Selection for [m] in Blackfoot: Consequences for Event structure

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1 Blackfoot verbs and their arguments

• A striking fact about Blackfoot is that sentience constrains argument structure in a variety of ways:

• External arguments of transitive verbs must be sentient (Frantz 1993):

 \rightarrow e.g. <u>instruments</u> cannot function as subjects (1), but must be realized as adjuncts (2):

- *<u>oma isttoána</u> ikahksínima annistsi ikkstsíksiistsi
 om-wa isttoán-wa ikahksíni-m-wa ann-istsi ikkstsiksi-istsi
 DEM-3PROX knife-3PROX cut.TI-3:IN.3SG DEM-IN.PL branch-IN.PL
 'That knife cut off those branches.'
- (2) <u>oma isttoána</u> iihtsikahksínii'pi annistsi ikkstsíksiistsi om-wa isttoán-wa iiht-ikahksíni-'p-yi ann-istsi ikkstsiksi-istsi DEM-3PROX knife-3PROX MEANS-cut.TI-X:IN-IN.PL DEM-IN.PL branch-IN.PL 'By means of the knife [somebody] cut off those branches.'

Frantz 2009: 4

• This sentience requirement even extends to causer arguments of morphologically derived causative verbs:

(3) kit-só'kááttsaayaawa kit-Io'kaa-áttsi-a:-yi-aawa
2-sleep.AI-CAUSE.TA-DIR-3PL-PRON
'You put them to sleep.'

(Frantz 1991: 103)

• Non-sentient causers are expressed as adjuncts, licensed by the means prefix *iiht*-

(4) <u>Iiyiksopoyi</u> iihtomatsinaka'si niksi áínaka'si.
 iiyi-sopo-yi
 iiht-omat-inaka'si niksi áínaka'si
 hard-wind-IN.SG
 MEANS-start -roll
 DEM wagon
 'By means of a strong wind, this wagon started rolling.'

(Johansson 2009)

• Non-thematic objects of morphologically derived transitive verbs must also be sentient:

• applicative suffix -omo licenses sentient goals (Bliss 2007, 2010)

(5) Nitááhkanomoawa <u>ana issítsimaan</u> amiksi si 'káániksi.
nit-(w)aahkan-omo-a-wa an-(w)a issitsimaan am-iksi si 'kaan-iksi 1 –sew-BEN-DIR-3PROX DEM-3SG baby DEM-PL blanket-PL 'I sewed those blankets for the baby.'

(Bliss 2010: 12a)

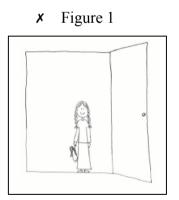
• non-sentient goals are expressed as adjuncts, licensed by the purpose prefix iht-

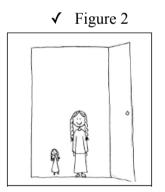
(6) Nihtááhkanayi amiksi si'káániksi <u>ani ákssin</u>.
n-iht-aahkan(i)-a-yi am-iksi si'kaan-iksi <u>an -(y)i akssin</u>
1-PURP-sew.TA-DIR-PL DEM-PL blanket-PL DEM-OBV bed
'I sewed those blankets for the bed.'

(Bliss 2010: 12b)

• accompaniment suffix -*m* licenses sentient companions (Meadows 2009)

 (7) Na Mianni iihpoko'toomiiwa <u>ni otapiimi</u>.
 ann -wa M ii-ohpok-o'too-m-yii-wa <u>ann-yi ot-atapiim-yi</u> DEM-PROX.SG M IC-with-arrive-ACCMP-DIR-3SG DEM-OBV.SG 3-doll-OBV.SG
 'Mary arrived with her doll.'





• These strict sentience requirements on argument structure are part of the grammar ("narrow syntax") of Blackfoot (Wiltschko & Ritter 2014)

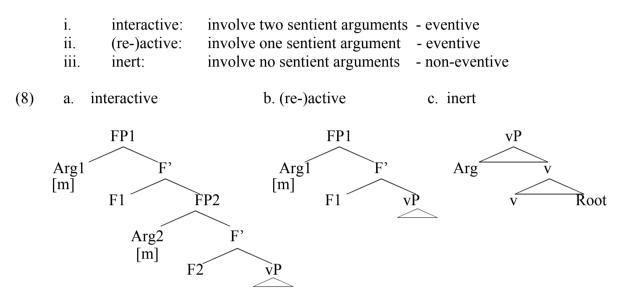
• If argument structure realizes event structure, then these sentience requirements indicate that **sentience is a primary determinant of event structure** in Blackfoot

• Hypothesis: Blackfoot event structure is organized around the distinctive capacity of **sentient arguments** for intentional action and sensory/psychological response.

In familiar languages, events are defined by what happened.

In Blackfoot, events are defined by who did it.

• Proposal: Blackfoot eventualities can be divided into three classes:



(Throughout, I adapt Reinhart's (2002) mental state feature [m] to mark sentient arguments.)

2 Blackfoot 101

• Blackfoot is an Algonquian language spoken in a small area of Western Canada & USA; currently less than 10,000 speakers (Russell & Genee 2006)

• even the most cursory look at the formal properties of the language reveals that animacy and sentience inform all aspects of the grammar of the language

2.1 Animacy based noun and verb classification

• like all Algonquian languages, Blackfoot has animacy-based noun and verb classification systems:

	Animate Noun Class	Inanimate Noun Class
	[+animate]	[-animate]
Plural marker	-iksi	-istsi
sentient beings	✓	×
non-sentient objects	✓	✓

Table 1 Blackfoot Noun Classes

[+ Animate] Ns		[- Animate] Ns		
nina- iksi	'men'	miistak- istsi	'mountains'	
áinaka'si- iksi	'wagons'	ipapok'itsimaan-istsi	'favorite activities'	
iihtáisinaakio'p-iksi	'cameras'	iihtáisinaakio'p-istsi	'pencils'	
mi'ksiníttsiim-iksi	'buffalo berries'	otohtoksiin-istsi	'raspberries'	

 Table 2 Sample of Animate and Inanimate Ns (Frantz & Russell 1995)

Verb Class		Classifying Argument	Animacy
transitive animate	(TA)	object	[+animate]
transitive inanimate	(TI)	object	[-animate]
intransitive animate	(AI)	subject	[+animate]
intransitive inanimate	(II)	subject	[-animate]
			•

 Table 3 Blackfoot Verb Classes (Bloomfield 1946)

G	Trai	nsitive	Intransitive	
Gloss	Animate	Inanimate	Animate	Inanimate
'eat'	oowat	oowatoo	ooyi	
'laugh (at)'	ikkahsimm	ikkahsi'tsi	ikkahsi 'takiwa	
'be complete'			sapanistsimm	sapanistso
'rain'				sootaa

Table 4 Sample of Animate and Inanimate Vs (Frantz & Russell 1995)

2.2 The morphological structure of Blackfoot verb stems

• Algonquian languages have morphologically complex verb stems, with verb class determined by the stem final morpheme – 'the final':

initial	(-medial)	-final
↑	↑	↑
root	(modifier)	verb classification

• Hirose 2001, Brittain 2003, Mathieu 2006, Bliss 2007, 2009 Ritter & Rosen 2010, argue that stem final morphemes realize Voice/v, Appl, and other event structure related functional categories

2.3 Agreement and direct-inverse marking

• transitive verbs **agree** with both their arguments, but agreement is determined by the animacy hierarchy, not grammatical function:

 \rightarrow same agreement for both 'X v'd Y' and 'Y v'd X':

a.	nitsinóáwa	b.	nitsinóóka
	<i>nit</i> -ino-aa-wa		<i>nit</i> -ino-ok-wa
	1-see.TA-DIR-38		1-see.TA-INV-38
	'I see her.'		'She sees me.'
	a.	<i>nit</i> -ino-aa-wa 1-see.ta-dir-3s	<i>nit</i> -ino-aa-wa 1-see.TA-DIR- 3 S

• mapping of agreement to arguments is determined by DIRECT/INVERSE MARKING

• De Lancey (1981) characterizes direct/inverse marking as signaling an alignment between natural viewpoint and natural starting point of the event

• Bliss (2005):

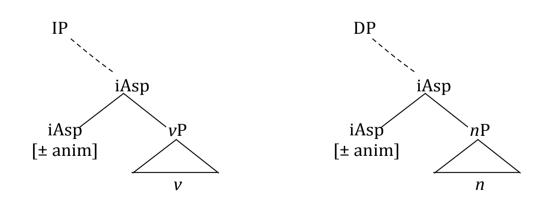
- direct marking: viewpoint holder is subject ... always a sentient DP, cf. (1-3)
- inverse marking: viewpoint holder is object ... only possible if object is a sentient DP

2.4 Animacy vs Sentience

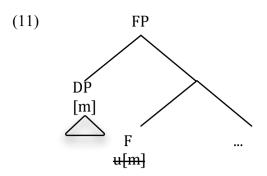
• Ritter & Wiltschko (2014) argue that animacy and sentience are formalized as distinct kinds of features, and that both are part of the grammar of Blackfoot:

ANIMACY: - distinguishes form classes of Ns and Vs
 - realized by a bivalent head feature [± animate] that associates with functional category - Inner Aspect - in both nominal and verbal spines (Wiltschko 2012, Ritter 2014)

(10)



- SENTIENCE: characterizes DPs that denote mental state-holders
 - realized by a monovalent phrasal feature [m]
 - a selectable interpretable feature of DP
 - selection for [m] constitutes an alternative to Case-licensing



• Ritter & Wiltschko (2014): All functional categories in Blackfoot select for [m]

 \rightarrow functional categories that realize event structure select for [m]

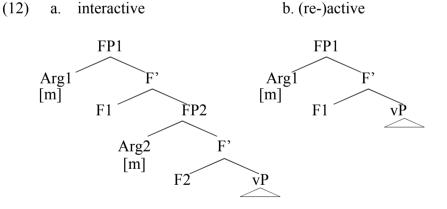
 \rightarrow event structure is organized around the distinctive capacity of **sentient arguments** for intentional action and sensory/psychological response

3 Intention, Action and Interaction

Recall hypothesis: Events in Blackfoot require at least one sentient argument (and at most two):

i.	interactive:	involve two sentient arguments
::	(······

ii. (re	-)active:	involve one sen	tient argument



... what is the contribution of sentience to event structure?

3.1 Causers, Agents and Intention

• both causers and agents are canonical external arguments, typically distinguished in that only agents must act INTENTIONALLY, and as a result, only agents must be SENTIENT

- (13) a. The wind/John opened the door.
 - b. John ate the cake.

• causers and agents participate in different kinds of events, as evidenced in part by the availability of an anti-causative construction, but not an anti-agentive one:

(14) a. The door opened.b. *The cake ate. (cf. The cake was eaten.)

• further evidence of this difference in event structure comes from interpretive options for

adverbial modifiers

- a. John opened the door again.
 i. repetitive: John opened the door before, and he has done so again.
 ii. restitutive: the door was open before, and now it is open again.
 - b. John read the book again.
 - i. repetitive: John read the book before, and he has done so again.
 - ii. #restitutive: the book was read before, and it has been read again.
- the majority view holds that the causer-agent distinction is due to intention¹:
- Reinhart (2002) a difference in verb's lexically specified theta grid causers initiate events, but are unspecified for intention: [+c] <u>agents are causers with intention</u> (a mental state): [+c, +m]
- Folli & Harley (2007) flavours of 'little v/Voice' <u>agents have intention</u> to act, a specific teleological capacity selected by a particular 'flavour of v': Spec, v_{DO} causers unspecified for teleological capacity, selected by a different 'flavour of v': Spec, v_{CAUSE}
- Doron (2003) different agency heads causative functional category adds causer argument agentive functional category adds intention to existing argument
- What is INTENTION and what is its contribution to event structure?
- Different kinds of intention, give rise to different event types:
 - action with intention to achieve a goal (e.g. *kick the ball to Mary*)
 → complex event (action + goal)
 - ii. intentional (controlled) action (e.g. *dance*)
 → simplex event (action only)
- 3.2 Interactive events 2 sentient arguments define 2 sub-events

• "director causatives" *do* involve intention on the part of the director/causer ... and also on the part of the actor/causee (cf. Folli & Harley 2007, Copley & Harley 2009):

¹ A notable exception is Ramchand (2008) who distinguishes between a subject of initiation, responsible for launching the event, and a subject of initiation and process. She includes some agents as well as volitional and non-volitional causers in the class of subjects of initiation; agentive undergoers, on the other hand, are subjects of initiation and process.

(16) **John** had the **students** read three articles. [m] [m]

• director causatives are one type of **interactive** event: they require two sentient arguments, defining two sub-events

• a second type of **interactive** event involves intention on the part of the external argument and sentient response on the part of an internal argument

- (17) a. **Mary** bought a book from **John**. [m] [m]
 - b. Mary kicked the ball to John. [m] [m]

• by hypothesis, intentional action and sentient response also define two sub-events

3.3 Active events – 1 sentient argument – a simplex event

• active events involve intention on the part of the external argument but the intention is not directed at another sentient argument

• intention in this context, describes the relation between the agent and the action s/he performs

- (18) a. **Mary** danced. [m]
 - b. Mary bought a book. [m]
 - c. Mary kicked the ball at the fence. [m]

• While it is far from obvious that languages like English treat *buying a book*, and *buying a book from someone* as different events, I contend that this is precisely what is grammaticalized in the event structure of Blackfoot

3.4 Summary

• two different kinds of intention give rise to two different types of event

- i. action with intention to achieve a goal complex event
- ii. intentional (controlled) action -simplex event
- interactive events constitute a type of complex event: they involve 2 sentient arguments, each of which identifies a different sub-event:

- i. goal-oriented action
- ii coerced action or sentient response

4 Sentient arguments and Event Structure in Blackfoot

4.1 Causatives in Blackfoot

Predictions:

If Blackfoot requires two sentient arguments for a complex (interactive) event, then:

- i. "director" causatives are complex events
- ii. causatives with inanimate theme are simplex events

• both these predictions are borne out by the data

• Blackfoot morphological causatives are director causatives (both causer and causee must be sentient) cf. (3) vs. (4)

• Johansson (2009) shows that subject-oriented adverbs (e.g. 'reluctantly') are ambiguous between modification of the causer sub-event and the causee sub-event:

(37)	AGEN	T-ORIENTED AD	VERB OPTIONALLY MODIFIES CAUSED EVENT			
	anna Mary		áísstsimáíhpiyiattsi	ni	otsitapíím	
	ann-wa Mary		á-sstsim-ihpiyi-attsi	ann-yi	ot-atapíím	
	DEM-	PROX.SG Mary	IMPF-reluctant-dance-CAUS	DEM-OBV.SG	gen-doll	
	(i)	'Mary, relucta	antly, made the doll dance.'			
		Context: Mar	y has been asked to demonstrate that her doll can dance but			
		she doesn't w	ant to.			
	(ii)	'Mary made t	the doll, reluctantly, dance.'			
	Context: In play, Mary is asking her doll, who she views as an anim					
	being, to dance. Her doll doesn't want to dan				gs the doll	
		until finally th	he doll consents to dance, albeit	reluctantly.		

• In Blackfoot a complex causative event is only possible if both the causer and the causee are sentient

• 'John opened the door' is a causative that involves a single sentient being

• Unlike in English, there is no repetitive-restitutive ambiguity with 'again' in the Blackfoot counterpart of 'John opened the door'

• Moreover, while the repetitive interpretation (modifying the action of the causer) is possible BUT the restitutive interpretation (modifying the result) is not (Louie 2010)

(4) nimáttsistá'kowai'piksí'p (I opened it again)

a.	omi	kitsím nitsíkowai'piksí'p, ni kitsim nit-ikowai'piksi-'p ni door 1-open-loc>0 1-	t-á-it-ipi-ssi
	itsohkohpápoka.	ki nimatts(it)sistai'kowai'p	viksí 'p
	it-yohkohpápoka	ki ni-matt-(it)-ista'-ikowai	i'piksi-'p
	rl-blow.shut	conj 1-add-(rl)-again-open.v	ti-loc>0
	'I opened that door	when I went in, but then it blew sh	ut.
	And (then) I opened	l it again .'	(BB:2010-04-16)
b.	omi	<i>kitsím ííkaikowaistsii, nitá</i> kitsim iikaa-ikowaistsii nit-a door perf-open.vii 1-in	á-it-ipi-ssi
		#ki nimatts(it)sistai'kowai'p	
	it-yohkohpápoka	ki ni-matt-(it)-ista'-ikowai	i'piksi-'p
	rl-blow.shut	conj 1-add-(rl)-again-open-l	oc>0
	'That door was alre	ady open when I went in, then it bl	ew shut.
	# And (then) I oper	ed it again '	(BB:2010-04-16)

4.2 Verb Class Alternations in Blackfoot

• Recall that choice of verb stem depends on the number of arguments and animacy status of a classifying argument:

Verb Class		Classifying Argument	Animacy
transitive animate	(TA)	object	[+animate]
transitive inanimate	(TI)	object	[-animate]
intransitive animate	(AI)	subject	[+animate]
intransitive inanimate	e (II)	subject	[-animate]

 Table 3 Blackfoot Verb Classes (Bloomfield 1946)

• Active verbs (with a theme/patient object) typically occur as TA or TI or AI verbs:

(19)	a.	naowatsiw na- oo-wat- yii-wa PST-eat-TA-TH-3SG 'S/he ate this fish.'	amo amo DEM	mamii/*akoopis mamii/*akoopis fish.AN/ soup.IN	ТА
	b.	naowatoom na- oo-watoo -m-wa PST-eat-TI-TH-3SG 'S/he ate that soup.'	ani ani DEM	akoopis/*mamii akoopis/*mamii soup.IN/ fish.AN	TI
	c.	naoyiw na-oo -yi- wa PST-eat- INTRANS- 3SG 'S/he ate (fish/soup).'	(mam (fish/s	ii/akoopis) ii/akoopis) oup)	AI

• use of AI required if object is non-specific or non-referential

 \rightarrow constitutes anti-passive-like operation – suppressing the theme/patient (cf. Quinn 2008)

• note that Blackfoot lacks a passive construction

• Bliss (2010) observes that sometimes TA has a different meaning from related TI/AI verb stems:

(10)a.	Nitsiikamo'satoo'p omi	ihtohpomo'pi
	nit-ikamo's-atoo-'p om-yi	ihtohpomo'pi
	1-steal-TI-1:INAN DEM-INAN	money
	'I stole that money.'	

- b. Nitsiikamo'si ihtohpomo'pi nit-ikamo's-i ihtohpomo'pi 1-steal-AI money 'I stole money.'
- c. *Nitsííkamo'satoka ana Rosie ihtohpomo'pi* nit-ikamo's-**at**-ok-wa an-wa R ihtohpomo'pi 1-steal-**TA**-3:1-PROX DEM-PROX R money 'Rosie stole from me that money.'

• Blackfoot verb class alternations between TI/AI and TA constitutes a shift from an active (=simple) to an interactive (=complex) event

4.3 Sentience, Animacy and Goal directed motion verbs

• Kim (to appear) shows that AI position and motion verbs are compatible with either a sentient or non-sentient theme arguments

(20)	a.	DEM	akiikoan girl girl went downy	sainnis-oo-wa down-go.AI-3sg ward.'
	b.	anna DEM	ainak'asi wagon wagon passed b	itsk-oo-wa route-go.AI-3sg

... but only a sentient theme is compatible with a path or goal "PP" object:

(21)	a.	anna	John	yaak- itap -oo-wa	oomi	isspahkoyi
		DEM	John	FUT-to-go.AI-3SG	DEM	hill
		'John	will go	to the hill.'		

b.	*aniski	ainak'asi-iksi	yaak- itap- oo-yi	oomi	isspahkoyi
	DEM	wagon-AN.PL	FUT-to-go.AI-3PL	DEM	hill
	'The wagons will go to the hill.'				

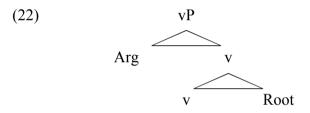
• paths and goals are prepositional objects, and like other kinds of goals, they require a sentient external argument in Blackfoot

• in Blackfoot goal directed action requires a sentient theme because only sentient themes are capable of (intentional) action towards a goal

5 Inert Eventualities

• If Blackfoot event structure is organized around intentional action and sentient response, then an eventuality that has no sentient argument won't be eventive – call them INERT eventualities

• the assumption that the functional categories in the vP layer ('the lexical layer') are responsible for event structure leads to the conjecture that the representation of inert eventualities includes no vP layer functional categories



If sentience rather than dynamicity characterizes events in Bf, the grammar will not formalize a distinction between and stative and anti-causative uses of intransitive verbs with non-sentient arguments -

• listings for some inanimate intransitive (II) verbs in Frantz & Russell's (1995) *Blackfoot Dictionary of Roots, Stems and Affixes* suggests that this prediction may be borne out:

(23)	ihkitsi	'dry'		
	a.	stative:	ákaihkitsiwa kaapoksíínimaan	i 'the floor is dry'
	b.	anti-causative:	sskihkitsiwa	'it will dry'
(24)	iitsskil	hkaa 'be matt	ed'	
	a.	stative:	áakiitsskihkaawa	'it will be matted'
	b.	anti-causative:	ko'tokááni ákaiitsskihkaawa	'your hair has become matted'
				Frantz & Russell 1995

... but field work is needed to confirm this finding

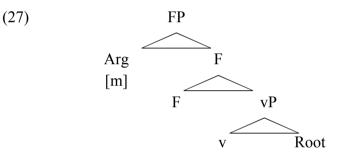
• we might also expect to find a meaning shift between related intransitive inanimate (II) and intransitive animate (AI) verb stem, ... just for cases where the AI verb is predicated of a sentient argument

• listings for such verbs in Frantz & Russell's (1995) *Blackfoot Dictionary of Roots, Stems and Affixes* suggests that this prediction is also borne out:

(25)	a.	iiyiko	II	'be strong, difficult, hard (intensely)'
	b.	iiyikoosi	AI	'have a difficult time, be difficult'
(26)	a. b.	ipahtsa'pii ipahtsá'pssi	II AI	'be a mistake' 'err, make a mistake [ER: be mistaken??]' Frantz & Russell 1995

• this class of AI verbs are all predicated of sentient experiencers– arguments that react to the situation denoted - and non-intentional actors

• like active eventualities (and unlike inert ones), these re-active eventualities have a single functional category to license the sentient experiencer, and non-intentional actor - marking a sentient – but in this case, it indicates result or response, rather than initiation (cf. Wiltschko 2014's analysis of limited control in Halkomelem)



6 Concluding Remarks

Argument structure realizes event structure. In familiar languages events are defined on the basis of what happened and arguments that undergo the action named by verb have a privileged status...but why should undergoers necessarily merit this distinction?

The properties of Blackfoot suggest that the event-defining argument is not universally fixed in this way. The distinctive properties of this language can be best understood if we take a step back: Event structure is determined by the properties of a designated argument. The task before us is to figure out which one that is – the initator or the undergoer (cf. Ritter & Rosen 2000)

On the surface, Blackfoot does look very different from most familiar languages, but I propose that this difference is due to the fact that eventive functional categories select for sentient arguments, formalized as DPs with feature [m]. This is not entirely unexpected. Note that, it has been argued that animacy/sentience/person licenses arguments in many languages (cf. work on the Person Case Constraint by Coon & Preminger 2012, Adger & Harbour 2007, among others.) If that's true then Blackfoot and PCC languages like Spanish are more similar than they first appear: In Spanish sentience features license some arguments, and in Blackfoot a sentience feature licenses all arguments.

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