Assessing the Psychological Status of the Vowel Shift Rule

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Several experiments designed to test the psychological validity of Chomsky and Halle's (1968) Vowel Shift Rule are reviewed, and both positive and negative evidence is evaluated. Moskowitz's (1973) claim that speakers' knowledge of vowel alternations is due to their knowledge of spelling rules is introduced, and an experiment designed to differentiate between behavior based on the Vowel Shift Rule and on spelling rules is presented in detail. It is shown that subjects in this experiment, and in previous experiments that claimed to have obtained positive evidence for the Vowel Shift Rule, are behaving in accord with spelling rules and not the Vowel Shift Rule. It is argued that literacy is a possible source of psychologically real linguistic knowledge.

INTRODUCTION

Overview

In recent years there has been a great deal of discussion about the status in English phonology of the set of vowel alternations that appear in related words such as serene-serenity, which are the result of the historical phenomenon known as the Great English Vowel Shift. Chomsky and Halle (1968) formulated these alternations into a set of synchronic rules of the
grammar, which are intended to be psychologically real to all speakers of English. Because of the importance of this analysis to both phonological and psycholinguistic theory, much recent research has focused on testing various aspects of the claim; in particular, a number of experiments have been performed to test the psychological status of the vowel shift alternations. The purpose of the present paper is to evaluate the results of these various experiments and to present a further experiment designed to sort out some of the remaining problems with Chomsky and Halle’s claims about vowel shift phenomena.

The following discussion will begin with a brief presentation of the historical linguistic facts, and Chomsky and Halle’s theoretical account of them. Then, several previous experiments performed to test the reality of the Vowel Shift Rule will be described, including a review of the major critiques of these experiments. Following this discussion, the present experiment will be presented in some detail. Finally, the results of this experiment will be discussed in terms of its implications for the interpretation of previous experiments and for claims about the psychological status of linguistic entities in general.

Vowel Shift Phenomena: History

"The Great English Vowel Shift" refers to the well-known historical fact that sometime between the end of the 14th century and the beginning of the 17th century, the quality of the tense vowels in English shifted markedly, with low and mid vowels raising, and high vowels becoming low and diphthongized. This shift occurred throughout the entire vowel system in a more or less regular way.

In the 14th-century vowel system, there were tense and lax vowel pairs, which differed both in vowel quality and in duration. Numerous morphemes had the long version of a vowel in some suffixal environments and the short pair in another; since the vowel shift affected only the long vowels, these morphemes emerged from the shift with qualitatively different vowels in different environments. The durational difference was supplanted by this qualitative difference (including the fact that formerly long vowels generally became diphthongized). The reflexes of the former long/short pairs in Modern American English are shown in Table I. Note that while the front vowel changes are quite regular, there is some overlap and split of phonemes in the back vowels that leaves a less regular residue.

The spelling of English vowels was mainly established before the vowel shift took place. From the examples in Table I it can be seen that