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Dissimilation

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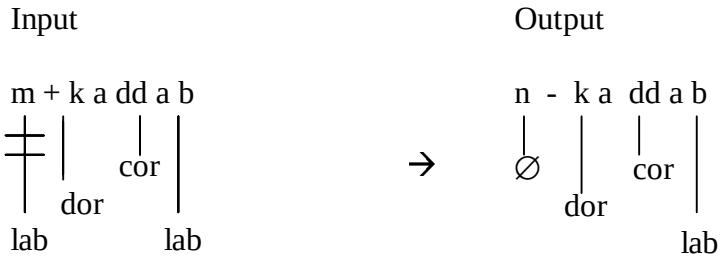
Dissimilation is a process by which one segment systematically avoids taking on a feature (or a set of features) of a neighboring segment. In Tashlhiyt Berber, for example, labial prefixes like the reflexive [m-] delabialize when they combine with a root that also contains a primary labial consonant, i.e., [b, f, m], producing the following alternations: [n-fara] 'disentangle', [n-kaddab] 'consider a liar', cf. [m-xazar] 'scowl', [m-saggal] 'look for'. Dissimilatory processes may be reflected dynamically in synchronic alternations, as in Berber, or statically, as co-occurrence restrictions in the lexicon. An example of the latter type is Arabic roots, which strongly avoid adjacent homorganic consonants. Another well-known example is Lyman's Law, a static restriction that applies to the Yamato stock of the Japanese lexicon with the effect of prohibiting more than one voiced obstruent. While dissimilation processes are in principle possible with any phonological feature (Suzuki 1998), the most common cases involve dissimilation of tone, place, and laryngeal features.

As the avoidance of two like segments, the input of dissimilation can in many cases be compared with the output of ASSIMILATION, where two dissimilar segments become more alike. Observing this formal relationship, Ohala 1981 proposes that dissimilation implies an inversion of an assimilatory process presupposed by the listener. Concretely, the listener may assume that the occurrence of two similar segments is the result of assimilation and correct this assumed form by modifying one of the segments. The Rule Inversion theory therefore predicts that dissimilation should involve inversion of an attested assimilation process, which appears to be true for only a subset of the observed dissimilation processes. For example, long distance dissimilation of [labial] in Berber is unlikely to be approached as the output of assimilation in any language.

In part as a solution to long distance dissimilation, AUTOSEGMENTAL PHONOLOGY models dissimilation as delinking of a feature that is local to an identical feature on the same tier. For instance, the case of delabialization in Berber involves delinking of [labial] associated with the prefix:



The motivation for this delinking is the Obligatory Contour Principle (OCP), which stipulates that adjacent identical elements are prohibited (Goldsmith 1976, McCarthy 1986, Yip 1988). This analysis of dissimilation has two important consequences: (i) features are represented on separate phonological tiers, and (ii) features that are inactive in dissimilation are unspecified at

the time when the OCP is applied. The [labial] specification of the prefix is only adjacent to the [labial] of the stem-final segment above if the place features of the intervening consonants are on separate tiers. Furthermore, the nasal prefix is not specified for [coronal] in the output because this specification would also violate the OCP.

In Autosegmental phonology, features are active in dissimilation if specified and inactive if not. However, features may be inactive in some contexts and active in others. For example, in the Berber case, coronals are inactive in the sense that they can co-occur with another coronal in the stem: [**n**-ka**dd**ab]. But coronals are active in a dissimilatory effect that applies to adjacent segments: when the stem begins with another coronal sonorant, the nasal prefix either fails to delabialize, e.g., /m + laqqaf/ → [m-laqqaf] 'to catch in the air', or the prefix delabializes and is separated by the sequence [ya], as in /m + lkm/ → [nya-lkam] 'to reach'. Sequences of coronal sonorants are avoided in adjacent segments, showing that [coronal] must be specified. However, this outcome is inconsistent with the assumptions made for [**n**-ka**dd**ab].

Phonological activity is also often correlated with MARKEDNESS. Building on this observation, Alderete 1997 and Itô & Mester forthcoming propose that dissimilation is a cumulative effect of markedness constraints in OPTIMALITY THEORY (OT). In OT, phonological markedness is encoded directly as a set of ranked constraints that prefer unmarked structure over marked structure. In Cumulative Markedness theory, dissimilation is the effect of a self-conjoined markedness constraint, e.g., *Lab → *Lab-2. By ranking the constraint banning two [labial] specifications over the same constraint for [coronal], the analysis provides both the motivation for labial dissimilation and the observed coronal output:

Dissimilation as the Cumulative Effect of Markedness Constraints

Input: / m + kaddab /	*Lab-2	*Cor-2
→ **n**-ka**dd**ab		*
m-kadda**b**	* !	

Furthermore, the avoidance of two adjacent coronals, e.g., [m-laqqaf], *[n-laqqaf], follows from another doubled markedness constraint, *Cor\+Son-2, defined for adjacent segments. The activity of coronals in this context therefore follows from ranking this constraint over *Lab-2, a result that does not depend on the staging of feature specification.

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