

Mongolian Vowels

Approaches from Experimental Phonetics and Loanword Phonology

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Abstract

This study carries out phonological analyses of several phenomena on the vowels in Khalkha Mongolian (henceforth, Mongolian). More specifically, the systems of vowel phonemes, vowel harmony, and prosody in Mongolian are analyzed based on data obtained by various phonetic experiments.

The starting point of this study is a critical review of Svantesson et al.'s (2005) "*The Phonology of Mongolian*." Their study is highly worthwhile in that they analyze the phonology of Mongolian in systematic ways on the basis of experimental phonetic data. However, not all of their analyses are acceptable; they sometimes disregard or oversimplify the phonetic facts in order to maintain theoretical consistency, and their analyses are not always completely sufficient. Among these issues, I focus on the phenomena relevant to vowels and critically reexamine their analyses by illuminating some crucial data that they seem to have ignored.

There are three noticeable features of this study, as follows. First, this research is "comprehensive" in the sense that the phenomena on vowels are addressed exhaustively and observed from various angles. Not only do I describe each phenomenon thoroughly but I also consider the interactions among said phenomena. The vowel system in non-initial syllables, for example, is estimated on the basis of its behavior with vowel harmony. Here, the interactions between the vowel system and vowel harmony is considered.

Second, the perspective of "loanword phonology" is adopted in this study. In other words, a number of loanwords are utilized as the data to illuminate the phonological system. Though loanwords are often regarded as peripheral items when it comes to linguistic description, loanwords themselves, as opposed to native words, can reveal hidden facts in a language under the perspective of loanword phonology. For example, I claim in Chapter 6 that Mongolian pharyngeal vowels actively participate in vowel

harmony, whereas non-pharyngeal vowels only participate in it passively, in that these vowels do not trigger suffix harmony. This fact could never be revealed by Mongolian native words because non-pharyngeal vowels in native words superficially conform to the principles of vowel harmony and non-pharyngeal vowels appear to trigger suffix harmony. In this way, I am able to analyze Mongolian phonology using the perspective of loanword phonology.

The third notable feature of this study is that it carries out phonological analyses based on experimental phonetics. It is true that theoretical consistency is important, but it is unacceptable to ignore phonetic facts simply to adhere to it. The purpose of this study is not just to pursue theoretical consistency, but to give valid analyses based on the phonetic facts obtained by extensive phonetic experiments, including the behavior of loanwords.

The structure of this book is as follows. Part I (Chapter 1) is an introduction; the purpose, directions, and organization of this study are described therein.

Part II (Chapters 2–5) examines the vowel system in Mongolian. Svantesson et al. (2005) have argued that there is no phonemic contrast between long and short vowels in non-initial syllables, and regarded the phonemic vowels in these positions as short ones. I discuss vowel length in non-initial syllables in Chapter 2, and claim that these vowels are essentially not short but long vowels; I do so by presenting five pieces of evidences that have been obtained through production and perception experiments. Based on these results, Chapter 3 addresses the vowel system in non-initial syllables. In this chapter, it is revealed that some short phonemic vowels can occur in this position other than long phonemic vowels, and that it is valid to acknowledge the phonemic contrast between long and short vowels in non-initial syllables, as well as in initial syllables.

The following two chapters discuss the phonetic and phonemic values of each vowel by formant analyses. In Chapter 4, the formant structure of short *e* is analyzed by comparing it to that of *i*, and it is shown that short /e/ is still present in Ulaanbaatar Mongolian, though some previous studies have argued that /i/ and /e/ have completely merged. Chapter 5 considers the phonetic and phonemic values of four back vowels (/u, ʊ, o, ɔ/), and shows that /o/ should be regarded not as a back

but as a central vowel (/ə/). As a conclusion in Part II, the complete vowel system is presented.

Part III (Chapters 6–7) covers vowel harmony. It is already well known that the vowel /i/ is transparent with respect to vowel harmony in Mongolian. In Chapter 6, it is clarified that the vowel /e/ is also transparent in suffix harmony. This fact cannot be revealed without observing loanword data. I then point out that the transparency of /e/ is unexplainable by the traditional autosegmental theory, in which vowel harmony in Mongolian is treated as a spreading of the features [pharyngeal] and [round] from the initial vowel to the following vowels. I claim that it is necessary to distinguish stem harmony and suffix harmony in order to explain the transparency of /e/. Furthermore, it is argued that not only /e/ but also the other non-pharyngeal vowels, that is, /u, ə/, are likely to behave as transparent vowels in vowel harmony, and that pharyngeal and non-pharyngeal vowels show asymmetry in pharyngeal harmony.

Chapter 7 examines root harmony in loanwords. In this chapter, I show that some loanwords can follow the principle of vowel harmony, but the harmony applied to loanwords is not the same type as that to native words.

Part IV (Chapter 8) presents the analyses of prosody, especially focused on the pitch patterns of compound words and phrases, on which little research has been done so far. First, I analyze the pitch patterns of compound place names and general noun compounds, and show that the pitch patterns of compounds can be affected by the phonological structure of the first word in compounds; the basic pitch pattern is HL, but an LH pattern tends to be observed when the first word is a monosyllabic word with a short vowel and with a coda consonant whose sonority is low, such as a voiceless obstruent. Then, it is clarified that this pattern applies also to pitch patterns of phrases. Following these results, I focus on the relationship between the pitch patterns and syllable weight in Mongolian.

Part V (Chapter 9) summarizes the discussion in each chapter and reconsiders how the perspectives of “comprehensive research,” “loanword phonology,” and “experimental phonetics” have been utilized to analyze the vowel phenomena in Mongolian.