The lexical semantics of (Northern East) Cree verbs of emission: A unified analysis of *-piyi*[*]

Sara Johansson and Julie Brittain

SSILA, January 7, 2012

1 Introduction

- Algonquian verb stems are comprised of a root+verbalizer (verb final)
- Brittain (in press) investigates two types of verbs derived by root + *piyi*:
  - Spontaneous unaccusatives – event happens "on its own"
  - Agentive unergatives – "vehicle verbs"
- We extend Brittain's analysis to the third type of root + *piyi* verb:
  - Non-agentive unergatives – verbs of emission

PROPOSAL:	Verbs of emission form a **third distinct class of *-piyi* verb** Three classes arise because of the **lexical semantics of the root morphemes**	
	ROOT+*piyi*	Spontaneous unaccusative (80%)[1]
	ROOT$^{[spatial]}$+*piyi*	Agentive unergative (10%)
	ROOT$^{[emission]}$+*piyi*	Non-agentive unergative (verb of emission) (10%)

- Distinct syntactic representations for intransitive verbs[2]
  - Unergative verb: NP [$_{VP}$ V]
  - Unaccusative verb: [$_{VP}$ V NP/CP] (Levin & Rappaport Hovav 1995:3 (1))
- Previous discussion of *-piyi* verb final in the literature:
  - Wolfart 1973:71 (Plains Cree): *-payi* 'move'
  - Hirose 2003 (Plains Cree): "dynamic" unaccusatives (inchoative), and a subclass which denote fast movement.

* Many thanks to Cree language consultants Alice Duff and Elsie Duff for the NE Cree data that appears here. Thanks also to the Cree School Board in Chisasibi for their continued support of the larger project within which this research is situated (the Chisasibi Child Language Acquisition Study, CCLAS: www.mun.ca/cclas). Particular thanks to Daisy Herodier for facilitating the 2011 fieldwork. For the Naskapi data, many thanks to Silas Nabinicaboo, Tshiueten Vachon and Alma Chemaganish. Thanks also to the Naskapi Development Corporation for their hospitality, and to Bill Jancewicz for facilitating the work. Funding for this research comes from the J.R. Smallwood Foundation #207769 (Johansson) and the Social Science and Humanities Research Council of Canada (SSHRC) #410-2008-0378 (Brittain, Dyck, Mackenzie & Rose).

1 Count based on the Naskapi Lexicon: http://www.collectionscanada.gc.ca/naskapi

2 The Unaccusative Hypothesis was formulated by Perlmutter (1978), and has undergone subsequent modifications (among others, Burzio 1986; Chomsky 1981).

(1) SUMMARY OF *PIYI*-DERIVED VERB CLASSES

CLASS	CREE	GLOSS
Unaccusatives	*pîku**piyi**u*	it breaks
Unergatives (vehicle)	*chîwâ**piyi**u* *chîhchi**piyi**u*	s/he goes home by vehicle s/he sets out by car or boat; the engine starts on its own
Unergatives (emission)	*tâpwâ**piyi**u*	it makes a loud noise

1.1 ORGANIZATION

§2 Overview of Cree-Montagnais-Naskapi (Central Algonquian)
§3 Data
§4 Diagnostics
§5 Lexical semantics-syntax interface
§6 Conclusion

2 OVERVIEW OF CREE-MONTAGNAIS-NASKAPI (CENTRAL ALGONQUIAN)

- No dialect variation found for NE Cree and Western Naskapi wrt root + *-piyi* constructions; we use "Cree" to generalize

- Algonquian languages have an animacy-based gender system

(2)

	ANIMATE		INANIMATE
a.	*nâpâu* ‘man’; *tâwâhîkan* ‘drum’	b.	*uchâpânish* ‘car’

(3) CREE VERB CLASSES (MORPHOLOGICALLY DISTINCT)

VERB CLASS	ANIMACY REQUIREMENT
Animate Intransitive (AI)	animate subject
Inanimate Intransitive (II)	inanimate subject
Transitive Animate (TA)	animate object
Transitive Inanimate (TI)	inanimate object

- Transitive subjects are animate and sentient.[3]
- A subset of AI verbs are syntactically transitive (AI+O verbs).

(4) ROOT *WIYIP* ‘BLACK’

*wiyip**isi**u*	‘s/he, it is black (animate)’	AI
*wiyip**â**u*	‘it is black (inanimate)’	II
*wiyipi**n**âu*	‘s/he blackens her/him by hand’	TA
*wiyipi**n**im*	‘s/he blackens it by hand’	TI
*wiyipi**htâ**u*	‘s/he blackens it (animate/inanimate)’	AI+O

- Verb final *-piyi* derives intransitive verbs without specifying the gender of the single argument:
  - Both AI and II verbs in all three *-piyi* verb classes

(5) SUMMARY OF *PIYI*-DERIVED VERB CLASSES

CLASS	GRAMMATICAL ANIMACY	CREE	GLOSS
Unaccusatives	AI/II	*pîku**piyi**u*	it breaks
Unergatives (vehicle)	AI sentient / II internal causer	*chîwâ**piyi**u* *chîhchi**piyi**u*	s/he goes home by vehicle s/he sets out by car or boat; the engine starts on its own
Unergatives (emission)	II/AI non-sentient (internal causer)	*tâpwâ**piyi**u*	it makes a loud noise

3 A sentient entity has the ability to perceive/reason (Speas & Tenny 2003) and equates with real-world animacy → grammatical animacy in Algonquian (Hanson 2003; Bliss 2005)

(6) Verbs of emission (Levin & Rappaport Hovav 1995:91)

SOUND EMISSION	LIGHT EMISSION	SMELL EMISSION	SUBSTANCE EMISSION
burble	flash	reek	bubble
buzz	flicker	smell	gush
clang	gleam	stink	ooze
crackle	glitter		puff
hoot	shimmer		spew
hum	shine		spout
jingle	sparkle		squirt
ring	twinkle		
whistle			

- Verbs of emission have a non-agentive single argument (emitter)
- Cross-linguistically, verbs of emission are unergative (Levin & Rappaport Hovav 1995)

3 Data

(7) Unaccusatives: Cree/Naskapi

CREE/NASKAPI		GLOSS	TRANSITIVE (INANIMATE)
a) *pîkupiyiw*	AI/II	it breaks	*pîkuhtâw* breaks s.t.
b) *sâpiyiw*	AI/II	it opens	*sânim* opens s.t. by hand
c) *mîhkûpiyiw*	AI/II	it turns red	*mîhkunim*, reddens s.t. by hand
d) *pâstipiyiw*	AI/II	it cracks	*pâstipitim* cracks s.t. off, pulling
e) *tîhchipiyiw*	AI/II	it melts	*tîhchisim* melts s.t. by heat
f) *wîwîpiyiw*	AI/II	it falls out, off	*wîwîhtâw* takes s.t. out

(8) VEHICLE VERBS (TRAVEL BY CAR, BOAT, SKIDOO, ETC.)

CREE/NASKAPI		GLOSS
a) *atimipiyiw*	AI	s/he goes in the opposite direction in a vehicle
b) *âyimipiyiw*	AI	s/he is always going around in a vehicle
c) *âsûpiyiw*	AI	s/he goes across in a vehicle
d) *chîwâpiyiw*	AI	s/he goes home, returns in a vehicle
e) *pâpiyiu*	AI	s/he arrives by vehicle
f) *ûhchîhchipiyiw*	AI	s/he arrives there by vehicle, from a certain place
g) *chîhchipiyiw*	AI/II	s/he sets off (by boat/car); it (engine) starts on its own
h) *chishipiyiu*	AI/II	s/he goes fast (in a vehicle, or on foot); it (vehicle) goes fast
i) *pimipiyiw*	AI/II	s/he travels by vehicle; it (e.g., engine) runs, functions

- Vehicle verbs: agentive[4] manner of motion verbs (vehicular).
  - Members of this class (e.g. *run, dance, arrive, cross*) vary cross-linguistically: unaccusatives or unergatives (Levin & Rappaport Hovav 1995)
- Root denotes point of departure, arrival, or movement between two points (a "spatial" root)

(9)

a. POINT OF DEPARTURE & ARRIVAL REFERENCED (MOVEMENT BETWEEN TWO POINTS)

âsûpiyiw	AI	s/he goes across in a vehicle
sâkichiwâpiyiw	AI	s/he goes up a slope in a vehicle
ûhchîhchipiyiw	AI	s/he arrives there by vehicle, from a certain place

b. POINT OF DEPARTURE

chîhchipiyiw	AI/II	s/he sets off (by boat, car); it (engine) starts on its own

c. POINT OF ARRIVAL

chîwâpiyiw	AI	s/he goes home, returns in a vehicle

4 AI = sentient subject (*II), except for *g, h, i*. Inanimate subjects are internal causers.

(10) Verbs of emission

CREE		GLOSS
SUBSTANCE		
a) *sinipwâtihîchâpiyiu*	II	it sprays, squirts out
b) *pîshtâupiyiu*	II	it foams
SOUND		
c) *chîhkâwâpiyiu*	II	it makes a clear sound (e.g., bell)
d) *twâpwâpiyiu*	II	it makes a loud sound (e.g., siren)
e) *kuishkushîpiyiu*	II	it whistles
f) *chistwâwapiyiu*	AI/II	it makes a sound
g) *shâshwâwâpiyiu*	II	it jingles
LIGHT		
g) *pâhpishihkâshtâpiyiu*	II	light is twinkling
h) *wâshtâpiyiu*	II	it lights up, flashes
i) *âshtiwâpiyiu*	AI/II	it (motion sensor light) goes out

- Johansson & Ritter (2008): Blackfoot (Algonquian) verbs of emission pattern as unergatives: intransitive verbs which have an internal causer/teleological capacity (Levin & Rappaport Hovav 1995; Folli & Harley 2008; Ritter & Rosen 2010).

4 Diagnostics (cf. Johansson & Ritter 2008)

4.1 Verbs of emission have non-agentive arguments

- Brittain (in press): *-piyi* verbs which have a patient (affected entity) argument are incompatible with agent-oriented adverbs and purpose clauses (consistent with an unaccusative classification[5]), but vehicle verbs are compatible with both.
- Verbs of emission pattern with unaccusative verbs.
    - Interim conclusion: verbs of emission have non-agentive arguments, like unaccusatives.

5 See Hirose (2003) for further syntactic diagnostics supporting this classification.

(11) UNACCUSATIVE VERB (NASKAPI)[6]

a. (*Ûst) Chwân chî-kwâtipi-piyiw.
(*deliberately) John PST-roll.over-DYN:3
'John rolled over (*deliberately).'

b. Chwân chî-kwâtipi-piyiw * [châchî-tûtûwât awâsa châchî-pâhpiyichî].
John PST-roll.over-DYN:3 [COMP-make.x.do.y children:OBV COMP-laugh:OBV
'John rolled over (unintentionally) *[to make the kids laugh].'

(12) VEHICLE VERB (NASKAPI)

a. Ûst Chwân chî-pâ-piyiw.
deliberately John PST-come-DYN:3
'John came over deliberately (e.g. in a canoe).'

b. Chwân chî-pâ-piyiw châchî-wâpâhtiyiwât utût.
John PST-come-DYN:3 COMP-show.TR:OBV 3:canoe
'John came (paddling) over to show her his canoe.'

(13) VERB OF EMISSION (NE CREE)

a. *Usht wî-shâshwâwâ-piyiu â-nîmi-t.
deliberately DESID-jingle-DYN:3 CJ.PVB-dance-3
Intended: 'She deliberately makes the jingling sound while she dances.'[7]
Speaker comment: In this sentence it's not *her* who is jingling, it's the dress. Not good Cree.

b. * Shâshwâwâ-piyiu â-wî-pihkhtâ-t chîkîyiu.
jingle-DYN:3 CJ.PVB-DESID-win-3 prize
Intended: 'It is making a jingling sound to win a prize.'

(14) INTERIM SUMMARY: DIAGNOSTICS FOR -*PIYI* VERBS

DIAGNOSTIC	UNACCUSATIVE	UNERGATIVE (VEHICLE)	UNERGATIVE (EMISSION)
Agent-oriented adverb permitted	×	✓	×
Purpose clause permitted	×	✓	×

6 3=3rd Person ; CAUS=causative; CJ.PVB=conjunct preverb; COMP=complementizer; DEM=demonstrative; DESID=desiderative; DYN=dynamic; M.REFL=medio-reflexive; OBV=obviative; PST=past; THM=theme; TR=transitive

7 Jingle dancing is a cultural practice shared by many aboriginal communities in North America, including the Cree. It involves wearing a dress with rows of metal cones sewn on and dancing in such a way as to make the dress jingle. Jingle dancing is often part of dance competitions at powwow.

4.2 Verbs of emission select internal causer arguments

- The argument of a verb of emission must have the internal capacity to generate the event
  - Internal causer/teleological capacity (Levin & Rappaport Hovav 1995; Folli & Harley 2008)
  - Interim conclusion: Verbs of emission have non-agentive, internal causer arguments

(15) **kuishkushi-piyi-u* *nitowin*
whistle-DYN-3 my.lips
Intended: 'My lips are making a whistling sound.'

- Sentient arguments can be predicated of verbs of emission by means of transitivizer and medio-reflexive *-h-u-*
  - But only when arguments are sentient agents that can generate event, e.g. with clothing

(16) *Mirî* *shâshwâwâ-**piyi-h-u**-u*
Mary jingle-**DYN-TR-M.REFL**-3
'Mary jingled (wearing a jingle dress or clothing with bells).' Lit. 'made herself jingle'

(17) *Wâshtâ-**piyi-h-u**-u* *Mirî*
light-**DYN-TR-M.REFL**-3 Mary
'Mary lit herself up (e.g. wearing a Halloween costume with electric lights attached).'

4.3 Verbs of emission have external arguments

- Unaccusative verbs have related transitive verbs (causative alternation)
  - Evidence that the subject of an intransitive unaccusative verb is an underlying object (Burzio 1986, Levin & Rappaport Hovav 1995, among others)

(18) Unaccusative verbs: Causative alternation (primary derivation)

	Intransitive		Transitive alternant	
a.	*pîku-piyi-u* 'it breaks'	AI/II	*pîku-n-im* 's/he breaks it by hand'	TI
b.	*sâ-piyi-w* 'it opens'	AI/II	*sâ-n-im* 's/he opens it by hand'	TI
c.	*mîhkû-piyi-u* 'it turns red'	AI/II	*mîhkû-n-im* 's/he reddens it by hand'	TI

- Neither vehicle verbs nor verbs of emission enter into the causative alternation.
    - Interim conclusion: Basic argument structure differs from that of the unaccusatives; subjects of both vehicle verbs and verbs of emission are underlying external arguments.
    - In contrast to the "simple" or "automatic" (cf. Hale & Keyser 2002) transitivity alternation (18, primary derivation), causative verbs are derived through "secondary derivation" (Bloomfield 1946, Wolfart 1973, Goddard 1990), an additional layer of derivation which adds an external causer (20).

(19) Unergative (vehicle) verbs: Do not alternate

	Intransitive		Transitive alternant
a.	*chishi-piyi-u*	AI/II	–
	's/he goes fast (in a vehicle, or on foot); it (vehicle) goes fast'		
b.	*nâtikâmâ-piyi-u*	AI	–
	's/he goes toward the shore by vehicle'		
c.	*pâ-piyi-u*	AI	–
	's/he arrives by vehicle'		

(20) Derived causative vehicle verbs (secondary derivation)

a. *chishi-piyi-**htâ**-u*
's/he drives it fast'

b. *nâtikâmâ-piyi-**htâ**-u*
's/he takes it ashore by vehicle'

c. *pâ-piyi-**htâ**-u*
's/he arrives with it by vehicle'

(21) Unergative (emission) verbs: Do not alternate

	Intransitive		Transitive alternant
a.	*kuishkushî-piyi-u*	II	–
	'it whistles'		
b.	*shâshwâwâ-piyi-u*	II	–
	'it jingles'		
c.	*pâhpishihkâshtâ-piyi-u*	II	–
	'it twinkles'		

(22) Derived causative emission verbs (secondary derivation)

a. *Kuishkushi-piyi-**htâ**-u an nâpâsh aniya utâpâniyiu.*
whistle-DYN-**CAUS**-3 DEM boy DEM:OBV train:OBV
'The boy makes the train whistle.'

b. *Mirî chîh-shâshwâwâ-piyi-**htâ**-u ut-akuhp kâ-nîmi-t*
Mary PST-jingle-DYN-**CAUS**-3 3-dress CJ.PVB-dance-3
'Mary made the dress jingle when she danced.'

c. *Pâhpishihkâshtâ-piyi-**htâ**-u Mirî*
twinkle-DYN-**CAUS**-3 Mary
'Mary is twinkling something (e.g. a flashlight or a lighter).'

- Analogous to Hale & Keyser's "simple" vs. "complex" transitivization

(23) Navajo (Hale & Keyser 2002), simple transitivization (unaccusative), (p. 112, ex. 15)

a. *łeets'aa' si-ts'il*
dish SPF:3-shatter:PERF
'The dish shattered, broke to pieces.'

b. *łeets'aa' sé-**ł**-ts'il*
dish 3:SPF:1S-**ł**-shatter:PERF
'I shattered the dish.'
-ł = transitivizer

(24) Navajo (Hale & Keyser 2002), complex transitivization (unergative), (p. 108, ex. 7)[8]

a. *'awéé' naa-gh-á*
baby na-IMPF:3-walk:SG-CI
'The baby is walking around.'

b. *'awéé' na-b-ii-sh-**ł**-á*
baby na-3-y-IMPF:1S-**ł**-walk:SG-CI
'I am walking the baby around (i.e., making it walk).'

(25) Interim summary: Diagnostics for *-piyi* verbs

Diagnostic	Unaccusative	Unergative (vehicle)	Unergative (emission)
Agent-oriented adverb permitted	×	✓	×
Purpose clause permitted	×	✓	×
Internal causer required	×	×/✓	✓
Causative alternation	✓	×	×

8 Data source for (23b) and (24b): Young & Morgan 1980.

- Unergative verbs pattern as distinct third class of *piyi*-derived verbs.
- Rather than propose three homophonous *-piyi* final morphemes, we attribute this distinction to the lexical semantics of the roots.

5 Lexical semantics-syntax interface

- Root + *-piyi* verbs do not have a single syntactic representation

(26) Distinct syntactic representations

a. Spontaneous unaccusatives: $[V\ NP]_{VP}$
Patient argument, no animacy restriction on internal arguments → AI/II[9]

b. Vehicle verbs, unergatives: $NP\ [V]_{VP}$
Argument capable of initiating the event – usually sentient → AI; II vehicle verbs have an internal causer argument.

c. Verbs of emission, unergatives: $NP\ [V]_{VP}$
Argument capable of initiating the event – never sentient (usually II), though arguments may be grammatically animate (e.g WN *kâtâpwâst* 'kettle') → AI non-sentient; verbs of emission have an internal causer argument.

- Morphologically, the three sub-classes of *piyi*-form are, minimally (initial+final), identical.

(27) Same final, different initial

Root-*piyi*	Gloss
kwâtipi-piyi-u (unaccusative)	s/he, it rolls over
pâ-piyi-u (unergative)	s/he arrives by vehicle
tâpwâ-piyi-u (unergative)	it makes a loud noise

- Whatever gives rise to the difference at the syntactic level must reside in the initial (root).
  - No evidence the root bears a syntactic category[10]
  - Lexical content of root

9 See Ritter & Rosen 2010 for discussion of distinct animacy restrictions imposed on internal vs. external arguments in Algonquian languages.

10 Unlike Cree, there is evidence that Blackfoot (Algonquian) roots are subcategorized (Armoskaite 2010).

(28) LEXICAL SEMANTICS-SYNTAX INTERFACE

	LEXICAL SEMANTIC REPRESENTATION (LSR)		SYNTAX
a.	Unaccusative (default) ROOT+*piyi*[DYN]	→	BECOME unaccusative (AI/II) internal argument
b.	Unergative (Vehicle verb) ROOT+[SPATIAL] +*piyi*[DYN]	→	MOVE unergative external argument (AI sentient, II internal causer)
c.	Unergative (Verb of emission) ROOT+[EMISSION]+*piyi*[DYN]	→	MOVE unergative external argument, unergative (II internal causer, AI non-sentient)

5.1 EVENT FOREGROUNDING HYPOTHESIS

- Brittain (in press): difference between unaccusative and vehicle verbs accounted for in terms of the "event foregrounding" hypothesis (Salish languages: Davis & Demirdache 2000)
- Davis & Demirdache posit Salish unaccusatives underlyingly causative [11]

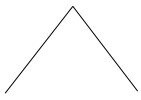
5.2 DAVIS & DEMIRDACHE (2000), SALISH

- Valency morphology mediates between lexical semantic representation and morphosyntax

(29) LEXICAL SEMANTIC REPRESENTATIONS[12]

a. Transitive suffixes (e.g. -V*n'*) signal foregrounding of Process and State → Transitive

Transition



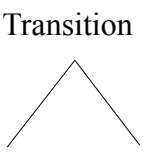
Process **State** e.g. √*tup*-***un'*** 'to punch someone/something'

11 See Levin & Rappaport Hovav 1995, among others, for discussion of unaccusatives and their underlying representations in language in general.

12 Davis & Demirdache's event structures are based on Pustejovsky 1991, 1995. "There are three primitive event types whose terminal elements are atomic events: (I) a State defined as a single eventuality that is viewed or evaluated relative to no other eventuality; (ii) a Process defined as a sequence of identical eventualities; (iii) a Transition defined as a single event evaluated relative to another single event." (Davis & Demirdache 2000: 118, fn 5)

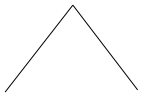
(29)

b. Zero suffix signals foregrounding of State → Unaccusative



Process **State** e.g. √*us* 'to get thrown out' (internal argument in syntax)

c. Intransitive suffixes (e.g., -*cal*) signal foregrounding of Process → Unergative



Process State e.g. √*k'ác-**cal*** 'to dry' (stuff) (external argument in syntax)

- Extending this model to Cree accounts for a characteristic property of the -*piyi* unaccusative verbs: they denote a state which comes about spontaneously, or accidentally, with no direct causation.

(30) a. *wîwî-piyi-w*
outside-DYN-3
's/he, it falls out' (Levin & Rappaport Hovav 1995: "inherently directed motion" class)

b. *wîwî-htâ-w*
outside-TR-3
's/he takes it (inan) outside'

c. *wîwî-piyi-htâ-w*
outside-DYN-TR-3
's/he takes it outside unintentionally, by accident'

- Comparable to Salish Out of Control (OOC) unaccusatives

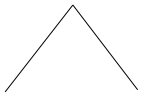
(31) Davis & Demirdache (2000)

a. ***ka***-*lwés*-***a***
ooc-stop-ooc
'to break (shatter) accidentally, suddenly'

b. ***ka-****qám't*-***a***
ooc-hit-ooc
'to get hit suddenly, accidentally'

- OOC morphology suppresses Process, type-shifting the complex event to a simple State.

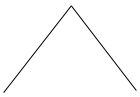
(32) a. *qám't*



Process ***State***

'to be(come) hit'

b. ***ka-****qám't*-***a***



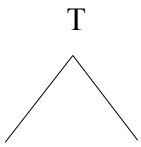
~~*Process*~~ ***State***

'to be(come) hit suddenly, accidentally'

5.3 Applying event foregrounding to CMN

- *-piyi* suppresses Process in (underlyingly transitive) unaccusatives

(33)



~~Process~~ State *pîku-**piyi**-w* (it breaks on its own, suddenly, spontaneously)

- Process is not suppressed in vehicle verbs or verbs of emission because of the lexical semantic content of the roots
- Derived causatives do not receive unintentional/OOC reading (Process is not suppressed); contrast (30c) with (34)

(34) CAUSATIVE UNERGATIVES

VEHICLE VERBS

a. (i) *Tiskimi-**piyi-htâ**-u* VAI+O
take.across-**DYN-CAUS**-3
'She takes it (inan) straight across by vehicle.'

(ii) *Tiskimi-**piyi-h**-â-u* VTA
take.across-**DYN-TR**-THM-3
'She takes him/her straight across by vehicle.'

b. (i) *Yâyâwâ-**piyi-htâ**-u* VAI+O
take.along.shore-**DYN-CAUS**-3
'She takes it along the coast by vehicle.'

(ii) *Yâyâwâ-**piyi-h**-â-u* VTA
take.along.shore-**DYN-TR**-THM-3
'She takes him/her along the shore by vehicle.'

VERBS OF EMISSION

c. *Pâhpishihkâshtâ-**piyi-htâ**-u* *Mirî* VAI+O
twinkle-**DYN-CAUS**-3 Mary
'Mary is twinkling something (e.g. a flashlight or a lighter).'

d. *Shâshwâwâ-**piyi-htâ**-u* VAI+O
jingle-**DYN-CAUS**-3
'She makes it jingle (e.g. the bell on the door, by opening and closing the door).'

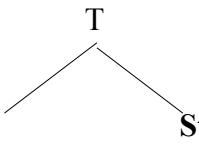
- Why does *-piyi* fail to suppress Process for vehicle verbs and verbs of emission, yielding unergatives?

  - root+*piyi*[DYN] (~~Process~~) → Spontaneous unaccusative
  - root[SPATIAL]+*piyi*[DYN] (Process) → Unergative (vehicle)
  - root[EMISSION]+*piyi*[DYN] (Process) → Unergative (emission)

- The dynamic feature of *-piyi*, combined with a root that denotes spatial information (spatial) or an event of emission (emission), requires an event-initiating (external) argument
- This requirement overrides the suppression of Process, allowing for the projection of an external argument in the syntax.

(35) SUPPRESSION OF PROCESS IS INCOMPATIBLE WITH ROOT$^{[\text{SPATIAL/EMISSION}]}$+*PIYI*$^{[\text{DYNAMIC}]}$

! Syntax LSR



! No external argument ↔ root$^{[\text{spatial/emission}]}$+*piyi*$^{[\text{dynamic}]}$ requires an external argument

- Structure fails to provide the external argument required by syntax.

6 CONCLUSION

- Three distinct classes of -*piyi* verbs
  - Dynamic unaccusatives, unergative vehicle verbs, unergative verbs of emission
- Verbs of emission pattern with unergatives, as in Blackfoot (Algonquian)
- Verb meaning is a factor in determining syntactic structure; in Cree, root semantics impact argument realization (unaccusative vs. unergative)

	UNACCUSATIVE	UNERGATIVE (VEHICLE)	UNERGATIVE (EMISSION)
Agent-oriented adverb permitted	×	✓	×
Purpose clause permitted	×	✓	×
Internal causer required	×	×/✓	✓
Causative alternation	✓	×	×
Derived causatives have unintentional reading	✓	×	×
Process suppressed at syntax-semantics interface	✓	×	×

References

Armoskaite, Solveiga. 2010. The destiny of roots in Blackfoot and Lithuanian. PhD dissertation: University of British Columbia.

Bliss, Heather. 2005. *Formalizing Point-of-View: The Role of Sentience in Blackfoot's Direct/Inverse System*. MA thesis, University of Calgary.

Bloomfield, Leonard. 1946. Algonquian. In *Linguistic structures of Native America*, eds. H. Hoijer et. al. New York: Viking Fund Publications in Anthropology 6, 8-29.

Brittain, Julie. In press. 'Root semantics as a determinant of syntactic representation: Evidence from Cree-Montagnais-Naskapi.' To appear in *Papers of the 42nd Algonquian Conference,* ed. Monica Macaulay & Rand Valentine. Albany, NY: SUNY Press. [page numbers not yet available]

Burzio, L. 1986. *Italian Syntax: A Government-Binding approach.* Dordrecht: Reidel.

Chomsky, Noam. 1981. *Lectures on Government and Binding.* Dordrecht: Foris.

Davis, Henry, and Hamida Demirdache. 2000. 'On lexical verb meanings: Evidence from Salish.' In *Events as Grammatical Objects: The Converging Perspectives of Lexical Semantics and Syntax*, ed. by Carol Tenny and James Pustejovksy, pp. 97–142. Stanford, Calif.: CSLI.

Folli, Raffaella & Heidi Harley. 2008. 'Teleology and animacy in external arguments.' *Lingua* 118, 190-202.

Goddard, Ives. 1990. 'Primary and secondary stem derivation in Algonquian.' *International Journal of American Linguistics* 56(4), 449-483.

Hale, Ken, and Samuel Jay Keyser. 2002. *Prolegomenon to a Theory of Argument Structure.* Cambridge, MA: MIT Press.

Hanson, Rebecca. 2003. *Why Can't We All Just Agree? Animacy and the Person Case Constraint*. MA Thesis: University of Calgary.

Hirose, Tomio. 2003. *Origins of predicates: Evidence from Plains Cree*. Outstanding Dissertations in Linguistics. New York: Routledge.

Johansson, Sara & Elizabeth Ritter. 2008. *Determinants of split intransitivity in Blackfoot: Evidence from verbs of emission.* Presentation, 40th Algonquian conference, October 26, University of Minnesota-Twin Cities.

Levin, Beth, and Malka Rappaport Hovav. 1995. *Unaccusativity: At the Syntax–Lexical* Semantics Interface. Cambridge, MA: MIT Press.

MacKenzie, Marguerite, Marie-Odile Junker, Luci Salt, Elsie Duff, Daisy Moar, Ruth Salt, Ella Neeposh, Bill Jancewicz, Alice Duff, Patricia Diamond, Pearl Weistche & Anna Blacksmith, eds., 2004-2010. *The Eastern James Bay Cree Dictionary on the Web: English-Cree and Cree-English (Northern and Southern dialects).* http://dict.eastcree.org.

Perlmutter, D. M. 1978. 'Impersonal passives and the unaccusative hypothesis.' In *Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society,* pp. 157-89. Berkeley Linguistics Society, University of California, Berkeley.

Pustejovsky, James. 1991. 'The syntax of event structure.' *Cognition* 41(1-3), 47-81.

Pustejovsky, James. 1995. *The Generative Lexicon.* Cambridge, MA: MIT Press.

Ritter, Elizabeth & Sara Thomas Rosen. 2010. 'Animacy in Blackfoot Implications for Event Structure and Clause Structure.' In *Syntax, Lexical Semantics and Event Structur*e, ed. Malka Rappaport Hovav, Edit Doron & Ivy Sichel, pp. 124-152. New York: OUP.

Speas, Margaret J., and Carol Tenny. 2003. 'Configurational Properties of Point of View Roles.' In Di Scuillo, Anna Maria, ed., *Asymmetry in Grammar*. Amsterdam: Benjamins, 315-344.

Wolfart, Hans Christoph. 1973. *Plains Cree: A Grammatical Study*. Transactions of the American Philosophical Society, New Series 63, Part 5. Philadelphia: American Philosophical Society.
Young, Robert W., and William Morgan. 1980. *The Navajo language*. Albuquerque: University of New Mexico Press.

Sara Johansson
Memorial University
sara.j.johansson@gmail.com

Julie Brittain
Memorial University
brittain@mun.ca