

LIFE ON THE EDGE: THERE'S MORPHOLOGY THERE AFTER ALL!

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Morphosyntactic properties assigned to an entire phrase, such as case in DPs, are often marked at only one place in that phrase. In some instances this marking consists of inflection of the head of the phrase, while in many others the realization of such properties appears at either the left or right periphery of the phrase.

Lapointe (1990; 1992) proposed that these should be treated as «EDGE» features, attracted to the word appearing at the appropriate edge of the constituent and realized there as inflection on that word. In contrast, Anderson (2005) proposes to treat such cases not as inflection of an individual peripheral word of the phrase, but rather as genuinely phrasal inflection, as clitics marking the phrase as a whole and attracted to the appropriate edge through the ranking of a set of constraints that govern a wide range of phenomena.

Anderson (2005) shows that many cases of apparent edge-inflection, including the English genitive, Polynesian definiteness markers, and others can be accommodated by this proposal without invoking mechanisms for the transfer of phrasal features to the inflection of a peripheral word. The goal of this paper is to discuss three examples in which it is not borne out.

1. INTRODUCTION: THE PROBLEM

The analysis of phrasal properties¹ that are realized exclusively at the left or right periphery of the relevant phrase as invoking the inflectional morphology of the leftmost (or rightmost) word of that phrase was proposed at least as early as Nevis (1986) and Zwicky (1987). An explicit incorporation of this account within G(H)PSG, invoking a specific class of designated EDGE features, was suggested by Lapointe (1990; 1992), and received its most detailed and explicit formulation in Miller (1991). The distinguishing character of such an analysis is the definition of EDGE features as phrasal properties realized through the inflection of the Left-/Right-most *word* of the phrasal constituent to which they apply.

The standard example of such EDGE-inflection is the famous «group genitive» in English *the King of England's crown* or Swedish *Hennes Majestät Drottningen af Sveriges närvaro* ‘the presence of Her Majesty, the Queen of Sweden’. The (')s marking the genitive relation in each of these phrases could be treated as a property of the possessor phrase (*the King of England, Hennes Majestät Drottningen af Sverige*) which is realized as genitive inflection of its final word (*England, Sverige*). As is well known, the distribution of this marker is quite general, and the word on which it appears often bears no particular direct relation (genitive or otherwise) to the head of the DP within which its containing phrase appears as the Determiner. This is illustrated by the examples in (1):

- (1)
- a. Fred's taste in wallpaper is appalling.
 - b. The man in the hall's taste in wallpaper is appalling.
 - c. Every man I know's taste in wallpaper is appalling.
 - d. That brother-in-law of mine that I was telling you about's taste in wallpaper is appalling.
 - e. Even the attractive young person who is trying to flirt with you's taste in wallpaper is appalling.
 - f. Professorn i tyskas fru är berusad (Swedish)
 professor.DEF in German.GEN wife is drunk
 ‘The wife of the professor of German is drunk’

The analysis of the English genitive as an EDGE feature is apparently straightforward. It involves positing a feature of type [EDGE:LAST] with the value [POSS]. When assigned to a DP, this feature then propagates (by virtue of its type) along the right edge of the nominal and is eventually assigned to a terminal element, the final word. Any word bearing [POSS] is then inflected as a genitive by adding 's. The properties of this mechanism ensure that possessive inflection will be realized on whatever word may happen to appear at the right periphery of the possessor phrase, as required.

This analysis has some unfortunate properties, however. In English, it requires us to say that virtually any word belonging to any category can be inflected as a genitive, to the extent it can appear finally within a possessor DP. Thus, *to* must have a genitive form in *the man I was talking to's brother-in-law*. The «genitive» of the first person pronoun in *the man who hit me's face* is quite different from what appears in *my face*. In addition, the required structural relation between a phrase and its first/last word (as opposed to that between a phrase and its head) is not independently known to be a significant one.

If we regard genitive marking in English or Swedish as a matter of word level inflection, there appears to be no alternative to such an account.

The word which bears possessive marking on behalf of its phrase has no necessary property within the phrase except for its position at the right edge, and the EDGE feature mechanism expresses exactly this.

There is, however an alternative. Instead of regarding possessor marking as a property of the individual word with which it is associated phonologically, we might instead think of it as a marker attached to the phrase as a whole, realized as a suffix to the phrase as opposed to marking any individual word *per se*. This is exactly the account proposed in Anderson (2005) for Special Clitics: modifications in the PF-form of a phrase on the basis of properties of that phrase. On that analysis, the feature of possession is attributed directly to the DP as a whole, and not to any individual word. It is then realized by the (post-Lexical) operation of the phrasal equivalent of a Word Formation Rule, as stated roughly in (2):

(2) **English genitive:**

Adjoin /z/ to the final syllable of a DP bearing the feature [+GENITIVE]

By itself, the rule in (2) will not suffice to describe all possessors. In particular, personal pronouns have special forms (*my, your, his, her, etc.*) when they appear as possessors, and not their basic form augmented by 's (**I/me's, etc.*). This fact is fairly easily integrated into the Special Clitic analysis, however. Recall that on that account, the feature [+GENITIVE] is attributed to the entire DP representing the possessor. Let us adopt the treatment of personal pronouns as Determiners, an analysis that goes back to Postal (1966) and has recently been revived by a variety of authors. In that case, a pronominal possessor will be a DP consisting exactly of a single D, with no specifier or complement.

We can then say that the lexicon contains the elements *my, your, etc.* as listed «idioms» with the structure [_{DP,+GENITIVE} D]. Whenever a DP takes that specific form (i.e., whenever a possessor is a simple person pronoun), the lexically listed possessive pronoun will take precedence over the productive formation based on insertion of a personal pronoun and application of rule (2), a straightforward instance of disjunctive ordering governed by the «Elsewhere» condition. Similar remarks apply to the appearance of forms like *mine* as the lexicalization of a structure like that in (3), i.e. a null-headed nominal with a pronominal possessor:

(3) [_{DP} [_{DP,+GENITIVE} [_D [1SG]]] [_{D'} [_D ∅][_{NP} ∅]]]

Anderson (2005) discusses the resolution on this analysis of other properties of the English possessive noted in the literature.

This provides a natural account of the structural basis for the difference between the possessive forms in (4):

- (4) a. *My* bad habit
 b. The woman who loves *me*'s bad habit
 c. A bad habit of *mine*_
 d. A friend of *mine*'s bad habit

Assuming the other properties of the construction can be incorporated as well (and the review in Anderson 2005 suggests that these are at worst neutral between the two analyses), the treatment of English (and Swedish) group genitives as special clitics can replace that based on EDGE features. Special clitics are clearly a motivated category in a variety of languages, while EDGE features have only been suggested in a restricted range of cases, of which the English genitive is by far the most commonly cited. The proposed analysis, then, holds out the possibility that EDGE features or their equivalent might be eliminated altogether – a net gain, since (as noted above) there is little other reason to posit a privileged relation between a phrasal category and its most peripheral terminal element.

A strong prediction is made by the proposal that all «EDGE features» are actually prefixal or suffixal special clitics. If that is the case, their realization should never depend on *lexical* properties of the first/last word of the phrase (as opposed to phonological properties, or morphosyntactic properties of the entire phrase). This is because a rule of phrasal morphology such as (2) only has access (*ex hypothesi*) to the syntactic category of the phrase and its phonological form, and not to the lexical identity of the specific words involved in its construction. Since the EDGE-feature account involves word-level inflection of the peripheral element, it predicts that the form of the marker could in principle be sensitive to information (lexical or grammatical) particular to that word. The clitic analysis, in contrast, predicts that only the properties of the phrase as a whole (including its phonological shape as well as its morphosyntactic features) could play a role in determining the shape of the marker.

As shown in Anderson (2005), a variety of examples of «EDGE-inflection» can be accommodated by the apparatus motivated for special clitics without invoking mechanisms for the transfer of phrasal features to the inflection of a peripheral word. This is a highly desirable result, but it is of course an empirical issue whether cases of the sort that would require genuine EDGE features exist or not. The purpose of the present paper is to discuss three examples from a diverse set of languages that appear to have this character. While none of these compromise the description of the English genitive as a special clitic (a phrasal suffix, rather than word-level inflection on a peripheral element of the phrase), they will force us somewhat reluctantly to the conclusion that genuine instances of EDGE-inflection must in fact be recognized as well.

2. NIAS SELATAN

The first example we discuss comes from Nias Selatan, an Austronesian language of Sumatra (Brown 2001; 2005). In this language, the leftmost word of a DP appears in a changed or «mutated» form to mark Absolutive case (as well as under certain other circumstances, such as in possessors). Examples of the changes involved (cf. Brown 2005:567) are given in (5):

| (5) | Base form | Mutated | Alternation |
|-----|--------------------------|----------------|-----------------------------|
| | fakhe 'rice' | vakhe | f → v |
| | tanö 'land' | danö | t → d |
| | si'o 'stick' | zi'o | s → z [ɟʒ] |
| | ci'aci'a 'gecko' | zi'aci'a | c [tʃ] → z [ɟʒ] |
| | kefe 'money' | gefe | k → g |
| | baʒi 'pig' | mbaʒi | b → mb [ɓ] (bilabial trill) |
| | doi 'thorn; fishbone' | ndroi | d → ndr [dʰ] |
| | öri 'village federation' | nöri | ∅ [ʔ] → n |

The sentences in (6) provide instances of the use of the «mutated» forms, indicated by MUT in the glosses:

- (6) a. ...orahu zi'ulu ba si-ila ba
 ...have.meeting MUT.village.leader (*si'ulu*) and advisor and
 niha mbanua
 person MUT.village (*banua*)
 'the village leader, his advisors and the people of the village had a meeting'
- b. I-be khö-gu mbaru si=bohau
 3SG.REALIS-give DAT-1SG.POSS MUT.dress (*baru*) REL=new
 'She gave me a new dress'
- c. Ma=u-atulö-'ö zi=ma ö-sura
 PERF=1SG-correct-TRANS MUT.REL=PERF (*si=ma*) 2SG.REALIS-write
 'I've corrected what you wrote'

In these sentences, «mutation» of the left-most word of the DP serves as a marker of Absolutive case for that DP. If this were the extent of the phenomenon, we could treat it as a (non-concatenative) special clitic associated with the left edge of the phrase, modifying the initial segment of the phrase as exemplified in (5). There is more to the story than that, however.

The examples of mutation in (5) and (6) all involve words whose basic form begins with a consonant. Vowel-initial words (all of which appear in isolation with phonetic initial [ʔ]) undergo mutation as well, but

there are two mutation patterns as illustrated in (7), and the choice depends on the lexical identity of the form undergoing the change.

| (7) | Base form | Mutated | Base form | Mutated |
|-----|--------------------------|----------------|---------------------------------|----------------|
| | öri ‘village federation’ | nöri | öri ‘amulet’ | göri |
| | uβu ‘plank’ | nuβu | uβu ‘part of coconut with eyes’ | guβu |
| | oβo ‘boat’ | noβo | oβoto ‘small dike’ | goβoto |
| | iβa ‘sibling’ | niβa | iβö ‘movement (e.g. of lips)’ | giβö |
| | ete ‘bridge’ | nete | ete’ete ‘long unbroken wave’ | gete’ete |
| | adu ‘statue of ancestor’ | nadu | adulo ‘egg’ | gadulo |

The example in (8) contains two mutated vowel initial words, one of which (*ehomo* → *gehomo*) shows one pattern, and the other of which (*omo* → *nomo*) shows the other.

| | | | | | |
|-----|--|--------|-----------------------------|--------------------------|--------------|
| (8) | Abe’e | sibai | gehomo | nomo | s=e-bua |
| | STAT.strong | INTENS | MUT.pillar (<i>ehomo</i>) | MUT.house (<i>omo</i>) | REL=STAT-big |
| | ‘The pillars of the big house are very strong’ | | | | |

Nothing in the phonological composition of these words appears to distinguish them in this respect, as suggested by the minimal (and near-minimal) pairs in (7). There is, however, a possible phonological account suggested by the history of the forms in question. In fact, the phonetic [ʔ] in these words has two distinct sources in Proto-Austronesian (PAN). The [ʔ] which mutates to [g] in vowel-initial words derives from PAN **q*, **k*; while the [ʔ] which mutates to [n] derives from PAN vowel initials or from initial **S*. We could say, then, that the words that show initial *g* in mutated forms have underlying /ʔ/, while those with initial *n* do not, and a post-lexical rule neutralizes the difference by inserting [ʔ] before word-initial vowels. Treating the presence vs. absence of ʔ in phonological representations in this way would make it possible to continue to maintain that the form of mutation is determined by the nature of the segment at the left edge of a phrase, without reference to the lexical identity of the word in which that segment appears.

Apart from the facts of mutation, there is no other evidence for treating /ʔ/ as phonologically contrastive in this way in Nias, and as Brown (2001) argues, the analysis is problematic in various ways. We do not need to delve into those considerations here, however, because there is other evidence that shows that the purely phonological account of edge mutation cannot be sufficient.

Pronouns in Nias have mutated forms that are largely suppletive in character, and not predictable from their phonological shape in the way we have seen for other words. These forms are given in (9):

| (9) | | Unmutated | Mutated | | Unmutated | Mutated |
|-----|---------|------------------|----------------|-----|------------------|----------------|
| | 1s | ya'o | ndrao | 1pi | ya'ita | ita |
| | 1s EMPH | ya'oto | ndraoto | 1pe | ya'aga | ndraga |
| | 2s | ya'ugö | ndraugö | 2p | ya'ami | mi |
| | 3s | ya'ia | ya | 3p | ya'ira | ira |

Examples in which the mutated initial word of an Absolutive DP is a pronoun are provided in (10):

- (10) a. Fa-gohi ndraugö ba ya'oto ba lala
run MUT.2SG and 1SG LOC road
'You and I ran along the road'
- b. U-'ila mi si=darua ono matua ba lala
1SG-see MUT.2PL REL=two child male LOC road
'I saw you two boys on the road'

In addition, the collective prefix *ira-* mutates idiosyncratically as *ndra-* (cf. *ira-ono* 'children'; mutated form *ndra-ono*). This is illustrated in (11):

- (11) a. I-'elifi ira iraono-ra ba naötö-ra
3SG-curse MUT.3PL children-3PL.POSS and descendant(s)-3PL.POSS
'He cursed them, their children and their descendants'
- b. I-'elifi ndraono-ra ba na'ötö-ra
3SG-curse MUT.children-3PL.POSS and descendant(s)-3PL.POSS
'He cursed their children and their descendants'

The facts of pronoun mutation show us that Nias Selatan mutation is sensitive to the lexical identity of the leftmost word in the phrase to which it applies (to mark Absolutive case). This is probably also the case for vowel initial words such as those in (7) and (8). As a result, this marking requires access to properties that are not available to the realization of a genuinely phrasal affix. It appears much more like word-level inflection (which does of course have access to the lexical identity of the word being inflected), and provides motivation for something similar to the *EDGE* feature account.

3. KUUK THAAYORRE

Our second example comes from Kuuk Thaayorre, a Paman language spoken in the community of Pormpuraaw, Cape York Peninsula, Australia. In this language, ergative case marking takes a number of lexically idiosyncratic and phonologically unpredictable forms as discussed by Gaby (2005). A representative selection of patterns is given in (12):

| | | | | | | | |
|------|-------------|-------------------|-----------------|--|-------------------|-----------------|-----------|
| (12) | | Nominative | Ergative | | Nominative | Ergative | |
| | ‘meat’ | minh | minh-al | | ‘good’ | min | min-thurr |
| | ‘dog’ | kuta | kuta-ku | | ‘woman’ | paanth | paanth-u |
| | ‘eye’ | meer | meer-e | | ‘cat’ | thok | thok-un |
| | ‘crocodile’ | pinj | pinj-i | | ‘child’ | parr_r | parr-an |
| | ‘boomerang’ | werngr | werng-arr | | | | |

Ergative marking in Kuuk Thaayorre only appears on the rightmost word within the nominal phrase (Gaby, in preparation). Given the structure of DPs in the language, this will be either a Noun, an Adjective, or a Demonstrative. Examples of the first two types are given in (13):

- (13) a. minh kothon-thurr pam nhaanham
 MEAT wallaby-ERG man.ACC see.REDUP.NPAST
 ‘The wallaby is looking at the man’
- b. wa’ar pam.thaawarr-an nhul kar paath-thurr thaathi-rr nganh
 jellyfish dangerous-ERG 3SG like fire-ERG sting-PST.PFCTV 1SG.ACC
 yangkar
 leg.ACC
 ‘The venomous jellyfish stung me like fire on the leg’
- c. ngan pumun ngathan-thurr kuta theernga-rr
 RELATIVE younger.brother my-ERG dog.ACC hit-PST.PFCTV
 ‘My younger brother hit a dog’

When the final word of the DP is a Demonstrative, no Ergative marking appears on this word. Rather, as illustrated in (14), Ergative marking is displaced to the preceding word of the DP.

- (14) a. pam-al ith nhul may carrots yak-ake-rr
 man-ERG DEM.DIST he.3SG VEG carrots.ACC cut-REDUP-PST.PFCTV
 ‘The man(, he) cut up the carrots’
- b. parr_r paanth-u ith may mular washm
 child female-ERG DEM.DIST VEG yam.ACC wash.VERBALIZE
 rirk ngok-eln
 do.NPAST water-LOC
 ‘The girl washes the yam’

Two accounts of this are possible. On the one hand, it might simply be that Demonstratives do not have a distinct Ergative form, and so cannot host a hypothetical EDGE feature [ERGATIVE], which must accordingly lodge on the preceding word. Alternatively, it might be that the Demonstratives occupy a final D position, and [ERGATIVE] is really marked at the right edge of NP internal to DP. This will of course be identical with the right

periphery of DP when no Demonstrative is present as a final D.

In any event, it seems clear that the marking of DPs as Ergative in this language requires access to lexical, and not merely phonological properties of the word on which the marking is realized. As such, Kuuk Thaayorre ergative marking constitutes another potential instance of EDGE marking that cannot be treated as phrasal affixation.²

4. SOMALI

The most intricate of our examples is found in the Cushitic language Somali (Andrzejewski 1964; Lecarme 2002; Saeed 1999). In this language, subject DPs that are out of focus are marked as Nominative by a combination of tonal, vowel change, and affixation phenomena at their right edge.

The tone system of Somali involves a contrast between [High] and [Low]. A (falling) contour tone also occurs, but can be analyzed as resulting from a [High] tone on the first mora of a long vowel or diphthong. [Low] tones can be regarded as the default, and only the position of [High] tones need be marked phonologically, which we do here with an acute accent. When the second mora of a long vowel or diphthong bears a [High] tone, this spreads to the first mora as well, rather than resulting in a (rising) contour tone.³

Against this background, the simplest form of Nominative marking consists in delete any [High] tones from the last two moras of the base form, as in (15):

| | | | |
|------|-------------|-------------------|--------|
| (15) | Base | Nominative | |
| | Cáli | Cali | (name) |
| | Faadúmo | Faadumo | (name) |
| | díbi | dibi | 'bull' |

Some Nouns (non-plural feminine Nouns ending in *-o* and masculine Nouns ending in *-e*) lose any tone on the final mora, but acquire (or preserve) a [High] tone on the penultimate mora, as in (16):

| | | | |
|------|-------------|-------------------|----------|
| (16) | Base | Nominative | |
| | hooyó | hoóyo | 'mother' |
| | tuké | túke | 'crow' |
| | waraábe | waraábe | 'hyena' |

Many Nouns also suffix *-i*. This includes Feminine Nouns except those ending in *-o*, «sub-plurals» formed by shifting the accent from its location in the singular (e.g., *orgí* 'he-goats', sg. *órgi*; *kutúb* 'books', sg. *kútub*) and Arabic plurals. These types are illustrated in (17):

| | | | |
|------|---------------------------------|-------------------|------------|
| (17) | Base | Nominative | |
| | bisád | bisad-i | ‘cat’ (f.) |
| | carruur (<sg. <i>carruur</i>) | carruur-i | ‘children’ |
| | maraakiib (<sg. <i>márkab</i>) | maraakiib-i | ‘ships’ |

Of importance to our concerns here is the fact that Nominative marking is confined to the last word of the DP, as illustrated in (18):

| | | | |
|------|-------------------------|-------------------------|------------------------------|
| (18) | Base | Nominative | |
| | hooyád-óod | hooyád-ood | ‘their mother’ |
| | ínan-kíi yaráa | ínan-kíi yaraa | ‘the young boy’ (past) |
| | hílib, bariis iyo caanó | hílib, bariis iyo caano | ‘meat, rice and milk’ |
| | nín-kíi dukáan-ka laháa | nín-kíi dukáan-ka lahaa | ‘the man who owned the shop’ |
| | nín béen yaqáan | nín béen yaqaan | ‘a man who knows a lie’ |

But (non-phonological) properties of this final word determine the form of the marking. Thus, while the examples in (18) all end in words for which Nominative marking involves only tone deletion, those in (19) end in words that require the suffix *-i*.

| | | | |
|------|-------------------|---------------------|---------------------------------|
| (19) | Base | Nominative | |
| | nín-kán | nín-kan-i | ‘this man’ |
| | ínan-ka | yár ínan-ka yar-i | ‘the young boy’ (present) |
| | walaalló is necéb | walaalló is neceb-i | ‘brothers who hate one another’ |
| | nín-kíi áan tegín | nín-kíi áan tegin-i | ‘the man who did not go’ |

For some words, the loss (or shift) of tone with or without the suffix *-i* is not all that is involved in Nominative marking, which can involve other segmental changes as well. This is not predictable from their shape or from the morphosyntactic properties of the DP as a whole, but still determines the way in which the DP is marked Nominative when such a word appears finally in the phrase, as illustrated in (20):

| | | | |
|------|-----------------------|-----------------------|---------------------------------|
| (20) | Base | Nominative | |
| | náag-ta | náag-tu | ‘the woman’ |
| | nín-ka | nín-ku | ‘the man’ |
| | nín-ka warqádda keená | nín-ka warqádda keena | ‘the man who brings the letter’ |
| | warqádda nín-ku keenó | warqádda nín-ku keena | ‘the letter the man brings’ |

In summary, the marking of Nominative case on DPs in Somali occurs on the word at the right edge of the phrase. Since its form depends on specific non-phonological properties of that word, it has the character of EDGE inflection rather than that of a phrasal special clitic.

5. AN ANALYSIS

From the examples in the preceding sections, we conclude that natural languages may mark the properties of a phrase on a peripheral (left or right edge) non-head word of the phrase, in ways that require us to treat the marking as word-level inflection rather than phrasal affixation. Of course this does not affect the substantial number of cases (including English possessives and other phenomena discussed in Anderson 2005) that are best seen as instances of special clitics attached at the edge of the phrase, but it does mean that an adequate theory must recognize both types of marking. And that, in turn, means that a formal account of the kind of *EDGE* marking we have seen is required.

As Lapointe (1992) observed, the treatment such facts in terms of *EDGE*-features inherited by right-most daughters of a category until lodged on a terminal element for realization has some unsatisfactory properties. Intuitively, phrasal inflection – including *EDGE* inflection – is a relation directly between a phrase marked for a given feature and a terminal (Word) within that phrase. The intervening layers of structure are strictly irrelevant. The *EDGE*-feature mechanism, however, attributes the feature of interest not only to the phrase as a whole, but also to all intermediate structural categories. Furthermore, while the identification of phrasal properties with those of the head of the phrase (as postulated in the «Head Feature Convention») makes intuitive sense, a similar relation between the phrase and a word that simply happens to occur as its rightmost (or leftmost) terminal element is much less obvious.

Let us then explore an alternative analysis, in line with the kind of constraint-based theory of special clitics offered in Anderson (2005). We note first that a property [+F] which is *EDGE*-marked in a language is sparsely represented, in that most words do not realize that property overtly even when part of a phrase that bears it. We might then posit a high-ranking constraint such as (21), penalizing the inflection of words for the feature [+F]:

- (21) * W_{+F}
 «Do not inflect words for the feature [+F]»

On the other hand, when [+F] is a property of a given phrase, at least one word within the phrase must manifest [+F], and that word should be either the leftmost or rightmost daughter of the phrase (depending on the language). We could achieve that result by the Alignment constraint in (22):

- (22) **Align**(XP_{+F} , **R/L**, W_{+F} , **R/L**)
 «The Right/Left edge of a phrase with the feature [+F] should be aligned with the Right/Left edge of a Word with the feature [+F]»

So long as these two constraints are ranked as in (23), exactly one word (at the appropriate edge) will bear the property [+F] and thus be inflected for it.

- (23) **Align**(XP_{+F} , **R/L**, W_{+F} , **R/L**) \gg $*W_{+F}$
 «Only inflect a Word for [+F] where necessary to satisfy the requirement that the rightmost word in a [+F] phrase manifest that feature.»

If no word were inflected for [+F], that would violate (22), and since (*ex hypothesi*) [+F] is a feature that can be realized in the inflectional paradigms of the language, that violation can be avoided. Any such marking incurs a violation of (21); at least one such violation is required by the ranking in (23), but if more than one word bore [+F], or if the marked word were non-peripheral, unnecessary constraint violations would follow.

One special case is presented by the facts of Ergative marking in Kuuk Thaayorre as described above. Recall that phrase-final demonstratives in that language do not bear [Ergative] marking, which instead appears on the word immediately preceding the demonstrative, as in (14). If we simply say that the paradigms of demonstratives in this language do not include a realization of [Ergative], this result will follow. The alignment constraint in (22) will require that the rightmost word of the DP bear the feature [Ergative], but that is impossible if it is a demonstrative, a word whose paradigm excludes marking for [Ergative]. The optimal form in this case (in the sense of the one incurring the smallest number of violations within the constraint hierarchy (23)) will thus have [Ergative] marking on the penultimate word of the phrase, the rightmost word for which this category is defined by the language's morphology.

While the number of real cases is apparently small, and does not include some examples that have sometimes been taken to belong to this category, there are some generalizations that might be made about EDGE inflections. These seem basically to be accidental correlations, however, rather than reflecting essential properties that ought to follow in some way from the analysis of the phenomenon.

An observation originally due to Nevis (1986) and repeated by Lapointe (1992) is that phrasal properties realized as EDGE features do not appear to participate in Agreement. If true, that does not follow in any direct way from the account suggested above. Features that *do* participate in Agreement are generally attributable to the entire phrase, rather than to a single word within it, and these are typically either computed within the phrase (as when DP consisting of the conjunction of two singulars counts as plural) or else inherited by the phrase from its head via the Head Feature Convention or some equivalent. In contrast, the three examples of EDGE features we have seen here all involve configurational properties (in the sense of Anderson 1992) assigned to phrases from outside. A case in

which an inherent property of the *EDGE*-most word was inherited by the entire phrase, such that it could serve as the basis of Agreement, is not logically excluded on the present analysis, but it is difficult to see how it could arise historically. Here, as often, the range of phenomena to be found in synchronic systems is constrained not only by the descriptive scope of the theory but also by the extent to which some historical sequence can plausibly instantiate a given possibility (cf. Anderson 2004).

Another intriguing correlation is found in the fact that in our examples, *EDGE* properties instantiated at the left periphery of the phrase are realized by modifications to the beginning of the first word, while properties instantiated at the right periphery are realized by modifications to the end of the last word. This generalization, also, might have a historical explanation if indeed instances of *EDGE* inflection generally had their origins in the reanalysis of originally phrase-peripheral special clitics, but we have no way to make this relation between phrasal and word-level morphology follow from anything in our account. It is of course equally the case that such a generalization is not captured in *EDGE*-feature analyses such as those of Miller (1991), Lapointe (1992) and others.

In conclusion, then, we have seen reason to believe that a limited number of genuine instances exist in which properties of a phrase are realized in the word-level inflection of its leftmost or rightmost daughter, as suggested by a number of previous writers. We have offered an analysis of the phenomenon in terms of a constraint based system for morphological realization, in line with the account of special clitics in Anderson (2005) and avoiding some of the unintuitive aspects of analyses based purely on feature-passing mechanisms. Indeed, given the range of alignment constraints which must be presumed to exist in natural languages, such systems are actually predicted to exist, and if they did not, some basis would have to be found for excluding them.

NOTES

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¹See Anderson (1985; 1988) for this terminology.

²Blake (1987) suggests that similar facts obtain in several other Australian languages.

³Saeed (1999) marks tone on long vowels always on the first mora: e.g. *àa* for a falling tone, and *áa* for a high level tone. We replace that system here by using an acute accent on the mora to which [High] tone is phonologically assigned: thus, *áa* for falling and *ââ* for high level. Somali orthography does not mark tone, and the present system seems marginally more perspicuous.

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SUMMARY: le proprietà morfosintattiche dei sintagmi si realizzano spesso ai margini dei sintagmi stessi, e due tipi di analisi sono state proposte per questo fenomeno. Nel primo approccio, la marca morfosintattica è concepita come un elemento clitico che si attacca direttamente all'intero sintagma. Nel secondo approccio, invece, la marca morfosintattica è analizzata come un tratto flessivo delle parole realizzato morfologicamente sulla parola situata al margine destro o sinistro del sintagma. Una tale «morfologia marginale» (*Edge Morphology*) richiede nuovi meccanismi per trasmettere il tratto flessivo pertinente alla parola corretta, nei casi in cui questa non sia la testa del sintagma. A questo proposito, nella letteratura è stato invocato il meccanismo di «edge-feature» nell'analisi del possessivo ('*s*) dell'inglese (danese, svedese, ecc.), anche se i dati sono totalmente compatibili con l'analisi clitica e, da soli, non motivano l'aggiunta di una *Edge Morphology* nella teoria linguistica. In questo articolo sono valutati invece tre insiemi di dati (rispettivamente da Nias Selatan, Kuuk Thaayorre e Somalo) per i quali l'analisi clitica è insoddisfacente, e che suggeriscono una spiegazione basata su «edge-features». L'articolo presenta, inoltre, i lineamenti generali dei meccanismi necessari alla riuscita di questa spiegazione.

SUMMARY: Morphosyntactic properties of phrases are often realized at their edges, and two sorts of analysis have been proposed for such phenomena. On one approach, the marker is treated as a clitic attached directly to the phrase as a whole. On the other, the marker is analyzed as an inflectional feature of words, and realized by the morphology of the leftmost or rightmost word of the phrase. Such «Edge Morphology» requires a novel mechanism to transmit the relevant feature to the correct word, in the case where this is not (necessarily) the head of the phrase. Although the «Edge-feature» mechanism has been invoked in the analysis of cases such as the English (Swedish, and Danish) possessive, the clitic account is perfectly adequate here, and these examples would not by themselves motivate the addition of an «Edge Morphology» mechanism to linguistic theory. In this article, however, we discuss three sets of phenomena (from Nias Selatan, Kuuk Thaayorre, and Somali) for which the clitic account is insufficient and which motivate an analysis based on «edge-features.» The outlines of a mechanism to accomplish this are also sketched.