Representation on the Diachronic Change of English *kn*-cluster in Optimality Theory*  

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I. Introduction

In Optimality Theory (OT; McCarthy and Prince 1993, Prince and Smolensky 1993/2004), the grammar of a language is constructed by a ranking on the set of universal constraints, and cross-linguistic variation is interpreted as the result of different constraint rankings. Similarly, the reranking of constraints is implemented within OT to give an account of diachronic sound changes where different steady-state grammars are shown over the time (Jacobs 1995, Bermúdez-Otero 1996, Cho 1998, Green 2001).

However, such a constraint reranking mechanism in OT does not properly show the ‘gradual’ aspect of historical sound changes because it just takes into account the before- and after-change states. Without considering possible intermediate variants, sound changes are just ‘categorically’ represented in the standard OT.

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* This paper is an extended version of Oh (2002). While Oh (2002) focuses on the gradual shift of frequency between two variants [n]low and [l]ow, this paper considers all the possible variants such as [n]low, [l]ow, [n]ow, and [l]ow, and their gradual change of frequency of occurrence. This paper was also presented at the 39th ELSOK Conference, Daehul University, Oct 15, 2011. I would like to thank three anonymous reviewers for their helpful comments and suggestions. All remaining errors are mine.
This paper, following Oh (2002), proposes an alternative approach to the representation of historical sound changes within the framework of OT. Along with the aid of a new interpretation of the dotted line in Oh (2002), this paper shows that diachronic sound changes can be gradually represented as a series of unranking, reranking, and ranking strategies in OT. The data examined here is the initial /kn-/ cluster simplification in Early Modern English (EModE), especially the change of ‘know’ e.g. [kn]ow > [kn]ow > [n]ow > [n]ow.

II. Scenario of the Diachronic Change of ‘know’

One of the consonant changes in EModE is the simplification of consonant clusters in initial and final positions. With respect to the initial /kn/-cluster, Pyles and Algeo (1993: 177) states that the initial consonant cluster /kn/- had lost its first element by the early 17th century. Millward (1996: 251) also states that the /kn/- cluster was simplified to [n] in initial position, probably in the late 17th century. Pyles and Algeo (1993) and Millward (1996) show that it was in the 17th century that the initial /k/ was lost before [n]. However, they both do not mention the possible phonetic variants of /kn-/ in the course of sound change.

On the other hand, Barber (1976), Ekwall (1975), and Dobson (1968) mention the possible intermediate variants of /kn-/. Barber (1976: 317) states that initial /kn-/ may have developed to [hn-] in the late 17th century. Ekwall (1975: 85) states that several intermediate stages such as [hn-] and [hn-] (probably voiceless [n]) were attested in the 17th century. According to Dobson (1968: 976-977), in addition, the initial cluster /kn/- in English was simplified to [n-] in the 18th century via the intermediate stages [hn-] and/or [n-] in the 17th century. Specifically, Dobson (1968: 976) states, “The process of loss was that, in order to facilitate transition to the [n] ..... the stop was imperfectly made, so that [k] became the fricative [x], which in turn passed into [h]; the resulting group [hn] then, by assimilation, became voiceless [n], which was finally re-voiced under the influence of the following vowel.” Barber (1976) and Dobson (1968) also indicate that the simplification of /kn-/) to [n-] took place in the 18th

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