ROM 802 L2 Phonology

Theoretical concepts and frameworks

PAM and PAM-L2

Revisión

- Note takers → 5-minute recap of last class
- Everyone else → What would you add? What would you clarify?

One minute paper

- For SLM, what influences the second language acquisition of sound systems?

Perceptual Assimilation Model
Perceptual Assimilation Model-L2

Best & Tyler (2009)

Some starting definitions

- What do these concepts mean? Explain in your own words
  - Definition
  - Connections with other concepts

Nonnative listeners
L2 learners
Direct realism
Perceptual assimilation

The PAM for naïve nonnative speech perception

- Central concept: Perceptual assimilation
  - "when listening to an unfamiliar nonnative phone (phonetic segment), naïve listeners are likely, due to their native language experience, to perceptually *assimilate* the nonnative phone to the most articulatorily-similar native phoneme" (p. 22)
  - Assimilation pattern (for each phone in a contrasting nonnative pair) will predict identification and discrimination accuracy

The origins: PAM

1. What is the aim of the Perceptual Assimilation Model? What does it explain? How does it explain foreign speech perception?

2. Fill out the table

*	Explanation	Level of difficulty*
Since category (SC)		
Two Category (TC)		
Category Goodness		
Uncategorizable		
Uncategorized-Categorized		
Non-assimilable		

*excellent, good, moderate, poor

	Explanation	Level of difficulty*
Since category (SC)		
Two Category (TC)		
Category Goodness		
Uncategorizable		
Uncategorized-Categorized		
Non-assimilable		

*excellent, good, moderate, poor

	Explanation	Level of difficulty*
Categorization of nonnative phones to native phoneme(s)		
Since category (SC)	Two nonnative sounds are perceived as equally good or equally bad of the same phoneme.	Poor
Two Category (TC)	Two nonnative sounds are perceived as acceptable exemplars of two different native phonemes	Very good to excellent
Category Goodness	Two nonnative sounds are interpreted as different instances of a native phoneme, one being a better example of that phoneme than the other	intermediate
One or both phones fail to match native		
Uncategorizable	Nonnative sounds do not match (sufficiently) to native phonemes. As a result, one or both nonnative sounds cannot be categorized.	Poor/moderate
Uncategorized-Categorized	One nonnative sound is matched to an L1 phoneme, but other one is left uncategorized.	Good
Non-assimilable	Neither of the nonnative sounds can be categorized as a reflex of an L1 sound (even not interpreted as speech sounds at all)	Good to excellent

*excellent, very good, good, moderate, poor

Convergence and divergence to SLM

SLM Postulate	PAM-L2 converges	PAM-L2 diverges
The mechanisms and processes used in learning the L1 sound system, including category formation, remain intact over the life span, and can be applied to L2 learning		
Language-specific aspects of speech sounds are specified in long-term memory representations called phonetic categories		
Phonetic categories established in childhood for L1 sounds evolve over the life span to reflect properties of all L1 or L2 phones identified as a realization of each category		
Bilinguals strive to maintain contrast between L1 and L2 phonetic categories, which exist in a common phonological space		

PAM – L2

- Refresher: Flege's equivalence classification?

- Equivalence classification at 2 levels
  - Phonetic level (= SLM)
  - Phonological level (specific to PAM, not necessarily equivalence at the phonetic level. See example of French /r/ and English /r/)

- 4 scenarios in which L2 phones are perceived as speech (= exist within the L1 phonological space)
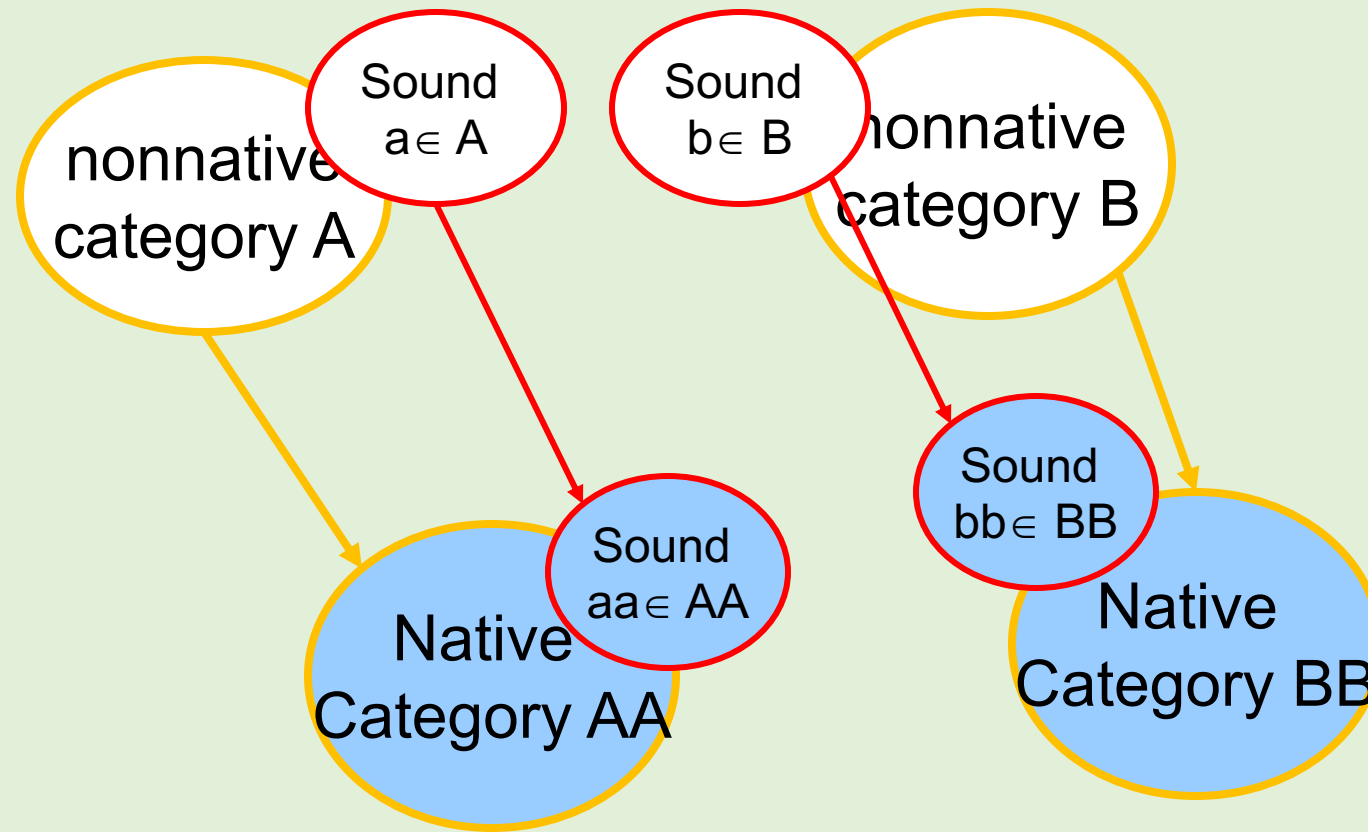
PAM – L2

1) Only one L2 phonological category is perceived as equivalent (perceptually assimilated) to a given L1 phonological category

- At the phonetic level, if only one member of the L2 contrast is perceived as a good exemplar of a given L1 category, then no further perceptual learning is likely to occur for it.
  - All contrasts with other L2 categories would be either two-category assimilations or uncategorized-categorized assimilations, thus the learner would have little difficulty discriminating minimally contrasting words for those distinctions.
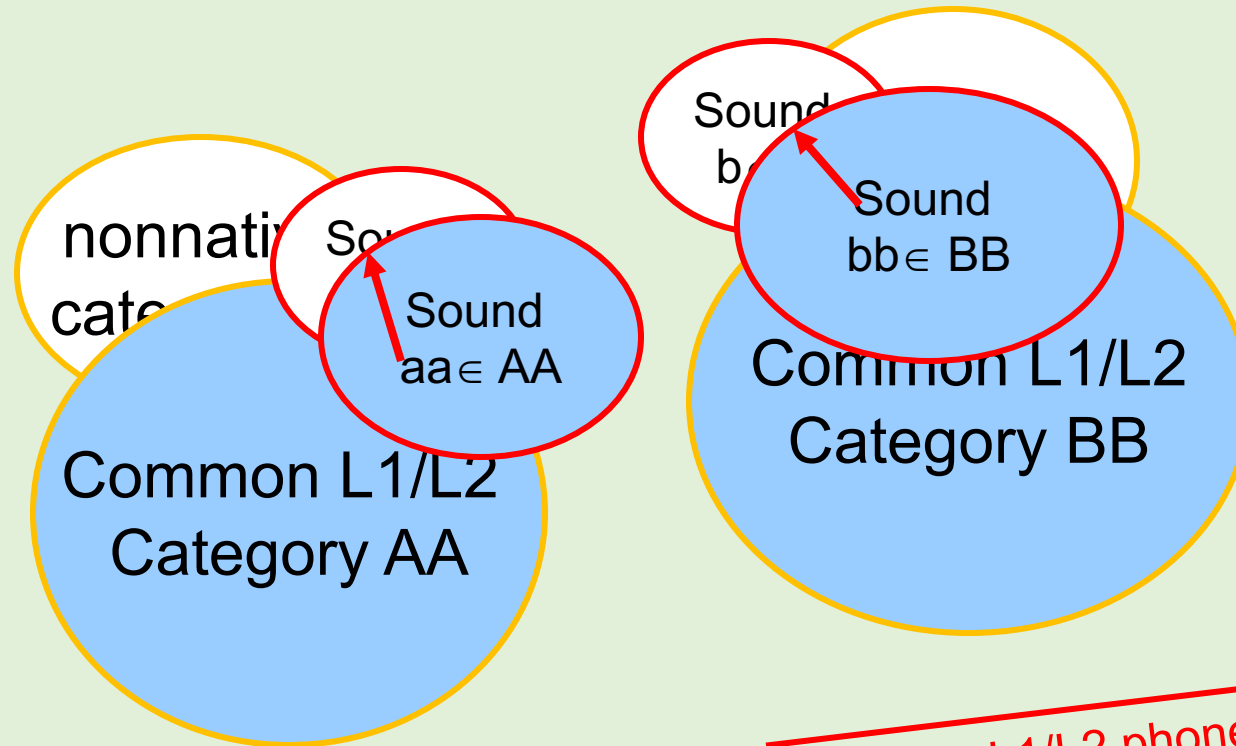
After more perceptual fine-tuning

nonnative category

Sound aa ∈ AA

Sound bb ∈ BB

Common L1/L2 Category AA

Common L1/L2 Category BB

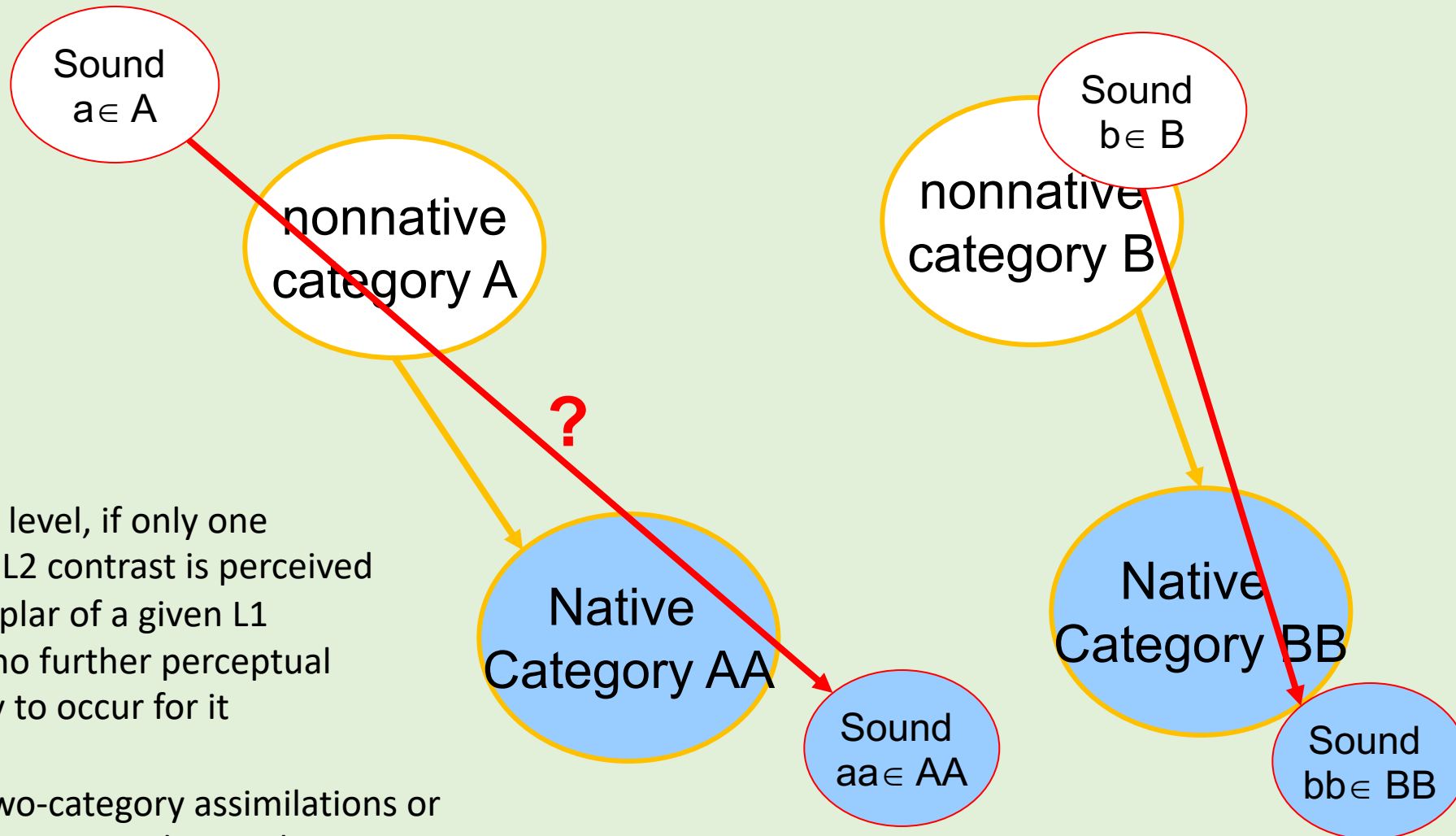common L1/L2 phonetic category shifts from its previous monolingual setting to accommodate L1 and L2 sounds

Only one L2 phonological category is perceived as equivalent (perceptually assimilated) to a given L1 phonological category

Adapted from materials prepared by Dr. Isabelle Darcy

Phonological equivalence 1:1
Phonetic equivalence 1:1 "poor"

Sound
a∈ A

nonnative
category A

Sound
b∈ B

nonnative
category B

?

At the phonetic level, if only one member of the L2 contrast is perceived as a good exemplar of a given L1 category, then no further perceptual learning is likely to occur for it

Native
Category AA

Native
Category BB

Sound
aa∈ AA

Sound
bb∈ BB

Result: either two-category assimilations or uncategorized-categorized assimilations
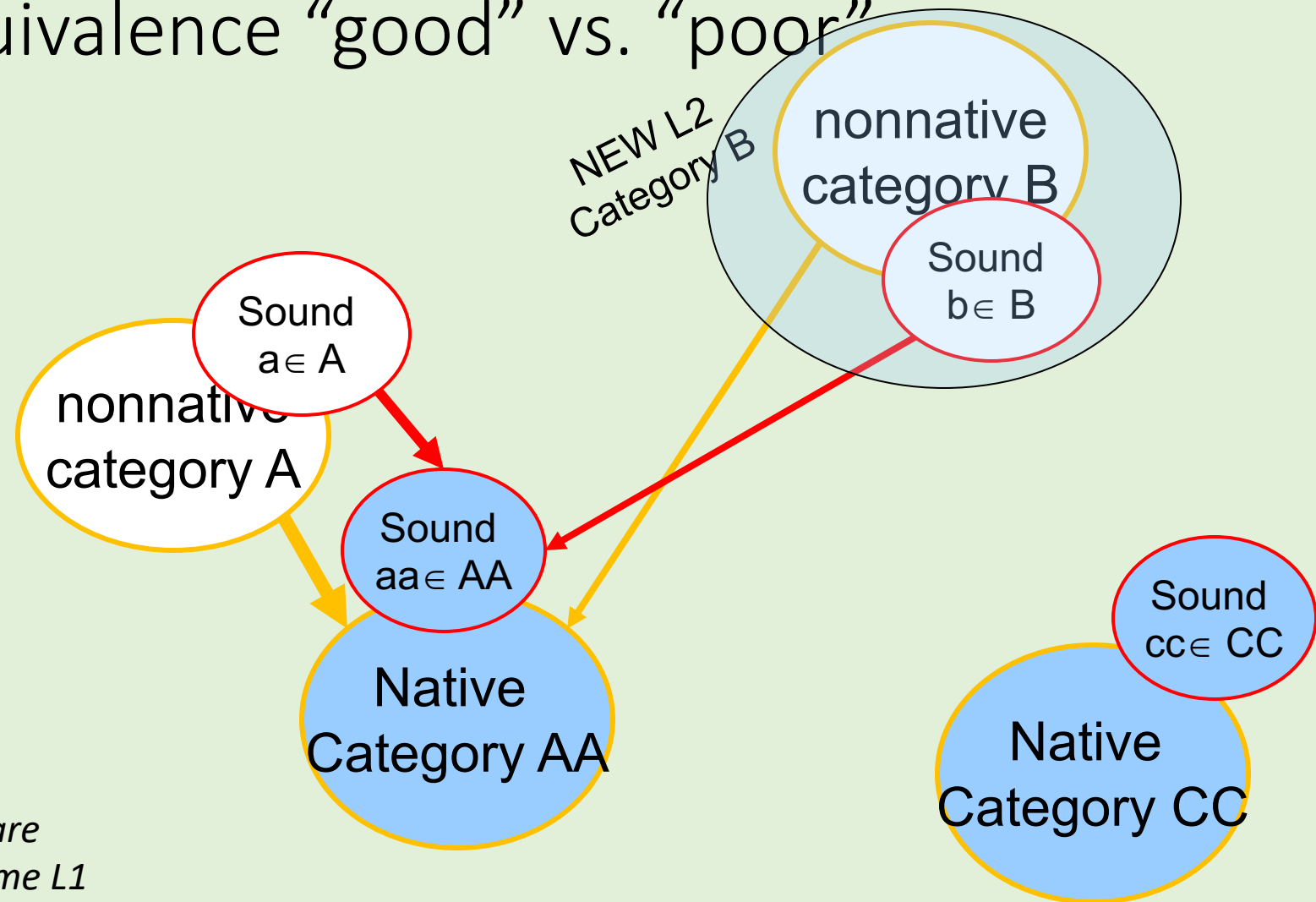
PAM – L2

2) Both L2 phonological categories are perceived as equivalent to the same L1 phonological category, but one is perceived as being more deviant than the other

- Learners discriminate these L2 phones well (but not as well as case 1: 2 category)
- The perceiver should also be able to fairly easily recognize the lexical-functional differences between these L2 phones in minimal lexical contrasts
  - Therefore, we would predict that a new L2 phonetic and phonological category is reasonably likely to be formed eventually for the deviant L2 phone
  - While the L2 phone that is perceived as a better exemplar would be perceived as phonologically and phonetically equivalent to the L1 category. No new category is likely to be learned for the latter
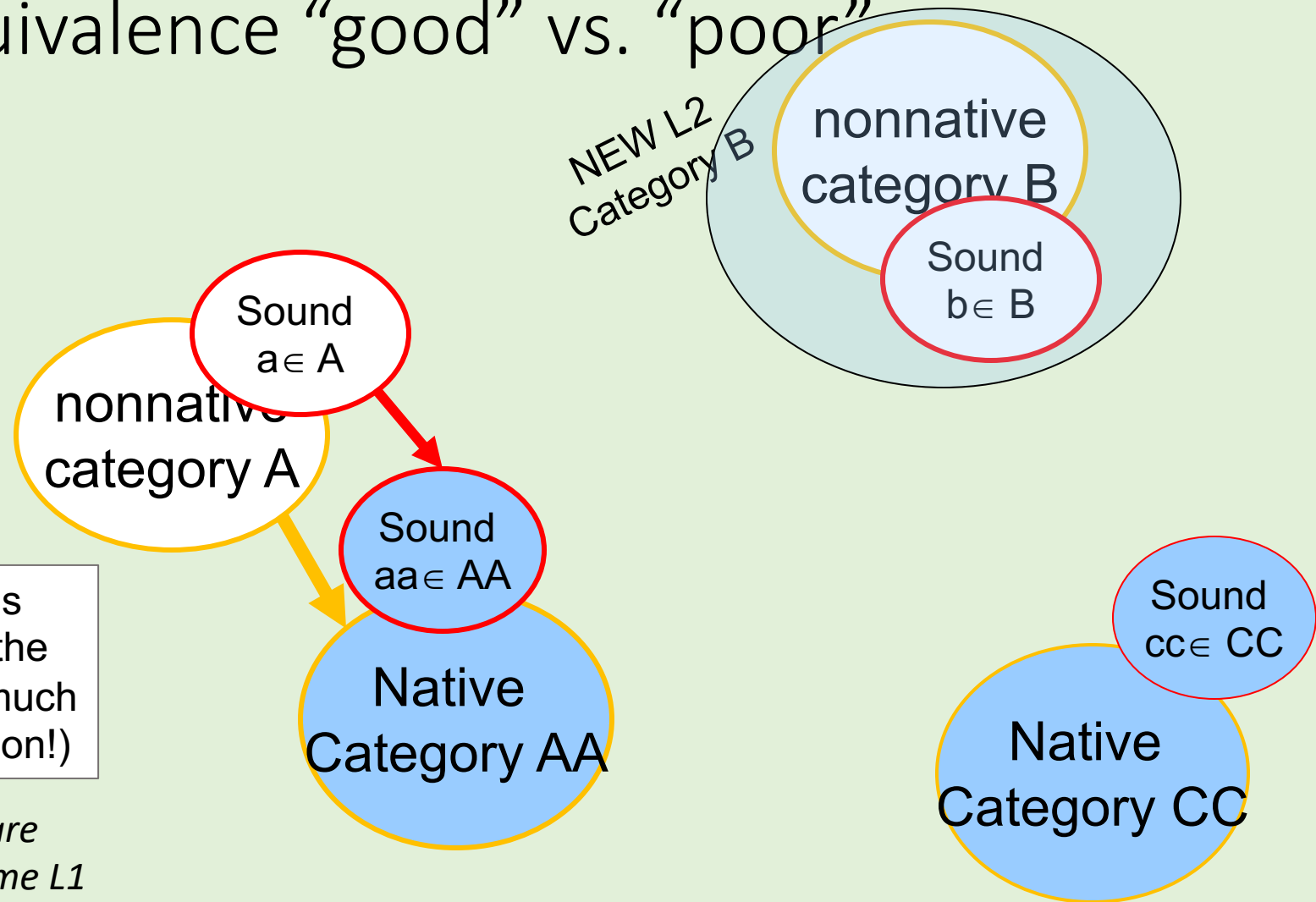
Phonological equivalence 2 :1
Phonetic equivalence "good" vs. "poor"

NEW L2 Category B

nonnative category B

Sound b∈ B

Sound a∈ A

nonnative category A

Sound aa∈ AA

Native Category AA

Sound cc∈ CC

Native Category CC

Both L2 phonological categories are perceived as equivalent to the same L1 phonological category, but one is perceived as being more deviant than the other

Adapted from materials prepared by Dr. Isabelle Darcy

Phonological equivalence 2 :1
Phonetic equivalence "good" vs. "poor"

NEW L2 Category B

nonnative category B

Sound b∈ B

Sound a∈ A

nonnative category A

Sound aa∈ AA

Native Category AA

Sound cc∈ CC

Native Category CC

Ideally, once the category is established, assimilation to the previous L1 category will be much more limited (empirical question!)
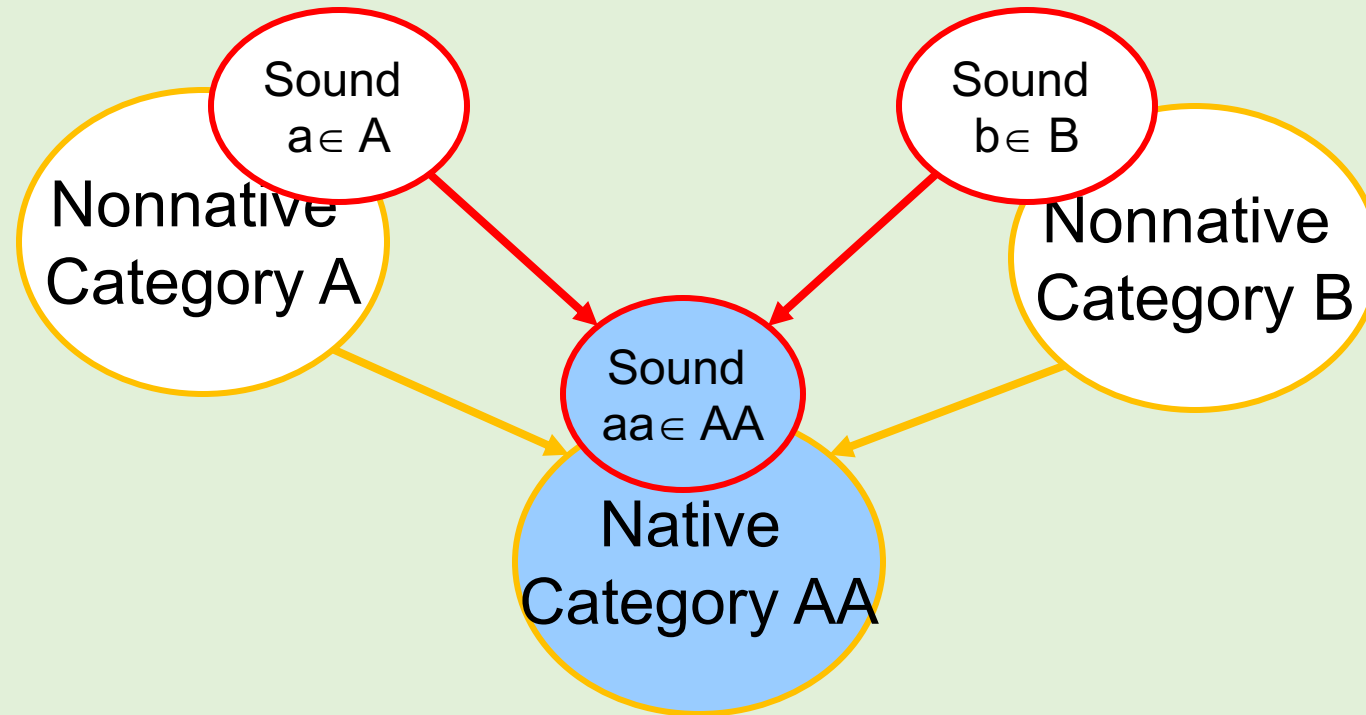
Both L2 phonological categories are perceived as equivalent to the same L1 phonological category, but one is perceived as being more deviant than the other

PAM – L2

3) Both L2 phonological categories are perceived as equivalent to the same L1 phonological category, but as equally good or poor instances of that category.

- The learner will initially have trouble discriminating these L2 phones, which would be assimilated both phonetically and phonologically to the single L1 category, and minimally contrasting L2 words would be perceived as homophones.
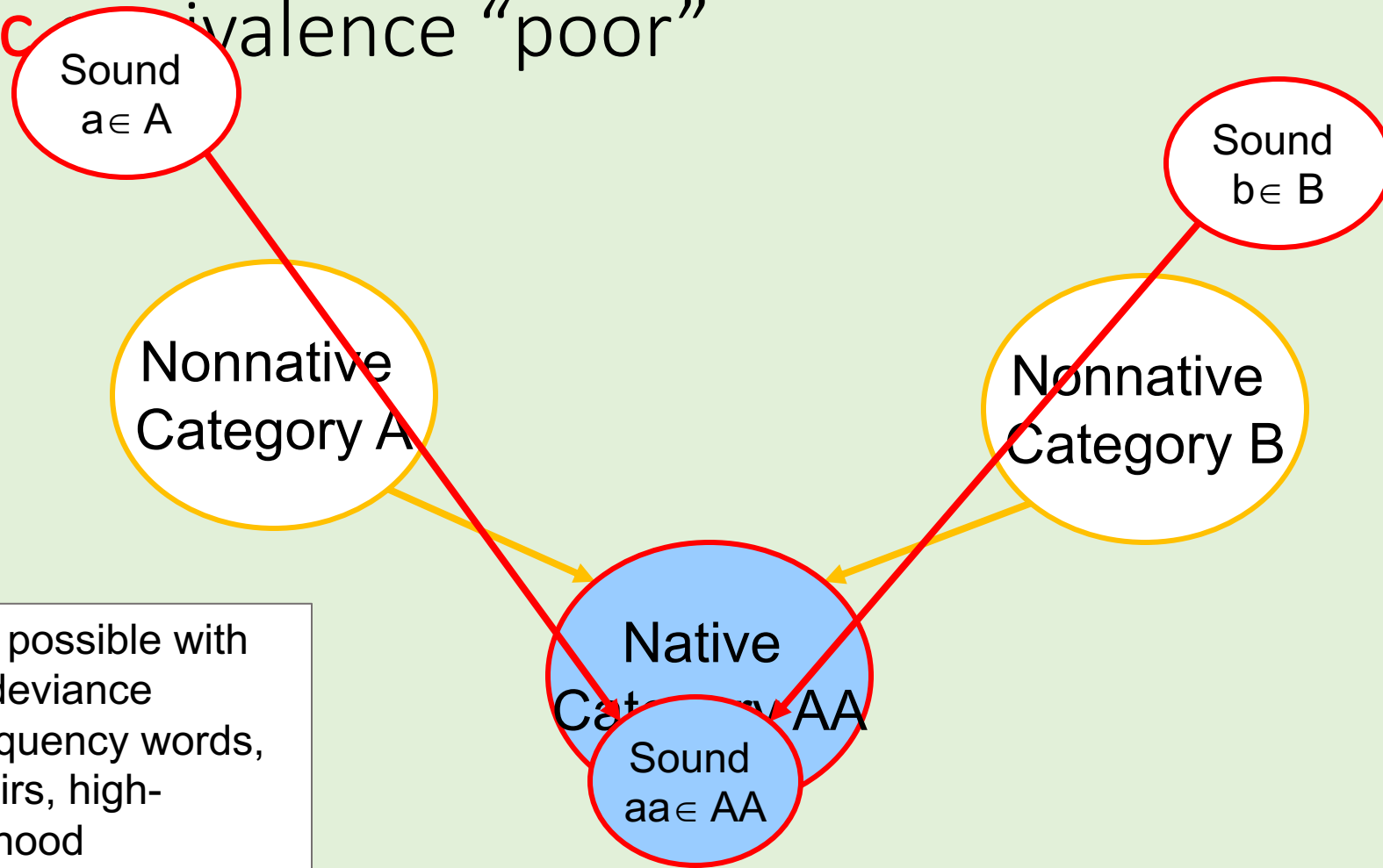
Phonological equivalence 2:1
Phonetic equivalence "good"

Sound
a∈ A

Sound
b∈ B

Nonnative
Category A

Nonnative
Category B

Sound
aa∈ AA

Native
Category AA

Both L2 phonological categories are perceived as equivalent to the same L1 phonological category, but as equally good instances of that category.

Adapted from materials prepared by Dr. Isabelle Darcy

Phonological equivalence 2:1
Phonetic equivalence "poor"

Sound
a∈ A

Sound
b∈ B

Nonnative
Category A

Nonnative
Category B

Native
Category AA

Sound
aa∈ AA

- Learning may be possible with more perceived deviance
- Factors: High frequency words, many minimal pairs, high-density neighborhood

Adapted from materials prepared by Dr. Isabelle Darcy

Both L2 phonological categories are perceived as equivalent to the same L1 phonological category, but as equally poor instances of that category.

PAM-L2

4) No L1-L2 phonological assimilation

- If the naïve listener does not perceive either of the contrasting L2 phones as belonging clearly to any single L1 phonological category, but rather as each having a mixture of more modest similarities to several L 1 phonological categories (Un-categorized, in PAM terms), then one or two new L2 phonological categories may be relatively easy to learn perceptually.

Phonological equivalence 2:many?
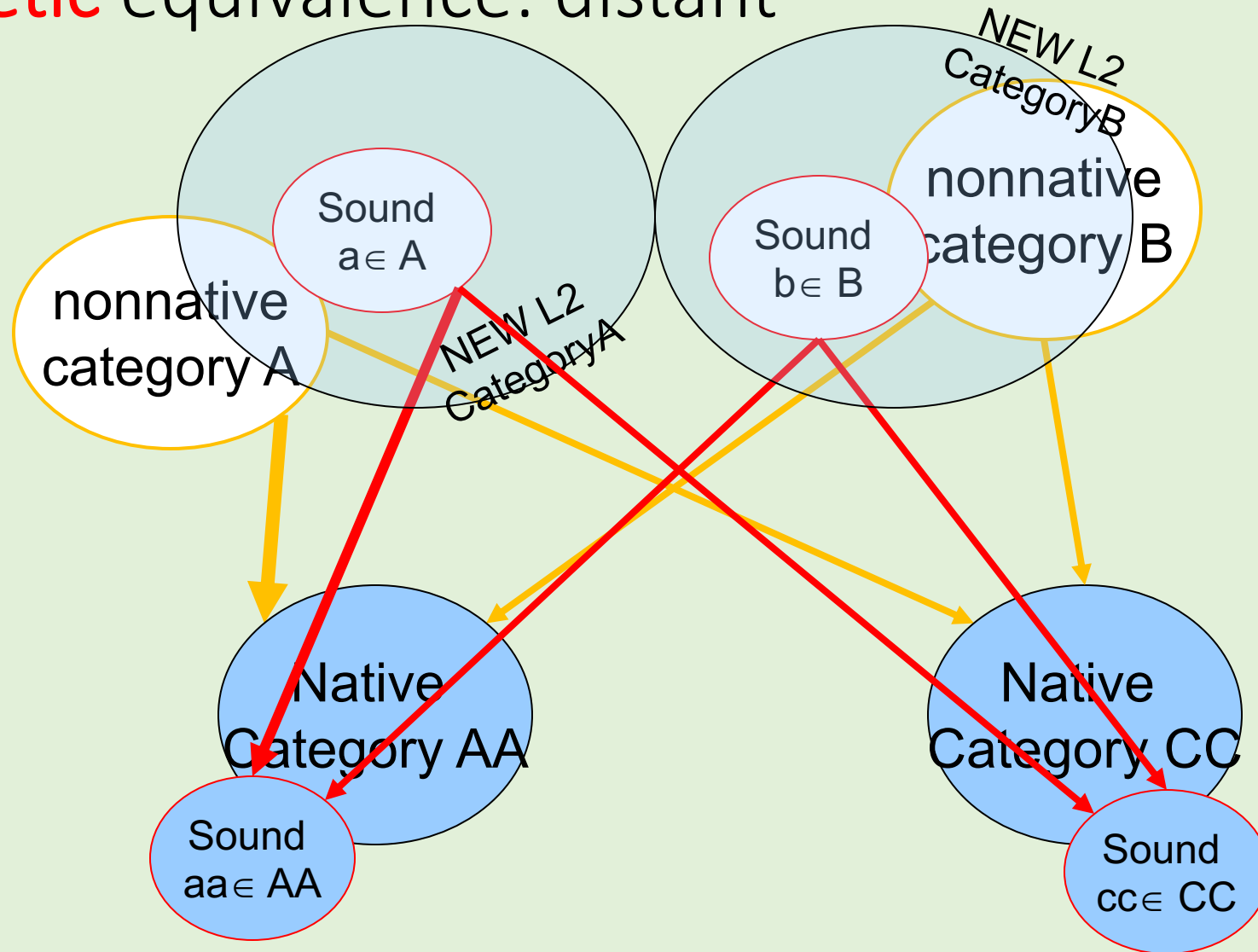# Phonetic equivalence: similar
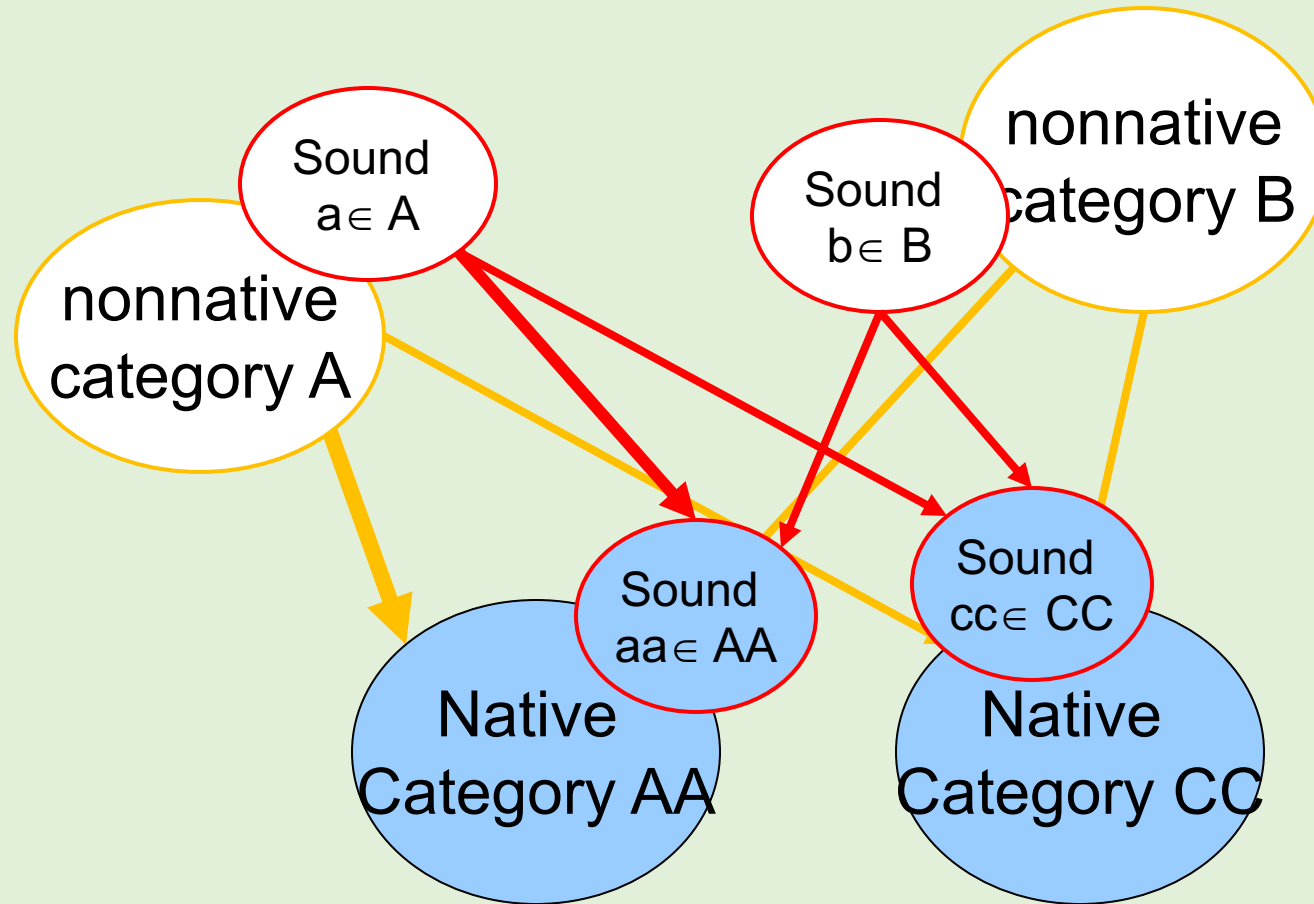
Overall: Sets of L1 and L2 sounds are close = difficult

No L1-L2 phonological assimilation
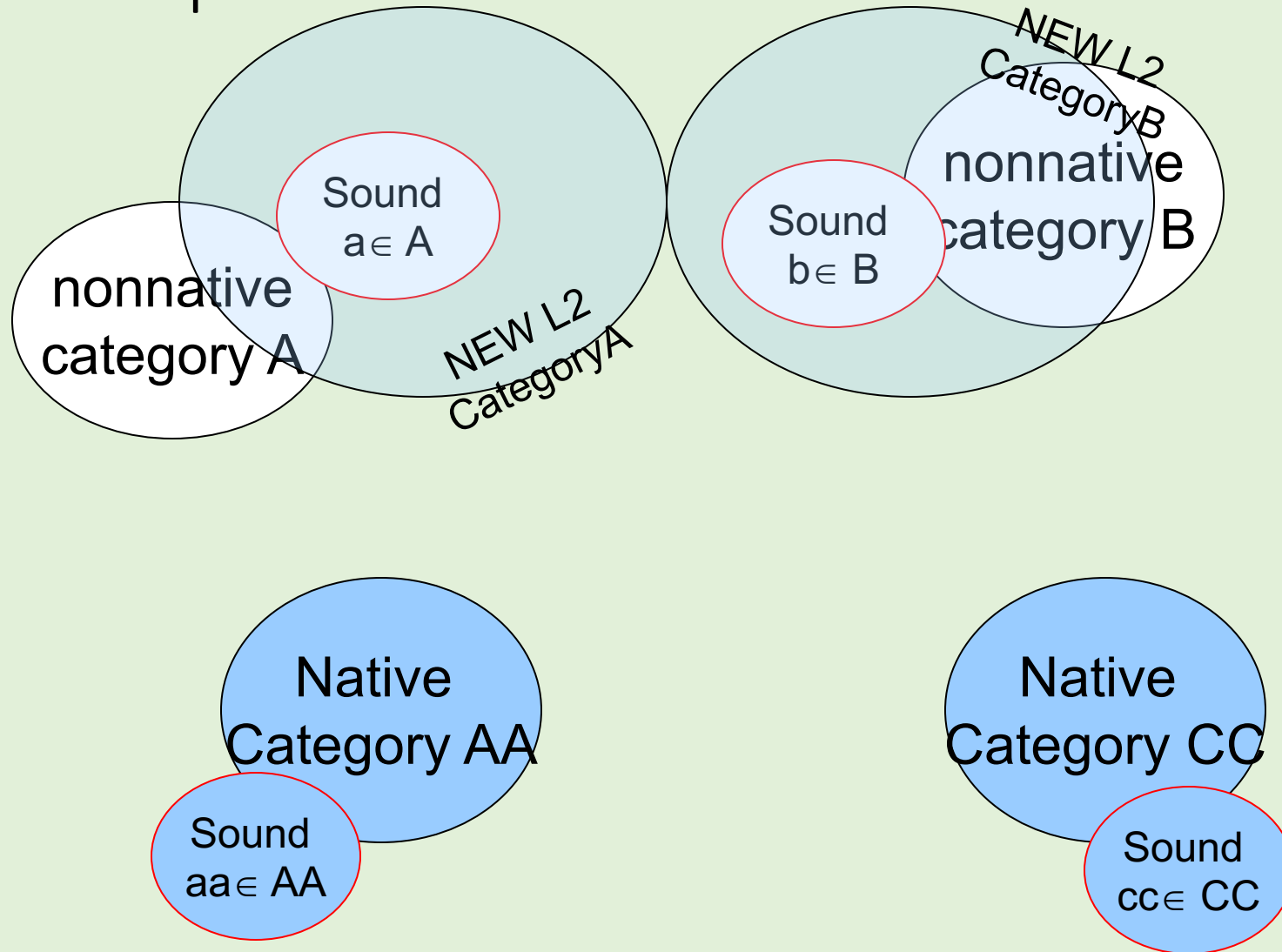
Phonological equivalence 2:many?
Phonetic equivalence: distant

NEW L2 CategoryB

nonnative category B

Sound b∈ B

nonnative category A

Sound a∈ A

NEW L2 CategoryA

Native Category AA

Sound aa∈ AA

Native Category CC

Sound cc∈ CC

Overall: Sets of L1 and L2 sounds are more distant = easier

Adapted from materials prepared by Dr. Isabelle Darcy

Phonological equivalence 2:many?
Phonetic equivalence: distant

nonnative category A

Sound a∈ A

NEW L2 CategoryA

NEW L2 CategoryB

nonnative category B

Sound b∈ B

Native Category AA

Sound aa∈ AA

Native Category CC

Sound cc∈ CC

Overall: Sets of L1 and L2 sounds are more distant = easier

Adapted from materials prepared by Dr. Isabelle Darcy

Chorus

- For PAM-L2,
  - what are some key concepts?
  - what influences the second language acquisition of sound systems?