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](image)

**Examples of Absolute Case Syncretism**

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

(1) a. ḫə-m šə-r fəzə-m jərəjtəhs.
    man-OBL horse-NOM woman-DAT (NOM:3)-IO-ACT-gave
    “The man gave the horse to the woman”.

b. ḫə-m šə-r jə-wəhəhəhs.
    man-OBL horse-NOM (NOM:3)-ACT-killed
    “The man killed the horse”.
c. ḥa-r žásɔ-m mabáhna.
dog-NOM night-OBL (NOM:3)-bark
“The dog barks at night”.

d. ḥɔ-'m fɔzɔ-m náxra nax‘ázs.
man-NOM woman-OBL older (NOM:3)-is
“The man is older than the woman”.

e. mážɔ-m jahhǐ.
forest-OBL ACT-(NOM3rd)carry
“They carry it to the forest”.

f. ḥa-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
GEN

Two Crucial Assumptions of This Talk

(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

<table>
<thead>
<tr>
<th>Input: Actor-Undergoer</th>
<th>(3b)</th>
<th>(3a)</th>
<th>(3d)</th>
<th>(3c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom.-Nom.</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom.-Acc.</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erg.-Nom.</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erg.-Acc.</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

◆ Case Hierarchy

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

- **Propositional/Adnominal**
  - a. Nom ⇔ Dat₁ < {Acc, Erg} < Gen
- **Adverbial/Propositional**
  - b. Dat₂ < {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**

   Mary-NOM John-DAT bump.into-PAST
   “Mary bumped into John”.

   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)


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):

   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

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Dative</td>
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<tr>
<td>Ergative</td>
<td>*!</td>
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<tr>
<td>Genitive</td>
<td>*!</td>
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</table>

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

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<tr>
<td>Dative</td>
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<tr>
<td>Ergative</td>
<td>*!</td>
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<tr>
<td>Genitive</td>
<td>*!</td>
<td></td>
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</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Input: GEN</th>
<th>MAX [Case]</th>
<th>*{G}</th>
<th>IDENT [Case]</th>
<th>*{G, A/E}</th>
<th>*[+obl]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dative</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accusative</td>
<td>*!</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Genitive</td>
<td>*!</td>
<td></td>
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Table 3(b): ACCUSATIVE mapped to Accusative in Bengali

<table>
<thead>
<tr>
<th>Input: ACC</th>
<th>MAX [Case]</th>
<th>*{G}</th>
<th>IDENT [Case]</th>
<th>*{G, A/E}</th>
<th>*[+obl]</th>
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</thead>
<tbody>
<tr>
<td>Dative</td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Accusative</td>
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</tr>
<tr>
<td>Genitive</td>
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<td>*!</td>
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</tr>
</tbody>
</table>

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

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<thead>
<tr>
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<td>*</td>
<td></td>
<td>*!</td>
<td></td>
</tr>
<tr>
<td>Ergative</td>
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<td>*</td>
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<tr>
<td>Genitive</td>
<td>*!</td>
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<td></td>
</tr>
</tbody>
</table>
Table 4(b): DATIVE mapped to Dative in Inuit

<table>
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</tr>
</thead>
<tbody>
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<td>Dative</td>
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<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ergative</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Genitive</td>
<td>*!</td>
<td></td>
<td>*</td>
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</tbody>
</table>

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

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Dative</td>
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<td>*!</td>
<td></td>
<td>*</td>
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<tr>
<td>Ergative</td>
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<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Genitive</td>
<td>*!</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(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

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Morphology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Output=Input</td>
</tr>
<tr>
<td>Gen</td>
<td>Optimization through (3a)-(3e)</td>
</tr>
<tr>
<td>Gen</td>
<td>Optimization through (7)-(9)</td>
</tr>
</tbody>
</table>

7
4. Extension to Contextual Case Syncretism

4.1 The German Determiner Declensions


<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Masculine</td>
<td>Feminine</td>
</tr>
<tr>
<td>Nominative</td>
<td>der</td>
<td>die</td>
</tr>
<tr>
<td>Accusative</td>
<td>den</td>
<td>die</td>
</tr>
<tr>
<td>Dative</td>
<td>dem</td>
<td>der</td>
</tr>
<tr>
<td>Genitive</td>
<td>des</td>
<td>die</td>
</tr>
</tbody>
</table>

Table 5(b): Declension of *dieser* ‘this’

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
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<td>diese</td>
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<tr>
<td>Accusative</td>
<td>diesen</td>
<td>diese</td>
</tr>
<tr>
<td>Dative</td>
<td>diesem</td>
<td>dieser</td>
</tr>
<tr>
<td>Genitive</td>
<td>dieses</td>
<td>dieses</td>
</tr>
</tbody>
</table>

Table 5(c): Declension of *kein* ‘no’

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Masculine</td>
<td>Feminine</td>
</tr>
<tr>
<td>Nominative</td>
<td>kein</td>
<td>keine</td>
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<tr>
<td>Accusative</td>
<td>keinen</td>
<td>keine</td>
</tr>
<tr>
<td>Dative</td>
<td>keinem</td>
<td>keiner</td>
</tr>
<tr>
<td>Genitive</td>
<td>keines</td>
<td>keines</td>
</tr>
</tbody>
</table>

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**
      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)
      *Undergoer/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]
\lor
Markedness Constraints ------ > Distributional Restrictions
\lor
IDENT [Case]
\lor
```

..................................................
Table 5(c): Declension of *kein* ‘no’

<table>
<thead>
<tr>
<th>Case</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Masculine</td>
<td>Feminine</td>
</tr>
<tr>
<td>Nominative</td>
<td>kein</td>
<td>keine</td>
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<tr>
<td>Accusative</td>
<td>keinen</td>
<td>keine</td>
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<td>Dative</td>
<td>keinem</td>
<td>keiner</td>
</tr>
<tr>
<td>Genitive</td>
<td>keines</td>
<td>keiner</td>
</tr>
</tbody>
</table>

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

\[
\text{MAX [Case]} \\
\text{∨} \\
\text{*U/Non-Masc/\{Acc, Dat\}, *U/Plural/\{Acc, Dat\}, \{Gen\} Fem}} \\
\text{∨} \\
\text{IDENT [Case]} \\
\text{∨} \\
\text{\{Gen\}} \\
\text{∨} \\
\text{\{Gen, Acc\}}
\]

*S\text{haded constraints}\ are the faithfulness constraints, while *\text{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**

\[
\text{MAX [Gender], IDENT [Number]} \\
\lor \\
\ast \{\text{Plural/Masc}\} \\
\lor \\
\ast \{\text{Neut}\} \\
\lor \\
\text{IDENT [Gender]} \\
\lor \\
\ast \{\text{Neut, Fem}\}
\]

(32) **Singular**

<table>
<thead>
<tr>
<th>Masc</th>
<th>Masc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neut</td>
<td>Neut</td>
</tr>
<tr>
<td>Fem</td>
<td>Fem</td>
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</tbody>
</table>

**Plural**

<table>
<thead>
<tr>
<th>Masc</th>
<th>Masc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neut</td>
<td>Neut</td>
</tr>
<tr>
<td>Fem</td>
<td>Fem</td>
</tr>
</tbody>
</table>

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

\[
\text{MAX [Case], MAX [Gender], IDENT [Number]} \\
\lor \\
\ast \text{U/Non-Masc}/\{\text{Acc, Dat}\}, \ast \text{U/Plural}/\{\text{Acc, Dat}\}, \ast \{\text{Gen}\} \text{ Fem}, \ast \{\text{Plural/Masc}\} \\
\lor \\
\text{IDENT [Case], } \ast \{\text{Neut}\} \\
\lor \\
\text{IDENT [Gender]} \\
\lor \\
\ast \{\text{Gen}\} \\
\lor \\
\ast \{\text{Neut, Fem}\}, \ast \{\text{Gen, Acc}\}
\]

*The contextualized markedness constraint ‘\ast \{\text{Gen}\} \text{ Fem}’ can be replaced by a locally conjoined constraint ‘\ast \{\text{Gen}\} \& \ast \{\text{Neut, Fem}\}’ (see Smolensky 1995 for an initial formulation of constraint conjunction or local conjunction within OT).*
(34) **Morphophonological Constraints**

<table>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Sing, Masc, Nom</td>
<td>kein</td>
</tr>
<tr>
<td>b. Sing, Masc, Acc</td>
<td>keinen</td>
</tr>
<tr>
<td>c. Sing, Masc, Dat</td>
<td>keinem</td>
</tr>
<tr>
<td>d. Sing, Masc, Gen</td>
<td>keines</td>
</tr>
<tr>
<td>e. [ , Fem, Nom]</td>
<td>keine</td>
</tr>
<tr>
<td>f. [ , Fem, Dat]</td>
<td>keiner</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDENT [Sing Masc Acc (base), Plural Fem Dat]</td>
<td></td>
</tr>
</tbody>
</table>

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>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>der</td>
</tr>
<tr>
<td>Accusative</td>
<td>den</td>
</tr>
<tr>
<td>Dative</td>
<td>dem</td>
</tr>
<tr>
<td>Genitive</td>
<td>des</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>kein</td>
</tr>
<tr>
<td>Accusative</td>
<td>keinen</td>
</tr>
<tr>
<td>Dative</td>
<td>keinem</td>
</tr>
<tr>
<td>Genitive</td>
<td>keines</td>
</tr>
</tbody>
</table>

Table 5(a): Declension of *der* ‘the’

<table>
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<tr>
<th>Case</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>der</td>
<td>die</td>
</tr>
<tr>
<td>Accusative</td>
<td>den</td>
<td>das</td>
</tr>
<tr>
<td>Dative</td>
<td>dem</td>
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</tr>
<tr>
<td>Genitive</td>
<td>des</td>
<td>des</td>
</tr>
</tbody>
</table>

Table 5(c): Declension of *kein* ‘no’

<table>
<thead>
<tr>
<th>Case</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>kein</td>
<td>keine</td>
</tr>
<tr>
<td>Accusative</td>
<td>keinen</td>
<td>kein</td>
</tr>
<tr>
<td>Dative</td>
<td>keinem</td>
<td>keinem</td>
</tr>
<tr>
<td>Genitive</td>
<td>keines</td>
<td>keiner</td>
</tr>
</tbody>
</table>
5. Conclusion

References


Smolensky, Paul. 1995. On the internal structure of the constraint component of UG. Colloquium given at UCLA.


