

Sentience and Stem Agreement in Blackfoot

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INTRODUCTION

Nouns in Blackfoot¹ are sorted into two genders: animate and inanimate (1). Animate nouns include all sentient beings, that is to say, all beings that think or have emotions, following Speas and Tenny (2003); and a set of non-sentient objects such as trees, rocks, and fur robes. The remaining nouns fall into the inanimate class, all of which denote non-sentient, inanimate objects such as flowers and shirts.

(1)	ANIMATE NOUNS <ul style="list-style-type: none">• Sentient beings (e.g., boy, dog, fish)• Non-sentient entities (e.g., tree, rock, fur robe)	INANIMATE NOUNS <ul style="list-style-type: none">• Non-sentient entities only (e.g., flower, shirt)
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This classification system is essentially semantic, and the set of non-sentient animates is a “leak” into the semantically animate class, cf. Corbett (1991).

The stem agreement suffix on Blackfoot intransitive verbs signals the gender of the subject NP². The animate intransitive (AI) verb *ohpokssi* ‘be small’ is predicated of an animate subject NP. This is indicated by the *-ssi* suffix (2a). The inanimate intransitive (II) verb is predicated of an inanimate subject NP, as indicated by the *-ii* suffix (2b).

- (2) a. AI: *ohpok-ssi* ‘be small’ (animate)
b. II: *ohpok-ii* ‘be small’ (inanimate)

There is a set of psych verbs in Blackfoot, such as ‘be happy’ and ‘be sad/lonely’ (3) that only have AI forms listed in the Blackfoot dictionary (Frantz and Russell, 1995). The existence of this set of verbs raises the question: How do Blackfoot speakers describe a fictional world in which psychological states are ascribed to *inanimate* nouns?

- (3) a. AI: *i'táám-ssi* ‘be happy’ (animate)
b. II: *ikkikhini-i'taki* ‘be sad/lonely’ (animate)

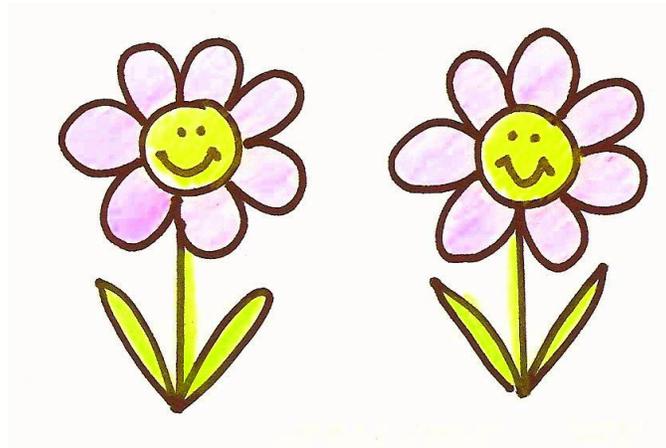
The lack of II psych verbs is to be expected, given that only sentient beings can experience emotions. All sentient beings are denoted by animate nouns, therefore these psych verbs could only allow an animate subject.

Three possible strategies for dealing with sentient inanimates are expressed by the three hypotheses in (4).

- (4)
- a. H1: The inanimate noun changes gender to match³ with the AI verb.
 - b. H2: The AI verb inflects to agree with the inanimate noun.
 - c. H3: It is possible for an inanimate subject NP to coexist with an AI verb.

To test these hypotheses, I created a fictional world. In this world flowers, which are normally denoted by inanimate nouns, are capable of experiencing psychological states and performing tasks. I first presented speakers with visual prompts to facilitate the creation of the fictional world (5).

(5)



With this context firmly established, I presented the speaker with Blackfoot sentences which I had composed, and which described the pictures I had drawn. The speaker did not hesitate to either accept or reject the sentences that I presented; the grammaticality judgments were clear.

The noun *pisátssaiski* ‘flower’ is classified as an inanimate noun in the Blackfoot dictionary (Frantz and Russell, 1995). Some evidence for this fact is given in (6). In (6a) the grammatical plural form of the noun *pisátssaiski* ‘flower’ is given. In this form, the

inanimate plural ending is suffixed to both the noun and the demonstrative within the NP. In (6b) I demonstrate that it is not grammatical to affix an animate plural ending to the same noun and demonstrative.

- (6) a. *ámostsi pisátssaisskiistsi*
 amo-(i)stsi pisatssaisski-istsi
 dem-IN.PL flower_(IN)-IN.PL
 ‘These flowers’
- b. **ámoksi pisátssaisskiiksi*
 amo-(i)ksi pisatssaisski-iksi
 dem-AN.PL flower_(IN)-AN.PL
 ‘*These flowers’

H1: THE NOUN CHANGES TO THE ANIMATE GENDER TO MATCH WITH THE AI VERB

In this section, I will present evidence against the hypothesis that Blackfoot speakers are able to freely change the gender of a noun in the context of sentient inanimate entities. I will demonstrate that the gender of Blackfoot nouns is lexically fixed, and that the choice of plural suffix is determined by the gender of the noun.

The hypothesis that the noun changes to the animate gender to match with the AI verb assumes that noun gender in Blackfoot is a wholly semantic system. In a strictly semantic system, gender is assigned to a noun based on the meaning of its referent (Corbett, 1991:8). If this is the case, a change in the properties of the referent requires a change in the properties of the noun that refers to that entity. In Blackfoot, sentient beings are referred to by animate nouns. If one attributes sentience to an inanimate entity, for example by giving that entity the ability to experience a psychological state, the noun that refers to it should shift genders accordingly. This hypothesis predicts that the inanimate noun will change gender to match with the AI verb.

This hypothesis requires that I be able to determine the gender of any given noun. In order to ascertain the gender of any nouns in the data, I will look to plural markers. In Blackfoot, the form of the plural marker on nouns varies with gender (7).

(7)

GENDER	PLURAL SUFFIX	EXAMPLE
Animate	<i>-iksi</i>	<i>issk_(AN)-iksi</i> ‘pails’
Inanimate	<i>-istsi</i>	<i>míín_(IN)-istsi</i> ‘berries’

For the purpose of my hypothesis testing I will make the following assumption about these plural markers: I will always consider the plural marker to be an accurate indication of the gender of the noun to which it is affixed. In other words, I will assume that an animate plural marker will only ever be compatible with an animate noun, and an inanimate plural marker will only ever be compatible with an inanimate noun. I will thereby know whether or not a noun has changed gender; in particular, if an inanimate noun co-occurs with the animate plural suffix *-iksi*, I will know that there has been a change in the gender of the noun.

While I have demonstrated that it is not possible to change the gender of the noun ‘flower’ in the real world, my first hypothesis predicts that it will be possible within the context of sentient inanimates as created in my fictional world. This hypothesis predicts that any noun referring to a sentient entity will be animate. In other words, a change in noun gender should occur when inanimate entities experience psychological states. This hypothesis is schematized below in (8). (SA refers to the stem agreement morpheme.)

$$(8) \quad N_{IN \rightarrow AN} + PL_{AN} \quad V + SA_{AI} + PL$$

According to this hypothesis, plural markers on nouns that denote non-sentient entities will be of the inanimate form *-istsi*. Plural markers on nouns that denote sentient entities will be of the animate form *-iksi*. This, however, is not found in the data.

In (9a), the noun *pisatssaiski* denotes a contextually sentient flower that is capable of experiencing psychological states. According to the first hypothesis, an animate noun should be used to refer to this sentient entity. Therefore, this noun and its determiner are given the animate plural suffix. As a result the subject NP matches the gender of the AI verb; however the utterance is ungrammatical because the gender of the noun is not acceptable. It is clear from this sentence that it is not possible to change the gender of a noun to signal that it denotes a sentient entity.

The sentence given in (9a) contrasts with the grammatical example in (9b). The noun *saahkómaapi*, denoting an animate and sentient boy, takes the animate plural suffix *-iksi*, as does its determiner. This animate subject NP agrees in grammatical gender with the AI verb *i'taamssi* 'be happy'.

- (9) a. **ámoksi pisátssaiskiksi iikí'taamssiyaawa*
 amo-(i)ksi pisatssaiski-iksi iik-i'taam-ssi-(y)i-yaawa
 dem-AN.PL flower_(AN)-AN.PL very-happy-be.AI-pl-pron
 'These (*animate) flowers are happy'
- b. *ámoksi saahkómaapiiksi iikí'taamssiyaawa*
 amo-(i)ksi saahkomaapi-iksi iik-i'taam-ssi-(y)i-yaawa
 dem-AN.PL boy_(AN)-AN.PL very-happy-be.AI-pl-pron
 'These boys are happy'

Analysis

The prediction of my first hypothesis was not borne out by the data. This hypothesis predicted the gender system of Blackfoot to be strictly semantic. Once sentience was attributed to the flowers, the nouns denoting these entities were expected to become animate; this change would have been visible on the plural markers. However, the data does not support the hypothesis, which is reproduced in (10).

- (10) $N_{IN \rightarrow AN} + PL_{AN}$ $V + SA_{AI} + PL$

It is evident that the expected switch in gender did not occur. The animate plural suffix is not compatible with the inanimate noun *pisátssaiski* 'flower' in the data. I conclude that what is occurring is that the noun *pisátssaiski* remains inanimate, and suffixing the animate plural ending is therefore ungrammatical. This analysis is schematized in (11).

- (11) * $N_{IN} + PL_{AN}$ $V + SA_{AI} + PL$

Sentience is therefore not encoded as grammatical gender in Blackfoot. If it were, one would expect that the attribution of sentience to an entity would require a subsequent change in the grammatical properties of the noun referring to that entity, resulting in a change to the animate gender. Nominal gender in Blackfoot does not represent the sentience or non-sentience of the entity denoted.

Following from this, grammatical gender in Blackfoot cannot be wholly semantic; grammatical gender in Blackfoot is lexical in nature⁴. These findings are consistent with descriptions in the literature on other Algonquian languages. In Goddard (2002) two clear patterns emerge in Algonquian language texts. Languages such as Fox do not show gender shifts in contexts of sentient inanimates, while languages such as Cree do. This analysis aligns Blackfoot most closely with Fox among Algonquian languages, in that even when inanimate objects are accorded powers of sentience⁵ in these languages the nouns that refer to them do not shift in gender.

H2: THE AI VERB INFLECTS TO AGREE WITH THE INANIMATE NOUN

In this section, I will argue against an interpretation of stem agreement morphemes as inflectional agreement morphemes. Instead, I will propose that stem agreement morphemes are derivational in nature.

The previous section established that it is not possible to change the gender of a noun in Blackfoot; the next logical question is: Can one change the stem agreement marker on a verb? The hypothesis that one can change the stem agreement marker on the verb in the context of sentient inanimates is based on the assumption that stem agreement morphemes are inflectional. Following Stump (1998:15-17), inflectional relationships are semantically regular, and more productive than derivational relationships. Thus, the assumption that stem agreement morphemes are inflectional predicts that every intransitive verb stem in Blackfoot is associated with a paradigm of two stem agreement morphemes: one for each verb class (animate intransitive and inanimate intransitive). It should be theoretically possible to fill the gaps in the paradigm and find both forms of any intransitive verb, given the right context. These forms, being productive, should be relatively easy to elicit. Given that related verbs of different classes are usually morphologically distinct (Frantz and Russell, 1995), this hypothesis predicts that the speaker will produce a new verb form in the context of sentient inanimates in order for the verb to agree with the subject NP.

This hypothesis assumes that the II verb form of an intransitive verb is predictable, given the AI form. An investigation into Blackfoot stative verbs reveals repeating patterns of stem agreement morphemes across verbs. I will assume that any change in the grammatical gender of the stem agreement morpheme will be visible by a change in its form; this assumption is supported by the prevalent patterns of stem agreement in Blackfoot, for example in the verb ‘be small’.

The verb ‘be small’ has an AI and an II form (12). The stem agreement morpheme *-ssi* indicates that the verb will select an animate subject NP. The stem agreement morpheme *-ii* signals that the verb will select an inanimate subject NP, as illustrated in (13).

(12)	MEANING	ANIMATE INTRANSITIVE	INANIMATE INTRANSITIVE
	‘be small’	<i>ohpok-ssi</i>	<i>ohpok-ii</i>

- (13) a. AI: *ámoksi saahkómaapiiksi íkohpokssiyaawa*
 amo-(i)ksi saahkomaapi-iksi iik-ohpok-ssi-(y)i-aawa
 dem-AN.PL boy_(AN)-AN.PL very-small-be.AI-pl-pron
 ‘These boys are small’
- b. II: *ámotsi pisátssaisiskiisti íkohpokiiyaawa*
 amo-(i)stsi pisatssaisiski-istsi iik-ohpok-ii-(yi)-aawa
 dem-IN.PL flower_(IN)-IN.PL very-small-be.II-pl-pron
 ‘These flowers are small’

The stem agreement pattern for the verb ‘be small’ is representative of a larger set of intransitive stative verbs, which I will call the SSI-II verbs (14). In each of these verbs, the stem agreement morpheme *-ssi* signals an animate subject NP, while the *-ii* morpheme indicates an inanimate subject.

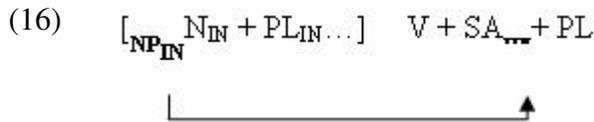
(14)	MEANING	ANIMATE INTRANSITIVE	INANIMATE INTRANSITIVE
	‘be small’	<i>ohpok-ssi</i>	<i>ohpok-ii</i>
	‘be soft/easy’	<i>ikkini(s)-ssi</i>	<i>ikkinis-ii</i>
	‘be stiff’	<i>ikksk-ssi</i>	<i>ikksk-ii</i>
	‘be round’	<i>ohkóm-ssi</i>	<i>ohkóm-ii</i>

The stative psych verb *i'táám-ssi* 'be happy' has the same AI verb form as the SSI-II verbs. Thus, it is not unreasonable to extend this pattern to this verb, and to expect its inanimate intransitive counterpart to be *i'táám-ii* 'be happy (II)' (15).

(15)

MEANING	ANIMATE INTRANSITIVE	INANIMATE INTRANSITIVE
'be small'	<i>ohpok-ssi</i>	<i>ohpok-ii</i>
'be happy'	<i>i'táám-ssi</i>	?? <i>i'táám-ii</i>

Given the assumptions that this hypothesis makes about agreement and the status of stem agreement markers, I predict that the stem agreement morpheme of the AI verb will change, and further, that it will take the form *i'táám-ii* 'be happy'. This is because the speaker will produce a new inflectional II stem agreement morpheme for the psych verb. This prediction is schematized in (16).

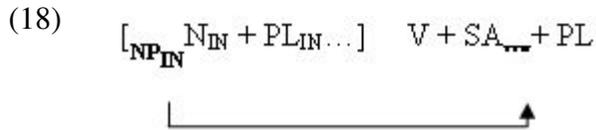


This pattern is not found in the data. Importantly, the speaker did not spontaneously produce an II stem agreement morphemes. Moreover, the morpheme that I coined following the existing SSI-II pattern was rejected as ungrammatical. (19)

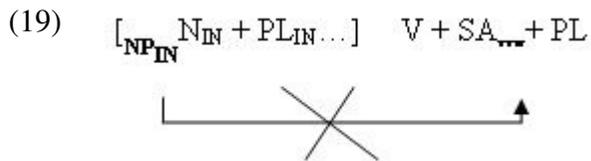
- (17) **ámosti písátssaiiskiisti iiki'taamiyaawa*
 amo-(i)stsi písatssiasski-istsi iik-i'taam-ii-(yi)-yaawa
 dem-IN.PL flower_(IN)-IN.PL very-happy-be.II-pl-pron
 'These flowers (inanimate) are happy (*inanimate)'

Analysis

The hypothesis that stem agreement morphemes freely inflect to agree with the gender of a subject NP was not borne out by the data. Within the context of sentient inanimates no new II verb form was produced; this change would have been visible in the form of the stem agreement morpheme.



The expected agreement did not occur. There were no spontaneous uses of new forms by the speaker, and the new stem agreement morpheme that I formed created an ungrammatical verb. This finding is schematized below (19).



Stem agreement morphemes are therefore not inflectional. Perhaps most tellingly, the speaker did not coin an II form independently or spontaneously: there was no evidence that stem agreement morphology is productive. The II stem agreement morpheme that I coined following an existing pattern in Blackfoot was rejected: the agreement morphemes were not transparent in nature. The speaker did not create an II verb: the stem agreement morpheme was not determined by the inanimate subject NP. I conclude that the stem agreement morpheme in Blackfoot is not an inflectional morpheme, but rather that it is actually a derivational morpheme.

H3: GENDER MISMATCH IS ALLOWED?

In this section, I give further evidence that stem agreement morphemes in Blackfoot are derivational; this will independently support the lexicographical choices made in Frantz and Russell's Blackfoot dictionary (1995). I will show that the preferred strategy in contexts of sentient inanimates is gender mismatch. I will give preliminary consideration to the idea that perhaps stem agreement morphemes are selecting for the sentience of the entity referred to in the subject NP, as opposed to the grammatical gender of the NP.

This hypothesis assumes that the stem agreement morpheme is not selecting for the grammatical gender of the subject NP. If this were the case, there should be no need for the gender of the subject NP to match the stem agreement morpheme, or for the stem

agreement morpheme to agree with its subject. This hypothesis correctly predicts that gender mismatch will be allowed in the context of sentient inanimates.

To test this hypothesis, I will need to demonstrate that no change occurs in either the gender of the subject NP, or the stem agreement morpheme of the verb. I will maintain my two previous assumptions. First, I will assume that plural markers are reliable indications of the gender of a noun. In addition, I will continue to assume that a change in the gender of the stem agreement morpheme of the verb will be evident in its form.

I predict that the inanimate noun *pisátssaisiski* ‘flower’ will take the inanimate plural marker *-istsi*. In addition, I predict that the verb will be in the AI form. There will be a mismatch of grammatical gender, but this sentence will be grammatical. This hypothesis is schematized in (20).

(20) [_{NP_{IN}} N_{IN} + PL_{IN}...] V + SA_{AI}+ PL

The sentence given in (21) conforms to the predictions made by this hypothesis. The subject NP is inanimate, which is evidenced by the inanimate plural suffix *-istsi*. The stem agreement morpheme is of the AI form. The verb and subject NP co-occur, even though they are in gender mismatch.

(21) *ámostsi pisátssaisiskiistsi iikí'taamssiiyaawa*
 amo-(i)stsi pisatssaisiski-istsi iik-i'taam-ssi-y(i)-(y)aawa
 dem-IN.PL flower(in)-IN.PL very-happy-be.AI-pl-pron
 ‘These flowers (inanimate) are happy’

Analysis

The prediction of this final hypothesis is borne out by the data. It is acceptable for an AI verb and an inanimate subject NP to co-occur in the context of sentient inanimates (22).

(22) [_{NP_{IN}} N_{IN} + PL_{IN}...] V + SA_{AI}+ PL

This gives more evidence that the stem agreement morpheme is derivational in nature, because the verb does not inflect in this context. I propose that verbs are stored in the

mental lexicon as discrete entities that include a stem agreement morpheme. This could explain why the speaker did not produce a new verb: there was no need to coin one. The AI verb ‘be happy’ requires a sentient subject; a sentient entity that is referred to by an inanimate noun is acceptable. This proposal is illustrated as shown in (23).

- (23)
- | | |
|---|---|
| <i>ohpok-ssi</i>
‘be small’ (animate) | <i>ohpok-ii</i>
‘be small’ (inanimate) |
| <i>i’táám-ssi</i>
‘be happy’ (animate) | |

This data gives independent support to the verb-entry method used in the Blackfoot dictionary (Frantz and Russell, 1995). Verbs are listed with their stem agreement morphemes, not as roots with varying suffixes. Any verbs that are related to the main entry are listed as separate stems⁶ at the end of the entry.

This data raises questions about the function of the stem agreement morpheme. The morpheme does not seem to select for the grammatical gender of the subject NP. I propose that the stem agreement morpheme is selecting for the sentience of the subject NP⁷. This proposal explains why the data in (23) is not ungrammatical. Re-imagining the hypothesis with the idea of sentience in mind, it would be schematized as follows (24).

- (24)
- $$[{}_{\text{NP}}[+sen] \text{ N}_{\text{IN}} + \text{PL}_{\text{IN}} \dots] \text{ V} + \text{SA}_{\text{AI}}[+sen] + \text{PL}$$
- 

The class of non-sentient animate nouns is problematic to this analysis. If an AI stem agreement morpheme is selecting for the sentience of the subject NP, what is occurring to allow animate non-sentient subject NPs to be predicated of AI verbs? In other words, why don’t non-sentient animate nouns co-occur with II verbs?

- (25) *ámoksi si’káániksi iikohpokiiyaawa
 amo-(i)ksi si’kaan-iksi iik-ohpok-ii-(y)i-yaawa
 dem-AN.PL blanket_(AN)-AN.PL very-small-be.II-pl-pron
 ‘*These blankets (animate) are small (inanimate)’

This is a question that I will leave to further research; however, in the next section I will present some additional evidence that sentience is an important factor in stem agreement.

SUMMARY

I have so far demonstrated that grammatical gender on Blackfoot nouns is not changeable; grammatical gender of Blackfoot nouns is lexically fixed, and not semantically transparent. Additionally, I have shown that stem agreement morphemes are not inflectional suffixes, and have argued that they are therefore derivational in nature. I have shown gender mismatch to be the preferred strategy for dealing with sentient inanimates. From this, I have made the claim that stem agreement morphemes select for the sentience of their subject NPs and not for grammatical gender. This raises the question: Does the II stem agreement morpheme select for non-sentience?

CONSEQUENCES

In this section, I will address consequences of this proposal that gender of nouns is lexically fixed, and that stem agreement morphemes select for sentience. First, I will give evidence that II stem agreement morphemes do select for non-sentient subjects, regardless of gender. Second, I will give evidence that sentient inanimate NPs can be the subjects of transitive verbs, including obligatorily TA verbs. This will further support my proposal that stem agreement morphemes are sensitive to the sentience of their subject NPs.

II stem agreement morphemes select for non-sentient subjects

I have demonstrated that inanimate nouns can be used to refer to sentient inanimates. In other words, an inanimate NP may function as the subject of an AI verb. This raises the question: Can an animate NP function as the subject of an II verb?

There is a set of verbs in Blackfoot that only have II forms listed in the dictionary. These are stative verbs that describe physical states. An example is the verb ‘be matted’ (26).

(26) II: *iitssk-ihkaa* ‘be matted’ (inanimate)

Parallel to the context of sentient inanimates investigated above, an II verb predicated of an animate noun such as *immoyaan* ‘fur robe’ pairs an inanimate verb with a non-sentient animate noun. Extending my study to this context, I predict that it will be unacceptable to change the gender of the noun from animate to inanimate. At the same time, I predict that it will not be possible to draw on existing patterns in Blackfoot verbs to produce a new AI form of the verb. I predict that the preferred strategy for dealing with non-sentient animates will be gender mismatch. These predictions are schematized below (27).

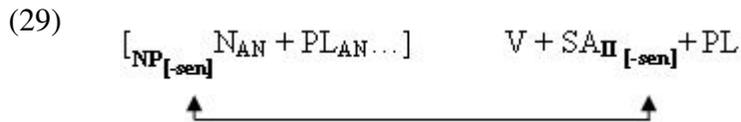
- (27) a. *N_{AN} + PL_{IN} V + SA_{II} + PL
 b. [_{NP_{AN}} N_{AN} + PL_{AN}...] V + SA_{...} + PL

 c. [_{NP_{AN}} N_{AN} + PL_{AN}...] V + SA_{II} + PL

These predictions are borne out by the data. Non-sentient animate nouns cannot change gender to match with the II verb (28a). Given that I have demonstrated the derivational nature of stem agreement morphemes, it is not surprising that a new AI form⁸ is also questionable⁹ (28b). The grammatical form, in which the animate NP is the subject of the II verb is given in (28c). Note that the subject noun and its determiner have the animate plural suffix *-iksi*, and that the verb retains its II stem agreement marker in this example.

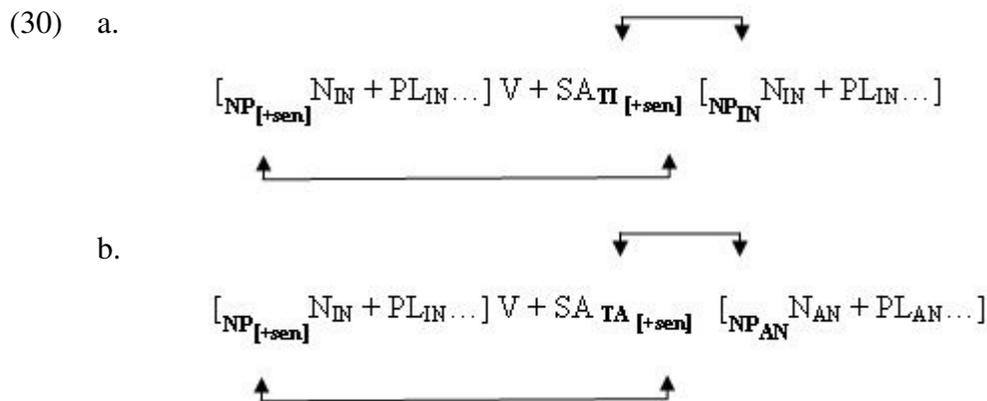
- (28) a. **ámotsi immoyaanistsi iitsskikhkaiyaawa*
 amo-(i)stsi immoyaan-istsi iitssk-ihka(a)-(y)i-yaawa
 dem-IN.PL fur.robe_(AN)-IN.PL matted-II-pl-pron
 ‘These (*inanimate) fur robes are matted’
- b. #*ámoksi immoyaaniksi iikiitsskikhkammiyaawa*
 amo-(i)ksi immoyaan-iksi iik-iitssk-ihkamm-(y)i-aawa
 dem-AN.PL fur.robe_(AN)-AN.PL very-matted-AI-pl-pron
 #‘These fur robes are matted’
- c. *ámoksi immoyaaniksi iitsskikhkaiyaawa*
 amo-(i)ksi immoyaan-iksi iitssk-ihka(a)-(y)i-yaawa
 dem-AN.PL fur.robe_(AN)-AN.PL matted-II-pl-pron
 ‘These fur robes are matted’

The data in (28c) is supportive of the conclusion that stem agreement forms in Blackfoot are derivational. These facts can also be explained by the proposal that stem agreement morphemes select for the sience of their subject NPs. In this example, a non-sentient animate noun is predicated of an II verb. Given the proposal that the AI stem agreement morpheme selects for sentient subject NPs, regardless of grammatical gender, it would follow that the II stem agreement morpheme selects for non-sentient subject NPs (29).



Sentient inanimates can be the subjects of transitive verbs

In Blackfoot, transitive verbs require subjects that are capable of exercising will (Frantz, 1991:45). Consequently, Blackfoot transitive verbs are only ever predicated of sentient subjects. Non-sentient subjects, animate or inanimate, are expressed as adjuncts (Frantz, 2006). Within the fictional world where sentient entities are referred to by inanimate nouns, I expect that sentient inanimate NPs should be grammatical subjects of transitive verbs. It is important to note that the stem agreement morpheme matches the gender of the *object* NP, not the subject NP. In fact, the object agreement seems to be inflectional, rather than derivational (Ritter and Rosen, 2007). This hypothesis is schematized below (30).



This hypothesis is supported by the data. Sentient inanimate NPs can function as the subjects of TA verbs and TI verbs. In (31a), the plural marker *-istsi* on the noun *pisátssaisiski* ‘flower’ is evidence that the subject NP is inanimate. The verb is a TI verb because the direct object NP, *ámotsi múnistsi* ‘these berries’, is inanimate. (31b) demonstrates that an inanimate subject NP may also function as the subject of a TA verb, which has an animate NP object.

- (31) a. *ámotsi pisátssaisiskiistsi náowatoomiyaawa ámotsi múnistsi*
 amo-(i)stsi pisatssaisski-istsi na-owatoo-m-(y)i-yaawa amo-istsi
 dem-**IN.PL** flower_(IN)-**IN.PL** past-**eat.TI-3**:inan-pl-pron dem-in.pl
 miin-istsi
 berry_(IN)-in.pl
 ‘These flowers ate these berries’
- b. *ámotsi pisátssaisiskiistsi náowatsiwa ámo mamí*
 amo-(i)stsi pisatssaisski-istsi na-(o)owat-(y)iiwa amo mamii
 dem-in.pl flower-in.pl na-eat.TA-3s dem fish
 ‘These flowers ate this fish’

The inflectional relationship between the stem agreement morpheme and the object NP can be illustrated by the following:

- (32) a. *ámotsi pisátssaisiskiistsi náowatoomiyaawa ámotsi múnistsi*
 amo-(i)stsi pisatssaisski-istsi na-(o)watoo-m(a)-(y)i-aawa amo-(i)stsi
 dem-in.pl flower-in.pl na-eat.TI-3s-pl-pron dem-in.pl
 miin-istsi
 berry-in.pl
 ‘These flowers ate these (sentient) berries’
- b. *ámotsi pisátssaisiskiistsi náiniitstoomiyaawa ámotsi mattsí pisátssaisiski*
 amo-(i)stsi pisatssaisski-istsi na-(i)iniitstoo-m-(y)i-aawa amo-(i)stsi mattsi
 dem-in.pl flower-in.pl na-submerge.TI-3p-pl-pron dem-in.pl other
 pisatssaisski
 flower
 ‘These flowers drowned these other flowers’

The above sentences give good evidence in support of the proposal that stem agreement morphemes select for sentience, as opposed to grammatical gender. TA verbs, which may only take sentient animate subject NPs in the real world, may also take sentient inanimate

subject NPs within the fictional world that I created. Subject NPs of TA verbs are not necessarily animate, but they are necessarily sentient. Here also is even more evidence towards the conclusion that grammatical gender of nouns in Blackfoot is strongly lexical in nature.

CONCLUSIONS

The data presented in this paper leads to the following conclusions: Sentience is not encoded in grammatical gender in Blackfoot. Sentient nouns are not necessarily animate. Noun gender is deeply lexical, and does not change to match the gender of a verb.

Similarly, stem agreement morphemes need not express grammatical gender agreement. I conclude from this that stem agreement morphemes in Blackfoot are not inflectional, but rather derivational morphemes.

I propose that stem agreement morphemes select for the sentience of their subject NPs, but acknowledge that there are problems with this proposal that remain to be resolved.

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² For the purposes of this paper, these constituents will be considered to be NPs for the sake of simplicity.

³ This is not considered to be a form of agreement, because if agreement were a process in Blackfoot, it would be the variable verb forms that would agree with the generally fixed form of the noun. It is not the purpose of this paper to contend that Blackfoot nouns agree with verbs.

⁴ There are pairs of nouns in some Algonquian languages that use the same stem for animate and inanimate nouns, with different meanings for each gender. Frantz & Russell's (1995) Blackfoot dictionary lists nine such pairs of nouns. This suggests that derivation is possible through a shift in gender, though rare. For discussion of this phenomenon in other Algonquian languages, see Goddard (2002) and Costa (2007).

⁵ Goddard (2002) notes that Hockett (1966) claims a shift from inanimate to animate gender in nouns is possible in other Algonquian languages. This shift is especially common when the inanimate entities to which the nouns refer are ascribed powers of speech. In Blackfoot, inanimate entities that are ascribed with powers of speech are not denoted by animate nouns (i).

- (i) *ámoksi písátssaisskiiksi áíksimatsimmohkiyaawa
amo-(i)ksi písátssaisski-iksi a-iksimatsimmohki-(y)i-aawa
dem-**AN.PL** flower_(AN)-**AN.PL** dur-**greet.sb.AI**-pl-pron
'These (*animate) flowers are greeting us'

⁶ This is consistent with the dictionary, which refers to related verb 'stems' in verb entries (Frantz and Russel, 1995)

⁷ In Bliss (2005), sentience is also shown to be more important than grammatical animacy in Blackfoot's direct/inverse system.

⁸ The AI stem agreement form *-ihkamm* is coined by analogy with the II verb *ikahkapi'kaa* 'break', which has the related AI stem *ikahkapi'kamm* 'break'. None of the verbs ending in *-ihkaa* have a related AI stem listed in the dictionary (Frantz and Russell, 1995).

⁹ This problematic example suggests that animacy and inanimacy are not equivalent in Blackfoot. The parallel example (17) of an II form for the verb 'be happy' was confidently rejected. It is important to note that the verb 'be matted' is less common than 'be happy'; its various uses are therefore less familiar to the consultant.