

On the Syntax and Morphology of Double Agreement in Lavukaleve

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Abstract

This paper investigates certain aspects of the syntax and morphology of argument encoding in Lavukaleve in a theory of grammar in which morphology interprets the output of syntax (Halle & Marantz (1993, 1994), Noyer (1992), Harley & Noyer (2003)). I provide a syntactic analysis that is pursued within the framework of the Minimalist Program (Chomsky (2000, 2001)) and a comprehensive analysis of inflectional morphology based on Noyer (1992). The primary goal will be to derive all instances of syncretism that can be found in the paradigm of verbal inflection markers (i) by assuming underspecification of exponents and (ii) by invoking a theory of filters (Noyer (1992)) that leads to systematic neutralizations in the first phase of morphology. A secondary goal of the analysis is to motivate subanalysis of the verbal inflection markers by means of fission (or splitting) of M^0 s. Finally, I propose that the phenomenon called extended exponence can easily be explained by assuming conditions on the output of syntax that are reminiscent of feature cooccurrence restrictions employed in Noyer's theory of filters, giving rise to the opposite effect, that is, copying of features.

1. Introduction

The encoding of primary arguments in the Papuan language Lavukaleve does not proceed on the arguments themselves (via Case-marking), but on the verb (via agreement-marking). This head-marking strategy (in the sense of Nichols (1986)) is carried out by a set of prefixes which express the ϕ -features (person, number, gender) of the respective arguments, as well as their grammatical function ("subject" and "object", in traditional terminology). Lavukaleve thus emerges as an illustrative example for a language with two-argument (or "double") agreement. This agreement pattern can be exemplified by sentences of the type in (1) and (2) below.

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- (1) Ali na o-kiu.
 man.M ART.SG.M 3SG.SUBJ-die
 ‘The man died.’ (Terrill (2003, 227))
- (2) Ali na mola ga e-o-le.
 man.M ART.SG.M canoe.N ART.SG.N 3SG.N.OBJ-3SG.SUBJ-see
 ‘The man saw the canoe.’ (Terrill (2003, 227))

In this paper, I propose a formal account of the syntax and morphology of argument encoding in Lavukaleve within a model of grammar in which morphology is an independent component that interprets the output of syntax. The syntactic part of the analysis draws upon recent ideas that are pursued within the Minimalist Program, initiated by Chomsky (1995, 2000, 2001). I adopt an analysis in which the superficially apparent differences between Case and agreement can be derived from a more abstract argument encoding feature [CASE] which is subject to parametric variation concerning its realization on either a DP or a functional head (see, e.g., Müller (2009)). In particular, I argue that in Lavukaleve, probes (more specifically, [$*\text{CASE}$ ∗] and [$*\Phi$ ∗]) situated on a functional head can be realized post-syntactically, although they delete when entering into an Agree relation with matching goals in narrow syntax. Here I act on a suggestion by Chomsky (2000) that there is a difference between *deletion* and *erasure* of features: probe features are deleted in the course of the derivation by means of Agree, but are not yet erased. Deleted probes are invisible at LF (a desired consequence) but accessible until PF, and, consequently, at morphology (which precedes PF) and may thus be affected by vocabulary insertion.

The morphological model that I am assuming here is a version of *Distributed Morphology* (DM, Halle & Marantz (1993, 1994)) as presented in Noyer (1992). His theory makes crucial use of *feature discharge*, which is particularly important for the concept of fission (or splitting) to be introduced in section 3.4.1, dispensing with the rule format assumed in Halle & Marantz (1993).

The primary goal of the morphological analysis will be to derive all instances of (accidental and nonaccidental) syncretism that can be found in the paradigm of the verbal argument encoding prefixes. Nonaccidental, systematic neutralizations will be accounted for by a filter-theoretic approach to impoverishment. Furthermore, I argue that the seemingly primitive markers can be subanalyzed into smaller units to a certain extent, yielding quasi-agglutinative structures in a system that is actually fusional (cf. Müller (2006b)). This subanalysis is

justified by the assumption that the functional categories *v* and *T* are subject to fission under certain circumstances.

The analysis presented here will be restricted to canonical agreement in non-focus clauses for the simple reason that argument encoding in focus clauses proceeds differently and would require some deviant assumptions.¹

I will proceed as follows: Section 2 provides background information on the language and some relevant grammatical aspects, and introduces the formal frameworks I am adopting here. I directly turn to the analysis in section 3. I will go into detail with regard to the decomposition of morphosyntactic features, the role of filters in constraining the range of possible categories in Lavukaleve and, at the same time, accounting for systematic neutralizations, as well as subanalysis and fission. In section 3.5.2, I propose a new mechanism that has similar effects as the feature-deleting filters in Noyer's theory of inflection. In particular, I argue that languages contain idiosyncratic constraints, called feature addition requirements, which demand the introduction of further features. As the term indicates, features must already be present in order to be copied. If no features are introduced into the structure, the constraint will be violated. Like filters, feature addition requirements are automatically active in the first phase of morphology. The final section of this paper draws a conclusion and adverts to possible shortcomings of the analysis.

2. Background

2.1. The Language

Lavukaleve is a Papuan language² (possibly a language isolate) spoken by the Lavukal people on the Russell Islands, a group of islands located in the Central Province of the Solomon Islands, about 40 km northwest of Guadalcanal (the island and correspondent province containing the capital Honiara). The number of speakers amounts to approximately 1700 people. The genetic affiliation of Lavukaleve is still a matter of controversy. Nonetheless, there have been

¹It is notable that Lavukaleve has a rich grammaticalized focus system which plays a very important role in the morphosyntax of this language. See Terrill (2003, chapter 11) for a detailed discussion on various types of focus constructions and pp. 255–259 for a discussion on the encoding of arguments in such constructions with the help of the so-called Agreement suffix.

²Terrill (2003) uses the term “Papuan” in the sense “non-Austronesian” to separate from languages that belong to the Austronesian language family.

several attempts that try to place Lavukaleve into a language family, one of which groups the language together with three others, namely Bilua, Touo and Savosavo, constituting the Central Solomons family within the Yele-Solomons Stock, a subpart of the East Papuan Phylum (see Wurm (1982)). However, these languages are structurally very different from one another, and lexical similarities are very low.

Lavukaleve is a head-marking language (see Nichols (1986)) with a nominative-accusative argument encoding pattern (that is, the external/internal argument (DP_{ext}/DP_{int}) of an intransitive verb is treated like the external argument (DP_{ext}) of a transitive verb, while the internal argument (DP_{int}) of a transitive verb is treated differently) and with a rather fixed SOV constituent order (cf. Terrill (2003) and Terrill (2004)). Nouns have an inherent gender, either masculine, feminine or neuter, which is identifiable through agreement with adjectives, determiners and other nominal dependents. Nominal inflection (most notably dual and plural formation) is characterized by extreme complexity due to the existence of ten inflection classes and numerous subclasses.³ Verbal inflection, in contrast, is extremely regular in Lavukaleve, with only two morphologically irregular verbs.

As indicated in the introduction, primary arguments, that is, subject and object, are encoded on the verb via agreement-marking prefixes, not via Case-marking on the arguments. The cumulative verbal exponents mark the ϕ -features person (1st incl., 1st excl., 2nd, 3rd), number (singular, dual, plural) and gender, and are sensitive to the distinction between internal and external arguments, i.e. “Case-marking” applies on the verb. Thereby, the “object” prefix occupies the first prefix position of a verb, the “subject” prefix the second one. This will be formally refined as we proceed.

2.2. The Framework

The framework adopted here is a version of *Distributed Morphology* as assumed by Noyer (1992). The theory of DM has been developed by Morris Halle and Alec Marantz in the early nineties (see Halle & Marantz (1993, 1994), Harley & Noyer (2003)). According to Stump’s (2001) taxonomy of inflectional theories, DM is a lexical post-syntactic realizational theory, i.e., it is lexical in the sense that a vocabulary item (henceforth VI) is a lexical element that however does

³As in German, in most cases gender and inflection class cannot be predicted by phonological properties of a noun.

not contribute any new morphosyntactic features to the structure (in contrast to incremental theories). It rather realizes already existing feature bundles. DM is post-syntactic in the sense that syntactic terminal nodes lack phonological features and are supplied with phonological material after a process called Spell-Out (this property of DM is often called *Late Insertion*).

A second crucial assumption of the theory is the concept of *Underspecification*, which means that a VI does not necessarily need to be fully specified for its syntactic context. Underspecified VIs may therefore only meet a subset of the set of features of the terminal node which they are inserted into (*Subset Principle*, formulated in (3)). Underspecification is an extremely useful device for deriving syncretisms, i.e., markers with identical form in different paradigm cells (which represent different syntactic contexts)⁴, giving rise to the ability of capturing (accidental) neutralizations at the morphological level. Given the subset principle, it is possible that two markers compete for insertion into a syntactic terminal node, as their feature sets may both be a subset of that terminal node. This competition can be resolved by assuming specificity of VIs in (4) (cf. Noyer (1992, 28), Lumsden (1992, 480)). The formal definitions below are taken over from Müller (2005, 240).

(3) *Subset principle:*

A vocabulary item V is inserted into a functional morpheme F iff (i) and (ii) hold:

- (i) The insertion context of V is a subset of the set of morpho-syntactic features of F .
- (ii) V is the most specific vocabulary item that satisfies (i).

(4) *Specificity of vocabulary items:*

A vocabulary item V_i is more specific than a vocabulary item V_j iff there is a feature class \mathcal{J} such that (i) and (ii) hold:

- (i) The insertion context of V_i has more features in \mathcal{J} than the insertion context of V_j .
- (ii) There is no higher-ranked feature class \mathcal{J}' such that the insertion contexts of V_i and V_j have a different number of features in \mathcal{J}' .

⁴Following Bobaljik (2002), I consider paradigms to be epiphenomenal empirical generalizations, rather than discrete entities of the grammar. Paradigms are just useful devices for describing the distribution of markers and syncretic forms.

Put simply, this means that out of two compatible competing VIs that are equally specific in terms of feature quantity, the one which has a higher-ranked feature is chosen. For present purposes, it is sufficient to assume the feature hierarchy in (5). Such grammatical hierarchies are generally considered to be universal (see, e.g., Silverstein (1976), Lumsden (1992, 480), Harley (1994), Noyer (1992, 1998), Harley & Noyer (2003, 473)).

- (5) *Feature hierarchy:*
 Person > Number > Case > Gender

The third distinctive property that distinguishes DM from most other morphological theories is *Syntactic Hierarchical Structure All the Way Down*, which essentially means that morphological structure is syntactic structure. The formation of complex words is the result of successive applications of X^0 movement in the syntax.

DM accounts for mismatches between morphology and syntax by means of operations like *fission* (see e.g. Noyer (1992), Halle (1997)), *fusion*, *morphological merger* (see Marantz (1988)), *impoverishment* (Bonet (1991)) and *enrichment* (Müller (2007)) that can affect the syntactic output before Spell-Out, at the level of morphology, by changing either the featural make-up of the terminal nodes (deleting or adding features) or altering adjacency relations between two nodes (fusing two independent nodes into one node, splitting up one node into several, moving one node to another, etc.).

Central for the analysis discussed below are the operations of impoverishment, enrichment and fission. I adopt Noyer's proposal that impoverishment results from the interaction between filters (Feature Cooccurrence Restrictions) and the hierarchy of features in (5). Filters entail the deletion of a feature in order for the morphosyntactic representation to become well-formed. In every case, the feature to be deleted will be the one which is the lowest on the hierarchy. In section 3.5.2, I will extend these ideas to enrichment, dispensing with the rule-based approach made by Müller (2007), in support of a more restrictive, constraint-based theory of extended exponence.

In line with Noyer (1992) I assume further that morphology proceeds in two separate phases. The first phase comprises all the conditions and mechanisms that derive morphosyntactic well-formed structures: fusion, impoverishment, merger, linearization etc. Besides the "core" mechanism that supplies phonological material to X^0 s, called vocabulary insertion here, the second phase of

morphology additionally contains certain conditions on the well-formedness of morphological words. An instance of such a purely idiosyncratic well-formedness condition in Lavukaleve would be that in transitive contexts, accusative prefixes must always show up, whereas nominative prefixes are generally optional (see section 3.4 for a short discussion).

2.3. The Syntax of Argument Encoding

In this section, theoretical aspects of DM explicated above will be combined with assumptions of a strictly derivational bottom-up syntax (in conformity with ideas laid out in the Minimalist Program).

It is generally assumed that all syntactic operations are feature-driven, that is, every syntactic operation either discharges [$\bullet F \bullet$] or [$*F*$] (the notations are based on Sternefeld (2006) and Heck & Müller (2007)). The operation *Merge* discharges [$\bullet F \bullet$], *Agree* discharges [$*F*$].

The realizational nature of DM requires that syntactic structure is not built up by lexical elements, but by abstract morphosyntactic features which are organized in feature bundles. The fully specified syntactic X^0 s (often termed *morphemes* in DM literature) lack phonological features and are supplied with these after syntactic computation, in the mapping to phonology.⁵ Following the terminology of Noyer (1992), I will call the set of morphosyntactic features assembled in an X^0 (that is, a morpheme) its *morphosyntactic representation*.

I adopt the standard assumption (Chomsky (2000, 2001)) that agreement is narrowly syntactic and proceeds by the elementary operation *Agree*, a version of which is given in (6).⁶

(6) *Agree*:

A probe π establishes *Agree* with a goal γ iff the following holds:

- a. π bears a set of unvalued, uninterpretable ϕ -features [$*\Phi:\square*$] and a valued feature [$*\text{CASE}:\omega*$].

⁵Harley & Noyer (2003) additionally argue for a distinction between l-morphemes and f-morphemes; however, debate on whether l-morpheme insertion essentially differs from f-morpheme insertion still goes on. I assume that such a distinction is indeed necessary, but I am concerned here only with f-morpheme insertion anyway.

⁶Cf. Bobaljik (2008) for a different view, viz., that agreement is not part of (narrow) syntax, but of the post-syntactic morphological component and is dependent on the assignment of morphological case (m-case).

- b. γ bears a set of valued, matching ϕ -features [$\Phi:\omega$] and an unvalued feature [$\text{CASE}:\square$].
- c. π c-commands γ .
- d. There is no alternative goal δ such that δ intervenes between π and γ .

The syntactic analysis of argument encoding that I am pursuing here is mainly based on Müller (2009) who suggests that there is only one structural argument-encoding feature [CASE] which can take two possible values: *ext(ernal)* and *int(ernal)* (replacing the features NOM , ABS and ACC , ERG). In his approach, the functional head T bears a probe feature [$*\text{CASE}:\text{ext}*$] which requires a matching [$\text{CASE}:\text{ext}$] on DP_{ext} , the functional head v bears [$*\text{CASE}:\text{int}*$] that requires a matching [$\text{CASE}:\text{int}$] on DP_{int} .⁷ As both Case-marking and agreement-marking are the result of an Agree relation between T/v and $\text{DP}_{\text{int}}/\text{DP}_{\text{ext}}$, they can be considered essentially the same. The only difference lies in the morphological realization of the probe/goal features. More specifically, Case-marking is achieved by the morphological realization of [$\text{CASE}:\alpha$] on DP , whereas agreement-marking is achieved by the morphological realization of [$*\text{CASE}:\alpha*$] on T/v .

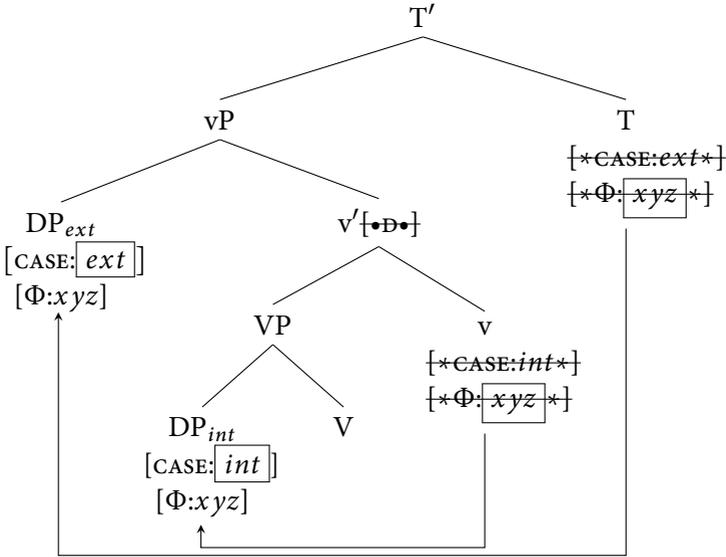
In line with Chomsky (2000, 131), I assume that Spell-Out applies cyclically and that probe features, though deleted when checked, are still accessible to the phonological component (but are invisible at LF). Since the morphological component in DM precedes the phonological component, this ensures the desired ‘surface agreement’ effect, giving rise to the possibility for probes to be realized by the insertion of an appropriate VI.

Each DP is equipped with a set of ϕ -features that value a (yet unvalued) c-commanding probe on T and v , respectively. Consider the T' -cycle in (7).⁸

⁷I assume here that a [CASE] feature located on a DP is *valued* in an Agree relation (as it is the case with the unvalued ϕ -probes on T and v); however, for the analysis presented here it makes no difference if Case is checked or valued.

⁸Since Lavukaleve is a left-branching (SOV) language, complements as well as specifiers precede their heads.

(7) Agree under c-command:



Before DP_{ext} is merged in [Spec, v], v agrees with DP_{int} that has been merged as the complement of V, getting its ϕ -probe valued, and matching with (or valuing) the [CASE] feature of DP_{int} . DP_{ext} is then merged in [Spec, v], and T (taking vP as a complement) agrees with DP_{ext} . This order of elementary operations (Agree > Merge) on the vP-cycle yields the accusative pattern that can be observed in Lavukaleve.⁹

At this point it is important to note that the pattern described above represents transitive contexts. An immediate question that therefore arises is how it can be ensured that in intransitive contexts the derivation converges, although v cannot check its Case feature with DP_{int} . The general assumption is that probe features have to be checked in the course of the derivation. I would like to suggest that transitivity in syntax is controlled by a constraint on numerations, viz., the so called FEATURE BALANCE CONSTRAINT in (8) proposed in Müller (2009) which entails that in intransitive contexts, $[*CASE:int*]$ on v must be

⁹Note that the reverse order (Merge > Agree) yields an ergative pattern, because DP_{ext} is merged in the first step and then Agree(v, DP_{ext}) applies, instantiating the more marked internal Case on DP_{ext} . This indeterminacy concerning the order of elementary operations on the vP-cycle can be handled in an optimality-theoretic way (see, e.g., Heck & Müller (2007) for an extremely local approach).

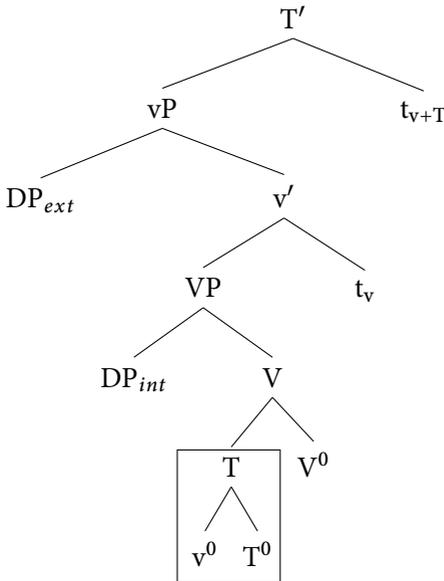
absent if there is only one D with a [CASE] feature in the numeration, since [**CASE:int**] on *v* could never be checked (and probes that remain unchecked lead to a crash of the derivation).

(8) *Feature Balance:*

For every feature specification [**F:α**], there must be a matching feature specification [*F:α*].

Since in DM morphological structure is syntactic structure, linearization of morphemes must take place in the syntax. The affix order that I have informally described as OBJ-SUBJ-verb reflects the ordering of terminals *v-T-V*. This can be achieved by successive head-movement and lowering. The entire process is illustrated in (9).¹⁰

(9) *Complex head formation by head-movement and lowering:*



The framed structure in the tree highlights the complex head formed by first moving *v* to *T* (yielding *v+T*) and lowering *v+T* to *V* in a subsequent step. This derives the correct order of affixes.

¹⁰The intervening trace of *v* does not prevent the complex *T* from lowering to *V*, since lowering has “a (potentially) nonlocal, that is, nonadjacent, character.” (Embick & Noyer (2001, 562))

3. Towards an Analysis

3.1. The Paradigm

In the ensuing sections, I am concerned with the deriving the paradigm in table 1¹¹ in a principled way, employing the framework of DM outlined in section 2.2. I attempt to account for all the accidental and more systematic syncretisms by means of underspecification of exponents and impoverishment. The apparent richness of forms seen below will be reduced by assuming that some markers are not primitive, but consist of even smaller markers that are successively inserted into certain morphemes.

Table 1: Argument encoding inflection markers

	SUBJECT			OBJECT		
	SG	DU	PL	SG	DU	PL
1st excl.	a-	le-	e-	nga-	le-	e-
1st incl.		me-	me-		me-	me-
2nd	ngo-, ne-	mele-	me-	ngo-	mele-	me-
3rd masc.	o-	lo-	ma-	a-	la-	vo-
3rd fem.	o-	lo-	ma-	o-	lo-	vo-
3rd neut.	o-	lo-	ma-	e-	le-	vo-

What is remarkable at first sight is that the syncretisms that can be observed seem to be unrestricted: They stretch out over person, number, gender and even Case. However, there are some systematic coincidences to be pointed out: Gender distinction in 3rd person subject (i.e., nominative) contexts is neutralized, in contrast to 3rd person object (i.e., accusative) contexts (except plural). Note the extremely systematic coincidence of forms in 1st (incl. and excl.) and 2nd person dual and plural subject and object contexts.

A real morphological distinction between nominative and accusative can only be observed in 1st person singular (*a-* vs. *ngo-*) and in 3rd person masculine and neuter (*o-* vs. *a-* or *e-*). Other forms are syncretic in these contexts, e.g., *ngo-* representing both nominative and accusative in 2nd person singular contexts. I

¹¹The orthography used in Terrill (2003) is largely phonemic and the graphemes represent their IPA equivalent, with the exceptions of <v>, which represents the phoneme /β/, <ng> which represents /ŋ/, and <g> which represents /ɣ/.

will return to a discussion on instances of systematic neutralizations in section 3.5.1.

Syncretisms that I consider not to be systematic (thus really “accidental”) are forms like *ngo-*, which are simply underspecified (in this case for the feature [CASE]), because we can see at the same time that a Case distinction is maintained in 1st person singular contexts (*a-* in nominative, *nga-* in accusative), as already outlined before.

Throughout the paper, I adopt the meta-grammatical Syncretism Principle in (10) as a null-hypothesis for the language learner (that is, the child acquiring a language).

- (10) *Syncretism Principle* (Müller (2005, 236)):
Identity of form implies identity of function (within a certain domain, and unless there is evidence to the contrary).

According to this principle, phonologically identical markers should have identical morphosyntactic functions. However, it is not clear to me in which way, for instance, *a-* which shows up in 1st person singular nominative contexts is to be systematically associated with *a-* showing up in 3rd person singular accusative contexts. The same holds for *e-* in the present paradigm. The problem is that none of these markers can have the status as a default marker, as will become clearer. My analysis, then, encompasses two different *a-* markers and two different *e-* markers with different feature specifications.

3.2. Agreement or Pronoun Cliticization?

It should be noted here that Terrill herself does not straightforwardly analyze the argument encoding inflection markers as agreement prefixes: For her “the cross-referencing verbal prefixes are much more like pronominal arguments themselves” (Terrill (2003, 245)). She does not amplify this position, but I suppose that she prefers the clitic analysis, whereby independent personal pronouns are cliticized or otherwise incorporated into the verb. In the analysis presented here, I do not adopt this view for a variety of reasons. I believe that the prefixes should be analyzed as inflectional elements that are the result of agreement, rather than cliticized pronominal elements. As a starting point for the argumentation, consider table 2 which shows the paradigm for independent personal pronouns (cf. Terrill (2003, 170)).

There are a few things to note here. First, the reader might notice that the

Table 2: Independent personal pronouns

	SG	DU	PL
1 EXCL	ngai	el	e
1 INCL		mel	me
2	inu	imil	imi

above paradigm lacks 3rd person forms. In Lavukaleve, these are expressed by demonstrative pronouns. However, table 1 clearly shows the existence of markers encoding 3rd person. Second, what is more is that the independent personal pronouns are not sensitive to the distinction between internal and external arguments: They do not express grammatical function at all.

Third, though independent personal pronouns are generally only used for special emphasis, it is nonetheless possible to cross-reference them by an argument encoding inflection marker, as in the following example sentence where the independent pronoun *el* ‘we two (excl.)’ is cross-referenced by the prefix *le-* (functioning as a subject) on the verb *fele* ‘return’.

- (11) Aka ta a-na el le-fele-m na
 then time.M 3SG.M.OBJ-in 1DU.EXCL 1DU.EXCL-return-SG.M ART.SG.M
 le ga airia-Ø ke.
 day.N ART.N.SG open-SG.N EMPH
 ‘Then when we came back, dawn came.’ (Terrill (2003, 264–265))

In view of this, I suggest that the clitic analysis of the cross-referencing prefixes in table 1 is not the best analysis. In contrast, the considerations above *a fortiori* suggest that the argument encoding prefixes in table 1 are inflectional elements that are the result of agreement and not incorporated pronominal elements.

3.3. Feature Decomposition

In order to ensure that rules and markers can explicitly refer to *natural classes*, it is indispensable in any principled approach to morphology that grammatical features, such as [PERSON], [NUMBER] and [GENDER], are not primitives, but can be decomposed into complexes of more atomic, binary features.

Let’s begin with the feature [PERSON]. We have seen above that Lavukaleve

distinguishes four persons: 1st excl., 1st incl., 2nd and 3rd. Although a system with the two binary features $[\pm 1]$ and $[\pm 2]$ would yield the desired four person system observed in Lavukaleve ($2^2 = 4$), there arises a problem with capturing the system-wide syncretism of 1st and 2nd person dual and plural forms, where [CASE] has been neutralized (as can be seen in table 1). With the two-feature system mentioned above, one could never form a natural class between 1st (incl. and excl.) and 2nd person. Thus, I will adopt the three-feature system of person features suggested by Trommer (2008), enriched with the specific third-person feature $[\pm 3]$:

(12) *Decomposition of person features:*

- a. $[+1, -2, -3]$ = 1st person excl.
- b. $[+1, +2, -3]$ = 1st person incl.
- c. $[-1, +2, -3]$ = 2nd person
- d. $[-1, -2, +3]$ = 3rd person

Under this approach, the following five natural classes can be formed: 1st excl. and incl. by $[+1]$, 1st person incl. and 2nd person by $[+2]$, 2nd and 3rd person by $[-1]$, 1st person excl. and 3rd person by $[-2]$, and finally 1st person excl., incl. and 2nd person by $[-3]$. This enables us to form the above mentioned natural class of all persons except 3rd. The remaining four possible feature specifications are logically inconsistent and therefore to be excluded in Lavukaleve and every other language (see Trommer (2008)).

Consider next the feature specifications for number and gender in (13) and (14), respectively. Number can easily be decomposed by assuming two binary features $[\pm \text{sg}]$ and $[\pm \text{pl}]$, yielding the three numbers singular, dual and plural. The fourth logically possible number in (13-d) is excluded. For gender it is also sufficient to assume the two binary features $[\pm \text{masc}]$ and $[\pm \text{fem}]$, again the possible feature specification $[-\text{masc}, -\text{fem}]$ to be excluded.

(13) *Decomposition of number features:*

- a. $[+\text{sg}, -\text{pl}]$ = singular
- b. $[+\text{sg}, +\text{pl}]$ = dual
- c. $[-\text{sg}, +\text{pl}]$ = plural
- d. $*[-\text{sg}, -\text{pl}]$ (to be excluded)

- (14) *Decomposition of gender features:*
- a. [+masc, -fem] = masculine
 - b. [+masc, +fem] = neuter
 - c. [-masc, +fem] = feminine
 - d. *[-masc, -fem] (to be excluded)

Let us turn to Case now. As indicated in section 2.3, I will consider it to be a privative feature. From a formal point of view, *nominative* and *accusative* in nom-acc languages (as well as *absolutive* and *ergative* in erg-abs languages) are merely descriptive notions for a more abstract Case feature that can take the two values *ext(ernal)* and *int(ernal)*. However, to simplify matters, I will use [NOM] for [CASE:*ext*] and [ACC] for [CASE:*int*] as abbreviations.

- (15) *Decomposition of Case:*
- a. [CASE:*ext*] = nominative, [NOM]
 - b. [CASE:*int*] = accusative, [ACC]

3.4. Phase II: Morphological Well-Formedness

I begin with taking a look at Phase II, because it is important to be familiar with the fission analysis and the set of VIs before we continue taking a look at impoverishment and enrichment in section 3.5.

After linearization, Merger, fusion, impoverishment etc. have taken place in Phase I, the M^0 s are prepared for being spelled out.¹² In Noyer's theory of inflection, the second phase of morphology comprises (i) conditions on the well-formedness of morphological words and (ii) the core mechanism that supplies phonological material to M^0 s: vocabulary insertion. I will have little to say about well-formedness here. The only necessary thing to mention concerning well-formedness is that it is quite difficult to say when prefixes must show up and when they are optional. Generally speaking, in a transitive structure accusative prefixes must always show up on the verb. Nominative prefixes are in most cases optional; but see Terrill (2003, 232) for discussion.

¹² A note on terminology. Noyer distinguishes X^0 s from M^0 s. The former are syntactic atoms, whereas the latter are morphological atoms, i.e., syntactic heads that have been subject to the application of morphological operations (fusion, merger etc.) in the first phase of morphology. Hence, in the unmarked case, a X^0 corresponds to a M^0 , but in cases where, for instance, fusion has taken place, two X^0 s have fused into a single M^0 which is subject to vocabulary insertion in the second phase of morphology.

3.4.1. *Fission of M⁰s and Subanalysis*

In the discussion of the agreement-marking prefixes, Terrill does not make an attempt to take a more fine-grained look at the paradigm in table 1. Closer inspection reveals an interesting pattern: The markers in table 1 are, to a large degree, no primitive morphological exponents, but consist of combinations of smaller markers (partially with segmental size). Direct evidence for this *subanalysis* comes from the domains of nominal and adjectival inflection in Lavukaleve, to which I return below.

To sum up so far, in table 1 we encounter 15 different markers (with *a-* and *e-* being counted twice, for reasons that have already been outlined). I argue that the richness of forms can be reduced in favor of the increase of more syncretic forms (see Müller (2006a,b) for similar analyses on German and Sierra Popoluca) by means of a mechanism known as fission. First, consider table 3 which shows the subanalysis that I am proposing.

Table 3: Subanalyzed verbal inflection markers

	SUBJECT			OBJECT		
	SG	DU	PL	SG	DU	PL
1st excl.	a-	l-e-	e-	nga-	l-e-	e-
1st incl.		m-e-	m-e-		m-e-	m-e-
2nd	ngo-, ne-	m-e-l-e-	m-e-	ngo-	m-e-l-e-	m-e-
3rd masc.	o-	l-o-	ma-	a-	l-a-	v-o-
3rd fem.	o-	l-o-	ma-	o-	l-o-	v-o-
3rd neut.	o-	l-o-	ma-	e-	l-e-	v-o-

Terrill (2003, 244) notes that “*l* and *v* are pervasive in Lavukaleve as markers of the dual and plural categories respectively”. To see this, consider the following SG-PL and SG-DU noun pairs in (16).

- (16) a. Singular Plural
foe *foe-v* ‘pig’ (m)
ki *ki-v* ‘clothes’ (n)
- b. Singular Dual
ki’kile *ki’kile-l* ‘headhunting axe’ (f)
laketei *laketei-l* ‘life’ (n)

The following example sentence also shows the pervasive use of *-v* in adjective concord and to mark the number of the object in focus constructions on the verb.

- (17) Ngai molev ruvale-*v* oa fiv a-le-*v*.
 1SG canoe.PL big-PL six 3PL.FOC 1SG.SUBJ-see-PL
 ‘I saw six big canoes.’ (Terrill (2003, 89))

I have subanalyzed *me-* in a similar way into *m-* and *e-*, because *e-* seems to be a very unspecific marker that shows up in all $[-3]$ dual and plural contexts and *m-* can be observed to systematically occur in $[+2, +pl]$ contexts. It can thus be characterized as an exponent expressing “inclusiveness”. In contrast to that, it seems that *ma-* cannot be subanalyzed into *m-* and *a-*: What should *a-* express in this context (recall that we already have two distinct *a-* markers)? *m-* has already been classified as a principal inclusiveness marker. Moreover, for *m-* one could also never form a natural class between 1st incl., 2nd and 3rd person to the exclusion of 1st excl., under the assumption that *m-* is not an unspecific default marker. So I leave *ma-* as a primitive, rather specific marker.

Looking at the marker *mele-*, it seems that every segment of this marker carries morphosyntactic information: *m-*, as explicated above, expresses inclusiveness ($[+2, +pl]$), *e-* expresses $[-3]$, *l-* marks $[+sg]$ and *e-* is a second occurrence of *e-* expressing $[-3]$.¹³ This phenomenon is called extended exponence, because a feature is expressed by more than one exponent in a given syntactic context. In this case, $[-3]$ is expressed twice by *e-*. This phenomenon and its theoretical implementation will be dealt with in detail in section 3.5.2.

Subanalysis presupposes that vocabulary insertion is not restricted to a single application in certain morphemes. It may apply several times per terminal node. Traditionally, fission is a post-syntactic morphological operation that applies before vocabulary insertion and affects the syntactic output in the way that it can split up one terminal node into several which are then subject to

¹³ A note on the dual marker *l-*. At first sight, the specification of *l-* for $[+sg]$ seems counterintuitive, because it never shows up in singular contexts. The reason for specifying it this way is that the insertion of *m-* being specified for $[+2, +pl]$ would bleed the subsequent insertion of *l-* if it were specified as $[+sg, +pl]$ (and vice versa). Since each time one feature can only be discharged by one VI, the consequence must be the modification of one VI’s insertion context. In this case, I have decided on *l-*, because *m-* is very likely to have $[+pl]$ in its insertion context, as it only occurs in nonsingular cells, such that *l-* ends up having only $[+sg]$ as its insertion context, instead of $[+sg, +pl]$.

vocabulary insertion, yielding structures that are quasi-agglutinative. This conception goes back to Halle & Marantz (1993) and is generally represented in rule notation, as in (18).

$$(18) \quad [+α, -β, +γ] \rightarrow [+α] [-β, +γ]$$

Noyer's (1992) conception of fission, however, is fundamentally different, since it does not rely on rules, but on *multiple vocabulary insertion*, i.e., a VI that is inserted into a fissioned morpheme discharges the features it is specified for, leaving the remaining features available for subsequent insertion, until nothing more can be discharged. The formal definition for this, based on Noyer (1992) and Frampton (2002), is given in (19).

(19) *Fission:*

By insertion of a vocabulary item *V* with the morpho-syntactic features F_2 , a fissioned morpheme *M* with the morpho-syntactic features F_1 is split up into $F_1 - F_2$ such that (i) and (ii) hold:

- (i) $F_1 - F_2$ is available for subsequent insertion.
- (ii) F_2 is not available for subsequent insertion.

It follows that fission in the sense of Noyer does not apply prior to vocabulary insertion (in contrast to Halle & Marantz's (1993) fission rules), but essentially *is* multiple vocabulary insertion. Note, however, that both approaches to fission (rule application vs. multiple vocabulary insertion) lack a principled explanation for the fact that fission is stipulative; not all morphemes can be subject to its application (Halle (1997, 132)). I will mark fissioned morphemes with * in what follows.

What exactly controls the order in which the VIs are inserted into a fissioned morpheme is still a matter of controversy. I have no principled explanation for this, although I assume that the exponent's specificity as well as the hierarchy of features in (5) play a very important role when it comes to insertion order. That means, the more specific a marker, the more likely it is to be inserted close to the stem. This works well with cases like *l-e-* where *e-*, being closer to the verbal stem, has priority over *l-*, because *e-* has a person feature $[-3]$ which outranks *l*'s number feature $[+sg]$ on the hierarchy of features. It does not work well with cases like *m-e-* where *m-* ($[+2, +pl]$) is quantitatively more specific than *e-*, but is inserted subsequently (thus farther away from the stem). I will not discuss

these issues here, but I am convinced that they represent a severe problem that should be addressed in future work.

3.4.2. Vocabulary Items

So far, consider the specifications of the twelve VIs in (20). Most of them are underspecified for at least one feature. In accordance with the Specificity Principle in (4), the VIs with less features are listed lower on the list (specificity decreases from top to bottom).

(20) *Inventory of argument encoding inflection markers:*

1. /ne-/ ↔ {[-1, +2], [-pl], [*NOM*]} / ____ [*ACC*]
2. /nga-/ ↔ {[+1], [+sg, -pl], [*ACC*]}
3. /a-/ ↔ {[+1], [+sg, -pl], [*NOM*]}
4. /ma-/ ↔ {[+3], [-sg], [*NOM*]}
5. /ngo-/ ↔ {[-1, +2], [-pl]}
6. /e-/ ↔ {[+3], [+masc, +fem]}
7. /m-/ ↔ {[+2], [+pl]}
8. /a-/ ↔ {[+3], [+masc]}
9. /o-/ ↔ {[+3]}
10. /e-/ ↔ {[−3]}
11. /l-/ ↔ {[+sg]}
12. /v-/ ↔ {[+pl]}

The marker /ne-/₁ is the most specific one, characterized by the contextual feature [*ACC*] that ensures that /ne-/₁ is only inserted into T in contexts where (the adjacent) v bears a [*CASE:int*] (or [*ACC*]) feature. In other words, /ne-/₁ is inserted as the subject marker for 2nd person singular in transitive contexts (recall the Feature Balance Constraint on numerations in section 2.3 which determines transitivity), as illustrated by the examples in (21) and (22).

- (21) Ninam hi ni'kol Mane ngo-vo?
 when 3SG.N.EFOC first Mane 2SG-come
 'When did you first come to Mane?' (Terrill (2003, 231))

- (22) o-na nei ga e-ne-tai-re.
 3SG.F.OBJ-in coconut.N ART.SG.N 3SG.N.OBJ-2SG.SUBJ-show-FUT
 '... you will show the coconut to her.' (Terrill (2003, 229))

*/nga-/*₂ is specified for the single context in which it can occur: 1st person singular accusative. */a-/*₃ is sufficiently specific for being inserted in 1st person singular nominative contexts. The marker */ma-/*₄ is not fully, but sufficiently specified for being inserted in 3rd person plural nominative contexts. */ngo-/*₅ is unspecified for Case, so as to fit both in 2nd person singular nominative and accusative contexts. */e-/*₆ is compatible with 3rd person singular accusative neuter contexts and is unspecified for number and Case, because the gender specification already determines the insertion context correctly (gender is only distinguished in 3rd person forms). The inclusiveness marker */m-/*₇ is very unspecific, not specified for Case and underspecified for person and number such that it can show up in all 1st incl. and 2nd person dual and plural nominative and accusative contexts (but only as part of a fissioned morpheme). */a-/*₈ is unspecified for number and Case (for the same reason as */e-/*₆) and underspecified for gender, because */e-/*₆ is already very specific for gender; */a-/*₈ can be inserted in the remaining [+masc] context (but still blocks insertion of */o-/*₉). */o-/*₉ and */e-/*₁₀ are the least specified person markers. */o-/*₉ is the default marker for 3rd person, */e-/*₁₀ the default for all other persons. Finally, */l-/*₁₁ and */v-/*₁₂ are pervasive markers for dual and plural that show up in fissioned morphemes.

In cases where the quantity of features does not suffice to determine the correct order of VIs, the hierarchy of features in (5) comes into play. This ensures the correct order of the last four VIs */o-/*₉, */e-/*₁₀, */l-/*₁₁ and */v-/*₁₂, but also, for instance, the relative order between */m-/*₇ and */a-/*₈. Note that competition between VIs like */o-/*₉ and */e-/*₁₀ actually never arises, because no syntactic X⁰ can have the same feature with opposite values at the same time (in this case [+3] and [-3]). Therefore, the order between these VIs is free.

3.5. Phase I: Morphosyntactic Well-Formedness

Phase I in Noyer's (1992) formalism comprises all those principles and operations that are indispensable for deriving morphosyntactically well-formed structures. Of central interest here are impoverishment (Bonet (1991)) and enrichment (Müller (2007)), two morphological operations that change the featural make-up of a morphosyntactic representation by deleting or adding features. Both are discussed in detail below.

3.5.1. *Systematic Neutralizations and Impoverishment*

Neutralizations cannot only be captured by underspecification of exponents (or rules introducing them). Bonet (1991) has proposed a mechanism that deletes certain features that are present in the fully-specified morphosyntactic representation of a X^0 by the end of syntax, yielding “underspecified” syntactic structures. Halle & Marantz (1994) note that this can lead to a *retreat to the general case*, because a vocabulary item that contains the deleted feature in its insertion context and is sufficiently specific to be inserted into the fully specified context cannot be inserted after feature deletion has taken place, and instead a less specific VI (or even nothing) will be inserted. This mechanism is known as *impoverishment* and accounts for such systematic neutralizations as, for instance, the extremely systematic syncretism of verb forms in 1st and 3rd person past contexts in German, e.g., *ich sehe* ‘I see’, *er sieht* ‘he sees’ vs. *ich/er sah* ‘I/he saw’. Most analyses that are carried out in DM employ rule-based impoverishment of the form $F_1 \rightarrow \emptyset / [F_2 \text{ ____}]$, interpreted as “delete F_1 in the context of F_2 ”. It has also been proposed that morphosyntactic features are arranged in feature geometries and that impoverishment is a result of delinking certain nodes and nodes that are dependent on them (see, e.g., Harley (1994)).

Noyer (1992, 44) has observed that rules are too powerful, because they can express neutralizations that are rarely found or even impossible cross-linguistically, and that feature geometries are too restrictive, because they ban certain neutralizations. In my analysis, I will assume the filter-theoretic approach to impoverishment proposed in Noyer (1992). Essentially, filters are *Feature Cooccurrence Restrictions* (FCR, cf. Gazdar et al. (1985)) of the form $*[F_1 F_2]$ and effect systematic neutralizations when combined with a hierarchy.¹⁴ As a consequence, in order for a morphosyntactic representation to escape from a filter and to become well-formed, a feature must be deleted so as to “repair” the structure. The feature that will be deleted by that mechanism will always be the one which is the lowest on the hierarchy of features (5) that I have introduced in section 2.2. We can assume the following definition of impoverishment:

¹⁴FCRs in this sense are reminiscent of markedness constraints in Optimality Theory (OT, Prince & Smolensky (2004)) as they make demands on the well-formedness of the output of the syntactic structure.

(23) *Impoverishment* (Noyer (1992, 49)):

Given a filter of the form $*[\alpha F \beta G]$, delink that feature which is lower on the hierarchy of features.

Given this, I propose the following filters to be active in Lavukaleve:

(24) *Lavukaleve Filters*:

- | | | |
|----|--------------------------------|----------------------------------|
| a. | $*[+3 \text{ NOM GENDER}]$ | (\leadsto deletion of GENDER) |
| b. | $*[+3 \text{ -sg +pl GENDER}]$ | (\leadsto deletion of GENDER) |
| c. | $*[-3 \text{ +pl CASE}]$ | (\leadsto deletion of CASE) |
| d. | $*[+1 +2 \text{ +sg}]$ | (\leadsto deletion of +sg) |
| e. | $*[+3 \text{ +sg +pl}]$ | (\leadsto deletion of +pl) |

The first two filters lead to a deletion of all GENDER features (GENDER is used here as an abbreviation for $[\alpha \text{masc}, \beta \text{fem}]$) in 3rd person nominative contexts and 3rd person plural accusative contexts, because it is lower on the hierarchy than person ($[+3]$), number ($[-\text{sg}, +\text{pl}]$) or Case ($[\text{NOM}]$). The third filter leads to a deletion of Case, because it is lower on the hierarchy than person ($[-3]$) or number ($[+\text{pl}]$). The filters in (24-d) and (24-e) serve as repair mechanisms: (24-d) prevents $[+\text{sg}]$ from being realized by $/l-/_{11}$ in 1st person incl. contexts in a subsequent cycle, (24-e) prevents $[+\text{pl}]$ from being realized by $/v-/_{12}$ in 3rd person dual contexts, provided that the hierarchy in (5) is internally refined with respect to number as attaching importance to singular over plural (SG > PL).

3.5.2. *Extended Exponence and the Role of Enrichment Constraints*

Nothing has been said so far about the double occurrence of $/e-/_{10}$ in the marker *mele-*, which instantiates a case of *extended exponence*, i.e., a case where a given morpho-syntactic property is realized twice (see Matthews (1972)). Extended exponence poses a problem for the theory assumed here, because a feature may be discharged only once, becoming inert for further rule application. Suppose that extended exponence indeed shows up in Lavukaleve, and that the feature $[-3]$ is expressed twice in the context of 2nd person dual. How can this be derived in Distributed Morphology? The solution relies on a simple complementarity: Syntactic structures may not only be impoverished, but also *enriched* with features under certain circumstances. The concept of enrichment has recently been proposed by Müller (2007) and imposes the crucial restriction

that features may only be inserted if they are already present, that is, enrichment is doubling or copying. Müller introduces enrichment as a new type of rule that applies to syntactic structures prior to Spell-Out, analogous to the well-known impoverishment rules.

In the light of the filter-based approach to impoverishment that I have introduced in section 3.5.1, I would like to suggest that enrichment can be translated into Noyer's theory in an analogous way, abandoning the rule-based approach in Müller (2007): If filters are feature cooccurrence restrictions that constrain the cooccurrence of certain features in a morphosyntactic representation, then conceptual considerations strongly suggest that the opposite must also hold, that is, that there must be specific conditions demanding the presence of certain features, expressing the fact that these features are missing and must be introduced into the structure. This is achieved by a copy mechanism. I adopt Müller's proposal that features must already be present in order to be copied (in fact, copying would not be possible if there is nothing to copy). Features may not be introduced freely in order to satisfy those constraints. My definition of enrichment (based on and complementary to the definition of impoverishment in (23)), then, looks as follows (a so-called feature addition requirement is distinguished from a feature cooccurrence restriction by the symbol \oplus for expository purposes):

(25) *Enrichment:*

Given a feature addition requirement (FAR) $\oplus[\alpha F \beta G]$, copy the feature which is higher on the hierarchy of features.

It remains a matter of empirical discovery, however, if the copy mechanism that applies as a consequence of a FAR really operates on high-ranked features. This seems plausible, because only conceptually important features should be realized more than once. Recall that extended exponence is a quite redundant and highly marked morphological phenomenon, so if it applies at all, it does so for a special reason and should therefore not operate on less important, low-ranked features. This is analogous to systematic neutralizations effected by impoverishment, where, in contrast, only conceptually less important features should be deleted, if at all. Feature deletion might not be desired, so it operates on low-ranked features.

Crucially, I assume here that the copy mechanism that operates on fully specified syntactic X^0 s before Spell-Out copies a whole feature category, that is,

it does not copy $[-\gamma]$ out of $\{[-\alpha, +\beta, -\gamma]\}$, but rather copies the whole set of features which constitute the category, say, $[\Gamma]$ in a given structure.

If we assume (25) to be true, we have the adequate device to resolve the problem mentioned above. In Lavukaleve, there is a feature addition requirement $\oplus[2 \text{ dual}]$ that demands the presence of a further feature in 2nd person dual contexts. In order not to violate this requirement, one of the features must be copied. As a result, the ‘2’ feature (which is, formally, $\{[-1, +2, -3]\}$) is copied, because it is higher than number on the universal feature hierarchy in (5). When vocabulary insertion takes place, the only way to realize the copy $[-1, +2, -3]$ is by insertion of $/e-/_{10} \leftrightarrow [-3]$, since there is no more specific marker available in (20).

3.5.3. *Alternative Analysis*

I would like to point out that it is a purely empirical question if the analysis just presented qualifies as the most adequate to account for the double occurrence of the segment $e-$. It could well be the case that this is due to a phonological process. Neither for the enrichment analysis nor for the phonological analysis there is convincing evidence.

I have mentioned earlier that the successive insertion of VIs into fissioned morphemes might be governed by the specificity principle (in connection with the hierarchy of features). It could be that the most specific VI is inserted first and the least specific VI at last, and that insertion works “inside out”, that means, the more specific a VI, the closer it is to the stem. In the case of *mele-*, then, $e-$ is inserted first (although it is not the most specific item; see section 3.4.1 where I have already pointed out that problem). In the next insertion cycle, either $l-$ or $m-$ is inserted (actually $m-$, because it is more specific, but $l-$ could be more specific than I have analyzed it). We would then yield something like $m-l-e$, which is clearly ungrammatical because of the phonotactics of the language. Eventually, the segment $e-$ could be copied between $m-$ and $l-$ to break up the consonant cluster, serving as an epenthetic vowel.

3.6. Competition of Inflection Markers

Table 4 and 5 below illustrate the competition for insertion that arises between the inflection markers in (20). Since vocabulary insertion is governed by the Subset Principle in (3) and the Specificity Principle in (4), the less specific

markers (in brackets) are outranked by the most specific marker (in boldface) for the respective syntactic context. Note that the syntactic contexts represented in the paradigms below have already been affected by impoverishment and enrichment, respectively when vocabulary insertion takes place.

Table 4: Inflection markers competing for insertion into T heads (nominative contexts)

	[NOM]		
	[+sg, -pl]	[+sg, +pl]	[-sg, +pl]
[+1, -2, -3]	/a-/ ₃	*/l-/ ₁₁ /e-/ ₁₀	/e-/ ₁₀
[+1, +2, -3]	(/e-/ ₁₀ , /l-/ ₁₁)	*/m-/ ₇ /e-/ ₁₀	*/m-/ ₇ /e-/ ₁₀
[-1, +2, -3]	/ngo-/ ₅ ~/ne-/ ₁ (/e-/ ₁₀)	*/m-/ ₇ /e-/ ₁₀ /l-/ ₁₁ /e-/ ₁₀	*/m-/ ₇ /e-/ ₁₀
[-1, -2, +3, +masc, -fem]	/o-/ ₉ (/l-/ ₁₁)	*/l-/ ₁₁ /o-/ ₉	/ma-/ ₄ (/o-/ ₉ , /v-/ ₁₂)
[-1, -2, +3, -masc, +fem]	/o-/ ₉ (/l-/ ₁₁)	*/l-/ ₁₁ /o-/ ₉	/ma-/ ₄ (/o-/ ₉ , /v-/ ₁₂)
[-1, -2, +3, +masc, +fem]	/o-/ ₉ (/l-/ ₁₁)	*/l-/ ₁₁ /o-/ ₉	/ma-/ ₄ (/o-/ ₉ , /v-/ ₁₂)

Table 5: Inflection markers competing for insertion into v heads (accusative contexts)

	[ACC]		
	[+sg, -pl]	[+sg, +pl]	[-sg, +pl]
[+1, -2, -3]	/nga-/ ₂	*/l-/ ₁₁ /e-/ ₁₀	/e-/ ₁₀
[+1, +2, -3]	(/e-/ ₁₀ , /l-/ ₁₁)	*/m-/ ₇ /e-/ ₁₀	*/m-/ ₇ /e-/ ₁₀
[-1, +2, -3]	/ngo-/ ₅ (/e-/ ₁₀)	*/m-/ ₇ /e-/ ₁₀ /l-/ ₁₁ /e-/ ₁₀	*/m-/ ₇ /e-/ ₁₀
[-1, -2, +3, +masc, -fem]	/a-/ ₈ (/o-/ ₉ , /l-/ ₁₁)	*/l-/ ₁₁ /a-/ ₈ (/l-/ ₁₁ /o-/ ₉)	*/v-/ ₁₂ /o-/ ₉
[-1, -2, +3, -masc, +fem]	/o-/ ₉ (/l-/ ₁₁)	*/l-/ ₁₁ /o-/ ₉	*/v-/ ₁₂ /o-/ ₉
[-1, -2, +3, +masc, +fem]	/e-/ ₆ (/o-/ ₉ , /l-/ ₁₁)	*/l-/ ₁₁ /e-/ ₆ (/l-/ ₁₁ /o-/ ₉)	*/v-/ ₁₂ /o-/ ₉

4. Concluding Remarks

To sum up, I have shown that the instances of syncretism in the verbal agreement morphology of Lavukaleve can be derived by standardly assumed concepts of Distributed Morphology, such as underspecification of exponents, decomposition of morpho-syntactic categories and post-syntactic morphological operations that alter the syntactic output before Spell-Out. Syntactically it was argued that Case-marking and agreement-marking trace back to the same thing: a structural feature [CASE] that may be realized as a goal feature on a DP, or as a probe feature on a functional category. Lavukaleve shaped up to make use of the latter option.

It was shown that the number of independent forms could be reduced by assuming that the inflection markers can be subanalyzed, yielding segmental exponents bearing morpho-syntactic information. Subanalysis was justified by means of fission which relies on successive vocabulary insertion. System-wide nonaccidental patterns of syncretism could be accounted for by filters deleting certain features in specific syntactic environments, yielding impoverished structures. I suggested that the complementary operation of enrichment (which adds features in specific environments due to feature addition requirements) must be employed in order to account for one instance of extended exponence in Lavukaleve, namely 2nd person dual *mele*.

Although I did not make use of radical underspecification and was therefore not able to capture all the syncretisms in accordance with the Syncretism Principle in (10), which might be a disadvantage of the analysis, I have arranged the feature specifications for the inflectional markers as economically as possible. Due to subanalysis, there are finally only 12 distinct markers which compete for insertion into the 34 paradigm cells, which is clearly a desired result in terms of economy.

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