

# Direction Marking and Case in Menominee

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## Central Claim

Direction Marking does not directly reflect Case  
but mediated by a very general mechanism  
implementing feature hierarchy effects

## Overview

- Direction Marking in Menominee as Abstract Case
- An OT-Account of Hierarchy-Based Competition
- Direction Marking = Hierarchy-Based Competition + Case
- More Evidence for the Direction Marking/Case Connection

# **Direction Marking in Menominee as Abstract Case**

**(All Menominee data from Bloomfield, 1962)**

## Direction Marking (= Direct/Inverse Marking)

“Languages which have an opposition between direct and inverse verb forms build directly upon the animacy hierarchy:

The **direct forms** are used when the subject of the transitive verb is higher on the scale of animacy than the direct object . . .

The **inverse form** is used when the subject is lower in animacy than the object . . .” (Comrie, 1980:62)

## Features relevant in Direction Marking in Menominee

Feature	High in animacy	Low in animacy
<b>Person</b>	1/2	3
<b>Obviation</b>	proximate	obviative
<b>Animacy</b>	animate	inanimate
<b>Specificness</b>	unspecified	specified

## Menominee Feature Hierarchy

$$\left\{ \begin{array}{l} [+2] \\ [+1] \end{array} \right\} > [-\text{spec}] > [+3] > [+obv] > [-\text{an}]$$

## Direction Marking with [-3]/[+3] forms ...

- a. *ke-na·n-a·-w-a·w* 'you (pl.) fetch him'  
 2-fetch-**DIR**-[+3]-[-1+pl]
- b. *ke-na·n-ek·-w-a·w* 'he fetches you (pl.)'  
 2-fetch-**INV**-[+3]-[-1+pl]

## ... and [+animate]/[-animate] Forms

- a. *o-po·n-a·-n-e·n-an* 'he doesn't put it'  
 3-pot:put-**DIR**-[+per]-[+obv]-NEG in the pot'
- b. *nε·qn-eko·-n* 'it kills him'  
 kill-**INV**-[+per]

## Direction Marking as Abstract Case

NP<sub>higher</sub>  
↓  
Subject

NP<sub>lower</sub>

AGR-V-**a**-AGR

NP<sub>higher</sub>

NP<sub>lower</sub>  
↓  
Subject

AGR-V-**ek**-AGR

## Direction Marking as Morphological Case? (Halle and Marantz, 1993; Bruening, 2001)

**Direct:** *-a* ↔ [+Nom **+high**] [+Acc **-high**]

**Inverse:** *-eko* ↔ [+Nom **-high**] [+Acc **+high**]

### Problem

[+3 +animate] would have to be

[+Acc **-high**] in 1/2 →3 forms, but

[+Nom **+high**] in [+3 +animate] → [+3 -animate] forms

# **An OT account of Hierarchy-based Competition**

## **Hierarchy-based Competition**

A transitive verb agrees with only one argument.  
The agreement target is determined  
on the basis of a prominence hierarchy.

## Hierarchy-based Competition in Turkana (Dimmendaal, 1983)

**1/2 > 3** ranks out **Subj > Obj**

- (a) *à-min-à*                    ‘I love her’  
1-love-ASP
- (b) *k-à-min-à*                    ‘she loves **me**’  
INV-1-love-ASP

**Emergence of Subj > Obj**

- (a) *k-à-ram-ì*                    ‘I will beat you’  
INV-1-beat-ASP
- (b) *k-ì-ram-e-tè*                    ‘**you** (pl.) beat me’  
INV-1-beat-ASP-PL

## Prominence Hierarchies via Constraints (Trommer, 2002, 2003)


- (1) a. [+Nom] > [+Acc]  
 b. 1/2 > 3

- (2) If A is distinct from B, and  $A \geq B$  on a prominence scale  $S$   
 then there is a PARSE constraint  $\text{PARSE } [\mathbf{P}]^{A/B}$


- (3) a.  $\text{PARSE } [\mathbf{P}]^{[+1]/[+3]}$   
 b.  $\text{PARSE } [\mathbf{P}]^{[+2]/[+3]}$   
 c.  $\text{PARSE } [\mathbf{P}]^{[+Nom]/[+Acc]}$

## Turkana

(1) **Mixed:** [+Nom +3]<sub>1</sub>[+Acc +1]<sub>2</sub>

	COH [P]	PARSE [P] <sup>[+1]/[+3]</sup>	PARSE [P] <sup>[+2]/[+3]</sup>	PARSE [P] <sup>[+Nom]/[+Acc]</sup>	PARSE [F]
a.  [+1] <sub>2</sub>				*	*
b. [+3] <sub>1</sub>		*!			*
c. [+1] <sub>2</sub> [+3] <sub>1</sub>	*!				

(2) **Only [-3] Arguments:** [+Nom +2]<sub>1</sub>[+Acc +1]<sub>2</sub>

	COH [P]	PARSE [P] <sup>[+1]/[+3]</sup>	PARSE [P] <sup>[+2]/[+3]</sup>	PARSE [P] <sup>[+Nom]/[+Acc]</sup>	PARSE [F]
a.  [+2] <sub>1</sub>					*
c. [+1] <sub>2</sub>				*!	*
b. [+2] <sub>1</sub> [+1] <sub>2</sub>	*!				

## Menominee Person Prefixes


- (1) a. **ke-po·se-m** 'thou embarkest' (p. 150)  
 2-embark-[-3]
- b. **ke-na·n-ek-w** 'he fetches thee' (p. 154)  
 2-fetch-D-[+3]
- c. **ke-na·n-a·-w** 'thou fetchest him' (p. 152)  
 2-fetch-D-[+3]
- (2) a. **ne-po·se-m** 'I embark' (p. 150)  
 1-embark-[-3]
- b. **ne-na·n-ek-w** 'he fetches me' (p. 154)  
 1-fetch-D-[+3]
- c. **ne-na·n-a·-w** 'I fetch him' (p. 152)  
 1-fetch-D-[+3]

## Competition of Person Prefixes (2 > 1 > 3)


		Subject			
		1	2	12	3
Object	1	*	<i>ke-</i>	*	<i>ne-</i>
	2	<i>ke-</i>	*	*	<i>ke-</i>
	12	*	*	*	<i>ke-</i>
	3	<i>ne-</i>	<i>ke-</i>	<i>ke-</i>	( <i>o-</i> )
	none	<i>ne-</i>	<i>ke-</i>	<i>ke-</i>	( <i>o-</i> )

## Person Prefixes

(1) **Input:** [+Nom +3]<sub>1</sub>[+Acc +1]<sub>2</sub>

	COH [P]	PARSE [P] <sup>[+2]/[+1]</sup>	PARSE [P] <sup>[+1]/[+2]</sup>	PARSE [P] <sup>[+2]/[+3]</sup>	PARSE [P] <sup>[+1]/[+3]</sup>
a. [+3] <sub>1</sub>					*!
c.  [+1] <sub>2</sub>					
b. [+3] <sub>1</sub> [+1] <sub>2</sub>	*!				

(2) **Input:** [+Nom +2]<sub>1</sub>[+Acc +1]<sub>2</sub>

	COH [P]	PARSE [P] <sup>[+2]/[+1]</sup>	PARSE [P] <sup>[+1]/[+2]</sup>	PARSE [P] <sup>[+2]/[+3]</sup>	PARSE [P] <sup>[+1]/[+3]</sup>
a.  [+2] <sub>1</sub>					
c. [+1] <sub>2</sub>		*!			
b. [+2] <sub>1</sub> [+1] <sub>2</sub>	*!				

# **Menominee Direction Marking as Hierarchy-based Competition**

## **Basic Analysis**

Direction Marking

=

Hierarchy-based Competition + Case

## Distribution of *-a·* vs. *-eko*

	<i>-a·</i>		<i>-eko</i>
[1/2 <b>+an</b> ]	→ [3]	[3]	→ [1/2 <b>+an</b> ]
[3 -spec <b>+an</b> ]	→ [3 +spec]	[3 -spec +an]	→ [1/+2 <b>+an</b> ]
[3 -obv <b>+an</b> ]	→ [3 +obv +an]	[3 +obv +an]	→ [3 +obv <b>+an</b> ]
[3 -obv <b>+an</b> ]	→ [3 -an]	[3 -an]	→ [3 -obv <b>+an</b> ]
[3 +obv <b>+an</b> ]	→ [3 -an]	[3 -an]	→ [3 +obv <b>+an</b> ]

## Vocabulary Entries for *-a·* and *-eko*

**Direct:** *-a·* ↔ [+Nom **+an**] [+Acc]

**Inverse:** *-eko* ↔ [+Nom] [+Acc **+an**]

## Ambiguous Constellations

- (1) a. [+Nom +1 **+an**] [+Acc +3 -obv **+an**]  
 b. [+Nom +3 -obv **+an**] [+Acc +1 **+an**]

## Hierarchy-Based Competition


- (2)  $\left\{ \begin{array}{c} [+1] \\ [+2] \end{array} \right\} > \begin{bmatrix} +3 \\ -\text{spec} \end{bmatrix} > \begin{bmatrix} +3 \\ +\text{spec} \end{bmatrix} > [+obv] > [-an]$

- (3) If A is distinct from B, and  $A \geq B$  on a prominence scale  $S$   
 then there is a PARSE constraint  $\text{PARSE } [+an]^{A/B}$


- (4)  $\text{PARSE } [+an]^{[+1]/[+3]}$

## Deriving the Distribution of *-a·* vs. *-eko*

(1) **Input:** [+Nom +1 **+an**]<sub>1</sub> [+Acc +3 -obv +an]<sub>2</sub>

	PARSE [+an] <sup>[+1]/[+3]</sup>
a.  <i>-a·</i> [+Nom <b>+an</b> ] <sub>1</sub> [+Acc] <sub>2</sub>	
b. <i>-eko</i> [+Nom] <sub>1</sub> [+Acc +an] <sub>2</sub>	*!

(2) **Input:** [+Nom +3 -obv +an]<sub>1</sub> [+Acc +1 **+an**]<sub>2</sub>

	PARSE [+an] <sup>[+1]/[+3]</sup>
a. <i>-a·</i> [+Nom +an] <sub>1</sub> [+Acc] <sub>2</sub>	*!
b.  <i>-eko</i> [+Nom] <sub>1</sub> [+Acc <b>+an</b> ] <sub>2</sub>	

## **More Evidence for Direction Marking as Case**

## 1/2 → 1/2 forms (Independent Order)

- (1) a. *ke-na·tom-enenε-m-enaw* ‘we call you (sg./pl.)’ (p. 156)  
 call-**???**-[-3]-1pl
- b. *ke-nε·w-e-m* ‘you (sg.) see me’ (p. 156)  
 see-**???**-[-3]

## 3 → 1/2 forms (Independent Order)

- (2) a. *ne-na·n-eko-w* ‘he fetches me’ (p. 154)  
 1-Stamm-INV-[+3]
- b. *ke-na·n-eko-w* ‘he fetches you (sg.)’ (p. 154)  
 2-Stamm-INV-[+3]

## 1/2 → 1/2 forms (Conjunct Order)

- (1) a. *na·tom-enenε-an*      ‘when I call you (sg.)’  
       call-**???**-[-3]
- b. *nε·w-e-yan*      ‘when you (sg.) see me’  
       see-**???**-[-3]

## 3 → 1/2 forms (Conjunct Order)

- (2) a. *na·tom-enenε-k*      ‘when he calls you (sg.)’  
       call-D-[+per]
- b. *nε·w-e-t*      ‘when he sees me’ (p. 181)  
       see-D-[+3]

## Distribution of *-e*, *-eko* and *-enenε*

	Independent Order	Conjunct Order
<i>-e</i>	2 → 1	2 → 1
	3 → 1	3 → 1
<i>-eko</i>	[-an] → 1	[-an] → 1
	[-spec] → 1	[-spec] → 1
	[-spec] → 2	[-spec] → 2
	[-an] → 2	[-an] → 2
<i>-enenε</i>	3 → 2	3 → 2
	1 → 2	1 → 2

## Observations

- **-enenε** and **-e** are bound to 1st/2nd person objects, not to direct/inverse
- Nevertheless they pattern otherwise with direct/inverse markers



- Direction Markers are agreement (portmanteau) markers specified for **case**
- Hierarchy Effects follow from independently motivated constraints

## Summary

- Case cannot directly capture Direction Marking, **but**
- Case mediated by Hierarchy-Based Competition can
- explains the affinity of direction and portmanteau marking
- Extension to "improper" direction systems  
e.g. Dumi (van Driem, 1993)  
and Arizona Tewa (Klaiman, 1993)

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