

Local Contexts

P. Schlenker (Institut Jean-Nicod & NYU)

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Abstract: The dynamic approach posits that a presupposition must be satisfied in its *local context*. But how is a local context derived from the global one? Extant dynamic analyses must specify in the lexical entry of any operator what its 'context change potential' is, and for this very reason they fail to be explanatory. To circumvent the problem, we revise two assumptions of the dynamic approach: we take the update process to be derivative from a classical, non-dynamic semantics - which obviates the need for dynamic lexical entries; and we deny that a local context encodes what the speech act participants 'take for granted'. Instead, we take the local context of an expression *E* in a sentence *S* to be *the smallest domain that one may restrict attention to when assessing E* without jeopardizing the truth conditions of *S*. Local contexts may be computed *incrementally* or *symmetrically*: in the incremental case, only information about the expressions that precede *E* is taken into account; in the symmetric case, all of *S* (except *E*) is accessed. The resulting account of local satisfaction is shown to be equivalent to the 'Transparency theory' of presuppositions (Schlenker 2007a,b), whose incremental version is nearly equivalent to Heim's dynamic semantics. But unlike the Transparency theory, the present account makes it possible to compute in great generality the semantic contribution of an expression in its local context - and thus to offer a general theory of triviality, and possibly of presupposition generation. This account can thus be seen as a synthesis between the Transparency theory and dynamic semantics.

1 The Dynamic Dilemma

1.1 Local Contexts

- (1) **Basic [Pre-Dynamic] Account**
-A presupposition must be entailed by the context.
-Context = context set, i.e. what the speech act participants take for granted.
- (2) **Problem: the Basic Account doesn't work.**
a. John knows that he is incompetent
=> presupposes that John is incompetent
b. John is incompetent and he knows that he is
=> presupposes nothing.
- (3) **Dynamic Approach:** the Basic Account is *almost* correct, but there are local contexts.
 $C[A \text{ and } B] = C[A][B]$
[the local context of *B* is obtained by updating *C* with *A*]

1.2 Pragmatic Interpretation

- (4) **Stalnaker's Analysis: a pragmatic solution**
a. It is raining and John knows it.

Step 1: Update the Context Set *C* with *It is raining*
 $C[\text{It is raining}] = \{w \in C: \text{it is raining in } w\} = C'$

Step 2: Update the intermediate Context Set *C'* with *John knows it* [*=that it is raining*]
 $C'[\text{he knows it}] = \{w \in C': \text{it is raining in } w \text{ and } J. \text{ believes in } w \text{ that it is raining}\}$
b. #John knows that it is raining and it is (raining).
- (5) **Problem: the account is explanatory but not general**
(i) $\text{Assert}(p \text{ and } q) \approx \text{Assert}(p) + \text{Assert}(q)$
(ii) This doesn't extend to other connectives.

1.3 Semantic Interpretation

- (6) **Heim's Analysis: semantic reinterpretation of Stalnaker's rules.**

a. Rule: $C[F \text{ and } G] = (C[F])[G]$, unless $C[F] = \#$

b. Results: same as before, except that they can be extended:
-to other connectives
-to quantifiers.
- (7) **Problem: the account is general but not explanatory (Soames 1989)**
 $C[F \text{ and } G] = (C[F])[G]$
 $C[F \text{ and } *G] = (C[G])[F]$
When *F* and *G* are not presuppositional,
 $C[F \text{ and } G] = C[F \text{ and } *G] = \{w \in C: F \text{ is true in } w \text{ and } G \text{ is true in } w\}$
- (8) **There are many ways to define the CCP of *or*...**

 $C[F \text{ or }^1 G] = C[F] \cup C[G]$, unless one of those is #
 $C[F \text{ or }^2 G] = C[F] \cup C[\text{not } F][G]$, unless one of those is #
 $C[F \text{ or }^3 G] = C[\text{not } G][F] \cup C[G]$, unless one of those is #

(9) **Common Ground as Common Belief** (Stalnaker 2002)

S F = the speaker believes that F
 A F = the addressee believes that F

F is Common Belief (= C F) just in case
 S F, A F, S A F, A S F, etc.
 ... which entails in particular that S F **and** A F.

(10) **Uncontroversial vs. dubious updates**

-If the Speaker utters *F and blah* and is sincere: **C S F**

-To make *F* part of the Common Ground, we need: **C F**

(11) **Moore's Paradox**

- a. #It's raining but I (still) don't believe it.
- b. It's raining but you (still) don't believe it.

(12) **"Explanatory Adequacy"**

The way in which a given operator transmits presuppositions should be entirely predictable once
 -its (bivalent) behavior with respect to non-presuppositional sentences, and
 -its syntax
 have been specified.

(13) **"Descriptive Adequacy"**

Theories of projection should in principle explain:
 -Adult judgments (inferences / semantic failures)
 -Reaction times
 -Acquisition data

2 An Informal Reconstruction of Local Contexts

- (14) -We preserve the idea that a presupposition must be satisfied in its local context.
 -We abandon the view that local contexts are the result of belief update.

- (15) Instead, we take the **local context of an expression *E*** (whose type 'ends in t') in a sentence *S* uttered in *C* to be
the narrowest domain that one may restrict attention to without semantic risk when assessing the contribution of *E* to the conversation.

- (16) What is dynamic in the account? The fact that the local context of expression *E* in a sentence *S* is preferably (but not obligatorily) computed on the basis of the expressions that come before *E* in *S*.

Incremental local context = local context computed with this left-right bias

Symmetric local context = local context computed without this left-right bias.

Note: When *E* comes 'at the end' of *S*, there won't be any difference between the two notions.

2.1 Initial Examples(17) **Example 1: John knows that it's raining**

- Local context = *C* (all worlds in *C* matter)
- Thus *C* should entail that it is raining.

(18) **Example 2: It is raining and John knows it.**

- When we assess *John knows it*, we can restrict attention to those worlds in *C* in which it is raining. This is because all other worlds are either irrelevant to the conversation because
 - they are outside of *C*, or
 - they are inside *C* but they make the first conjunct false, and thus we are not interested in the value of the rest of the sentence in those worlds (the sentence is false anyway).
- It can be shown that any stronger restriction does carry a semantic risk.

So the local context of the second conjunct is:
C ∧ **it is raining** - which satisfies the presupposition.

(19) **Example 3: If it's raining, John knows it**

- When we assess *John knows it*, we can restrict attention to those worlds in *C* in which it is raining. This is because all other worlds are either irrelevant to the conversation because
 - they are outside of *C*, or
 - they are inside *C* but they make the antecedent false, and thus we are not interested in the value of the rest of the sentence in those worlds (the sentence is true anyway).
- It can be shown that any stronger restriction does carry a semantic risk.

So the local context of the second conjunct is:
C ∧ **it is raining** - which satisfies the presupposition.

2.2 Informal Definitions

- (20) The **symmetric local context** of a propositional or predicative expression d that occurs in a syntactic environment a_b in a context C is the strongest proposition or property x which guarantees that for any expression d' of the same type as d , if c' denotes x , then

$$C \models a (c' \text{ and } d') b \Leftrightarrow a d' b$$

(If no strongest proposition or property x with the desired characteristics exists, the local context of d does not exist).

- (21) $p \text{ and } qq' \Rightarrow p \text{ and } \bullet \Rightarrow \text{find narrowest domain at } \bullet$
 $qq' \text{ and } p \Rightarrow \bullet \text{ and } p \Rightarrow \text{find narrowest domain at } \bullet$

- (22) The **incremental local context** of a propositional or predicative expression d that occurs in a syntactic environment a_b in a context C is the strongest proposition or property x which guarantees that for any expression d' of the same type as d , **for any b' which is syntactically acceptable**, if c' denotes x , then

$$C \models a (c' \text{ and } d') b' \Leftrightarrow a d' b'$$

(If no strongest proposition or property x with the desired characteristics exists, the local context of d does not exist).

- (23) $p \text{ and } qq' \Rightarrow p \text{ and } \bullet \Rightarrow \text{find narrowest domain at } \bullet$
 $qq' \text{ and } p \Rightarrow \bullet \dots \Rightarrow \text{find narrowest domain at } \bullet$

2.3 One worked-out example

- (24) **Symmetric Local Context of qq' in $p \text{ and } qq'$**
 It is the strongest proposition c' such that, for any d' [i.e. no matter the value of qq' turns out to be],

$$C \models (p \text{ and } (c' \text{ and } d')) \Leftrightarrow (p \text{ and } d')$$

a. Certainly the condition will be satisfied if c' denotes $C \wedge p$

b. Any further restriction will be semantically risky. Suppose c' excludes some p -world w of C . If d' is true at w , then:

$$w \models (p \text{ and } d')$$

$$w \not\models (p \text{ and } (c' \text{ and } d'))$$

so the equivalence is not satisfied.

2.4 Why have Symmetric Contexts?

- (25) **Common Wisdom:** there is a sharp contrast between $(p \text{ and } qq')$ vs. $(qq' \text{ and } p)$
 a. John used to smoke, and he has stopped smoking.
 b. #John has stopped smoking, and he used to smoke.
- (26) **Problem:** general deviance when the 1st conjunct entails the 2nd
 a. John resides in France and he lives in Paris.
 b. #John lives in Paris and he resides in France.
- (27) **Still, the incremental bias might be real:**
 a. John used to smoke five packs a day, and he has stopped smoking.
 b. <?> John has stopped smoking, and he used to smoke five packs a day.
 c. Is it true that John has stopped smoking and that he used to smoke five packs a day?
 d. I doubt that John has stopped smoking and that he used to smoke five packs a day.
- (28) a. There is no bathroom, or the bathroom is well hidden.
 b. The bathroom is well hidden, or there is no bathroom.
- (29) a. If there is a bathroom, the bathroom is well hidden.
 b. If the bathroom is not hidden, there is no bathroom.
- (30) **If p , $q \approx$ If not q , not p**
If not $(p \text{ and } q)$, not $p \approx$ If p , $p \text{ and } q \approx$ If not q , not p

3 A Formal Reconstruction of Local Contexts I: Incremental Satisfaction

3.1 Preliminaries

- (31) Syntax
 -Generalized Quantifiers: $Q ::= Q_i$
 -Predicates: $P ::= P_i \mid \underline{P}_k$
 -Propositions: $p ::= p_i \mid \underline{p}_k$
 -Formulas $F ::= p \mid (\text{not } F) \mid (F \text{ and } F) \mid (F \text{ or } F) \mid (\text{if } F, F) \mid (Q_i P . P)$

- (32) Local context notation
 a. Syntax: ${}^c F$ is F is a formula, ${}^c P$ if P is a predicate.
 b. Semantics: in all cases, for any expression E , ${}^c E$ is interpreted as the (generalized) conjunction of c' and E .

(33) Generalized Entailment

- a. If x and x' are two objects of a type τ that 'ends in t ', and can take at most n arguments, $x \leq x'$ just in case whenever y_1, \dots, y_n are objects of the appropriate type, if $x(y_1) \dots (y_n) = 1$, then $x'(y_1) \dots (y_n) = 1$
- b. If E and E' are two expressions of a type τ that 'ends in t ',
 $w \models^s (E \leq E') \text{ iff } \llbracket E \rrbracket^{w,s} \leq \llbracket E' \rrbracket^{w,s}$

(34) Generalized Conjunction

- a. If x and x' are two objects of a type τ that 'ends in t ', and can take at most n arguments of types τ_1, \dots, τ_n respectively, then
 $x \wedge x' = \lambda y_{1\tau_1} \dots \lambda y_{n\tau_n} x(y_1) \dots (y_n) = x'(y_1) \dots (y_n) = 1$
- b. If E and E' are two expressions of a type τ that 'ends in t ',
 $\llbracket E \wedge E' \rrbracket^{w,s} = \llbracket (E' \text{ and } E) \rrbracket^{w,s} = \llbracket E' \rrbracket^{w,s} \wedge \llbracket E \rrbracket^{w,s}$

3.2 Incremental Local Contexts

◆ Motivation and Definitions

(35) For every constituent d' , for every good final b' , $C \models^{c' \rightarrow p} ((p \text{ and } ^c d' b' \Leftrightarrow ((p \text{ and } d' b'$

Here we employ standard notations from modal logic: $C \models^{c' \rightarrow p} F$ means that under an assignment function in which c' denotes p , every world w in C makes F true (i.e. every world w in C guarantees that $w \models^{c' \rightarrow p} F$). We adopt the further convention of writing in bold the semantic value of an expression, so that for instance \mathbf{F} is the proposition denoted by the formula F . With these conventions, (35) means that if c' denotes p , for any good final b' the formula $((p \text{ and } ^c d' b')$ is equivalent (relative to C) to the formula $((p \text{ and } d' b')$: the restriction to c' is innocuous. But if we are *really* lazy when we evaluate the second conjunct, we can do better. Since the worlds that are outside C are excluded from consideration to begin with, we can restrict attention to those worlds *in* C that satisfy p . In other words, we may without risk restrict attention to $p \wedge C$:

(36) For every constituent d' , for every good final b' , $C \models^{c' \rightarrow p \wedge C} ((p \text{ and } ^c q b' \Leftrightarrow ((p \text{ and } q b'$

Can we be lazier still? No: if c' denotes a proper subset S of $p \wedge C$, one that excludes a p -world w of the context set, $^c d'$ will have to be false at w , while d' alone might well be true - this is exactly the reasoning we informally developed in the introduction. If the sentence turns out to be $((p \text{ and } d') \text{ and } t)$, where t is a tautology, we will have the unfortunate result that w makes $((p \text{ and } d') \text{ and } t)$ true, but that it makes $((p \text{ and } ^c d') \text{ and } t)$ false. Thus by restricting attention to c' , we will be led to make a mistake about the truth value of the sentence at w ; in this case the restriction to S is not innocuous:

(37) $C \not\models^{c' \rightarrow S} ((p \text{ and } d') \text{ and } t) \Leftrightarrow ((p \text{ and } ^c d') \text{ and } t)$

The moral is that if we want to be maximally lazy *without* taking any truth-conditional risk, we may restrict attention to $p \wedge C$, but *all* the worlds in that set must be inspected. In other words, this is the strongest restriction we can give ourselves without taking any risk - which means that $p \wedge C$ is the incremental local context of q .

In the general case, local contexts are best defined in two steps. First, we find the set of denotations that make c' truth-conditionally harmless; we say in such cases (following the terminology of Schlenker 2007a) that (the value of) c' is 'transparent', or that it is a 'transparent restriction'. We then ask whether this set has a bottom element, i.e. one that entails all others; if so, it is the incremental local context of the expression (it is shown below that under broad conditions local contexts do exist).

(38) $\text{tr}^i(C, d, a_b) = \{x: x \text{ is an object of the type specified by } d \text{ and for every constituent } d' \text{ of the same type as } d, \text{ for every good final } b', C \models^{c' \rightarrow x} a \text{ } ^c d' b' \Leftrightarrow a d' b'\}$

We can then define the (incremental) local context of d as the bottom element of $\text{tr}^i(C, d, a_b)$, if it has one:

(39) $\text{lc}^i(C, d, a_b) =$ the bottom element¹ of $\text{tr}^i(C, d, a_b)$, if it exists; # otherwise.

Finally, we can say that in a context C , the presupposition d of an expression dd' that appears in a syntactic environment a_b is (incrementally) satisfied in its local context just in case it is entailed by it:

(40) If $\text{lc}^i(C, dd', a_b) \neq \#$, $\text{Sat}^i(C, dd', a_b)$ just in case $\text{lc}^i(C, dd', a_b) \leq d$

◆ Examples

(41) $\text{lc}^i(C, F, (_ \text{ and } G)) = \text{lc}^i(C, F, (_ \text{ or } G)) = C$

(42) $\text{lc}^i(C, F, (\text{not } _)) = C$

(43) $\text{lc}^i(C, q, (p \text{ and } _)) = C \wedge \mathbf{F}$

(44) $\text{lc}^i(C, F, (\text{if } _ . G)) = C$

(45) $\text{lc}^i(C, G, (\text{if } F . _)) = C \wedge \mathbf{F}$

Proof: It is immediate that this restriction to $C \wedge \mathbf{F}$ carries no risk. And if c' denotes a set S that excludes a p -world w of C , in case d' is true in w we will have both that $w \models^{c' \rightarrow S} (\text{if } p . d')$ and that $w \not\models^{c' \rightarrow S} (\text{if } p . ^c d')$, and hence $C \not\models^{c' \rightarrow S} (\text{if } p . ^c d') \Leftrightarrow (\text{if } p . d')$. So the narrowest restriction that one can get away with is $C \wedge \mathbf{F}$.

(46) $\text{lc}^i(C, q, (p \text{ or } _)) = C \wedge (\text{not } \mathbf{F})$

Proof: By propositional logic, $(F \text{ or } d')$ is always equivalent to $(F \text{ or } ((\text{not } F) \text{ and } d'))$, hence $C \models^{c' \rightarrow C \wedge (\text{not } \mathbf{F})} (F \text{ or } ^c d') \Leftrightarrow (F \text{ or } d')$; this establishes that $C \wedge (\text{not } \mathbf{F})$ is a transparent value for c' . On the other hand, if c' denotes a set S that excludes a $(\text{not } F)$ -world w of C , in case d' is true in w we will have that $w \models^{c' \rightarrow S} (F \text{ or } d')$ but $w \not\models^{c' \rightarrow S} (F \text{ or } ^c d')$, and thus $C \not\models^{c' \rightarrow S} (F \text{ or } d') \Leftrightarrow (F \text{ or } ^c d')$; this shows that any transparent for c' must include *all* of $C \wedge (\text{not } \mathbf{F})$, which is thus the local context we were looking for.

Importantly, the present approach also yields a fully explicit notion of 'local context' for expressions that are embedded under quantifiers. Let us first compute the incremental context of the nuclear scope Q in the quantified statement $(\text{Every } P . Q)$. In earlier examples, the value of the context variable c' was a proposition, i.e. an object of type $\langle s, t \rangle$. Things are different in this case: for c' to be conjoinable with Q in the formula $(\text{No}$

¹ As mentioned, by 'bottom element' of $\text{tr}^i(C, d, a_b)$, we mean an element e such that for all $e' \in \text{tr}^i(C, d, a_b)$, $e \leq e'$. It is immediate that if a bottom element exists, it is unique: if e_1 and e_2 are both bottom elements, $e_1 \leq e_2$ and $e_2 \leq e_1$, so $e_1 = e_2$ (this is the case because e_1 and e_2 are set-theoretical objects rather than formulas).

$P . {}^c Q$), it must have the type of a predicate, i.e. $\langle s, \langle e, t \rangle \rangle$. It turns out that the narrowest possible value of c' is just $\lambda w, \lambda x_c . C(w) = 1$ and $P(w)(x) = 1$ (we call this function ${}^c P$); in other words, the local context of Q is just P restricted to the context set.

$$(47) \text{lc}^i(C, Q, (\text{Every } P . _)) = {}^c P$$

$$(48) \text{lc}^i(C, Q, (\text{No } P . _)) = {}^c P$$

Proof: By Conservativity, the value ${}^c P$ will not carry any truth-conditional risk. Now suppose, for contradiction, that some value S for c' is not entailed by ${}^c P$, and thus that for some world w and individual d , ${}^c P(w)(d) = 1$ but $S(w)(d) = 0$. Take the nuclear scope D' to be true of d and nothing else (i.e. $D'(w)(x) = 1$ iff $x = d$). In such a case, $w \models^{c'} \rightarrow^S (\text{No } P . {}^c D')$ (because the only member of $D'(w)$, namely d , does not belong to $S(w)$); on the other hand, $w \not\models^{c'} \rightarrow^S (\text{No } P . D')$, because d belongs both to ${}^c P(w)$ and to $D'(w)$. Thus $C \not\models^{c'} \rightarrow^S (\text{No } P . {}^c D') \Leftrightarrow (\text{No } P . D')$ - which shows that c' is not transparent after all.

3.3 Incremental Satisfaction

- (49) a. $\text{Sat}^i(C, \text{dd}', a_b)$ just in case $\text{lc}^i(C, \text{dd}', a_b) \leq d$
 b. $\text{Sat}^i(C, F)$ just in case for all expressions $\underline{e'e'}$, for all strings a', b' , if $F = a' \underline{e'e'} b'$, then $\text{Sat}^i(C, \underline{e'e'}, a'_b')$

- (i) $(pp' \text{ and } q)$ and $(pp' \text{ or } q)$ both require that $C \models p$

- (50) a. John knows that he is incompetent and he is depressed.
 b. John knows that he is incompetent or he is depressed.

$$(51) \text{Sat}^i(C, (pp' \text{ and } q)) \text{ iff } \text{Sat}^i(C, (pp' \text{ or } q)) \text{ iff } C \models p$$

- (ii) $(\text{not } pp')$ requires that $C \models p$

- (52) John doesn't know that he is incompetent.

$$(53) \text{Sat}^i(C, (\text{not } pp')) \text{ iff } C \models p$$

- (iii) $(p \text{ and } qq')$ requires that $C \models (\text{if } p . q)$

- (54) Is it true that John is a diver and that he will bring his swimming suite?
 \Rightarrow If John is a diver, he has a swimming suite.

$$(55) \text{Sat}^i(C, (p \text{ and } qq')) \text{ iff } C \models (\text{if } p . q)$$

- (iv) $(\text{if } pp' . q)$ requires that $C \models p$

- (v) $(\text{if } p . qq')$ requires that $C \models (\text{if } p . q)$

$$(56) \text{Sat}^i(C, (\text{if } p . qq')) \text{ iff } C \models (\text{if } p . q)$$

- (vi) $(p \text{ or } qq')$ requires that $C \models (\text{if } (\text{not } p) . q)$

- (57) John is not a diver, or (else) he will bring his swimming suite.

$$(58) \text{Sat}^i(C, (p . qq')) \text{ iff } C \models (\text{if } (\text{not } p) . q)$$

- (vii)-(viii) $(\text{Every } P . QQ')$ and $(\text{No } P . QQ')$ both require that $C \models (\text{Every } P . Q)$

- (59) a. None of these ten students takes good of his computer.
 \Rightarrow Each of these ten students has a computer.
 b. None of these ten students has stopped smoking.
 \Rightarrow Each of these ten students used to smoke.

$$(60) \text{Sat}^i(C, (\text{Every } P . Q)) \text{ iff } \text{Sat}^i(C, (\text{No } P . Q)) \text{ iff } C \models (\text{Every } P . Q)$$

4 A Formal Reconstruction of Local Contexts II: Further Developments

4.1 Dynamic Implementation

$$(61) C \models [(* \text{EF}')] = \# \text{ iff } \text{lc}^i(C, \text{EF}', *_) \leq F$$

$$\text{If } \neq \#, C \models [(* \text{EF}')] = \{w \in C : w \models (* F')\}$$

The same reasoning can be applied to binary connectives:

$$(62) C \models [(\text{EF}' * \text{GG}')] = \# \text{ iff (it is not the case that } \text{lc}^i(C, \text{EF}', (_ * \text{GG}')) \leq F \text{) or } (\text{lc}^i(C, \text{EF}', (_ * \text{GG}')) \leq F \text{ and (it is not the case that } \text{lc}^i(C, \text{GG}', (\text{EF}' * _)) \leq G \text{))}. \text{ If } \neq \#, C \models [(\text{EF}' * \text{GG}')] = \{w \in C : w \models (F' * G')\}.$$

It can be checked that these templates derive the rules posited for connectives by Heim 1983 (augmented with the asymmetric dynamic disjunction of Beaver 2001). This template can easily be extended to binary connectives that have a different syntax, such as $(\text{if } F . G)$ or $(Q F . G)$; it is noteworthy that the same template applies to both cases because, in our highly simplified fragment, they share the same syntax:

$$(63) C \models [(* \text{EF}' . \text{GG}')] = \# \text{ iff (it is not the case that } \text{lc}^i(C, \text{EF}', (* _ . \text{GG}')) \leq F \text{) or } (\text{lc}^i(C, \text{EF}', (* _ . \text{GG}')) \leq F \text{ and it is not the case that } \text{lc}^i(C, \text{GG}', (\text{EF}' * _)) \leq G \text{)}. \text{ If } \neq \#, C \models [(* \text{EF}' . \text{GG}')] = \{w \in C : w \models (F' * G')\}.$$

4.2 Symmetric Local Contexts

$$(64) \text{tr}^s(C, d, a_b) = \{x : x \text{ is an object of the type specified by } d \text{ and for every constituent } d' \text{ of the same type as } d, C \models^{c'} \rightarrow^x a^c d' b \Leftrightarrow a^c d' b\}$$

$$(65) \text{Symmetric Local Context}$$

$$\text{lc}^s(C, d, a_b) = \text{the bottom element of } \text{tr}^s(C, d, a_b), \text{ if it exists; } \# \text{ otherwise.}$$

(66) Symmetric Satisfaction

- a. $\text{Sat}^s(C, \underline{dd}', a_b)$ just in case $\text{lc}^s(C, \underline{dd}', a_b) \leq \underline{d}$
- b. $\text{Sat}^i(C, F)$ just in case for all expressions \underline{ee}' for which $F = a' \underline{ee}' b'$ for some strings a', b' , $\text{Sat}^s(C, \underline{ee}', a'_b)$.

(67) For any context set C , for all expressions \underline{dd}' and for all strings a, b ,

- a. $\text{tr}^s(C, \underline{dd}', a_b) \subseteq \text{tr}^i(C, \underline{dd}', a_b)$.
- Furthermore, if $\text{lc}^s(C, d, a_b) \neq \#$ and $\text{lc}^i(C, d, a_b) \neq \#$,
- b. $\text{lc}^s(C, d, a_b) \leq \text{lc}^i(C, d, a_b)$
- c. if $\text{Sat}^i(C, d, a_b)$, then $\text{Sat}^s(C, d, a_b)$

- (68) a. $\text{lc}^s(C, \underline{qq}', (_ \text{ and } p)) = \text{lc}^i(C, \underline{qq}', (p \text{ and } _)) = C \wedge \underline{p}$
- b. $\text{lc}^s(C, \underline{qq}', (_ \text{ or } p)) = \text{lc}^i(C, \underline{qq}', (p \text{ or } _)) = C \wedge (\text{not } \underline{p})$

4.3 Local Felicity

- (69) a. #John has cancer and [he is sick or desperate]
- a'. John has cancer and he is desperate.
- b. #If John has cancer, he is sick or desperate.
- b'. If John has cancer, he is desperate.

- (70) a. John lives in France and he resides in Paris.
- b. #John lives in Paris and he resides in France.

- (71) The assertive component of an expression E may not be trivially true or trivially false relative to its local context:
- a. it may not be entailed by the local context of E (local triviality)
- b. its negation may not be entailed by the local context of E (local contradiction).
- (These requirements may presumably be interpreted in incremental or symmetric terms.)

- (72) a. #?John resides in Paris or he lives in France.
- b. #John lives in France or he resides in Paris.

5 General Results

In the general case, it can be shown that under relatively mild assumptions, (i) local contexts are guaranteed to exist, and that (ii) the present theory makes almost the same predictions as Heim's dynamic semantics (supplemented with the disjunction of Beaver 2001). (These results are stated and proven in Schlenker 2008, building on technical results in Schlenker 2007).

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