Challenging Lexical Indexing Accounts of Stratal Behavior: Evidence from Japanese and English

1 Synopsis. The two main accounts of lexical exceptions to phonological generalizations are 1) indexing exceptions to phonological processes and 2) directly encoding them in the lexicon (Guy 2007). The first approach is taken by Itô and Mester (1999, henceforth I&M) in their *Core-Periphery* (CP) model of OT, which groups lexical items of similar age/origin into hierarchical strata characterized by different rankings of FAITH. However, based on data from Japanese and English, I show that lexically encoding the results of earlier phonological processes no longer active in the language avoids the multiple parallel synchronic phonologies required by indexing models, while capturing more generalizations about phonological change.

2 Japanese Data. The CP fails precisely when diachronic processes target individual lexical items, as demonstrated by exceptions to I&M's strata characterized by these constraints:

- NO-NT : postnasal obstruents must be voiced
- NO-P : no singleton-p

The paradigm of the suffix *pun* 'minute' has levelled in casual speech, unlike same-stratum *pon*.

(1) Paradigm for *pon:*

Modern Pronunciation	NO-NT	NO-P
ip-pon		
ni-hon		
san-bon		

(2) Paradigm for *pun:*

Expected Modern Pronunciation	**Levelled Colloquial Pronunciation**	NO-NT	NO-P
ip-pun	**ip-pun**		
ni-ɸun	**ni-pun**		*
san-bun	**san-pun**	*	

As Kiparsky (2012) noted, analogy eliminates unmotivated grammatical complexity – which is here the lexical encoding of three separate *pun* forms.

Rice (1997) also provides important evidence of core lexical items violating I&M's NO-NT constraint, e.g., *anta* 'you', formed via syncope from *anata*.

I argue instead for a single Modern Japanese constraint ranking in which FAITH outranks NO-P and NO-NT, and that modern alternations seemingly due to these constraints have instead been lexically encoded at an earlier stage of the language. The hierarchical nature of lexical stratification noted by Kiparsky (1973) comes from the constraint reranking process that results in long-term phonological change, and the phonotactic similarities within each stratum reflect the constraint ranking active when these forms were initially lexically encoded. Since these restrictions were no longer phonological in later Japanese, idiosyncratic/analogical processes could apply: *anata* was free to syncopate, and *pun* to level.

3 English Data. Non-native Modern English fricatives contrast in voice word-initially; however, native English words lack initial voiced fricatives, forming a stratum at the core of the modern English lexicon, which the CP could model.

There are, however, a few notable members of this 'native' stratum with initial [ð] ([θ] in Old English) that constitute exceptions to this generalization, such as *this* and *the*. For the CP, these exceptions necessitate an additional constraint to account for their presence in the modern language. However, by allowing the stored form of these words to update from /θ/ to /ð/ in the modern lexicon, we not only eliminate the additional constraint required by the CP, but also capture the generalization that the same constraint reranking that allowed borrowing of words with initial voiced fricatives also permitted the development of initial *ð* in native words.

4 Theoretical Implications. This paper provides diachronic empirical evidence against lexical indexing, complementing the synchronic evidence of authors like Guy (2007) and Bermúdez-Otero (2013). Additionally, this analysis advocates redefining the boundary between active phonology and the lexicon, emphasizes the importance of properly determining lexical input to OT evaluation, and pushes for updating lexical representations to reflect the results of sound change.