Oblique modification: Universals and (micro)variation
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1.   *The universal case hierarchy. Outline of the paper*

Genitive, dative and instrumental together with locative are the most likely obliques to appear in any given languages. Blake (2001) proposes the implicational hierarchy in (1), such that cases on the right are progressively less likely to occur. Caha (2009) modifies Blake's hierarchy (not taking ergative into account) as in (2) – where the interesting property is the fact that locative can be seen to interlope at various points in the hierarchy rather than ranking at any precise point in it (possible syncretisms are the deciding factor in Caha's hierarchy).

(1)   NOMINATIVE > ACCUSATIVE / ERGATIVE > GENITIVE > DATIVE > LOCATIVE > ABLATIVE/INSTRUMENTAL > OTHER

Blake (2001: 156)

(2)   NOM > ACC > LOC1 > GEN/PART > LOC2 > DAT > LOC3 > INS/COM

Caha (2009: 32)

One way to approach the general question as to the nature of case is to ask why case systems cross-linguistically take the form in (1)-(2). In fact, beyond (1)-(2) there are arguably only complex cases/prepositions which embed one of the elementary cases in the hierarchy. We adopt without discussion the approach of Chomsky (2001) to direct cases, viewed as reflexes of an Agree operation whose goal is the DP to which the case attaches and whose probe is a phase head (*v* for accusative and C/I for nominative). This implies that Agree and case are core syntactic phenomena, and (1)-(2) must have a syntactic explanation (*contra* purely morphological approaches, even within generative grammar). Since direct case is a reflection of Agree, this leaves oblique cases to be accounted for.

2.   *A formal analysis*

Manzini & Savoia (2011a, 2011b), Manzini & Franco (2016) propose a formal account the genitive/dative oblique(s). Their basic idea can be grasped by reference to English data like (3). In (3b), the *'s* genitive ending or the *of* preposition introduces a possession relation between the argument it selects, namely *the woman* (the possessor), and the head of the DP, namely *(the) children* (the possessum). The same possession relation holds in (3a) between the dative *John* and the theme of the ditransitive verb *the book*.

(3)   a.   I gave the books to John
       b.   the woman's children/the children of the woman

They use the label ($\subseteq$) for the possession relation instantiated by the Preposition *to* in (3a) or the genitive inflection in (3b). They take the content of ($\subseteq$) to be what Belvin & den Dikken (1997: 170) call zonal inclusion: "Entities have various zones associated with them, such that an object/eventuality may be included in a zone associated with an entity without being physically contained in that entity". Therefore the fundamental content of possession, hence of genitive/dative inflectional case or prepositions (*of, to*) is part/whole. In (4b), ($\subseteq$) takes as its internal argument its sister DP (the possessor) and as its external argument the sister to its projection (the possessum) – and says that 'the children' is in the domain of inclusion of 'the woman'. In (4a) the primitive content of the *to* preposition is again the ($\subseteq$) relation introduced for genitives; P($\subseteq$) takes as its

internal argument its sister DP 'John' (the possessor) and as its external argument the sister to its projection, i.e. the theme of the verb 'the books' (the possessum) (cf. Kayne 1984, Pesetsky 1995).

(4) a. … [$_{VP}$ gave [$_{PredP}$ the books [$_{PP\subseteq}$ to [$_{DP}$ John]]]]
     b. … [$_{NP}$ children [$_{PP\subseteq}$ of [$_{DP}$ the woman]]]

The other oblique most likely to occur as a case inflection, namely the instrumental, is addressed by Franco and Manzini (2017); in English the core lexicalization of the instrumental is by the preposition *with*. Their starting point is the observation by Levinson (2011) that possession relations may be realized also by *with*, as in (5). The relation in (5) is reversed with respect to that in (4), since the preposition *with* embeds the possessum, while the possessor is the head of the DP. Therefore they argue that instrumental inflections/adpositions denote the reverse relation with respect to genitives or datives, by which the possessum, rather than the possessor is in the oblique case, adopting the ($\supseteq$) content and label here, as indicated in (5b). What (5b) says is that the complement of *with* is the possessum (a part) of the possessor (the whole) 'the woman'.

(5) a. the woman with the children/the books
     b. [$_{NP}$ woman [$_{PP\supseteq}$ with [$_{DP}$ the books]]]

Finally, according to Manzini & Savoia (forthcoming), Franco and Manzini (2017) a locative amounts to an elementary predicate ($\subseteq$) restricted by location. Latin is a language where locative case can be lexicalized by either genitive (I, II class) or dative (III, IV, V class and plural) with names of cities and small islands, e.g. *Romae* 'of/to/in Rome'. Our idea is that 'Rome' includes an object that it locates. Locative is just the name of the all-purpose oblique when it applies to a location and is therefore locatively restricted.

In all of the basic examples considered in this section, the elementary relator ('inclusion' or part/whole) takes two DP as its arguments. This is not sufficient to account for complex notions such as that of experiencer (possessor of a mental state), normally expressed by datives, or causer/instrument (concomitant of a causation event), normally expressed by instrumentals. Indeed in the instances mentioned the elementary relator must take an event as one of its arguments. Thus the fine articulation of relational meanings observed in connection with oblique prepositions/cases depend on the elementary content of the relator when connected with a properly layered structure of the event (including a result layer, a causation layer etc.). We illustrate two relevant instances of this at points 4 (DOM) and 5 (ergativity).

3.   Formal alternatives and general considerations

Going back to the hierarchy of oblique cases in (1)-(2), what emerges from the discussion at point 2 is that the fundamental obliques of natural languages are a system of elementary predicates attaching arguments to the verbal spine as possessing/including other constituents (dative/genitive) − or as entertaining the reverse relation with them (instrumental). In other words, the fundamental oblique system (genitive-dative-instrumental plus locative) has a common core consisting of part/whole relator content, deployed in order to enrich the argumental structure supported by verbal projections (via Chomsky's Agree, deriving direct case).

Datives and instrumentals are singled out also by the possibility of being encoded via verbal applicative morphology. An important stream of literature beginning with Pylkkänen (2008) has theorized the universality of the Appl category in the verbal spine, associating oblique arguments with such projections. Appl projections are avoided here in that they do not seem to respond to the actual morphosyntactic organization of languages where the 'applicative' content is not introduced by verbal morphology, but rather by a preposition (or eventually by a nominal inflection, in

languages using case morphemes). What we take to be universal if the relator content – not some abstract Appl node; the relator content can be externalized in several ways of which Appl is butone instantiation. In other words, we reject any version of the Universal Base Hypothesis, often surreptitiously implied by cartographic models.

Another leading alternative is having recourse to morphology-internal explanations of the type associated in generative grammar with Distributed Morphology (DM). Within this framework, Calabrese (2008) is specifically interested in absolute syncretism, i.e. in the fact that certain cases/case oppositions are missing altogether in some languages. DM assumes that functional categories are represented by abstract feature clusters in syntax, realized by actual exponents only at PF interface. Calabrese's key proposal is that there is a markedness hierarchy of cases (technically of the feature clusters corresponding to them), and that lower cases in the hierarchy are more likely to be blocked. If they are, the corresponding feature cluster cannot surface at PF, but must be readjusted by the morphological component (including the key rule of Impoverishment) yielding surface syncretism. In a cartographic framework for morphology, Caha (2009) assumes that the Case hierarchy is represented in UG by a hierarchy of syntactic Case heads. Caha assumes that this syntactic hierarchy explains the attested patterns of syncretism, in that only contiguous heads can be realized by the same forms, given an *ABA constraint.

Now, the argument has been made more than once (Kayne 2010; Manzini & Savoia 2011a) that the morphological rules of DM, and especially Impoverishment, are powerful enough to generate essentially any lexical string from any underlying syntactic structure. Calabrese's markedness hierarchies are an attempt at restricting this overgeneration. However, the markedness hierarchy is not generated by internal principles, but corresponds simply to the grammatical encoding of typological implicational scales, of the type in (1). Much the same can be said of the nanosyntactic encoding of the Case hierarchy by Caha (2009). Caha's hierarchy does not so much derive predictions about syncretism, as it precompiles them in the grammar. In a nutshell, markedness or functional hierarchies are an interesting response to non-accidental syncretism patterns – since contiguity in lexicalization is made to depend on contiguity in the hierarchy. However they have the same problem as any extrinsic ordering device: is there any internal reason for the ordering?

Crucially these approaches, while manipulating in ingenious ways the notion of markedness hierarchy, leave the traditional cases, and the traditional notion of case itself, unanalyzed. Here on the contrary we approached obliques (inflectional or prepositional) keeping Chomsky's (2001) conclusions on the non-primitive nature of case firmly in mind. Oblique case is simply the name given to elementary predicative content ('includes'/'is included by') when realized inflectionally on a noun. Correspondingly, Calabrese's markedness hierarchies, or nanosyntactic functional hierarchies are not necessary because there is in fact no morphological syncretism, but rather shared syntactico-semantic content. Seen from our perspective, case hierarchies essentially consist of a binary split between direct case (reduced to the agreement system, Chomsky 2001) and oblique case, reducing to elementary (perhaps part/whole) relators.

4.   *Differential Object Marking (DOM)*

Manzini and Franco (2016) argue that DOM instantiates the same relator content ⊆ as datives, leading to their shared lexicalization in many Indo-European languages (and not only, see Amharic). In other words, object DPs highly ranked in animacy/definiteness require for their embedding the same elementary predicate ⊆ introducing goals.

Specifically, in (6) the two arguments of ⊆ are the object DP and an eventive constituent. Recall that Hale and Keyser (1993), Chomsky (1995) argue that a transitive predicate result from the incorporation of an elementary state/event into a transitivizing *v* layer. Within such a framework, (6a) can be rendered as 'He had a sight of that man', where 'that man' is the possessor

(or locator) of the sight sub-event, as in (6b). The sensitivity to the two layered v-V structure in (6b) characterizes only highly ranked referents. By contrast, indefinite/inanimate complements are embedded as accusative themes, where 'see' behaves as a single predicate.

(6) a. sɔ   vvistə a   kkur ɔmə   *Canosa di Puglia* (South Italy)
         I.am   seen   to   that man
         'I saw that man.'
     b. [$_{vP}$ v [$_{VP}$ vvistə [$_{PP⊆}$ a [$_{DP}$ kkur ɔmə]]]]

Under this line of analysis, languages with DOMs are those where an argument with highly ranked referential properties must have a role at least as high as that of 'possessor' (of the event), and cannot be embedded as bare themes. This is schematized in (7).

(7) DOM
     [$_{VP}$ ... [*(⊆) DP]   ...]   where DP is highly ranked (subject to parametric variation)

5. *Ergative subjects*

A famous alternation between nominative and oblique subjects involves the perfect participle in so-called ergativity splits. Cross-linguistically, where an aspectual split occurs, it is the perfect that has the ergative alignment, characterized by the external argument surfacing as an oblique. Much formal literature on ergativity agrees on the conclusion that progressive aspect requires a larger structure than perfective aspect – though implementations vary. Laka (2006), propose that in Basque, progressive aspect is realized as a bi-sentential structure. Nash (2014) on Georgian proposes that the v-V predicate structure of Chomsky (1995) is embedded under an Event layer in progressives; the Event node is comparable to the Voice layer (Harley 2012, Alexiadou et al 2015) in hosting external arguments, but is aspectually motivated. Manzini et al. (2015) identify the extra layer of structure of Punjabi progressives with Asp. These various extra layers hosting subjects are missing in the perfect.

The research question we ask concerns the nature of the subject obliques of perfects. An important stream of literature (both formal and historico-typological) connects ergative structures with possession structures. Montaut (2004) quotes Benveniste's (1966) conclusion that "the Old Persian structure … is intrinsically possessive in its meaning, and is analogical with the periphrastic perfects in Latin (*mihi id factum*, me-DAT this done)". In other words, the external argument is treated as the possessor of a state. In the words of Johns (1992: 68), "similarities in case and agreement between transitive clauses and possessive phrases is a long-standing issue in Eskimo linguistics… The first of these similarities is that the case assigned to the specifier (possessor) of a possessed noun is the relative case, the same case that is assigned to the actor in the transitive construction".

We then integrate our discussion so far with the proposal that the external argument of perfects, for instance in (8), is treated as the possessor of a state – in other words, the relation of the ergative external argument to the predicate is ⊆, as in (8b).

(8) a. o-ne   roṭṭ-i   khadd-i   si   *Punjabi*
         s/he-Erg   bread-Abs.fsg   eat.Perf-fsg be.Past
         'S/he ate the/some bread'
     b. [$_{⊆P}$ [o-] ne]   [$_{VP}$ roṭṭ-i khadd-i]

6. *Suffixaufnahme*

In typological work (Plank 1995) the Suffixaufnahme label unifies case stacking, e.g. in Pama-Nyungam languages, and linkers, e.g. the Albanian article exemplified in (9) (Franco et al. 2015). Genitives, adnominal modification (adjectives, relative clauses), oblique modification are core environments for both stacking and linkers. In (9) the linker forms a constituent with the oblique modifier, introducing in this constituent a copy of the head noun, in the form of a D agreeing in phi-features with it, as schematized in (9b). Case stacking uses the stacking of the head noun's case on the modifier oblique to the same purpose.

(9) a. mur-i   i   shtëpi-së   *Albanian*
         wall-ms.nom   ms.nom house-fs.obl
         'the wall of the house'
     b. mur-i [$_{DP}$ i] [$_{\subseteq P}$ [$_{DP}$ shtëpi-] së]

Importantly, the inner case in Suffixaufnahme can be any oblique, but it cannot be a direct case. In present terms what sets oblique cases apart from direct case is their relational nature. If oblique is an elementary relator, then the Aufnahme (i.e. linkers/stacking) phenomenon reflects the syntactic restriction in (10). The gist of it is that the Obl relator, for instance genitive $\subseteq$ in (9), requires a lexicalization of both its arguments within its maximal projection. Its internal argument is provided by the DP which it inflects for case; its external argument is provided by the agreement copy of the head noun (linker D or stacked case).

(10) Syntactic Aufnahme (Genitive).
      The external argument of the $\subseteq$ predicate is instantiated within the predicate's projection.

To conclude with an example of microvariation, we may usefully consider possessive pronouns. In Albanian, the configuration in (9) holds for nominal and pronominal 3P possessors, the internal structure of 1/2P possessives is more complex. As shown in (11), in addition to the initial Lkr the 1/2P pronominal element agrees with the head noun. In (11b), the external argument of the ($\subseteq$) relator is now represented not only by the linker but also by the agreement inflection.

(12) a. libr-at/çant-at   e   mi/   mi-a   *Albanian*
         book-pl.def/purse-pl.def   Lkr-pl 1P/   1P-f.pl
         'the books/purses of mine/yours'
     b. çant-at   [$_{D}$ e   [[$_{\subseteq P}$ mi] [$_{\phi}$ a]]]

Similar structures for possessives, including the 1/2P vs 3P split, are found in Romanian (Dobrovie-Sorin and Giurgea 2011). In general agreeing possessive pronouns, including the familiar Romance/Germanic type, instantiate residual Suffixaufnahme.

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