Coalescence as a transitional grammar in cluster acquisition: Evidence from child Greek

Eirini Ploumidi
University of Crete

This case study investigates the acquisition of [OBSTRUENT + SONORANT] clusters and provides new insights regarding the role of coalescence in child Greek. Coalescence of a consonant cluster results in a single segment combining features of both cluster members ($C_1C_2V \rightarrow C_{1,2}V$); in the case of child Greek, only the unmarked features of input clusters are realized in output single segments (Kappa 2004). Coalescence is attested cross-linguistically as a marginal simplification strategy in child speech (e.g., European Portuguese: Ramalho & Freitas 2018; Greek: Kappa 2004; Polish: Łukaszewicz 2007).

In this case study, we examine longitudinal data from one typically developing child acquiring Greek as L1 (ages: 2;01.24-3;04.11/intermediate phase of phonological development) and we address the following research question: *'What is the role of coalescence during the process of cluster acquisition?* We argue that coalescence is a strategy of avoiding marked CCV structures but also, we claim that it reflects a transitional grammar towards the gradual acquisition of adult-like consonant clusters.

The analysis is couched in the framework of OPTIMALITY THEORY (Prince & Smolensky 1993/2004), which holds that, in the initial phase of acquisition, the MARKEDNESS constraints (e.g., against complex onsets and coalesced segments) dominate the FAITHFULNESS ones (e.g., against segment deletions) and that the phonological development proceeds through their reranking. This study provides strong evidence of a stage-like acquisition of [OBSTRUENT + SONORANT] consonant clusters. We argue that cluster acquisition proceeds in three STAGES. In STAGE 1, cluster reduction is the dominant simplification strategy ($C_1C_2V \rightarrow C_1V$) and is attested in (un)stressed syllables, word-initially/-medially. The child shows a clear preference for the cross-linguistically attested sonority pattern, i.e., preservation of the less sonorous member of the cluster and deletion of the most sonorous one (1a-b) In STAGE 2, the child's grammar does not permit complex onsets yet. Therefore, various strategies are employed, i.e., cluster reduction (as in the first stage) and coalescence ($C_1C_2V \rightarrow C_{1,2}V$, 1c-d). The featural composition of [$C_{1,2}$] is determined by the ranking of FAITHFULNESS constraints. The parallel use of both strategies provides evidence for *co-phonologies/multiple grammars* (Tzakosta 2004). We argue that the child has available distinct grammars in his system, namely the CLUSTER REDUCTION GRAMMAR (CRG) and the COALESCENCE GRAMMAR (COALG), which conspire, resulting in the realization of simple onsets. We claim that the activated COALG, whose outcome is "closer" to the input cluster, further signals the transition to STAGE 3, namely to one in which the clusters are faithfully realized (1e-f). In the course of development, both grammars fade gradually and they are fully suppressed in STAGE 3.

We provide evidence that in the developing phonological system of this child, coalescence serves not only as a repair strategy of avoiding the realization of complex onsets and of resulting in simple ones but also that it reflects, as a precursor, a transitional grammar towards the gradual acquisition of adult-like consonant clusters.

Data

(1)	**Target**	**Child' Output**	**Gloss**	**Age**
a.	a.e.ro.ˈ**pl**a.no	o.ˈ**p**a.no	'airplane'-Neu.Nom.SG	2;00.26
b.	**bl**e	**b**e	'blue'-Neu.Nom.SG	2;02.04
c.	**bl**e	**d**e	'blue'-Neu.Nom.SG	2;05.16
d.	ˈ**pr**a.si.no	ˈ**t**a.si.no	'green'-Neu.Nom.SG	2;10.10
e.	**bl**e	**bl**e	'blue'-Neu.Nom.SG	2;08.08
f.	ˈ**pr**a.si.no	ˈ**pl**a.si.no	'green'-Neu.Nom.SG	2;10.25

References

Kappa, I. (2004). Coalescence in Child Language. *Studies in Greek Linguistics. Proceedings of the 24th Annual Meeting of the Department of Linguistics*. The Aristotle University of Thessaloniki. 206-217.

Łukaszewicz, B. (2007). Reduction in syllable onsets in the acquisition of Polish: deletion, coalescence, metathesis and gemination. *Journal of Child Language*, 34.53-82.

Prince, A. & Smolensky, P. (1993/2004). *Optimality Theory: Constraint interaction in generative grammar*. Technical Report, Rutgers University and University of Colorado at Boulder, 1993. Revised version published by Blackwell, 2004.

Ramalho, A.M., & Freitas, M.J. (2018). Word-initial rhotic clusters in typically developing children: European Portuguese. *Clinical Linguistics & Phonetics, 32*, 459 - 480.

Tzakosta, M. (2004). *Multiple Parallel Grammars in the Acquisition of Stress in Greek L1*. Ph.D. Dissertation. ULCL/ Leiden University. LOT Dissertation Series 93.