Phonology, Reading, and Chomsky and Halle’s Optimal Orthography

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Received July 10, 1972

Chomsky and Halle claim that an orthography based on their underlying phonological representations (UPR) of lexical items would be optimal for English. This paper challenges three of C & H’s basic phonological assumptions, that their vowel shift rule is valid, that the UPR is the only sound representation to be listed in the lexicon, and that derived words do not appear as wholes in the lexicon. A less abstract phonological representation level based on the conscious perceptions of speakers, the surface phonemic (SPR), is proposed. An SPR-based orthography has advantages which a UPR-based orthography would not: it is easy to learn and teach, it can be learned at an early age, and it permits rapid detection of rhyme. It is concluded that an orthography based on SPRs, and not UPRs, would be optimal.

INTRODUCTION

The investigations of N. Chomsky and Halle (1968) into the sound system of English have led them to posit a certain system of underlying phonological representations (hereafter, UPR) for lexical items. This system is of prime importance in these theorists’ consideration of the problem of an optimal orthography for English. They hold that the process of reading will be

This research was supported in part by Office of Education contract OEC-9-71-0036(508), project 1-0527, to D. Steinberg and R. Krohn.

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facilitated to the extent that an orthography corresponds to their UPRs for lexical items.³

The rationale behind the view that an orthography based on their UPR level is one that would be optimal for reading is perhaps most clearly expressed by C. Chomsky (1970) in what is essentially an elaboration of the Chomsky and Halle (hereafter, C&H) position. She states:

Consider also the common items of words such as courage/courage-ous, or anxious/anxiety, or photograph/photograph-y/photograph-ic. Although the phonetic variations are considerable, they are perfectly automatic, and the lexical spellings can ignore them. They will be introduced by the phonological component. Of course, the conventional orthography ignores them as well. These are good examples of cases where the conventional orthography, by corresponding to lexical spelling rather than phonetic representation, permits immediate direct identification of the lexical item in question, without requiring the reader to abstract away from the phonetic details, and presents the lexical item directly, as it were. [pp. 291-292]

Thus, because it is believed that a UPR-based orthography would permit “immediate direct identification” of lexical items, it is held that an optimal orthography would be one that is based on the UPR.

To illustrate the C&H view, let us first consider a lexical item. Chomsky and Halle (1968:218) assign the following derivation for the lexical item, mountain, to the competence of the English speaker:

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<table>
<thead>
<tr>
<th>UNDERLYING</th>
<th>REPRESENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mʌntən/</td>
<td></td>
</tr>
</tbody>
</table>

DIPHTHONGIZATION

mʌ wntə

VOWEL SHIFT

mē wntə

RULE 93c

[mā wntən] PHONETIC REPRESENTATION
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In the derivation, the phonetic representation of the lexical item [mā wntən] is associated only indirectly to the underlying phonological

³To avoid a possible misunderstanding, it is perhaps best to state now that I do not object to the postulation of underlying phonological representations. In fact, later in the paper I propose an underlying phonological representation level which I call the surface phonemic (SPR). The SPR is an alternative to C&H’s particular underlying phonological representation level which I will often refer to as UPR.