g. the antecedent of counterfactual conditionals and embedded yes/no-questions). Hence, one might argue that the DE-hypothesis fails to explain the distribution of polarity items in non-evaluable clauses, simply because it only applies to *evaluable* clauses. And the reason for this limitation is straightforward.

In order for a sentence to be evaluable, the speaker must take responsibility for the truth of the expressed proposition (be it affirmative or negative); otherwise a sentence is non-evaluable. Now, since only that which has a truth-value can be subjected to truth-based inferencing, it follows that only evaluable clauses are monotone. Non-evaluable clauses are necessarily non-monotone. The connection between evaluability and monotonicity can thus be captured as in (17) below.

(17)   i. Non-evaluable clauses cannot be challenged in discourse, since the speaker does not take responsibility for its truth.

        ii. For this reason, non-evaluable clauses do not allow truth-based inferencing:

they are non-monotone.

   iii. Consequently, the monotonicity principles are not applicable to non-evaluable clauses.

If this line of reasoning is on the right track, the fact that Ladusaw's DE-hypothesis cannot account for the occurrence of NPIs in yes/no-questions should not be taken as a 'weakness', as it is ultimately a consequence of the fact that yes/no-questions are non-evaluable. That is, polarity items may occur freely in all non-evaluable environments contexts *precisely because* they are non-monotone. Evaluable sentences, in contrast, are either monotone increasing or decreasing, and, depending on which, only PPIs or NPIs will be licensed. Hence, the DE-hypothesis may be subsumed under the Evaluability Hypothesis, but its applicability is restricted to the evaluable class.

5.2   Evaluability and Veridicality

The most important difference between the concepts of evaluability and veridicality concerns the view on negated sentences. According to the Veridicality Hypothesis, a negative declarative asserts the *falsity* of *p*; hence a negative declarative pattern with other nonveridical clauses which do not assert/presuppose the truth of *p*. According to the Evaluability Hypothesis, a negative declarative asserts the truth of not-*p*, from which it follows that both *p* and $\sim p$ are semantically distinct from sentences which are not used to claim a truth-value, such as yes/no-questions and conditionals. These opposing perspectives ultimately make the Evaluability Hypothesis and the Veridicality Hypothesis incompatible with each other.

With regards to the distribution of NPIs, the Veridicality Hypothesis presents a rather promising solution, as mentioned above. Under the assumption that (weak) NPIs are sensitive to nonveridicality, it is expected to find them in both negative declaratives and yes/no-questions. What is forgotten, it seems, is that PPIs *also* occur in yes/no-questions and conditionals, but not in negative declaratives. Hence, one must conclude that PPIs are insensitive to veridicality, as they are found in both veridical and nonveridical environments. Put somewhat differently, one might perhaps say that PPIs are *anti*-licensed by *anti*-veridicality: they may occur in any environment unless it is anti-veridical.

Furthermore, as discussed in section 2, the Veridicality Hypothesis incorrectly predicts complements to emotive factive predicates to disallow NPIs, as they are presupposed and therefore per definition veridical. Ultimately, this means that the distribution of polarity items cuts right across the veridicality border. In fact, if we assume with Giannakidou that polarity items are semantically dependent expressions that are sensitive to the veridical status of the hosting clause, the distribution of PPIs in nonveridical contexts and NPIs in veridical contexts all but falsifies this hypothesis.

In comparison, the Evaluability Hypothesis successfully explains both the non-complementary distribution of PPIs and NPIs as well as occurrences of NPIs in veridical contexts. Rather than seeing polarity items as dependent on the absence of a truth-entailment, I propose that they are sensitive to the evaluative status of the clause. Under

this perspective, the truth of *p* is no longer primary; instead it is the act of claiming a truth-value that is argued to be the decisive factor in accounting for the distribution of polarity items. At least with regards to the Mainland Scandinavian languages, this seems to be a more correct characterization than that of the Veridicality Hypothesis.

6   Syntactic arguments

In the previous sections I have defined the notion of evaluability and argued that it can be successfully used to understand polarity sensitivity. A reasonable question to ask at this point is what independent evidence there is for assuming that a notion like evaluability is relevant for grammar. In this section, I suggest a syntactic account of the connection between evaluability, polarity sensitivity and the configuration of the Swedish C-domain.

Let us begin by discussing the position claimed to be relevant for evaluability, that is, [Spec,CP]. So far, I have assumed without arguments that linear V1-clauses and *om*-clauses lack [Spec,CP] altogether. A reader familiar with the 'standard' syntactic account of Scandinavian Languages may find this analysis unorthodox. Under the assumption that C hosts an uninterpretable EPP-feature, the presence of [Spec,CP] is normally assumed also in V1-clauses. Under this view, linear V1- and V2-clauses only differ with regards to the phonological realization of [Spec,CP]. Structurally, the finite verb is always in second position, being preceded either by an overt clausal element or a covert syntactic operator (see Holmberg and Platzack 2005).

In Brandtler (2012), I argue against this view in line with Platzack (2008, 2009), who proposes abandoning the EPP-analysis of the Swedish C-domain in favor of an edge-feature analysis. According to Chomsky (2008), the edge-feature in C can be understood as a syntactic requirement that a phase head must have a specifier. Consequently, the realization of [Spec,CP] is not motivated by the valuation of a particular set of features (such as the EPP), and this affects the visibility condition of [Spec,CP]: "EPP is a demand that an Agree-relation must be visible at the SM interface, the edge-feature a demand that a phase head must have an Ā specifier. Hence, visibility at SM holds for EPP but not necessarily for the edge-feature" Platzack (2008: 7). Following the edge-feature analysis, the syntactic derivation of [Spec,CP] is thus *dependent* on the presence of an edge-feature in C. Unless the edge-feature is instantiated, [Spec,CP] cannot be realized.

The critical reader may object to the present characterization, arguing that the theoretical status of the notion *edge-feature* remains vague and therefore stipulative. While I am the first to admit that the *explanatory adequacy* of the EF-analysis is debatable, it is *descriptively* more accurate than the EPP-analysis. And the very fact that EF is semantically or pragmatically void should not be seen as a weakness, however, since we should not attribute meaning to a mechanism, but to its output.[11]

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[11]One should keep in mind that the EPP may be criticized on similar grounds for being a rather abstract concept with dubious explanatory power.

Being in itself semantically vacuous, the edge-feature may instead be associated to semantic content within a given language. And this, I would argue, is the reason evaluability is reflected in the presence/ absence of [Spec,CP] in Swedish: it is a direct consequence of the association between the pragmatic-semantic notion of evaluability and the edge-feature in C. And this assumption, in turn, also accounts for the observed correlation between polarity sensitivity and the configuration of the Swedish C-domain. Assuming that [Spec,CP] is dependent on the instantiation of the Edge-Feature in C, the connection between polarity sensitivity, evaluability and the structural configuration of the C-domain can be summarized in the following way.

(18) i. Polarity items are sensitive to evaluability;
      ii. Evaluability is associated to the edge-feature in C;
      iii. The edge-feature in C is responsible for the syntactic derivation of [Spec,CP].
      iv. **Conclusion:** The NPI-licensing properties of a Swedish clause correlate with the structural realization of [Spec,CP].

If this hypothesis is correct, the observed correlation between [Spec,CP] and polarity item licensing is language specific. It comes about as a result from the arbitrary association in Swedish between the edge-feature in C and evaluability. Hence, we cannot draw any universal implications from this observation. However, the semantic connection between evaluability and polarity sensitivity may be tested against any other language. The strict modular approach as outlined here thus gives that the syntactic association is language-specific, whereas the semantic connection may be universal (or at least applicable to a large number of languages).

7 Summary

Let us now summarize the theoretical implications of the Evaluability Hypothesis, and its relation to previous accounts of polarity item licensing.

The Evaluability Hypothesis suggests an alternative explanation to polarity sensitivity as a phenomenon, which does not build on the opposition between affirmative and negative sentences, or on the distinction between truth and falsity. Instead, it builds on the possibility of an utterance being *accepted* as true or false within a communicative exchange.

Evaluable utterances are truly *polar*, since they express either the truth of p or the truth of $\sim p$. It is irrelevant whether an evaluable clause is true or false in the absolute sense of propositional or modal logic; it must only be possible to accept it as true in a communicative exchange. In contrast, non-evaluable clauses are *non-polar*, since they neither express the truth of p nor the truth of $\sim p$. For this reason, they cannot be accepted or rejected in discourse.

Since non-evaluable clauses are non-polar, they are also non-monotone. This means that both NPIs and PPIs may occur in identical syntactic and semantic environments.

From this characterization, so called 'non-negative licensing contexts' (such as yes/no-questions and conditionals) have nothing in common with 'negative licensing contexts' (such as negative declaratives) – in fact, they display quite opposing semantic properties. This conclusion is in stark contrast with former theories, which have sought to unite negative and 'non-negative' licensing contexts. According to the Evaluability Hypothesis, non-evaluable clauses are *bona fide* environments for polarity items, whereas evaluable clauses are exceptional.

We have seen that the distinction between evaluable and non-evaluable clauses is structurally mirrored in Swedish. Evaluable clauses are endowed with an edge-feature in C, while non-evaluable clauses lack an edge-feature in C. At 'surface structure', this difference is reflected by the presence or absence of [Spec,CP]. Hence, the Evaluability Hypothesis straightforwardly accounts for the observed correlation between clause structure and the distribution of polarity items in Swedish – the start of the entire study. None of the previous theories of polarity sensitivity provides a viable account of this observation.

Admittedly, the general applicability of the Evaluability Hypothesis remains to be tested in other languages. However, I believe that the present study provides a promising alternative account of polarity phenomena, that both challenges and incorporates previous theories put forward in the literature.

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