Differential Argument Encoding by Impoverishment

Main Claim. We propose that differential case marking results from the mapping of a Minimalist syntax to post-syntactic morphology. In line with Aissen (1999, 2003) we derive the effects of differential argument encoding from harmonic alignment of scales but argue that differential encoding is the result of impoverishment rules and hence constitutes a purely morphological phenomenon. The evidence comes from the observation that Aissen’s zero/non-zero alternations of exponents is insufficient to account for degrees of morphological marking. The cases discussed by her are only part of a much broader pattern.

Theoretical background. We presuppose a grammatical architecture that comprises a Minimalist syntax and Distributed Morphology. Mapping between both components involves impoverishment operations that are triggered by Optimality-theoretic constraint interactions. These constraint hierarchies are established by means of harmonic alignment of scales plus local conjunction with markedness constraints. Impoverishment rules can delete information of the syntactic representation, influencing marker insertion (Bonet 1991, Noyer 1998, Halle & Marantz 1993, 1994). Thus, abstract case (i.e. syntactic case) and m-case (morphological exponence) must be distinguished (Bobaljik 2007, Bobaljik & Wurmbrand 2007, Legate 2008). Furthermore, the relations between a marker’s form and function is specified by iconicity (Halle & Marantz 1993, Müller 2004, 2007, Wiese 1999, 2004), meaning that the phonological complexity of a marker is correlated with the complexity of its subfeatures. Subanalysis of case features ensures that impoverishment might only apply to subfeatures rather than completely delete the case feature of a DP. Hence, deletion not necessarily yields a radically impoverished case feature.

Empirical evidence. For several languages it has been shown that there are non-zero/non-zero marker alternations that adhere to the Silverstein hierarchy (Hale 1972, Silverstein 1976). Since Aissen’s analysis only derives zero/non-zero variations these cases cannot be dealt with in terms of differential argument encoding although falling under identical principles. The data comprise Proto-Indo-European, Russian, Dyirbal, Kambera, Algonquian languages, Mannheim German and Finnish (Kiparsky 1998, 2001, Wunderlich 2000). Let us illustrate the main claims for Finnish object case. The relevant markers are /t/, /n/, /a/ and /∅/. The choice among them is conditioned by the factors definiteness and boundedness of interpretation (cf. (2)).

Analysis. We argue that all the objects in (2) receive one and the same syntactic case feature. Morphologically, this case feature is analyzed as consisting of smaller subfeatures: [+gov(erned), –obl(ique), –subj(ect)]. The markers competing for insertion are the ones in (1). Among these markers, that with the most specific subset of the syntactic subfeatures is chosen. Varying exponence results from harmonic alignment of scales that triggers impoverishment of case features. The relevant scales are the definiteness scale (Pro(noun) > Name (PN) > Definite) > Indefinite Specific (Spec) > NonSpecific (NSpec)) and the boundedness scale (Bounding > unbounded (Bd > NBd)). Harmonic alignment and subsequent local conjunction with a faithfulness constraint MAX-CASE, which penalizes case feature deletion, yields the ranking of faithfulness constraints depicted in (3). The markedness constraints against certain case features, triggering impoverishment, are then inserted into this ranking ((4)). This yields the following result: Highly atypical objects are not impoverished at all. As a result, the exponent /t/ is attached. The more typical an object is in terms of markedness scales the more of its case features are deleted. Every deletion step excludes one of the markers above due to the Subset Principle (Halle 1997). Thus, exponence of a single abstract case depends on markedness properties, resulting in differential object marking. This system reveals iconicity in that the phonological specificity measured in terms of sonority mirrors specificity of morpho-syntactic markers (/t/ > /n/ > /a/ > /∅/).

Consequences. The present analysis treats impoverishment rules as not being conditioned by an explicitly stated environment but by markedness constraints. Depending on the interaction of those markedness constraints with faithfulness constraints which in turn are derived by Silverstein hierarchies, impoverishment applies so as to to delete features in hierarchically contexts (see Noyer 1997). Thus, in this view, impoverishment rules can seen as being functionally motivated. Furthermore, in can empirically be applied to patterns of differential argument encoding with overt alternations as well as to alternations between more than two exponents. Conceptually, the analysis suggests that Optimality Theory emerges as a theory of the morphology-syntax interface (Brown et al. 2004, Harbour 2008, Richards 2008)
(1)  a. /t/ ↔ [+gov,–obl,–subj]  b. /n/ ↔ [+gov]  c. /a/ ↔ [−subj]  d. /∅/ ↔ [ ]
(2) **Case marking of objects in Finnish** (Kiparsky (2001));
   a. Tuo-n he-t  b. Tuo-n karhu-n  c. Tuo-n karhu-∅  d. Etsi-n karhu-a
   bring-1.SG he-ACC bring-1.SG bear-GEN bring-1.SG bear-NOM seek-1.SG bear-PART
   ‘I’ll bring him.’  ‘I’ll bring the/a bear.’  ‘Bring the/a bear!’  ‘I’m looking for the/a bear.’
(3) **The overall picture:** Accusative specification: [+gov,–obl,–subj]

References