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
Person	1/2	3
Obviation	proximate	obviative
Animacy	animate	inanimate
Specificness	unspecified	specified

Menominee Feature Hierarchy

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

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.   *nɛ·qn-eko-n*   'it kills him'
        kill-INV-[+per]

Direction Marking as Abstract Case

NP$_{higher}$ NP$_{lower}$ AGR-V-*a*·-AGR

$\Downarrow$

Subject

NP$_{higher}$ NP$_{lower}$ AGR-V-*ek*-AGR

$\Downarrow$

Subject

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

Direct: *-a·* $\leftrightarrow$ [+Nom +high] [+Acc -high]

Inverse: *-eko* $\leftrightarrow$ [+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**-*mın-à*   '**I** love her'
     1-love-ASP

(b) *k*-**à**-*mın-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 PARSE [**P**]$^{A/B}$

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

Turkana

(1)   **Mixed:** $[+Nom\ +3]_1[+Acc\ +1]_2$

	COH [P]	PARSE $_{[P]}[+1]/[+3]$	PARSE $_{[P]}[+2]/[+3]$	PARSE $_{[P]}[+Nom]/[+Acc]$	PARSE [F]
a. ☞ $[+1]_2$				*	*
b. $[+3]_1$		*!			*
c. $[+1]_2[+3]_1$	*!				

(2)   **Only [-3] Arguments:** $[+Nom\ +2]_1[+Acc\ +1]_2$

	COH [P]	PARSE $_{[P]}[+1]/[+3]$	PARSE $_{[P]}[+2]/[+3]$	PARSE $_{[P]}[+Nom]/[+Acc]$	PARSE [F]
a. ☞ $[+2]_1$					*
c. $[+1]_2$				*!	*
b. $[+2]_1[+1]_2$	*!				

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
1	*	*ke-*	*	*ne-*
2	*ke-*	*	*	*ke-*
12	*	*	*	*ke-*
3	*ne-*	*ke-*	*ke-*	*(o-)*
none	*ne-*	*ke-*	*ke-*	*(o-)*

Object labels the rows.

Person Prefixes

(1) **Input:** $[+Nom\ +3]_1[+Acc\ +1]_2$

	COH [P]	PARSE $[P]^{[+2]/[+1]}$	PARSE $[P]^{[+1]/[+2]}$	PARSE $[P]^{[+2]/[+3]}$	PARSE $[P]^{[+1]/[+3]}$
a. $[+3]_1$					*!
c. ☞ $[+1]_2$					
b. $[+3]_1[+1]_2$	*!				

(2) **Input:** $[+Nom\ +2]_1[+Acc\ +1]_2$

	COH [P]	PARSE $[P]^{[+2]/[+1]}$	PARSE $[P]^{[+1]/[+2]}$	PARSE $[P]^{[+2]/[+3]}$	PARSE $[P]^{[+1]/[+3]}$
a. ☞ $[+2]_1$					
c. $[+1]_2$		*!			
b. $[+2]_1[+1]_2$	*!				

Menominee Direction Marking
as Hierarchy-based Competition

Basic Analysis

Direction Marking

=

Hierarchy-based Competition + Case

Distribution of *-a·* vs. *-eko*

-a·		*-eko*	
[1/2 **+an**]	➜ [3]	[3]	➜ [1/2 **+an**]
[3 -spec **+an**]	➜ [3 +spec]	[3 -spec +an]	➜ [1/+2 **+an**]
[3 -obv **+an**]	➜ [3 +obv +an]	[3 +obv +an]	➜ [3 +obv **+an**]
[3 -obv **+an**]	➜ [3 -an]	[3 -an]	➜ [3 -obv **+an**]
[3 +obv **+an**]	➜ [3 -an]	[3 -an]	➜ [3 +obv **+an**]

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

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

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

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

(1)   **Input:** [+Nom +1 **+an**]$_1$ [+Acc +3 -obv +an]$_2$

	PARSE [+an]$^{[+1]/[+3]}$
a. ☞ *-a·* [+Nom **+an**]$_1$ [+Acc]$_2$	
b. *-eko* [+Nom]$_1$ [+Acc +an]$_2$	*!

(2)   **Input:** [+Nom +3 -obv +an]$_1$ [+Acc +1 **+an**]$_2$

	PARSE [+an]$^{[+1]/[+3]}$
a. *-a·* [+Nom +an]$_1$ [+Acc]$_2$	*!
b. ☞ *-eko* [+Nom]$_1$ [+Acc **+an**]$_2$	

More Evidence for Direction Marking as Case

1/2 ➔1/2 forms (Independent Order)

(1)   a. *ke-na·tom-**enenɛ**-m-enaw*   'we call you (sg./pl.)' (p. 156)
        call**-???**-[-3]-1pl

    b. *ke-nɛ·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-**enenɛ**-an*   'when I call you (sg.)'

            call**-???**-[-3]

        b. *nɛ·w-**e**-yan*   'when you (sg.) see me'

            see**-???**-[-3]

3 ➜1/2 forms (Conjunct Order)

(2)   a. *na·tom-**enenɛ**-k*   'when he calls you (sg.)'

            call-D-[+per]

        b. *nɛ·w-**e**-t*   'when he sees me' (p. 181)

            see-D-[+3]

Distribution of *-e*, *-eko* and *-enenɛ*

	Independent Order	Conjunct Order
-e	2 → 1	2 → 1
	3 → 1	3 → 1
-eko	[-an] → 1	[-an] → 1
	[-spec] → 1	[-spec] → 1
	[-spec] → 2	[-spec] → 2
	[-an] → 2	[-an] → 2
	3 → 2	3 → 2
-enenɛ	1 → 2	1 → 2

Observations

- ***-enenɛ*** 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 indepently 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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