Local Contexts

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Presuppositions

- **Approximation:** A presupposition of S is a condition that must be met for S to be true or false.
- **Property 1: A sentence whose presupposition is not met is neither true nor false** (except when...)
- a. John knows that it is raining.
  Presupposition: It is raining
  b. John regrets that he is incompetent.
  Presupposition: John is incompetent.
  c. John has stopped beating his wife.
  Presupposition: John has a wife and he used to beat her.
  d. It is John who left.
  Presupposition: Someone left.

Presuppositions

- **Property 2: Presuppositions project in a special way.**

- a. Bill knows that he is incompetent.
  => Bill is incompetent.
  b. Does Bill knows that he is incompetent?
  => Bill is incompetent.
  c. Bill doesn't know that he is incompetent.
  => Bill is incompetent.
  d. None of my students knows that he is incompetent.
  => Each of them is incompetent.

- a. Bill is in Paris => Bill is in France
  b. Is Bill in Paris? ≠> Bill is in France
  c. Bill isn't in Paris ≠> Bill is in France
  d. None of my students is in Paris ≠> ...

Presuppositions

- **Property 3: Left-right bias**
- a. Moldova is a monarchy, and the king of Moldova is powerful.
  b. #The king of Moldova is powerful, and Moldova is a monarchy.
- a. Bill is incompetent, and he knows that he is.
  b. #?Bill knows that he is incompetent, and he is.

Classical vs. Dynamic Semantics

- **Projection Problem**: How are the presuppositions of complex sentences computed from the meanings (and presuppositions) of their elementary parts?

- **Dynamic Semantics:** The logic needed to handle presuppositions is **trivalent** and **dynamic**: the meanings of expressions are functions from belief states to belief states.

- **Standard Criticism:** The system is too powerful: it makes it possible to **stipulate** the desired results in lexical entries.

- Claims: • The main insights of the dynamic approach can be reconstructed within a classical semantics.
  • The reconstruction solves the overgeneration problem, and yields new predictions.

Static vs. Dynamic Semantics

- **Static View of Meaning**

  Meaning = Truth Conditions

- **Dynamic View of Meaning**

  Meaning = Context Change Potential
  = potential to change beliefs

- **Motivations for the dynamic view**

  a. Pronouns, e.g. Every man who has a donkey beats it.
  b. Presuppositions.
  ☞ Is the 'dynamic turn' justified?

The Basic Account: Trivalence

- **Basic Account:** If the presupposition of a clause *S* is not entailed by its context, *S* gives rise to a semantic failure and is uninterpretable [... which makes the entire sentence uninterpretable].

- **Context:** what the speech act participants take for granted ("context set"= a set of worlds; Stalnaker 1974, 1978)

- **Problem:** The Basic Account is immediately refuted because it predicts that if *any clause* results in failure on its own, so does the entire sentence it occurs in
  ... and we saw that this is not the case:

  If John is incompetent, he knows that he is.

The Dynamic Approach: Local Contexts

- **Dynamic Approach: the Basic Account is *almost* correct, but there are local contexts.**
  e.g. the local context of *B* in *A and B* is not the initial context C, but C *as modified* by the utterance of A.

- **How are local contexts computed?**
  a. Stalnaker's Analysis: a pragmatic solution
  Local contexts are the results of incremental belief update
  => immediate account of the left-right asymmetries

  b. Heim's Analysis: dynamic semantics
  The update process is encoded in the meaning of words
  => the left-right asymmetries must be stipulated

The Dynamic Approach I: Pragmatics

- **Stalnaker's Analysis**

a. It is raining and John knows it.
a'. (p and pp')

Step 1: Update the Context Set C with *It is raining*

C[It is raining] = {w∈C: it is raining in w} = C'

Step 2: Update the intermediate Context Set C' with *John knows it [=that it is raining]*

C'[he knows it]={w∈C: it is raining in w and J. believes in w that it is raining}

b. #John knows that it is raining, and it is (raining).
b' #(pp' and p)

The Dynamic Approach I: Pragmatics

- **Stalnaker's Analysis**

  John is 64 years old, and he knows he can't be hired.

  Step 1: Update the Context Set C with *It is raining*

  C[John is 64] = {w∈C: John is 64 in w} = C'

  Step 2: Update the intermediate Context Set C' with *John knows he can't be hired*

  If C' |= John can't be hired, C'[he knows...]={w∈C: J. is 64 in w and J. believes in w that he can't be hired}.

  Result 1: **(p and qq') presupposes: if p, q**

- **Problem: the account is explanatory but not general**

  No student has stopped smoking

  => what is the local context of a predicative element?

The Dynamic Approach II: Semantics

- **Heim's Analysis: conjunction (cf. Karttunen)**
  a. Rule: C[F and G] = (C[F])[G], unless C[F]=#

  b. Results: same as before, but reinterpreted in semantic terms. Major advantage: rules can be defined for
  -other connectives
  -quantifiers.

- **Problem: the approach is general but not explanatory**
  C[F and G] = (C[F])[G]
  C[F and* G] = (C[G])[F]
  C[F and** G] = C[F] [G]
  When F and G are not presuppositional,
  C[F and G] = C[F and* G] = C[F and** G]
  ={w∈C: F is true in w and G is true in w}

The Dynamic Approach II: Semantics

- **Heim's Analysis: negation**

  John doesn't know that he can't be hired.

  Presupposition: *John can't be hired*

  a. Rule: C[not F] = C - C[F], unless C[F]=#

  b. Results: negation is a 'hole' for presuppositions.

  Result 2: **(not <u>p</u>p') presupposes: p**

- **Heim's Analysis: conditionals**

  Effect of if F, G **= reject worlds in which F and not G.**

  a. Rule: C[F and G] = (C[F])[not G],
  unless C[F][not G]=#, i.e. unless C[F][G] = #.

  b. Results: same presuppositions as for *F and G*.

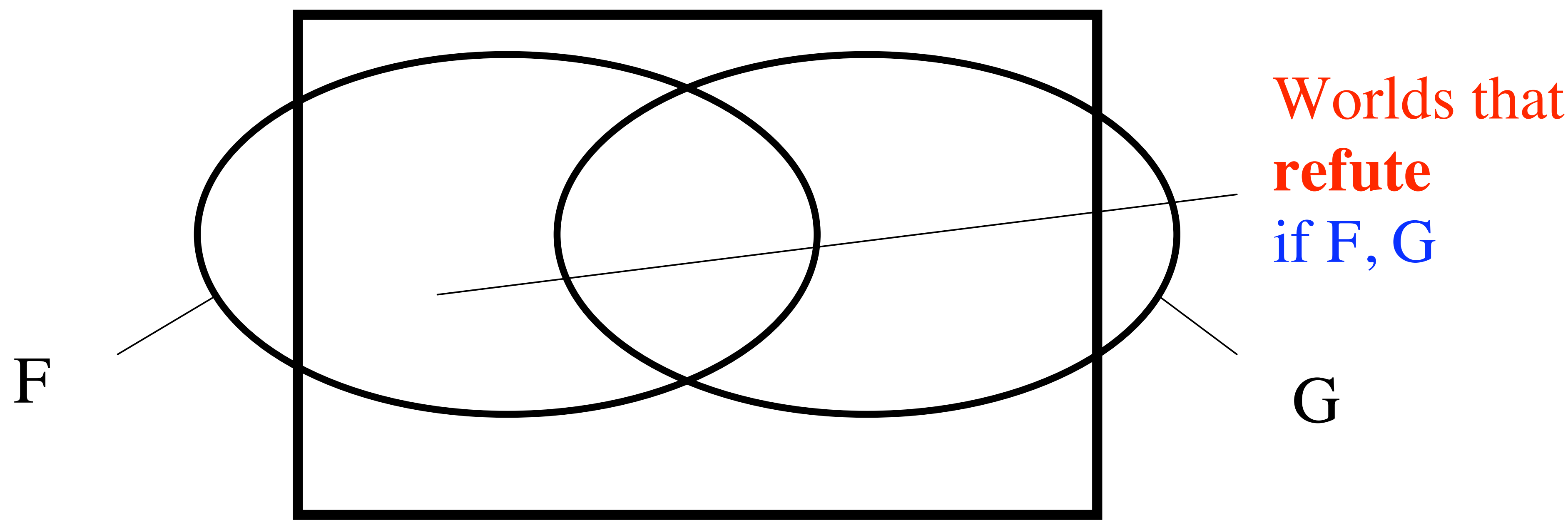
  If John is 64 years old, he knows he can't be hired

  Result 3: **(if p, <u>q</u>q') presupposes: if p, q**

Conditionals

- **Conditionals** (analyzed as material implications)

C[if F, G] = # iff C[F] = # or C[F][not G] = #
= C - C[F][not G], otherwise



Disjunctions

- **a. p or qq' presupposes (not p) ⇒ q**
  b. pp' or q presupposes p

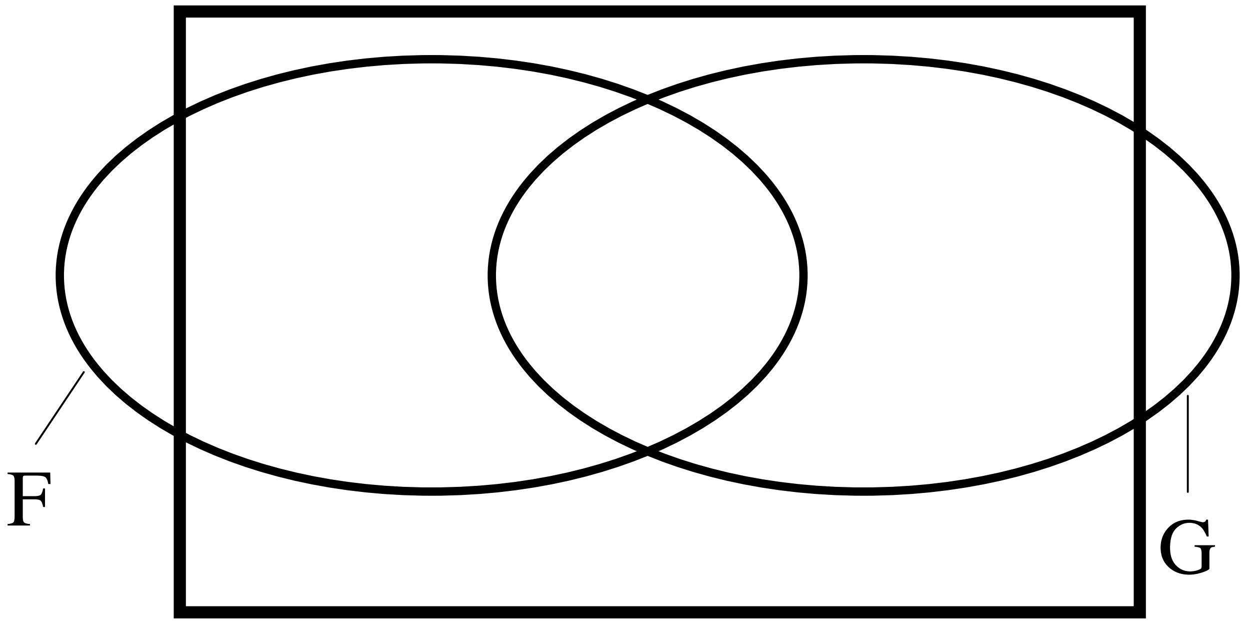
- a. If John is incompetent, his boss knows that he is.
  b. Either John is not incompetent, or his boss knows that he is.

- a. If John is 64, he knows he can't apply.
  b. Either John isn't 64, or he knows he can't apply

- a. If John knows that he is overqualified, he won't apply.
  b. Either John doesn't know that he is over qualified, or he won't apply.

Disjunctions

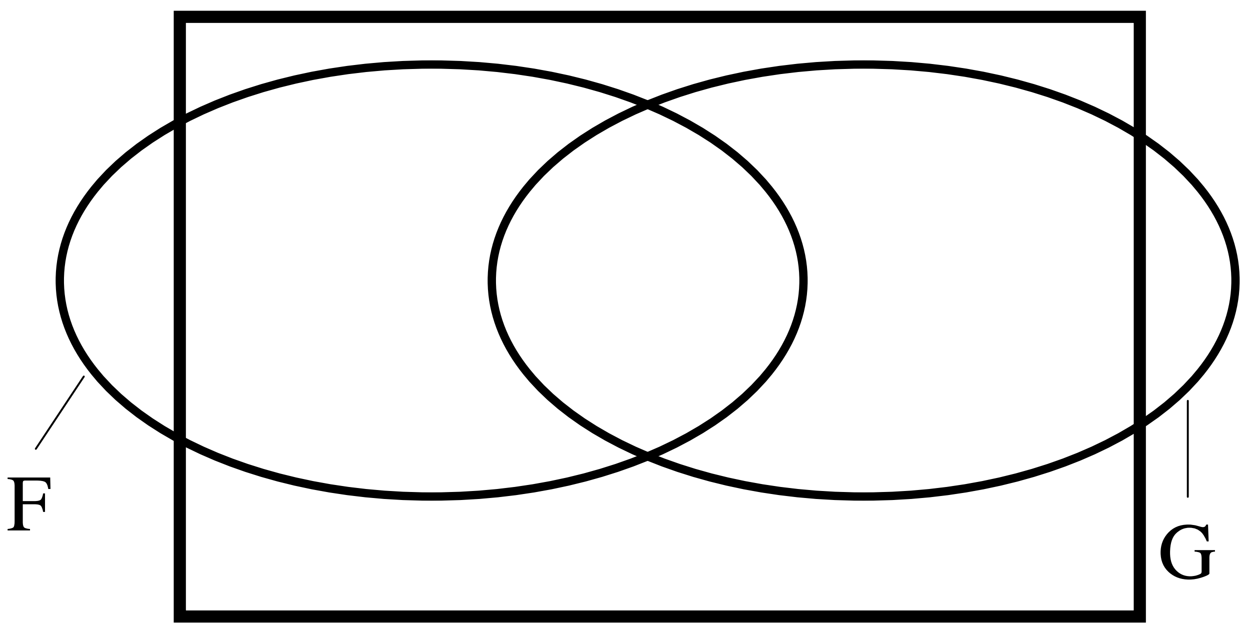
- **Disjunction**
  C[F or G] = # iff C[F] = # or C[not F][G] = #
  = C[F] ∪ C[not F][G] otherwise.



An Example of Overgeneration: *or*

- **There are many ways to define the CCP of *or*...**

C[F or^1 G] = C[F] ∪ C[G], unless one of those is #
C[F or^2 G] = C[F] ∪ C[not F][G], unless one of those is #
C[F or^3 G] = C[not G][F] ∪ C[G], unless one of those is #



Predictive Theories

Standard Results

- a. ***Result 1:*** **(p and qq') requires: C $\models$ if p, q**
  John is 64 and he knows he can't be hired.

  b. ***Result 2:*** **(not pp') requires: C $\models$ p**
  John doesn't know he can't be hired.

  c. ***Result 3:*** **(if p, qq') requires: C $\models$ if p, q**
  If John is 64, he knows he can't be hired.

Transparency

- a. ***Result 1:*** **(p and $\underline{q}$q') requires: C $\models$ if p, q**
  ... and if C $\models$ if p, q, C $\models$ (p and $\underline{q}$q') $\Leftrightarrow$ (p and q')

  b. ***Result 2:*** **(not $\underline{p}$p') requires: C $\models$ p**
  ... and if C $\models$ p, C $\models$ (not $\underline{p}$p') $\Leftrightarrow$ (not p)

  c. ***Result 3:*** **(if p, $\underline{q}$q') requires: C $\models$ if p, q**
  ... and if C $\models$ if p, q, C $\models$ (if p, $\underline{q}$q') $\Leftrightarrow$ (if p, q')

- **Derived Property**
  The context C should guarantee that a presupposition is 'transparent', in the sense that a sentence with the presupposition 'erased' has the same meaning relative to C as the original sentence.

Strategy

- **Transparency-Based Analyses**
  a. Turn the Derived Property into the **centerpiece of a theory of presupposition projection.**
  b. The derived property can be stated **without dynamic notions** => **non-dynamic** account of projection.

- **Problem 1: Incrementalism**
  We need a difference between **(p and qq')** vs. **(qq' and p)**
  => require that presuppositions be transparent **no matter how the sentence ends**.

- **Problem 2: Assertive Component**
  It was John who won = pp' ... is always equivalent to **p'**!
  Presupposition: Someone won <= *Assertion:* John won.
  => Transparency **no matter what the assertive part is**

Transparency and Local Contexts

- **Local context at the position • in: (p and •)**
  = strongest 'hypothesis' that one can add to • without changing the meaning of **(p and •)**

  (here: local context = C ∧ **p**)

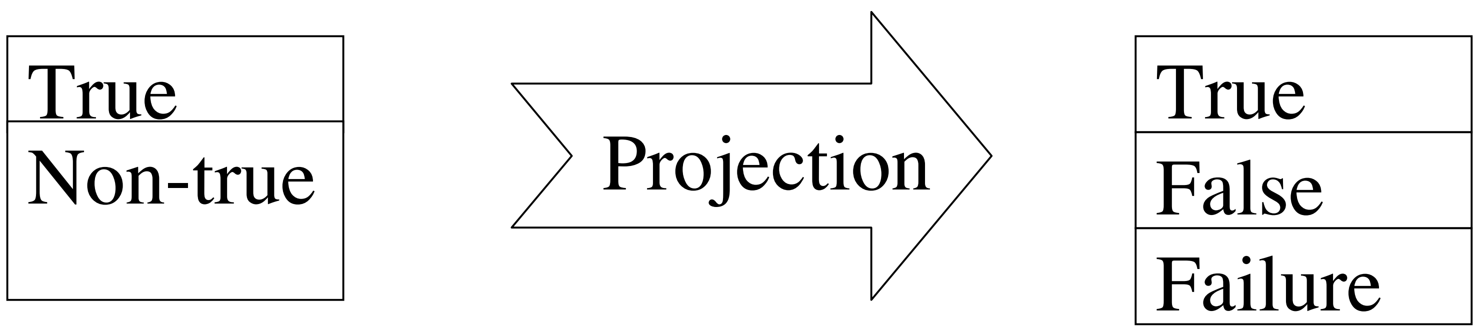
- **Local Satisfaction in: (p and qq')**
  = a presupposition must be entailed by its local context, hence it must be 'locally trivial'.

  (here: C ∧ **p** |= q)

Predictive Theories

- **Explanatory Depth**
  Attempt to find an algorithm which **predicts** how presuppositions are projected by various operators once their **syntax** and their **bivalent truth-conditional behavior** has been specified.

- **Form of the 'New Theories'**



Architecture of the New Theories

- **Substantial Component**
  A presupposition P is a part of the meaning that must satisfy property X
  e.g. X = P can be disregarded without truth-conditional loss

- **Incremental Component**
  The substantial component is applied as soon as a presupposition trigger is processed
  => left-right asymmetries

	Main ideas A presupposition ...	**Trivalent?**	**Dynamic?**	**Lexicalist?**
Dynamic semantics Heim (cf. Karttunen)	must be **satisfied** in its local context [semantic]	**Yes**	**Yes**	**Yes**
Reconstruction of Local Contexts	must be **satisfied** in its local context [pragmatic]	**No**	**Yes**	**No**
Transparency	must be **articulated**	**No**	**No**	**No**
Constrained Dynamic Semantics Rothschild	must be **satisfied** in its local context [semantic]	**Yes**	**Yes**	**No**
Trivalence Peters, Beaver/Krahmer, George, Fox,	yields a failure can sometimes be **ignored**	**Yes**	**No**	**No**
Similarity Theory Chemla	Chemla 2008	**No**	**No**	**No**

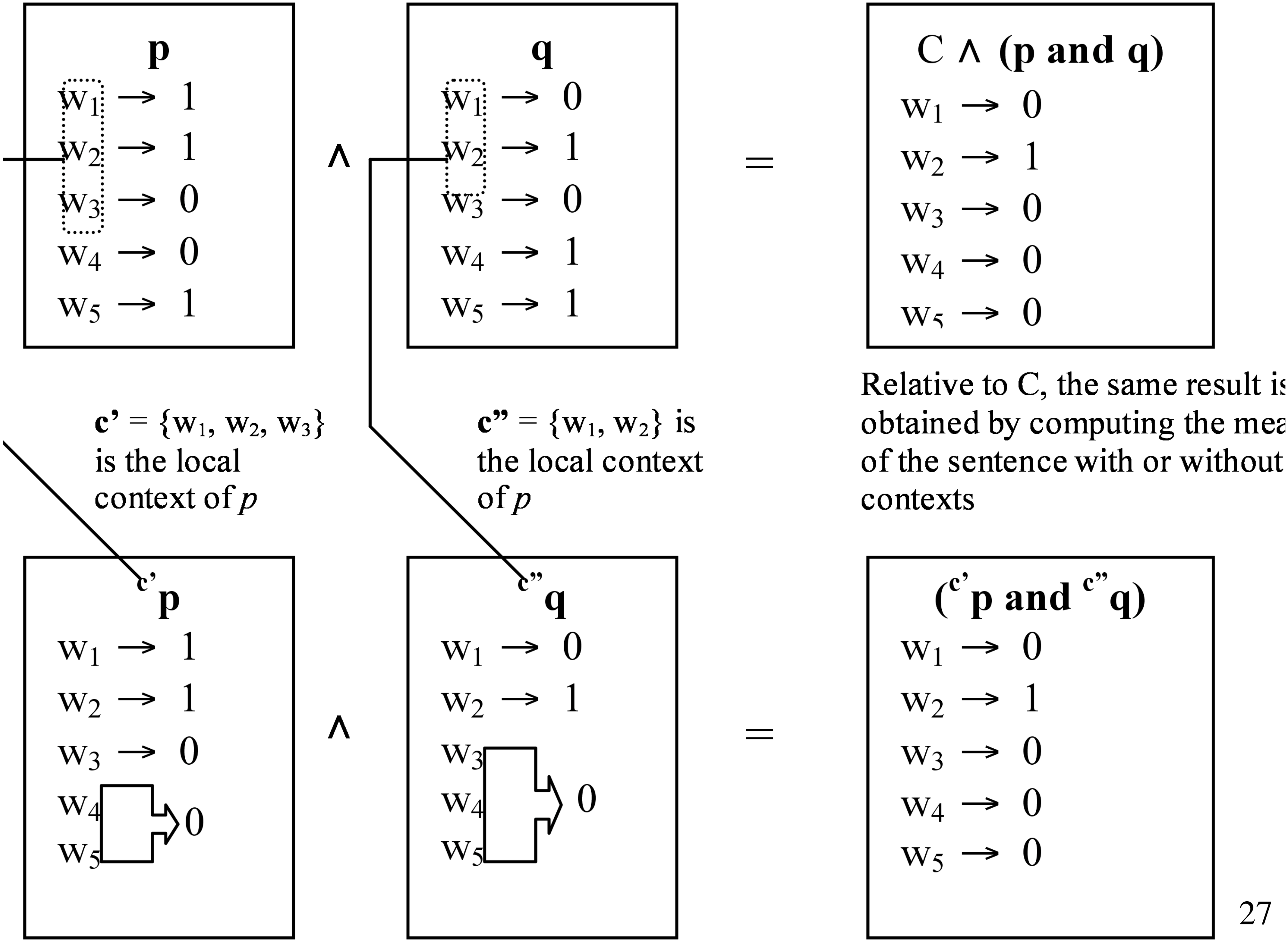
Reconstructing Local Contexts

A Pragmatic Reconstruction of Local Contexts

- a. We preserve the idea that **a presupposition must be satisfied in its local context.**

  b. We abandon the view that local contexts are the result of belief update.

  c. 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.**


p
w1 → 1
w2 → 1
w3 → 0
w4 → 0
w5 → 1
∧
q
w1 → 0
w2 → 1
w3 → 0
w4 → 1
w5 → 1
=
C ∧ (p and q)
w1 → 0
w2 → 1
w3 → 0
w4 → 0
w5 → 0
c' = {w1, w2, w3} is the local context of p
c" = {w1, w2} is the local context of p
Relative to C, the same result i
obtained by computing the mea
of the sentence with or without
contexts
c'p
w1 → 1
w2 → 1
w3 → 0
w4
w5
0
∧
c"q
w1 → 0
w2 → 1
w3
w4
w5
0
=
(c'p and c"q)
w1 → 0
w2 → 1
w3 → 0
w4 → 0
w5 → 0

General Idea

- **What is dynamic in the account?** The local context of expression *E* in a sentence S is preferably computed on the basis of expressions that come before *E*.

  a. **Incremental local context** = local context computed with this left-right bias
  b. **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.

General Idea

- **Motivation: Processing Meaning**

  (i) Interpreter = determine which worlds of the context set are compatible with the speaker's claim.

  (ii) Interpreter has access to (a) the context set C, and (b) to the meaning of the words = functions of various types.

  (iii) Assumptions

  a. It is easier to perform the steps of the computation when part of the domain of a function can be disregarded.

  b. The interpretation is performed incrementally.

  c. Before processing any expression, the interpreter tries to simplify his task as much as possible given what he already knows about the meaning of the sentence.

The Intuition

- **Local Contexts**

  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.

- **Example 1: John knows that it's raining**
  -Local context = C (all worlds in C matter)
  -Thus C should entail that it is raining.

The Intuition

- **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.

The Intuition

- **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 $\wedge$ **it is raining** - which satisfies the presupposition.

Symmetric Local Contexts

- 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

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

  …

- p and <u>q</u>q' => p and • => find narrowest domain at •
  <u>q</u>q' and p => • and p => find narrowest domain at •

Incremental Local Contexts

- 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

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

  ...

- p and qq' => p and • => find narrowest domain at •

  qq' and p => • ... => find narrowest domain at •

Example 1: (p and qq')

- Bill is 64 years old and he knows that he can't be hired.
  => If Bill is 64 years old, he can't be hired.

- **Local Context of qq' = C ∧ p**
  It is the strongest proposition *c'* such that, for any *d'*

  C |= (p and (c' and d')) ⇔ (p and d')

- Certainly the condition will be satisfied if *c'* denotes C ∧ **p**

- Any further restriction will be semantically risky. Suppose *c'* excludes some p-world w of C. If *d'* is true at w, then:
  w |= (p and d')
  w |≠ (p and (c' and d'))
  so the equivalence is not satisfied.

Example 2: (qq' and p), (qq' or p)

- Bill knows that he can't be hired, and/or ...
- **Incremental Local Context of qq'**

  When we process **(qq'...** , we do not know what the end of the sentence will be, and thus disregarding any world of C is risky.
- **Local Context of qq' = C**

Example 3: (if p, $\underline{q}$q')

- If Bill is 64 years old, he knows he can't be hired.
  => If Bill is 64 years old, he can't be hired.

- **Local Context of $\underline{q}$q' = C ∧ p**
  It is the strongest proposition *c'* such that, for any *d'* [i.e. no matter the value of *$\underline{q}$q'* turns out to be],
  C |= (if p, (c' and d')) ⇔ (if p, d')

- Certainly the condition will be satisfied if *c'* denotes C ∧ **p**

- Any further restriction will be semantically risky. Suppose *c'* excludes some p-world w of C. If *d'* is true at w, then:
  w |= (if p, d')
  w |≠ (if p, (c' and d'))
  so the equivalence is not satisfied.

Example 4: ([No P] QQ')

- **Local Context of QQ' = ^{C}P** (= P restricted to C)
  It is the strongest property *c'* such that, for any *d'* [i.e. no matter the value of *QQ'* turns out to be],
  C |= ([No P] (c' and d')) ⇔ ([No P] d')

- Certainly the condition will be satisfied if *c'* denotes ^{C}**P**, i.e. the property which is true of individual d at world w just in case w ∈ C and d satisfies P at w.

- Any further restriction will be risky. Suppose *c'* excludes w, x s.t. x satisfies P at w. If at w *d'* is true of x only,
  w |≠ ([No P] d') because x satisfies P and d' at w
  w |= ([No P] (c' and d')) because at w *c'* excludes x
  so the equivalence is not satisfied.

Example 4: ([No P] QQ')

- None of my students has stopped smoking.
  => Each of my students used to smoke.

- **Local Context of QQ' = ^{C}P** (= P restricted to C)

- **Prediction**
  No P QQ' uttered in C presupposes that C |= Every P Q

- **Data**: this seems to be a good thing (see Chemla 2009 for experimental confirmation)

Example 5: (p or <u>q</u>q'), (unless p, <u>q</u>q')

- Bill is under 65, or he knows he can't be hired.
  Unless Bill is under 65, he knows he can't be hired.
  => If Bill not under 65, he can't be hired.

- **Local Context of <u>q</u>q' = C ∧ (not p)**
  It is the strongest proposition *c'* such that, for any *d'*
  C |= (p or (c' and d')) ⇔ (p or d')

Quicker: (p or <u>q</u>q') ≈ (unless p, <u>q</u>q') ≈ (if (not p), <u>q</u>q')

- The condition will be satisfied if *c'* denotes C ∧ **(not p)**

- Further restrictions will be semantically risky. Suppose *c'* excludes some (not p)-world w of C. If *d'* is true at w, then: w |= (p or d'), but w |≠ (p or (c' and d'))

A Theory of Triviality

- **Local Felicity (Stalnaker)**

  For an expression *E* to be felicitous, it should neither be the case that its local context entails it, nor that it entails its contradiction.

- a. John is in Paris, and he is staying near the Louvre.
  b. #John is staying near the Louvre, and he is in Paris.

- The deviance of (b) immediately follows from Local Felicity and our reconstruction of local contexts.

- Speculation: local contexts might be useful to compute the 'local contribution' of an expression, from which some presuppositions might be triggered.

General Results

- **Equivalence with Dynamic Semantics**

  It can be shown that under **relatively** mild assumptions,
  (i) local contexts are guaranteed to exist, and that
  (ii) the incremental version of the present theory makes almost the same predictions as Heim's dynamic semantics

- **Predictions**

  a. pp' and/or q and if pp', q presuppose: p
  b. p and qq' and if p, qq' presuppose: if p, q
  c. [Q P] RR' presupposes: [every P] R
  d. [Q PP'] R' presupposes: [everything] P

Dynamic Implementation

- **We can use our reconstruction of local contexts to constrain dynamic semantics**

  C[FF' * GG'] = # iff
  • the local context of *FF'* doesn't entail *F*, or
  • the local context of *GG'* doesn't entail *G*.

  If ≠ #, C[FF' * GG'] = {w∈C: w |= F' * G'}.

- **Problem 1:** Simultaneous possibility of 'incremental readings' (easy) and 'symmetric readings' (hard)
- **Problem 2:** The predictions for quantified examples need to be considerably refined (Chemla, Charlow).

Stepping Back:
Local Contexts and Transparency

Local Contexts and Transparency

Upon encountering a string a dd'	
Local Contexts	**Transparency**
Step 1: Compute in C the **strongest c'** which will be innocuous in **a (c' and g) b'** no matter what *g* and *b'* are. **Step 2**: Check that **d follows from this c'**.	Make sure that in C **d and** is semantically eliminable in **a (d and g) b'** no matter what *g* and *b'* are.

Principle of Transparency

- **Incremental Transparency**

  a d d' b is presuppositionally acceptable in C iff

  for each acceptable g and for each acceptable sentence completion b',

  C $\models$ a (d and g) b' $\Leftrightarrow$ a g b'

[Equivalence Proof]

- a. **Local Contexts:** **d** is entailed by the incremental local context (=lc) of *<u>d</u>d'* for any *b'* in the sentence *a <u>d</u>d' b'*
  b. **Transparency:** *a (d and <u>d</u>d') b* violates the incremental version of *Be Brief*

- (a) ⇒ (b): *c'* denotes the local context of *<u>d</u>d'*; for any *g*, *b'*
  1. C |= a g b' ⇔ a (c' and g) b' Since *c'* entails *d*, we have:
  2. C |= a (c' and g) b' ⇔ a (c' and d and g) b'. *c'* is a lc so
  3. C |= a (c' and (d and g)) b' ⇔ a (d and g) b'. Hence
  4. C |= a g b' ⇔ a (d and g) b'

- (b) ⇒ (a): For any appropriate *g*, *b'*,
  C |= a (d and g) b' ⇔ a g b'. This means that *d* is an innocuous restriction for the interpretation of *<u>d</u>d'*. Since *c'* is the *strongest* such restriction, it must entail *d*.

Questions

- **Extension to Questions**
  a. Transparency-based theories explain presupposition projection in terms of some equivalences:

  Relative to C, it should be the case that... **blah ⇔ blah'**

  b. Criterion of equivalence for questions => predictions

- **Krifka' Theory of Questions**
  Idea: a question is identified to the tuple of its answers.

  Does John smoke? = <J. smokes, J. doesn't smoke>

  Who smoke? = <J. smokes, A. smokes, B. smokes, ...>

Yes-No Questions

- **Krifka' Theory of Questions**

? blah = <blah, not blah>

? blah ⇔ ? blah'
iff **<blah, not blah> = <blah', not blah'>**
iff **blah ⇔ blah'**
and **not blah ⇔ not blah'**

- **Prediction: A yes-no question inherits the presupposition of the corresponding assertion.**
  Does John know that he is incompetent?
  => John is incompetent.

Wh-Questions

- **Krifka' Theory of Questions**

Who blah? = <John blah, Ann blah, Bill blah, ...>

	who blah	⇔	**who blah'**
iff	**John blah**	⇔	**John blah'**
and	**Bill blah**	⇔	**Bill blah'**
and	**Ann blah**	⇔	**Ann blah'**
and		...	

- **Prediction: A wh-question inherits the presupposition of each of the corresponding answers.**

  (Among these 10 students,) who knows he is incompetent?

  =>? Each of these ten students is incompetent

Incremental vs. Symmetric

(ongoing work with Emmanuel Chemla)

Incremental vs. Symmetric

- **Common Wisdom:** there is a sharp contrast between *(p and qq')* vs. *(qq' and p)*
  a. John used to smoke, and he has stopped smoking.
  b. #John has stopped smoking, and he used to smoke.

- **Problem:** general deviance when the 1st conjunct entails the 2nd
  a. John is in Paris, and he is staying near the Louvre.
  b. #John is staying near the Louvre, and he is in Paris.

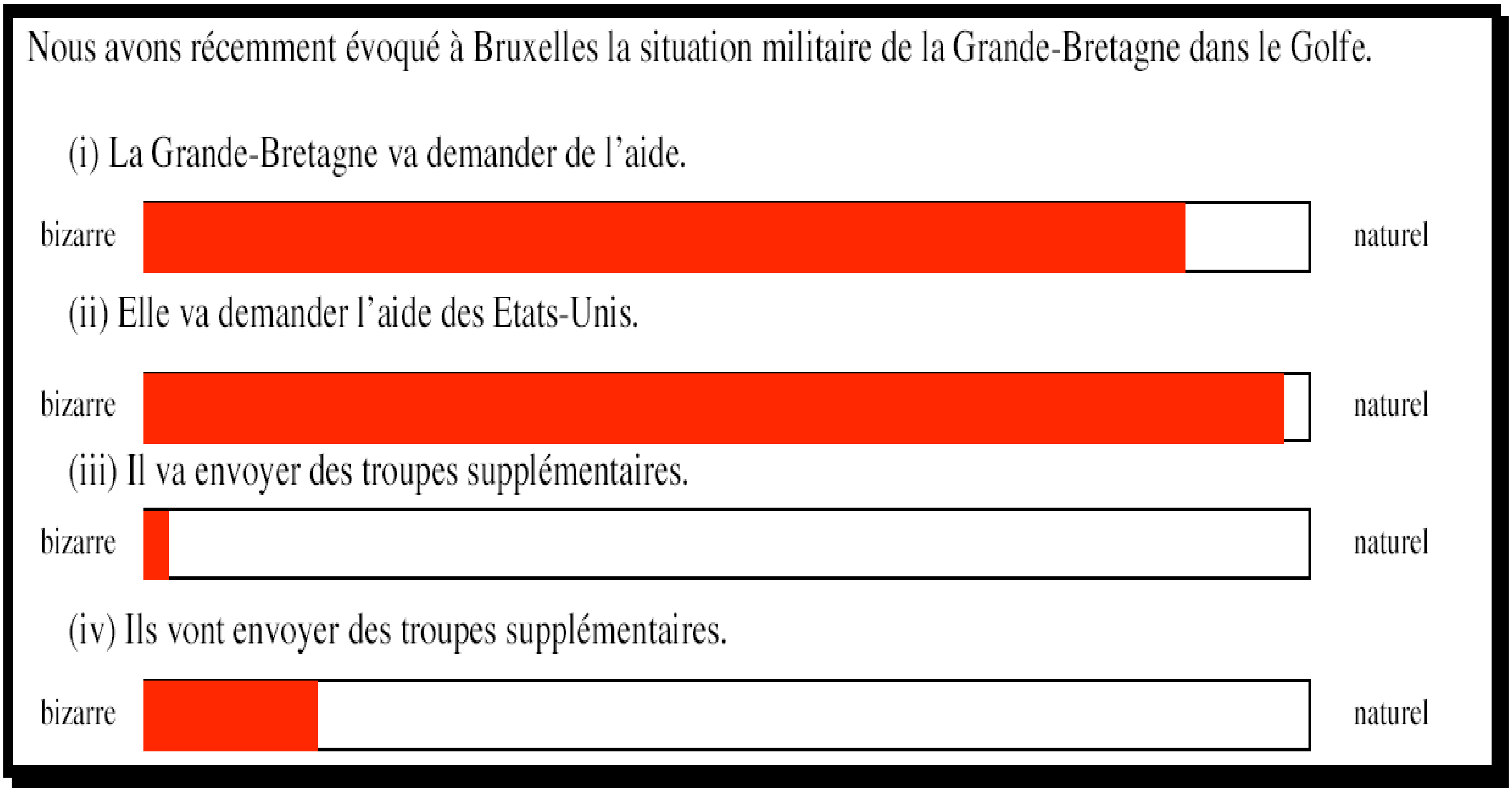
  Note: the deviance of b. can be explained by the theory of local contexts, but not by the Transparency theory.

Conjunction

pp' and q presupposes that... *if q, p* (?)

- 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.

Pour indiquer à quel point chaque continuation est naturelle ou bizarre lorsqu'elle suit la phrase qui apparaît en haut de l'encadré, vous utiliserez la souris pour faire varier la longueur de la ligne rouge qui s'affiche sous chaque exemple. Dans le cas ci-dessus, vous pourrez par exemple arriver au résultat suivant (mais ce n'est qu'une réponse possible parmi beaucoup d'autres) :



But: Canonical Order

- In the next budget negotiations, the President will ask two Ministries to make financial efforts.

  a1. The Ministry of Economy will make the greatest concessions, but the Ministry of Labor will **IT too** be **flexible.**

  a2. The Ministry of Economy will make the greatest concessions, but the Ministry of Labor will be **flexible.**

  a1. The Ministry of Economy will make the greatest concessions, but the Ministry of Labor will **IT too** be **inflexible.**

  a2. The Ministry of Economy will make the greatest concessions, but the Ministry of Labor will be **inflexible.**

But: Inverse Order

In the next budget negotiations, the President will ask two Ministries to make financial efforts.

b1. The Ministry of Labor will **IT too** be **flexible**, but the Ministry of Economy will make the greatest concessions.

b2. The Ministry of Labor will be **flexible**, but the Ministry of Economy will make the greatest concessions.

b1. The Ministry of Labor will **IT too** be in**flexible**, but the Ministry of Economy will make the greatest concessions.

b2. The Ministry of Labor will be in**flexible**, but the Ministry of Economy will make the greatest concessions.

Paradigm

- Dans la prochaine négociation budgétaire, le Président va demander à seulement deux ministères de faire des efforts.

  a1. Le ministre de l'Économie va faire les concessions les plus importantes, **mais** le ministre du travail va **lui aussi** se montrer flexible.
  a2. Le ministre de l'Économie va faire les concessions les plus importantes, **mais** le ministre du travail va se montrer flexible.

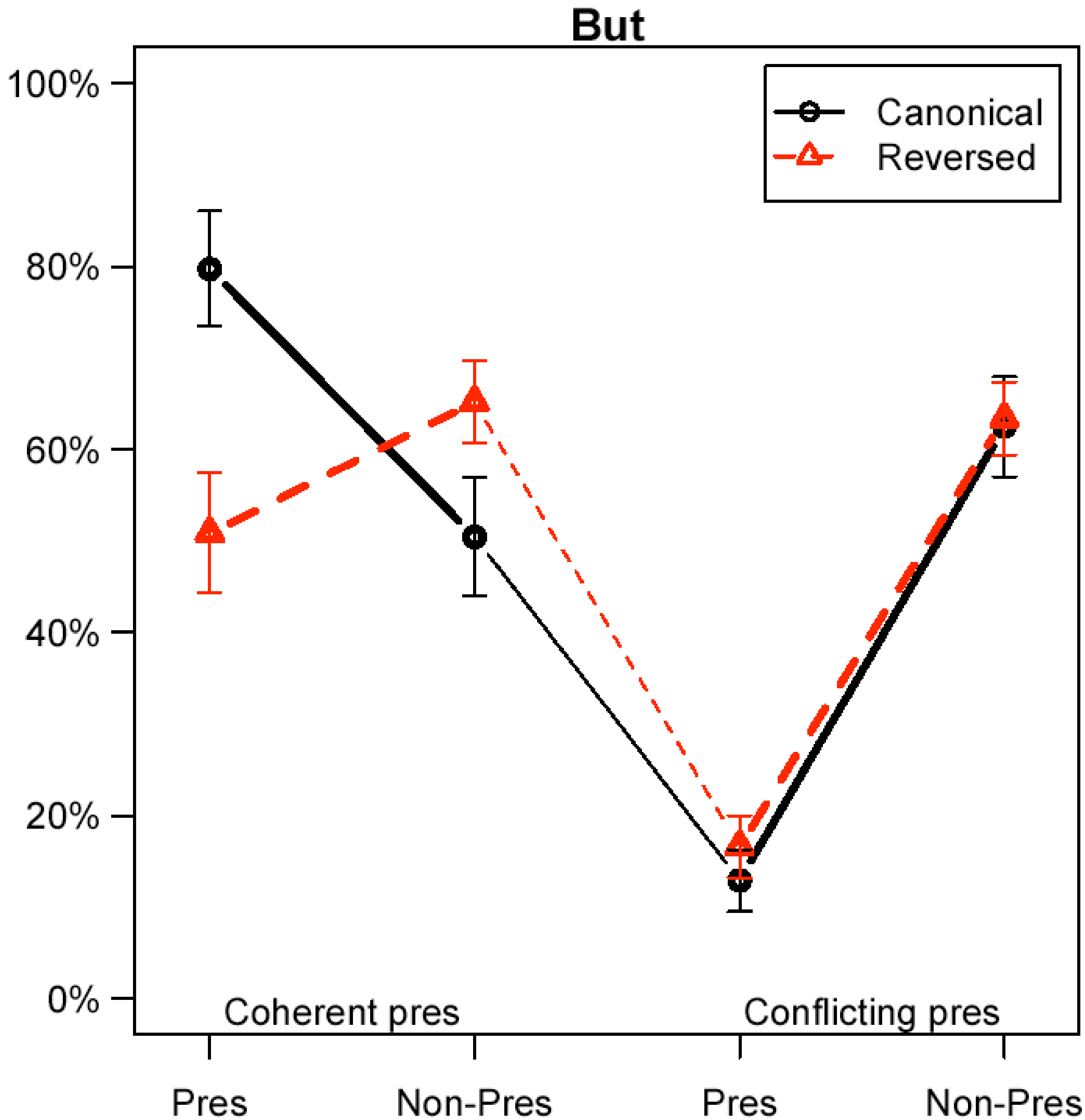
  a'1. Le ministre de l'Économie va faire les concessions les plus importantes, **mais** le ministre du travail va **lui aussi** se montrer inflexible.
  a'2. Le ministre de l'Économie va faire les concessions les plus importantes, **mais** le ministre du travail va se montrer inflexible.

Paradigm

- Dans la prochaine négociation budgétaire, le Président va demander à seulement deux ministères de faire des efforts.

  b1. Le ministre du travail va **lui aussi** se montrer flexible, **mais** le ministre de l'Économie va faire les concessions les plus importantes.
  b2. Le ministre du travail va se montrer flexible, **mais** le ministre de l'Économie va faire les concessions les plus importantes.

  b'1. Le ministre du travail va **lui aussi** se montrer inflexible, **mais** le ministre de l'Économie va faire les concessions les plus importantes.
  b'2. Le ministre du travail va se montrer inflexible, **mais** le ministre de l'Économie va faire les concessions les plus importantes.


But
100%
80%
60%
40%
20%
0%
Canonical
Reversed
Coherent pres
Conflicting pres
Pres
Non-Pres
Pres
Non-Pres

Open Problem:
Quantified Statements

General Results

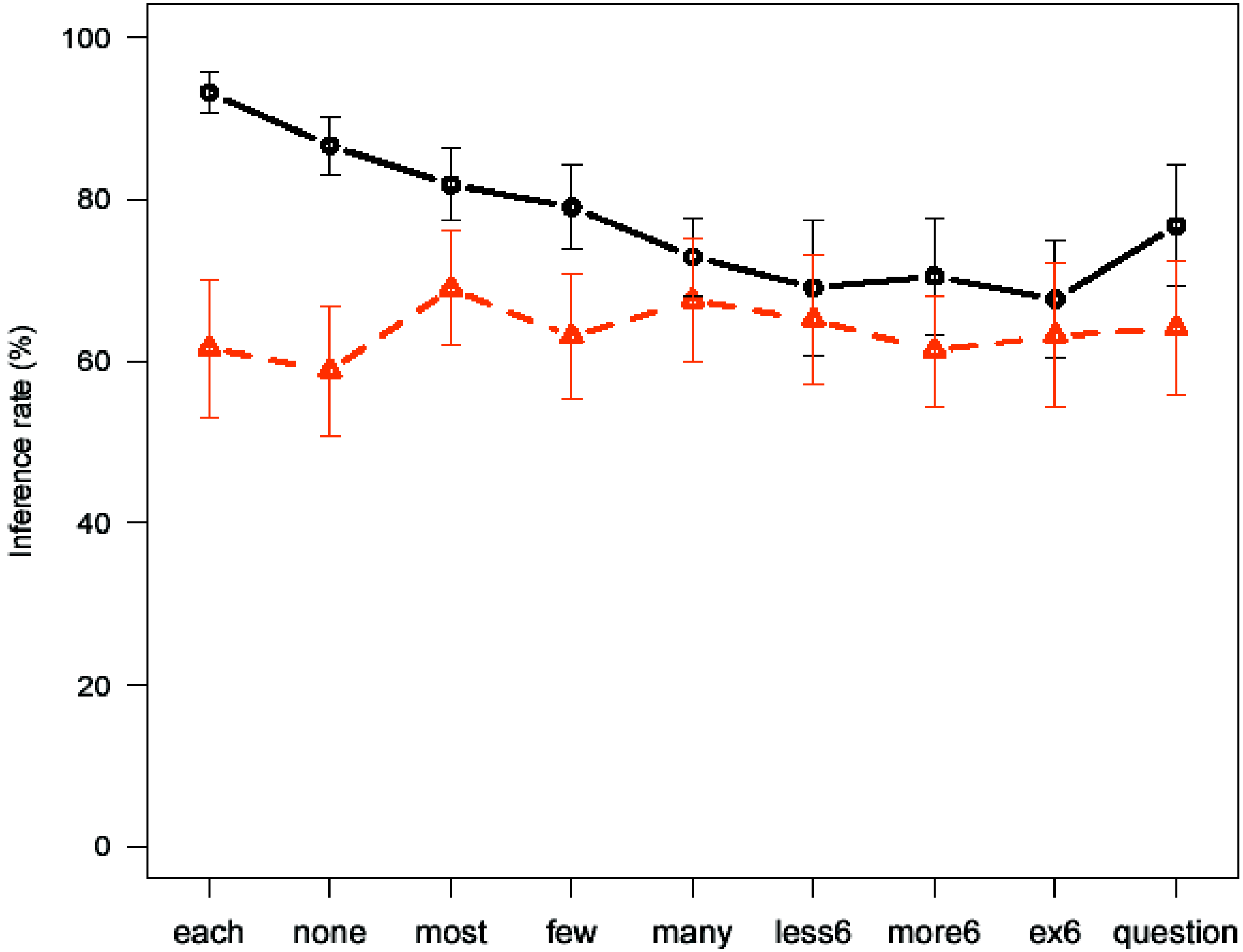
- **Equivalence with Dynamic Semantics**

  It can be shown that under **relatively** mild assumptions,
  (i) local contexts are guaranteed to exist, and that
  (ii) the incremental version of the present theory makes almost the same predictions as Heim's dynamic semantics

- **Predictions**

  a. pp' and/or q and if pp', q presuppose q
  b. p and qq' and if p, qq' presuppose q
  c. [Q P] RR' presupposes that every P-object satisfies *R*
  d. [Q PP'] R' presupposes that every object satisfies *P*.

Chemla's Results



The Negation Problem

- **[At least one P] QQ' vs. [No P] QQ'**
  a. At least one student knows that he is incompetent.
  ≠> Every student is incompetent.
  b. No student knows that he is incompetent.
  => Every student is incompetent.

- **Problem: same conditions for No and At least one!**
  C |= [At least one P] blah ⇔ [At least one P] blah'
  C |= not[At least one P] blah⇔not [At least one P]blah'
  C |= [No P] blah ⇔ [No P] blah'

- **Strategy: presumption that the sentence has a good chance of being true** (a related idea is developed by George 2008 in a different framework)

Charlow's Generalization (Charlow 2008)

- **Super Strong Triggers give rise to universal presuppositions from the Restrictor and from the Nuclear Scope:**
  a. [Q P] RR' presupposes that every P-object satisfies *R*
  b. [Q PP'] R' presupposes that every object satisfies *P*

- **Normal Triggers give rise to Chemla's results:**
  a. Universal inferences in [Every P] RR'and [No P] RR'
  b. Less-than-universal inferences in [Exacty n P] RR'
  c. Less-than-universal inferences in [Q PP'] R

- Challenge: derive the complex interaction between:
  -the **strength of the trigger**, and
  -the **nature of the quantifier**.

Charlow's Generalization

- Just five of those 100 students smoke. Those five all smoke Newports.

- **Nuclear scope**
  a. #(Unfortunately) two of those 100 students also smoke marlboros.
  b. (Unfortunately) two of those five students also smoke marlboros.

- **Restrictor**
  a. #Of those 100 students, two of the ones who also smoke marlboros are boys.
  b. Of those five students, two of the ones who also smoke marlboros are boys.

Charlow's Generalization

- **Universal Projection from the Nuclear Scope**
  a. At least one / exactly one of these 10 students has **also** insulted his father's$_F$ lover.
  b. At least one / exactly one of these 10 students has **only** insulted his father's$_F$ lover.
  c. At least one / exactly one of these 10 students **knows / realizes** that someone insulted his father's lover.

- **Universal Projection from the Restrictor**
  a. Every / no student who **also** insulted his father's$_F$ lover came to class.
  b. Every / no student who **only** insulted his father's$_F$ lover came to class.
  c. Every / no student who **knows / realizes** that someone insulted his father's lover came to class.

Weak vs. Strong Triggers

- **Weak Triggers:** Triggers that often give rise to local accommodation.
  i.e. **dd'** is **often** understood as **(d and d')**
- **Super Strong Triggers:** Triggers that rarely or never give rise to local accommodation
  i.e. **dd'** is **almost never** understood as **(d and d')**; rather, *d* must almost always be **transparent.**

Conclusion

- a. The main insights of the dynamic approach can be reconstructed within a **classical** semantics.
  b. This reconstruction solves the overgeneration problem.

- a. This reconstruction can constrain dynamic semantics...
  b. ... but it makes it unnecessary (... for these data at least)

- a. If the left-right bias is due to processing constraints, maybe it's possible to override it: 'symmetric readings'.
  b. More work is needed to get more fine-grained predictions in other domains (quantifiers).

- **Open question:** can these methods be extended to provide a non-dynamic reconstruction of dynamic theories of anaphora?