Prerequisites to Cluster Acquisition

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Background

Prerequisites in the segmental inventory

- Affricates before clusters (Lleo and Prinz, 1997)

- / l / and / r / before clusters (Archibald, 1998)

Archibald's Hypothesis

- Implicational universal: C + LIQ clusters imply l-r contrast

- Empirical support
  - Cross-linguistic
  - L2 acquisition
  - L1 acquisition

Purpose and Rationale

- To evaluate Archibald's hypothesis in L1 acquisition

- To determine implications for both L2 and L1 acquisition

Methods

Archival database

- 115 children, aged 3;0 - 8;6

- Functional phonological delays

- Pretreatment sound systems
    - Occurrence of / l / and / r /
    - Occurrence of C + LIQ clusters

Logical Possibilities

# of liquids	C + LIQ clusters?	Consistent with Archibald's claim?	
0	No	Yes	
0	Yes	No	←
1	No	Yes	
1	Yes	No	←
2	No	Yes	
2	Yes	Yes	

Results: 0 Liquids

# of liquids	C + LIQ clusters?	Consistent?	# of subjects
0	No	Yes	69
0	Yes	No	1

←

Results: 1 Liquid

# of liquids	C + LIQ clusters?	Consistent?	# of subjects
1	No	Yes	35
1	Yes	No	4

←

Results: 2 Liquids

# of liquids	C + LIQ clusters?	Consistent?	# of subjects
2	No	Yes	1
2	Yes	Yes	5

Summary of Results

	/ l / vs. / r / contrast	No / l / vs. / r / contrast
Produce C + LIQ clusters	5 subjects	5 subjects
Fail to produce C + LIQ clusters	1 subject	104 subjects

Subject 106's Data

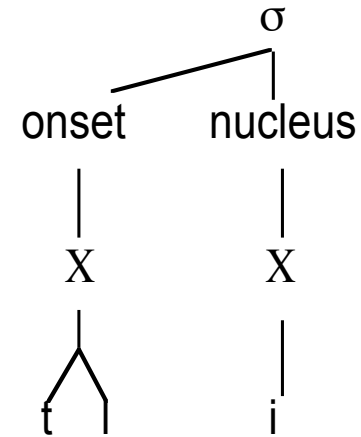|		
Stop + / l r /	[pleɪn]	'plane'
	[tli]	'tree'
Affricates	[tlɪp]	'chip'
	[dlɛwi]	'jelly'
Fricative + / l r /	[sip]	'sleep'
	[fʌnt]	'front'

Representational Hypotheses

H1:
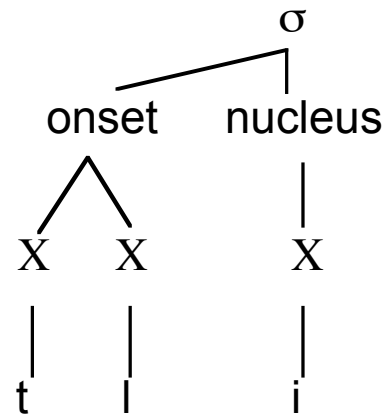
Complex onset

OR

H2:

Complex segment

H2 Supported

Evidence

- Stop + / l r / clusters pattern like affricates

Interpretation

- Stop + / l r / clusters are complex segments

Validation

- Support for Archibald (1998) and Lleo and Prinz (1997)

Clinical Implications

Assessment

- Examine the error pattern of clusters relative
  to affricates

- Prerequisites
  - / l / and / r / before clusters
  - Affricates before clusters

Case Study: Subject 113

- Male, age 3;10

- No / **C J** l r /

- No ambient clusters

- Longitudinal course of change
  - Added / **C J** l r /
  - Produced C + LIQ clusters

Conclusion

Theory

- Converging evidence from L1 and L2

Application

- Treat prerequisites
  - Affricates
  - Liquids
- Treat C + LIQ clusters

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