

# Markedness and morphological change in obsolescent languages

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## 1.0 Introduction

This thesis investigates the hypothesis that obsolescing languages display a regular trend toward morphological unmarkedness.<sup>1</sup> To explore this hypothesis, I will examine published data on morphological changes in minority languages in contact with English. In healthy language, changes reflect a mixture of reducing and increasing morphological markedness (where markedness is related to complexity and unnaturalness). Obsolescing languages, on the other hand, are known to simplify fairly exclusively (Campbell & Mutzel 1989, Dorian 1978, Austin 1986).

In general, simplification involves reducing morphological markedness (see Section 2.1). In this thesis, I will confirm that the morphological changes observed in obsolescent languages reduce markedness, or at least do not increase markedness. As my primary focus, however, I will investigate the details of this simplification. As languages lose morphological complexity, do unmarked forms predominate? Is the trend toward simplification *uniformly* toward unmarkedness? If these hypotheses hold, they will demonstrate a pattern to language loss in endangered language situations more focused and precise than ‘simplification’.

In this study, I will examine morphological changes discussed in the literature in obsolescing languages in contact with English, in indigenous and immigrant communities. I chose to limit myself to languages in contact with English in part to facilitate my evaluating whether the change in question could involve convergence toward the dominant language (although that is not

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the focus of my question) and in part to limit the number of variables in this study. I will address a number of minority languages and a number of types of morphological change. Surveying a representative set of dominant languages would be beyond the scope of this paper, so I ensure instead that the data are as uniformly biased as possible.<sup>2</sup>

I discuss markedness in Section 2, then markedness in relation to language change in Section 3, and language change in language contact/endangerment situations in Section 4. Then, in Section 5, I present data on morphological changes in endangered languages in contact with English and analyze the markedness of these changes. Finally, in Section 6, I discuss the significance and implications of my results.

## 2.0 Markedness

The distinction ‘unmarked’ versus ‘marked’ applies at all levels of language, although it was first developed by Trubetzkoy in relationship to phonology (Greenberg 1966). The literature has not agreed on a precise definition of markedness; in general, ‘unmarked’ often refers either to the simpler structure or to the more default structure in a set of minimally contrasting structures (Whaley 1997:288); ‘marked’ conversely applies to the “unexpected, uncommon, and striking” (Zwicky 1978). Within morphology, ‘structure’ can range from ‘individual morpheme’ to ‘morphological paradigm’. In my evaluation of markedness in morphological change, I will rely upon several – at times opposing – definitions of markedness, some of which are specifically morphological markedness and others of which may be more lexical or psychological. To

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<sup>2</sup> This decision, however, in turn biased the study languages toward Indo-European, North American, and Australian languages.

distinguish these definitions, I will give each a unique designation so that I may refer to them explicitly in my analysis.

In this section (2), I first discuss markedness in relationship to complexity (Section 2.1). Then I address markedness in relationship to frequency (Section 2.2). I next review proposed language universals regarding marked and unmarked structures and discuss ways in which structures that are ‘conceptually’ unmarked can at times constitute counterexamples to the complexity-based definitions of markedness (Section 2.3).

## 2.1 Markedness and complexity

One view of markedness correlates increasing complexity with increasing markedness.

Morphological complexity involves the number of morphemes in a word (Section 2.1.1), the number of allomorphs in a paradigm (Section 2.1.2), the number of different morphemes in the paradigm (Section 2.1.3), and the number of irregular paradigms alongside the regular one (Section 2.1.4). I discuss examples in English and Spanish.

### 2.1.1 The number of morphemes per word

Words with more morphemes have greater morphological complexity. Some languages have the capability to attach many morphemes to each word; other languages tend to separate information into individual word. Within a paradigm, such as number distinctions or verb inflections, we can count the morphemes used to create each form. Structures using fewer morphemes are unmarked in relation to those with more morphemes. In many paradigms, one member will not be overtly marked beyond the base form (it will have a null affix) while other members will be designated by

overt morphemes attached to the base form. I will call this version of markedness *affixation markedness*.

In (2.1), we see that English singular nouns are less morphologically complex than their plural equivalents:<sup>3</sup>

- (2.1) a. *spoon-Ø*  
           *spoon-sg.*
- b. *spoon-s*  
               *spoon-pl.*

The singular form requires no additional morphemes, while the plural form requires suffixing the plural *-s*. Thus, the singular is *affixation-unmarked* while the plural is *affixation-marked*. By the same reasoning, in English, third person singular verbal conjugations are affixation-marked in comparison with other conjugations, as in (2.2):

- (2.2) English present tense indicative conjugation paradigm for the verb *dance*
- | Person | Singular       | Plural         |
|--------|----------------|----------------|
| 1st    | <i>dance-Ø</i> | <i>dance-Ø</i> |
| 2nd    | <i>dance-Ø</i> | <i>dance-Ø</i> |
| 3rd    | <i>dance-s</i> | <i>dance-Ø</i> |

In Spanish, each form requires the same number of morphemes, as in (2.3), so we cannot say that one form in the verbal paradigm is affixation-unmarked:

- (2.3) Spanish present tense indicative conjugation paradigm for the verb *bailar* ‘dance’
- | Person | Singular       | Plural           |
|--------|----------------|------------------|
| 1st    | <i>bail-o</i>  | <i>bail-amos</i> |
| 2nd    | <i>bail-as</i> | <i>bail-an</i>   |
| 3rd    | <i>bail-a</i>  | <i>bail-an</i>   |

Examples (2.2) and (2.3) also demonstrate the distinction between languages that morphologize information and those that separate information into multiple words. The English paradigm,

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<sup>3</sup> In Section 2, I use the following abbreviations:

sg.	singular	fem.	feminine	Ø	null affix
pl.	plural	masc.	masculine		

which for the most part does not overtly indicate person, requires a personal pronoun, as in *I dance*, whereas the Spanish paradigm does not require a pronoun to form coherent sentences; the equivalent of *I dance* is *bailo*. Although in my treatment of affixation markedness I group the ideas of placing information in separate words and of some forms using a null affix, we could plausibly distinguish them further.

### 2.1.2 The number of allomorphs in a paradigm

Languages may have several variants of the same morpheme within a paradigm. These are called *allomorphs* and are conditioned phonologically by their environment. Paradigms with more allomorphs are more morphologically complex and thus can be called more marked. I term this version of markedness *allomorphic markedness*.

Spanish has two equivalent, phonologically-determined noun plural allomorphs (2.4a): *-s* and *-es*. English, in contrast, has three regular noun plural allomorphs (2.4b): *-s*, *-z*, and *-ɪz*.<sup>4</sup> The Spanish pluralization paradigm is thus less allomorphically marked than the English paradigm:

- (2.4) a. Spanish nominal plural
- |                  |                      |
|------------------|----------------------|
| i. <i>mesə-s</i> | ii. <i>riŋkon-es</i> |
| table-pl.        | corner-pl.           |
| ‘tables’         | ‘corners’            |
- b. English nominal plural
- |                 |                  |                     |
|-----------------|------------------|---------------------|
| i. <i>kæt-s</i> | ii. <i>dag-z</i> | iii. <i>hɔɪs-ɪz</i> |
| cat-pl.         | dog-pl.          | horse-pl.           |
| ‘cats’          | ‘dogs’           | ‘horses’            |

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<sup>4</sup> English also has several irregular plurals: a zero-morpheme plural (*sheep-sg. sheep-pl.*) and others (*ox, oxen; mouse, mice; goose, geese*), remnants of Old English inflectional morphology. I will address irregular morphology in Section 2.1.4.

In English, we also see stem allomorphy, where a stem change is conditioned by the morphemes attached to it, as in (2.5a,b), instead of retaining its previous phonology, as in (2.5c)

(2.5)	a. <i>naif</i>	b. <i>narv-z</i>	c. * <i>naif-s</i>
	knife-sg.	knife-pl.	*knife-pl.
	'knife'	'knives'	*'knives'

This variation further increases the allomorphic markedness of the paradigm.

### 2.1.3 The number of distinctions within a paradigm

We can also compare the number of distinctions within a paradigm; paradigms with more distinctions (more morphemes per paradigm) have more morphological complexity. I will call this characterization of markedness *distinction markedness*.<sup>5</sup> Morphological changes merging distinctions within a paradigm reduce the markedness of that paradigm. In (2.2) and (2.3), above, we see that English morphology makes two distinctions in verbal conjugation, while Spanish morphology makes five distinctions. Thus, the Spanish conjugation paradigm is more distinction-marked than the English paradigm.

In another example, languages vary in their number distinctions. Chinese does not make any inflectional number distinctions (Li & Thompson 1990), while English and Spanish distinguish singular from plural, and Arabic distinguishes singular, dual, and plural (Kaye 1990). Languages also have varying numbers of cases, tenses, moods, etc.

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<sup>5</sup> But, Greenberg (1966) argues that in opposing paradigms, such as singular versus plural, the unmarked can retain more distinctions than the marked. I will address this contradiction in Section 2.3.2.

#### 2.1.4 Irregularity

Irregularity in a paradigm, where there is no morphological rule which predicts the variation, also entails more morphology than otherwise, creating more complexity and more markedness. I call this characterization of markedness *irregularity markedness*. For example, in English most present tense verbs are conjugated as above (2.2). However, there are exceptions, such as in the verb *be* (2.6):

(2.6) English present tense indicative conjugation paradigm for the verb *be*

Person	Singular	Plural
1st	<i>am</i>	<i>are</i>
2nd	<i>are</i>	<i>are</i>
3rd	<i>is</i>	<i>are</i>

The more irregular patterns for a paradigm, the more irregularity-marked that language's paradigm is.

Within a paradigm, sometimes one form will be irregular while others will not. For instance, the English verb *go* is conjugated regularly in the present tense indicative (2.7):

(2.7) English present tense indicative conjugation paradigm for the verb *go*

Person	Singular	Plural
1st	<i>go</i>	<i>go</i>
2nd	<i>go</i>	<i>go</i>
3rd	<i>goes</i>	<i>go</i>

However, the past tense indicative has been supplanted (absorbed) from the Old English verb *wendan* 'to go'<sup>6</sup> (*American Heritage* 1996):

(2.8) English past tense indicative conjugation paradigm for the verb *go*

Person	Singular	Plural
1st	<i>went</i>	<i>went</i>
2nd	<i>went</i>	<i>went</i>
3rd	<i>went</i>	<i>went</i>

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<sup>6</sup> Also the origin of the modern English verb *wend*.

If *go* were regularly conjugated in the past tense, all of the past tense indicative forms would be *goed*. Thus, for the verb *go*, the past tense conjugation paradigm is irregularity-marked with respect to the present tense conjugation paradigm.

## 2.2 Markedness and frequency

Other characterizations of markedness rely upon the behavior of a morphological structure rather than the complexity of its realized structure. The simplest characterization in this category is that the unmarked is the most frequent or common (Section 2.2.1). Beyond that, one member may appear in more environments than other elements of the paradigm, at times becoming a blanket (general) designation which can encompass the meaning of the (specific) marked elements (Section 2.2.2) (Bauer 1988, Greenberg 1966). Additionally, the unmarked may be the most productive or the ‘default’ (Section 2.2.3).

### 2.2.1 Frequency

One member of an opposition may appear in dialogue or text more frequently than others. For example, Greenberg (1966) cites preliminary evidence based on word-counts in texts that singular nouns are significantly more common than plural nouns in Sanskrit, Latin, Russian, and French. I will call this type of markedness *frequency markedness*. Frequency-unmarked members may be more common in speech because they are also general-unmarked or productive-unmarked.



### 2.2.2 Generic versus specific

When one member of a minimal pair also covers more general contexts, while the other member remains specific, the generic member is called the unmarked. I term this type of markedness *generic markedness*. It may truly be a type of semantic markedness.

We at times see this distinction between English singular and plural nouns (Bauer 1988). For instance, the sentence in (2.9) uses the singular noun form but refers to a plural entity (many rats):

(2.9) The rat is a notable pest.

Here, the generic-unmarked singular can be used even in the context appropriate for the generic-marked plural.

In the English singular/plural example above, we had previously seen that the singular is also zero-unmarked. However, a member of an opposition can be generic-unmarked without being complexity-unmarked. For instance, Spanish has two genders, the masculine and the feminine. Usually, the genders are indicated on nouns by the suffixes *-o* and *-a*, respectively, as in (2.10):

(2.10) a. *zapat-o*                      b. *bols-a*  
         shoe-masc.sg.                      bag-fem.sg.  
         ‘shoe’                                      ‘bag’

However, there are nouns of each gender without such a suffix, ending in a variety of other phonemes, as in (2.11).

(2.11) a. *el*                      *lapis-Ø*                      b. *la*                      *matriz-Ø*  
         det.masc.sg. pencil                      det.fem.sg. womb  
         ‘pencil’                                      ‘maturity’

Thus, both masculine and feminine nouns can end with a gender-specific morpheme or a zero-morpheme. The complexity or simplicity of the paradigm does not indicate markedness.

However, when a group of objects or individuals is of mixed gender, the entire group is termed ‘masculine’; single-gendered groups retain the ‘masculine’ or ‘feminine’ gender as appropriate, as we see in (2.12):

- (2.12) a. *las*               *madres*                        b. *los*                   *padres*  
 det.fem.pl mother-pl.                                 det.masc.pl father-pl.  
 ‘the mothers’     ‘the fathers’ or ‘the parents’

Thus, we see that the masculine applies in more environments than does the feminine; it is the *generic-unmarked*.

### 2.2.3 Productivity

When one member of an opposition is more productive (i.e., is used in more new word formations) than the other, it can be called the unmarked. I designate this type of markedness to be *productive markedness*. This type of markedness applies most closely to the ‘default’ generalization of markedness. In Section 2.2.2, above, I demonstrated that in Spanish the masculine gender is the generic-unmarked gender. It is also the productive-unmarked gender.

Borrowings from English are all gendered masculine, such as those in (2.13):

- (2.13) a. *el*                   *film*        b. *el*                   *bus*                        c. *el*                   *fútbol*  
 det.masc.sg. movie        det.masc.sg. bus                                 det.masc.sg. football  
 ‘the movie’     ‘the bus’     ‘football’ (British English)

Additionally, objects for which the speaker does not know the grammatical gender are automatically assumed to be masculine. Both of these pieces of evidence indicate that the masculine is more productive than the feminine. This is not to say that no new words are gendered feminine; they can be. However, there are areas in which the feminine is never productive, which is not the case for the masculine.

## 2.3 Language universals and cross-linguistic markedness

A body of the literature on markedness looks not at complexity or behavior within one language, but instead assesses whether certain members of common oppositions (such as singular vs. plural or present tense vs. past tense) are unmarked across all languages. Usually, these structures are unmarked according to at least one of the definitions of ‘unmarked’ above in all or almost all languages. Joseph Greenberg (1966) famously listed a number of such language universals (Section 2.3.1). These universals also imply – and he relies upon – a type of *conceptual markedness*. This type of markedness implies that speakers consider one member of an opposition to be inherently conceptually unmarked (e.g., that singular nouns are innately less marked than plural nouns, regardless of the morphology used to express number). However, Greenberg (1966) also posits that universally or conceptually unmarked members may retain morphological complexity (Section 2.3.2). Natural Morphologists have tried to clarify the conflict and fuzziness surrounding definitions of markedness by asserting cross-linguistic principles of ‘naturalness’ with an extra-linguistic base (Section 2.3.3).

### 2.3.1 Greenberg’s markedness universals

Greenberg (1966) develops a number of language universals, based on what he admits to be anecdotal evidence. He essentially uses a combination of some of the characterizations of markedness that I develop above with the idea of conceptually unmarked elements, although he does not identify it clearly as such. I list in (2.14) those of Greenberg’s universals that are the most relevant to the data which I present in Section 5. Greenberg admits that many of these

“universals” are not proven. Clearly, if they apply, they apply only in languages that make these distinctions.

(2.14)

<b>Least Marked</b>	_____	<b>Most Marked</b>
singular	plural	dual
masculine	feminine	neuter
3rd person	1st person	2nd person
active	passive	
indicative	other modes/moods/aspects	
present	past	future

He writes that usually one noun case will carry the zero-morpheme; this will be the unmarked case. Although these universals have not been proven, in addressing my data I will treat them as virtually proven.

### 2.3.2 Conflicts in characterizations of markedness

Morphological and conceptual versions of markedness can conflict. I have said that paradigms with more distinctions are more marked (distinction markedness) and that paradigms with more irregularity are more marked (irregularity markedness) because they are more morphologically complex. However, Greenberg (1966) claims that the conceptually unmarked member of an opposition can be more morphologically complex. I will illustrate this claim with examples from Spanish verb conjugations.

First, Greenberg (1966) writes that unmarked members of an opposition within a paradigm can contain more distinctions than the marked counterpart. He also places the singular as universally unmarked in comparison with the plural. As we saw in example (2.3), reproduced

below in (2.15), the Spanish present tense verb conjugational pattern has three singular forms and two plural forms:

(2.15) Spanish present tense indicative conjugation paradigm for the verb *bailar* ‘dance’

Person	Singular	Plural
1st	<i>bail-o</i>	<i>bail-amos</i>
2nd	<i>bail-as</i>	<i>bail-an</i>
3rd	<i>bail-a</i>	<i>bail-an</i>

We see that the singular paradigm is more distinction-marked than the plural paradigm, but that it is also psychologically-unmarked.

According to Greenberg (1966), unmarked members may also retain more irregularity than the marked counterpart. Spanish verbs have a number of irregular conjugations in the present tense, but only three irregulars in the imperfect tense. These irregulars increase irregularity-markedness in the conceptually-unmarked present tense.

Finally, the marked member of an opposition may leave gaps in the paradigm that the unmarked member covers. For example, in Spanish, the conceptually-unmarked indicative mood has one present tense, two past tenses, and one future tense. The conceptually-marked subjunctive, on the other hand has only the present tense and the past imperfect.

That the unmarked member of a paradigm can make more distinctions, retain irregularity, and apply in more environments than the marked is related to, although distinct from, what I have called generic-markedness. It may be that the conceptually-unmarked elements are also frequency-unmarked (i.e., used more), which would help speakers cement distinctions and irregularity in their memory. Thus, the very fact of conceptual unmarkedness may allow increasing morphological markedness. Regardless, we can say that morphological changes reducing distinctions and irregularity reduce the markedness of a paradigm, and we can compare

equivalent paradigms cross-linguistically to assess whether one language is more distinction-marked for that paradigm. However, distinction-markedness may not be a good indicator of markedness between opposing paradigms, such as singular versus plural, because it conflicts with conceptual markedness.

### 2.3.3 Natural Morphology

Given the conflicting and sometimes anecdotal nature of markedness presented above, a school of thought called Natural Morphology arose trying to systematize and rationalize markedness and language universals. Natural Morphologists assert that

natural (unmarked) forms

- occur very frequently in languages generally
- occur frequently and in a variety of contexts in languages containing them
- occur in pidgins or are introduced early in creoles
- are acquired early by children
- are comparatively resistant to loss in aphasia [...]
- are relatively resistant to change
- frequently result from change
- are exhibited by loan words and neologisms
- are little affected by speech errors. Trask (1996: 121)

As we can see by the claims in this list, Natural Morphologists posit an extra-linguistic (i.e., cognitive) base for their markedness universals (Dressler 1985). Additionally, there may be structures which are ‘natural’ within one language but which contradict universal naturalness tendencies (Trask 1996). Natural Morphology is by no means proven, and the theory is still being elaborated, but it adds usefully to the study of markedness (Trask 1996).

In part, describing language universals attempts to generalize about innate components of human language. However, the current distribution of linguistic structures may not display innate linguistic characteristics: Modern language distribution reflects just a short slice in the

history of human language and is particularly biased by the worldwide spread of Western European languages; this spread has resulted in the deaths of a number of languages and may have introduced a number of structures, such as prepositions, coordination, and the passive voice, into many languages (Blake 2001). Thus, we must be careful in assuming that high frequency of a structural relationship across languages is due to an inherent human tendency. Thus, that Natural Morphologists have tried to find experimental bases in language acquisition and language disorders to support their claims adds fundamentally to ideas of language universals (Dressler 1985).

## 2.4 Summary

From these treatments of markedness, we see that not all morphologically-relevant markedness is purely morphological; i.e., frequency-based and conceptual versions of markedness are more lexical and psychological. Clearly, in normal situations morphological change can both decrease markedness and increase markedness, as I will expand upon in Section 3.0. However, in abnormal situations, such as in obsolescent languages, we might see an emergent preference for unmarked structures, following the principles of Natural Morphology.

## 3.0 Markedness and morphological language change

Markedness may play an important role in language change. Before I address markedness and morphological change in obsolescent languages, we must understand how morphological change can affect markedness in healthy language change situations. Natural Morphologists posit that morphological changes tend to increase naturalness and decrease markedness; however,

morphological changes can run both from marked to unmarked (Section 3.1) and the reverse (Section 3.2). It has often been theorized that language is constantly under tension to minimize complexity while still maximizing the ability to communicate effectively; these two forces can push language in opposite directions with respect to markedness (Horn 1989:192-193).

### 3.1 Morphological changes toward unmarkedness

It may be that most morphological changes decrease morphological markedness. *Analogy* is a common form of morphological change wherein one element changes based on a similar, existing model. Analogy usually restores regularity to an irregular paradigm, thus decreasing irregularity markedness. This is called *analogical leveling*. Theorists have speculated about tendencies in analogical change, proposing that: derived forms change to increase transparency, often based on clear stem-affix examples; distinctions of lesser importance disappear in order to solidify a distinction of greater importance; longer words get reshaped based on shorter words; root alternation disappears; and the indicative mood and the present tense are used to reshape other verb forms (Trask 1996). These individual types of analogy involve decreasing morphological markedness of different sorts: distinction-markedness, irregularity markedness, and affixation markedness.

Over time, the morphological complexity and affixation markedness of entire languages can decrease dramatically. Evidence suggests that the isolating languages of West Africa, which use only one morpheme per word, descended from an agglutinating ancestor language, which would have attached multiple morphemes per word (Trask 1996:127).



### 3.2 Morphological changes toward markedness

Although the predominant tendency in morphological change may be toward reducing morphological markedness, changes can also increase markedness. Analogical change generally decreases irregularity markedness, but it does not always decrease other sorts of markedness. Among the tendencies theorized for analogical change are that complex morphemes replace simple morphemes, including polysyllabic affixes replacing monosyllabic affixes, and that overt morphemes will replace null-morphemes (Trask 1996). These two types of analogy increase affixation markedness.

Additionally, a type of morphological change called *morphologization* can turn independent words into bound morphemes, which is perhaps the origin of all bound morphemes (Trask 1996). For example, the Modern English suffix *-ly* derived from the Old English noun *lic* ‘body’. The word *lic* compounded with nouns to indicate ‘resemblance’, as in *manlic* ‘man-like’, ‘manly’, and eventually reduced to a suffix. Similarly, the inflected form *lice* attached to adjectives, meaning ‘in the manner of’, resulting in *slawlice* ‘slowly’ and *cwiculice* ‘quickly’. This type of morphological change increases the amount of information expressed in morphology as opposed to syntax, thus increasing morphological complexity (affixation markedness). Classical Chinese was a purely isolating language, with no affixes. Through compounding, modern Chinese now has a number of compounds and suffixes, such as the completed-action suffix *-le* which, with the verb *qù* ‘go’, forms words like *qùle* ‘went’ (Trask 1996). Languages which

experience significant morphologization can develop into agglutinating languages, such as Navajo and other Athabaskan languages, which pack many morphemes per word.

Irregularity can enter morphology through several processes, including *suppletion*, wherein morphologically unrelated paradigms merge, such as in the English conjugational paradigm for the verb *go*, presented in (2.7) and (2.8), above. Also, regular phonological changes, operating independently of morpheme environments, often decrease transparency, increase allomorphy, and add morphological irregularity (Trask 1996).

### 3.3 Summary

Thus, in healthy languages, changes frequently increase and decrease morphological markedness. However, in endangered, obsolescent languages, this may not be the case, as I explain in Section 4.0.

### 4.0 Language change and markedness in endangered situations

I will now address the special case of language change in obsolescent languages. I define an *obsolescent language* as a language that without intervention will foreseeably die; such languages include a wide range of speaker communities, but all involve strong contact situations. In the most common model of language death, speakers shift from a minority language to the socially and politically dominant language (Austin 1986). Monolingual speakers of the minority language typically give way to bilingual speakers, who are replaced by monolingual speakers of the dominant language. This shift may take generations. As bilingual speakers shift toward the dominant language, they use the minority language less frequently, and the minority language

changes drastically if there is no influx of minority speakers. It is well established that obsolescent languages become reduced at all levels of structure, including phonology, morphology, syntax, and the lexicon (Austin 1986, Campbell & Muntzel 1989, Dorian 1978). In morphology, it may be that when speakers do not communicate regularly in the language, the pressure to reduce complexity outweighs the pressure to communicate clearly. Also, when speakers do not acquire the language properly, or when it undergoes attrition due to disuse, they may value transparency highly.

Campbell & Muntzel (1989) state that, in phonological changes in obsolescent languages, unmarked allophones often generalize over their marked counterparts; however, Campbell & Muntzel (1989) do not make such a claim regarding contrasting morphemes. Researchers have previously predicted that in morphology high frequency forms may be better retained than low-frequency forms and that regular forms may be better retained than irregular forms (Smits 1993, Dorian 1978). These predictions form a subset of the larger prediction that unmarked morphology will generalize in obsolescent languages. Thus, I intend to expand those questions: Using the definitions of morphological markedness elaborated in Section 2.0, are unmarked forms generalized over marked forms as languages lose morphological complexity? In my investigation, I will compare the markedness of opposing structures within a language before a morphological change; note whether the change reduces markedness, particularly by eliminating one of the opposing structures; and if the change does reduce markedness in such a manner, ask whether the least morphologically marked of the opposing structures has been retained over the more marked.

## 5.0 Data

In this section, I present data from the literature from six languages in contact with English: Dyirbal (Section 5.1), Cayuga (5.2), Warlpiri (5.3), Spanish (5.4), East Sutherland Gaelic (5.5), and Serbo-Croat (5.6). These languages are a mixture of immigrant languages in the United States and indigenous languages in North America, Australia, and Great Britain.

### 5.1 Dyirbal in Australia

Dyirbal, an Australian language from northeastern Queensland, is an ergative-absolutive language. Such languages give ergative marking to subjects of transitive sentences and absolutive marking to subjects of intransitive sentences and to objects of transitive sentences (Trask 1996); examples from Dyirbal are given in (5.1):<sup>7</sup>

- (5.1) a. *Lillian bani-nyu.*  
Lillian come-nonfuture  
'Lillian came.'
- b. *Lillian-du walguy bura-n.*  
Lillian-erg. taipan see-nonfuture  
'Lillian saw the taipan.'
- c. *walguy-ju Lillian baja-n.*  
taipan-erg. Lillian bite-nonfuture.  
'The taipan bit Lillian.'

In Dyirbal, there is no overt absolutive morpheme; there are a number of phonologically-conditioned ergative allomorphs (Schmidt 1985). Dyirbal syntax also reflects ergativity, but I will limit myself to morphological ergativity in this discussion.

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<sup>7</sup> In Section 5, I add the following abbreviations:  
erg.    ergative        1        1st person    2        2nd person

Schmidt (1985) elicited data from twelve younger Dyirbal speakers (ages 15-33) by asking them to translate a standard set of stimulus sentences designed to utilize morphological ergativity. In (5.2), I summarize the morphological data for ergative markers, laid out in a continuum according to the degree to which the speakers have simplified Dyirbal. (Generally, older speakers are closer to Traditional Dyirbal. Approximately, one speaker was in Stage 1, one speaker in Stages 2-3, two or three in Stage 4, and seven or eight in Stage 5.)

(5.2) Ergative case-marking in Traditional and Young Dyirbal. In the cases marked with an asterisk (\*), stem-final liquids are lost as the suffix is added. The partial boxes in the table indicate which allomorphs merge in the next stage.

Environment	Trad. Dyirbal		Young Dyirbal Reductions			
	Allomorphs	Stage 1	Stages 2-3	Stage 4	Stage 5	
(2 syl) V	- <i>ɲgu</i>	-( <i>ɲ</i> ) <i>gu</i>	-( <i>ɲ</i> ) <i>gu</i>	-( <i>ɲ</i> ) <i>gu</i>	-( <i>ɲ</i> ) <i>gu</i>	
(3 syl) V	- <i>gu</i>					
<i>y</i>	- <i>ju</i>	- <i>ju</i>	- <i>du</i>	- <i>du</i>	- <i>gu</i> ∅ (nom/acc)	
<i>r</i>	- <i>ru</i> *	- <i>ru</i>				
<i>rr</i>	- <i>ru</i> *	- <i>ru</i>	- <i>du</i>	- <i>du</i>	- <i>gu</i> ∅ (nom/acc)	
<i>l</i>	- <i>ru</i> *	- <i>ru</i>				
<i>m</i>	- <i>bu</i>	- <i>bu</i>	- <i>bu</i>	- <i>du</i>	- <i>gu</i> ∅ (nom/acc)	
<i>n</i>	- <i>du</i>	- <i>du</i>	- <i>du</i>			
<i>ny</i>	- <i>ju</i>	- <i>ju</i>	- <i>ju</i>			

We see a huge decrease in allomorphic markedness, with seven allomorphs reducing to one allomorph. Schmidt (1985) suggests that this allomorphic reduction could reveal the underlying ergative morpheme (the generic-unmarked morpheme), although Traditional Dyirbal does not indicate an underlying morpheme (each allomorph is used in only one environment). A neighboring language, Yidjɪn, uses -*ɲgu* after vowels and -*du* as a basic postconsonantal form (after *l rr r n*); those forms are the allomorphs generalized in Dyirbal, with -*gu* (from -*ɲgu*) generalizing in Stage 5. This comparison with Yidjɪn suggests that the unmarked form generalizes in Dyirbal.

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ag. agreement N noun (Mithun 1989; she does not define these two abbreviations, so these are my assumptions)

However, the Dyirbal data do not indicate that one form is unmarked; thus, we cannot draw significant conclusions from Dyirbal.

## 5.2 Cayuga in Ontario and Oklahoma

Cayuga is an Iroquoian language, originally from the present-day New York State. The New York Cayuga population split and moved after the Revolutionary War. Oklahoma Cayugas have had much more intense contact with English than the Ontario speakers, and the language is diminishing in Oklahoma. In Ontario, Cayuga is now the strongest Iroquoian language. Mithun (1989) compared Oklahoma Cayuga to Ontario Cayuga.

In Cayuga, particles, nouns, and verbs that are the focus of the phrase are found in separate words, but those that are background information can be put into bound morphemes in the verb. To emphasize the repetition of an event, a speaker might use both a particle (*é:ʔ*) and a verbal prefix (*s-*), but to simply mention the information, they would only use the prefix. For somewhat simple constructions, speakers from both Ontario and Oklahoma produced the constructions in (5.3). The sentence in (5.3a) indicates performing an action; when the action is

repeated, as in (5.3b), the phrase contains both the verbal prefix *s-* and the particle *é:ʔ*.<sup>8</sup>

- (5.3) a. *aʔtatiʔtanyúʔuh*  
‘she beat her up’  
b. *saʔtatiʔtanyúʔuh é:ʔ*  
‘she beat her up again’

However, we see divergence between Ontario and Oklahoma speakers when there were more than just a few other prepronominal prefixes. In (5.4a), from the Ontario speaker, the verb contains the repetitive prefix *s-*. The best Oklahoma speaker instead relied upon the separate particle *é:ʔ* to express ‘again’ and did not use the repetitive prefix *s-*, as in (5.4b).

- (5.4) a. Ontario  
*tʔsasatkahaté:nih*  
dualic-repetitive-2sg.-semi.reflexive-turn.around  
‘turn back around, re-turn’  
  
b. Oklahoma  
*teskaa:té:ni* *é:ʔ*  
dualic-2sg.ag-semi.reflexive-turn.around again  
‘turn around again’

We can see that, in the phrase from the Oklahoma speaker, she has morphologically simplified the first word and broken the concept into two words. This change reduces affixation markedness.

Nouns in Cayuga can be incorporated into verbs. For instance, the noun ‘onion’ is incorporated into the verb ‘have’ in (5.5), produced by an Ontario speaker:

- (5.5) *kònʔhsowá:nəh*  
fem.sg.patient-onion.large-stative  
‘she has a big onion’

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<sup>8</sup> I use underlining in examples to emphasize key points.

The best Oklahoma speaker used common incorporations, which would be familiar as whole units, but not less frequent ones. For less common situations, she separated the noun from the verb, as ‘onion’ in (5.6) is separate from the stative verb.<sup>9</sup>

- (5.6)            *kuwa:né*      *ʔnóhsaʔ*  
                  N-big-stative  onion-nominal  
                                  ‘the onion is big’

Here, we again see decreased affixation markedness via splitting ideas into multiple words. Both of these changes in Cayuga clearly support the hypothesis that obsolescent languages shift toward the unmarked.

### 5.3 Warlpiri in Australia

Warlpiri is an Australian language from the Northern Territory. Bavin (1989) describes morphological changes in the Warlpiri pronominal system. The traditional system includes independent pronouns for 1st and 2nd persons singular, dual, and plural, in the 1st person also distinguishing between exclusive (of hearer) and inclusive (of hearer). Bavin (1989) does not provide sentence-examples; thus, I have the following examples of the exclusive and inclusive in English (5.7):

- (5.7)    a. Exclusive  
              *We (my sister and I) are going to the movie.*  
          b. Inclusive  
              *We (you and I) are going to the movie.*

The 1st, 2nd, and 3rd persons have subject and object clitics which “appear in second position in the clause, either attached to an auxiliary base (marking imperfective aspect or future tense) or

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<sup>9</sup> The speaker also dropped the possessive.



attached to the end of the first element in the clause, whatever that element may be” (Bavin 1989:280). The table in (5.8) presents the traditional pronominal system. Shaded boxes indicate forms which are changing significantly in Young Warlpiri.

(5.8) Traditional Warlpiri Pronominal System

Person		Singular	Dual		Plural	
1st	Independent pronouns	<i>ngaju</i>	Exclusive <i>ngajarra</i>	Inclusive <i>ngali(jarra)</i>	Exclusive <i>nganimpa</i>	Inclusive <i>ngalipa</i>
	Subject clitics	<i>rna</i>	<i>rlijarra</i>	<i>rli</i>	<i>rna-lu</i>	<i>rli-pa</i>
	Object clitics	<i>ju</i>	<i>jarrangku</i>	<i>ngali(ngki)</i>	<i>nganpa</i>	<i>ngalpa</i>
2nd	Independent pronouns	<i>nyuntu</i>	<i>nyumpala</i>		<i>nyurrula</i>	
	Subject clitics	<i>n(pa)</i>	<i>n(pa)-pala</i>		<i>nku-lu</i>	
	Object clitics	<i>ngku</i>	<i>ngku-pala</i>		<i>nyarra</i>	
3rd	Independent pronouns	—	—		—	
	Subject clitics	∅	<i>pala</i>		<i>lu</i>	
	Object clitics	∅/ <i>rla</i> (dative)	<i>palangu</i>		<i>jana</i>	

In Young Warlpiri in this system, the exclusive and inclusive elements in the first person dual and plural are merging. Other pronouns are regularizing and decreasing in complexity. Bavin (1989) reports for four age groups the percentage of traditional 1st and 2nd person forms used (for those 18 pronouns). In the youngest speakers (37 people aged 9-16 years), traditional forms range from 0 to 100%, with an average of 38%. Thus, the changes discussed below have not continued to completion, but reflect the direction in which the language is in the process of changing.

Bavin (1989) notes the following changes in the first person dual/plural exclusive/inclusive pronominal system: In the independent pronoun dual and plural and in the subject clitic plural, the exclusive form is replacing the inclusive form. (Speakers have innovated the subject clitic

dual.) In the object clitic dual and plural, the inclusive form is replacing the exclusive form. In addition the inclusive plural is used in the dual alongside the inclusive dual form. Other changes include innovations in the 2nd person pronouns and generalization of the 3rd person subject clitic to include the object clitic. That the exclusive can replace the inclusive and vice versa is not initially suggestive of markedness-driven changes. However, if we address each word on a case-by-case basis, looking at morphological complexity and cross-linguistic tendencies, we see that in general, most forms shift toward the unmarked; no forms move toward the marked.

*The independent pronoun paradigm.* Tables (5.9a,b) summarize the traditional independent pronoun paradigm and the Young Warlpiri independent pronouns system.

(5.9) Independent pronouns

a. Traditional

Person	Singular	Dual		Plural	
		Exclusive	Inclusive	Exclusive	Inclusive
1st	<i>ngaju</i>	<i>ngajarra</i>	<i>ngali(jarra)</i>	<i>nganimpa</i>	<i>ngalipa</i>
2nd	<i>nyuntu</i>	<i>nyumpala</i>		<i>nyurrula</i>	
3rd					

b. Young Warlpiri

Person	Singular	Dual	Plural
1st	<i>ngaju</i>	<i>ngajarra</i>	<i>nganimpa</i>
2nd	<i>nyuntu</i>	<i>nyuntujarra</i>	<i>nyunturra</i>
3rd	—	—	—

In the 1st person dual, speakers appear to generalize the affixation-unmarked (the exclusive: *ngajarra*) of the exclusive/inclusive distinction (rather than the inclusive, which alternates between *ngali* and *ngalijarra*). I cannot make a markedness argument regarding the 1st person plural; it is possible that speakers generalized the exclusive by analogy with the dual.

In the 2nd person, we see changes generalizing the cross-linguistically less marked number and person (Greenberg 1966). The 2nd person singular *nyuntu* generalized into the first morpheme of the dual and the plural. Bavin and Shopen (1991) indicate that in the bound subject pronoun paradigm, there is no overt singular number morpheme. That may be the case in the independent pronoun system, too, or speakers could have generalized from the bound subject paradigm, reanalyzing morpheme breaks in the independent pronouns. In the 2nd person dual, the new dual ending from the 1st person, *-jarra*, also generalized into the 2nd person. The 1st person is less cross-linguistically marked than the 2nd person (Greenberg 1966). We would expect 3rd person markers to generalize instead of the 1st person, for the 3rd person is less cross-linguistically marked. That the independent pronoun system has no overt 3rd person markers may have interfered. In the 2nd person plural, the new dual ending (*-rra*) appears to be a shortening of the old dual ending (*-rrula*).

*The subject clitic paradigm.* The Traditional and Young Warlpiri paradigms are summarized in Tables (5.10a, b).

(5.10) Subject clitics

a. Traditional

Person	Singular	Dual		Plural	
		Exclusive	Inclusive	Exclusive	Inclusive
1st	<i>rna</i>	<i>rli-jarra</i>	<i>rli</i>	<i>rnalu</i>	<i>rlipa</i>
2nd	<i>n(pa)</i>	<i>n(pa)pala</i>		<i>nkulu</i>	
3rd	∅	<i>pala</i>		<i>lu</i>	

b. Young Warlpiri

Person	Singular	Dual	Plural
1st	<i>rna</i>	<i>rnapala</i>	<i>rnalu</i>
2nd	<i>npa</i>	<i>npapala</i>	<i>npalu</i>
3rd	∅	<i>pala</i>	<i>lu</i>

The subject clitic paradigm has become very regular, with the singular and third person generalized to create a transparent system (Bavin and Shopen 1991). Again, this generalizes the cross-linguistically least marked number and person. Here, it is probable that the 1st person plural exclusive (*rnalu*) generalized over the inclusive because it was transparent with the other plural subject clitics. Speakers created an entirely new 1st person dual (*rnapala*) based on the 1st person singular pronoun (*rna*) 3rd person dual (*pala*).

*The object clitic paradigm.* Table (5.11 a,b) gives the Traditional and Young object clitic paradigm. We see a combination of decreasing irregularity markedness and generalization of the cross-linguistically less marked number (plural) over a more marked number (dual).

(5.11) Object clitics)

a. Traditional

Person	Singular	Dual		Plural	
		Exclusive	Inclusive	Exclusive	Inclusive
<b>1st</b>	<i>ju</i>	<i>jarrangku</i>	<i>ngali(ngki)</i>	<i>nganpa</i>	<i>ngalpa</i>
<b>2nd</b>	<i>ngku</i>	<i>ngkupala</i>		<i>nyarra</i>	
<b>3rd</b>	Ø/ <i>rla</i> (dative)	<i>palangu</i>		<i>jana</i>	

b. Young Warlpiri

Person	Singular	Dual	Plural
<b>1st</b>	<i>ju</i>	<i>ngalingki/ngalpa</i>	<i>ngalpa</i>
<b>2nd</b>	<i>ngku</i>	<i>ngkupala</i>	<i>nyarra</i>
<b>3rd</b>	Ø/ <i>rla</i> (dative)	<i>pala/palangu</i>	<i>jana</i>

The 1st dual inclusive is generalizing over the exclusive, which may be driven by the less common morpheme order in the inclusive. The exclusive (*jarra-ngku*) contains two morphemes that we see elsewhere: In the independent pronoun system, *jarra-* is a suffix, and, in 2nd person of the object clitics, *-ngku* is a prefix; those orders are switched in the traditional object clitic exclusive. However, the inclusive (*ngali(ngki)*) contains the first person prefix from the independent

pronoun system as a prefix; thus, by analogy the order of its morphemes is less marked, particularly as the speakers eliminate the variation between *nga-li* and *nga-lingki*. It is unclear what motivated generalizing the plural inclusive over the plural exclusive, although it is perhaps by analogy with the dual. Then, the new plural is beginning to generalize over the dual, following Greenberg's (1966) hypothesis that the plural is less conceptually marked than the dual.

There are no changes in the 2nd person object clitic; we might in the future see *nyarra* change to *ngku-jana* by analogy with the other 2nd person clitics and with the 3rd person. In the 3rd person, we see a change in process toward simplifying the dual, retaining the dual morpheme *-pala* as a suffix by analogy with the subject clitics.

Thus, in these changes, we see a number of generalizations or innovations of less marked forms, using definitions of markedness from irregularity to cross-linguistic person and number. The new system is much more semantically transparent (Bavin 1989:284).

#### 5.4 Spanish in Los Angeles

Standard Spanish contains two verbal moods: the indicative and the subjunctive. The indicative, the most frequent and unmarked mood, is used for definite statements, while the subjunctive is used for statements that might be true, that give indirect commands, or that assert opinions, as in (5.12).

(5.12)

- |  |   |
|--|---|
| a. <i>El cielo <u>es</u> azul.</i><br>'The sky is blue.' | d. <i>Es posible que el cielo <u>sea</u> verde.</i><br>'It's possible that the sky is green.' |
| b. <i><u>Vas</u>.</i><br>'You go.'                       | e. <i>Quiero que <u>vayas</u>.</i><br>'I want you to go.'                                     |
| c. <i><u>Trabajan</u> aquí.</i><br>'They work here.'     | f. <i>Me gusta que <u>trabajen</u> aquí.</i><br>'I like it that they work here.'              |

I define the indicative as unmarked because it is the default mood, because some of the tenses are less morphologically complex, and because it is cross-linguistically less marked. Spanish makes this distinction in all verb tenses except the future; the present subjunctive includes the future subjunctive. The table in (5.13) gives a present, imperfect, present perfect, and pluperfect paradigm in the indicative and the subjunctive for the verb *comer* ‘to eat’.

(5.13)

<b>Pers. Num</b>	<b>Pres.Ind.</b>	<b>Pres.Subj</b>	<b>Imperfect Ind.</b>	<b>Imperfect Subj.</b>	<b>Present Perfect Ind.</b>	<b>Present Perfect Ind.</b>	<b>Pluperfect Ind.</b>	<b>Pluperfect Subj.</b>
<b>1st.sg.</b>	como	come	comía	comiera	he comido	haya comido	había comido	hubiera comido
<b>2nd.sg.</b>	comes	comas	comías	comieras	has comido	hayas comido	habías comido	hubieras comido
<b>3rd.sg.</b>	come	coma	comía	comiera	ha comido	haya comido	había comido	hubiera comido
<b>1st.pl.</b>	comimos	comamos	comíamos	comiéramos	hemos comido	hayamos comido	habíamos comido	hubiéramos comido
<b>2nd.pl.</b>	comen	coman	comían	comieran	han comido	hayan comido	habían comido	hubieran comido
<b>3rd.pl.</b>	comen	coman	comían	comieran	han comido	hayan comido	habían comido	hubieran comido

Los Angeles (LA) Spanish is losing the distinction between the indicative and the subjunctive, leaving only the indicative. Silva-Corvalán (1994) reports data on indicative and subjunctive use among speakers in three groups: Group 1 speakers were born in Mexico and immigrated to the U.S. after age 11. Group 2 speakers were born in LA, with both parents born in Mexico. Group 3 speakers were born in LA, and at least one of their parents was born in LA, as well. Education was variable.

Silva-Corvalán (1994) presents the following frequency data (5.14). Numbers given indicate the percent out of 12 speakers in each group using the subjunctive in a manner congruent with standard spoken Spanish. There is variation in how the other speakers behave which I do not report here. Primarily, they replace the subjunctive with the indicative.

(5.14)

Group	Present Subj.	Imperfect Subj.	Pluperfect Subj.	Present Perfect Subj.
1	100%	100%	92%	67%
2	75%	33%	42%	17%
3	42%	33%	8%	8%

Here we see a definite gradient from Mexican-born speakers to second generation American-born, with the cross-linguistically least marked present tense showing the highest retention of the subjunctive and the imperfect (next least marked), the next highest retention. The pluperfect subjunctive has higher retention than the present perfect, although according to Greenberg (1966) the present should be less marked than the past. Both are fairly highly marked. However, it may be that the pluperfect subjunctive is more common. The pluperfect subjunctive is used in situations such as (5.15):

(5.15) *Hubiera ido a la tienda si necesitaba.*  
'I would have gone to the store if I needed to.'

In contrast to the past perfect indicative in (5.16):

(5.16) *Había ido a la tienda si necesitaba.*  
'I used to have gone to the store if I needed to.'

The present perfect subjunctive would be used in constructions such as (5.17). The sentence in (5.17a), particularly, sounds awkward to my ear; I suspect that these are extremely uncommon:

(5.17) a. *Haya ido a la tienda si necesito.*  
'I will have gone to the store if I need to.' / 'I have gone to the store if I need to.'

b. *Quiero que hayas terminado con eso.*  
'I want you to have finished that.'

Thus, in general these data agree with my hypothesis. The marked subjunctive, in American-born speakers, is giving way to the unmarked indicative. This change is occurring fastest in the most marked tenses.

### 5.5 East Sutherland Gaelic in Scotland.

East Sutherland Gaelic (ESG) is an isolated dialect of Scottish Gaelic with no fluent speakers under the age of 45. Dorian (1978) investigates changes in noun pluralization and verb gerunding morphology in ESG. Both pluralizing and gerunding have very complex morphology, with 11 observed patterns for forming each. By ‘pattern’, I refer to suffixation, final mutation, vowel alternation, subtraction, etc., including various combinations of the above. Within a pattern such as ‘suffixation’, there are several suffixes available (i.e., at least 8 or 9 for pluralization and gerunding).

Suffixation is the productive-unmarked pattern for forming both plural nouns and gerunds. Only suffixation is productive in attaching to loan words; in fact, only one or two suffixes are productive. Dorian (1978) asserts that /-ən/ is the most common noun plural suffix in traditional ESG (although it was not the most common in the test sentences, which were probably designed to elicit a wide range of suffixes) (5.18a). By ‘common’, I assume that she means that it affixes onto more words (rather than that it affixes onto words which are used commonly). It appears that /-u/ is the most common gerund suffix in traditional ESG, although Dorian (1978) does not state that directly (5.18b).<sup>10</sup>

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<sup>10</sup> Dorian (1978) presents her data in an older style of phonetic transcription; I believe I have faithfully transferred her data into IPA, but I may have made errors.



- (5.18) a. Noun plural  
           /ɪe/        /ɪe:ɣən/  
           ‘lie’       ‘lies’
- b. Verb gerund  
           /ɪ:ʃ/        /ɪ:ʃu/  
           ‘tell’        ‘telling’

Other formation types are common in the language, however, or are at least present in high-frequency nouns. Because of the complexity of each formation type, I will not present the full paradigms here. I will instead only present those that changed the most among speaker groups.

Dorian (1978:592) asked old fluent speakers (o.f.s.), young fluent speakers (y.f.s.), and semi-speakers (s.s.) to translate “a large number” of sample sentences from English into ESG. (In a previous study, Dorian established that the speech of young fluent speakers is grammatically different from that of the old fluent speakers. Semi-speakers can make themselves understood in ESG, but their speech is not fluent.)

From these sentences, she compared the frequency of formation types in semi-speakers with that of young fluent speakers and old fluent speakers. There were no major differences between the old fluent speakers and the young fluent speakers. The table in (5.19) gives the most common pluralization type in old fluent speakers, the pluralization type that increased the most in the semi-speakers, and the two types that decreased the most.

(5.19)

Pluralization type	o.f.s		y.f.s.		s.s.	
	#	%	#	%	#	%
suffixation [-(ə)xən]	48	18	34	12.5	87	19
suffixation [-ən]	27	10	24	9	124	27
vowel alternation + final mutation	24	9	28	10.5	11	2.5
lengthening of final consonant	19	7	15	5.5	5	1

We see that */-ən/*, which Dorian (1978) tells us is the most frequent suffixation type in ESG, has increased drastically in frequency (17%), while vowel alternation + final mutation and lengthening of the final consonant have both dropped (6.5% and 6%, respectively).

The table in (5.20) gives the most common gerund type among old fluent speakers, the gerund type that has increased the most, and the type that has decreased the most.

(5.20)

Gerund type	o.f.s		y.f.s.		s.s.	
	#	%	#	%	#	%
suffixation [-u]	41	26	38	24	62	27
final mutation + vowel alternation	16	10	20	12.5	4	2
suffixation [-al]	14	9	16	10	58	25.5

We see that the most common type of gerund, suffixing with */-u/*, which may or may not be the most common type of gerund within the language at large, remained fairly steady across the speaker-proficiency continuum. However, suffixing with */-al/*, which Dorian (1978) asserts is not the most frequent type in the language at large, has increased 16.5% and final mutation + vowel alternation has decreased 8%.

Thus, in East Sutherland Gaelic one of the morphemes which is generalizing in these systems is probably the traditional productive-unmarked morpheme (*/-ən/*), but the other is almost certainly not (*/-al/*).

## 5.6 Serbo-Croat in America

Two sources examine Serbo-Croat morphological changes among second-generation immigrants in

the United States, one in Steelton, PA (Jutronic 1974), and one at Purdue University in Ohio (Savic 1995). Their data ranges from nominal case declensions to verb conjugations.

The Serbo-Croat nominal case system includes nominative, accusative, genitive, dative/locative, and instrumental cases (Corbett 1990). Each case also distinguishes among masculine/feminine/neuter and between singular/plural. The nominative appears to be the affixation-unmarked case, for the nominative masculine singular is not overtly declined while all other forms are declined with suffixes (except for the inanimate masculine accusative).<sup>11</sup> In the Steelton speaker-group, all cases appear to be merging with the nominative, as displayed by the examples in (5.21).<sup>12</sup> For each example, I list first the traditional Serbo-Croat phrase and then the elicited American Serbo-Croat phrase, followed by the English gloss.

(5.21)

	Case	Singular	Plural
<b>Accusative</b>	Traditional	<i>za svetog <u>Lovru</u></i>	<i>pokupiti <u>jance</u></i>
	American	<i>za sveti <u>Lovro</u></i> 'for St. Lawrence'	<i>pokupiti <u>janci</u></i> 'to collect the lambs'
<b>Genitive</b>	Traditional	<i>a Srbin da je iz <u>Srbije</u></i>	<i>na dva tri <u>sata</u></i>
	American	<i>a Srbin da je iz <u>Srbija</u></i> 'and a Serb is from Serbia'	<i>na dva tri <u>sati</u></i> 'in two or three hours'
<b>Dative/Locative</b>	Traditional	<i>po <u>danu</u> delaju</i>	<i>pomoć <u>klanovcima</u></i>
	American	<i>po <u>dan</u> delaju</i> 'they work during the day'	<i>pomoć <u>klanovci</u></i> 'help for the members'
<b>Instrumental</b>	Traditional	<i>pod <u>Austrijom</u></i>	<i>ja sam išla s <u>prijateljima</u></i>
	American	<i>pod <u>Austrija</u></i> 'under Austria'	<i>ja sam išla s <u>prijateli</u></i> 'I went with my friends'

<sup>11</sup> Due to the complexity of the declension system and the manner of presenting case data in Jutronic (1974) and Savic (1995), I do not present a traditional Serbian nominal declension paradigm, but will instead only provide data relevant to specific examples.

<sup>12</sup> Jutronic (1974) gives examples only for the third person and does not distinguish among genders.

This leveling also appears in adjectives and pronouns. All of these mergers both indicate a substantial reduction in distinction markedness and show the affixation-unmarked (and possibly conceptually unmarked) nominative generalizing over the other, more marked cases.

The Purdue University speakers do not exhibit the same case mergers; however, they merge a distinction within the nominal accusative paradigm. The masculine nominal accusative distinguishes between animate/inanimate, but the feminine does not.<sup>13</sup> Masculine inanimate nouns do not carry overt markers, while feminine and animate masculine nouns are overtly indicated (K. David Harrison, personal communication, and Savic 1995).<sup>14</sup> Thus, standard Serbo-Croat would form the sentence given in (5.22):

(5.22) Traditional Serbian

*Ja imam oca, majku i starijeg brata*  
 I-nom have-1sg. father-acc. mother-acc. and older-acc. brother-acc.  
 ‘I have a father, a mother, and an older brother.

Savic (1995), however, demonstrates that Serbian-American college students are merging the animate/inanimate distinction, as in the elicited data in (5.23).

(5.23) Serbian-American

*Ja imam otac-Ø i majku i starijeg brat-Ø*  
 I-nom have-1sg. Father-acc. and mother-acc. and older-acc. brother-acc.  
 ‘I have a father and a mother and an older brother.

In these utterances, the animate masculine nouns do not carry an overt accusative marker, just as inanimate masculine nouns do not. Here, the distinction in the masculine between animate and inanimate is being lost, and the affixation-unmarked member of the opposition (the inanimate,

<sup>13</sup> Savic (1995) does not discuss the neuter gender or the plural.

<sup>14</sup> Again, due to the complexity of the declensional system and the manner in which Savic (1995) presents her data, I will not attempt to summarize the paradigm here, but rather illustrate the change with one example.

with no morpheme marker) is generalizing over the affixation-marked, agreeing with my hypothesis.

Not all of the changes within Serbo-Croat reflect expansion of the unmarked, however. Traditional Serbo-Croat distinguishes ‘unemphatic’ (short) and ‘emphatic’ (long) personal pronouns. The unemphatic forms are enclitics while the emphatic forms are independent pronouns. In (5.22), I give the singular dative unemphatic and emphatic pronouns (Corbett 1990, Jutronic 1974):

(5.22) Traditional dative pronouns

Person (sg.)	unemphatic	emphatic
1st	mi	meni
2nd	ti	tebe
3rd-masc.	mu	njemu
3rd-fem.	joj	njoj

The unemphatic forms appear to be affixation-unmarked relative to the emphatic forms.

Conflicting with my hypothesis, in Steelton Serbo-Croat tends to retain only the emphatic, as in the sentence in (5.23), which Jutronic (1974) would contain the unemphatic (*mu*) in traditional Serbo-Croat.

(5.23) *Ja sam njemu rekla.*  
‘I told him.’

Jutronic (1974) mentions that the unemphatic form requires “more complex syntactic patterns” (Jutronic 1974:25), although he does not elaborate. In this case, then, morphological markedness may be in conflict with syntactic markedness.

In (5.24), I present the traditional Serbo-Croat 3rd person present tense indicative singular and plural forms of two verbs.

(5.24)

Gloss	3rd person sg.	3rd person pl.
'speak'	govor-i	govor-e
'like'	vol-i	vol-e

In Steelton, the 3rd person singular is often used in place of the plural, as in (5.25)

(5.25)

a. *Oni govori kao mi.*

'They speak as we do.'

b. *Tu ih ne dodže, ne voli crkvu.*

'There they don't come, they don't like church.'

The singular is cross-linguistically unmarked, according to Greenberg (1966); thus, we expect to see the singular generalize over the plural. However, the 3rd person is also cross-linguistically unmarked. We would expect distinctions to remain longer in the 3rd person and to initially see distinctions merge in the 2nd and 1st persons. Jutronic (1974) states that this merger occurs in the 3rd person, but does not discuss the other persons.

Traditional Serbo-Croat distinguishes between the imperfective (in process) and the perfective (completed) aspects in many verb tenses. The perfective usually forms by either prefixing or umlauting the imperfective and is thus the affixation-marked (K. David Harrison, personal communication), as we see in the past tense of the verb 'go' in (5.26):

(5.26) a. *išla*

go-past.imperfective.fem.sg.

'went' [repeatedly, without definite end]

b. *izašla*

go-past.perfective.fem.sg.

'went' or 'had gone'

Both Steelton Serbo-Croat and Purdue University Serbo-Croat merge the imperfective and the perfective aspects; however, the changes run in opposite directions in the two speaker-groups.

In Steelton, speakers retain the imperfective, while at Purdue University speakers favor the perfective (Jutronic 1974, Savic 1995). That both groups merge the distinction reduces the distinction-markedness of each dialect of Serbo-Croat. However, that the Purdue University

speakers generalize the perfective does not follow the hypothesis that unmarked forms will generalize, for the perfective is affixation-marked.

## 5.7 Summary

All of the changes I discuss involve movement toward morphological unmarkedness: In Cayuga, the morphological complexity of words is decreasing; the language is becoming more isolating. In most other instances, a morphological opposition (distinction) is merging, decreasing the distinction-markedness of the system. This overall assessment agrees with the general sense in the literature, that languages simplify as they obsolesce. However, not all of the morphological changes in these languages involve generalization or expansion of the unmarked. Of the twelve sets of morphological changes I discuss, eight involve generalization of the unmarked, while the remaining four involve generalization of the marked or loss of distinction in an unmarked category.

## 6.0 Discussion

These data show that obsolescent languages exhibit a strong tendency toward decreasing distinction-markedness. However, the tendency toward generalizing the unmarked member of the distinction, while present, is weaker. In the Steelton, PA, Serbo-Croatian population, the affixation-marked emphatic personal pronouns generalized over the affixation-unmarked unemphatic pronouns (Jutronic 1974). In the Purdue University Serbo-Croatian population, the past perfective generalized over the imperfective (Savic 1995). In East Sutherland Gaelic, a suffix that was not the most common (i.e., frequency-unmarked) gerund suffix in the community

became the most productive gerund suffix among semi-speakers (Dorian 1978). All of these changes involve eliminating or reducing a morphological distinction, but the member of the distinction which generalized is the marked member rather than the unmarked.

Three of the four counterexamples to my hypothesis come from Serbo-Croat data. It seems unlikely (although theoretically possible) that Serbo-Croat has a greater tendency toward retaining or emphasizing marked forms. However, I draw upon two articles (with separate authors) discussing Serbo-Croat, rather than one article or author, and both articles discussing Serbo-Croat are unfocused. They present a wide range of data, attempting to itemize all of the changes the authors observe. Most of the other articles from which I use data are specifically focused on the changes I report in this thesis. The nature of itemization-style articles makes them more likely to include changes which might not be the focus of an entire paper. My data may under-represent the percentage of morphological changes in obsolescent languages emphasizing marked forms.

There are two hypotheses related to the mechanism of language change in obsolescent languages heavily in contact with other languages: (1) that the changes reflect convergence toward the dominant language, usually by preserving distinctions found in the dominant language and losing distinctions not found in the dominant language (Campbell and Muntzel 1989); and (2) that the changes are internally motivated, perhaps catalyzed by the contact but driven by internal processes, such as reducing markedness (Salmons 1994). In my analysis to this point, I have only examined markedness. Could all of these changes instead be motivated by contact with English, such that the minority languages lose distinctions or morphological processes which are not found in English and in this loss retain forms which are most similar to English forms?



Just as all of the changes generally exhibit a trend toward morphological unmarkedness, either through distinction-loss or decreased affixation-markedness, almost all of the changes exhibit a trend of convergence toward English. English does not mark ergativity; losing allomorphy in the Dyirbal ergative system might reflect a trend toward dropping the ergative marker entirely. English does not incorporate nouns into verbs, which the Cayuga speaker had difficulty with. English does not distinguish between actions that are exclusive and inclusive of the hearer, as Traditional Warlpiri does but Young Warlpiri does not. English does not reflect the subjunctive mood morphologically, and most English speakers do not use subjunctive syntax regularly; Spanish could be converging toward English in that respect. English pluralizes and gerunds with a more limited number of morphemes than traditional East Sutherland Gaelic (English has only one gerund suffix) and uses suffixation as the only productive method of forming either construction. English does not overtly mark nominal cases or distinguish between animate and inanimate nouns; nor does it have unemphatic and emphatic pronouns or distinguish the imperfective and perfective aspects. Thus, these changes in Serbo-Croat could reflect structural convergence with English. However, English does distinguish between 3rd person present tense singular and plural verb conjugations; this merger in Serbo-Croat could not be called convergence with English. Thus, I can explain the existence of the general changes in the data more effectively using markedness, although I cannot say that convergence plays no role in motivating these changes. Markedness and convergence may both affect changes in obsolescent languages.

We are still left with the four changes which do not entirely reflect markedness-based predictions. Are these changes logical in some other manner, or are they inexplicable? If I can

rationalize them, I can still say that markedness may play an important role in influencing the specific changes in obsolescent languages as they simplify. If I cannot rationalize these changes, it would indicate more strongly that markedness may not be influential. I will examine each exception in turn.

*Emphatic/unemphatic pronouns.* Jutronic (1974) claims that Serbo-Croatian unemphatic pronouns require more complex syntax than do the emphatic pronouns, although he does not provide further information about the syntactic differences. It may be that morphological markedness and syntactic markedness conflicted over which form to generalize, with syntactic markedness decreasing in the end.

*Perfective/imperfective aspect.* We have evidence of one group of Serbo-Croat speakers generalizing the imperfective and another group generalizing the perfective. The Steelton speakers generalized the affixation-unmarked aspect (the imperfective); could the Purdue University speakers have converged toward English by retaining the perfective? English does not have a standard, overt imperfective, while it does have an standard past perfective; (6.1) demonstrates this distinction.

- (6.1) a. *I used to walk home.*      b. *I have walked home.*      c. *I walked home.*  
imperfective                              past perfective                              preterite

Thus, losing the imperfective in favor of the perfective may indicate convergence toward English in the Steelton Serbo-Croatian population.

*Third person singular/plural conjugation.* In Steelton Serbo-Croat, the 3rd person present tense distinction between singular and plural has been lost, in favor of the singular. Favoring the singular follows Greenberg's (1966) cross-linguistic markedness predictions.

However, Greenberg (1966) also indicates that the 3rd person is cross-linguistically less marked than other persons; we would expect the 3rd person to retain at least as many distinctions as the other persons. As I said above, we cannot explain this merger by convergence toward English, since English distinguishes the 3rd person singular and plural in the present tense paradigm.

*Gerund formation.* In East Sutherland Gaelic gerund formation, suffixing [-al] was the most productive gerund method among semi-speakers. Suffixation was the most productive method of forming gerunds among old fluent speakers, but Dorian (1978) writes that the suffix the semi-speakers chose to generalize was not the most common suffix in the speech of old fluent speakers. The phonemes in that allomorph are not more similar to those [-iŋ] in English than are that of the most common suffix among old fluent speakers; we cannot argue that English influenced which allomorph generalized.

In my discussion of markedness, I proposed the idea that some morphological structures are conceptually unmarked. For two of the three instances where the marked form generalized over the unmarked, I can propose (although not further defend) plausible explanations for why speakers might ignore morphological markedness: conflict with syntactic markedness and convergence with English. In the third instance, in East Sutherland Gaelic, the distinction is purely among allomorphs. It is possible that changes in structures that are conceptually marked prefer the unmarked form (unless there is a strong competing rationale), whereas structures that have no significant conceptual difference can easily be reanalyzed regarding which is the productive-marked and which is the productive-unmarked form. My discussion of conceptual markedness is rather tentative; it is an intriguing avenue for further investigation in

psycholinguistics. Nevertheless, this explanation still does not address the distinction merger in the 3rd person rather than the other persons. Some changes may not have a clear rationale behind them.

In this preliminary investigation of markedness in morphological changes in obsolescent languages, I have found that these changes strongly tend toward simplification and that this simplification often involves merging distinctions. The data compiled here demonstrate a tendency toward generalizing unmarked forms, but do not conclusively implicate markedness as a motivator in which structures generalize.

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