

Applicative and antipassive: Algonquian transitive "stem-agreement" as differential object marking

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1. Introduction

1.1 Overview

The standard Algonquianist model of transitive morphosyntax has remained essentially unchanged since Bloomfield 1946 introduced a fundamentally descriptive set of categories and terms. The analysis informing these traditional categories is problematic for a number of distinct reasons. Here we offer an alternative approach, one that accounts for the observed properties of Algonquian transitive morphosyntax in a more concise and less language-family-specific way, while simultaneously doing away with a number of longstanding problems introduced by the traditional analysis.

The specific new claim is this: contrary to standard Algonquianist analysis, the view that the terminal element of categorically transitive stems---the morphological element known as the *transitive Final*---agrees for the grammatical gender of the internal argument is unnecessary and untenable.

What looks like stem-internal agreement for the grammatically [+animate] or [-animate] feature of the notional direct object argument---giving rise to contrast between *Transitive Animate (TA)* and *Transitive Inanimate (TI)* stems---is better identified as two respective feature-driven syntactic constructions, both of a much more cross-linguistically motivated kind: in the first case, dative-accusative syncretism, manifested by an Applicative-type structure; and in the second, antipassivization, with an instrumental-oblique notional direct object.

With this, the TA vs. TI contrast becomes an instance of grammaticalization of precisely the syntactic argument-prominence structures commonly triggered in the case of high-prominence ([+animate]) and low-prominence ([-animate]) internal arguments respectively. In short, what appears to be "stem-agreement" is in fact differential object marking (Aissen 2003, *inter alia*).

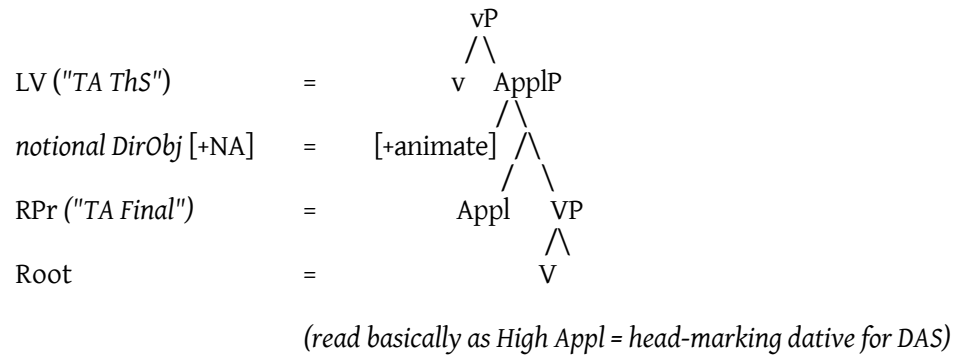
This view of the system has not been immediately obvious because the two patterns manifest in Algonquian languages through a head-marking morphosyntax, rather than through the primarily dependent-marking strategies (i.e. nominal case- and adposition-marking) by which both are better known. The overall contribution of this new analysis is twofold: a de-exoticization of the Algonquian transitive system within the context of cross-linguistic comparison, and a removal of several problems of overgeneration and underprediction in the traditional account.

1.2 Roadmap

2 necessary background

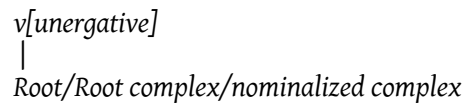
- Algonquian grammatical gender contrast: NA vs. NI
- general [-...].LV (gender-sensitive light verb) verb stem derivation system
- Primary and Secondary Objects

3 TA as an Applicative-type dative-accusative syncretism



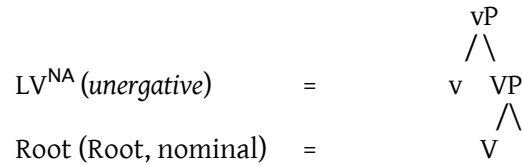
4 TI as an antipassive construction

unergative-antipassive =

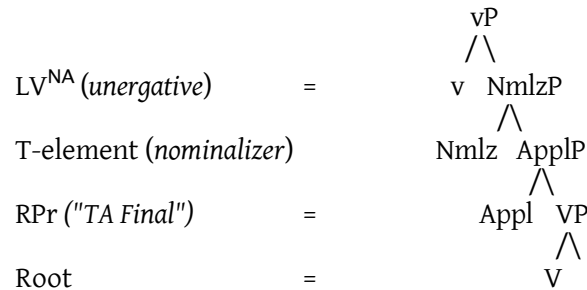


+ oblique notional direct object

a. Minimal



b. Derived



5 Conclusion

- What it explains
 - why morphosyntactic mismatch verb stem categories exist (they don't!)
 - why the Algonquian Primary Object conflates notional indirect objects and direct objects,
 - while the Secondary Object category covers ditransitive themes and AI+O objects
 - why there are two structures for TIs, and only one for TAs
 - why identically marked TA and TI stems have opposite argument-structural interpretations

2. Some preliminaries

- All data here from Penobscot, an E. Algonquian language of Central Maine

2.1 Algonquian grammatical gender contrast: NA vs. NI

NA	= "animate"	e.g.	<i>na</i>	'that ^{NA} '
NI	= "inanimate"	e.g.	<i>ni</i>	'that ^{NI} '

- Does not correspond directly to semantic animacy, though ultimately linked to it
- Will use "NA" and "NI" here in lieu of clumsy English pronominal translations

2.2 Light verbs and Algonquian transitivity structures

2.2.1 Core claims

- (1) Standard view: transitive "stem agreement" (Bloomfield 1946, Goddard 1979, etc.)

TA: Transitive Animate

<i>nəkəlápilα</i>	<i>nə-kəl-apil.α-[w]</i>
'I tie NA, tie NA up, tether NA'	1-fixed-tie_TA.ThS-W

TI: Transitive Inanimate

<i>nəkəlápiton</i>	<i>nə-kəl-apit.o-əne</i>
'I tie NI'	1-fixed-tie_TI.ThS-N2

Claim: "Stem agreement" (for gender of transitive notional direct object) does not exist; instead:

TA	= head-marking manifestation of dative-accusative syncretism
TI	= head-marking manifestation of an antipassive structure

- Gains:
- Works from simple light-verb-based model general to entire verbal system
 - Requires essentially no family-specific primitive categories, only rather common structural phenomena
 - Accounts for unexpected asymmetries in what is billed as an agreement system

2.2.2 General light verb (LV) structure of Algonquian verbal constructions

- (a) An external light verb, nearly always overt, which acts as the predicate hosting the outermost or only argument, stacked above a Root or Root complex
- (b) The internal Means or event-naming predicate (including RPs).

$$\begin{array}{c} \wedge \\ \text{external LV} \quad \backslash \\ \quad \quad \quad / \\ \text{internal Means/event-naming predicate [= Root, or Root complex]} \end{array}$$

= **...Root.LV** = "affixal verb"

(2) General $[-\dots].LV$ pattern across traditional transitives (a, b) and intransitives (c, d)

a. TA $-\text{ən.}\alpha$ 'by_hand.LV^{NA}

$nəp\acute{\imath}sən\alpha$ $nə-p\acute{\imath}s-\text{ən.}\alpha-[w]$
'I insert NA [by hand]' 1-into-by_hand.DIR-W

b. TI $-\text{ən.}\text{əm}$ 'by_hand.LV^{NA}

$nəp\acute{\imath}sən\text{əm}\text{ən}$ $nə-p\acute{\imath}s-\text{ən.}\text{əm}-\text{əne}$
'I place NI in, inside, 1-into-by_hand.LV^{NA}-N
I insert NI'

c. AI $-\dots.e$ 'NA DO...'

$mán\alpha tak^w e$ $man-\alpha tak^w.e-[w]$
'NA gathers, collects removed-evergreen_bough.DO^{NA}-W
evergreen boughs'

d. II $-\dots.e$ 'NI EXIST...'

$mk^w\acute{\imath}htək^w e$ $məhk^w-\acute{\imath}htək^w.e-[w]$
'NI is a red river' red-river.LV^{NI}-W

- A very minimal system: only need to extend gender-sensitive alternation (3) to Person-sensitive alternation (4) to cover all cases

(3) Gender-sensitive alternation in intransitive LVs

$-k.i$ 'NA has ... form, characteristic'
 $-k.\text{ən}$ 'NI has ... form, characteristic'

a. $mkaséwiko$ $məhkasew-k.i-[w]$
'NA is black' black-have_form.LV^{NA}-W

b. $mkaséwikən$ $məhkasew-k.\text{ən}-[w]$
'NI is black' black-have_form.LV^{NI}-W

(4) Person/gender argument-configuration sensitivity in TA LVs

a. $nətihlək^w$ $nə-ih-l.\acute{\alpha}k^w-[w]$
'he told me' 1-tell-RP.INV-W
(késihlát (GD version):45)

b. "...kətihlín↑." $kə-ih-l.i-\text{əne}$
'...you [are to] tell me (Subord)' 2-tell-RP.LV¹-N
(mátéwələnəwak kəyáhsopik:20)

- i.e. DIR, INV, LV¹, LV², etc. are all just NA-gender LVs fused with some or no pronominal features
- Contrast this single basic $[-\dots].LV$ system with the standard model:

(5) Traditional Algonquianist verb stem (verbal Final) categories (after Bloomfield 1946)

a. Basic categories (=logical combinations of [\pm transitive] with [\pm NA])

TA	Transitive Animate
TI	Transitive Inanimate
AI	Animate Intransitive
II	Inanimate Intransitive

- in this system, verbal Finals track the gender of the notional absolutive, i.e. that of the transitive object, or of the single argument of the intransitive (but see AI+Os!)

b. "Mismatch" categories (morphological form of (a), but opposite transitivity)

AI+O	morphological AIs that take (certain kinds of) objects
OTI	TIs that do/need not take an object (OTI = "objectless" TI)

❖ the present account will explain the mismatch categories

2.2.3 Primary and Secondary Objects (Rhodes 1990, Dryer 1986)

- Primary Objects conflate monotransitive Theme and ditransitive (double-object) Goal

(6) Primary Objects

a. monotransitive Theme

nətákamα	nə-tak-am.α-[w]
'I hit NA, strike NA' (PD:447)	1-hit-RP.DIR-W

b. ditransitive (double-object) Goal

nəmílαnal nətémisal	nə-m-l.α-əne-al	nə-em-s-al
'I give NA my dog' (PD:280)	1-give-RP.DIR-N-obv	1-dog-DIM-obv

- Secondary Objects ditransitive (double-object) Theme; "AI+O" notional direct object

(7) Secondary Objects

a. ditransitive (double-object) Theme

nəmílαnal nətémisal	nə-m-l.α-əne-al	nə-em-s-al
'I give NA my dog' (PD:280)	1-give-RP.DIR-N-obv	1-dog-DIM-obv

b. "AI+O" notional direct object

nətehsíkαpawin iyo	nə-tehs-kαpaw.i-əne	iyo
'I am standing on this [NI]'	1-atop-stand.LV ^{NA} -N	this ^{NI}

- ...is sensitive to the individuation of the notional direct object (cf. Ramchand 2008):

(12) Hindi-Urdu *-ko*: specificity (?=individuation) constraints (Mohanan 1990:80:ft30)

- a. ravii (ek) gaay k^hariidnaa caahtaa hai
 Ravi-N (one) cow-N buy-NF wish-IMPERF be-PR
 'Ravi wishes to buy a cow (with no particular cow in mind).'
- b. ravii (ek) gaay-ko k^hariidnaa caahtaa hai
 Ravi-N one cow-D buy-NF wish-IMPERF be-PR
 'Ravi wishes to buy a (particular) cow.'

(13) Spanish: parallel examples exist, but very involved, see Bleam 2000:166-186

- Pb: unindividuated notional direct object comes in as incorporated Root

(14) Penobscot "incorporation" of unindividuated NA notional direct object (PD:251)

mánesse man-ess.e-[w]
 'NA gathers *clams/shellfish*' removed-*clam*.DO^{NA}-W

- incorporated Root patterns are fairly lexical, as is common for incorporation constructions; unincorporated bare noun construction may also exist; data too limited so far...
- not yet committed to particular claim (non-specific, predicative, unindividuated...?) for the exact nature of the "bare" nominal element in Hindi-Urdu, Penobscot, etc., but *unindividuated* seems to be the strongest so far (N.B. cannot be just *indefinite*)
- ...is blocked when in competition with a "real" Goal:

(15) Hindi-Urdu *-ko*: anti-double *-ko* constraint (Mohanan 1990:85:40c)

ilaa-ne mãã-ko baccaa /*bacce-ko diyaa
 Ila-E mother-D child-N / child-A give-PERF
 'Ila gave a/the child to the mother.'

(16) Spanish anti-double-dative constraint (Anagnostopoulou 2003:292:(382))

Te lo / *le dí.
 Cl-2DAT 3-ACC{Acc/-animate} *Cl-3ACC{Dat/+animate}/ gave-1sg
 'I gave it to you / *I gave him to you.'

(16) Penobscot DAS competition: NA notional direct object shifted to Secondary Object (22-23)

nəmílɔnal nətémisal nə-m-l.α-əne-al nə-em-s-al
 'I give NA my dog' (PD:280) 1-give-RP.DIR-N-obv 1-dog-DIM-obv

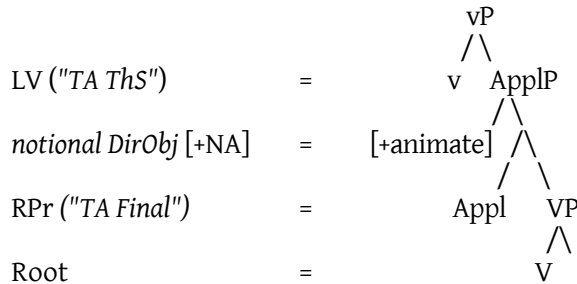
Upshot: Penobscot TA form exhibits three significant parallels with dependent-marking DAS patterns...

- Q: ...but where is the adposition/case-particle, the dative element?
 A: Algonquian languages are chiefly head-marking (Nichols 1986)

Key: DAS in a head-marking language would manifest as something like a High Applicative...

Claim: ...actually, any high-argument-introducing predicate (High dative-Applicative, causative, instrumental-Applicative); call these *Relational Predicates* (RPs, RPrs)

(17) Relational Predicate syntax = TA syntax



(read basically as High Appl = head-marking dative for DAS)

- exactly how RP is a bit more than just Applicative: any high Goal-introducing predicate:

(18) TA markers as high-argument-introducing predicates (RPs)

a. dative Applicative

nətakitámawα	nə-ak-m.t.am-aw.α-[w]
'I read it for NA'	1-count-by_voice.T.LV ^{NA} -RP.DIR-W

cf. nətákitam	nə-ak-m.t.am-əp
'I count'	1-count-by_voice.T.LV ^{NA} -P

nətákimα	nə-ak-m.α-[w]
'I count NA; I read NA (NA's intentions, ideas)'	1-count-by_voice.DIR-W

b. other adpositional Applicative

nókíhke	nə-wək-əhk.e-əp
'I bark [howl, chatter, whoop...]'	1-bark-make.LV ^{NA} -P

nokíhkα	nə-wək-əhk.e-l.α-[w]
'I bark at NA' (cf. O'Meara 1990:72)	1-bark-make.LV ^{NA} -RP.DIR-W

c. causative

nəníwihalα	nə-niw-h-al.α-[w]
'I dry NA'	1-dry-change-RP.DIR-W

d. causative-transitive

nəkəmotənα	nə-kəmot-ən.e-l.α-[w]
'I steal NA'	1-thieving-by_hand.DO ^{NA} -RP.DIR-W

e. directional-Applicative (see contrast with (18d))
 nəkəmə́tə́nəmə́ nə-kəmət-ən.e-m.α-[w]
 'I steal from NA' 1-thieving-by_hand.DO^{NA}-RP.DIR-W

f. instrument-naming high argument-introducing predicate
 nətakéhkimə́ nə-akehk-m.α-[w]
 'I instruct NA, teach NA' 1-teach-by_voice.DIR-W

g. instrument-naming high argument-introducing predicate
 nətə́məmə́ nə-təm-am.α-[w]
 'I bite NA off' 1-sever(ed)-by_mouth.DIR-W

h. instrument-naming high argument-introducing predicate
 nətə́mə́nə́ nə-təm-ən.α-[w]
 'I break NA in two, in half (by hand)' 1-sever(ed)-by_hand.DIR-W

- Comparable to these Means/instrument-naming (e.g. 'by voice', 'by hand') high argument-introducing predicates, compare Wh. Hmong manipulative verbs in verb serialization constructions:

(19) White Hmong manipulative verb serialization (Jaisser 1995:149; italics mine)

a. Nws tau *xuas* yuam sij qhib qhov rooj lawm.
 s/he attain *grasp* key open door perf
 'S/he opened the door with a key.'

b. Nws tau *muab* yuam sij qhib qhov rooj lawm.
 s/he attain *take* key open door perf
 'S/he opened the door with a key.'

c. Nws tau *siv* yuam sij qhib qhov rooj lawm.
 s/he attain *use* key open door perf
 'S/he opened the door with a key.'

- essentially set up a bipartite event structure syntax, with the "manipulated" argument introduced by the predicate of manipulation, with resultative or other semantics managed by morphologically separate predication elements

- Penobscot just has morphophonologically bound elements, where White Hmong has morphophonologically free ones

❖ Penobscot TA elements have the morphosyntax and the interpretations of high argument-introducing predicates, situated to satisfy the requirements of DAS (which might well be just that, i.e. high introduction of NA notional direct object).

- Explains why Algonquian has only a double-object construction (16), and no adpositional one = the same reason why Algonquian (descriptively) TA has obligatory Dative Shift (Russell 1987), i.e. ditransitive Goals are Primary Objects: DAS!

b. Ditransitive: oblique Theme

niʔ cən ʔa:m-əs-ət kʷθə swə̀yqeʔ ʔə kʷθə pukʷ.
 AUX 1SUB gave-DAT-TR DET man OBL DET book

'I gave the man the book.' (Gerdt and Hinkson 2004:244:(55))

- Secondary Objects and TI notional direct objects not completely equivalent, but share common status as secondary arguments (appear only in configurations with syntactically higher argument); fail to be introduced via RPs (TA constructions are the only special ones)

- Conservatively: Instrumental-Oblique is a common "dumping" ground for ousted arguments; hence antipassive: N-Peripheral Marking is just the (heterogenous) 'other' class (after a suggestion from Norvin Richards, ca. 2002)

- Less conservatively: N-Peripheral Marking corresponds to adposition of "central coincidence", .e.g. *I fitted him **with** new shoes* (Hale and Keyser 1993)

4.3 TI is structurally detransitivized (unergativized) verb

- Antipassive is a *structural unergative intransitive*; this can come about through two possible paths: *minimal* (28a) (cf. Bittner and Hale 1996), or *derived*, via nominalization of TA complex (28b):

(28) TI stem syntax = *unergative-antipassive*

unergative-antipassive =

v[unergative]
 |
 Root/Root complex/nominalized complex

a. Minimal

LV^{NA} (*unergative*) = $\begin{matrix} vP \\ / \backslash \\ v \quad VP \\ \quad \wedge \\ \quad V \end{matrix}$

Root (Root, nominal) = $\begin{matrix} vP \\ / \backslash \\ v \quad VP \\ \quad \wedge \\ \quad V \end{matrix}$

b. Derived

LV^{NA} (*unergative*) = $\begin{matrix} vP \\ / \backslash \\ v \quad NmlzP \\ \quad \wedge \\ \quad Nmlz \quad ApplP \\ \quad \quad \wedge \\ \quad \quad Appl \quad VP \\ \quad \quad \quad \wedge \\ \quad \quad \quad V \end{matrix}$

T-element (*nominalizer*) = $\begin{matrix} vP \\ / \backslash \\ v \quad NmlzP \\ \quad \wedge \\ \quad Nmlz \quad ApplP \\ \quad \quad \wedge \\ \quad \quad Appl \quad VP \\ \quad \quad \quad \wedge \\ \quad \quad \quad V \end{matrix}$

RPr ("*TA Final*") = $\begin{matrix} vP \\ / \backslash \\ v \quad NmlzP \\ \quad \wedge \\ \quad Nmlz \quad ApplP \\ \quad \quad \wedge \\ \quad \quad Appl \quad VP \\ \quad \quad \quad \wedge \\ \quad \quad \quad V \end{matrix}$

Root = $\begin{matrix} vP \\ / \backslash \\ v \quad NmlzP \\ \quad \wedge \\ \quad Nmlz \quad ApplP \\ \quad \quad \wedge \\ \quad \quad Appl \quad VP \\ \quad \quad \quad \wedge \\ \quad \quad \quad V \end{matrix}$

- Explains dual strategies of "deleting" vs. "augmenting" TA-to-TI pairings....

(29) "Deleting" vs. "augmenting" TA-to-TI correspondences

a. "Deleting" TA-to-TI

-n-aw.α	'do to NA by viewing, view NA as...'
-n.am	'do [to NI] by viewing, view [NI] as...'

nólinawα	nə-wəl-n-aw.α-[w]
'I like NA's looks; I like NA's behavior; I approve of NA'	1-good-view-RP.DIR-W

nólinamən	nə-wəl-n.am-əne
'I admire NI [like the looks of NI]'	1-good-view.LV ^{NA} -N

= (28a) minimal structure

b. "Augmenting" TA-to-TI

nəkəlamα	nə-kəl-am.α-[w]
'I hold NA in my mouth'	1-bound-by_mouth.DIR-W

nəkəlátamən	nə-kəl-am.t.am-ən
'I hold NI in my mouth'	1-bound-by_mouth.T.LV ^{NA} -N

...within a single account for the independent nominal/gerundive function of the "augmenting" *t*-element:

= (28b) derived structure (cf. English transitive *devour* detransitivized to unerg as **do devouring**)

(30) Initial *pakahət*- 'biting' = gerundivized (=TI) stem *pakahət*- 'biting'

a. wəpákahəton	wə-pake-h-al-t.aw-əne
'he bites it (inan.)(S:38:twds end)	3-bite-change-RP.T.LV ^{NA} -N

cf. TA wəpákahəlal	wə-pake-h-al.α-[w]-al
'he bites him'(S:38:twds end)	3-bite-change-RP.DIR-W-obv

b. pakáhətahsəm	pake-h-al.t.ahsəm ^o
'biting dog'	bite-change-RP.T-dog
(S:38:twds end; this last seemingly noted much later)	

c. mətahsəm	mat-ahsəm ^o
'bad dog; shaggy dog' (PD:254)	bad/rough-dog

màlsəm	məl-ahsəm ^o
'wolf' (PD:260)	grey-dog

...and why there is such a thing as an Objectless TI: antipassives can readily drop their notional objects

(31) Antipassives omitting notional direct objects (cited in Baker 1988:119-121)

a. Mam; England 1983

Ma ø-kub' w-aq'na-7n-a (t-uk' asdoon).
REC 3SA-DIR 3SE-work-DS 3S-with hoe
'I worked it (with a hoe).'

Ma chin aq'naa-n-a.
REC 1SA work-APASS-1s
'I worked [something].'

b. Algonquian OTI construction/alternation (PD:186, 187)

kəlata ^m	kəl-am.t.am-[w]
'NA holds with [h/her] teeth, in [h/her] mouth'	bound-by_mouth.T.LV ^{NA} -W

nəkəlata ^m	nə-kəl-am.t.am-əp
'I...'	1-bound-by_mouth.T.LV ^{NA} -P

nəkəlata ^{mən}	nə-kəl-am.t.am-ən
'I hold NI in my mouth'	1-bound-by_mouth.T.LV ^{NA} -N

• DAS requirement explains why TA is restricted to one pattern, while TI, being unconstrained has two.

Upshot: Inherent prominence grammaticalizes as feature-driven prominence: NA notional direct object introduced high (RP-Applicative), NI introduced low (antipassive-Instrumental) or possibly even outside of VP

Mystery solved: the TA~TI interpretational asymmetry explained

- given the same minimal inflection (the IdpIdc third person "W"), TA and TI collocations have completely opposite readings!
- specifically, with such marking, a TA collocation interprets as "passive", i.e. an Impersonal Agent acting on the [+NA] Primary Object argument (32), whereas a matching TI collocation glosses as an unergative with a [+NA] argument as Agent (33): an OTI.

(32) Minimally inflected TA: Impersonal Agent "passive"

...táka ^{mα}	tak-am.α-[w]
'...he was struck' (awehsosak:12)	hit-RP.DIR-W

(33) Minimally inflected TI: agentive unergative (OTI)

číksə ^{tam}	čik-əsət.am-[w]
'NA listens, listens and obeys'	silent-listen.LV ^{NA} -W

- radical asymmetry is wholly unexpected under a stem-agreement account of the TA-TI contrast, which would of course predict identical argument-structural interpretation

- present model offers a ready explanation
- (32): lacking other overt arguments, the RP introduces only the [+NA] internal argument, giving rise to the Impersonal-Agent "passive"
- (33): TI-antipassive likewise introduces (via its LV) only its [+NA] external argument Agent, giving the unergative intransitive
- consistent contrast---a morphosyntactic minimal pair, as it were---exemplifies the core predictions of the proposed structural model of Algonquian transitivity, and their contrast with the standard Algonquianist model

5. Concerns and conclusions

Remaining questions:

- where exactly does the N-element oblique enter the structure?
- how grammaticalized is this?

Overall results:

- have offered a simplifying account of Algonquian gender-sensitive transitivity patterns, with explanations for a number of traditionally problematic categories and phenomena, while appealing nearly entirely to non-language-specific categories

Going further:

- affinities with Aldridge 2007 "ergative" analysis of Tagalog voice-system as simple transitive-intransitive system: Agent- vs. Patient-prominent structures
- Kiyosawa 2006:67-74 offers new examples of languages exhibiting applicative and oblique-object (=roughly antipassive) sensitivities to grammatical gender

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7. Abbreviations

1	1st person (if not otherwise specified, indicates Possessor marking)
2	2nd person (if not otherwise specified, indicates Possessor marking)
3	3rd person (if not otherwise specified, indicates Possessor marking)
1pli	first person plural inclusive
1ple	first person plural exclusive
NA	NA gender class ("animate"); (in glosses) pronominal gloss for same
NI	NI gender class ("inanimate") (in glosses) pronominal gloss for same
sg	singular (usually not marked)
pl	plural
obv	obviative
abs	absentative
Imps	Impersonal (pronominal feature)
ExtPl	Extended Plural (special verbal derivation, something like a pluractional or collective/distributive)
T	t-element
RP, RPr	Relational Predicate
◦	diacritic rounding effect on weak vowels
LV	light verb
	LV ^{NA} : light verb taking NA-class argument
	LV ^{NI} : light verb taking NI-class argument
DIR	Direct light verb
INV	Inverse light verb
rcp	reciprocal light verb
rflx	reflexive light verb
mediorflx	medioreflexive ("mediopassive") light verb
Idp	Independent (morphological clause-type)
Subord	Subordinative (subtype of Independent)
Cj	Conjunct (morphological clause-type)
Imp	Imperative (morphological clause-type)
P	P-ending (clause-type marker)
W	W-ending (clause-type marker)
N	N-ending (clause-type marker)
VAR	variable
=FUT	future enclitic
=POT	potential enclitic
=UCT	uncertainty-marking evidential enclitic
=QT	quotative/secondhand information evidential enclitic
TA	transitive animate (verb-stem class)
TI	transitive inanimate (verb-stem class)
AI	animate intransitive (verb-stem class)
II	inanimate intransitive (verb-stem class)
AI+O	animate intransitive taking Secondary Object (verb-stem class)
OTI	transitive inanimate taking no object (verb-stem class)