Second Language Acquisition

LIGN 170, Lecture 15

A few terms…

- **Bilingualism**: any degree of proficiency in multiple languages
- **Native bilingualism**: acquisition of multiple languages as children
- **Second Language Acquisition/Learning**: learning a second language (L2) after already mastering a first language (L1)

Adult L2 Acquisition

- Learning a language after already acquiring a native language is different from learning two languages natively
  - Age of onset of acquisition makes a difference
    - True even for first language!
  - L2 speakers who could otherwise pass as native will still have holes in their L2 knowledge that only come out under testing

Quantifying language skill

- Interagency Language Roundtable (ILR)
- American Council for the Teaching of Foreign Languages (ACTFL)

ILR Scale	Definition	ACTFL Scale
5	Able to speak like an educated native speaker	Native
4+ 4	Able to speak with a great deal of fluency, grammatical accuracy, precision of vocabulary and idiomaticity	Distinguished
3+ 3	Able to speak with structural accuracy & vocabulary to participate well in most formal & informal conversations	Superior
2+	Satisfy most work requirements and show some ability to communicate on concrete topics	Advanced Plus
2	Satisfy routine social demands/limited work requirements	Advanced
1+	Satisfy most survival needs/limited social demands	Intermed. High
1	Some survival needs/some limited social demands Basic survival needs & min. courtesy requirements	Intermed. Mid Intermed. Low
0+	Able to satisfy immediate needs with learned utterances	Novice - High
0	Able to operate in only a very limited capacity Unable to function in spoken language/at all	Novice - Mid Novice - Low

Some questions

Psycholinguistic questions that have motivated L2 research:

- Do bilinguals experience interference between their two language systems?
- Is it possible to learn a second language as an adult and become a native-like speaker?
- How do multiple languages get organized in the brain?

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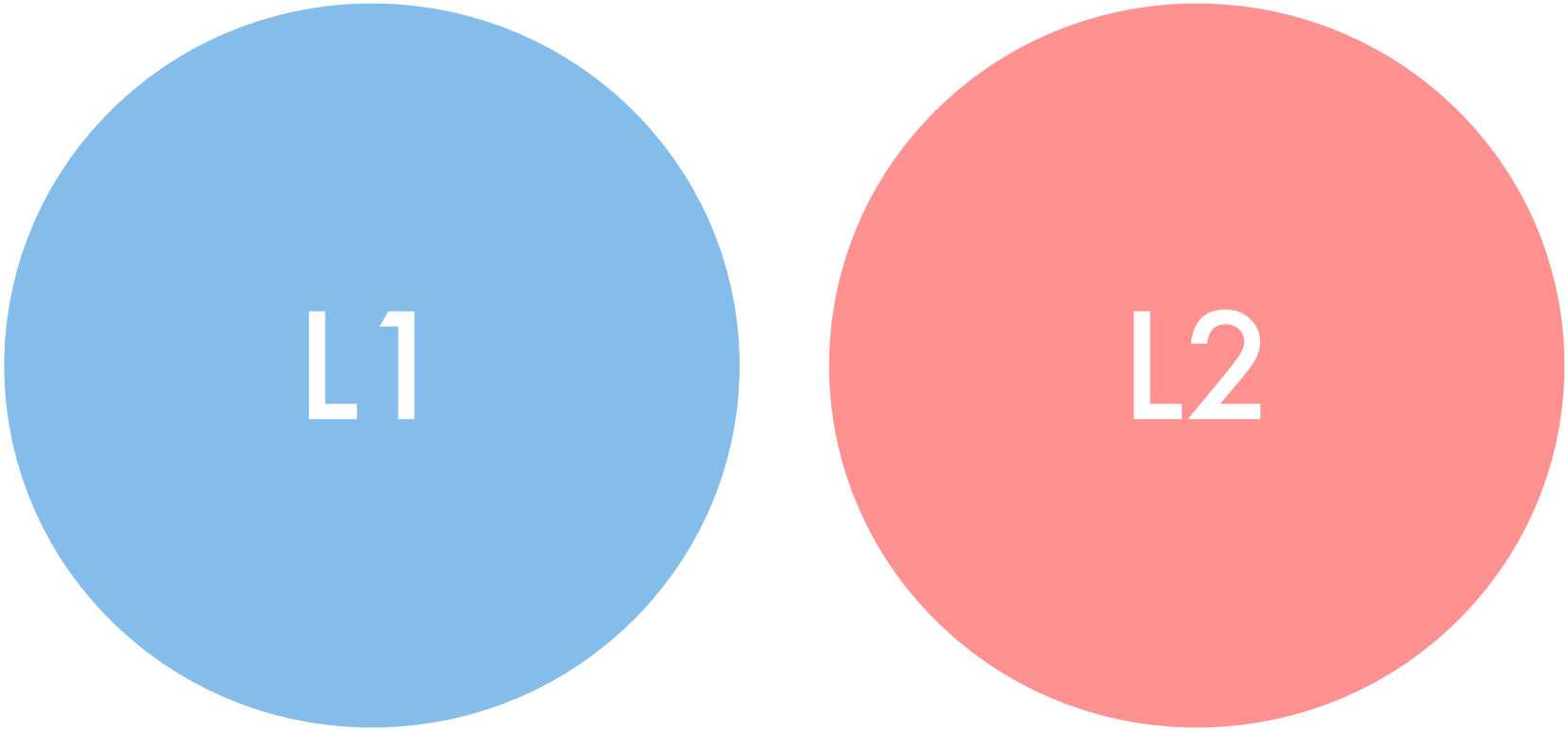
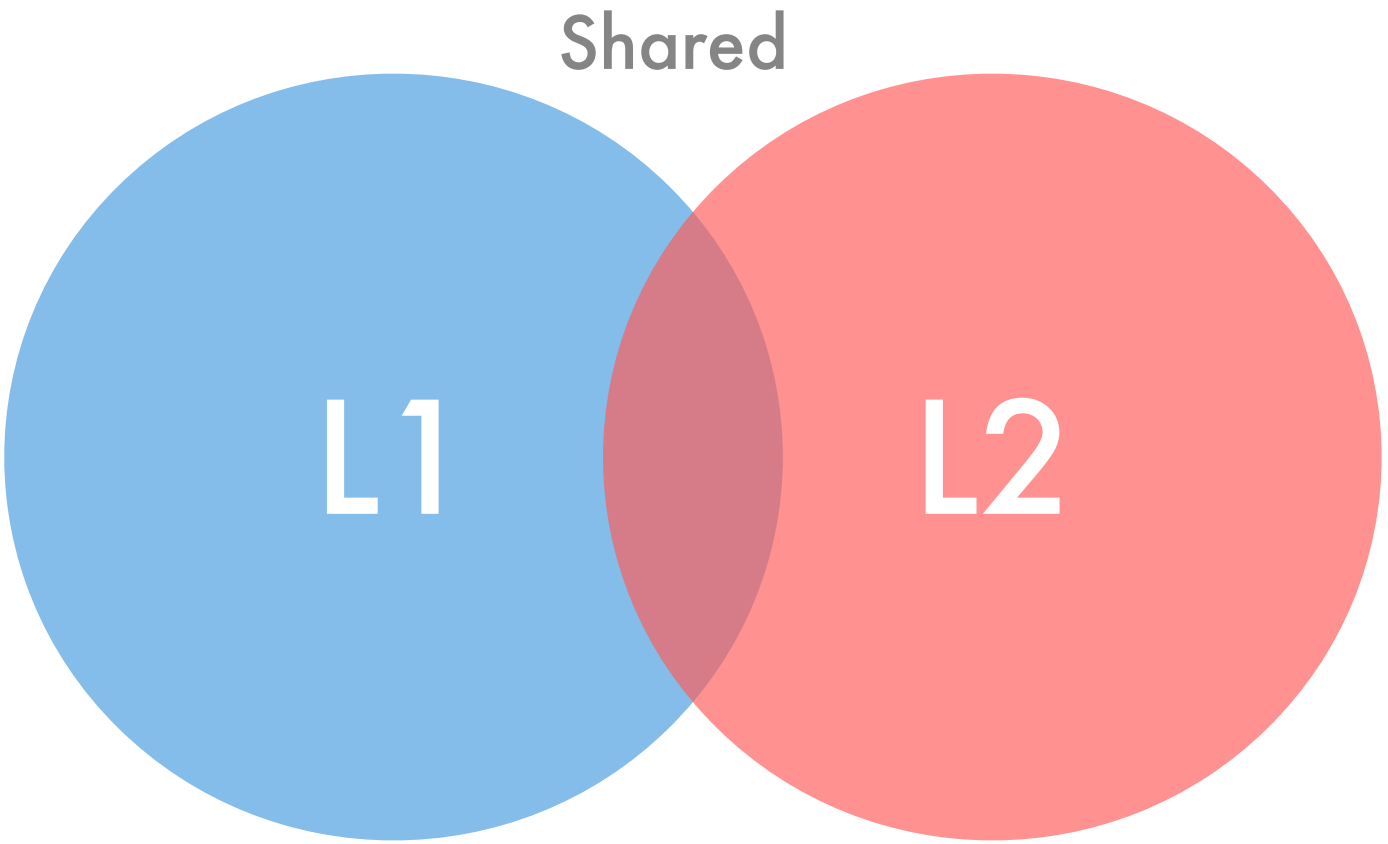
Language representation

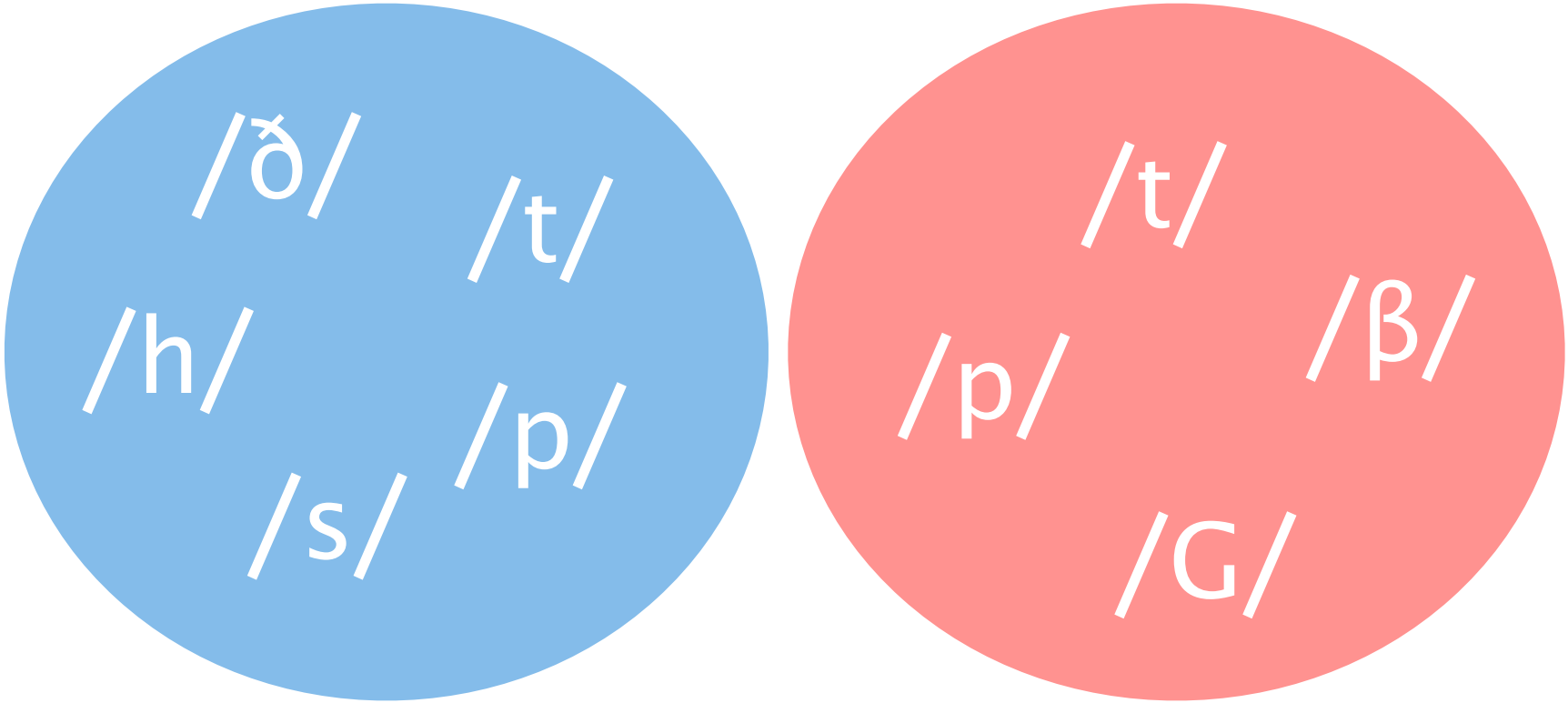
Distinct



Language representation



Phonological representations



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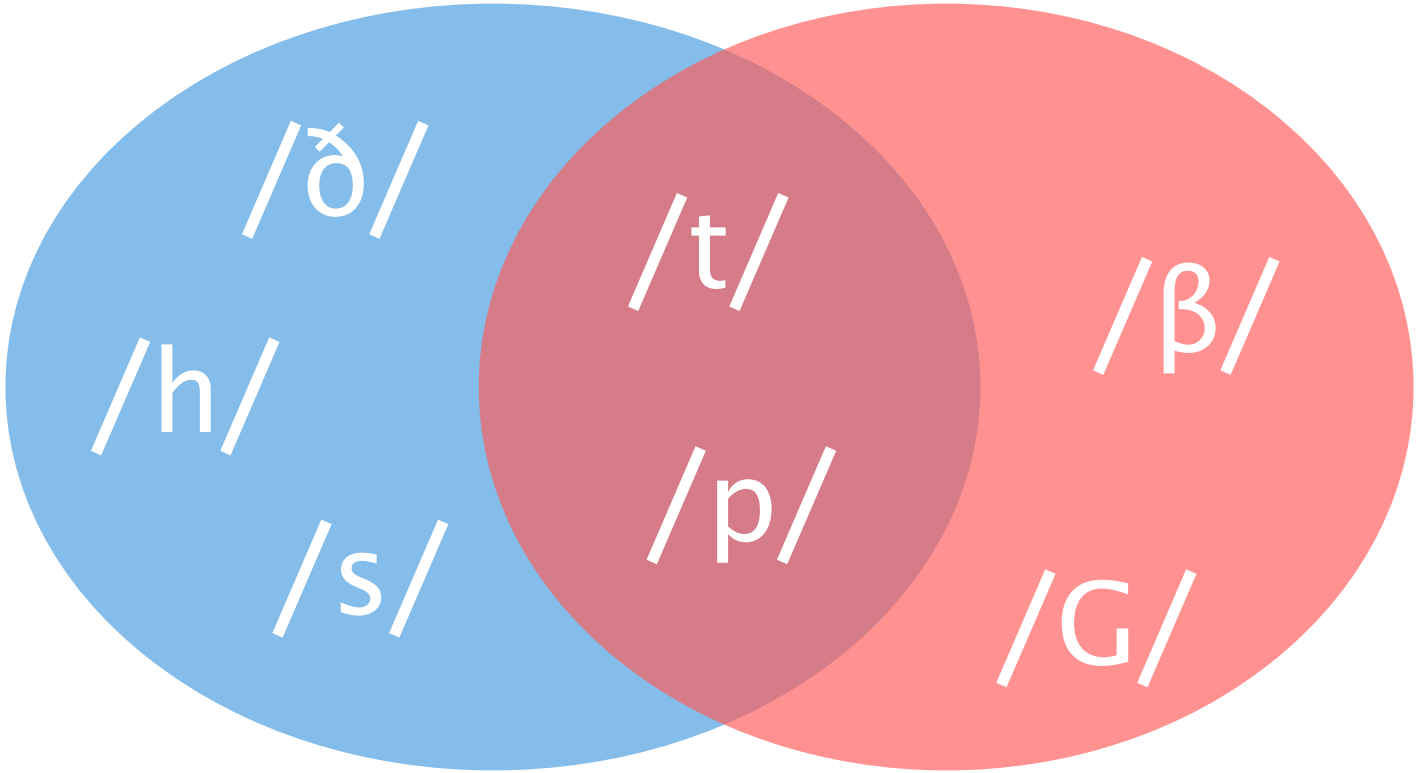
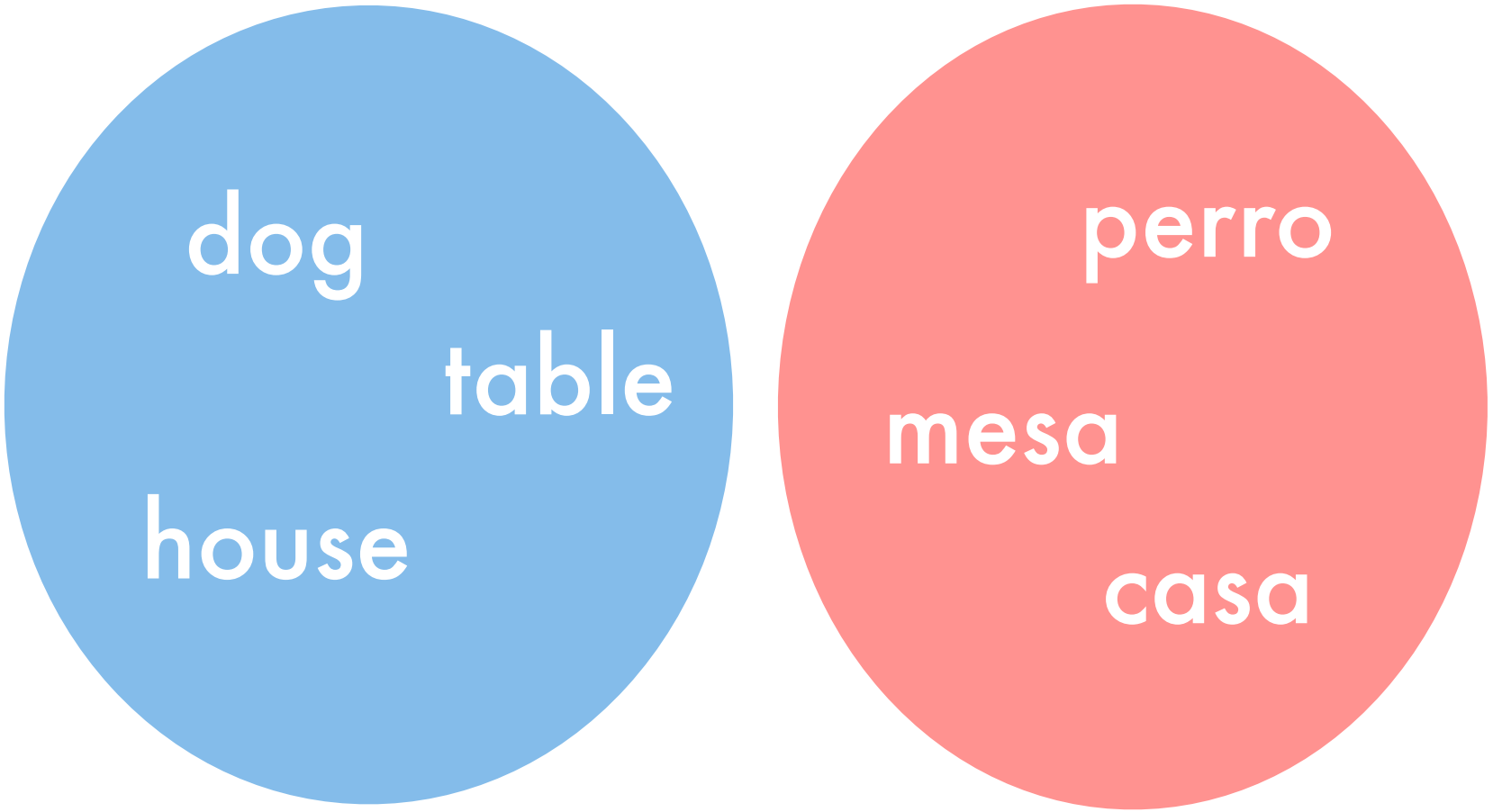


Lexical representations



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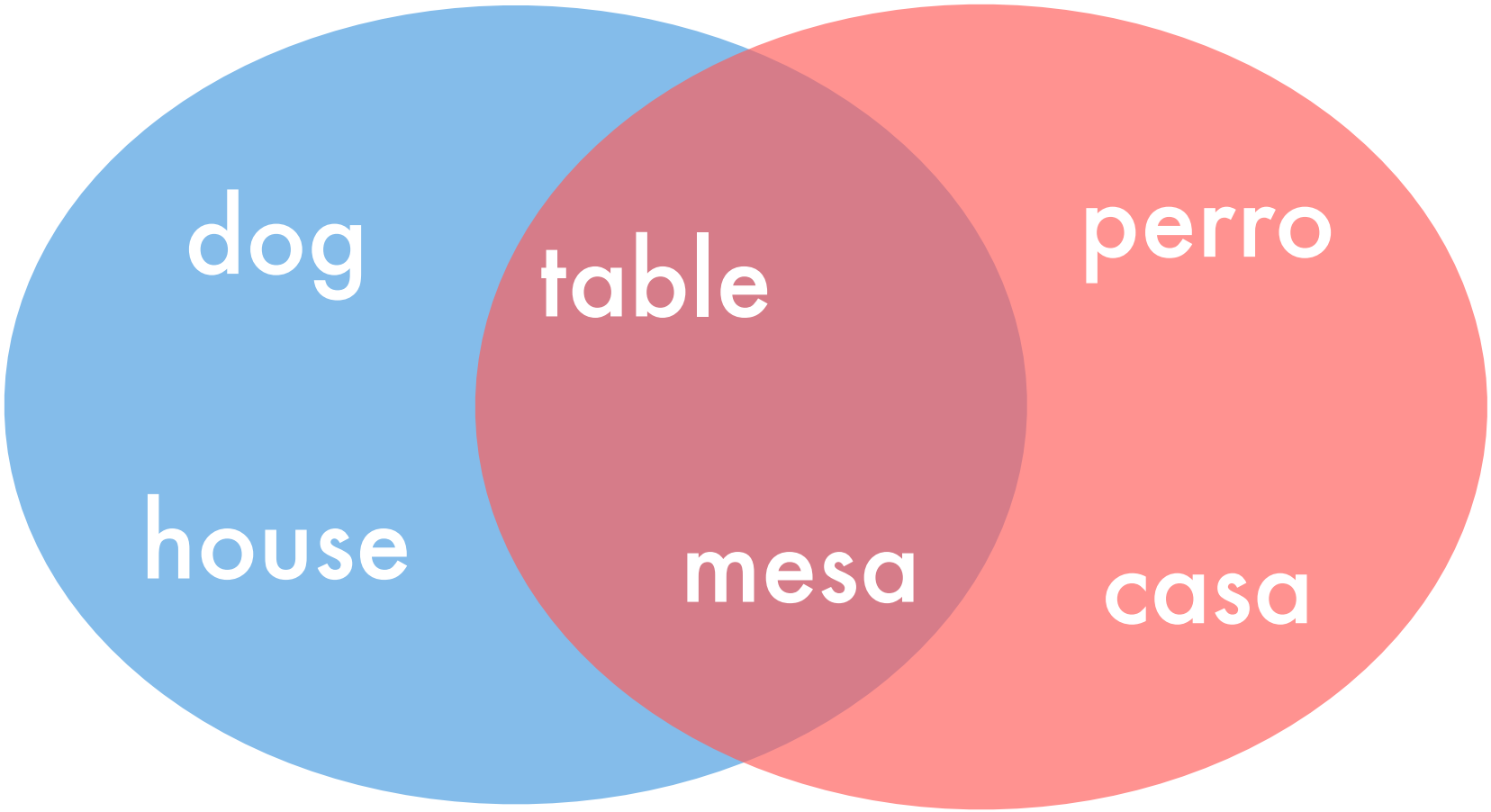
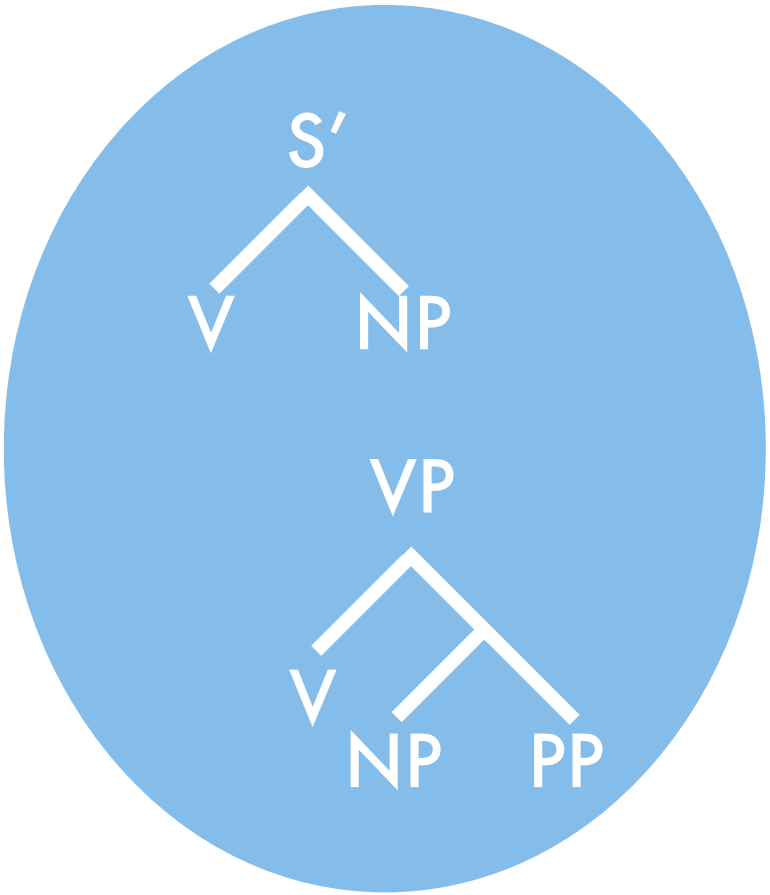
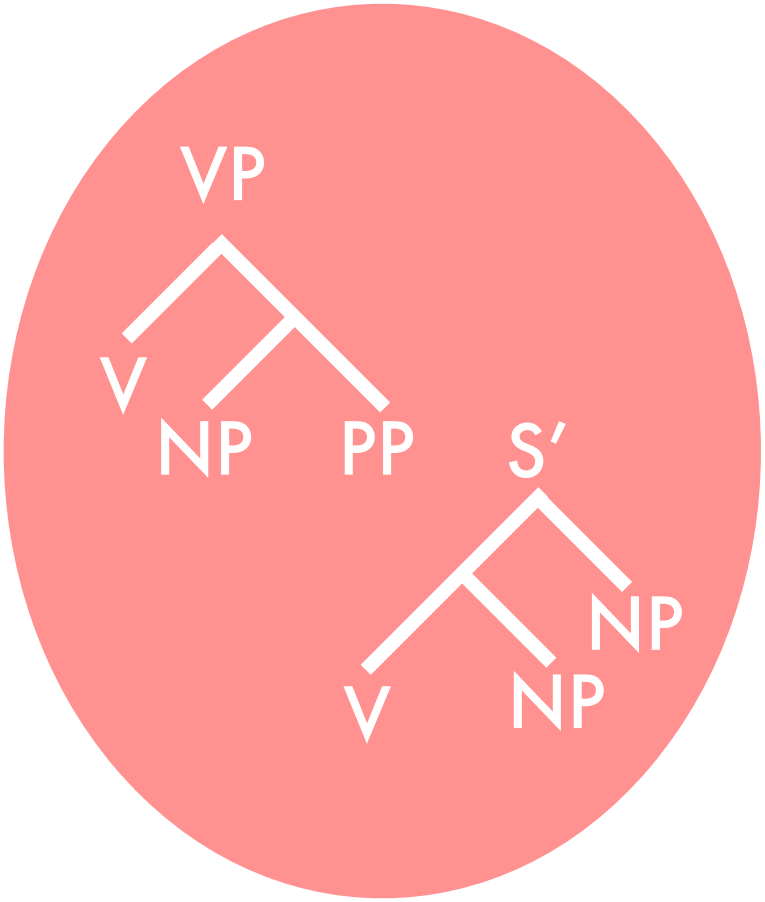


Syntactic representations





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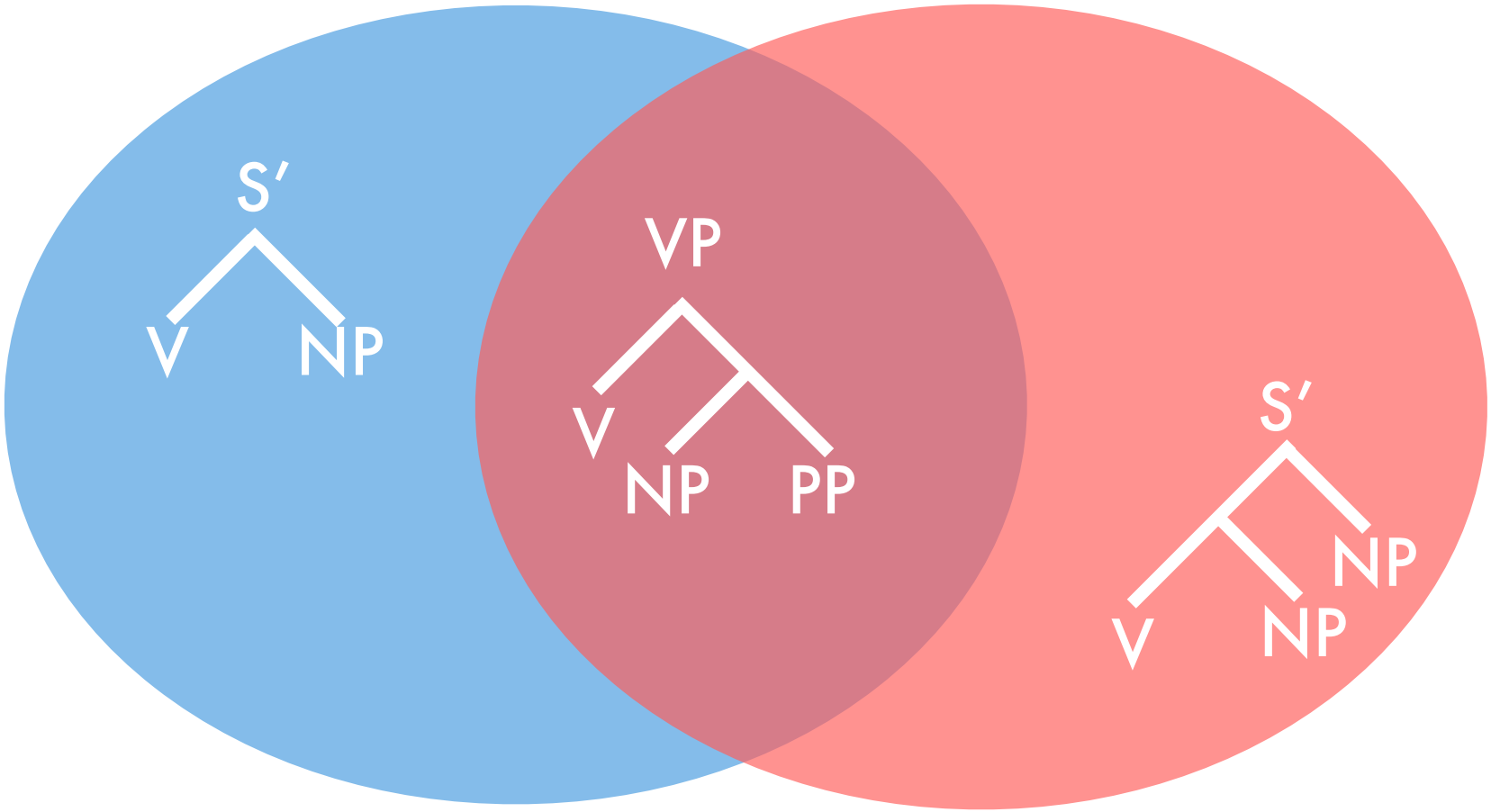


Some questions

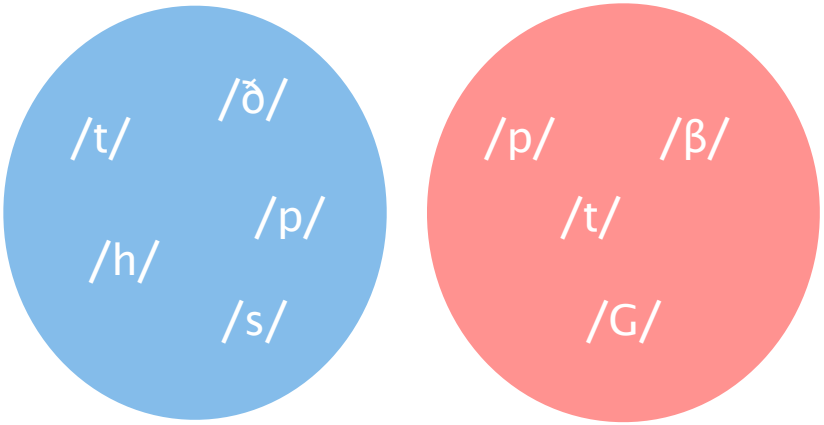
Psycholinguistic questions that have motivated L2 research:

- Do bilinguals experience interference between their two language systems?
  - Phonological
  - Lexical
  - Syntactic

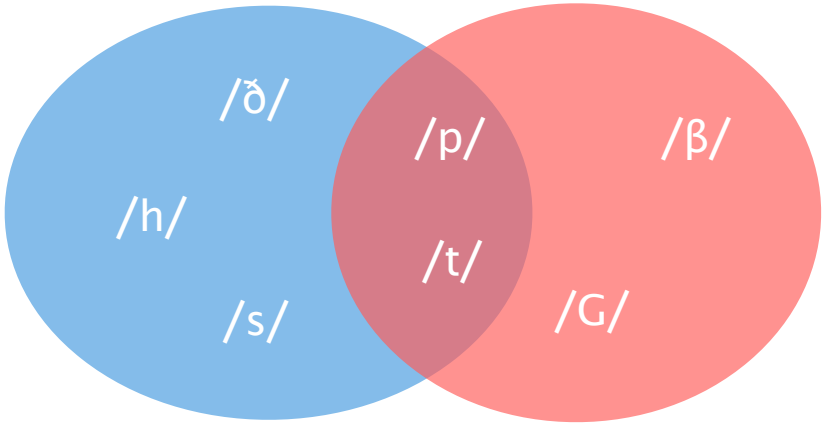
Evidence for both distinct and shared systems at all three levels

Phonological representations

Distinct



Shared



Shared phonology?

- Preparation Paradigm
  - Faster to say list of words when they share initial phonetic segment

Trigger	Recall
fruit	melon
iron	metal
grass	meadow

Shared phonology?

- Preparation Paradigm
  - Faster to say list of words when they share initial phonetic segment

Trigger	Recall
fruit	melon
iron	metal
grass	meadow

Shared phonology?

- Preparation Paradigm
  - Effect goes away if even single item does not have same initial segment

Trigger	Recall
crime	felon
iron	metal
grass	meadow

Shared phonology?

- What about when words come from different languages?

Roelofs (2003)

  - Dutch/English Bilinguals (Dutch dominant)

table

Trigger	Recall
fashion	style
tafel	stoel
pebble	stone

chair

Shared phonology?

- What about when words come from different languages?

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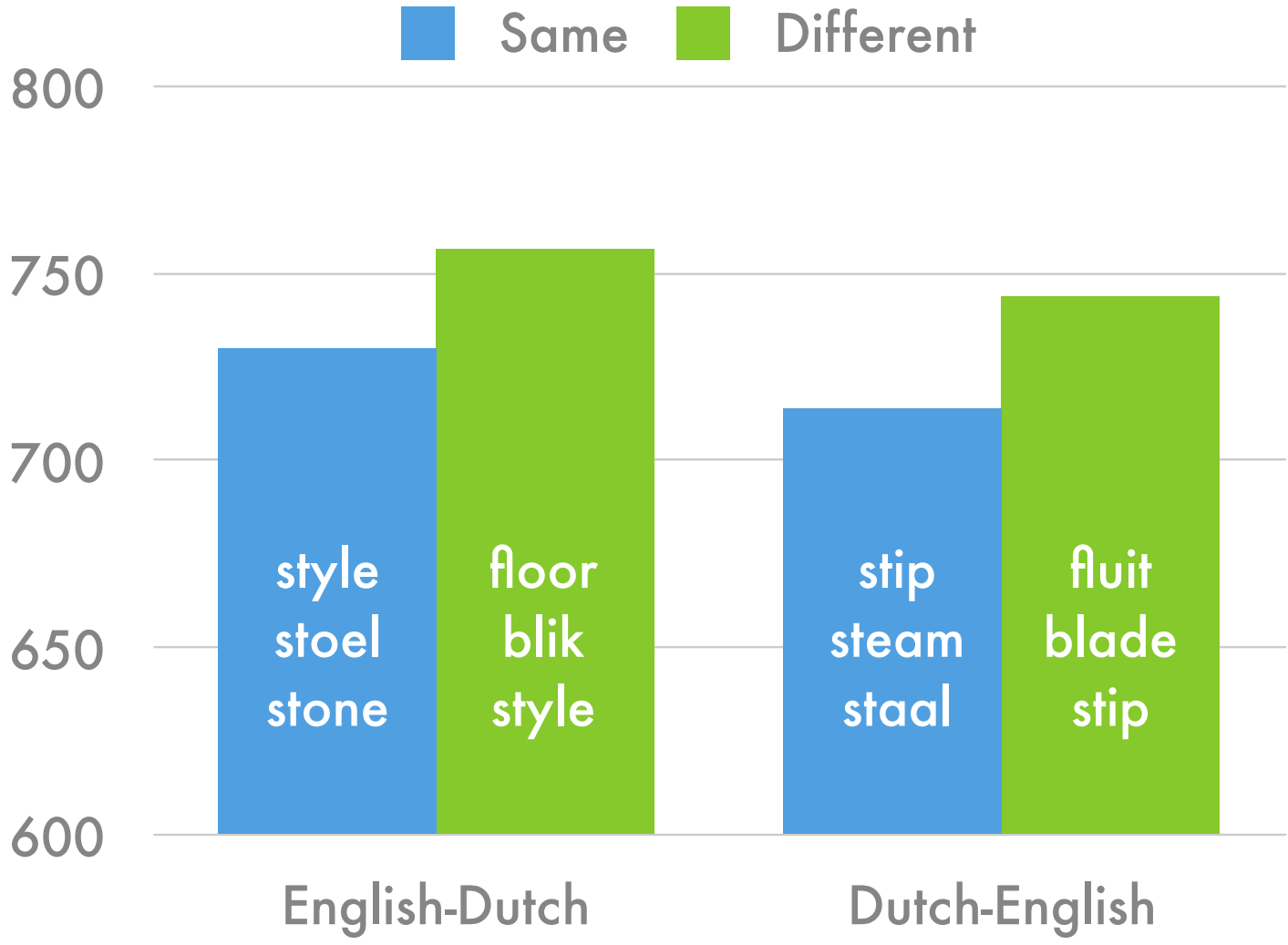
table

Trigger	Recall
fashion	style
tafel	stoel
pebble	stone

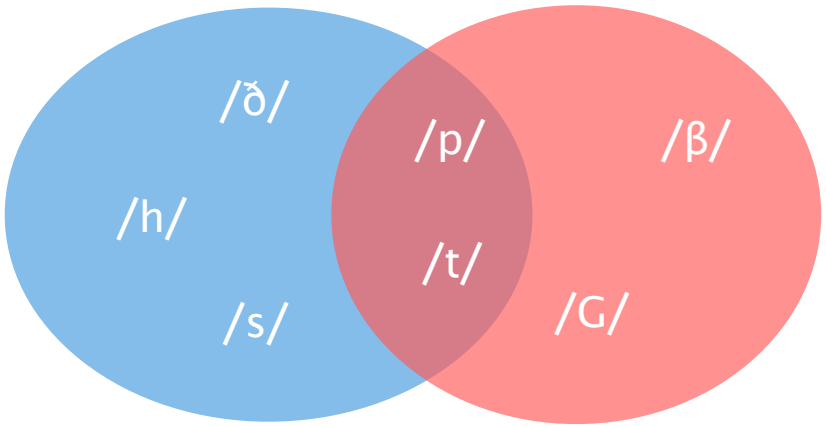
chair

Results


Same
Different
800
750
700
650
600
style
stoel
stone
floor
blik
style
stip
steam
staal
fluit
blade
stip
English-Dutch
Dutch-English

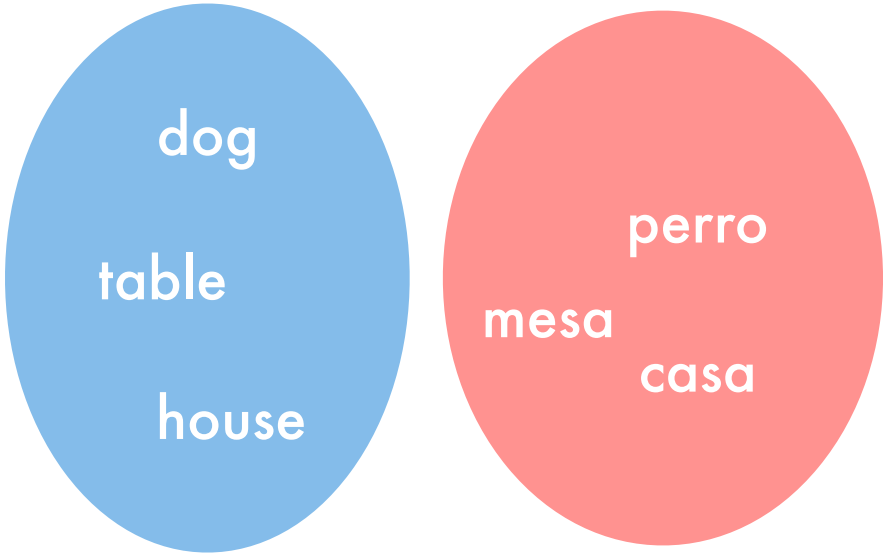
Shared phonology

- Results suggest that same sound is represented in the same system for both languages
  - Phonological overlap between languages for shared sounds

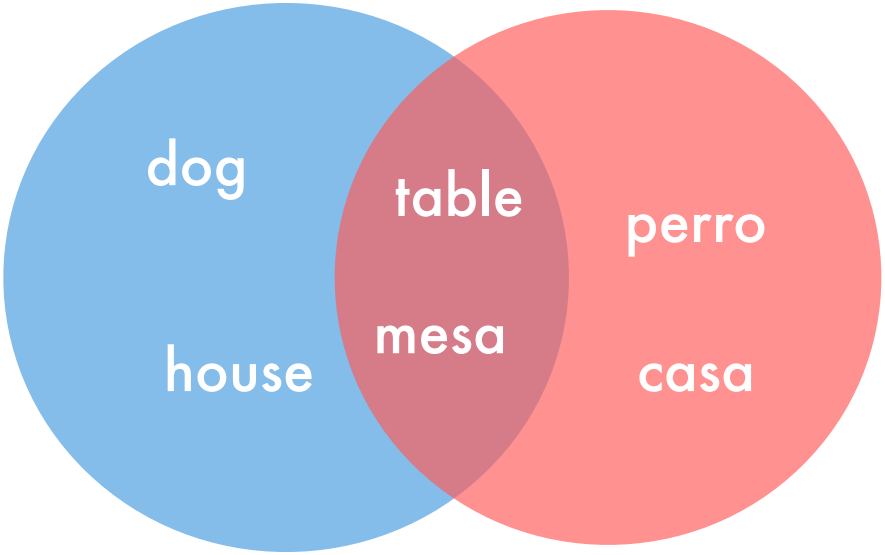


Lexical representations?

Distinct



Interaction



Shared lexicons?

- Evidence from Picture-Word interference paradigm
  - See picture plus word
  - Ignore word
  - Name picture

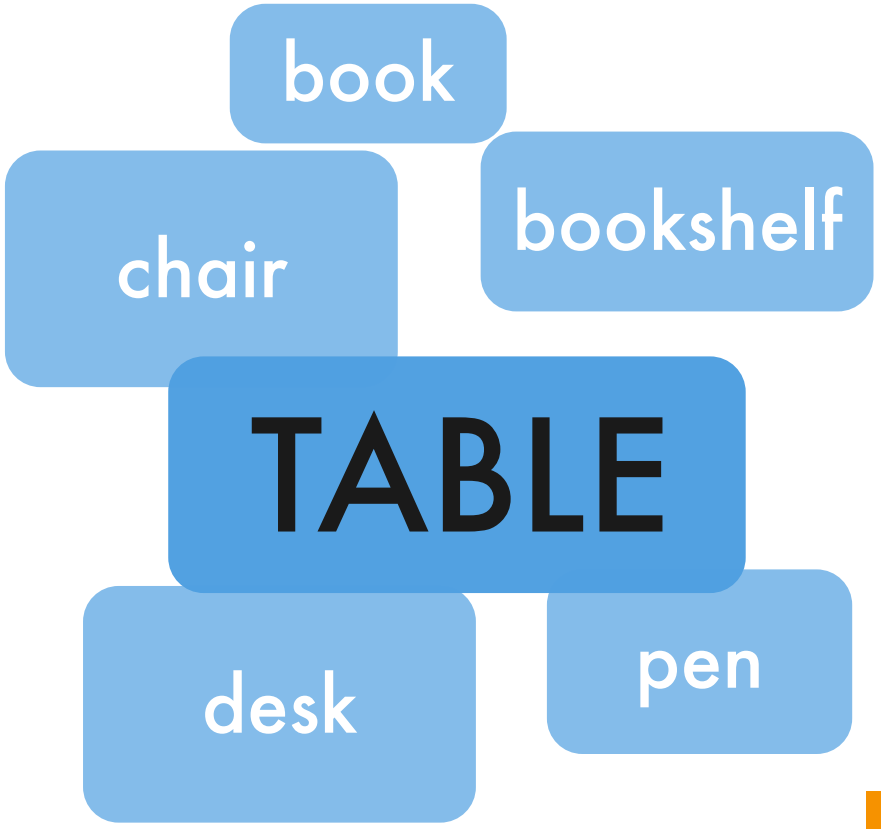
table

Unrelated
Control condition

TABLE

table

Faster naming time than unrelated control
Word primes concept, which then helps name picture faster



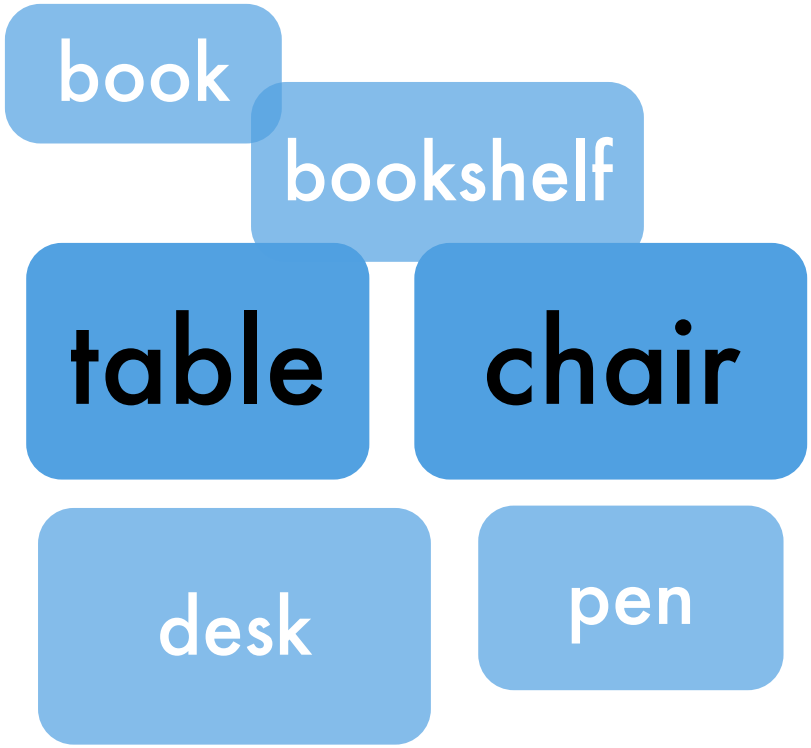
table

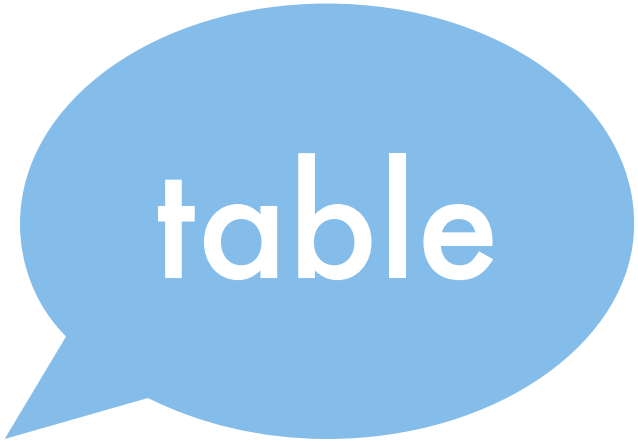
Faster naming time than unrelated control
Word primes concept, which then helps name picture faster

CHAIR

table

STROOP-LIKE EFFECT
"chair" competes with "table"
lexically and conceptually
Slows naming time





STROOP-LIKE EFFECT
"chair" competes with "table"
lexically and conceptually
Slows naming time

Distractors in other languages

- So, what happens when distractor word is the same word in another language
  - Same meaning?
  - Different meaning?
  - Tested with Spanish-English bilinguals
    - (Costa & Caramazza, 1999)

mesa

Same Language

mesa

Matching Word

Same Language

mesa

Semantically Related Word

Same Language

mesa

Semantically Unrelated Word

Difference Language

mesa

Matching Word

Different Language

mesa

Semantically Related Word

Difference Language

mesa

Semantically Unrelated Word

Big question:

Will different-language, identical distractors act like competitors or identical words?

We assume that both words will activate same concept…

Big question:

Will different-language, identical distractors act like competitors or identical words?

book

chair

bookshelf

TABLE

desk

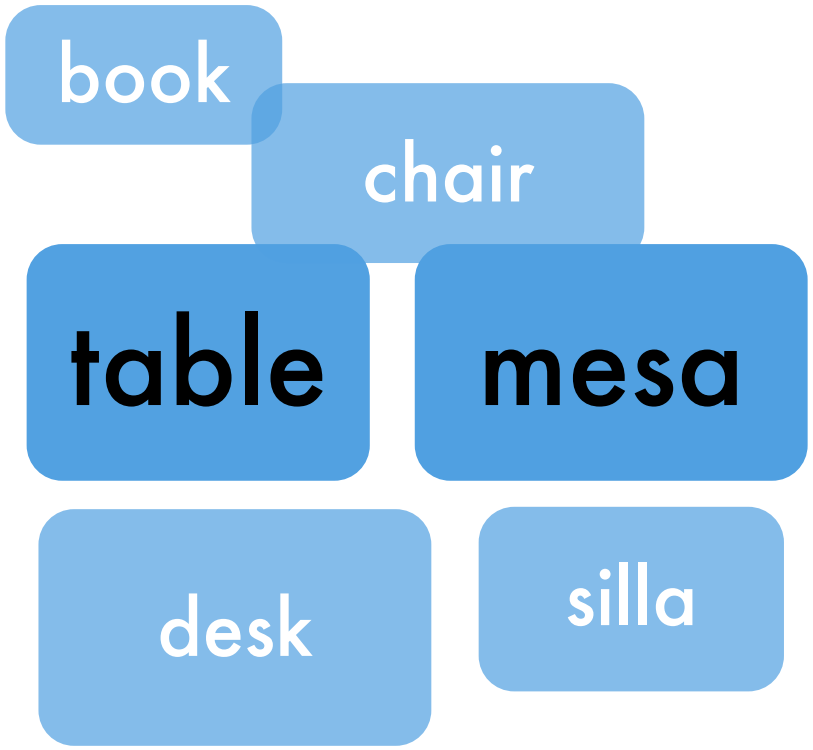
pen

mesa

Faster Naming Time:
Overlap in conceptual space
No lexical competition

Big question:

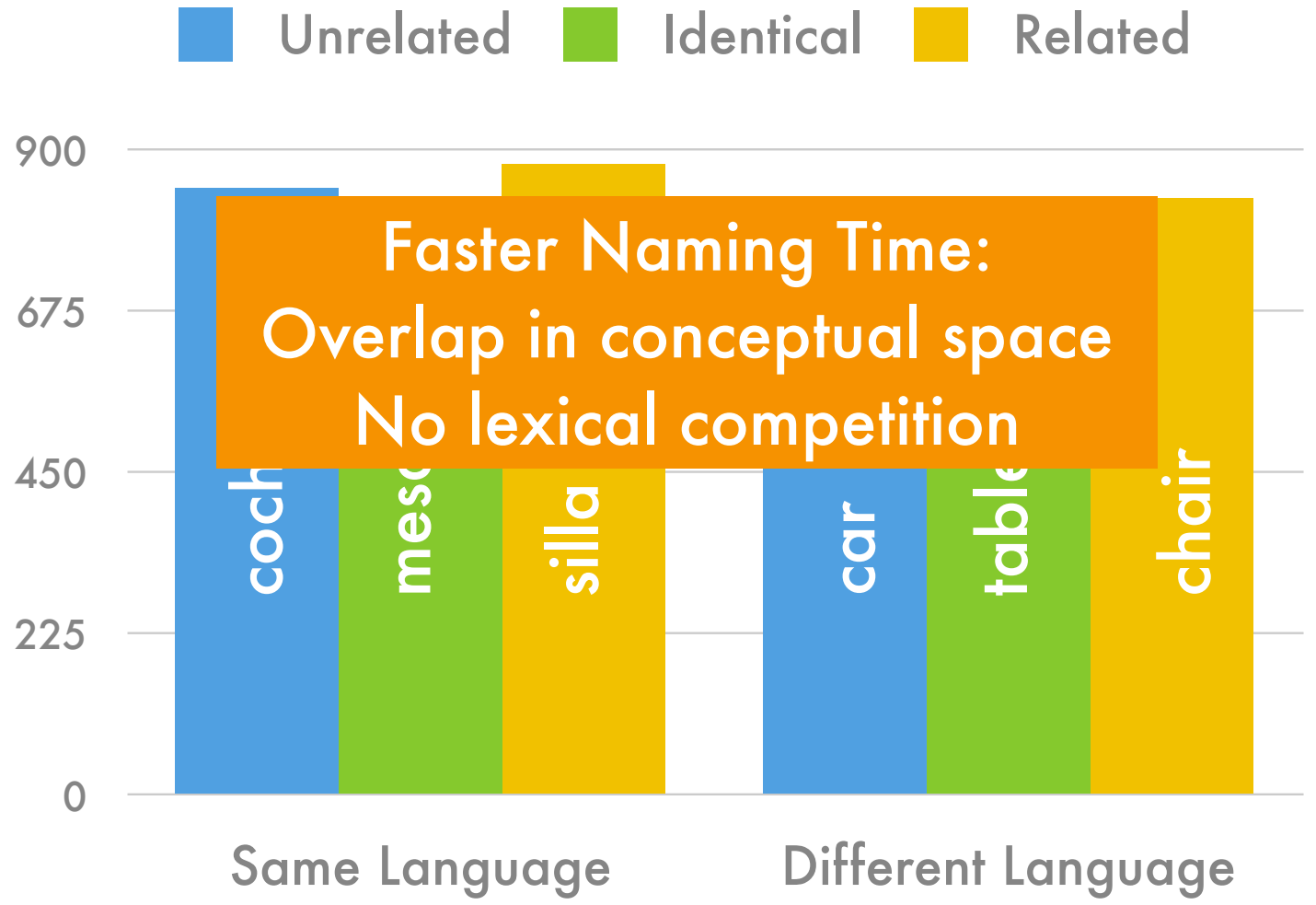
Will different-language, identical distractors act like competitors or identical words?



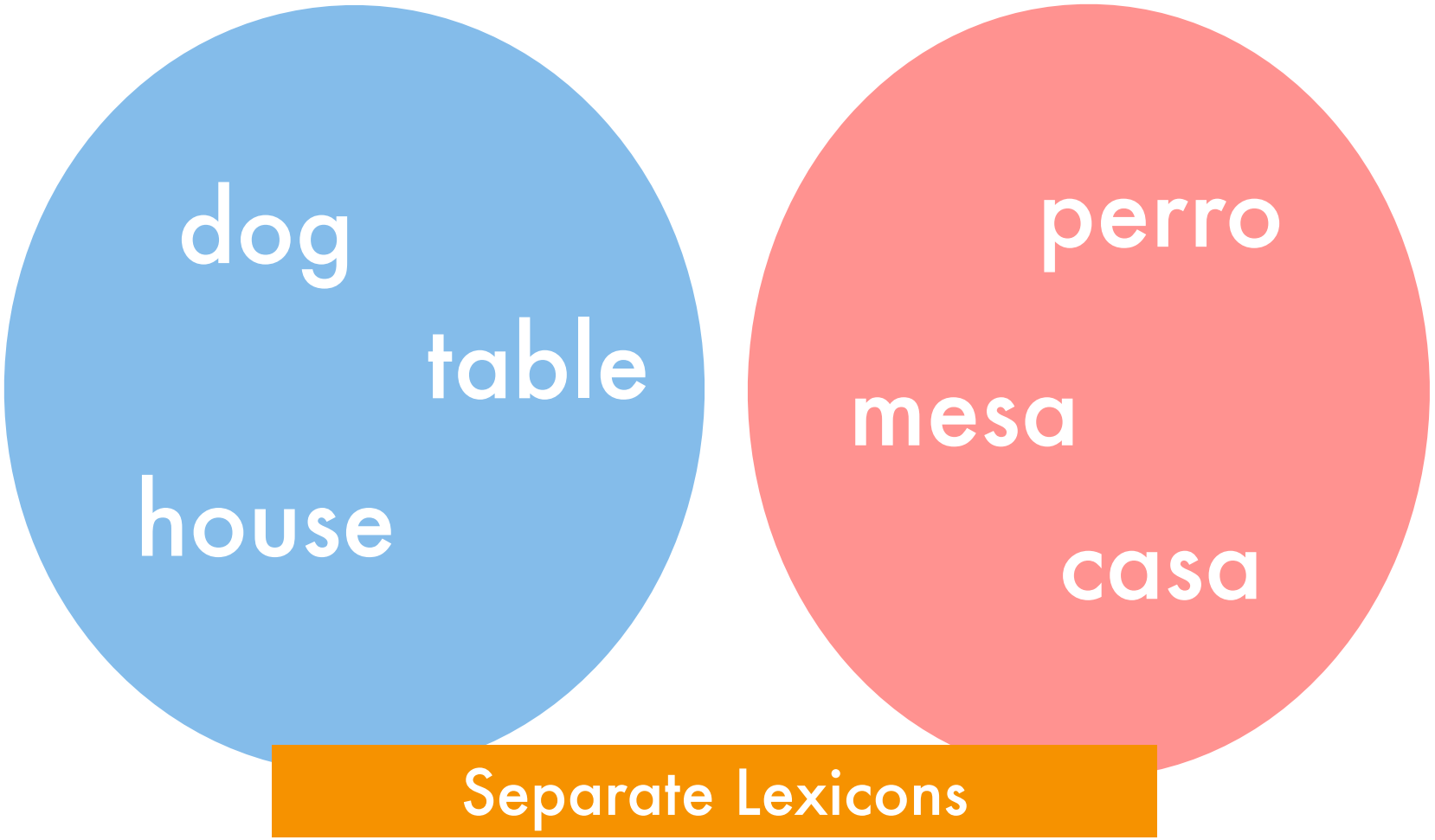
mesa

Slower Naming Time: Overlap and thus interaction between lexical representations

Results


Unrelated
Identical
Related
900
675
450
225
0
Faster Naming Time:
Overlap in conceptual space
No lexical competition
coch
mesa
silla
car
table
chair
Same Language
Different Language

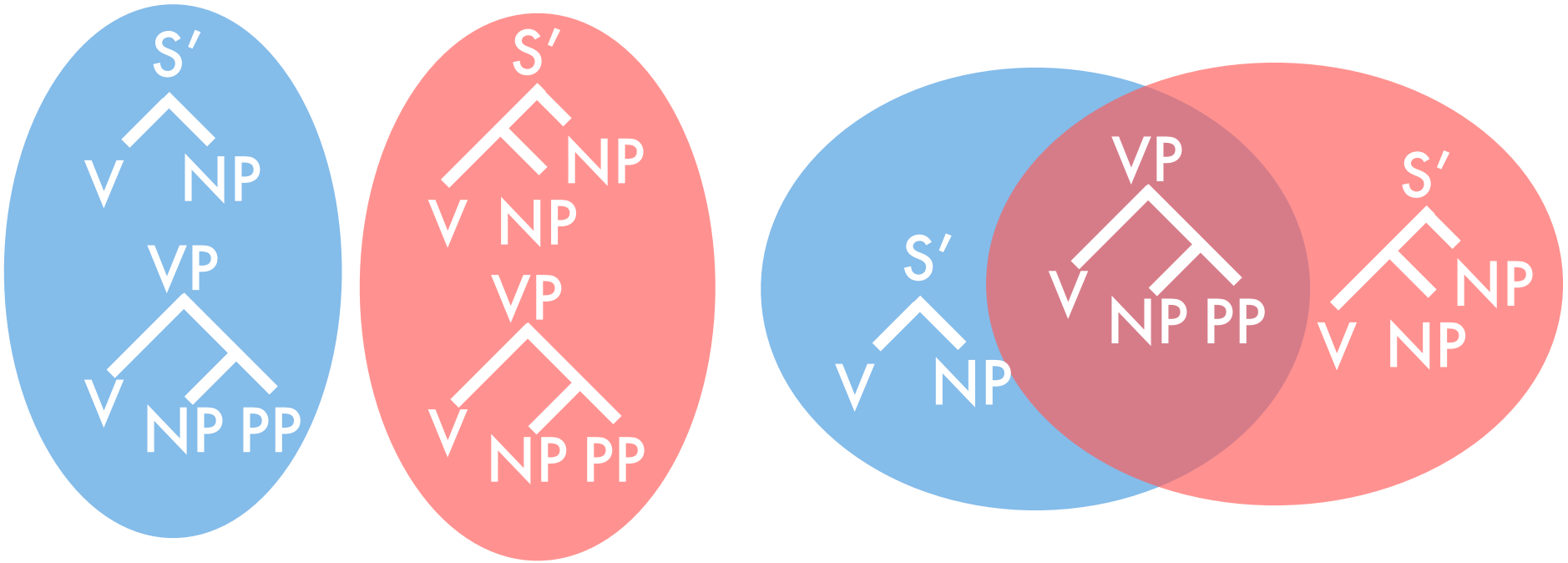
Results



Syntactic representations

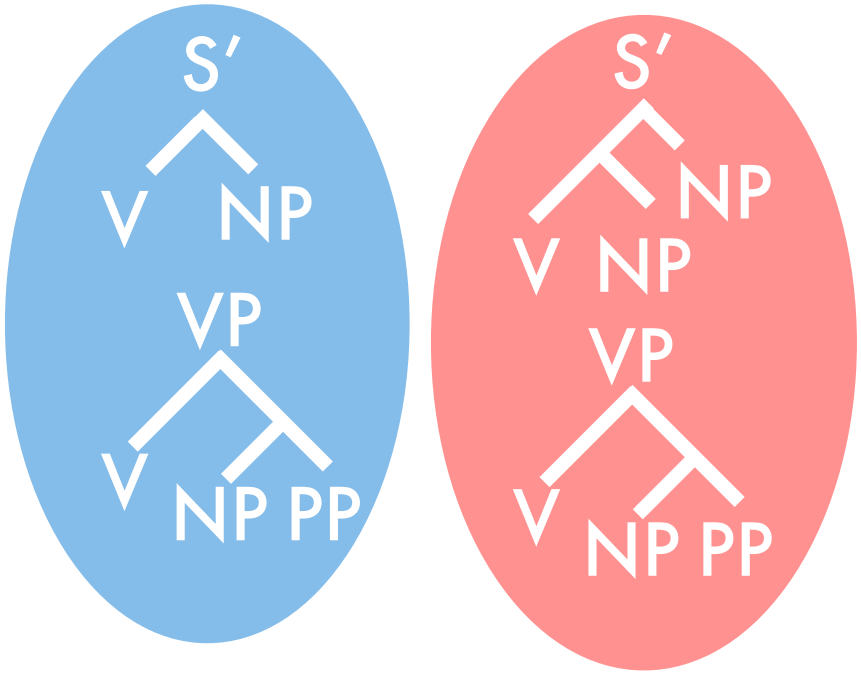
Distinct

Shared



No interaction?

- Syntax forms the core of any language
  - least vulnerable to external influence
  - least borrowed aspect between languages



Evidence for interaction

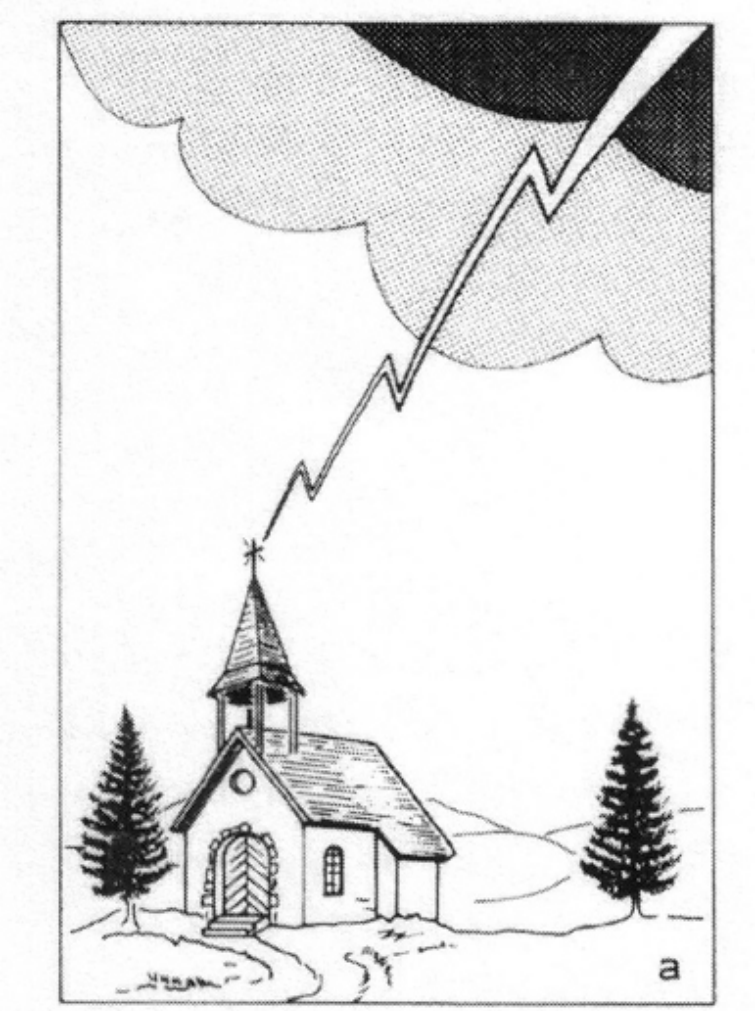
- Code switching/mixing
- Systematic lack of syntactic conflict:
  - I put the knives en la mesa.
  - I put the knives on the table.
- Syntactic conflict extremely rare:
  - He ran to the house chiquita.
  - He ran to the little house.

Syntactic priming revisited

- Hearing one kind of syntactic structure makes a speaker more likely to use that same structure
  - Active voice : Active voice
  - Passive voice : Passive voice

Syntactic Priming

The boy swung the bat.

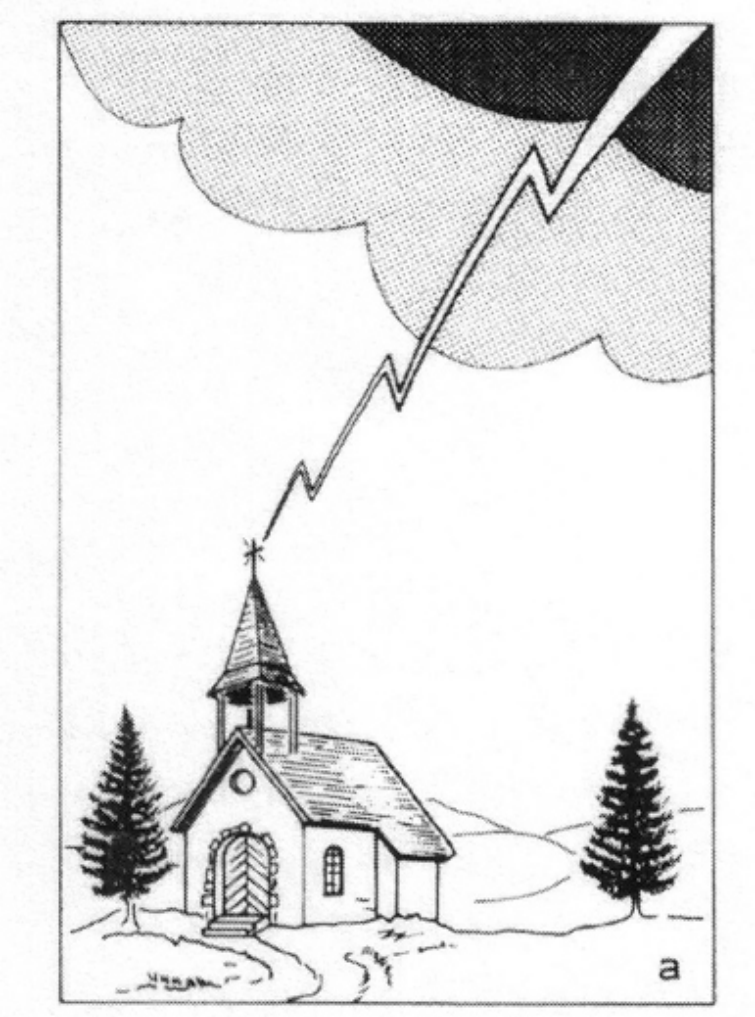


The lightning struck the church

Active ⟶ Active

Syntactic Priming

The bat was swung by the boy.



The church was struck by the lightning.

Passive ⟶ Passive

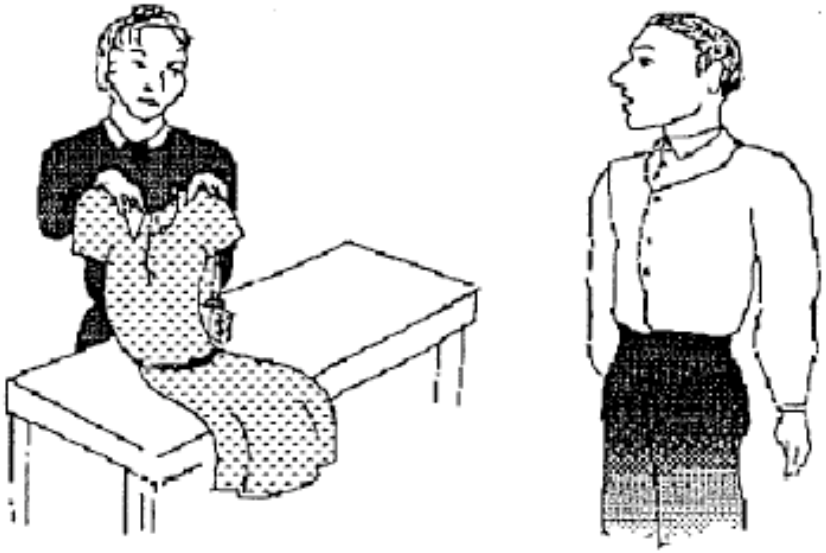
Different structures

- Dative alternation
  - I gave the boy the book.
  - I gave the book to the boy.

  - VERB NP NP
  - VERB NP PP

Syntactic Priming

The lawyer sent his client the contract.



The woman showed the man the dress.

VERB NP NP ⟶ VERB NP NP

Syntactic Priming

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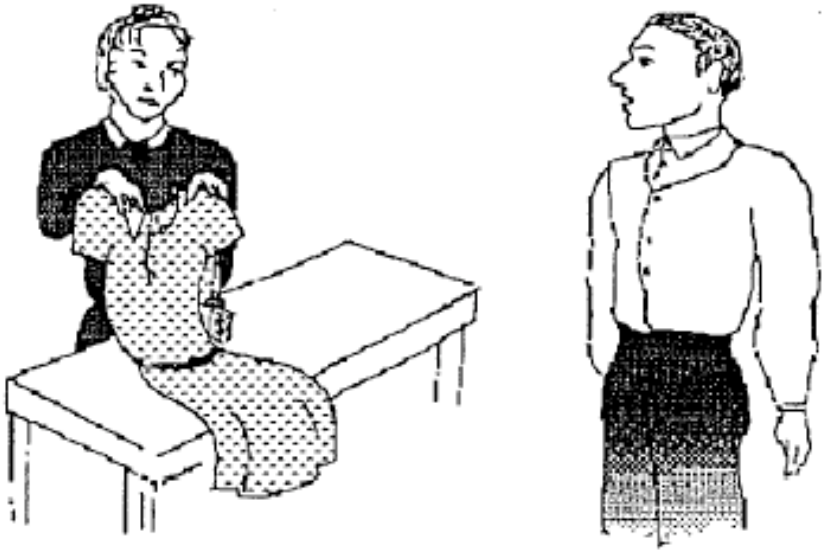

The woman showed the dress to the man.

VERB NP PP ⟶ VERB NP PP

Syntactic priming revisited

- Hearing one kind of syntactic structure makes a speaker more likely to use that same structure

- Does this occur across languages in bilingual speakers?
  - Tested in German-English bilinguals (German dominant)

(Loebell & Bock, 2003)

Bilingual syntactic priming

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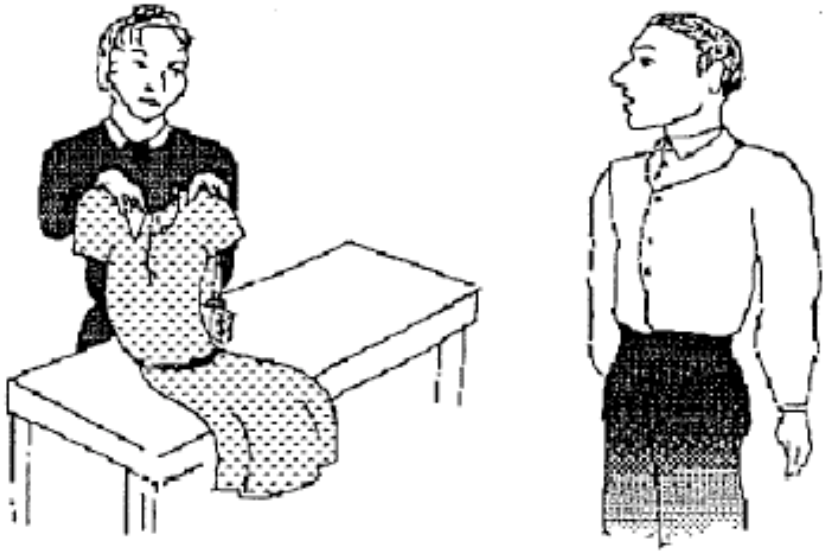

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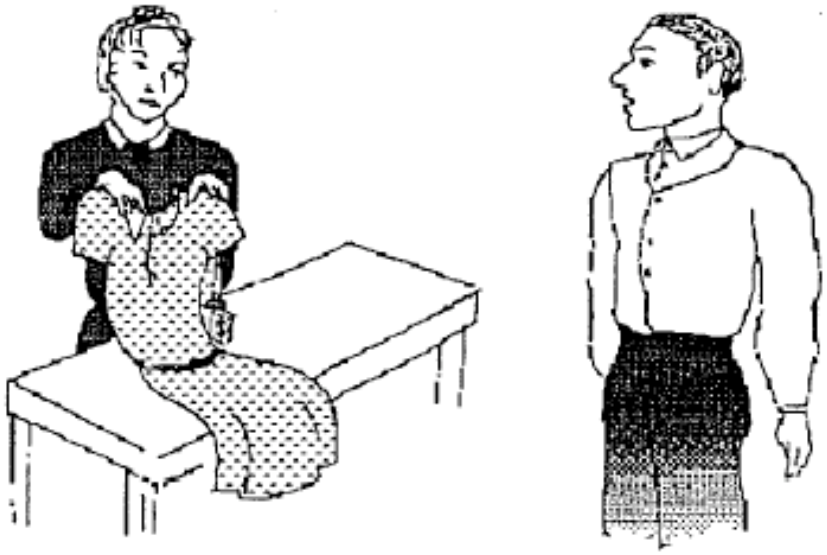
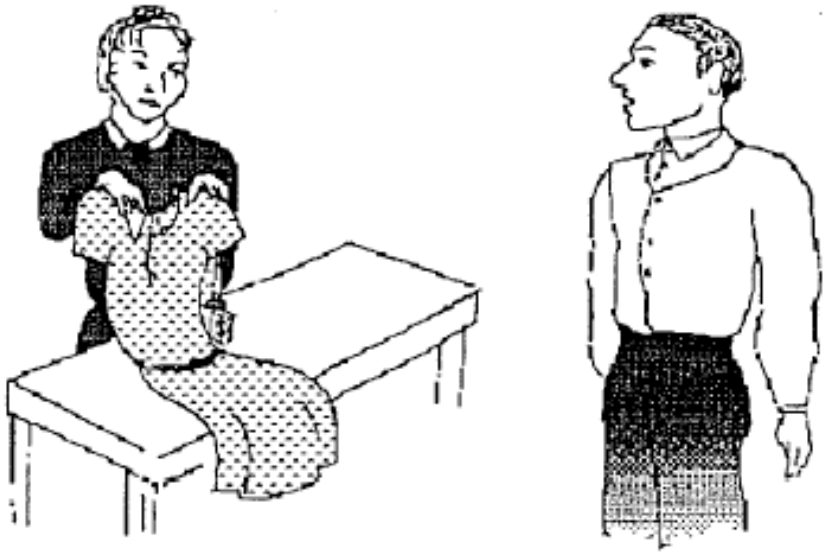


Eine Frau zeigt einem Mann ein Kleid

VERB NP NP ⟶ VERB NP NP

Bilingual syntactic priming

Der Rechtsanwalt
schickte seinem Klienten
den Vertrag.



A woman
showed her client
the dress

VERB NP NP ⟶ VERB NP NP

Stronger than English ⟶ German

Bilingual structural priming

- Priming occurs between common structures in different languages
  - Greater deviation between structure types weakens effect
- Strongest effect from dominant to non-dominant language
- Suggests: common structural representations or processes involved between languages

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L2 Learning

- L2 acquisition is usually incomplete compared to native bilingual or monolingual acquisition
  - Rare people who excel at L2 acquisition
  - Ordinarily:
    - Incomplete phonological acquisition
    - Incomplete (if subtle) syntactic acquisition

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The bilingual brain

- L1 and L2 occupy different areas of the brain
  - Greater proficiency = greater overlap
  - Multiple L1s occupy same areas
  - L1 is more focal - concentrated into smaller area of the brain
  - L2 is more distributed - spread out over larger portion of the brain