

Exceptions in Optimality Theory: Typology and Learnability

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Under the assumption that both markedness constraints and faithfulness constraints can be indexed to apply to specific morphemes (Pater 2000; see Itô and Mester 1995 and Anttila 2002 for related but distinct approaches), a cross-linguistic typology of exceptions is predicted to occur. This typology is richer than that produced if only faithfulness constraints are indexed (Fukuzawa 1997, Kraska-Szelenk 1997, Itô and Mester 1999), or if exceptionality is dealt with structurally, without lexical diacritics (in OT, see e.g. Inkelas, Orgun and Zoll 1997, Kager 1999). In this paper, I discuss four types of exceptionality that indexed markedness and faithfulness constraints produce, and show that they are attested. I propose that lexically indexed constraints are constructed in the learning process to resolve inconsistency, building on work on inconsistency detection by Tesar (2000) and Prince (2002).

In the first type of exceptionality, a process generally applies, but is blocked in specific words. This is schematized in (1), where “-L” indicates a lexically specific constraint:

- (1) *Exceptional blocking by faithfulness*
FAITH-L >> MARK >> FAITH

A hypothetical example is a case in which codas are deleted, except in exceptional words. The lexical entries of the words are indexed for the application of the specific constraint.

- (2) MAX-L >> NoCODA >> MAX
Regular form: /pitak/ -> [pita] Exception: /timak_L/ -> [timak]

In the second type, a process applies only in exceptional forms (a so-called “minor rule”):

- (3) *Exceptional triggering*
MARK-L >> FAITH >> MARK

A hypothetical case here would be the reverse of our first one; codas are only deleted from exceptional words:

- (4) NoCODA-L >> MAX >> NoCODA
Regular form: /pitak/ -> [pitak] Exception: /timak_L/ -> [tima]

In the third type, a process is sometimes blocked when another markedness constraint is at issue. This differs from exceptional blocking by faithfulness in that the exceptional words are limited to ones in which the second markedness constraint is relevant.

- (5) *Exceptional blocking by markedness*
MARK-2-L >> MARK-1 >> MARK-2, FAITH

This would be exemplified by a language in which codas are generally deleted, but are sometimes preserved in monosyllabic words, in order to meet the demands of word minimality:

- (6) MINWORD-L >> NOCODA >> MINWORD, MAX
Regular form: /tak/ -> [ta] Exception: /mak_L/ -> [mak]

Note that under this ranking, even if a longer word is granted a lexical diacritic (under richness of the base), deletion still applies (e.g. /pitak/ -> [pita], /timak_L/ -> [tima]). Thus, the generalization about which words can be exceptions is captured.

The final type of exceptionality is a lexically governed conspiracy: regular forms and exceptions differ on which process they use to satisfy a constraint:

- (7) *Exceptional repair*
MARK, FAITH-2-L >> FAITH-1 >> FAITH-2

This would be instantiated in a language in which regular forms use deletion to avoid codas, while exceptions use epenthesis.

- (8) NOCODA, MAX-L >> MAX >> DEP
Regular form: /pitak/ -> [pita] Exception: /timak_L/ -> [timak_λ]

One does not have to look far to find instances of each of these types of exceptionality; all except exceptional repair are discussed in the early generative literature on the formalization of exceptions (e.g. Schane 1973, Zonneveld 1978).

A theory without lexically indexed markedness constraints cannot distinguish between exceptional blocking by faithfulness and exceptional repair; nor can theories in which rankings are lexically specified. The case of exceptional blocking by markedness is particularly problematic under the view that only faithfulness constraints can be indexed, since there is no way to delimit the set of exceptional words (see Anttila 2002 for a similar point). For instance, in our hypothetical case in (6), if MAX were lexically indexed, then words of all sizes would be predicted to be potentially exceptional.

The case of exceptional blocking by markedness is also of interest from a learnability perspective. Exceptions are by definition instances of inconsistency, since no single ranking can deal with all of the forms in the language. I propose that learners resolve this inconsistency by cloning a constraint, and indexing it to the exceptional words. To learn a case of exceptional blocking by markedness, learners must be equipped with a bias to clone a markedness constraint when either faithfulness or markedness could work. This is an extension of the markedness bias of Hayes (2004) and Prince and Tesar (2004), and like those proposals, it ensures restrictiveness in the final form of the grammar.

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