

A Comparative Analysis of Phonetic Convergence in Multilingual Environments: Evaluating Theoretical Models and Acoustic Correlates

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Abstract. This study investigates phonetic convergence within multilingual settings, focusing on the theoretical models that explain this phenomenon and the acoustic correlates that manifest. Employing advanced acoustic analysis techniques, we compare data across multiple language pairs to determine how multilingual individuals adapt their speech sounds in varying communicative contexts. The findings reveal significant discrepancies between predicted outcomes by established models and observed speech patterns, suggesting a need for recalibration of existing theories. This research provides crucial insights into language interaction dynamics, contributing to the broader understanding of multilingual phonetic adaptation processes.

Keywords: phonetic convergence, multilingualism, acoustic analysis, theoretical models, language interaction dynamics

Introduction

Phonetic convergence—the process wherein individuals adapt their speech patterns to match those of their interlocutors—has profound implications for understanding human communication, particularly in the increasingly globalized context of today’s multilingual societies. As people migrate, work, or interact across different linguistic environments, understanding how and why individuals adjust their phonetic output becomes essential in both theoretical and practical domains, including cognitive linguistics, sociophonetics, and language teaching. Previous studies have predominantly focused on monolingual interactions, overlooking the complex dynamics of multilingual settings where individuals frequently switch between languages, impacting their phonetic representations significantly. This paper delves into the theoretical models of phonetic convergence,

comparing them against recent empirical data gathered from a diverse set of language pairings. Through this comparative analysis, we uncover the extent to which these models align with actual linguistic behaviors observed in multilingual speakers. The paper is structured as follows: Section 1 reviews the pertinent literature on phonetic convergence and its theoretical models. Section 2 outlines our methodology, detailing the acoustic analysis techniques and participant demographics. Section 3 presents our findings, highlighting discrepancies between expected and observed convergence patterns. Finally, Section 4 discusses the implications of our results, suggesting directions for future research.

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