

An account of syncretisms.

Syncretism as involving VI underspecification and impoverishment

Synchronic cases of syncretism are usually accounted for by postulating Vocabulary items underspecification and impoverishment (Bobaljik 2003, Bonet 1991, Halle 1997, Halle and Marantz 1993, Harley 2008, Nevins 2011, Noyer 1992, 1998).

Underspecification allows a radical simplification of the lists of vocabulary items in inventories and an account of the distributional patterns of exponents in inventories.

A paradigm

Assuming the abstract notion of paradigm as in where it is defined as set of feature bundles formed by feature combinations in a given terminal node of the morpho-syntax, the principle that governs feature assignments to vocabulary item is given in (Calabrese (2008)):

(1) A paradigm

Consider three features X, Z, Y, of a given terminal node of the morpho-syntax in a language L. We have the following combinations. The set of these combinations is a paradigm:

+X	+X	-X	-X	+X	+X	-X	-X
+Z	-Z	+Z	-Z	+Z	-Z	+Z	-Z
+Y	+Y	+Y	+Y	-Y	-Y	-Y	-Y

(2) For each exponent E in a paradigm P in a language L, the minimal feature set that can account for the maximal distribution of E in P is assigned to the Vocabulary Item (VI) inserting E in P.

The Subset Principle (Halle 1997)

Thus given the exponents in for the paradigm in , leads to the VIs in :

(3)

+X	+X	-X	-X	+X	+X	-X	-X
+Z	-Z	+Z	-Z	+Z	-Z	+Z	-Z
+Y	+Y	+Y	+Y	-Y	-Y	-Y	-Y
Ψ	Δ	Ψ	Ψ	Φ	Σ	Φ	Φ

- (4) Vocabulary Items for
- a. [+X, -Z, +Y] → Δ
 - b. [+X, -Z] → Σ
 - c. [+Y] → Ψ
 - d. [-Y] → Φ

Insertion of phonological exponents is then governed by the Subset Principle (Halle 1997), according to which the phonological exponent of a Vocabulary item is inserted into a morpheme in the terminal string if the item matches all or a subset of the grammatical features specified.

Where several Vocabulary items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen in the terminal morpheme. Therefore, Δ wins the competition over Σ, Ψ and Φ; and Σ over Φ . There is no competition between Ψ and Φ.

Impoverishment

Bonet 1991 observed that there are cases that needed further steps. Suppose that Φ has a slightly different distribution as in . Now, the VIs in c) and d) can no longer account for distribution of Ψ and Φ . For similar cases Bonet proposed that Φ is an “*elsewhere*” featurally unspecified item as a) and that there is a morphological operation of impoverishment that deletes or removes features from the morpheme in a terminal node, i.e., b) in this case.

(5)

+X	+X	-X	-X	+X	+X	-X	-X
+Z	-Z	+Z	-Z	+Z	-Z	+Z	-Z
+Y	+Y	+Y	+Y	-Y	-Y	-Y	-Y
Ψ	Δ	Ψ	Φ	Φ	Σ	Φ	Φ

(6) a. [] $\rightarrow \Phi$ (in addition to a, b, c)

Impoverishment:

b. [+Y] $\rightarrow \emptyset$ / [__, +Z]

By doing this, impoverishment blocks the insertion of a more specific Vocabulary item (i.e., to c), and allows the insertion of a less specified one (i.e., a)). This hence results in what we can call the retreat to the general case.

Syncretism in Spanish pronominal clitic clusters

The syncretism occurring in Spanish pronominal clitic clusters played an important role in the discussion of Impoverishment and underspecification in the account of syncretic changes. The Spanish pronominal clitic system is given below:

(7)

Spanish	1		2		3	
	sg	pl	sgg	pl	Sg	pl
ACC	me	nos	te	os	lo/la	los/las
DAT					le	les
Reflexive					se	

Examples with simple 3rd sg accusative and dative pronominal clitics are given in . The issue is that when the dative and the accusative are clustered together as in , the dative clitic must be replaced by the reflexive.

- (8) a. *Juan le comprò un libro.*
 Juan **3.DAT** bought a book
 ‘Juan bought a book for him/her’
 b. *Juan lo comprò.*
 Juan **3.ACC** bought
 ‘Juan bought it’

- (9) a. **Juan le lo comprò.*
 Juan **3.DAT 3.ACC** bought
 ‘Juan bought it for him/her’
 b. *Juan se lo comprò.*
 Juan **3.DAT 3.ACC** bought
 ‘Juan bought it for him/her’

Spanish syncretic se

Harris (1994, 1997) accounted for this syncretic change by proposing the Vocabulary Insertion rules in for Spanish clitics and assuming the impoverishment rule in . The crucial assumption is the reflexive is underspecified due to the variety of functions this clitic has in Spanish morpho-syntax: in addition to be a reflexive, it can mak impersonal, middle and passive constructions.

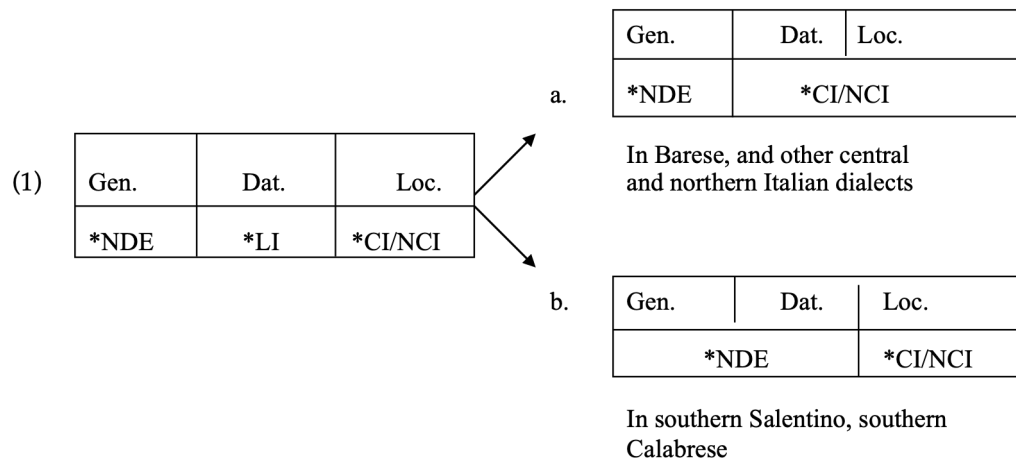
(10)	a.	stem	→	n/	___ 1per, plu		
			→	m/	___ 1per		
			→	Ø /	___ 2per, plu		
			→	t/	___ 2per		
			→	l/	___ Kase		
			→	s			
			b.	Plu	→	s	
					→	Ø	
			c.	TV	→	e/ [III] ___	
				TV	→	a/ [II] ___	
TV	→	o					

(11) Impoverish K in dative clitic in clusters.

Syncretism in clitic clusters in Southern Italo-Romance

Calabrese (1994) noted the dislike for the 3rd person Dative+ Accusative clitic pronominal clusters is common across Romance varieties. However, the Dative clitic is not usually replaced by the reflexive one but it can also be replaced by the locative and genitive ones, if present in the system.

The problem now becomes that of accounting for the diachronic syncretic changes in the clitic systems. For example, consider the syncretism targeting dative clitics in Southern Italo-Romance varieties. It occurred across-the-board in all context in these varieties:



A critique of Impoverishment and Underspecification

Calabrese (1994) argued against using Impoverishment and underspecification in the account of these syncretic changes.

If the diachronic syncretic changes were due to feature impoverishment leading to the extension of the elsewhere underspecified VI, we should expect that (a) developed from a system where the locative *CI/NCI is underspecified as in (a) and that that (b) developed from a system where the locative *NDE is underspecified as in (b)

(12) a [] → *CI/NCI
 c. [] → *NDE

The problem with the underspecification patterns in (5)-(6) is that there is no independent motivation to assume them other than syncretism in . Evidence for underspecification is only provided *ex post facto* by the occurrence of the syncretism.

Prior to the syncretism there is no evidence whatsoever that those particular lexical items are underspecified. Therefore, their postulation is arbitrary.

Calabrese argues that the use of underspecification, unless it is independently motivated by , and thus grounded in the structure of the systems, leads to opportunistic, and ultimately circular theoretical analyses.

Syncretisms as changes on the feature bundles of the morpho-syntax

According to Calabrese (1994), the changes in *can* can only be accounted by operations on the feature bundles of the terminal node of the morpho-syntax.

It is only after these changes in the feature bundles of the morpho-syntax that the exponents of the clitics may be re-analyzed.

This idea was developed in more detail in Calabrese (1998, 2008, 2012), developing seminal research by Noyer (1992), see also Arregi and Nevins (2012)), where it was proposed that morpho-syntactic structures, and therefore their surface allomorphy, can be also determined by repairs due to morphological constraints and affecting the feature bundles of these structures.

According to this idea, repairs triggered by morphological constraints may manipulate syntactic structures, and may generate arbitrary morpho-structures, structures that are not motivated syntactically or semantically but only morphologically because of these repairs.

Mismatches between syntax/semantic structure and surface morphology are thus created

Morphological Markedness

The idea that there are morphological repairs of this type can be used to formalize the notion of morphological markedness and its effect on historical changes.

Languages, in fact, appear to display an asymmetry in the morphological behavior of feature configurations of functional categories.

As discussed in Calabrese (2019), functional categories tend to have an affixal realization.

However, whereas some of them are realized through the assignment of idiosyncratic exponents, others may be realized by exponents that are syncretic with other categories, or even simply not realized affixally, as expected.

Thus, Greenberg (1963) observes that languages seem to prefer realization with idiosyncratic affixal exponents for categories such as the singular or the plural but not for the dual.

The same is true for Case affixes such as nominative or accusative with respect to instrumental or locative. Or in the case of verbal morphology, for the indicative with respect to the subjunctive.

Morphological Markedness

Calabrese (1994, 1998, 2008, 2012) proposed that morphological markedness effects, like phonological ones, are accounted for by constraints on combinations of morphological features (see on this issue Noyer (1998) and Arregi and Nevins (2012)).

These feature constraints, which Calabrese calls marking statements, target the feature combinations of the terminal nodes of the morpho-syntax. The following marking statement characterizes morphological realization of duality in affixes as costly (here we will use the feature [plural], [dual] instead of [augmented], [restricted] (cf. Harbour (), Bobaljik (2008)): [+plural, +dual]=[+augmented, +restricted], [+plural, -dual]=[+augmented, -restricted]).

(13) * [+ augmented, +restricted] / + _____]_w

Marking statements may be active or deactivated on a language-specific basis (see Calabrese (1995, 2005) on marking statements in phonology). If a marking statement is active, the relevant combination of morphological features must be repaired and therefore eliminated.

The Marked Dual number

Consider the dual in Classical Greek. It is fully used in Homeric Greek:

(14) Τὼ ὀφθαλμῶ [to: op^ht^halmó:] the (two) eyes-Nom.

In later stages of the language, in particular in Koine' Greek and in Modern Greek, the dual “went out of use”-- as traditional grammars state—and was replaced by the plural:

(15) οἱ ὀφθαλμοί [oi op^ht^halmói] the (two) eyes

The issue is what the traditional “going out of use” in the case of synthetic morphology means.

The claim here is that the affixal exponents that tend to “go out of use” are those of marked feature configurations.

“Going out of use” for an affixal exponent means that the relevant marking statement has become active. In the case of later stages of Greek, one can then say that the marking statement in has become active, and the idiosyncratic exponents became “disliked”, and were eliminated.

The replacement of these exponents with those of the plural can be accounted for by assuming the repair in that changed the feature configuration of the dual into that of the plural (See Calabrese (2019) on the formalism of the repairs):

- (16) a. [+restricted] → Ø / [+ augmented, ____]]_w
 b. Ø → [-restricted] / [+ augmented, ____]]_w

The change in is an historical innovation, a diachronic event.

A consequence of this assumption is that learning the morphology of a language A involves learning which morphological marking statements are deactivated in A.

This determines which morphological feature combinations are allowed in A; all other feature combinations are eliminated by repairs.

The reasons for morphological markedness

An important issue that cannot be discussed here at length concerns the reasons for the “shyness” of marked morphological configurations—that is, for why languages tend to avoid assigning them idiosyncratic exponents—or, more specifically, for the reasons for the morphological markedness statements that cause this “shyness.”

In Calabrese (2005) it was proposed that in the case of phonology markedness statements are interface conditions, i.e., the means through which the linguistic computational system is able to interpret and categorize the physiological, articulatory or acoustic properties of the sensorimotor system so that they can interact with other properly grammatical principles and operations in phonological derivations.

It can be assumed that it is the same in the case of morphological markedness.

The morphological marking statements are the way in which functional or cognitive considerations are expressed in grammatical terms (through morphological features). To establish the nature of these considerations is beyond the goal of this paper, or perhaps of linguistics in general.

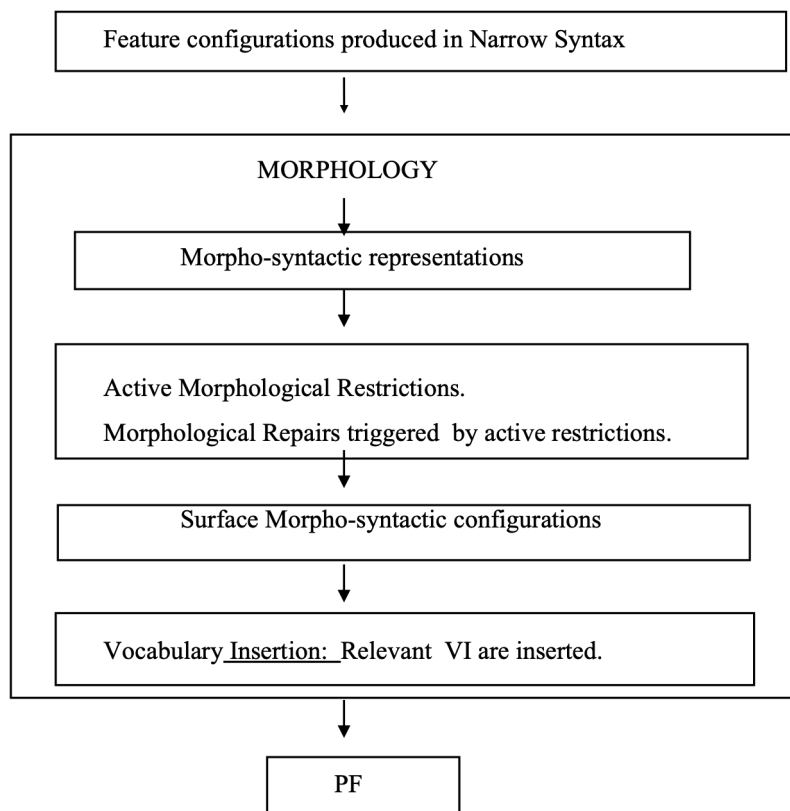
However, one could speculate that the reasons of morphological markedness are to be found in the cognitive centrality vs. marginality of certain morphosyntactic or semantic features/properties in the human experience of the world or in human communicative needs.

Unmarked properties could involve prototypical properties of our experiential or perceptual interpretation of the world (van Langedoneck (1987), Mayerthaler (1988)). Categories that are more basic, obvious, and easily connected to our everyday experience can be expected to serve as a conceptual background.

One could speculate that the exponents of what is more cognitively prototypical could be more easily remembered or accessible in memory, also perhaps because it would be more frequently used in discourse. This, and other convergent functional reasons, could give a special privileged status to the exponents of certain morphological configurations such as the singular, the masculine gender, nominative/accusative case, the present indicative and so on, but not to the exponent of other categories such as the dual, the feminine, the instrumental, the ablative, etc.

The exponents of more marginal feature configurations could be more difficult to access in memory, or more easily forgotten. This could be a mark of cognitive cost. The elimination of these exponents would then simplify the grammar. The important point, however, is that all of these functional reasons are formally encoded in the grammar through the markedness statements of markedness theory, and do not need to be directly used in the linguistic analysis.

A diagrammatic representation of how Morphology converts Narrow syntax representations into PF



Absolute syncretisms

Note that feature deletion and insertion lead to what Calabrese (2008) called absolute syncretisms. In the case of absolute syncretism two morphosyntactic categories which may have different morphological realization in language A have the same morphological realization across the morphology of language B.

Thus, for example, as in the case discussed above, the Dual and the Plural which are morphologically distinct in Classical Greek, are both morphologically realized by the Koine Greek.

Another case discussed below is absolute syncretism between Ablative and Instrumental in Latin, while they were distinct in PIE (see Sanskrit or common Slavic)

If what is proposed is right, absolute syncretism must be accounted for by changing the feature bundle of a (marked) morphosyntactic category, e.g., the instrumental Case, into the feature bundle of another (unmarked) category by feature deletion, followed by feature insertion, where the first is triggered by a markedness constraint.

Types of Case syncretism

Meiser (1992) (see also Ringe (1995) on this distinction) distinguishes between functional syncretism and formal syncretisms: Functional syncretism involves the falling together of two morpho-syntactic categories into a single one across the morphology of a language. Formal syncretism, in contrast, involves the use of the same form to express morpho-syntactic categories that are otherwise morphologically contrasting in a language. Calabrese (2008) replaces this terminology and call the first **absolute syncretism** and the second **contextual syncretism**.

Absolute syncretism in a Case system involves the syncretism between a Case that is morphologically realized in the language and a Case that is not morphologically expressed in that language, but that is morphologically expressed in other languages. For example, this is the case of the oblique in Old French that realizes Cases such as the Genitive, the Dative, the Accusative and the Ablative that were morphologically contrastive in Latin. Or it is the case of the Latin ablative that realizes Cases such as the Ablative, Locative and Instrumental that are contrastive in Sanskrit.

Historically, absolute syncretism involves the replacement a given Case exponent with another Case exponent across all nominal classes and nominal categories

In contrast, contextual syncretism in a Case system involves the syncretism between Cases that are morphologically realized in this system. It involves replacement of a given Case exponent with another Case exponent only in certain nominal classes or in certain grammatical categories such as the plural or the dual. In the Old French declension in we observe contextual syncretism among the Nominative singular, the Nominative plural, and the Oblique plural where we find the exponent /-s/. In Sanskrit there is contextual syncretism in the Dative, Ablative and Instrumental dual, where we find the same exponent /-bhyam/, in the Genitive and Locative Dual, where we find the exponent /-yaus/, and in the Dative and Ablative plural where we find the exponent /-bhyas.

Latin declensions

The five declension of Latin:

(7)	<u>First</u>	<u>Second</u>				<u>Third</u>
	porta, -ae f. 'gate'	amīcus, -ī m., 'friend'	puer, -ī m., 'boy'	ager, -grī m., 'field'	donum, ī n., 'gift'	rēx, rēgis 'm., king'
SING.						
N.	port-a	amīc-u-s	puer	ager	dōn-u-m	rēx
G.	port-ae	amīc-ī	puer-ī	agr-ī	dōn-ī	rēg-i-s
D.	port-ae	amīcō	puer-ō	agr-ō	dōn-ō	rēg-ī
A.	port-a-m	amīc-u-m	puer-u-m	agr-u-m	dōn-um	rēg-e-m
Ab.	port-ā	amīc-ō	puer-ō	agr-ō	dōn-ō	rēg-e

PLU.						
N.	port-ae	amīc-ī	puer-ī	agr-ī	dōn-a	rēg-ē-s
G.	port-ā-r-um	amīc-ō-r-um	puer-ō-r-um	agr-ō-r-um	dōn-ō-r-um	rēg-um
D.	port-ī-s	amīc-ī-s	puer-ī-s	agr-ī-s	dōn-ī-s	rēg-i-bu-s
A.	port-ā-s	amīc-ō-s	puer-ō-s	agr-ō-s	dōn-a	rēg-ē-s
Ab.	port-ī-s	amīc-ī-s	puer-ī-s	agr-ī-s	dōn-ī-s	rēg-i-bu-s

	<u>Third</u>				<u>Fourth</u>		<u>Fifth</u>
	corpūs, -orīs	cīvis, -is	urbs, -is	mare, -is	frūctus, -ūs	cornū, -ūs	di-ē-s,
diēi	'n., body	'm. citizen'	'f., city	'n., sea'	m., fruit'	'n., horn'	'm. day
SING.							
N.	corpūs	cīv-i-s	urb-s	mar-e	frūct-u-s	corn-ū	di-ē-s
G.	corpor-i-s	cīv-i-s	urb-i-s	mar-i-s	frūct-ū-s	corn-ū-s	di-ē-ī
D.	corpor-ī	cīv-ī	urb-ī	mar-ī	frūct-u-ī	corn-ū	di-ē-ī
A.	corpūs	cīv-e-m	urb-e-m	mar-e	frūct-u-m	corn-ū	di-e-m
Ab.	corpor-e	cīv-e	urb-e	mar-ī	frūct-ū	corn-ū	di-ē
PLU.							
N.	corpor-a	cīv-ē-s	urb-ē-s	mar-i-a	frūct-ū-s	corn-u-a	di-ē-s
G.	corpor-um	cīv-i-um	urb-i-um	mar-i-um	frūct-u-um	corn-u-um	di-ē-r-um
D.	corpor-i-bu-s	cīv-i-bu-s	urb-i-bu-s	mar-i-bu-s	frūct-i-bu-s	corn-i-bu-s	di-ē-bu-s
A.	corpora	cīv-ē-s	urb-ēs	mar-i-a	frūct-ū-s	corn-u-a	di-ē-s
Ab.	corpor-i-bu-s	cīv-i-bu-s	urb-i-bu-s	mar-i-bu-s	frūct-i-bu-s	corn-i-bu-s	di-ē-bu-s

Morphological analysis of Latin cases (Halle & Vaux 1998, Calabrese 1998)

Each word class is characterized by a common vocalic element that is traditionally called the thematic vowel. The thematic vowels of Latin are given in :

- (17) TV --> a in the env. [I]
 TV --> o in the env. [II]
 TV --> i in the env. [III]
 TV --> u in the env. [IV]
 TV --> e: in the env. [V]

Various processes of lengthening, lowering, raising and deletion affecting the thematic vowel must be unparsed.

Once we subtract the thematic vowel from the desinences, we obtain the different endings. They are listed in .

(18)

		a-stems	o-stems	C-stems	Mixedi-stems	u-stems	ē-stems
SG.	NOM	-∅	-s	-s	-s	-s	-s
	GEN	-i:	-i:	-s	-s	-s	-s
	DAT	-i:	-∅	-i:	-i:	-i:	-i:
	ACC	-m	-m	-m	-m	-m	-m
	ABL	-∅	-∅	-∅	-∅	-∅	-∅
PL	NOM	-i:	-i:	-s	-s	-s	-s
	GEN	-r-um-	r-um	-um	-um	-um	-um
	ACC	-s	-s	-s	-s	-s	-s
	DAT	-i:-s	-i:-s -	bu-s	-bu-s	-bu-s	-bu-s

The suffixes in are inserted in the fused Case-Number terminal node of the constituent structure in :

- (19) [[[stem] + Thematic Vowel]_N + Number-Case]_N

Contextual Syncretisms in the Latin system

Two characteristics of Latin are relevant here:

The presence of **massive contextual syncretisms**

- i) between nominative and accusative in neuters
- ii) between the genitive and the dative in the singular of I and V declensions
- iii) between the dative and the ablative in the II declension
- iv) between the dative and the ablative in the plural of all declensions
- v) between nominative and accusative in the plural of III, IV, V declensions

The presence of the **absolute syncretism** between the **Ablative and Instrumental**, and the absolute syncretism we observe for the **Locative** which is syncretic with the **dative-genitive** in nouns of towns and small islands and with the **ablative** in all other nouns.

An account for contextual syncretism: the VIs

Given the paradigm in , the vocabulary items for all Latin declensions are listed in :

(20) Latin Case features

	Nom.	Acc.	Gen.	Dat.	Abl.
Peripheral	-	-	+	+	+
Source	-	-	+	-	+
Location	-	-	-	-	+
Motion	+	-	-	+	+

- (21) a. [+peripheral, -motion, +plural] → /-um/ (GPl)
 b. [-peripheral, -motion, +plural] → /-i:/ / [-neut, I, II] +__ (NPl, I, II)
 c. [+peripheral, +motion, +plural] → /-bu-/ / [III, IV, V] +__ (D&AbPl.III-V)
 d. [+peripheral, -location, -plural] → /i:/ (G&DSg)
 e. [-peripheral, +plural] → /a/ / [+neuter]+__ (N&APl.Nt)
 f. [+motion, -plural] → /-m/ (ASg)
 i [Ø] → /s/ Elsewhere
 Otherwise → Ø (singularDefault)

The ending [r-um](<-s-um) and [bu-s] are the outcome of a fission process whose discussion I omit here (see Halle and Vaux (1997, p. 228-229 for details).

The difference between these two types of syncretism

The difference between these two types of syncretism is shown in concord.

In Latin adjectives agree with their head noun in Case, number and gender. Adjectives belong either to the first and second declensions (e.g. *bonus* (masc), *bona* (fem) *bonum* (neuter) or to the third (e.g. *tristis* (masc and fem.) *triste* (neuter)).

When an adjective makes more distinctions than the noun it modifies, the appropriate Case form of the adjective is chosen.

(22)	Genitive:	tristis	puellae/	regis	/	diēi	‘of the sad girl/king/day’
	Dative:	tristī	puellae/	regī	/	diēi	‘to the sad girl/king/day’

In the word form *puellae* of I declension, for instance, there is contextual syncretism between genitive and dative: the ending of */-ae/* can realize the genitive or the dative. If it is modified by a third declension adjective like *tristis*, which distinguishes between genitive *tristis* or dative *tristī*, the form of the adjective which is appropriate to the syntactic context is chosen.

Hypothesis: concord copies only the feature of the terminal node of the morpho-syntax, i.e., the output of absolute syncretism. The presence of contextual syncretism, a type of syncretism that is determined by lexical features such as declensional class membership, in the forms of the head noun does not matter.

The locative Case.

Location in Latin is normally expressed by the ablative usually governed by the preposition *in*.

However, with singular names of towns and small islands, where no preposition is used, location is expressed by Case forms identical to the genitive/dative of names belonging to the first or second declension singular: *Rōmae* ‘at Roma’, *Mīlēti* ‘at Miletus’ (and nouns such as *proximae* ‘in proximity’).

There are a few third declension singular names with forms the same as the dative: *Karthāginī* ‘in Carthage’ (although the ablative *Karthāgine* is an alternative).

There is also *rūrī* (third declension) ‘in the country’ and *domī* ‘at home’. *Domus* ‘home’ has a mixture of second and fourth declension forms.

In all of these cases we can say that we are dealing with the vocabulary item /-i:/ identical to that of the Dative-Genitive Sg. (see (26)).

The locative Case.

Possible account:

- 1) Latin has a locative Case.
- 2) There is **contextual syncretism** between this Case and the genitive/dative in singular nouns of towns and small islands (in addition to *rūrī* and *domī, proximae*.)

In all other nouns and in the plural nouns, instead, there would be **contextual syncretism** between the locative and the ablative.

The locative Case.

This hypothesis, however, is easily rejected when we consider concord in the phrases in

- (23) *meae domī* (Pl. Au 432) ‘at my home’
domī suae (Cic. N.D. 381) ‘at his home’
proximae viciniae habitat (Pl. Ba 205-6) ‘he lives very close’
- villā meā*. ‘at my villa’
urbe copiosā ‘in a wealthy town’

Consider the first two phrases *meae domī* and *villā meā*. The Case form *villā* is ablative. *domī* is a genitive/dative “locative”. If we account for the contrast between *domī* and *villā* in terms of contextual syncretism, we are assuming that both forms are inserted in a terminal node characterized by the same feature bundle, the locative in this case. Therefore, we expect only one form of the adjective to appear insofar as concord depends only of the feature specifications of the terminal node.

But then we have to explain the opposition between the two forms of the adjective: *meae*, which is required by *domī*, and *meā*, which is required by *villā*. They cannot be due to contextual syncretism since as shown in contextual syncretism patterns found in the head noun are not transmitted to the modifying adjective. Therefore we have to conclude that the contrast between *domī* and *villā* must be accounted for by changing the feature bundle of the terminal node.

Proposal: The morphological alternations we observe in Latin locatives are due to absolute syncretism.

Absolute case syncretism

We can turn to how absolute case syncretism is implemented.

As for case systems, Blake (1994) observes that there are clear implicational relationships between the different cases. An implicational hierarchy of cases is given in (6.39).

Some cases are more common than others, crosslinguistically

(24) NOM < ACC < GEN < DAT < LOC < ABL /INST < others

(25) Two Cases:

NOM - ACC (e.g. Old French)

Three Cases:

NOM - ACC - GEN (e.g. Modern Greek)

Four Cases:

NOM - ACC - GEN - DAT (e.g. Ancient Greek)

Five Cases:

NOM - ACC - GEN - DAT - ABL (e.g. Classical Latin) NOM - ACC - GEN - DAT - INST (e.g. O. H. German)

Six Cases:

NOM - ACC - GEN - DAT - LOC - ABL (e.g. Latin) NOM - ACC - GEN - DAT - LOC - INST (e.g. Slavic lgs)

Seven Cases:

NOM - ACC - GEN - DAT - LOC - ABL - INST (e.g. Armenian)

Absolute case syncretism

If we assume that the presence of more marked entities implies the presence of less marked ones, as originally proposed by Jakobson (1941), the hierarchy in (6.39) tells us that the nominative is the least marked case and the locative the most marked one:’

(26) NOM < ACC < GEN < DAT < ABL < INST < LOC < OTHERS

Case features and case restrictions

Calabrese (1998) proposed that each case is characteristically identified by a marking condition that constrains a case features combination (a case restriction from now on). These case restrictions represent case feature combinations whose affixal realization is marked as costly.

Given the case feature specifications in () (see Calabrese (2008)), the case restrictions in () can be proposed:

(27)

	Nom.	Acc.	Gen.	Dat.	Loc.	Abl.	Inst.
Peripheral	-	-	+	+	+	+	+
Source	-	-	+	-	-	+	-
Location	-	-	-	-	+	+	+
Motion	-	+	-	+	-	+	+

(28) **The Case restrictions:**

- i. *Locative: *[+location, -source]
- ii. *Instrumental: *[-source, +location]/_____, +motion]
- iii. *Ablative: *[+location, +source]
- iv. *Dative: *[-location, -source] / [_____, +peripheral]
- v. *Genitive: *[+peripheral]
- vi. *Accusative: *[-peripheral, +motion]

The Case Restrictions

These case restrictions may be active or inactive in a language. If a case restriction is active in a language the relevant case is not present in the language. If it is inactive, the relevant case is present. The case restrictions are organized hierarchically. The lower a restriction in the hierarchy, the more probable is that it is active across languages. Thus the restriction characterizing the instrumental is in a low position in the hierarchy. This expresses the fact that the instrumental is more rarely found across languages. In their natural state, case restrictions are active. A case restriction is deactivated in a language L only if there is evidence that the relevant case is morphologically realized in L. Furthermore, one can assume that a case restriction can be deactivated in a language only if case restrictions in higher position in the hierarchy are also deactivated.

Case Restrictions and Absolute Syncretism

Observe that given the analysis proposed here we have to say that the Case-restrictions in (39) constrain Case feature bundles only when they are merged with other constituents, i.e., when they are morphologically realized as affixes.

Absolute Case syncretisms are due to active Case restrictions. These active Case restrictions trigger repair operations that adjust the disallowed feature configurations of the terminal nodes of the morpho-syntax.

The historical development leading to an absolute syncretism is due to the activation of a deactivated Case restriction and the subsequent adjustment of the feature bundles of the morpho-syntax by a repair rule.

As a consequence the vocabulary item characterized by the disallowed configurations can no longer be inserted. Instead, the vocabulary item characterized by the configuration that is the output of the repair rule is inserted.

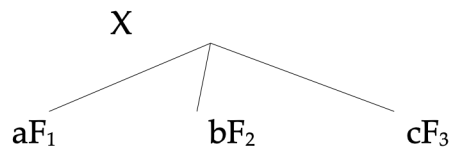
Thus the exponent identified by the disallowed feature configuration is eliminated and replaced by the exponent of the allowed configuration. The relevant morphological contrast is therefore eliminated. In this way all irrelevant non-contrastive feature combinations are eliminated and vocabulary items need to refer only to the limited set of contrastive features. Thus a simplification of the feature specifications of the vocabulary items can be achieved.

Feature deletion as a repair

A fundamental assumption is that the feature specifications of the terminal nodes of the morphosyntax are always fully specified.

If a feature specification is deleted it is automatically replaced with the opposite value as in, as proposed by Noyer (1998) Arregi and Nevins (2006), Calabrese (2008) (see also Calabrese (1988, 1995, 2005), for the same proposal in phonology). At the same time, deletion operations are always triggered by active markedness restrictions. They are repairs:

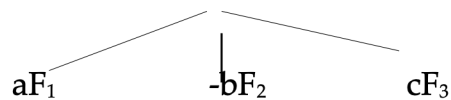
(29)



b. $aF_2 \rightarrow \emptyset / [_ _ , bF_2]$ because of $*[aF_1, bF_2]$

c. $\emptyset \rightarrow -aF_1 / [_ _ , bF_2]$ (by default)

d. X after the application of b. and c.



Syncretism Instrumental-Ablative in Latin:

(30) occidere gladio “to kill with a sword”

(31) i. *Instrumental: *[-source, +location]/[_____, +motion]

ii. Repair:

a. [-source] → Ø / [_____, -source, +motion]

b. Ø → [+source] / [_____, -source, +motion]

iii.

<u>Instrumental</u>	→	<u>Ablative</u>
+peripheral		+peripheral
-source		+source
+location		+location
+motion		+motion

The Latin Locative

The active Case restriction in (31) is active

(31) ***[+location, -source]**

(32) a. [+location] → [-location]/[____, -source, -plural] X +__ where X = a name of a town or a small island.
(Locative → Dative)

b.	<u>Locative</u>	→	b.	<u>Dative</u>
	+peripheral			+peripheral
	-source			-source
	+location			-location
	-motion			+motion

Otherwise:

(33) a. [-source] → [+source]/ [____ +location]
(Locative → Ablative)

b.	<u>Locative</u>	→	b.	<u>Ablative</u>
	+peripheral			+peripheral
	-source			+source
	+location			+location
	-motion			+motion

Syncretic changes target cases not exponents

Calabrese's (1998, 2008) also showed that Case syncretisms do not involve the distributional extension of underspecified exponents). Syncretic changes appear in fact not to involve exponents, but the actual Cases. Thus, for example, in Late Latin the Dative was replaced by the Genitive, as shown in , regardless of the exponents that they had in the different declension classes and most importantly regardless of the distribution of these exponents.

quod vinculum, quaeso, deest nostrae coniunctionis (instead of *nostrae coniunctionii*)
(Cic. ad Fam. v, 15, 2)

‘What bind, I ask, is absent from our relationship?’

ille tunc imber.. mortem intulit corporum (instead of *corporibus*) (Chrisost. Ho. 7, 7)
‘...the rain brought death to their bodies’

qui eorum (instead of *eis*) *auxiliare presumpserat* (Fredeg., sec.VI or VIII, 3, 51)
‘he who had taken help to them’

viriliter eorum (instead of *eis*) *resistens* (Chronicum Salernitanum, 747-974)
‘...resisting corageously to them’

Syncretic changes like those in operate across vocabulary items. When a Case is replaced by another Case in the history of a language, this occurs across declension classes regardless of the different exponents of the Cases. The exponents that represent the Case in the different declension classes are simply replaced by the different exponents of the other Case.

Syncretic changes are not due to phonology

Calabrese (2008) also showed that phonological changes cannot account for syncretic changes. For example, in the development of the Latin Case system into Romance, the phonological processes characterizing Late Latin and Proto-Romance—loss of coda consonants and lowering and surface disappearance of the short high vowels—could not have neutralized all of the relevant morphological contrast between Cases.

Of utmost importance is also the fact that similar phonological changes also affected the Slavic languages. Despite these changes, the original Case system of Proto-Slavic is fully preserved in most of Slavic languages. The six cases system of reconstructed Proto-Slavic is still present in Russian, after more than two thousand years, despite the radical changes in the phonological exponents of the different Cases.

This clearly indicates that syncretic changes are not due to modifications in the phonological shape of exponents even if they can lead to phonological neutralizations between exponents