Animating the Narrow Syntax

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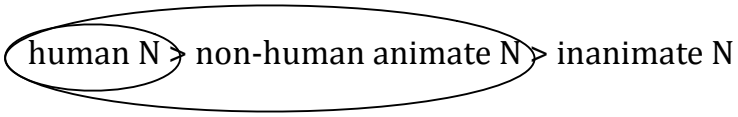
1 Introduction

Algonquian languages are famous for their animacy-based noun class system. In this paper we demonstrate that there are in fact two related, but distinct, types of animacy in the Plains Algonquian language, Blackfoot. The first is a morphosyntactic feature that determines agreement and the second serves as a restriction on arguments. We argue that the two types of animacy are constructed in different ways: Morphological animacy (henceforth m-animacy) is a feature of a classificatory functional category; it determines noun class and plays a role in syntactic AGREE operations. High animacy (henceforth H-animacy) is also embodied in the syntactic representation as a formal feature, but it associates with specifiers of functional categories and places a restriction on arguments that occupy these positions.

We offer two kinds of evidence for the distinction between m-animacy and H-animacy: Focusing first on Blackfoot, we show that H-animate nominals are a proper subset of m-animate nominals, notably because some argument positions require an H-animate nominal. As a result, H-animate nominals have a broader distribution than nominals that are m-animate only. Looking beyond Blackfoot, we propose that while m-animacy is a language specific property, H-animacy is a universal property, which is also present in languages that lack m-animacy. That is, all languages have a more complex representation for nominals that refer to humans and other 'high animate' beings and even languages where m-animacy is absent, H-animate arguments may display distinctive properties. We review evidence from English and Spanish, to this effect, and we argue that these distinctive properties are due to the presence of an abstract H-animate feature in the syntactic representation.

The term ANIMACY is used with a certain amount of ambiguity. Sometimes ANIMACY is used to refer to a fundamental distinction between animate beings and inanimate objects. Elsewhere, ANIMACY is used to refer to a distinction between human (and humanoid) beings and other animals and objects, as in Figure 1.[1]



[1] Humanoid beings include spirits, gods, pets and anthropomorphized objects capable of holding mental states necessary to act intentionally as agents or react psychologically as experiencers.

Figure 1 two notions of animacy

We show that the conceptual category human(oid) is special in that it is visible to the narrow syntax; other conceptual categories, such as animal or biological organism are not visible to the narrow syntax, though they may the basis for morphological classification. We speculate that the reason for this is that H-animates are the only type of arguments that may bear event roles (AGENT, UNDERGOER) as well as speech act roles (SPEAKER, ADDRESSEE); other types of arguments lack this capacity.

The paper is organized as follows. In section 2 we discuss the empirical differences between m-animates and H-animates in Blackfoot. In section 3, we analyze m-animacy as a head feature associated with nominal inner Aspect. In section 4 we argue that H-animacy is a property of arguments. In section 5 we discuss evidence for our proposal that goes beyond Blackfoot. And in section 6, we conclude.

2 Empirical differences between m-animates and H-animates

In this section we show that the grammar of Blackfoot formally represents both animacy and humanness. However, we also show that these two notions serve very different purposes. Animacy is a formal morpho-syntactic feature that plays a role in agreement; humanness is a restriction on arguments

2.1 Animacy as a morphological form class system

Like all Algonquian languages, Blackfoot makes a morphological distinction between animate and inanimate nouns.[2] Animate nouns and their modifiers take the plural suffix –*iksi* (1)a , whereas inanimate nouns and their modifiers take the suffix -*istsi* (1)b.[3]

(1) a. *Omiksi sááhkomaapiks ííksspitaayaawa*.
om-**iksi** saahkomaapi-**iksi** iik-sspitaa-yi-aawa
DEM-PL boy-PL INTNS-be.tall.AI-PL-3PL.PRN

[2] Blackfoot is unlike its sister languages in that the most reliable diagnostic of noun classification is the form of the plural (rather than the singular) suffix that appears on the noun itself, and on any DP internal modifiers. See Section 3.2 below for discussion.

[3] The set of modifiers includes demonstratives, numerals and relative clauses (cf. Frantz 2009, Johansson 2011, Bliss 2013, Kim & Ritter 2014). Plural marking does not appear on adjectives because Blackfoot lacks this category. Rather, adjectival notions are either expressed as verbs (ia) or as noun stem internal modifiers (ib).

(i) a. *sspii/sspiimi*
'be.tall (predicated of inanimate/animate subject DP)'
Frantz & Russell 1995: 227

b. *pok-awó'taan-istsi*
little shield-in.pl
'little shields' Frantz & Russell 1995: 16

'Those boys are tall.'

b. *Omistsi náápioyists ííksspiiyaawa.*
om-**istsi** naapioyis-**istsi** iik-sspii-yi-aawa
DEM-PL house-PL INTNS-be.tall.AI-PL-3PL.PRN
'Those houses are tall.'

Bliss 2013: 31 (1c,2b)

The fact that the form of nouns and words of other categories that agree with them is determined in part by the noun's animacy has led a number of linguists to analyze this as a type of gender feature (e.g. Corbett 1991, Dahlstrom 1995, Darnell & Vanek 1976, Goddard 2002, Greenberg 1954, Hockett 1966, Joseph 1979). However, as shown in Table 2, consideration of the full inflectional paradigms for the two classes of nouns reveals that animacy-based form classes contrast in ways that gender systems typically do not. As shown in Table 1, the inflectional paradigms for animate and inanimate nouns differ in both content and complexity: singular animate nouns are either proximate or non-proximate (i.e., obviative), whereas singular inanimate nouns have a default non-proximate specification only.

Number	**Obviation**	**Animate**	**Inanimate**
Singular	proximate	-wa	
	non-proximate	-yi	-yi
Plural		-iksi	-istsi

Table 1: Inflectional paradigm for animate and inanimate nouns

This asymmetry between the two paradigms is reminiscent of other morphological splits that are based on the animacy hierarchy in (2).[4]

(2) human > non-human animate > inanimate

[4] Focusing specifically on common nouns, the animacy hierarchy is generally assumed to distinguish at least between the three lexical semantic classes listed in (2). However, as originally formulated in Silverstein (1976), the animacy hierarchy is normally extended to include other types of nominals, notably personal pronouns and proper names, as shown in (i).

(i) 1st/2nd person pronouns > 3rd person pronouns > proper names > human common Ns > nonhuman animate common Ns > inanimate common Ns

(Dixon 1979: 85, as cited in Croft 2003: 130)

Thus, it is unsurprising that in Blackfoot, both pronouns and proper names pattern with human and animate common nouns (Bliss 2005, Frantz 2009).

For example, in the typological literature, the animacy hierarchy is intended to capture the fact that plural marking in different languages is only possible, or only obligatory for animate nouns.

Now, if the facts in Table 1 were a reflex of this animacy hierarchy, then we might expect the availability of proximate *–wa* to be restricted to human or animate nouns. However, a survey of the lexical semantic classes of nouns in each of the morphological classes fails to bear out this prediction, as illustrated in Table 2.

Semantic Class	**Animate Ns**		**Inanimate Ns**	
Human	ninaa	'man'	N/A	
Animal	imitáá	'dog'		
Spirits	apistooki	'God, Creator'		
Things that roll	áinaka'si	'wagon'		
Metal objects	iitáisskimao'p	'steel sharpener'		
Other artefacts	iihtáisinaakio'p	'camera'	iihtáisinaakio'p	'pencil'
Cloth objects	atsis	'trousers/leggings'	ootáán	'leggings'
bodyparts	mottoksis	'knee'	mohkát	'leg/foot'
plants	siikokiína	'aspen tree'	siikokiína siikokiínis	'aspen branch' 'birch tree'
berries	mi'ksiníttsiim	'buffalo berry'	otohtoksiin	'raspberry'
periods of time	piitaiki'somm	'February (= eagle moon)'	pákkii'pistsi	'August (= when choke cherries ripen')'
Locations	N/A		miistak	'mountain'
abstract concepts			ipapok'itsimaan	'favorite activity'
numbers			iksikkaaa'si	'million'

Table 2 Lexical semantic classes of animate and inanimate nouns

As expected, the animate class includes all nouns that denote humans and animals, as well as spirits and deities. Together these nouns comprise a lexical semantic class that denotes entities that are variously referred to as mental state holders, rational or sentient beings (e.g. Reinhart 2002, Corbett 1991, Tenny 2006 a.o.). Significantly, though, the animate class also includes all nouns that denote objects that roll, as well as metal objects and a seemingly random assortment of other nouns that denote inanimate objects. These are obviously not mental state holders, so why are they classified as animate?

Psychological research shows that "infants distinguish between inanimate objects and animates, namely humans, in important ways. For example, they recognize that humans are self-propelled while inanimate objects move only after contact with another object," (Kuhlmeyer, Bloom & Wynn 2004: 9). Arguably, then, there might be a cognitive motivation for the animate classification of objects that roll since, like humans and other animate beings, they are potentially *animated*, i.e. able to move. Metal objects might be classified as animate because they are man-made. However, this kind of rationale is unavailable for nouns that denote berries, body parts and items of clothing. Any attempt of rationalizing their animacy is doomed in light of the fact these classes of nouns are sometimes animate and sometimes inanimate. In this respect, Blackfoot is a typical Algonquian language, as is evident from Bloomfield's (1946: 94) description of the facts: *"Nouns are in two [...] classes, inanimate and animate; the latter includes all persons, animals, spirits, and large trees, and some other objects such as tobacco, maize, apple, raspberry (but not strawberry), calf of leg (but not thigh), stomach, spittle, feather, bird's tail, horn, kettle, pipe for smoking, snowshoe.*"

Thus, while there is semantic motivation for the classification of some nouns as animate or inanimate nouns, it is impossible to predict the form class of all nouns in Blackfoot, or any other Algonquian language, based solely on their meanings.[5] What this means is that the full range of facts cannot be adequately captured as an animacy hierarchy effect. It must be treated as a morpho-syntactic property, rather than a semantic one. Regardless of their lexical semantic classification, all animate nouns belong to one inflectional paradigm; all inanimate nouns belong to another. Moreover, whether a noun is animate or inanimate is reflected in the form of modifying demonstratives, numerals and relative clauses. We conclude, then, that animacy in Blackfoot is a formal morpho-syntactic feature of nouns and their modifiers.

2.2 Only H-animate DPs are selectable

In the previous subsection we have established that Blackfoot animate nouns belong to the same morphological paradigm, regardless of whether they denote animate beings or inanimate objects. We now present evidence that Blackfoot distinguishes DP arguments that denote humans, animals and spirits from those that denote inanimate objects. Henceforth, we will use the term H-animate for this subclass of human and humanoid DPs.

Previous research on Blackfoot has determined that only H-animate DPs can (a) be subjects of transitive verbs (Frantz 2009); (b) be added to the structure as non-core objects (Bliss 2009); (c) trigger inverse marking on the verb (Bliss 2005); and (d) co-occur with PP goals of directed motion verbs (Kim to appear). We propose that in each of these contexts, the H-animate DP is an argument of a functional head. We interpret this cluster of facts as evidence that H-animate DPs have some property that is visible for

[5] See Wiltschko & Ritter (2014) for a quantitative analysis of noun classification in Frantz & Russell's (1995) *Blackfoot Dictionary of Stems, Roots, and Affixes* that is consistent with the generalizations discussed here.

argument selection. In the remainder of this section we briefly review the facts and discuss the functional categories responsible for this set of constraints.

2.2.1 Only H-animate DPs can be subjects of transitive *v*

In Blackfoot, only H-animate DPs can function as external arguments of transitive verbs. Consequently, morpho-syntactically inanimate DPs and animate DPs that denote inanimate objects, such as instrumental subjects, as in (3), are impossible. In order to express the proposition in (3), Speakers of Blackfoot must use an impersonal construction, as illustrated in (4) (Frantz 2009). Observe that the prefix *iiht-* has been added to this example to license the instrumental adjunct. There are also differences in the form of the direct/inverse marking and the third person agreement on the verb in the two examples: In (3), the direct/inverse marker *–m* signals that a third person animate subject is acting on an inanimate object, and the suffix *-wa* on the verb constitutes number agreement with the singular subject. In (4), on the other hand, the direct/inverse marker is *-'p,* indicating that a non-specific subject is acting on an inanimate object, and in this context, the number suffix *-yi* signals agreement with the plural object.

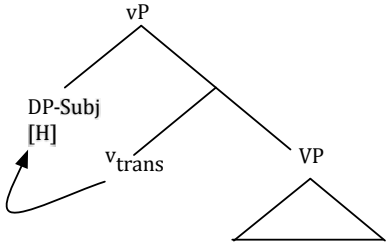
(3) **oma* *isttoána* *ikahksínima* *annistsi* *ikkstsíksiistsi*
om-wa isttoán-wa ikahksíni-m-wa ann-istsi ikkstsiksi-istsi
DEM-3PROX.AN knife-3PROX.AN cut.ti-3:IN.3SG DEM-IN.PL branch-IN.PL
'That knife cut off those branches.'

(4) *oma* *isttoána* *iihtsikahksínii'pi* *annists* *ikkstsíksiistsi*
om-wa isttoán-wa iiht-ikahksíni-'p-yi ann-istsi ikkstsiksi-istsi
DEM-3PROX.AN knife 3PROX.AN INST-cut.TI-X:IN-IN.PL DEM-IN.PL branch-IN.PL
'By means of the knife [somebody] cut off those branches.'

Frantz 2009: 46

We interpret these facts as evidence that transitive *v,* the functional category that selects the external argument of the transitive verb, requires an H-animate DP, as in (5).

(5) Spec*v*P requires H-animate arguments



2.2.2 Only H-animate DPs can license direct/inverse marking

DIRECT/INVERSE markers only occur on transitive verbs in Blackfoot. A DIRECT marker indicates that the verb agreement prefix is specified for features of the subject; an INVERSE

marker indicates that the verb agreement prefix is specified for features of the object, as schematized below.

(6) **Subj** Agr-V-DIRECT Obj Subj Agr-V-INVERSE **Obj**

The choice between direct and inverse marking in Algonquian languages has traditionally been described in terms of the animacy hierarchy, augmented to distinguish among third person arguments that bear proximate or obviative marking. The former indicates that the referent is discourse salient while the latter indicates that it is not.

(7) Direct/Inverse Hierarchy - original version
1 / 2 > 3PROXIMATE > 3OBVIATIVE > 3INANIMATE

However, on the basis of examples like (8), Bliss (2005) demonstrates that sentient arguments outrank non-sentient ones, regardless of their obviation status.

(8)	*Ana*	*pokóna*	***[ani***	***otaiispaapiksistii]***	*máóhksinaa*
	An-(w)a	pokon-(w)a	an-(y)i	ot-a(y)iispaapiksist-(y)ii	maohksinaa
	DEM-PROX	ball-PROX	DEM -OBV	3-DUR-throw-DIR/*INV	be.red

'The ball that he is bouncing is red.'

Bliss 2005: 34 (30)

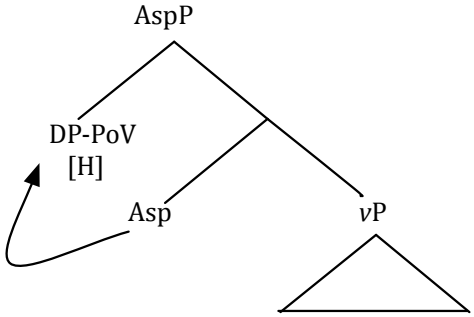
In this example, the embedded clause ('he his bouncing it') has an obviative argument ('he') acting on a proximate argument ('the ball'). According to the hierarchy in (7), we expect to find a direct marker on the transitive verb when in fact we find an inverse marker. The reason, for this, according to Bliss 2005, is that the obviative argument is both animate and sentient (H-animate in our terms) and thus outranks 'the ball', which is animate, but not sentient. In other words, what this example demonstrates is that direct/inverse morphology is governed by sentience, and not obviation. In light of these facts, Bliss 2005 revises the animacy hierarchy which governs direct/inverse marking as in (9).

(9) Direct/Inverse Hierarchy – modified version
1 / 2 > 3SENTIENT > 3NON-SENTIENT

In the previous subsection we established that external arguments (subjects) of transitive verbs must be H-animate. In this subsection, we have seen that direct marking is only licensed by an H-animate subject. Similarly, Bliss's findings indicate that inverse marking can only be licensed by an H-animate object. Hence, both direct and inverse marking are sensitive to H-animates. And consequently, the argument selected by the direct/inverse marker is necessarily H-animate just like the argument selected by transitive *v*.

Following Ritter & Wiltschko (2009), we assume that direct/inverse markers instantiate Viewpoint Aspect in Blackfoot – the category that Bliss labels Point of View. Like *v*, Viewpoint Aspect, requires an H-animate argument in its specifier position.

(10) SpecAspP requires H-animate arguments



This restriction is perhaps unsurprising, given that only sentient beings can hold a point of view. However, not all environments that require H-animate arguments are semantically motivated in this way. We turn to such an environment in the next subsection.

2.2.3 ONLY H-animate nouns can be non-core objects

As observed by Bliss 2009, non-core arguments constitute a third type of argument that has to be H-animate. These are arguments, such as benefactives, that function as the grammatical object of a transitive verb, and are licensed by the addition of a benefactive or other applicative morpheme to the verb stem. This is illustrated by the minimal pair in (11) and (12). Observe that when the benefactive is H-animate, as in (11), it functions as the grammatical object of the verb, as is evident from the fact that the 3rd person agreement suffix agrees with the singular benefactive object (*ana issitsimann* 'the baby'), rather than the plural-marked logical object (*amiksi si'káániksi* 'the blankets'). Conversely, when the benefactive is a not H-animate, such as *ani ákssin* '(for) the bed' in (12), it cannot function as the grammatical object. Rather, this type of goal is realized as an adjunct, licensed by the addition of a purposive prefix (*–iht)* on the verb. In this context, the logical object is the grammatical object, as indicated by the plural agreement on the transitive verb.

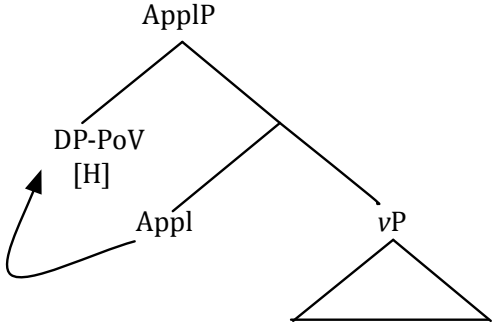
(11) *Nitááhkanomoawa* ***ana*** ***issitsimann*** *amiksi* *si'káániksi*
nit-(w)aahkan-omo-a-wa an-(w)a issitsimaan am-iksi si'kaan-iksi
1-sew-TA.BEN-1:3-PR DEM-PR baby DEM-PL blanket-PL
'I sewed the blankets for **the baby**.'

(12) *Nihtááhkanayi* ***amiksi*** ***si'káániksi*** *ani ákssin*
n-iht-aahkan(i)-a-**yi** am-iksi si'kaan-iksi an-(y)i*akssin*
1-PRPS-sew.TA-1:3- PL DEM - PL blanket- PL DEM - PL bed
'I sewed **the blankets** for the bed.'

Bliss 2009 (ex. 12)

Pylkaenen (2008) argues that benefactives are licensed in the specifier position of the functional head APPL. Based on the examples in (11)-(12), we can conclude that in Blackfoot the specifier position of ApplP is restricted to H-animate benefactives.

(13) SpecApplP requires H-animate arguments



2.2.4 ONLY H-animate nouns are can be themes of motion Vs with PP path/goal

Kim (2014) identifies a fourth context restricted to H-animate DPs, namely themes of directed motion verbs with a prepositional object. Unsurprisingly, directed motion verbs without a path or goal object are acceptable with both H-animate and non-H animate theme subject, as shown in (14). However, if a path or goal object is added to the predicate, then the subject must be H-animate, as illustrated in (15).

(14) a. *yaak-sainnis-oo-wa*
FUT-down-go.AI-3SG
'S/he will go downward.'

b. *ana* *ainak'si* *yaak-itsk-oo-wa*
DEM wagon FUT-past-go. AI-3SG
'That wagon will pass by.'

Kim 2014, ex. 20

(15) a. *ana* *akiikoan* *yaak-oht-oo-wa* ***ni*** ***niitaayi***
DEM girl FUT-route-go. AI-3SG DEM river
'That girl will go along the river.'

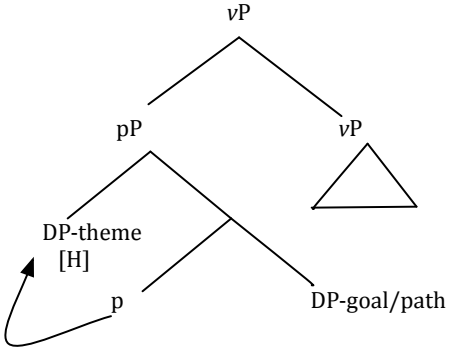
b. **ana* *ainak'si* *yaak-oht-oo-wa* ***ni*** ***niitaayi***
DEM wagon FUT-route-go. AI-3SG DEM river
'That wagon will go along the river.'

Kim 2014, ex.19

In Blackfoot verbs of this class always contain a prefix that specifies the direction or path of motion. Frantz (2009) calls these prefixes LINKERS when they occur with a path/goal

object, as in (15), and NON-LINKERS when there is no such object, as in (14). Kim 2014 argues that linkers belong to the functional category *p* ('little p'.), whereas non-linkers are lexical Ps. She develops an analysis in which the path/goal object is the complement of the linker element, and together they form a *v*P adjunct. Suppose that these *p*P adjuncts also include a theme argument (pro), in Spec*p*. The contrast in (15) suggests that this theme argument must be H-animate. Thus, *p*, like other functional heads (i.e. *v*, PoV, Appl), requires an H-animate external argument.

(16) Spec*p*P requires H-animate arguments



Note that just as with non-core arguments, the requirement for H-animates in this context is not straightforwardly understood as a semantic restriction. Rather it appears to be a configurational property of Blackfoot that all specifiers of functional categories require an H-animate argument.

2.3 Summary

We have now seen that all nouns that form their plural with *–iksi* belong to the [+animate] form class. However, not all [+animate] DPs have the same grammatical distribution. As summarized in Table 3, only H-animate DPs, i.e. those that denote human or humanoid individuals, can be external arguments of functional heads. The residue of the [+animate] form class, like the [-animate] DPs, cannot serve as arguments of such heads.

Class	Nominal inflection	May occupy SpecFP
H-animate Ns	animate	yes
other animate Ns	animate	no
inanimate Ns	inanimate	no

Table 3 Blackfoot Noun Classes – morphology and selection

Animacy hierarchy approaches implicitly assume that humanness and animacy are different points on a single scale (Dixon 1979). Others have suggested that what we are calling H-animacy is encyclopedic knowledge, that is, it is outside the narrow syntax

(Folli & Harley 2008). The evidence discussed in this section suggests that neither of these claims is quite right - the two kinds of animacy play different roles in the grammar, and both must be formally represented in the narrow syntax of Blackfoot.

In the remainder of this paper, we propose a formal representation of the two kinds of animacy. In particular, we argue in section 3 that m-animacy is best analyzed as a bivalent morpho-syntactic feature, which gives rise to two form classes of nouns in Blackfoot. In contrast H-animacy, is a property that underlies semantic selection of arguments. We argue in section 4 that it is best analyzed as a restriction on the semantic role associated with an abstract argument in the specifier of functional heads.

3 Analysis Part I: morphological animacy is a head-feature

Following Wiltschko (2012), we assume that the morpho-syntactic feature [±animate] associates with inner Aspect, the functional projection that is responsible for nominal classification. In order to account for the differences in proximate/obviative marking described in section 2.1, we propose that animate noun phrases are structurally more complex than inanimate ones. More specifically, only animate noun phrases have a DP layer, whose head associates with the morpho-syntactic feature [±proximate]. Thus, we assume that nominal inflection is distributed across different positions in the syntactic tree. We develop our proposal as follows. We start by introducing our proposal and the background assumptions regarding the functional architecture of nominal arguments (section 3.1). We then discuss in detail the distribution of the pieces of morphology associated with nominal arguments in Blackfoot: in section 3.2 we discuss the association of animacy (in the form of plural marking) with inner Aspect; in section 3.3 we discuss the association of proximate *wa* with D; and in section 3.4 we discuss the association of the singular marker *yi* with Num. In section 3.5 we summarize.

3.1 The distribution of nominal inflection along the spine

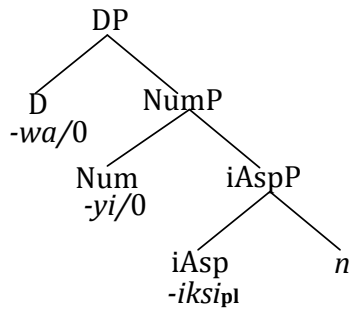
Recall from section 2.1 that there exists an asymmetry in the inflectional paradigms of animate and inanimate nouns. As shown in Table 1 repeated below, inflectional suffixes that combine with animate nouns are specified for animacy and plural number, or for singular number and proximate/non-proximate status. In contrast, inflectional suffixes that combine with inanimate nouns are specified for animacy and plural number or for singular number, but not for proximate/non-proximate status.

Number	**Obviation**	**Animate**	**Inanimate**
Singular	proximate	-wa	
	(non-proximate)	-yi	-yi
Plural		-iksi	-istsi

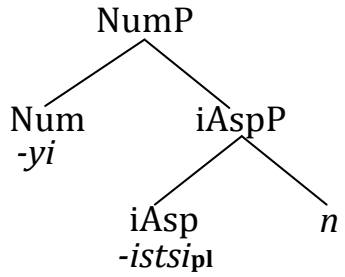
Table 1: Inflectional paradigm for animate and inanimate nouns

Thus, both animate and inanimate nouns are specified for animacy and singular/plural number. However, animate nouns differ from inanimate ones in that they are additionally specified for proximate/non-proximate. Our goal in this section is to explore the significance of this asymmetry. We develop a model that is designed to account for the manner in which these contrasts and their exponents are deployed in the nominal syntax. In particular, we hypothesize that each of the affixes is located in a different functional head, which gives rise to a difference in structural complexity for the two classes of noun phase, as shown in (17):

(17) a. Animate noun phrase



b. Inanimate noun phrase

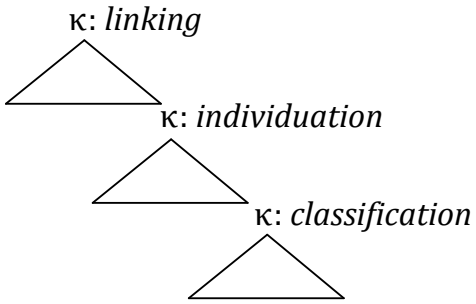


The structures in allow us to understand the different patterns of contrast: Consider first the animate noun phrase in (17)a. The suffix *-wa* is a proximate marker. However, *-yi* is not non-proximate, but rather singular. When it is part of an animate DP, it just appears to be non-proximate because it can only be spelled out in the context of the zero non-proximate in D. Turning to the inanimate noun phrase in (17)b, *-yi* is not interpreted as non-proximate marking because there is no DP layer, which would host the zero non-proximate.

In addition, the structures in (17) are also conceptually motivated. That is, observed cross-linguistic uniformity of functions points to the existence of a universal syntactic spine consisting of a set of hierarchically organized functional layers, each with a distinct interpretive function. Thus, we assume following Ritter & Wiltschko (2014) and Wiltschko (2014) in the assumption that universal grammar provides a set of

hierarchically-organized, abstract functional categories (κ) that are defined by their interpretive function, as schematized in (18). For the present purpose we focus on the following three categories: Inner Aspect (iAsp), which is responsible for classification, Number (Num), which is responsible for individuation, and Determiner (D), the position where discourse reference is established.

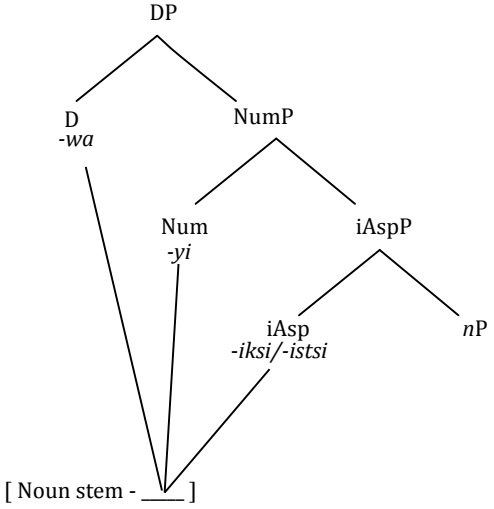
(18) Interpretive functions of the universal spine



Cross-linguistic variation in syntactic categories arises because the heads of these abstract categories associate with some language specific material, such as a morpheme and/or a formal feature.

Finally, a crucial background assumption is that the mapping of syntax to morphology is many to one. In previous work (Bliss, Ritter & Wiltschko, to appear) we argued that different verbal inflectional morphemes associate with clausal functional categories but compete for a single slot in the verbal morphological template. The evidence considered in the present paper indicates that this is also the case for nominal inflection. In other words, although the various nominal inflectional affixes associate with different functional categories, they all compete for a single slot in the noun's morphological template, as schematized in (19).

(19) The distribution of nominal inflectional morphemes



In the remainder of this section, we provide independent evidence for this proposal.

3.2 Animacy (and plural marking) associates with Inner Aspect

Unlike –*wa* and –*yi*, the suffixes –*iksi* and –*istsi*, are specified for two kinds of features – animacy and number. We begin by summarizing Bliss's (2013) argument that these suffixes are associated with a lower functional category than either –*wa* or –*yi*, and Kim & Ritter's (2014) evidence that animacy rather than number is the head feature of this functional category. We then argue that this functional category is Inner Aspect, based on evidence first discussed by Wiltschko (2012) and Ritter (2014).

Some morphologically intransitive verbs in Blackfoot optionally take direct objects (Taylor 1969, Frantz 1970, 2009). However, as exemplified by the contrast between (20)a,b and (20)c,d below, there are strict constraints on the form of these objects: they may be either bare nouns or plural nouns, but not –*wa* or –*yi* marked nouns.[6]

(20) a. **$V_{intrans}$ + N**
Nitáíkskimaa ponoká.
nit-a-ikskimaa ponoka
1-IMPF-hunt.AI elk
'I am hunting elk / an elk.'

b. **$V_{intrans}$ + N-{iksi/istsi}**
Náihkiitaawa napayínists.
na-ihkitaa-wa napayin-istsi
EVID-bake.AI-PROX bread-PL
'S/he baked breads.'

c. ***$V_{intrans}$ + N-wa**
**Nitáíkskimaa ponokáwa.*
nit-a-ikskimaa ponoka-wa
1-IMPF-hunt.AI elk-PROX
intended: 'I am hunting an/the elk (prox).'

d. ***$V_{intrans}$ + N-yi**
**Nitáíkskimaa ponokáyi.*
nit-a-ikskimaa ponoka-yi
1-IMPF-hunt.AI elk-OBV
intended: 'I am hunting an/the elk (obv).'

Bliss (2013) interprets these facts as evidence that formally intransitive verbs select a nominal constituent that is smaller than a full DP. The reason that only plural markers are available in small nominals is that they associate with one of the categories present in a small nominal; –*wa* and –*yi,* on the other hand, associate with higher functional categories. Hence we have evidence that plural markers associate with the spine in a position lower than proximate/obviative marking.

However, the contrast in (20) only allows us to draw conclusions about the relative position of *-istsi/-iksi* relative to the other nominal suffixes. In order to determine the absolute position of these suffixes we need to consider other kinds of evidence. However, due to the fact that all nominal inflectional markers map onto the

[6] Descriptive grammars of Blackfoot refer to this class of verbs as PSEUDO-INTRANSITIVE (Taylor 1969) or PARATRANSITIVE (Frantz 2009). Their objects must be non-specific, and consequently they are incompatible with demonstrative determiners. Bliss (2013) shows that the semantic and syntactic restrictions on these arguments are due to the fact that they are pseudo-incorporated into the verb.

same position in the morphological template, we cannot develop arguments based on morpheme order. Consequently, we must appeal to their interpretive function.

Significantly *-istsi/-iksi* are specified for both number and animacy, unlike the singular suffix-*yi* (and, as we will argue below, also unlike the proximate suffix –*wa*). Following Wiltschko 2009, we assume that only one of the features of these plural markers is in fact a head feature; the other is a modifying feature. The two types of features can be distinguished on the basis of a difference in valency: head features are bivalent whereas modifying features are monovalent. This difference has interpretive consequences. The absence of an overt morpheme with a head feature [+F] is interpreted as the presence of a null morpheme with the head feature [-F]. In contrast, the absence of an overt morpheme with a modifying feature [F] is interpreted as the lack of specification for [F].

Applying Wiltschko's 2009 diagnostic to the Blackfoot plural markers, Kim & Ritter (2014) demonstrate that [plural] behaves like a modifying feature, whereas animacy behaves like a head feature.[7] Evidence for this comes from the following considerations. Small nominal objects that contain a plural-marked noun always refer to plural individuals whereas small nominal objects with a bare unmarked noun can refer to singular or plural individuals (or to kinds), as in (20)a,b. This interpretive contrast indicates that bare nouns lack a number specification altogether, whereas plural-marking contains a monovalent feature [plural]. The fact that *–iksi* only appears with animate nouns and *–istsi* with inanimate ones suggests that these markers are additionally specified for a bivalent feature [± animate]. The fact that all nouns, including bare nouns are specified either as [+animate] or [-animate], indicates that animacy is not only bivalent, but also obligatory. In other words, it is the head feature associated with the functional category.

Having established that [±animate] and [plural] are associated with the same functional category, and that this category appears in a relatively low position in the nominal spine, we turn to the question of the identity of the functional category. Following Wiltschko (2012), we assume that the interpretive function of [±animate] in Blackfoot is lexical aspectual classification, and that it associates with the functional category Inner Aspect (iAsp) (in the sense of Travis 2010).

This analysis is motivated by a number of considerations. First, as inner aspect, [±animate] should play a role in the classification of verbs as well as nouns, and this is indeed the case. It is a striking fact about all Algonquian languages that animacy features underlie the lexical classification of both nouns and verbs. This is reflected in Bloomfield's (1946) classification system that divides verbs into four lexical classes, which differ in transitivity and animacy of a designated argument (Table 4). More recently, it has been proposed, that, at least for Blackfoot, these verb classes constitute the verbal *Aktionsarten* (cf. Louie 2008, Ritter & Rosen 2010).

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[7] This constitutes a departure from the view that plural marking in Blackfoot is of the category NUM (e.g. Bliss 2013, Ritter to appear, Wiltschko 2012). Bliss (2013) argues that what we are calling small nominal objects are pseudo-incorporated into the AI verb, and that such objects are bare NumPs if plural-marked and bare NPs otherwise. The approach taken here permits a more elegant characterization of pseudo-incorporated objects - they are uniformly bare iAspPs .

Verb Class	Classifying Argument	Animacy
transitive animate (TA)	object	animate
transitive inanimate (TI)	object	inanimate
intransitive animate (AI)	subject	animate
intransitive inanimate (II)	subject	inanimate

Table 4 Algonquian Verb classes

If iAsp associates with the head feature [±animate] in Blackfoot, then it cannot simultaneously associate with other head features, such as [± bounded]. According to Wiltschko, [± bounded] is the feature that associates with Inner Aspect in languages like English, which distinguish between telic and atelic verbs, on the one hand, and count and mass nouns, on the other. See Ritter & Rosen 2010 for arguments that Blackfoot lacks a telic/atelic distinction and Wiltschko 2012 for arguments that it lacks a count/mass distinction.

Finally, it is a genetically and typologically rare property of Blackfoot that plural marking is more highly specified than singular marking. Our analysis of *-istsi/-iksi* as [± animate] markers of the category iAsp with a modifying [plural] feature provides some insight into this property.

3.3 Proximate *–wa* associates with D

Next we consider the Blackfoot proximate marker *-wa*. Although, like plural marking, *–wa* is sensitive to animacy, it does not associate with iAsp. This can be deduced from its distribution and interpretation. Regarding distribution, *-wa* does not occur in small nominal complements of formally intransitive verbs. As discussed in the previous section, this constitutes evidence of the relative position of *–wa* compared to the plural suffixes. Since small nominals contain iAspP, we are led to conclude that *-wa* associates with a category that is higher than iAspP.

Regarding its interpretive function, *-wa* marks a noun phrase as discourse salient, though the precise discourse role is subject to debate. For example, Genee 2009 proposes that *–wa* marking signals topicality while Bliss 2013 argues that it serves as a reference tracking device. Frantz (2009:13) uses the term MAJOR THIRD PERSON, and describes the function of *–wa* marking as follows: "*When two or more nouns of animate gender occur in the same sentence, only one of them can be what we will call* ***major third person;*** *the others, if particular in reference, must be demoted to* ***minor third person****.*"

Thus, *-wa* identifies a particular referent, based on its role in the discourse, and this is a function we associate with D. The constraint that Frantz describes means that there may be at most one *–wa* marked 3rd person DP in a sentence, and that this DP is both morphologically animate and pragmatically salient. The fact that all animate DPs are either proximate or non-proximate indicates that D is associated with a bivalent head

feature: [+proximate] D is realized as –*wa*, and [-proximate] D is realized as a null morpheme.[8]

Significantly, morphologically inanimate nouns are never proximate, and hence are never inflected with –*wa*. Why should this be the case? We cannot appeal to a semantic difference between because all animate nouns can be –*wa* marked, including those that denote inanimate objects, as shown in (8) repeated below as (21). Here the morphologically animate noun *ball* denotes an inanimate object. Nevertheless it is suffixed with the proximate marker *wa.*

(21)	*Ana*	*pokóna*	***[ani***	***otaiispaapiksistii]***	*máóhksinaa*
	An-(w)a	pokon-(w)a	an-(y)i	ot-a(y)iispaapiksist-(y)ii	maohksinaa
	DEM-PROX	ball-PROX	DEM -OBV	3-DUR-throw-DIR/*INV	be.red

'The ball that he is bouncing is red.'

Bliss 2005: 34 (30)

This suggests that the explanation must be morpho-syntactic in nature. We propose that inanimate nouns cannot be –*wa* marked because the phrases they project lack a DP layer. Consequently, if –*wa* always associates with D, then -*wa* will not be available simply because inanimate noun phrases are never DPs. Moreover, if –*wa* serves to signal topicality (Genee 2009) or some other kind of discourse salience, then this straightforwardly explains why inanimate nouns never bear this information structure role.[9]

3.4 Singular –*yi* associates with Num

Finally, we consider the remaining nominal suffix, –*yi*. According to Frantz (2009), there are two homophonous –*yi* suffixes: (i) an obviative suffix that only appears on singular, non-proximate, animate nouns and (ii) a singular suffix that only appears on non-plural inanimate nouns. However, we propose that in fact there is only one suffix –*yi*, and that it is a singular suffix that associates with the functional category Num.[10] Our reasoning is as

[8] We use the term non-proximate, rather than Frantz's term, obviative to describe [-proximate] animate nominals, and motivate this terminological change below.

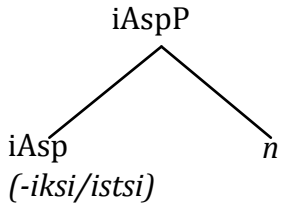
[9] In section 4.3 we discuss an exception to this generalization: In fictional contexts, inanimate noun phrases can be used as subjects of experiencer and agentive predicates. It appears that in such contexts the inanimate noun phrase refers to an animated object or a humanoid being. This is structurally represented with an added DP layer.

[10] See Piriyawiboon (2007, 2008) for a proposal that is similar in spirit, but different in execution. In particular, she analyzes the so-called obviative suffix in Nishnaabemwin, a variety of Ojibwe, an Algonquian language of Southern Ontario, Canada. As in Blackfoot, the suffix that marks obviative on animate nouns has the same shape as the suffix that is used as a number marker on inanimate nouns – both are realized as – *a(n*). Piriyawiboon argues that there is only one suffix –*a(n)*. However, Nishnaabemwin differs from Blackfoot in that the suffix in question marks *both* singular and plural animate nouns as obviative, and it marks inanimate nouns as plural, rather than singular.

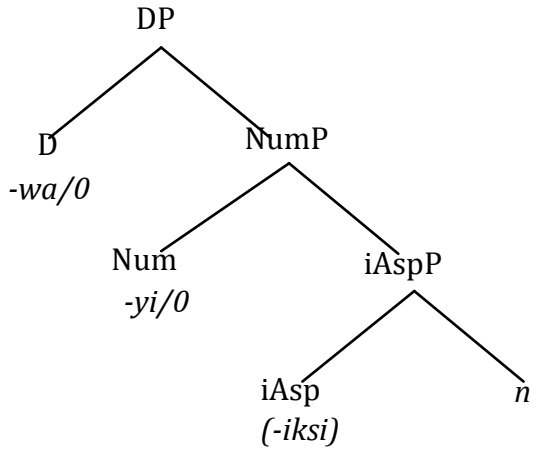
follows. First there are good reasons to rule out the possibility that *–yi* associates with other functional heads in the noun phrase. In particular, *-yi* cannot associate with D because it appears on inanimate nouns, and by hypothesis, inanimates do not have a DP layer. Similarly, *-yi* cannot associate with iAsp because it cannot appear in small nominals, which are iAspPs.

Second, since *–yi* is an overt marker of singular number, we assume that its formal feature content is [+singular], which is compatible with the interpretive function of the head Num.[11] This leads to the prediction that when *–yi* is absent, Num associates with [-singular], expressing a contrast between singular and non-singular nominals. This prediction is borne out. Earlier we saw that, at the level of iAsp, overtly marked plural nouns contrast with number neutral bare nouns. Now observe that at the level of NumP, overtly marked plural nouns contrast with overtly marked singular ones. Kim and Ritter (2014) attribute these different contrasts to the fact that both [-singular] in Num and [plural] in iAsp give rise to a plural interpretation. As a result plural marked nouns are in fact structurally ambiguous – in the context of small nominals they are of the category iAsp, but elsewhere they are DPs if animate and NumPs if inanimate, as schematized in (22).

(22) a. Animate/Inanimate Small Nominal

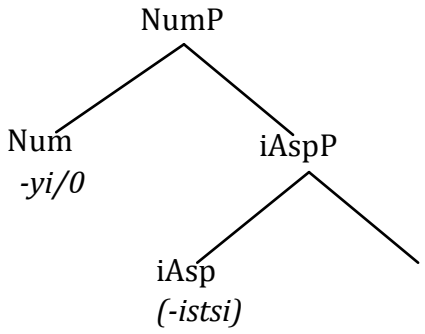


b. Animate DP



[11] On this analysis [-singular] is the unmarked value for the head feature of Num. We assume that it is spelled-out as a phonetically null morpheme, and that it co-occurs with the plural markers in iAsp.

c. Inanimate NumP



It remains to be explained why proximate, singular, animate nouns always bear the suffix –*wa*, and never –*yi*. We attribute this to the assumption that –*wa* and –*yi* compete for a single slot in the noun's morphological template, and thus are subject to a post-syntactic spell-out restriction (see section 3.1). These spell-out restrictions will also account for the fact that plural animate nouns always bear the plural animate marker –*iksi*, regardless of their proximate specification. This would suggest that the spell-out restrictions rank –*iksi* above –*wa*, and –*wa* above-*yi*. These rankings have the following results: –*wa* is spelled out in the context of –*yi*, but not –*iksi*, and–*yi* is only spelled out if it is not in competition with another overt marker.

3.5 Summary

We have argued that there are (at least) three nominal functional categories – D, Num and iAsp, and that each of the nominal inflectional suffixes associates with one of these categories. The animate (plural) suffix –*iksi* and the inanimate *(plural) suffix -istsi* both associate with *i*Asp; the singular suffix –*yi* associates with Num; and the proximate suffix –*wa* associates with D. Their distribution is based in part on differences in their availability in small nominals, and in part on the interpretive function of the different suffixes. This is summarized in table Table 5.

	D	Num	iAsp
Interpretive function	Reference	Individuation	Classification
Head feature	[± proximate]	[± singular]	[±animate]
Modifying feature	--	--	[plural]

Table 5 The distribution of features across the spine

4 Analysis Part II: H-animacy is a property of arguments

Recall that the class of animate nouns can be subdivided into those that denote humans or humanoid beings on the one hand, and inanimate beings, on the other. In particular, the former class, which we refer to as H-animates are a proper subset of the class of morphologically specified animate nouns, which we refer to as m-animates. This is illustrated in Figure 2.

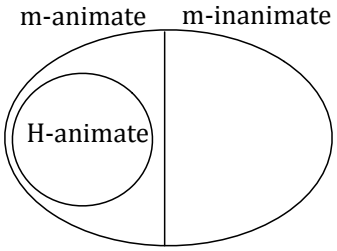


Figure 2 H-animate nouns are a subset of m-animate nouns

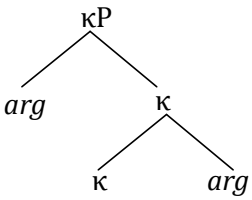
In this section we turn to the analysis of H-animacy. In particular, in order to account for the distinctive properties of H-animate DPs, we propose that they are the only class of nominals that contain an abstract argument whose referent is restricted to humans. In other words, the unique properties of H-animate DPs is not attributable to a difference in morpho-syntactic head categories or head features, but rather to the content of an argument of one of those heads.

We begin by laying out our assumptions about universals of phrase structure, and in particular the structure of noun phrases (4.1). We then introduce a formal analysis of H-animacy: we postulate an H-index, which restricts referents to humans (4.2). We then move on to discuss the relation between H-animacy and m-animacy (4.3).

4.1 Background: the universal structure of categories

We assume, following Wiltschko (2014) that universally, functional categories are transitive predicates which establish a relation between two abstract arguments as schematized in (23) (see also Speas 2010).

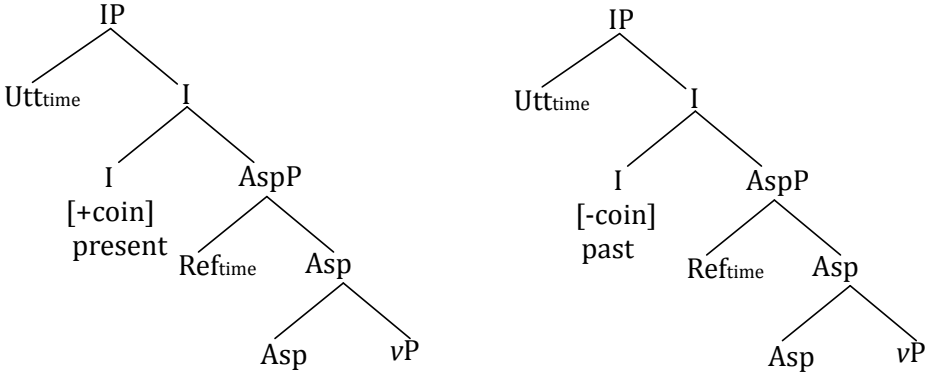
(23) The universal structure of functional categories



This idea has its roots in the work of Demirdache & Uribe-Extebarria 1997, who propose that the clausal functional heads, Tense and Aspect, are transitive predicates that relate arguments denoting times by a relation of coincidence (in the sense of Hale 1986). Based on this work, Ritter & Wiltschko 2009, 2014 (henceforth R&W) analyze present tense as a two-place predicate that asserts that the reference time (an abstract argument

associated with SpecAspP) coincides with the utterance time (an abstract argument associated with SpecTP). In contrast, past tense relates the same two abstract arguments, but asserts that they do not coincide. According to R&W's formal implementation, the functional category (in this case INFL) comes with an unvalued coincidence feature [*u*coin]. This feature is valued by the substantive content of the morphology that associates with INFL (i.e. tense morphology in English).

(24) The structure of tense



To accommodate languages in which INFL has spatial or participant-based content, R&W further argue that the abstract arguments ordered by INFL are not intrinsically temporal. Instead they suggest that these arguments are situation arguments, which contain times, places, and individuals. Depending on the substantive content a language uses to value the coincidence feature, a particular aspect of the abstract argument is highlighted. Accordingly, all clausal functional heads are analyzed as predicates that relate abstract situation arguments.[12]

Wiltschko (2014) extends this analysis to nominal functional categories. There are two differences between nominal and clausal functional categories: i) the unvalued feature in the head of the category is [coincidence] for clausal categories, but [identity] for nominal categories (cf. Baker 2005); ii) the abstract arguments are situation arguments for clausal categories and individual arguments for nominal categories. This is summarized in Table 6.

	Clausal categories	Nominal categories
Ordering feature	[coincidence]	[identity]
Abstract arguments	Situation arguments	Individual arguments

Table 6. The difference between clausal and nominal categories

The morphemes that associate with the nominal categories value the unvalued [identity] feature, thereby establishing a relation between the two abstract individual arguments. Moreover, just as there are different types of situation arguments in the various categories of the clausal spine, there are different types of individual arguments in the various categories of the nominal spine. Of particular relevance for the current discussion are the arguments associated with the nominal category D. Following Wiltschko 2014, we

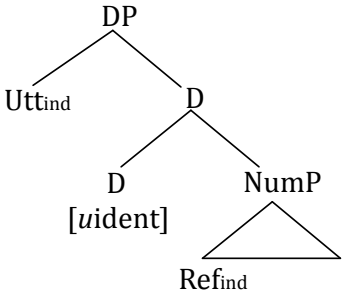
[12] See Bliss et al. and Wiltschko 2014 for a discussion of the functional category ASPECT.

assume that the abstract argument associated with the specifier of DP is an utterance individual, defined as in (25).

(25) Utt_{ind} =$_{def}$ an individual associated with a file-card at the utterance situation.[13]
Wiltschko 2014: 222 (58)

This argument is ordered relative to the reference individual associated with NumP, as illustrated in (26).

(26) The structure of DP

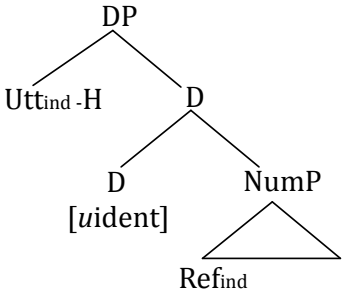


With these assumptions in place we now turn to a formal analysis of H-animacy.

4.2 H-animacy as a restriction on abstract individual arguments

While we assume that the structure in (26) is universal, we propose that restrictions may be added to the abstract arguments on a language-specific basis. In particular, to account for the observed restriction on H-animates in Blackfoot, we propose that in this language the utterance individual in SpecDP is restricted to humans (and humanoids). We implement this by associating an index H to this argument, as shown in (27).

(27) Restricting the utterance individual to humans

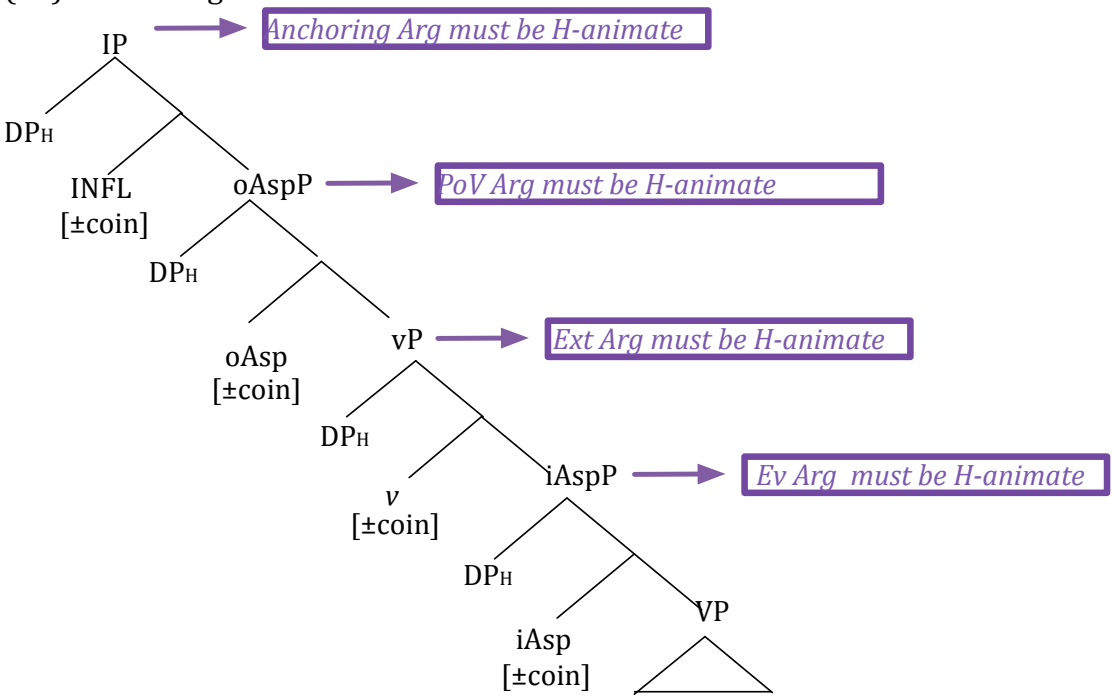


This amounts to saying that there is a restriction on the utterance individual associated with DP: it must denote a human or humanoid individual (in Blackfoot this includes animals and spirits). It is the utterance individual in SpecDP (along with its restriction) which serves as a selectable property. In particular, we have seen that in Blackfoot only

[13] The notion of file-card here is in the sense of Heim 1982.

H-animate DPs can be external arguments of clausal functional heads (see section 2). Essentially then, our proposal is that these functors select H-animate DPs as illustrated in (28).

(28) Selecting H-animates in Blackfoot

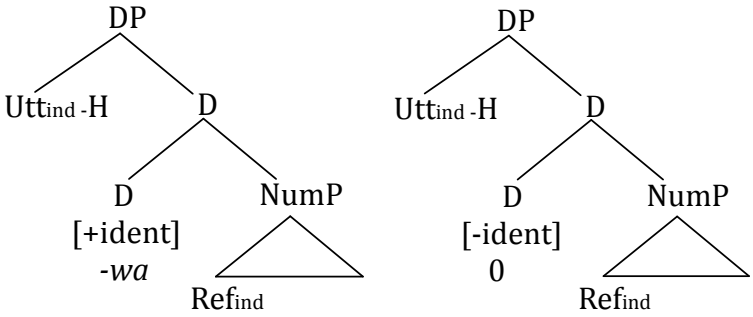


This accounts for the distribution of H-animates in Blackfoot. Unlike m-animacy, which is a property of nominal heads, H-animacy is a property of phrases. On our analysis this is implemented by means of an H-index, which is in turn associated with the abstract argument in SpecDP: the utterance individual. Since these abstract arguments are, by hypothesis, associated with specifier positions, it follows that any restriction placed on them will necessarily be a restriction on the entire phrase rather than a head. Hence, H-animacy does not display any of the distinctive properties of head-features such as triggering agreement or concord. We thus predict that there is no direct syntactic relation between m-animate nouns and H-animate arguments. Though the two notions interact with each other in predictable ways, as we now show.

4.3 The relation between H-animacy and m-animacy

As discussed in Section 3.3, we assume that in Blackfoot, the overt proximate marker–*wa* associates with the category D. Here we argue that –*wa* serves to value the unvalued identity feature as [+ident] thereby asserting that the referent is identical to an utterance individual (i.e., an individual with a file-card at the time of utterance). It contrasts with a zero morpheme, which serves to value the identity feature as [-ident] thus deriving non-proximate (i.e., obviative) arguments. This is illustrated in (29).

(29) The morpho-syntax of proximate/obviative marking



Note that the source of the H-index on the utterance individual (Utt_{ind}) is not in any way tied to morphological animacy. The animacy feature associated with iAsp (see Section 4.2) does not enter into a syntactic relation with the abstract argument in SpecDP. Instead, we assume that the presence of the H-index is purely a matter of semantic interpretation: nouns that denote humanoid referents are compatible with an H-index in SpecDP. Thus, if the referential argument (R) associated with a given noun denotes a human referent, then the utterance individual associated with the functional architecture above that noun will denote a human referent as well.

This analysis allows us to understand why humanoid nouns are a proper subset of m-animate nouns. Recall that m-animacy is a formal feature associated with inner Aspect (section 3.2). Since all nouns that denote humanoid beings are classified as [+animate] it follows that all H-animates are also [+animate]. However, it is not the case that all nouns that denote inanimate beings are classified as [-animate]. As discussed in section 2.1, some nouns that denote inanimate beings are (arbitrarily) classified as [+animate]. While such nouns still contain a DP-layer, the abstract utterance individual argument associated with that DP does not receive the H-index. That's because the presence of the H-index depends on the real world referent of the noun rather than its morphological classification. Hence it follows that H-animate nouns are a proper subset of [+animate] nouns.

Finally, unsurprisingly nouns that are classified as [-animate] can never be associated with an H-index. This is because the referent introduced by such a noun necessarily denotes an inanimate individual. Moreover, we have seen evidence that inanimate nouns lack the DP-layer and hence do not participate in proximate/obviative marking. For these reasons, inanimate nouns, just like animate nouns that do not denote humanoid referents, can never appear in the specifier position of functional categories, which is in turn restricted to DPs with an H-index on their utterance individual arguments.

There is, however, one exception to the generalization that H-animates are a proper subset of m-animates. In particular, in descriptions of fictional worlds where inanimate objects can think, feel and act, we find that even nouns that are classified as [-animate] can have the distribution of H-animate arguments. In this context, consider the example in (30).

(30) *ámostsi* *pisátssaisskiistsi* *iikí'taamssiiyaawa*

amo-**(i)stsi** pisatssaisski-**istsi** iik-i'taam-ssi-y(i)-(y)aawa
this-**IN.PL** flower(in)-**IN.PL** very-happy-be.**AI**-pl-pron
'These flowers are happy.'

Here, the verb 'be happy', which is normally predicated of an H-animate subject, takes as its subject an argument containing an inanimate noun. Note crucially that the noun remains classified as [-animate] as evidenced by the fact that the noun is suffixed by the inanimate plural marker *–istsi.* We treat this as a case of discourse determined H-indexation, i.e., an instance of coercion. That is, while H-animacy is typically determined by the referent of the noun, it may also be exceptionally determined contextually. As long as the referent of the DP is considered to be a mental state holder the abstract argument will be associated with the H-index, even if this is not compatible with the typical referent of the noun contained in the phrase. This is further evidence for the assumption that m-animacy and H-animacy are independent of each other. H-animacy depends on real world knowledge, m-animacy is a formal classificatory feature.

On this view, it is a coincidence that Blackfoot has both m-animacy as well as H-animacy. These two types of animacy play different roles in the grammar: m-animacy as a head feature participates in head-syntax (agreement and concord) while H-animacy is a property of arguments. In Blackfoot H-animacy plays a crucial role in the licensing of arguments in the specifier of functional categories.[14]

If this analysis is on the right track, we predict that even in languages where m-animacy plays no role, H-animacy may play a role. We show in the following section that this prediction is indeed borne out.

5 Beyond Blackfoot

The role of animacy in natural language is a matter of debate and its status within grammar is still far from settled. Consider Dahl and Fraurud's 1996 opening statement: "*Animacy, or the distinction between animate and inanimate entities, is so pervasive in the grammars of human languages that it tends to be taken for granted and become invisible.*" What is it that gives us the impression that it's simultaneously pervasive and invisible? We suspect that it has to do with the dual nature of this feature. On the one hand, it may serve as a morpho-syntactic feature that serves to classify nouns. Based on languages such as Blackfoot, in which this is the case, we are lead to conclude that animacy is indeed a property of grammar. And indeed, it is a pervasive property in the sense that it does pervade the entire grammar. As we have seen throughout this paper, animacy plays not only a role in nominal classification, it also affects other areas of the grammar: plural marking, agreement within the nominal phrase, classification of predicates, etc. Thus, animacy marking in Blackfoot is far from invisible. What may turn it into an invisible property is the fact that as feature of the classifying functional category it cannot be reduced to semantic or ontological properties. Given that there are mismatches between real-world animacy and grammatical animacy, one may conclude that the ontological

[14] In Ritter & Wiltschko (in prep.) we develop the idea that H-animacy is Blackfoot's version of case-licensing.

notion animacy does in fact not play a role here. However, at the same time, we have seen evidence that ontological animacy does plays a role in the grammar of Blackfoot as well. It is pervasive in that it affects nominals that occupy the specifier position of all clausal functional categories. But at the same time it appears to be invisible in that it has not figured prominently in the way the Blackfoot grammatical system is traditionally described. This may be due to the fact that animacy as a feature that determines nominal classification does not align with animacy as a restriction on arguments. Nevertheless, we have argued that both notions of animacy (m-animacy and H-animacy) play a role in the grammar of Blackfoot, albeit in different ways. Thus, the 'invisibility' of animacy in the grammar of natural languages may have two sources. When it serves as a morpho-syntactic head-feature it need not reflect ontological animacy, and when it serves as a restriction on arguments it is not formalized as a morpho-syntactic feature.

Consider in this context the role animacy plays in English. In a recent paper, Folli & Harley 2008 argue that animacy (more precisely humanness) is a property of referents, not Ns or DPs. Hence they conclude that it must be outside of grammar (i.e., outside of narrow syntax; cf. also Ramchand 2008). Let us look at some effects of animacy in English. With some exceptions AGENT and EXPERIENCER roles must be instantiated by noun phrases denoting animate individuals. Thus, we find the contrast in (31) where the subject of the psych predicate *scared* must be animate.

(31) a. *The boy was scared.*
b. *#The tree was scared.*

We also find a similar contrast with the possessor role. While inalienable possessors may be animate, as in (32)a, or inanimate, as in (32)b, this is not so for alienable possessors. Rather with alienable possession, the possessor has to be animate as shown in (33). With animate possessors the sentence is well-formed (33)a; with inanimate possessors the sentence is degraded (33)b. To rescue this structure, a locative phrase (*in it*) has to be added (33)c.

(32) a. *John has a broken arm.*
b. *The oak tree has many branches.*

(33) a. *John has a bird.*
b. *#The oak tree has a family of birds.*
c. *The oak tree has a family of birds* ***in it.***

What is striking about this pattern in English is that it is completely based on real world knowledge. That is, the judgments reported in (31) and (33) hold for the actual world only. In fictional worlds where trees are alive (31)b and (33)b are well-formed. This means that the well-formedness of these examples depends on the context, not on their grammatical expression. Hence, it comes as no surprise that animacy in English has been treated as a property outside of narrow syntax.

However, based on Blackfoot, we have shown that even the kind of animacy that is sensitive to context has a reflex in the grammar (in the form of an H-index, which restricts the argument fulfilling a given role). In particular, we have seen that H-indices in

Blackfoot are sensitive to particular functional categories. Consequently, we conclude that H-indices are part of the grammar. And this view is in fact supported by the English facts. In particular, there appears to be language variation in what type of arguments are restricted to H-animacy: in Blackfoot this includes arguments of all functional categories, while in English, it includes a much more restricted set (possessors and experiencers). If H-animacy was indeed outside the grammar, we might not expect this type of variation.

A similar point can be made based on Spanish. In this language, H-animacy underlies differential object marking. Direct objects that have a human referent are marked with the dative preposition as in (34)a; otherwise they are unmarked as in (34)b.

(34) a. *Juan vio a una chica*
Juan saw DAT a girl
'Juan saw a girl.'
b. *Juan vio un libro*
Juan saw a book
'Juan saw a book.'

But as in English and Blackfoot, what counts as H-animate, is contextually determined. This is illustrated by the minimal pair in (35). If death is conceptualized as personified, it is preceded by the case-marker *a* (35)a; in contrast, if death is conceptualized as an abstract concept, then it is unmarked as in (35)b.[15]

(35) a. *Llamó a la muerte*
call-PAST.3.SG DAT the death
'S/he called out to death.'
b. *Llamó la muerte*.
call-PAST.3.SG the death
'S/he called out to death.'

Hanssen 1945: 296

Thus, there is no doubt that whether a DP is human depends on the referent. In other words, this determination is extra-grammatical. At the same time however, the Spanish facts indicate that H-animacy must be visible to the grammar because it determines case-marking, a unambiguously grammatical property. Extending the treatment of H-animacy in Blackfoot to Spanish, allows us to explain the Spanish pattern. In particular, we suggest that *a*-marked arguments occupy a different position than unmarked arguments. And in addition, the specifier position that *a*-marked arguments occupy appears to be restricted to H-animates.

Thus, there are two differences between Blackfoot and Spanish. On the one hand, Spanish lacks m-animacy (i.e., Spanish nouns are not classified based on animacy). On the other hand, in Spanish only the specifier position hosting *a*-marked arguments is restricted to H-animates, whereas in Blackfoot all specifiers of functional heads are restricted to H-animates. Whether or not this analysis of animacy in Spanish can be independently supported has to await another occasion. However, we contend that the

[15] We are grateful to Karen Zagona for pointing us towards this example.

logic of our analysis may shed new light on other familiar animacy effects, most notably those that have been described in terms of the animacy hierarchy (see Section 2).

6 Conclusion

Based on data from Blackfoot, we have argued that there are two qualitatively different notions of animacy that may play a role in the languages of the world. M(orphological)-animacy is a head feature which is responsible for agreement. It serves as a nominal classification device. Given the assumption that the substantive content that associates with functional categories is not universally fixed, it follows that not all languages make use of m-animacy. In particular, we have here assumed, following Wiltschko 2012, that in Blackfoot, animacy is the counterpart of boundedness, which, in English serves to classify nouns into mass and count nouns.

The second type of animacy (H-animacy) we have discussed here is a property of arguments. We contend that H-animacy is a universal property. Its effects are not dependent on the presence of m-animacy. As a result there are languages without m-animacy but which still display evidence for H-animacy. And moreover, even in a language where m-animacy plays a role (such as Blackfoot) we observe that the class of m-animate nouns does not map onto H-animate arguments in a one-to-one fashion.

What our exploration of Blackfoot has revealed is that the conceptual category human is special in that it is visible to the narrow syntax. In contrast, other conceptual categories, such as self-propelled, are not visible to the narrow syntax. They may however be the basis for morphological classification. We speculate that the reason for the special status of humans in grammar is the fact that humans are the only individuals that can bear both event roles and speech act roles.

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