A Feature-Geometric Approach to Amharic Verb Classes

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Basic Ideas

- Amharic Verb Classes should be decomposed into more elementary, diacritic features
- These Features are organized in feature-geometric trees
- Feature Geometry accounts for coocurrence restrictions of diacritic features and class syncretisms

Overview

- Verb Classes and Class Syncretism in Amharic
- The Framework: Minimalist Distributed Morphology
- Decomposing Verb Classes
- The Feature Geometry of Verb Classes
- Class Syncretism as Impoverishment

Verb Classes and Class Syncretism in Amharic

Verb Classes for Tri-radicals

	Type A	Type B	Type C
Perfect	säbbärä	fälläg ä	marräkä
Imperfect	yəsäbər	yəfälləg	yəmarrək
Participle	säbari	fällagi	maraki

Verb Classes for Quadri-radicals

	Type 1	Type 2
Perfect	mäsäkkärä	däballäqä
Imperfect	yəmäsäkkər	yədäballəq
Participle	mäskari	däbalaqi

Gemination in Tri-radicals (Affixes Removed)

	Type A	Type B	Type C
Perfect	säbbär	fälläg	marräk
Imperfect	säbər	fälləg	marrək
Participle	säbar	fällag	marak

Gemination in Quadri-radicals (Affixes Removed)

	Type 1	Type 2
Perfect	mäsäkkär	däballäq
Imperfect	mäsäkkər	däballəq
Participle	mäskar	däbalaq

Vowels in Tri-radicals (Affixes Removed)

	Type A	Type B	Type C
Perfect	säbbär	fälläg	marräk
Imperfect	säbər	fälləg	marrək
Participle	säbar	fällag	marak

Vowels in Quadri-radicals (Affixes Removed)

	Type 1	Type 2
Perfect	mäsäkkär	däballäq
Imperfect	mäsäkkər	däballəq
Participle	mäskar	däbalaq

Good Thing about Verb Classes

Given the radicals and the verb class,
the stem can be derived by rule

Bad Thing about Verb Classes

Verb class membership
cannot be reduced to
independent properties of the root (verb)

Verb Classes cannot be reduced to semantic/phonological/syntactic factors

"There are three types of triradicals: type A, type B, and type C. These types are conditioned neither by the nature of the consonants nor by the meanings of the verb. Indeed, verbs in any of these types may be active, transitive, verbs of state and so on, and may consist of any kind of consonants. The types are therefore to be considered lexical items."
(Leslau, 2000:57)

Class Syncretism in *as*-Stems

Basic Stem

	Type A	Type B	Type C
Perfect	näggär	fälläg	marräk
Imperfect	nägər	fälləg	marrək
Participle	nägar	fällag	marak

as-Stem

	Type A/B		Type C
Perfect	näggär	fälläg	marräk
Imperfect	näggər	fälləg	marrək
Participle	näggar	fällagi	marak

Definition of *Class Syncretism*

Words of an inflectional class X
behave like words of a different class Y
in a specific morphological context

The Framework: Minimalist Distributed Morphology

Classical Distributed Morphology (Halle and Marantz, 1993)

- Syntax operates on abstract items without phonological content
- Morphology interprets the output of Syntax
- Many types of morphological operations
  - **Impoverishment:** deletes morphosyntactic features
  - **Fusion:** fuses different lexical items into one
  - **Fission:** dissect one head into different separate heads
  - **Vocabulary Insertion:** inserts VIs into lexical items, restricted by Elsewhere Condition and Feature Hierarchies

Classical Distributed Morphology (Halle and Marantz, 1993)

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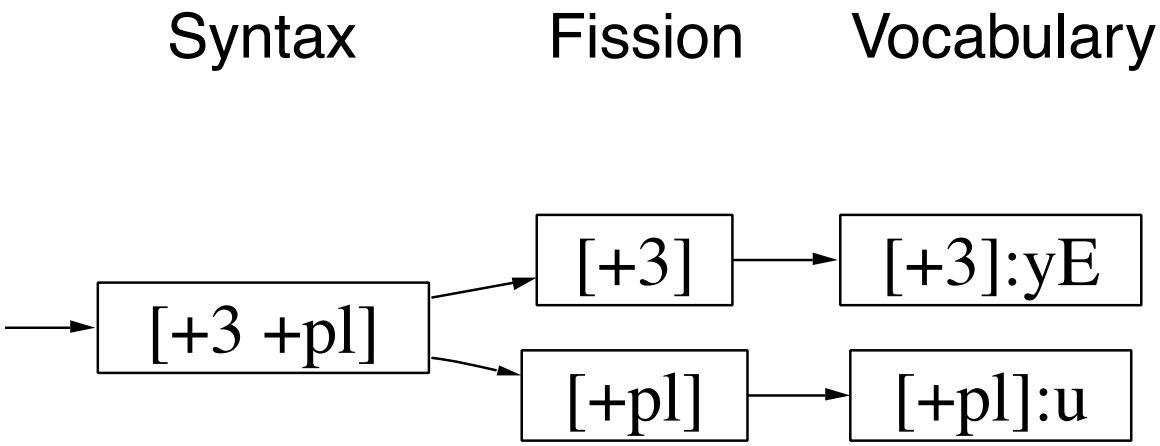
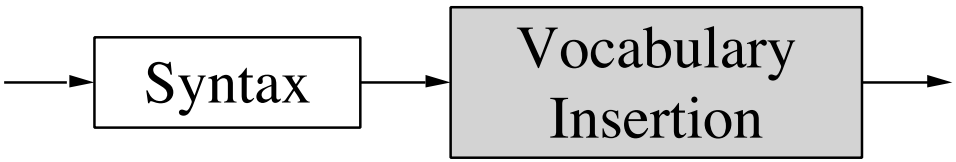


Minimalist Distributed Morphology (Trommer, 1999, 2003a,b)

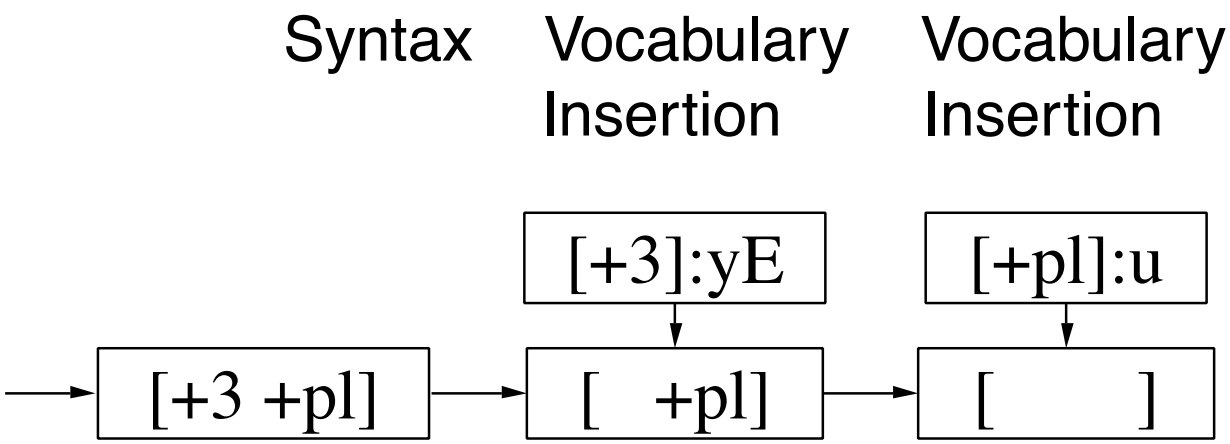
- Syntax operates on abstract items without phonological content
- Morphology interprets the output of Syntax
- ~~Many types of morphological operations~~
- **Vocabulary Insertion:**
  - inserts VIs into lexical items restricted by Elsewhere Condition
  - always feature-deleting
  - Impoverishment = zero-VI-insertion
  - Other operations reduced to impoverishment

➔cf. also Bonet (1991); Halle (1997); Nevins (2003)

Minimalist Distributed Morphology (Trommer, 1999, 2003a,b)



Minimalist Distributed Morphology (Trommer, 1999, 2003a,b)



Decomposing Verb Classes

Class Syncretism and Class Decomposition

Müller (2003a,b): Capture Class Syncretism

by decomposing class features

	Class I = $[+\alpha+\beta]$	Class II = $[+\alpha\ -\beta]$
Class Preserving Vocabulary Entries:	$[+\beta]$	$[-\beta]$
Class Syncretizing Vocabulary Entry:	$[+\alpha]$	

Verb Classes for Triradicals decomposed

	Type A	Type B	Type C
Perfect	säbbärä	fälläg**ä**	marräk**ä**
Imperfect	yəsäbər	yəfälləg	yəmarrək
Participle	säbar**i**	fällag**i**	marak**i**

	Type A	Type B	Type C
Perfect	Gemination ä– ä	Gemination ä– ä	Gemination a – ä
Imperfect	No Gemination ä– ə	Gemination ä– ə	Gemination a – ə
Participle	No Gemination ä– a	Gemination ä– a	No Gemination a – a

Verb Classes for Quadriradicals decomposed

	Type 1	Type 2
Perfect	mäsäkkärä	däballäqä
Imperfect	yəmäsäkkər	yədäballəq
Participle	mäskari	däbalaqi

	Type 1	Type 2
Perfect	Gemination ä– ä	Gemination a – ä
Imperfect	Gemination ä– ə	Gemination a – ə
Participle	No Gemination ä– a	No Gemination a – a

Gemination Classes

	Type A	Type B	Type 1	Type C/ Type 2
Perfect	s bb r	f ll g	m s kk r	m rr k
Imperfect	s b r	f ll g	m s kk r	m rr k
Imperative	s b r	f ll g	m s k r	m r k
Gerund	s b r	f ll g	m s k r	m r k
Participle	s b r	f ll g	m s k r	m r k
Verbal Noun	s b r	f ll g	m s k r	m r k
Gemination Class	1	all	2	

Vowel Classes

	Type A	Type B/ Type 1	Type C/ Type 2
Perfect	ä ä	ä ä ä	ä a ä
Imperfect	ä ə	ä ä ə	ä a ə
Imperative	ə ä	ä ə ə	ä a ə
Gerund	ä ə	ä ə ə	ä a ə
Participle	ä a	ä ə a	ä a a
Verbal Noun	ə ä	ä ə ä	ä a ä
Vowel Class	ä		a

(Non-)Coocurrence of decomposed Classes

Gemination Class	**Vowel Class**	
	ä	a
1	Type A	
All	Type B	
2	Type 1	Type C Type 2

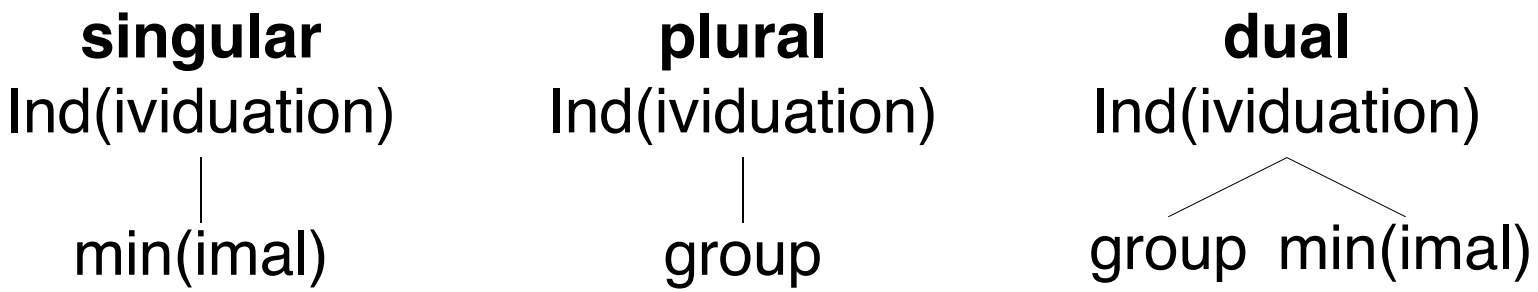
(Non-)Coocurrence of Classes and Radical Number

Vowel Class	**Radical Number** 3	4
ä	Type A	Type 1
	Type B	
a	Type C	Type 2

Gemination Class	**Radical Number** 3	4
1	Type A	
All	Type B	
2		Type 1
	Type C	Type 2

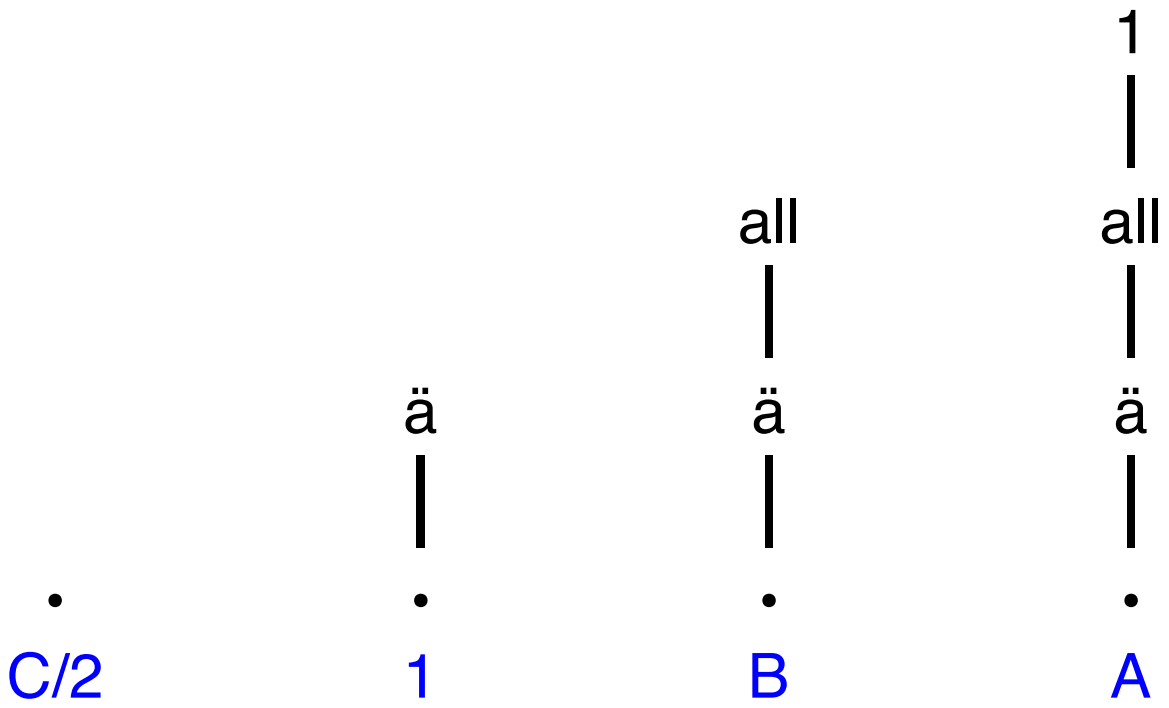
The Feature Geometry of Verb Classes

Feature Geometry in Morphosyntax (Number, Harley and Ritter, 2003)



➔cf. also Bonet (1991); Nevins (2003); Trommer (2003a)

Distinguishing Verb Classes Geometrically



Gemination Patterns by Vocabulary Items

G1

1
all : C / ___ Imperfect

G2

1
all : Ø

G3

all : CC

G4

(Im)Perfect : CC

G5

Default : C

Vowel Patterns by Vocabulary Items

Deriving Type-B Stems

		G1	G2	G3	G4	G5	V1	V2	
all	V b	—	—	~~all~~ CC V b	—	—	~~ä•~~ ä CC V b	—	**Perfect**
ä	V b	—	—	~~all~~ CC V b	—	—	~~ä•~~ ä CC V b	—	**Imperfect**
•	V b	—	—	~~all~~ CC V b	—	—	~~ä•~~ ä CC V b	—	**Participle**

Deriving Type-C Stems

		G1	G2	G3	G4	G5	V1	V2	
	V b	—	—	—	CC V b	—	—	a CC V b	**Perfect**
•	V b	—	—	—	CC V b	—	—	a CC V b	**Imperfect**
	V b	—	—	—	—	C V b	—	a C V b	**Participle**

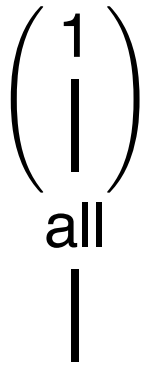
Deriving Type-A Stems

		G1	G2	G3	G4	G5	V1	V2	
1 | all	V b	—	~~1 all~~ —	—	CC V b	—	~~ä•~~ ä CC V b	—	**Perfect**
| ä |	V b	~~1 all~~ C V b	—	—	—	—	~~ä•~~ ä C V b	—	**Imperfect**
•	V b	—	~~1 all~~ —	—	—	C V b	~~ä•~~ ä C V b	—	**Participle**

Explaining Coocurrence Restrictions on Vowel and Gemination Classes

➔ All Restrictions follow directly from the assumed Geometry and Standard Restrictions on Geometrical Trees

Explaining Coocurrence Restrictions on Classes and Radical Number



: Ø/ ___ CCCC

Quadriradical A/B ➔ 1

: Ø/ ___ CCC

Triradical 1 ➔ C/2

Class Syncretism as Impoverishment

Class Syncretism in *as*-Stems (repeated)

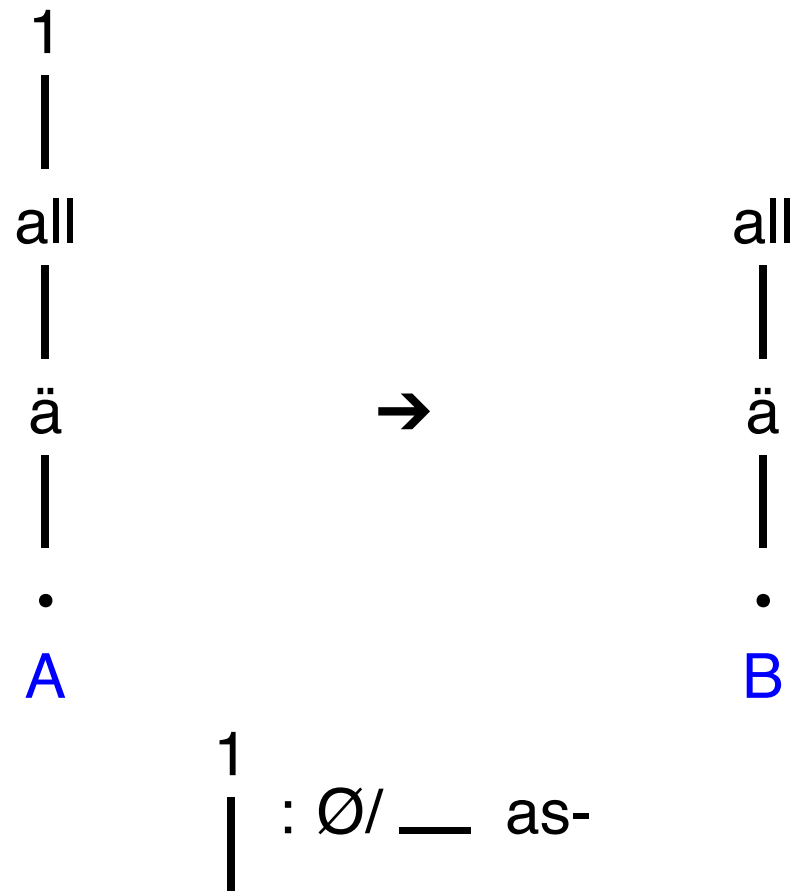
Basic Stem

	Type A	Type B	Type 1	Type C
Perfect	näggär	fälläg	mänäzzär	marräk
Imperfect	nägər	fälləg	mänäzzər	marrək
Participle	nägar	fällag	mänzar	marak

as-Stem

	Type A/B		Type 1	Type C
Perfect	näggär	fälläg	mänäzzär	marräk
Imperfect	näggər	fälləg	mänäzzər	marrək
Participle	näggar	fällagi	mänzar	marak

Class Syncretism in *as*-Stems by Impoverishment



Class Syncretism in *at*-Stems

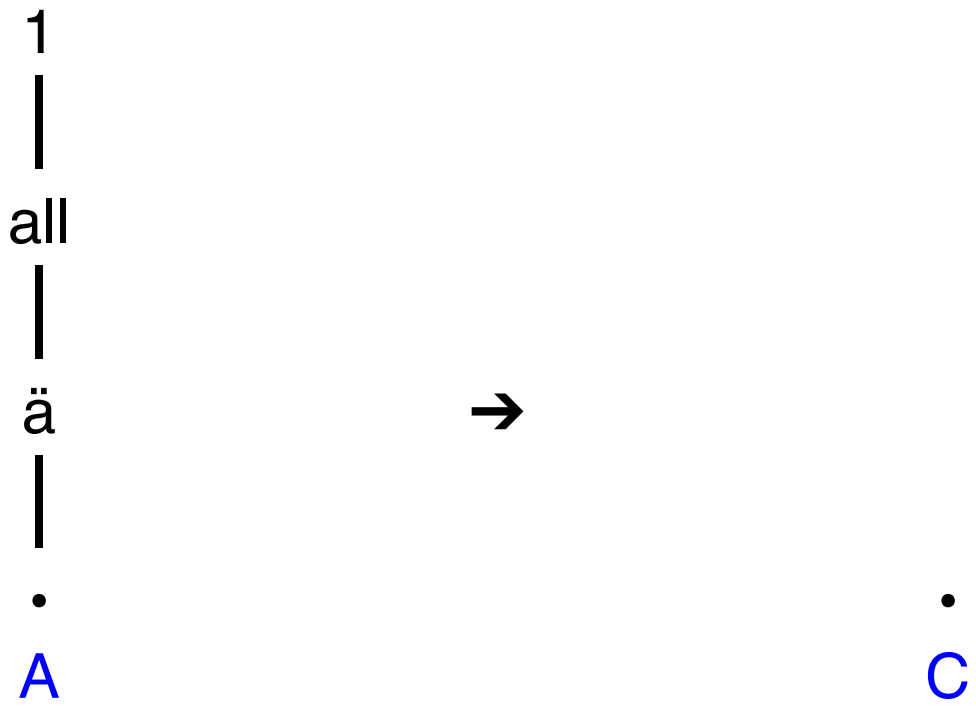
Basic Stem

	Type A	Type B	Type 1	Type C
Perfect	näggär	fälläg	mänäzzär	marräk
Imperfect	nägər	fälləg	mänäzzər	marrək
Participle	nägar	fäll ag	mänzar	marak

at-Stem

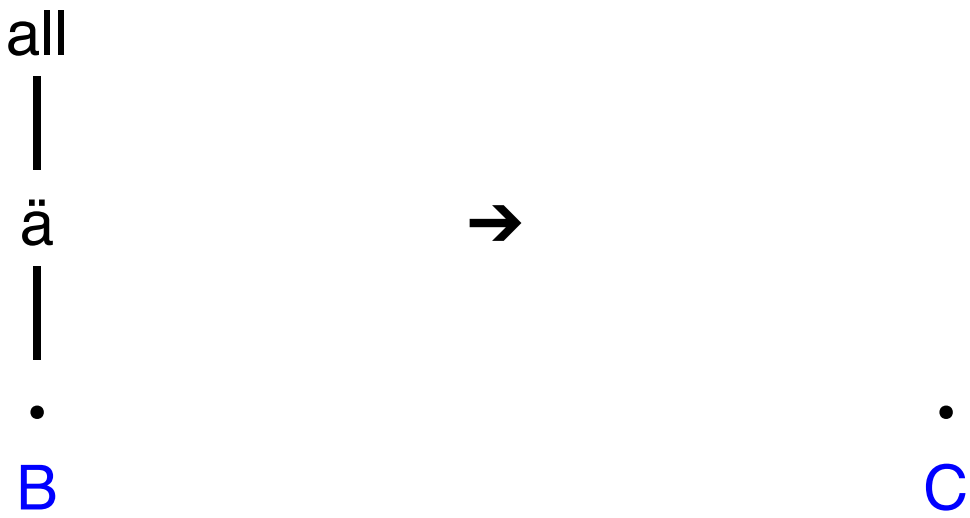
	Type A/B		Type 1	Type C
Perfect	naggär	falläg	mänazzär	marräk
Imperfect	naggər	falləg	mänazzər	marrək
Participle	nagar	falagi	mänazar	marak

Class Syncretism in *at*-Stems by Impoverishment (I)



((1 –) all –) ä– : Ø/ ___ at-

Class Syncretism in *at*-Stems by Impoverishment (II)



((1 –) all –) ä– : Ø/ ___ at-

Class Syncretism in *tä*-Stems

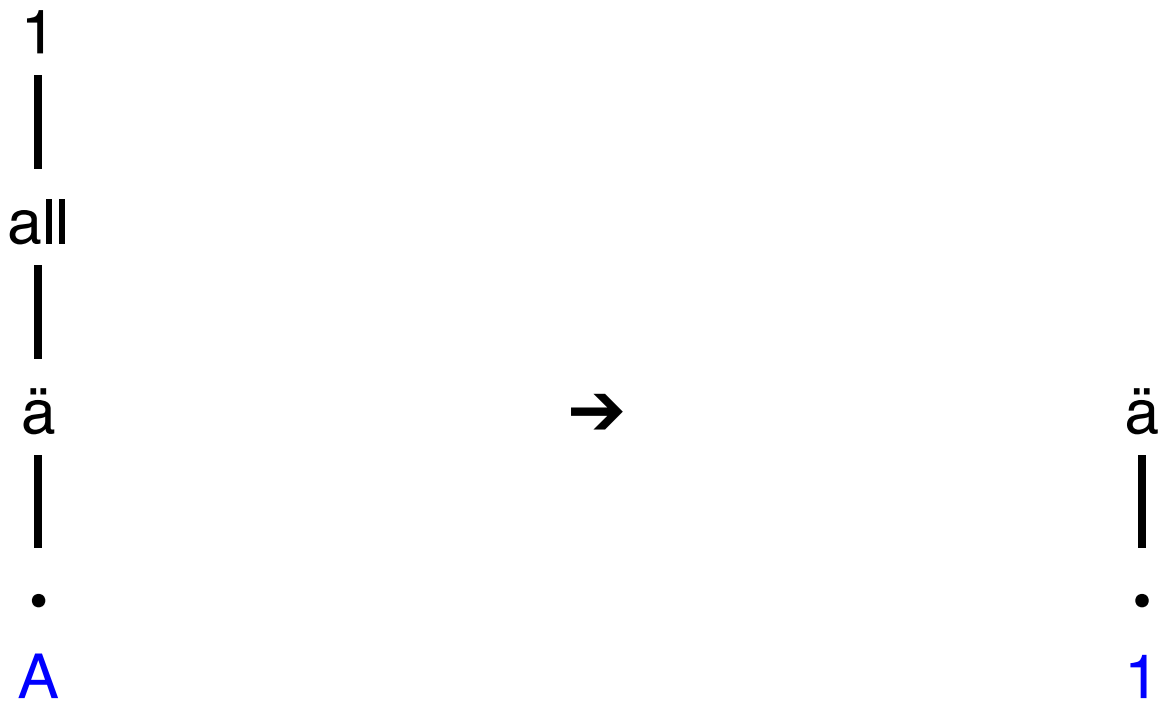
Basic Stem

	Type A	Type B	Type 1	Type C
Perfect	näggär	fälläg	mäsäkkär	marräk
Imperfect	nägər	fälləg	mäsäkkər	marrək
Jussive	səgär	fälləg	mäskər	marək
Participle	nägar	fällag	mäskar	marak

tä-Stem

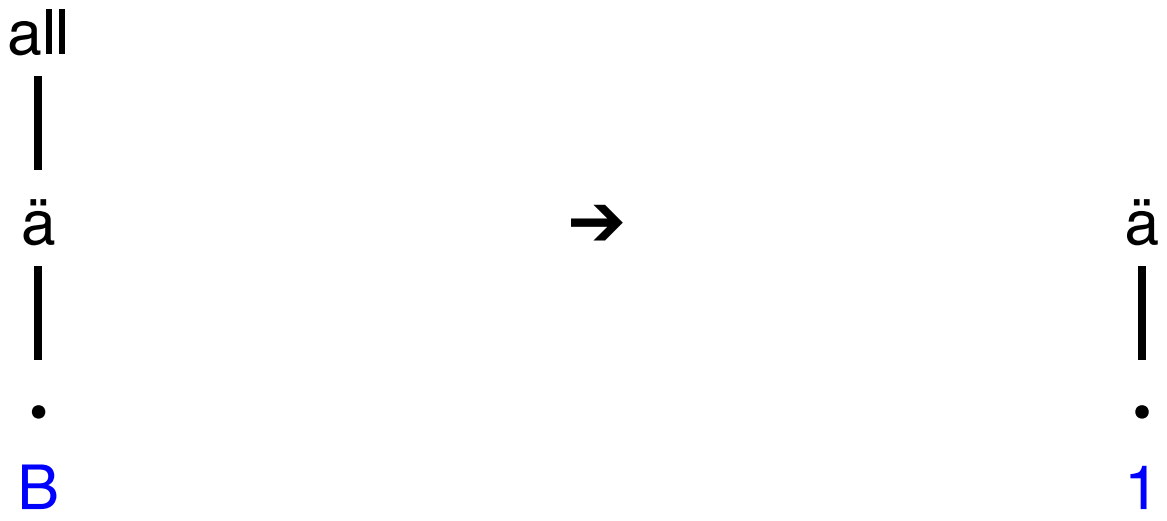
	Type A	Type B	Type 1	Type C
Perfect	säbbär	fälläg	mäsäkkär	marräk
Imperfect	säbbär	fälläg	mäsäkkär	marräk
Jussive	säbär	fäläg	mäskär	maräk
Participle	säbari	fällag	mäskar	maraki

Class Syncretism in *tä*-Stems by Impoverishment (I)



(1 –) all –: Ø/ ___ tä-, { Impf/Juss }

Class Syncretism in *tä*-Stems by Impoverishment (II)



(1 –) all –: Ø/ ___ tä-, { Impf/Juss }

Class Syncretism in Reduplicated Stems

Basic Stem

	Type A	Type B	Type C
Perfect	säbbärä	fällägä	marräkä
Imperfect	yəsäbər	yəfälləg	yəmarrək
Participle	säbari	fällagi	maraki

Reduplicated Stem

	Type A	Type B	Type C
Perfect	säbabbärä	fälallägä	märarräkä
Imperfect	yəsäbabbər	yəfälalləg	yəmärarrək
Participle	säbabari	fälalagi	märaraki

Class Syncretism in Reduplicated Stems

➔parallel to *at*-Stems!

Summary: Class Syncretisms

A	B	1	C	
A → B				(*as*-)
A → 1				
	B → 1			(*tä*-)
A → C				
	B → C			(*at*-)
		1 → C		

Excluded: B → A, 1 → A, 1 → B, C → A, C → B, 1 → C

Global Summary

The Feature-Geometric Analysis accounts for . . .

- Possible Verb Classes
- Coocurrence Restrictions for different Radical Numbers
- Restrictions on Possible Class Syncretisms

Problems for a Paradigm-Based Account

- Verbs of different classes form different paradigms
  ➔ Attraction between classes crosses paradigms

- No Account for the Asymmetries in Class Syncretism

- Account for Restrictions on Possible Verb Classes?

Definitions of Paradigm (McCarthy, 2003:5)

McCarthy (2003:5): “ . . . an inflectional paradigm contains all and only the words based on a single lexeme”

Steriade (1999:1) “ A paradigm is a set of words sharing a morpheme . . . or a set of phrases sharing a word . . .”

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