

The Geometry of Marker Inventories

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Claim: We argue that marker inventories are structured in the sense that there exist accessibility relations among markers (called ‘channels’). The set of all accessible markers competing for insertion at a certain stage of the derivation is a function of the marker inserted in the previous step. This allows a unified account for several phenomena that so far have made necessary the postulation of additional, unrelated theoretical machinery.

Empirical evidence: We will illustrate our proposal for extended exponence in Archi (Kibrik 2003, Corbett 2007) and bidirectional marker spreading in Nimboran (Inkelas 1993). Archi exhibits extended exponence on the case markers *-li* and *-čaj*. In the large variety of Archi nouns, *-li* appears in the singular, while *-čaj* shows up in the plural, as exemplified by *aInš* ‘apple’ in (1). Plural is thus doubly marked: (i) by the plural marker *-um*, and (ii) by the plural case marker *-čaj*. Initially, it appears that *-li* is specified for singular and *-čaj* for plural. There are, however, nouns that use *-čaj* in both the singular and the plural, such as *ha^ʃtəra* ‘river’. Conversely, at least on the noun *χ^ʃon* ‘cow’ *-li* appears in the singular. The fact that both markers may appear in both numbers strongly suggests that *-li* and *-čaj* are *not* specified for number. Whatever restricts their distribution in (1), then, is not their morpho-syntactic specification. Previous treatments of extended exponence such as secondary exponence (Noyer 1992), non-discharge of features (Stump 2001) or enrichment (Müller 2007) do not identify this factor.

(1) Partial paradigms of Archi *aInš* ‘apple’, *ha^ʃtəra* ‘river’, and *χ^ʃon* ‘cow’

	aInš		ha ^ʃ təra		χ ^ʃ on	
	SG	PL	SG	PL	SG	PL
NOM	<i>aInš</i>	<i>aInš-um</i>	<i>ha^ʃtəra</i>	<i>ha^ʃtər-mul</i>	<i>χ^ʃon</i>	<i>būc’i</i>
ERG	<i>aInš-li</i>	<i>aInš-um-čaj</i>	<i>ha^ʃtər-čaj</i>	<i>ha^ʃtər-mul-čaj</i>	<i>χ^ʃin-i</i>	<i>būc’i-li</i>

A second phenomenon is verbal agreement marking in Nimboran. Here, number marking is expressed by (i) a suffix (*k* vs. *i* vs. \emptyset) and (ii) selection of a stem allomorph (A vs. B vs. C), of which B is the default. Depending on whether the verb is in the durative or not, other distributions of these markers emerge; see (2).

(2) Distribution of number markers and stem allomorphs in Nimboran

PERSON	-DURATIVE			+DURATIVE (<i>-tam</i>)		
	SG [+SG,-PL]	DUAL [-SG,-PL]	PL [-SG,+PL]	SG [+SG,-PL]	DUAL [-SG,-PL]	PL [-SG,+PL]
1	\emptyset , A	<i>k</i> , B	<i>i</i> , C	\emptyset , B	<i>i</i> , C	<i>i</i> , C
12	\emptyset , A	<i>k</i> , B	<i>k</i> , C	\emptyset , B	<i>i</i> , C	<i>i</i> , C
2	\emptyset , A	<i>k</i> , B	<i>k</i> , C	\emptyset , B	<i>i</i> , C	<i>i</i> , C
3	\emptyset , A	<i>k</i> , B	<i>i</i> , C	\emptyset , B	<i>i</i> , C	<i>i</i> , C

(2) instantiates bidirectional spreading as in non-durative contexts the dual marker *k* spreads over the plural marker *i* while in the durative *i* spreads over *k*. As Noyer (1998) shows, it is impossible to account for this pattern by means of underspecification and impoverishment alone. Therefore, Noyer suggests feature-changing operations, thereby approaching the expressive power of rules of referral (Zwicky 1985).

Background: We assume a realizational theory of morphology invoking underspecification, such as Distributed Morphology or Paradigm Function Morphology, with multiple insertion into

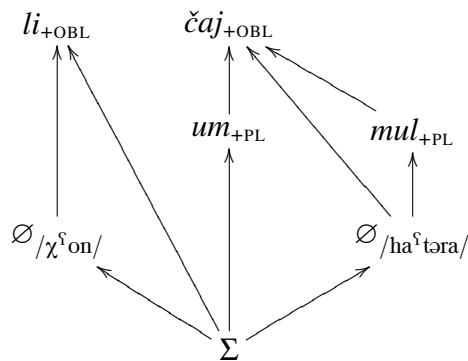
one syntactic head. Furthermore, we adopt a strong notion of feature discharge, requiring that morpho-syntactic features are completely deleted upon insertion of a marker realizing them.

Proposal: We suggest that marker inventories are structured in the sense that there exist accessibility relations among markers. After insertion of a certain marker, only a subset of all markers is accessible at the next step, thereby competing for insertion. Channel relations among markers condition the set of markers being accessible once a certain marker has been inserted. Within this marker set, insertion is determined by the Subset Principle and Specificity involving the feature hierarchy ‘number > case’. If no more accessible marker fulfills the Subset Principle the derivation terminates. We notate accessibility by a bottom-up arrow. Morphological items are given in the form a_b with a its phonological and b its morpho-syntactic features.

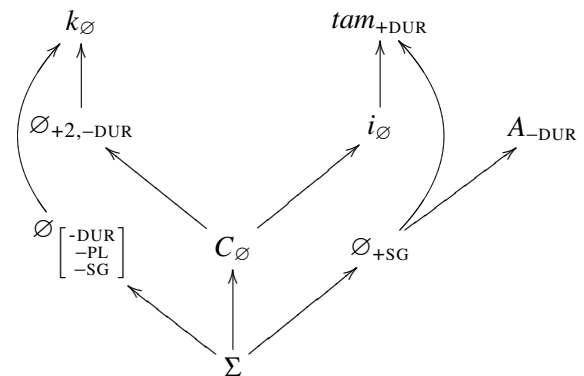
Application: As shown in (1), $-li$ and $-čaj$ in Archi are not specified for number. They are, however, restricted by channel relations. li is not in the set of markers accessible from a plural morpheme and hence does not generally show up in the plural. The lexical item $būc'i$ does not involve a plural marker and hence makes li accessible even in the plural. The same reasoning applies to $čaj$. It is only accessible from plural markers and an idiosyncratic class of lexical stems such as $ha^s t̥əra$ ‘river’. This analysis in addition accounts for the phenomenon of extended exponence: As $-čaj$ is accessible after plural markers have been inserted but $-li$ is not, it appears as though $-čaj$ would realize plural. This, however, is a mere result of the channel structure in (3). More generally, extended exponence emerges as an epiphenomenal by-product of channel relations. /A/ in (3) designates a channel only accessible to A.

Channel structures furthermore account for the apparent Nimboran feature switch between dual and plural without invoking operations that introduce new morpho-syntactic features. What looks like bidirectional spreading of k and i follows straightforwardly from the marker architecture (4).

(3) Archi marker system



(4) Nimboran marker system



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