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Functional/Absolute Case Syncretism: An RRG-OT Account

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1. Introduction

Syncretism in general

More than one morphosyntactic category is realized by the same morphological form.

Two Types of Case Syncretism (Calabrese 2008; cf. Meiser 1992)

Functional/Absolute Case Syncretism [**ACS**]:

involving replacing a case morpheme with another one across the morphology of a language

Contextual Case Syncretism [**CCS**]:

involving replacing a case morpheme with another one only in certain nominal classes (determined mainly by the gender, number, and/or case values)

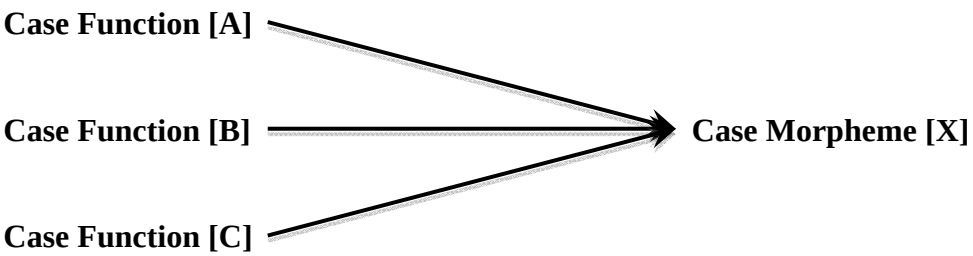


Figure 1: Absolute Case Syncretism

Examples of Absolute Case Syncretism

Kabardian (Northwest Caucasian) (Colarusso 1992, Smith 1996)

(1) a. ɬ'ə-m šə-r fəzə-m jərəjtáhs.
man-OBL horse-NOM woman-DAT (NOM:3)-IO-ACT-gave
"The man gave the horse to the woman".

b. ɬ'ə-m šə-r jə-wəh'áhs.
man-OBL horse-NOM (NOM:3)-ACT-killed
"The man killed the horse".

c. ḫa-r žásə-m mabáhna.
dog-NOM night-OBL (NOM:3)-bark
"The dog barks at night".

d. ɬ'ə-m fəzə-m náxra nax''ázs.
man-NOM woman-OBL older (NOM:3)-is
"The man is older than the woman".

e. mázə-m jahḫ.
forest-OBL ACT-(NOM3rd)carry
"They carry it to the forest".

f. ḫa-m ø-yə-pa-r
dog-OBL 3-POSS-nose-NOM
"the dog's nose"

(2) The Kabardian Syntax-Morphology Interface

Case Function	Case Morpheme
NOM	r
DAT	m
ERG	m
GEN	m

Two Crucial Assumptions of This Talk

◆OT Account of Case Systems (Nakamura 1997, 1999, 2008)

(3) Universal Constraint Set

a. **At least one argument** takes NOMINATIVE case.
b. **Non-macroroles** take DATIVE case.
c. **Undergoers** take ACCUSATIVE case.
d. **Actors** take ERGATIVE case.
e. **Some nominal argument** takes GENITIVE case.

(4) Typological Variation of Major Case Systems

a. Accusative Case Systems: (3b) >> (3a) >> (3c) >> (3d)
b. Ergative Case Systems: (3b) >> (3a) >> (3d) >> (3c)
c. Accusative-Active Case Systems: (3b) >> (3c) >> (3a) >> (3d)
d. Ergative-Active Case Systems: (3b) >> (3d) >> (3a) >> (3c)

Table 1: Ergative Case Systems: Transitive Clauses

Input: Actor-Undergoer	(3b)	(3a)	(3d)	(3c)
Nom.-Nom.			*!	*
Nom.-Acc.			*!	
☞Erg.-Nom.				*
Erg.-Acc.		*!		

◆Case Hierarchy

(5) **Case Hierarchy** [**CH**] (Silverstein 1977, 1980/1993)

Propositional/Adnominal

a. Nom ⇔ Dat_1 ＜ {Acc, Erg} ＜ Gen

Adverbial/Propositional

b. Dat_2 ＜ {Loc, Instr ...}

2. Constraints for ACS

Turning the CH into a Set of Constraints

(6) a. **Stringency Hierarchy Theory** (de Lacy 2006)

*{X}

*{X, Y}

*{X, Y, Z}

b. **Fixed Ranking Theory** (Prince and Smolensky 2004)

*X >> *Y >> *Z

Under de Lacy's (2006) approach, a fixed ranking of markedness constraints is replaced by a subset structure within the constraint family.

The notion of **stringency hierarchy** allows us to derive two markedness constraints in (7) from the CH:

(7) **Markedness Constraints** (derived from the CH)

*{Gen}

*{Gen, Acc/Erg}

*{Gen, Acc/Erg, Dat}　　'Acc/Erg' means 'Acc and/or Erg'.

(8) **Faithfulness Constraints**

a. MAX [Case]

Each case function is realized by some case morpheme.

b. IDENT [Case]

Each case feature value remains the same in the input and output.

(9) **Markedness Constraints**: *[+ oblique] (> *[−oblique])

[+oblique] Dative (←non-macrorole)

[−oblique] Accusative (←undergoer), Ergative (←actor)

The binary features in (9) do not apply to either nominative or genitive morphemes, since nominative may occasionally mark non-macroroles as in (10b) (Japanese), while genitive may mark macroroles in nominalization constructions as in (10c) (Japanese) or 'genitive of negation' constructions in Russian in (10e) (Partee 2008):

(10) Passive Constructions in Japanese

a. Mary-ga John-ni butsukat-ta.
Mary-NOM John-DAT bump.into-PAST
"Mary bumped into John".

b. John-ga Mary-ni butsukar-are-ta.
John-NOM Mary-DAT bump.into-PASS-PAST
"John was bumped into by Mary". [*John* is a non-macrorole]

Nominalization Constructions in Japanese

c. John-no/ga soba-wo tabe-ta-koto
John-GEN/NOM buckwheat.noodles-ACC eat-PAST-NML
"John's having eaten buckwheat noodles" [*John* is an actor]

'Genitive of Negation' Constructions in Russian

d. On ne polučil pis'mo.
he NEG received letter.ACC.N.SG
"He didn't receive the (or 'a specific') letter".

e. On ne polučil pis'ma.
he NEG received letter.GEN.N.SG
"He didn't receive any letter". [*pis'ma* 'letter' is an undergoer]

3. Deriving Absolute Case Syncretism

3.1 Examples of ACS

(11) Typological Variation of Absolute Case Syncretism

a.	DAT=ERG=GEN	(e.g. Kabardian, Yagnob)
b.	DAT=GEN	(e.g. Bengali)
c.	ACC=GEN	(e.g. Finnish)
d.	ERG=GEN	(e.g. Inuit)

(1) Kabardian Examples (DAT=ERG=GEN)

(12) Bengali Examples (DAT=GEN) (Klaiman 1980, 1981):

a.	se	ekti	sundor	meyeke	dekhlo.
	he:NOM	a	pretty	girl:ACC	saw
	"He saw a pretty girl".				
b.	taar	ghum	bhaanglo.		
	him:DAT	sleep	broke		
	"He awakened". (Literal: His sleep broke)				
c.	aamaar	tomaake	mone	porbe.	
	me:DAT	you:ACC	mind-LOC	fall:FUT	
	"I will remember you".				

(13) Inuit Examples (ERG=GEN) (Bok-Bennema 1991, Sadock 1994):

a.	Hansi-p	inuit	tuqup-paa.
	Hansi-ERG	people:NOM.	kill-DEC:3SG:3SG
	"Hansi killed the people".		
b.	Hansi-p	(Aani-mit)	ilinniartin-ner-a
	Hansi-ERG	Anne-ABL	teach-NMLZ-DEC:3SG:SG
	"the teaching of Hansi (by Anne)".		

3.2 Analysis of ACS

Kabardian Two-way Morphological Case System

Since Kabardian uses the same case morpheme to mark transitive undergoers [O] and intransitive subjects [S], it is a morphologically ergative language.

The problem, then, is that the constraint hierarchy (4b) alone cannot assign the same case morpheme to transitive actors [A], non-macroroles, and adnominal possessors.

Kabardian Two-way Morphological Case System

(14) Correspondence between Case Functions and Case Morphemes in Kabardian
MAX [Case] >> *{Gen, Acc/Erg} >> IDENT [Case], *[+oblique], *{Gen}

Table 2(a): GENITIVE mapped to Dative in Kabardian

Input: GEN	MAX [Case]	*{G, A/E}	IDENT [Case]	*[+obl]	*{G}
☞Dative			*	*	
Ergative		*!	*		
Genitive		*!			*

Table 2(b): ERGATIVE mapped to Dative in Kabardian

Input: ERG	MAX [Case]	*{G, A/E}	IDENT [Case]	*[+obl]	*{G}
☞Dative			*	*	
Ergative		*!			
Genitive		*!	*		*

Bengali Three-way Morphological Case System

(15) Correspondence between Case Functions and Case Morphemes in Bengali
MAX [Case] >> *{Gen} >> IDENT [Case] >> *{Gen, Acc/Erg} >> *[+oblique]

Table 3(a): GENITIVE mapped to Dative in Bengali

Input: GEN	MAX [Case]	*{G}	IDENT [Case]	*{G, A/E}	*[+obl]
☞Dative			*		*
Accusative			*	*!	
Genitive		*!		*	

Table 3(b): ACCUSATIVE mapped to Accusative in Bengali

Input: ACC	MAX [Case]	*{G}	IDENT [Case]	*{G, A/E}	*[+obl]
Dative			*!		*
☞Accusative				*	
Genitive		*!		*	

Inuit Three-way Morphological Case System

(16) Correspondence between Case Functions and Case Morphemes in Inuit
MAX [Case] >> *{Gen} >> *[+oblique], IDENT [Case] >> *{Gen, Acc/Erg}

Table 4(a): GENITIVE mapped to Ergative in Inuit

Input: GEN	MAX [Case]	*{G}	*[+obl]	IDENT [Case]	*{G, A/E}
Dative			*	*!	
☞Ergative				*	*
Genitive		*!			*

Table 4(b): DATIVE mapped to Dative in Inuit

Input: DAT	MAX [Case]	*{G}	*[+obl]	IDENT [Case]	*{G, A/E}
☞Dative			*		
Ergative				*	*!
Genitive		*!		*	*

Table 4(c): ERGATIVE mapped to Ergative in Inuit

Input: ERG	MAX [Case]	*{G}	*[+obl]	IDENT [Case]	*{G, A/E}
Dative			*!	*	
☞Ergative					*
Genitive		*!		*	*

(7) **Markedness Constraints** (derived from the Case Hierarchy)

*{Gen}, *{Gen, Acc/Erg}, *{Gen, Acc/Erg, Dat}

(8) **Faithfulness Constraints**

a. MAX [Case]

b. IDENT [Case]

(9) **Markedness Constraint**: *[+oblique]

(11) Typological Variation of Absolute Case Syncretism

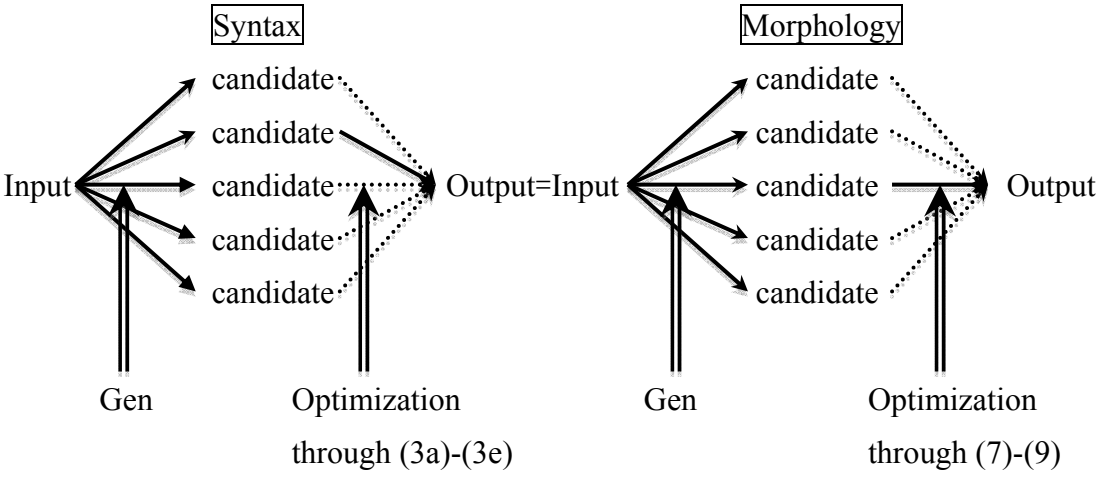
a. DAT=ERG=GEN (e.g. Kabardian, Yagnob)

b. DAT=GEN (e.g. Bengali)

c. ACC=GEN (e.g. Finnish)

d. ERG=GEN (e.g. Inuit)

(17) The Mapping between Syntax and Morphology in ACS



4. Extension to Contextual Case Syncretism

4.1 The German Determiner Declensions

Bierwisch (1967), Blevins (1995, 2000), Wunderlich (1996, 2004), Wiese (1996), Müller (2002, 2008), Krifka (2009), among many others

Table 5(a): Declension of *der* 'the'

	Singular			Plural		
	Masculine	Feminine	Neuter	M	F	N
Nominative	der	die	das	die		
Accusative	den					
Dative	dem	der	dem	den		
Genitive	des		des	der		

Table 5(b): Declension of *dieser* 'this'

	Singular			Plural		
	Masculine	Feminine	Neuter	M	F	N
Nominative	dieser	diese	dieses	diese		
Accusative	diesen					
Dative	diesem	dieser	diesem	diesen		
Genitive	dieses		dieses	dieser		

Table 5(c): Declension of *kein* 'no'

	Singular			Plural		
	Masculine	Feminine	Neuter	M	F	N
Nominative	kein	keine	kein	keine		
Accusative	keinen					
Dative	keinem	keiner	keinem	keinen		
Genitive	keines		keines	keiner		

Four Observations about Table 5(c)

1. No gender distinction in the plural declension
2. A correspondence between the singular masculine nominative/dative/genitive and the singular neuter nominative/dative/genitive forms
3. A partial correspondence between the singular feminine declension and the plural declension
4. The singular feminine, singular neuter, and plural declensions have no distinct accusative form.

4.2 Constraints for CCS

(18) **Markedness Hierarchies**

a. **Gender Hierarchy** [**GH**] (Rice 2006; cf. Jakobson 1960/1984)

Neut[er] > Fem[inine] > Masc[uline]

b. **Number Hierarchy** [**NH**]

Plural > Sing[ular]

(19) **Markedness Constraints** (derived from the GH and NH)

a. *{Neut}

*{Neut, Fem}

*{Neut, Fem, Masc}

b. *{Plural}

*{Plural, Sing}

(20) **Faithfulness Constraints**

a. IDENT [Gender]

(i.e. [neut] ------> [neut], [masc] -----> [masc], [fem] -----> [fem])

b. IDENT [Number]

(i.e. [plural] ----> [plural], [sing] -----> [sing])

c. MAX [Gender]

(e.g. [neut] ------> [fem], [fem] ------> [fem], [fem] -----> [masc])

d. MAX [Number]

(e.g. [sing] ------> [sing], [plural] ------> [sing])

(21) **Markedness Constraints** (derived through harmonic alignment)

a. Harmonic Alignment of (22a) and (23)

*U[ndergoer]/Non-Masc/{Acc}, *U/Non-Masc/{Acc, Dat}

Harmonic Alignment of (22b) and (23)

b. *U/Plural/{Acc}, *U/Plural/{Acc, Dat}

(22) a. Undergoer/Non-Masc > Undergoer/Masc

b. Undergoer/Plural > Undergoer/Sing

(23) **Case Hierarchy**: Nom > Dat > Acc

(24) **Markedness Constraints** (derived through harmonic alignment)

a. *{Plural/Masc}

b. *{Plural/Masc, Fem}

c. *{Plural/Masc, Fem, Neut}

(19)-(21) and (24a) combine with (7)-(9) to form a set of markedness and faithfulness constraints whose rankings determine the assignment of the gender, number, and case values.

(7) **Markedness Constraints** (derived from the Case Hierarchy)

*{Gen}

*{Gen, Acc/Erg}

*{Gen, Acc/Erg, Dat} 'Acc/Erg' means 'Acc and/or Erg'.

(8) **Faithfulness Constraints**

a. MAX [Case]

b. IDENT [Case]

(9) **Markedness Constraint**: *[+oblique]

4.3 Analysis of the Declension of *kein* 'no'

Assignment of Case Values

(25) **Markedness Constraints** (derived from the CH)

a. *{Gen}, *{Gen, Acc/Erg}, *{Gen, Acc/Erg, Dat}

Contextualized Markedness Constraint

b. *{Gen} Fem]

Markedness Constraints (derived through harmonic alignment)

c. *U/Non-Masc/{Acc}, *U/Non-Masc/{Acc, Dat}

d. *U/Plural/{Acc}, *U/Plural/{Acc, Dat}

(26) **Faithfulness Constraints**

a. MAX [Case]

b. IDENT [Case]

(27) **Basic Scheme of Constraint Ranking**

MAX [Case]

⋁

Markedness Constraints ------> Distributional Restrictions

⋁

IDENT [Case]

⋁

.....

Table 5(c): Declension of *kein* 'no'

	Singular			Plural		
	Masculine	Feminine	Neuter	M	F	N
Nominative	kein	keine	kein	keine		
Accusative	keinen					
Dative	keinem	keiner	keinem	keinen		
Genitive	keines		keines	keiner		

(28) **Constraint Ranking for the Case Assignment**

MAX [Case]

∨

*U/Non-Masc/{Acc, Dat}, *U/Plural/{Acc, Dat}, *{Gen} Fem]

∨

IDENT [Case]

∨

*{Gen}

∨

*{Gen, Acc}

*Shaded constraints are the faithfulness constraints, while encircled constraints are markedness constraints derived from the markedness hierarchies.

'Erg' in '{Gen, Acc/Erg}' is dropped below for brevity.

Assignment of Gender and Number Values

(29) **Faithfulness Constraints**

a. MAX [Gender]

b. IDENT [Gender]

c. MAX [Number]

d. IDENT [Number]

(30) **Markedness Constraints** (derived from the GH and NH)

a. *{Neut}, *{Neut, Fem}, *{Neut, Fem, Masc}

b. *{Plural}, *{Plural, Sing}

Markedness Constraint (derived through harmonic alignment)

c. *{Plural/Masc}

(31) **Constraint Hierarchy for the Gender and Number Assignment**

MAX [Gender], IDENT [Number]

⋁

*{Plural/Masc}

⋁

*{Neut}

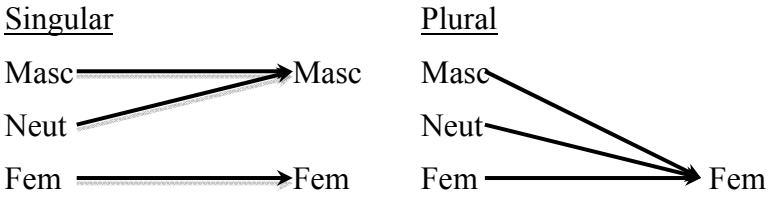
⋁

IDENT [Gender]

⋁

*{Neut, Fem}

(32)



(33) **Constraint Hierarchy for the Declension of *kein* 'no'**

MAX [Case], MAX [Gender], IDENT [Number]

⋁

*U/Non-Masc/{Acc, Dat}, *U/Plural/{Acc, Dat}, *{Gen} Fem], *{Plural/Masc}

⋁

IDENT [Case], *{Neut}

⋁

IDENT [Gender]

⋁

*{Gen}

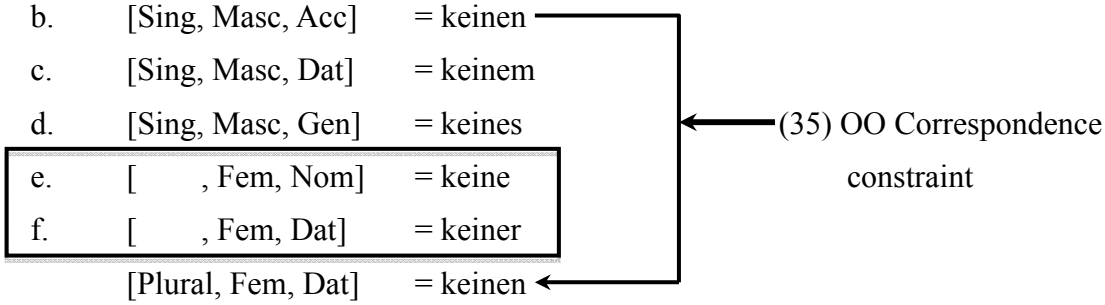
⋁

*{Neut, Fem}, *{Gen, Acc}

The contextualized markedness constraint '{Gen} Fem]' can be replaced by a locally conjoined constraint '*{Gen} & *{Neut, Fem}' (see Smolensky 1995 for an initial formulation of constraint conjunction or **local conjunction** within OT).

(34) **Morphophonological Constraints**

a. [Sing, Masc, Nom] = kein
b. [Sing, Masc, Acc] = keinen
c. [Sing, Masc, Dat] = keinem
d. [Sing, Masc, Gen] = keines
e. [, Fem, Nom] = keine
f. [, Fem, Dat] = keiner
[Plural, Fem, Dat] = keinen



(35) **OO Correspondence Constraint** (cf. Xu 2007)

IDENT [Sing Masc Acc (base), Plural Fem Dat]

The Difference between *kein* 'no' and *der* 'the'/*dieser* 'this'

Unlike *kein*, *der* and *dieser* have the singular neuter nominative form distinct from the singular masculine nominative form.

Table 5(a): Declension of *der* 'the'

	Singular			Plural		
	Masculine	Feminine	Neuter	M	F	N
Nominative	der	die	das	die		
Accusative	den					
Dative	dem	der	dem	den		
Genitive	des		des	der		

Table 5(c): Declension of *kein* 'no'

	Singular			Plural		
	Masculine	Feminine	Neuter	M	F	N
Nominative	kein	keine	kein	keine		
Accusative	keinen					
Dative	keinem	keiner	keinem	keinen		
Genitive	keines		keines	keiner		

5. Conclusion

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