

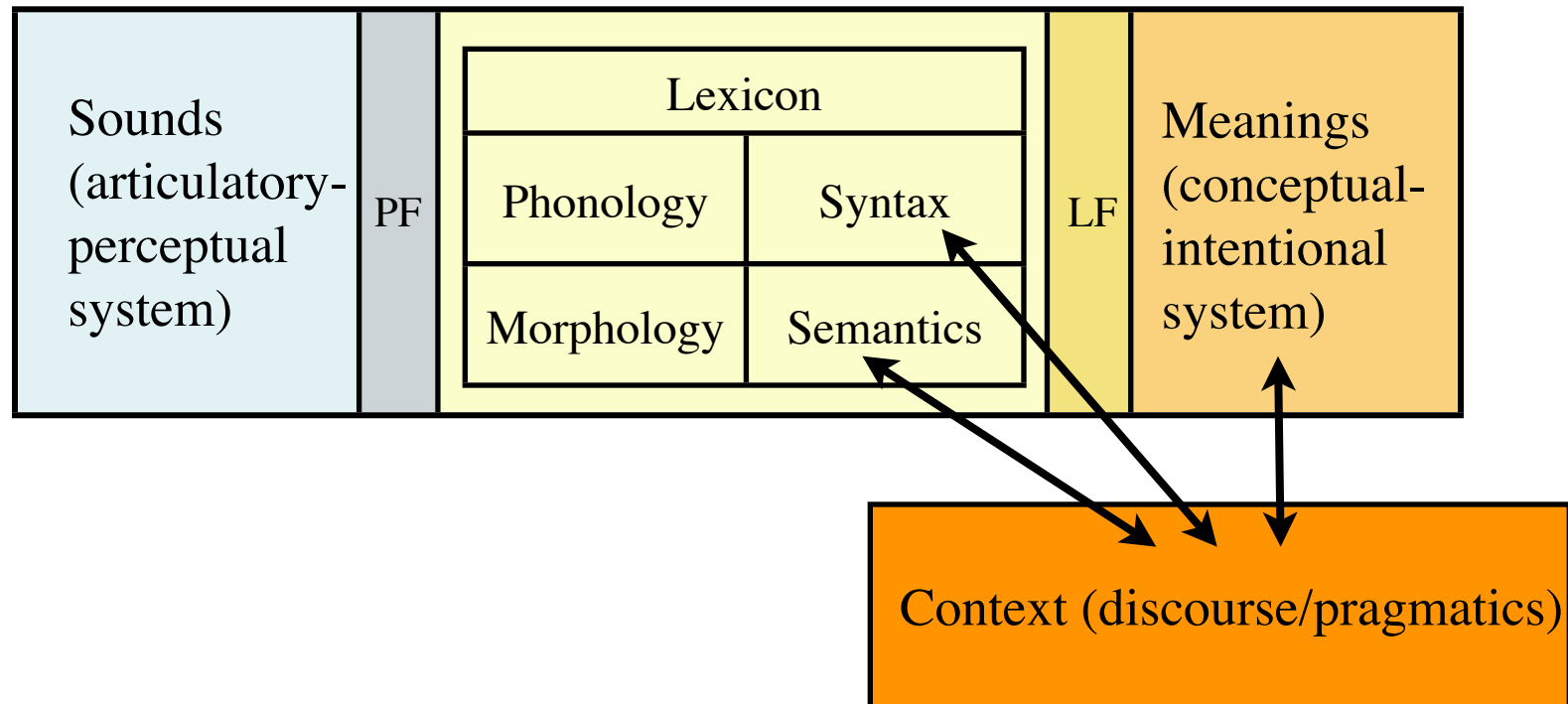
# Language acquisition at the interfaces: some hardy perennials and new varieties

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# Internal & external interfaces



# Internal & external interfaces

- linguistic interfaces have recently received considerable attention in the acquisition literature.
- people talk about the acquisition of interfaces. In fact we don't acquire interfaces - rather, the issue is how well L2ers are able to integrate linguistic phenomena pertaining to interfaces.
- this has been an area of investigation for many years, starting well before the term 'interface' was introduced.

# Internal & external interfaces

- earlier claims were precursors to current ones: syntax alone is less problematic for L2ers than syntax + discourse.
- Liceras (1988) - learners of L2 Spanish reset the null subject parameter to [+null subject] but have difficulties with stylistic (i.e., discourse) aspects of pronoun use (particularly as far as overt pronouns are concerned).

# Internal & external interfaces

- Perez-Leroux & Glass (1997, 1999). L2ers observe the OPC (a syntactic constraint on overt pronouns in null subject languages), regardless of proficiency.
- discourse constraints on pronoun use (relating to topic and focus) show developmental effects and are only mastered by advanced L2ers.

# Internal & external interfaces

## The interface hypothesis

- Version 1: Narrow syntax versus interface syntax (e.g. Sorace 2005; Sorace & Filiaci 2006). Interfaces more vulnerable than syntax alone.
- Version 2: internal versus external interfaces (Tsimplici & Sorace 2006). Interfaces are not equally vulnerable.

# Internal & external interfaces

- external interfaces (e.g. syntax/discourse) result in (permanent) indeterminacy, residual optionality, persistent L1 effects, etc.
- narrow syntax is unproblematic.
- internal interfaces (at least, syntax/semantics) are also unproblematic.

# Internal & external interfaces

- this hypothesis has been fruitful.
- but is it too broad?
- is it really the case that linguistic phenomena relating to external interfaces are necessarily problematic?
- are internal interfaces necessarily unproblematic?

# Internal & external interfaces

- in fact, Version I of the interface hypothesis (e.g. Sorace 2006) identifies syntax/lexicon as problematic, as have many others (e.g. Lardiere 1998, 2000; Prévost & White 2000).
- what about other grammar-internal interfaces?
- is there any reason to believe that different linguistic phenomena at the same interface will behave in the same way?

# Syntax/discourse

- syntax/discourse interface involves integration of syntax with linguistic context.
- context can affect how something is expressed syntactically, or how it is interpreted.

# Syntax/discourse

- in some cases, the context will determine which out of a range of grammatical possibilities is most felicitous.
- even if L2ers have fully mastered L2 syntax, they may not always appreciate the effects that the discourse has on use of syntax.

# Syntax/discourse

Study	L1/L2	Feature	Results
Belletti et al. 2007 (amongst others)	English/ Italian	Topic	Syntax of null subjects acquired but overuse of overt pronouns where null would be felicitous (topic already in the discourse).
Lozano 2006 (amongst others)	English/ Spanish	Focus	SV (unergative) versus VS (unaccusative) word order acquired but failure to recognize that VS order is always preferred when the subject is focused.

# Syntax/discourse

Belletti, Bennati & Sorace (2007)

- feature:  $\pm$ topic shift.
- null and overt subject pronoun use in null subject languages.
- discourse constraint: null subjects preferred when there is no change in topic; overt pronouns imply topic shift.

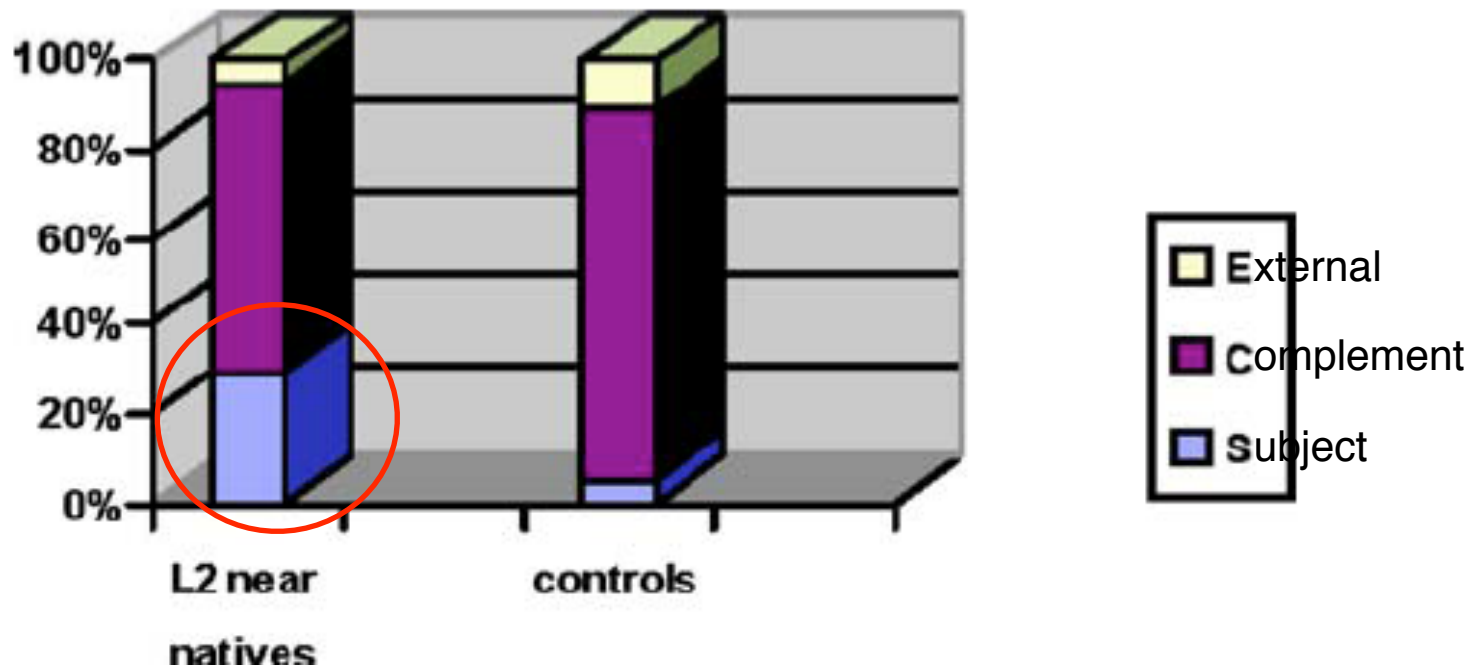
# Syntax/discourse

Subject pronoun distribution and discourse requirements in prodrop languages

	<b>Topic (old information)</b>	<b>Topic change (new information)</b>
<b>Overt</b>	<b>no</b>	yes
<b>Null</b>	yes	no

# Syntax/discourse

Results of picture verification task: overt pronouns



L'anziana signora saluta la ragazza, quando *lei* attraversa la strada.  
The old lady says hello to the girl, when **she** crosses the road.

# Syntax/discourse

- L2ers show command of syntactic aspects of the +prodrop setting of the parameter. They use null pronouns appropriately.
- L2ers overuse overt pronouns in contexts where a null pronoun would be more suitable.

# Syntax/discourse

- this is true even of near-native speakers, although the error is not extensive.
- is it really just overt pronouns that get overused? Montrul & Louro (2006), Gürel (2006), Rothman (2009) report overuse of null subjects where overt pronouns would be felicitous.

# Syntax/discourse

Other problems involving topics:

- clitic doubling phenomena
- in a number of languages, clitic doubling is required when a definite/specific object is topicalized
- Greek (Tsimpli & Sorace 2006)

Ton Petro<sub>i</sub> ton<sub>i</sub>-sinandise i adhelfi mu.

the-acc Petro him-met-3s the-nom sister my

“Petro, my sister met him.”

# Syntax/discourse

- Tsimpli & Sorace (2006) report that Greek L2ers (Russian L1) underuse clitic doubling with topicalization, even at advanced levels.
- Valenzuela (2006) reports that near native Spanish L2ers (English L1) overuse clitic doubling, failing to restrict it to specific topics.
- such results appear to support the Interface Hypothesis.
- however ....

# Syntax/discourse

Ivanov (2009): Bulgarian also requires clitic doubling in the case of topicalized definite DPs:

Q: 'Has anybody seen Ivan today?'

A: Ivan go vidjah sutrinta.

Ivan him-cl saw-1sg in the morning  
'I saw Ivan in the morning.'

# Syntax/discourse

- Ivanov finds that advanced L2 learners of Bulgarian (L1 English) know the discourse constraints on clitic doubling
- they accept it when the NP is a topic but reject it when it is focused.
- their performance does not differ from native speakers.
- problem for the Interface Hypothesis?

# Syntax/discourse

## Summary

- L2 problems associated with the syntax/discourse interface (at least for topic and focus).
- appropriate L2 syntax is acquired.
- discourse constraints on syntax are acquired later (or not at all, on some accounts).
- but integrating syntax/discourse is not inevitably problematic, contra the Interface Hypothesis.

# Syntax/discourse

- interface difficulties are not, in fact, restricted to L2 acquisition.
- problems have been reported at the syntax/discourse interface across different acquisition contexts.

# Syntax/discourse

- simultaneous bilingual L1  
(Haznedar 2007; Hulk & Müller 2000; Paradis & Navarro 2003; Serratrice et al. 2004).
- heritage language acquisition  
(Montrul 2004; Montrul & Louro 2006).
- L1 attrition (Gürel 2006; Tsimpli et al. 2004).

# Semantics/pragmatics

- integrating syntax and discourse does indeed appear to lead to difficulties (at least sometimes and for some phenomena) in a variety of acquisition contexts.
- are all external interfaces problematic?
- how about semantics/pragmatics?

# Semantics/pragmatics

Scalar implicatures

*Some elephants have trunks.*

Pragmatic inference	Logical inference
Not all elephants have trunks	Since all elephants have trunks, some do as well.
Statement is infelicitous/false.	Statement is true.

# Semantics/pragmatics

Child L1 acquisition: 2 possibilities

- children are incapable of pragmatic inference (e.g. Noveck 2001): pragmatic delay (till age 7 or later). Instead children give the logical response.
- children are capable of pragmatic inferencing but are limited by processing difficulties. Training and context help children to get the relevant pragmatic implicatures (e.g. Guasti et al. 2005).

# Semantics/pragmatics

## Adult L2 acquisition

- Slabakova (2007) - adult L2ers (L1 Korean) are more 'pragmatic' and less 'logical' than children (and also than adult native speakers judging English or Korean).

# Semantics/pragmatics

- Lieberman (2009) - indirect implicatures:

*Max didn't read all of the books.*

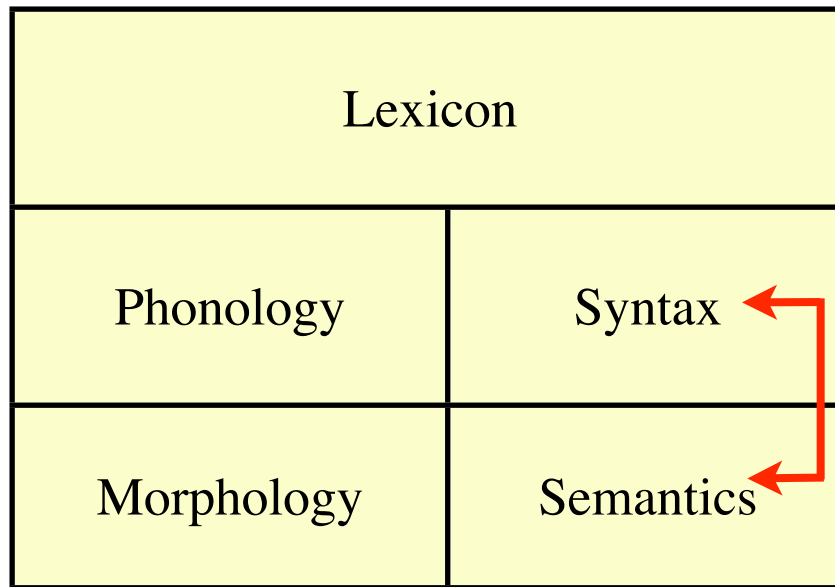
- harder to compute for native speakers and L2ers (Japanese L1). No pragmatic deficit for L2ers but processing difficulties can disguise their pragmatic competence.

# Internal & external interfaces

## Summary: external interfaces

- syntax/discourse: some evidence for difficulties across a variety of acquisition domains but maybe not as persistent/universal as the Interface Hypothesis claims.
- semantics/pragmatics: relatively unproblematic (at least based on data so far).

# Internal & external interfaces



# Syntax/semantics

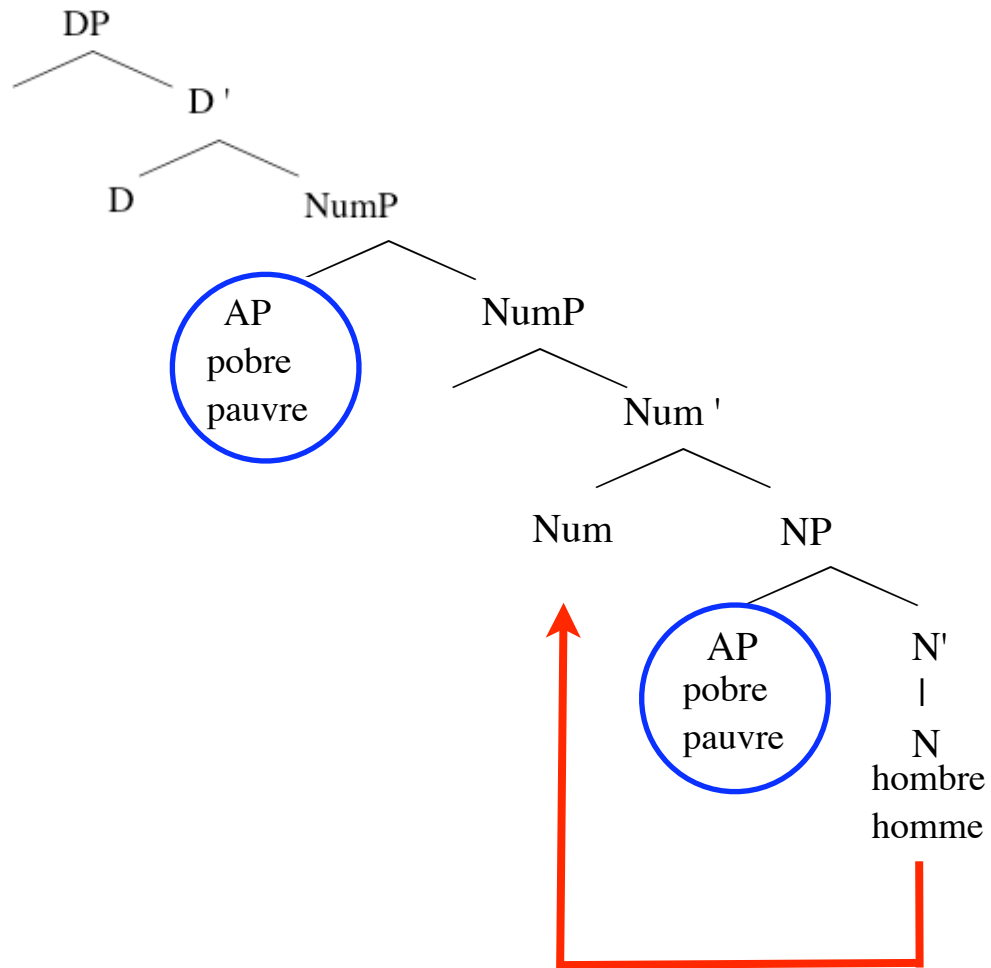
- according to the Interface Hypothesis (version 2), the interface between syntax and semantics is not vulnerable to the kinds of difficulties found at the syntax/discourse interface.
- word order alternations and interpretive consequences.

# Syntax/semantics

Romance DPs allow N adj and adj N orders, with subtle semantic differences between them.

N Adj	Adj N
Un hombre pobre Un homme pauvre a man poor 'a poor man' (not rich)	Un pobre hombre Un pauvre homme a poor man 'a poor man' (unfortunate)

# Syntax/semantics



# Syntax/semantics

## Coppieters (1987)

- investigation of N adj and adj N orders (amongst many other phenomena), in near native speakers of L2 French.
- subjects were shown contrasting forms with subtle meaning differences. They were asked to choose one form; if they chose both, they were asked whether meaning differences were involved, which they then had to explain.

# Syntax/semantics

- near-natives had different intuitions from native speakers about subtle meaning contrasts. They often could not detect a difference (or could not articulate it).
- subjects with other Romance languages as L1 did better.

# Syntax/semantics

Anderson (2008); Rothman et al. (2009)

- N adj and adj N orders in L2 French and Spanish, and the interpretive differences between them.
- learners of L2 French or Spanish at various levels of proficiency.

# Syntax/semantics

- both studies show that the interpretive distinctions as related to adjective position are acquired but acquired late: only advanced learners do not differ significantly from native speakers.
- these properties relating to syntax/semantics interface appear to be acquirable (contra Coppieters).

# Syntax/semantics

Dekydtspotter and colleagues.

- L1 English, L2 French.
- L2 word order alternations (syntax) result in subtle interpretative differences (semantics).
- L2ers show knowledge of the relevant interpretations as soon as they acquire the associated syntax.

# Syntax/semantics/pragmatics

DeKeyser & Hathorn (2005).

- word order alternations involving phrases with *quelque chose ... de*, continuous or discontinuous.
- sentences in continuous word order are ambiguous, in discontinuous they are not.
- syntax, semantics and pragmatics are implicated.

# Syntax/semantics/pragmatics

- a. **Quelque chose de remarquable** a été observé par chacun des chercheurs.
- b. **Quelque chose** a été observé **de remarquable** par chacun des chercheurs.

‘Something remarkable was observed by each of the researchers’

# Syntax/semantics/pragmatics

- meaning of continuous version:  
researchers could all have observed the same object or each one could have observed a different thing.
- meaning of discontinuous version:  
implies that researchers did not observe the same thing.

# Syntax/semantics/pragmatics

**Table 1** Interpretive asymmetries in continuous and discontinuous Q de A sentences

Situations of use	Continuous Q de A sentence	Discontinuous Q de A sentence
Different object(s) per researcher	Yes	Yes
The same object(s) for all researchers	Yes	No

# Syntax/semantics/pragmatics

- implication that the same thing was not observed can be overridden.
- this suggests that a pragmatic implicature is involved in the discontinuous case (since it can be overturned), rather than a literal semantic interpretation.

# Syntax/semantics/pragmatics

- can L2 learners of French acquire the interpretive distinction between continuous and discontinuous *quelque chose....?*
- discontinuous version is likely to be rare in the input.
- its properties are not instructed.
- it is dispreferred by native speakers.

# Syntax/semantics/pragmatics

- low and high intermediate learners of L2 French.
- task: test items manipulate word order and interpretation.
- scenarios (in English), followed by a question in French, which is answered. Subjects have to indicate whether or not the answer was adequate in the context.

# Syntax/semantics/pragmatics

**Table 2** French native speakers ( $n = 16$ ): percentage 'yes' on continuous vs. discontinuous answers

	Continuous answers		Discontinuous answers	
	Mean (%)	SD	Mean (%)	SD
Different objects	82.81	26.17	71.09	33.76
The same object	82.03	25.40	61.72	32.43

**Table 4** High intermediate learners ( $n = 20$ ): percentage 'yes' on continuous vs. discontinuous answers

	Continuous answers		Discontinuous answers	
	Mean (%)	SD	Mean (%)	SD
Different objects	84.38	28.64	84.38	21.41
The same object	80.63	17.43	66.88	25.74

# Syntax/semantics/pragmatics

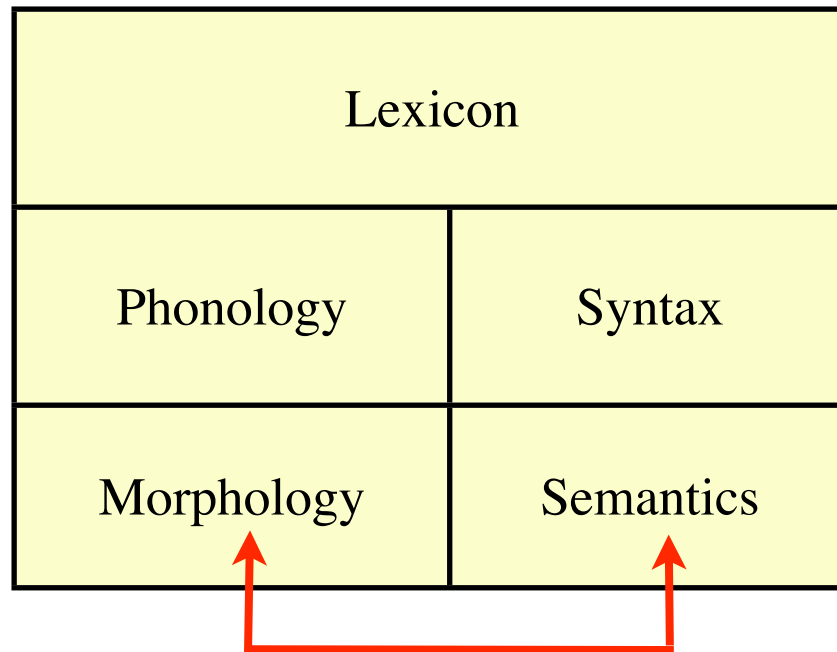
- high intermediate L2ers show a pattern of contrasting judgments similar to native speakers, suggesting that they have acquired the relevant interpretive and pragmatic contrasts.
- in other words, phenomena relating both to internal and external interfaces are acquired.

# Internal & external interfaces

Summary: internal interfaces (syntax/ semantics)

- results vary even regarding the same phenomenon (e.g. noun adjective order).
- research by Dekydtspotter and colleagues suggest that phenomena relating to the syntax/semantics interface are acquirable.
- this is the case even when pragmatics is implicated as well (i.e. an external interface).

# Morphology/semantics



# Morphology/semantics

- universally available meanings are expressed in different ways.
- sometimes languages use distinct morphemes to express different meanings, e.g. *the* = [+definite]; *a* = [-definite].
- sometimes languages convey different meanings through the same morphemes, e.g. *a* can be [ $\pm$  specific].
- L2 learners must acquire the relevant mappings between morphosyntax and meaning.

# Morphology/semantics

Article choice parameter Ionin and colleagues (2003, 2004, in press):

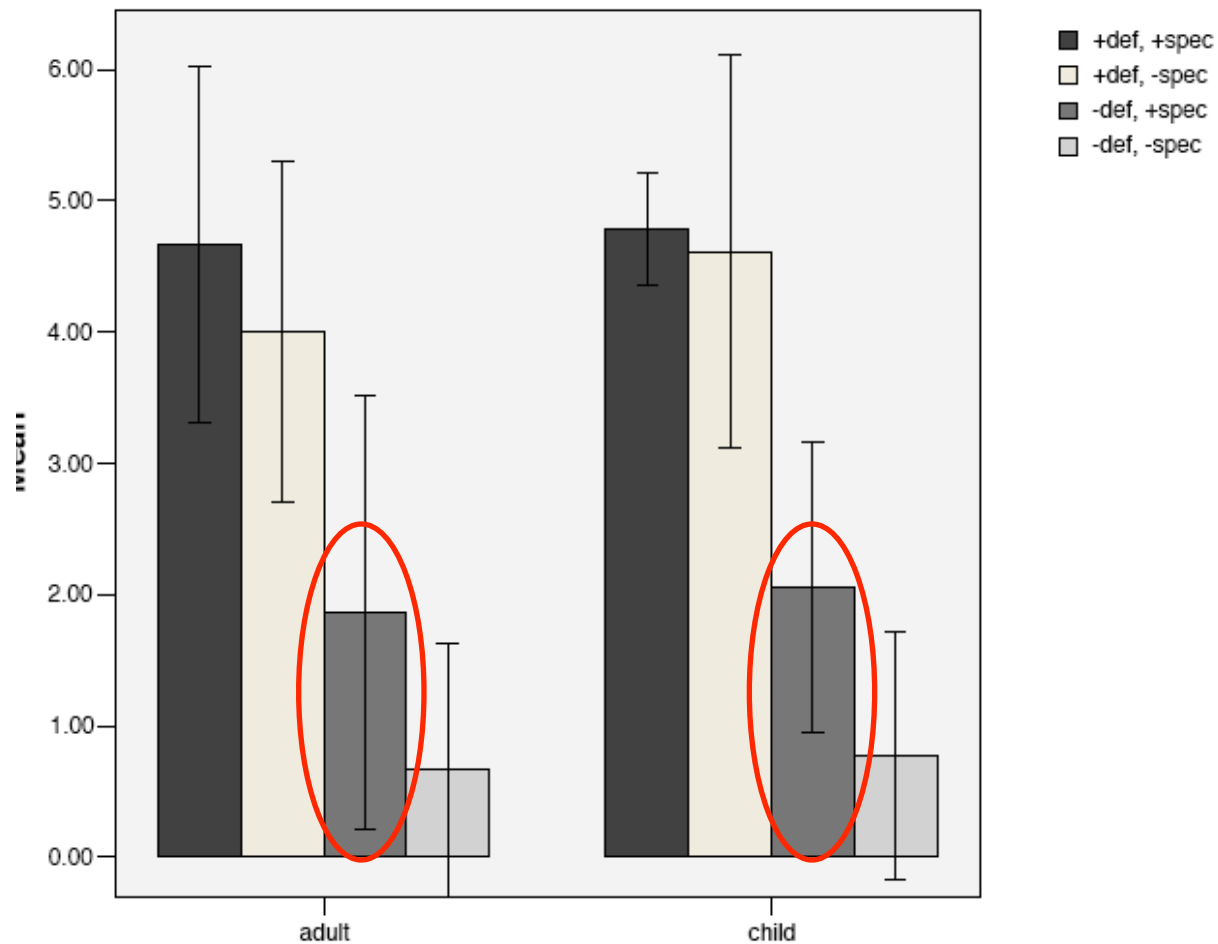
- languages with articles divide the article system either in terms of definiteness (e.g. English) or specificity (e.g. Samoan).

Fluctuation Hypothesis:

- learners whose L1s lack articles will fluctuate between definiteness and specificity as the crucial semantic feature determining choice of L2 articles.

# Morphology/semantics

Ionin et al. (2008) Elicitation task results on definite articles (L1 Russian, L2 English):



# Morphology/semantics

- speakers whose L1s lack articles (Russian, Korean) fluctuate, sometimes choosing specificity as the feature that decides whether *the* or *a* should be used.
- speakers of L1s with articles do NOT do this. Spanish speakers work out right away that definiteness is what determines article choice in the L2.

# Morphology/semantics

The Definiteness Effect (DE) (White 2008; White et al. 2009)

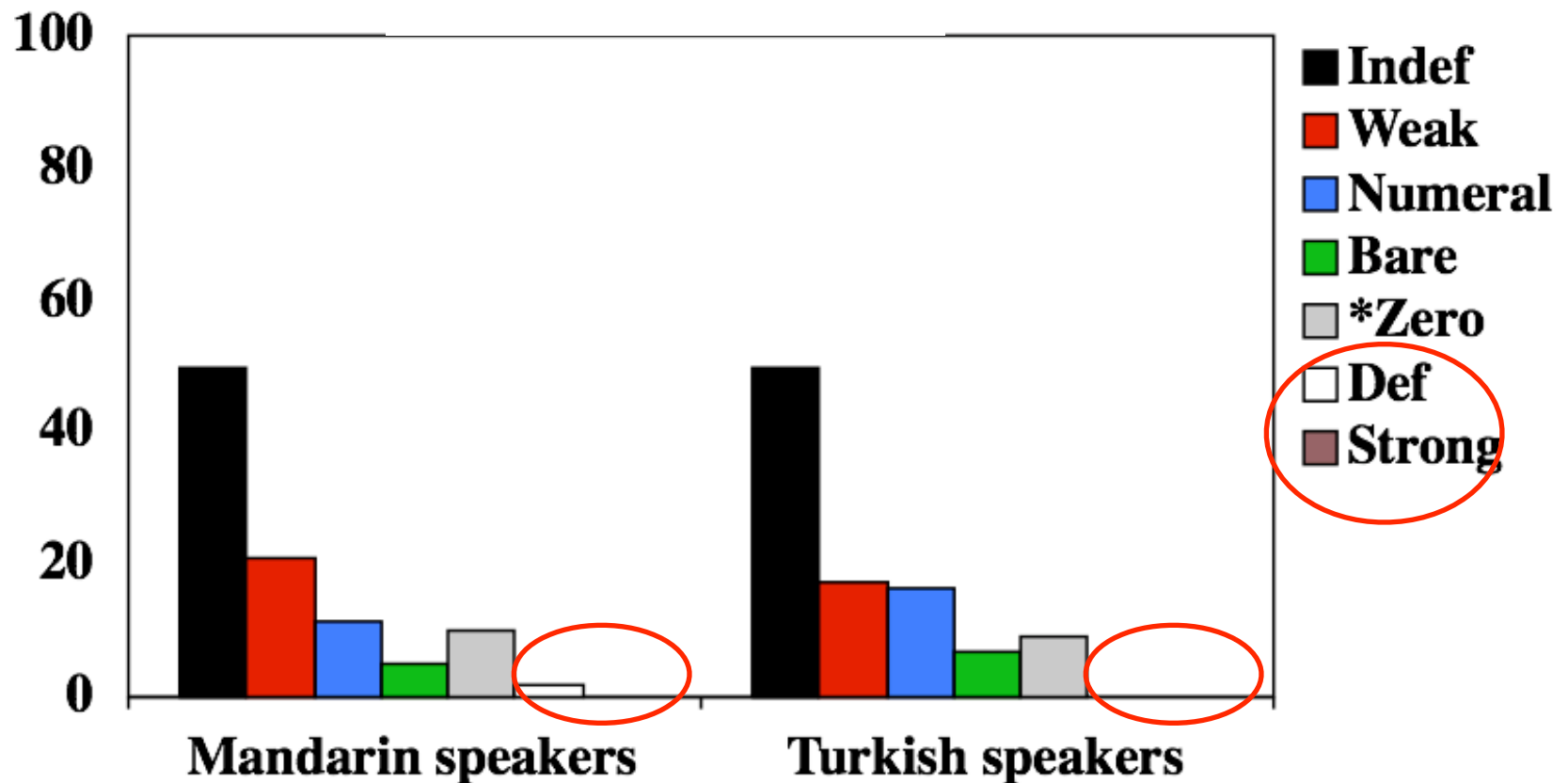
English existential *there*-insertion construction: indefinite/weak DPs are required; definite/strong DPs are not permitted.

- a. There seems to be a/\*the fly in my soup.
- b. There are some/\*those flies in my soup.

# Morphology/semantics

White (2008)

Determiner types in *there*-insertion contexts (in %)



# Morphology/semantics

- Mandarin and Turkish speakers performed very similarly in their productions of L2 English *there*-insertion constructions.
- both groups appropriately used DPs with indefinite articles or weak determiners.
- neither group showed violations of the DE.
- L2 learners can map lexical items to features like  $\pm$ definite, even if not highly proficient and even when the L1 does not realize definiteness via an article system.

# Morphology/semantics

White et al. (2009).

Turkish behaves like English in affirmative existentials (\*definite) but differs in negative existentials (definite is OK).

- a. \*Bahçe-de    **o**    çocuk **var**.  
garden-LOC that child exist  
'There is that child in the garden.'
- b. Bahçe-de    **o**    çocuk **yok**.  
garden-LOC that child not-exist  
'There isn't that child in the garden.'

# Morphology/semantics

## Ungrammatical *there*-insertion (grammatical in Turkish)

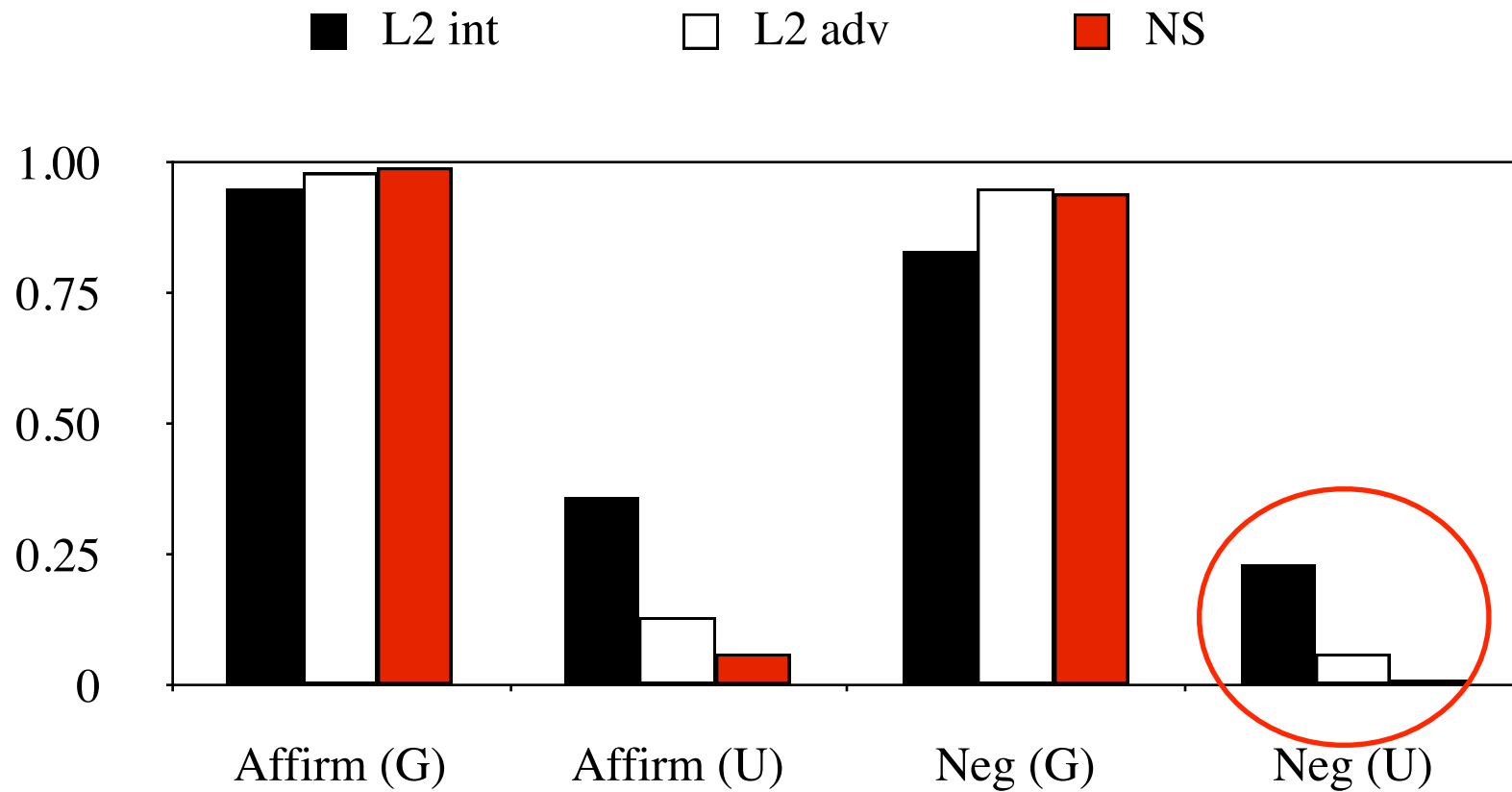
Some students have problems with an assignment, so they ask the secretary whether the statistics professor is available to help them. She says:

**No, there isn't Professor Black in his office today.**

*How natural is this sentence in this context? If you choose 'unnatural', please correct the sentence.*

- Natural
- Not sure
- Unnatural

# Morphology/semantics



# Morphology/semantics

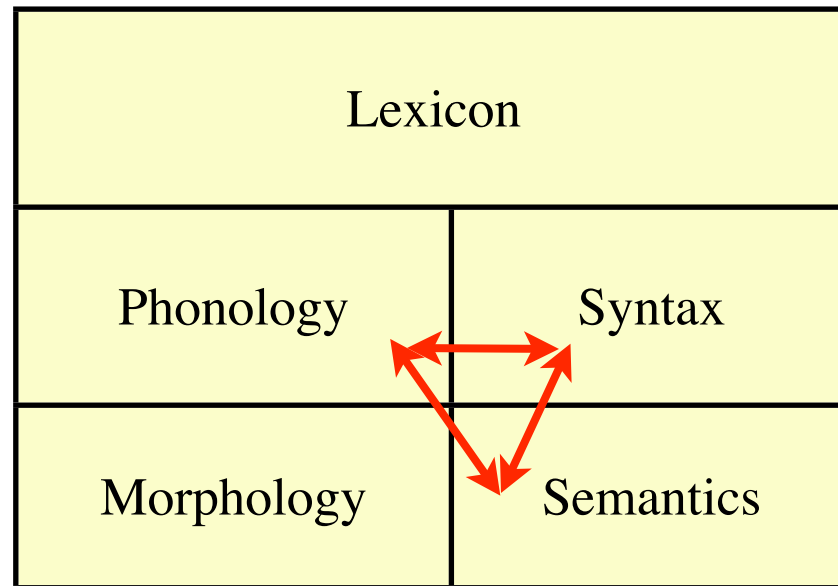
- L2ers differentiate between grammatical and ungrammatical cases of *there*-insertion.
- performance by the advanced group is not significantly different from native speakers.
- no evidence of transfer: sentence types which are grammatical in the L1 but ungrammatical in the L2 are rejected.

# Internal & external interfaces

Summary: internal interfaces (morphology/ semantics)

- even for the same properties (e.g. definiteness), findings are quite variable: difficulties in determining meaning (Ionin et al.) versus success (White et al.).
- see Slabakova (2008) for many examples of morphology/semantics mismatches and discussion of the extent to which they are problematic.

# Prosody/syntax/semantics



# Prosody/syntax/semantics



Someone shot the maid of the actress  
who was on the balcony.

# Prosody/syntax/semantics



Someone shot the maid of the actress  
who was on the balcony.


# Prosody/syntax/semantics



Nous aimons le secrétaire du  
psychologue qui se promène au  
centre ville.

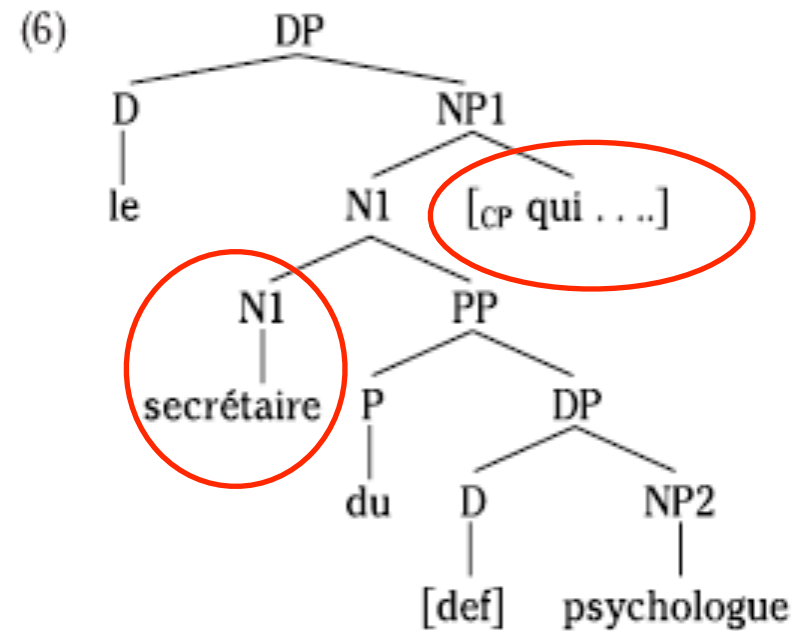
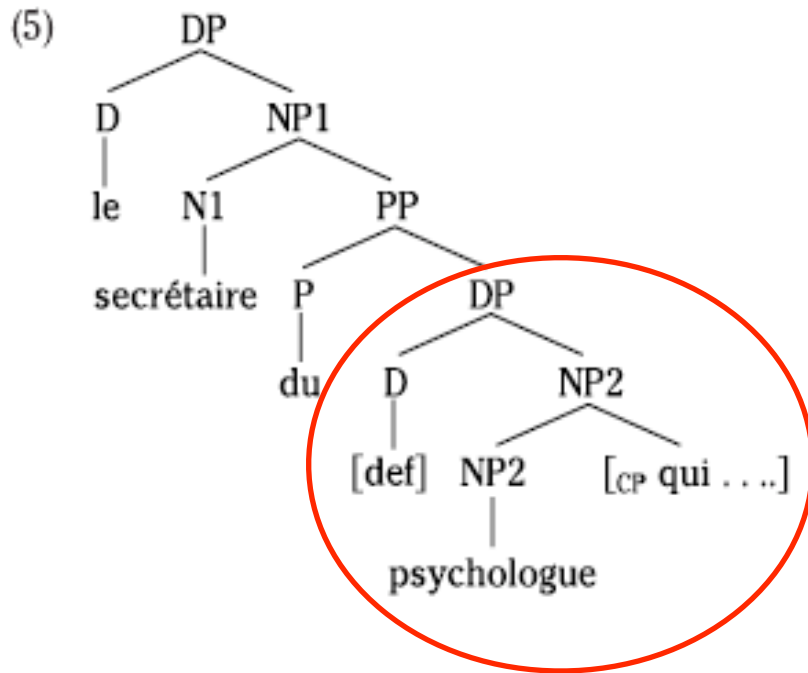
‘We love the secretary of the  
psychologist who is taking a walk  
downtown.’

# Prosody/syntax/semantics

Nous aimons le secrétaire du  
 psychologue qui se promène au  
centre ville.

‘We love the secretary of the  
psychologist who is taking a walk  
downtown.’

# Prosody/syntax/semantics



# Prosody/syntax/semantics

- prosodic break before the relative clause favours high attachment:  
.... le secrétaire du psychologue # qui se promène au centre ville.
- no prosodic break before the relative clause favours low attachment:  
.... le secrétaire # du psychologue qui se promène au centre ville.

# Prosody/syntax/semantics

## Crosslinguistic differences

- default French prosody involves a break before the relative clause, in contrast to English.
- attachment preference in French is high, in contrast to English.

# Prosody/syntax/semantics

Dekydtspotter et al. 2008; Liljestrang Fultz 2007, 2008.

- L2 learners of French heard ambiguous sentences with different prosodic phrasings (default French versus not).
- for many learners, prosody had no effect on interpretation.

# Prosody/syntax/semantics

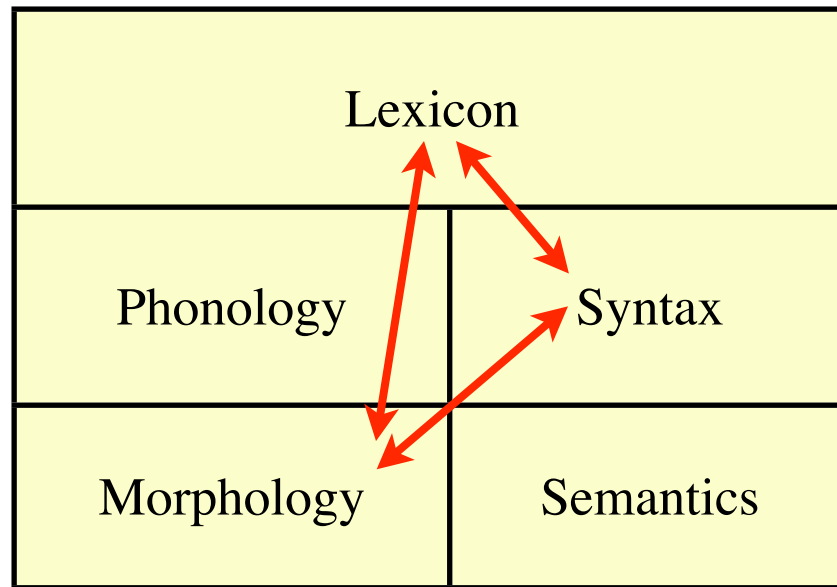
- a subset of intermediate subjects showed sensitivity to prosody: with breaks before the relative clause, there were significantly more high attachment responses than when there was no break.
- more advanced subjects showed considerable sensitivity, choosing high attachment responses when the break was before the relative clause and low attachment otherwise.

# Internal & external interfaces

Summary: internal interfaces

- ✓ syntax/semantics
- ✓ morphology/syntax
- ✓ prosody/syntax/semantics
- in general, it is not the case that success is inevitable at the internal interfaces. Successes and failures are reported even regarding the same phenomena (e.g. noun adjective order; definiteness).

# Other internal interfaces



# Syntax/morphology/lexicon

	<b>3PS</b>	<b>Past</b>	<b>Syntax</b>
Gavruseva & Lardiere 1996 Early stage child L2 L1=Russian	40	50	robust syntactic evidence for CP & IP
Haznedar 2001 Early stage child L2 L1=Turkish	46.5	25.5	robust syntactic evidence for CP & IP
Lardiere 1998 Endstate adult L2 L1=Chinese	4.5	34.5	robust syntactic evidence for CP & IP
White 2003 Endstate adult L2 L1=Turkish	83	84	robust syntactic evidence for CP & IP

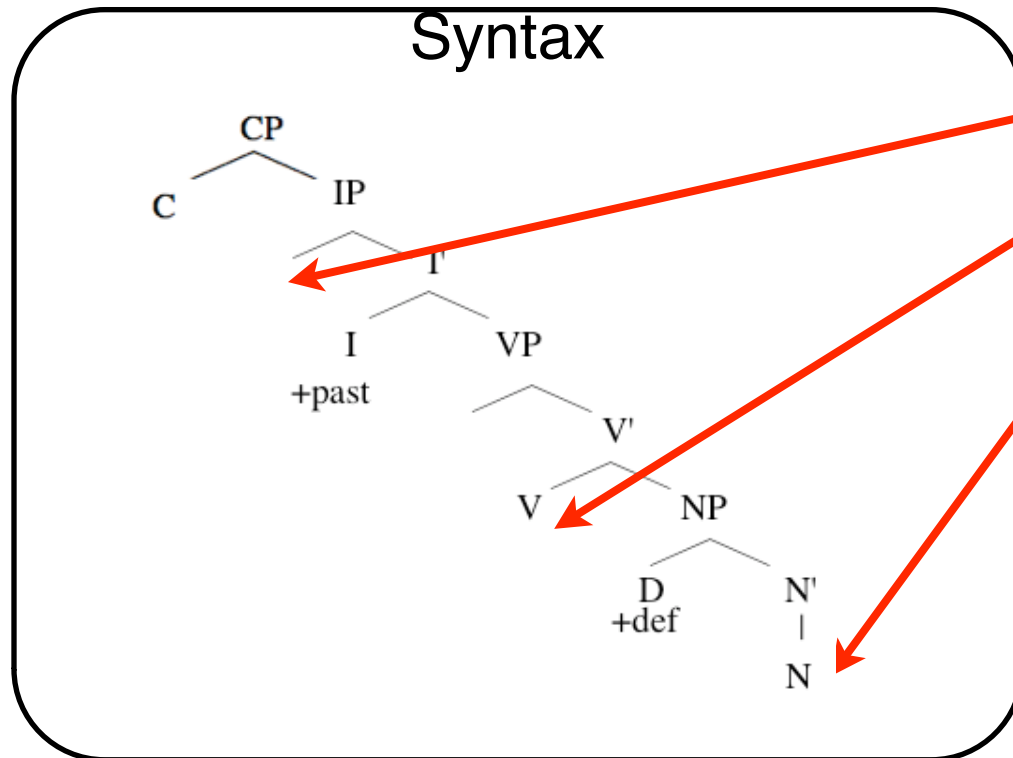
# **Syntax/morphology/lexicon**

- dissociation between syntactic competence and morphological performance.
- L2ers 'know' that certain categories or features must be represented at an abstract level.
- sometimes unable to insert the appropriate morphological form.
- use of morphologically underspecified forms.

# Syntax/morphology/lexicon

Intended utterance: Mary played the piano

Actual utterance: Mary play piano



## Lexicon

Mary = N

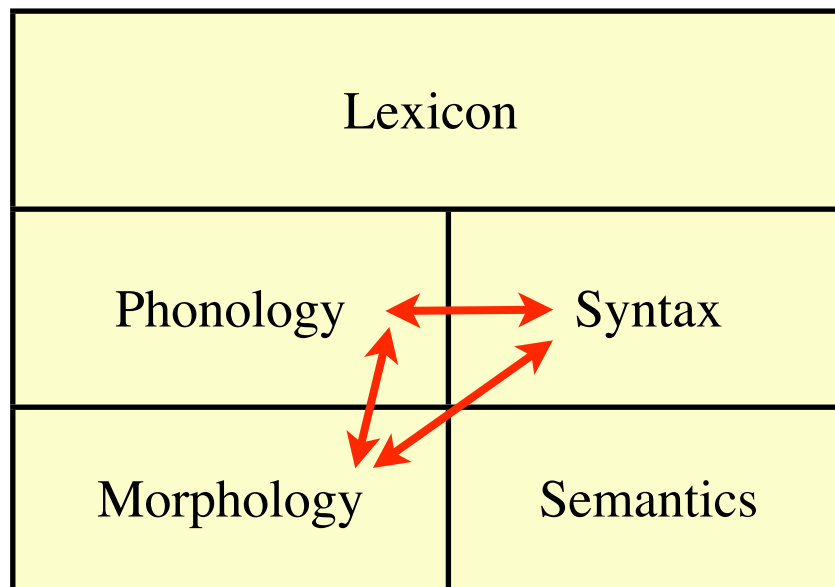
play = V

piano = N

-ed = +past

the = +definite

# Other internal interfaces

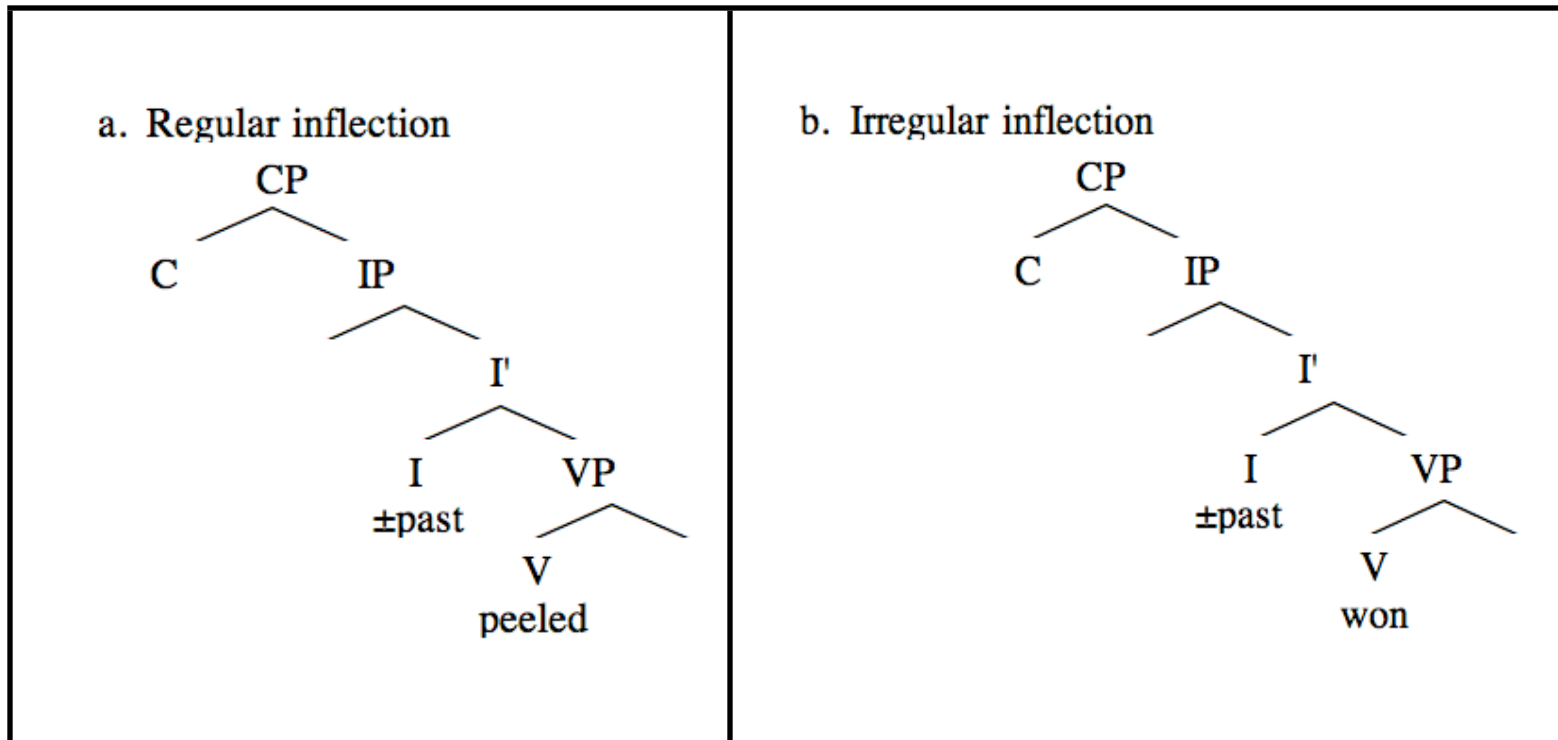


# Morphosyntax/phonology

- difficulties for Patty in realising tense and agreement morphology when the inflection results in a consonant cluster at the end of the verb (Lardiere 1998).
- difficulties in realizing inflection and function words when a prosodic representation required by the L2 is not available in the L1 (e.g. Goad & White 2004, 2006, 2009).
- L2ers either delete morphology or resort to alternative strategies (e.g. stressing) to allow them to represent it prosodically.

# Morphosyntax/phonology

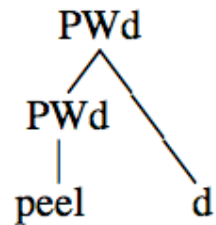
Regular vs. irregular inflection: syntactic representation



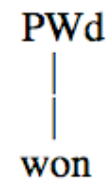
# Morphosyntax/phonology

Regular vs. irregular inflection: prosodic representation

a. PWd adjunction



b. PWd internal



# Other internal interfaces

Summary: other internal interfaces

✓ lexicon/morphology/syntax

✓ phonology/morphology/syntax

# Other internal interfaces

- integrating material at these interfaces can be quite problematic, leading to an underestimation of L2ers' linguistic competence.
- context is unlikely to be implicated in such cases.
- interpretive difficulties may result for the hearer (because of omission/mispronunciation) which do not reflect problems in the actual representation of morphology by the L2 speaker.

# Conclusions

- we seem to have been assuming that looking at linguistic interfaces will allow us to neatly categorize and explain which linguistic phenomena are problematic (in the long term) for L2ers and which are not.
- for example, such explanations allow one to maintain the position that L2ers have access to UG as far as 'pure' syntax is concerned.
- problematic linguistic behaviour is then relegated to the interfaces.

# Conclusions

- in fact, all linguistic phenomena must surely involve interfaces.
- and we have seen that a clear categorization between problematic and unproblematic interfaces is untenable.
- we should beware of trying to pigeon-hole everything in terms of interfaces
- we should stop using this term (Rex Sprouse, at GASLA)!