First-come, First-serve: marker-sensitive blocking and ordering in Potawatomi

Daniela Henze & Eva Zimmermann
daniela.henze@uni-leipzig.de, eva.zimmermann@uni-leipzig.de
University of Leipzig

Main Claim: We argue for the existence of marker-sensitive blocking effects clearly related to the order of affixes where a marker blocks subsequent markers and that these facts are best captured by a realizational morphological theory assuming feature discharge and cyclic insertion of markers.
The Phenomenon: Potawatomi (Algonquian; Hockett,1939) shows a remarkable blocking effect which is not triggered by competition of markers or neutralizations in the input but rather by the presence of another marker. Transitive verbs in Potawatomi show agreement with both arguments and the affixes are always ordered according to the hierarchy CASE » 1 » 2 » 3 as can be seen in (1). But in contexts where the affix *-men* [+1,+pl] occurs, expected agreement markers for the other argument do not surface. Most importantly, only the agreement markers that are expected to surface after *-men* are blocked, e.g. a third person plural marker realizing object agreement in 1p→3p contexts, cf. example (2). That this blocking of expected markers is attributed to this particular marker *-men* and not to the morpho-syntactic context can be seen in quite similar contexts where another first person plural marker *-nan* surfaces that is followed by further agreement markers, cf. 3p→1p in (2).
Analysis: That the insertion of one marker influences the presence of subsequent markers follows if the concept of feature discharge is generalized. The normal definition of feature discharge in a realizational framework is that the features that are necessary for the presence of a marker are discharged, i.e. unaccessible for further insertion (Noyer, 1992; Harley and Noyer, 1999). We argue for the existence of markers that trigger deletion of collateral features as well, i.e. features that are not necessary for its insertion ('collateral feature discharge'). In addition, we take it for granted that markers are inserted cyclically. Only if one marker is inserted after the other, its presence can manipulate all subsequent insertion without influencing preceding insertion. We present a detailed formal implementation of such a system in a version of Distributed Morphology (Halle and Marantz, 1993) which discharges features of a Vocabulary Item (VI) when it is inserted, so the insertion process stops when there are no features left or no VIs matching the remaining features. Affixes are always inserted one after the other and a more specific marker is chosen first: it consequently precedes less specific markers. Assuming a specificity concept of feature quality over feature quantity allows to directly integrate a language specific hierarchy (Noyer, 1992; Müller, 2005), given in (3). This means that markers realizing features which are higher on a hierarchy are more specific and hence are inserted prior to other markers. Given everything said so far, especially the possibility of 'collateral feature discharge' (CFD), the analysis for Potawatomi would then simply involve the CFD-marker *-men* that consumes all the features of the remaining further agreement head and therefore stops the insertion process, cf. the exemplifying derivation in (4). An important prediction of the system sketched so far is the direction of blocking effects: a marker can only block subsequent affixes and never preceding morphemes. This prediction is borne out in Potawatomi: The case markers *-en*, *-a* and *-y* appear before *-men* since they are more specific given the hierarchy and therefore inserted before any 'collateral feature discharge' is triggered by *-men*.
Alternatives: Theories which do not make use of the two central assumptions presented above, do not have a straightforward way to implement marker-sensitive blocking effects and therefore loose an important generalization. This includes theories without feature discharge such as Stump's Paradigm Function Morphology (Stump, 2001), where position classes for affixes are assumed and the most specific affix in every position class is chosen. To account for the here observed phenomenon of marker-sensitive blocking, he has to state zero morphemes in the subsequent suffixal slots which are always inserted when *-men* appears. The cyclic approach in Anderson(1992) is quite similar: without the assumption of feature discharge, zero affixes or zero exponence rules must account for the absence of expected exponents since the derivation cannot be interrupted by the presence of a marker but must run through all stated rule blocks. In addition,

these approaches that arbitrarily assign markers or realizational rules to certain slots are incapable of capturing the fact that suffixes in this languages are ordered according to the hierarchy CASE » 1 » 2 » 3 in a straightforward way. Furthermore, approaches like Optimality theory (Prince and Smolensky, 1993) could only account for the fact that the insertion context is modified after a specific marker with the questionable reintroduction of serialism into an originally parallel model (Mc Carthy, 2000; Wolf, 2008), since all markers are present and ordered simultaneously (Trommer, 2003).

(1) *Potawatomi: Agreement with plural arguments*

	3s			3p			
2s	Σ –a [Acc, –1,–2]			Σ	–a [Acc, –1,–2]	–k [+3,+p,+obv]	
2p	Σ –a [Acc, –1,–2]	–wa [–1,+pl]		Σ	–a [Acc, –1,–2]	–wa [–1,+pl]	–k [+3,+pl,+obv]

(2) *Potawatomi: Distribution of* –men

	1p	2p	3p	obv
1p		Σ–en–**men**	Σ–a–**men**	Σ–a –**men**
2p	Σ–y–**men**		Σ–a–wa–k	Σ–a–wa–n
3p	Σ–uko–nan–k	Σ–uko–wa–k		Σ–a–wa–n

(3) *Specificity* (Müller, 2005, 31)
A vocabulary item V_i is more specific than a vocabulary item V_j iff there is a class of features F such that a. and b. hold.
a. V_i bears more features belonging to F than V_j does.
b. There is no higher-ranked class of features F' such that V_i and V_j have a different number of features in F'.

(4) *Derivation with and without* –men *(discharged features are crossed out)*

a. insertion of *-nan* ↔ +1,+pl

[Nom,+1,−2,−3,+pl] → -nan, +1,+pl → [Nom,~~+1~~,−2,−3,~~+pl~~] → -k, +3,+pl → [Nom, −2,−3]
[Acc, −1,−2,+3,+pl] → [Acc,−1,−2,+3,+pl] → [Acc,−1,−2,~~+3~~,~~+pl~~]

b. insertion of *-men* ↔ +1,+pl$_{CFD}$

[Nom,+1,−2,−3,+pl] → -men, +1,+pl $_{CFD}$ → [Nom,~~+1~~,−2,−3,~~+pl~~]
[Acc, −1,−2,+3,+pl] → [~~Acc, −1, −2, +3, +pl~~]

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