

A Parametric Study of Diphthongs in Chinese Dialects

by JIAO, Lei

Division of Humanities

The Hong Kong University of Science and Technology

Abstract

Diphthongs are troublesome for researchers by its internal duality in both phonetics and phonology. This study is a comprehensive investigation on the phonetic representations of diphthongs with their phonological properties concerned.

There are four main topics that have been focused on in this study. The first one is about the phonological structure of diphthongs. Traditional debate on the nature of diphthongs are usually caused by the opaque internal structure of diphthongs. By reviewing relevant literature on variant phonological models, this study try to propose a dual-target dynamic model to describe the phonological properties of diphthongs. The second topic is about the physiological nature of diphthongs. A two-fold classification of diphthongs is proposed according to different patterns of tongue movement in diphthongs. Thirdly, a parametric curve model with two asymptotic targets is proposed to integrate the dynamic nature and the phonological duality of diphthongs. This model is inspired by results of previous studies from both the phonological and physiological approach. With this model, diphthongs from 38 Chinese dialects are fitted and described. Lastly, distribution of diphthongs in 40 Chinese dialects are examined, and then compared with the results of previous studies on diphthong typology. Two main patterns of the formation of diphthongs are observed in the data.