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Functions of the prefix *wa-* in Umoⁿhoⁿ*

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Abstract: The verbal prefix *wa-* is well attested in all branches of the Siouan languages. It has several functions, especially in Umoⁿhoⁿ, and this creates difficulties in analyzing it, and in teaching how it works in a clear way. I propose an analysis dividing *wa-* into 3 different functions: 3rd person plural object marker; antipassive marker; and nominalizer. Most importantly, I identify two types of antipassive constructions with *wa-*, according to its referentiality. While antipassives with generic objects are ambiguous with 3rd person plural object marker, antipassive with referring objects do not lend themselves to such ambiguity, and are rather close to the nominalizing function. This creates difficulties in analyzing *wa-* synchronically, and also casts doubt on the possible diachronic origin of the antipassive.

Keywords: antipassive, object marking, object referentiality, nominalizer

1. Introduction

The prefix *wa-* is attested with similar functions in all branches of Siouan languages and has already been the subject of studies in a comparative perspective (Boyle 2009a,b). It has been reconstructed in Proto-Siouan as an absolutive marker **wa-* or **waa-* (Carter et al. 2006:928). In descriptive grammars or sketches of particular Siouan languages, *wa-* and its cognates is often attributed an object-removing function, differently called “valency-decreasing” (Boyle 2009a), “detransitivizing” (Hartmann 2015:1270), “absolutive” (Carter et al. 2006:928), “indefinite object marker” (Ullrich 2008:735) or “unspecified argument” (Kasak 2019:231). It is also commonly attested on nouns for objects or agents, with the authors either integrating the examples of nouns as instances of object demotion, or treating it as a distinct function of nominalizer. Some examples of these functions are presented in (1) to (4). In all this paper, I underline the objects of transitive verbs, both in the Siouan language version (when they are expressed by NPs) and in the corresponding English translation. The *x* stands for the object position in unmarked forms (the object position *x* is not generally explicitly mentioned by the authors cited here, but it is understood from their descriptions that the verbs are transitive).

- (1) Crow
- | | | | |
|----|---------------------|------------------------------------------------|--------------------|
| a. | <i>ikaa</i> | ‘to see <i>x</i> ’ | |
| | <i>baaikaa</i> | ‘to see things, to have a vision’ | (Graczyk 1991:233) |
| b. | <i>dichiichi</i> | ‘to boil <i>x</i> ’ | |
| | <i>baalichiituu</i> | ‘boiled meat (with plural marker <i>-uu</i>)’ | (Graczyk 2007:48) |

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- (2) Hidatsa (Boyle 2009b:5)
báca ‘to string x’
maabáca ‘to string something’, ‘beads’
- (3) Osage (Quintero 2004:§4.1)
čséðe ‘to doctor x’
wačséðe ‘to doctor folks’
- (4) Ho-Chunk (Hartmann 2015:1270-1271)
ruuk ‘to eat x’
warúc ‘to eat something’

Wa- is commonly translated into English as ‘things’ or ‘something’ or ‘people’, or not translated at all. In some cases, *wa-* refers specifically to one kind of object, as in examples (1b) and (2).

Additionally, in the Dhegiha languages and Hochunk-Chiwere languages (Mississippi Valley Siouan), *wa-* serves as a marker of 3rd person plural objects (O.3PL). To the best of my knowledge, the historical source of this function and its possible link with the valency-decreasing *wa-* is unknown.¹

The purpose of this paper is to explore the distinct functions of the prefix *wa-* in Umo^hoⁿ, a Siouan language of the Dhegiha group (Mississippi Valley Siouan), in order ultimately to better understand its historical source. I will particularly focus on its antipassive functions.

This study is based, on the one hand, on the analysis of more than 200 dictionary word entries containing the prefix *wa-*, and on the other hand, on the exhaustive review of 14 texts. Those texts contain 177 forms with *wa-*, including conjugated verbs. However, in almost half of the dictionary entries, *wa-* appears on bound roots or old formations where it has no function in synchrony, like *wak^héga* ‘to be sick’.² Such forms were left out of the study.

The different functions recognized synchronically in Umo^hoⁿ are:

- 3rd person plural object marker (gloss: O.3PL)
- antipassive marker
 - with a generic object or no object
 - with a referential object
- nominalizer

Whatever its function, the sequence *wa-* undergoes some frequent morphological changes in combination with other derivational prefixes, as will be seen in the subsequent examples:

/*wa-í/	→	wí
/*wa-á/	→	wá
/*wa-u/	→	ú

¹See discussions on the Siouan list in 2002, originated from the paper by Helmbrecht (2002) in IJAL: <http://listserv.linguistlist.org/pipermail/siouan/2002-July/subject.html#2158>

²The bound root of this verb is **k^hega*, not attested alone. The conjugated forms of *wak^héga* show unambiguously that *wa-* is a prefix apart from this root. It is the same with all the verbs beginning with *wa-* surveyed.

2. Main/basic functions of *wa-* in Umoⁿhoⁿ

2.1. Third person plural object marker

In examples (5) and (6), the prefix *wa-* serves as an indexation marker for the 3rd person plural object of the verb. In each case, the plural object is definite. Note that *wa-* appears independently of the expression of the object as a noun phrase: in (5) the object “the Dakotas” is expressed in the clause, and in (6) the object is not expressed.

- (5) *óⁿba théthu sháoⁿ amá wa-tóⁿbe ha, (...).*
 day here Dakotas the.PL O.3PL-A1.SG.see DECL.M
 ‘On this day, I have seen the Dakotas (...)’ (Dorsey 1890:707.1 / Unázhiⁿ-ska)
- (6) *ithae-b-azhi-xti-oⁿ shtewóⁿ wa-’ú-bi-ama.*
 talk-PX-NEG-INTENS-AUX even so O.3PL-wound-PX-NARR
 ‘Without speaking at all, he wounded them.’ (Dorsey 1890:361.9 / Joseph LaFlesche)

In Umóⁿhoⁿ, *wa-* can also express the 1st person plural object (O.1PL), as in the form *wadóⁿba* ‘she sees us’ (Saunsoci & Eschenberg 2016 / Alice Saunsoci). However, O.1PL can also be marked by an additional *a-* along with *wa-*. This is the case in example (7), where O.1PL is marked by *awa-*. According to Carter et al. (2006:6), the O.1PL marker takes the form *a-wá-* each time a preverbal form occurs before it, that is, whenever *wa-* and the other indexation markers are not verb initial.

- (7) *égithe uthéwiⁿ-awá-tha-i.*
 finally assembled-O.1PL-CAUS-PX
 ‘At length they assembled us’ (Dorsey 1890:435.3 / Pathiⁿ-Noⁿpázhi)

2.2. Unspecified argument marker with generic reading: Antipassive

Example (8) shows the common transitive verb *that^hé* ‘to eat it’, with *hébe* ‘piece’ as an object.

- (8) *hébe that^há ga!*
 piece eat IMP.M
 ‘Eat a piece!’ (Saunsoci & Eschenberg 2016:94 / Alice Saunsoci)

In Umoⁿhoⁿ, as in other Siouan languages, if no object is expressed on a transitive verb, it is understood as definite: *that^hé* means ‘to eat it’. The prefix *wa-* saturates the object position and enables the verb to be used without referring to any specific object, like in example (9):

- (9) *wa-bthát^he íⁿ-udoⁿ.*
 ANTIP-A1.SG.eat DAT.1SG-good
 ‘Eat a piece!’ (Saunsoci & Eschenberg 2016:94 / Alice Saunsoci)

In such cases, it functions like an antipassive marker. Antipassive constructions can be defined as intransitive constructions derived from transitive ones with some overt morphological

encoding, where the agent is preserved and the patient either inexpressible or demoted to an oblique function (adapted from [Heaton 2017:64](#)).³

Table 1: Some antipassive verbs in Umoⁿhoⁿ

Base verb	Antipassive verb
<i>baxú</i> ‘to write <u>x</u> ’	<i>wabaxú</i> ‘to write’, ‘to write something’
<i>’é</i> ‘to farm <u>x</u> ’, ‘to hoe <u>x</u> ’	<i>wa’é</i> ‘to farm’ ⁴
<i>gí’i</i> ‘to give <u>x</u> to <u>y</u> to help him/her out’	<i>wé’i</i> ⁵
	1. ‘to give <u>x</u> to folks to help them out’
	2. ‘to give stuff to <u>y</u> to help him/her out’
<i>dóⁿbe</i> ‘to see <u>x</u> ’, ‘to look at <u>x</u> ’	<i>wadóⁿbe</i> ‘to scout’
<i>uhóⁿ</i> ‘to cook <u>x</u> ’	<i>úhoⁿ</i> ‘to cook’ (/wa-u/ → [ú-])
<i>that^hé</i> ‘to eat <u>x</u> ’	<i>wathát^he</i> ‘to eat’, ‘to eat something’

Table 1 shows some antipassive verbs in Umóⁿhoⁿ and their corresponding transitive bases (all forms are common, except when specified in footnotes). Note that the antipassive verb can take a specific, culturally relevant meaning, like in *wadóⁿbe* ‘to scout’ (widely attested in [Dorsey 1890](#)). *Wa-* can also remove any of the objects of a ditransitive verb, as can be seen for *wé’i* and its two possible meanings ([UNPS 2015:8](#)).

2.3. Nominalizer

Wa- is attested on deverbal nouns corresponding to intransitive stative verbs, transitive verbs and ditransitive verbs, as can be seen in Table 2. In most cases, the noun corresponds to the patientive argument of the verb, although in some cases, it can correspond to the agent (see last two lines).

Table 2: Deverbal nouns formed with the prefix *wa-*

	Verb	Noun
Intransitive Stative	<i>shíⁿ</i> ‘(to be) fat’	<i>washíⁿ</i> ‘fat’, ‘bacon’
	<i>zhíⁿga</i> ‘(to be) small’	<i>wazhíⁿga</i> ‘bird’
	<i>zhíde</i> ‘(to be) red’	<i>wazhíde</i> ‘tomato’
	<i>baxté</i> ‘to tie <u>it</u> ’	<i>wabáxte</i> ‘bundle’
	<i>that^hé</i> ‘to eat <u>it</u> ’	<i>wathát^he</i> ‘foot’
Transitive	<i>áthaha</i> ‘to put <u>it</u> on’	<i>wáthaha</i> ‘clothes’
	<i>tóⁿ</i> ‘to have (many of) <u>it</u> ’	<i>watóⁿ</i> ‘goods’
	<i>baxú</i> ‘to write <u>it</u> ’	<i>wabáxu</i> ‘letter’, ‘writer’ ⁶
	<i>dóⁿbe</i> ‘to see <u>it</u> ’	<i>wadóⁿbe</i> ‘scout’

³The antipassive was first described by [Silverstein \(1972:395\)](#) in the description of an ergative language. Since then, many scholars restrict this notion to the description of ergative languages, while others use it for describing object-demoting constructions without considering the alignment features. Here, I follow the second tradition. The Umóⁿhoⁿ antipassive construction described here corresponds to the “functionally determined” antipassive of [Cooreman \(1994\)](#).

⁴*Wa’é* ‘to farm’ is attested a few times in [Dorsey \(1890\)](#).

⁵*Gí’i* and its antipassive counterpart *wé’i* are attested only in [UNPS \(2015:8\)](#).

Other nouns combine *wa-* with an applicative prefix: the instrumental *í-* ‘with’, the locative (superessive) *á-* ‘on’, and the locative (inessive) *u-* ‘in’ (see morphophonological changes at the end of section 1). Here again, they can be considered as deverbal nouns because the corresponding verb without *wa-* can easily be retrieved. Such verbs are not attested in the corpora available to me, however.

Table 3: Deverbal nouns of instruments and location

Putative Verb	Noun
* <i>áthe^{the}</i> ‘to eat <u>x</u> on <u>y</u> ’	<i>wáthe^{the}</i> ‘table’
* <i>íbaxu</i> ‘to write <u>x</u> with <u>y</u> ’	<i>wébaxu</i> ‘pencil’
* <i>ímagixe</i> ‘to carve <u>x</u> with <u>y</u> ’	<i>wémagixe</i> ‘saw’
* <i>ú’e</i> ‘to farm in <u>x</u> ’	<i>ú’e</i> ‘field’

It is not always clear if *wa-* should be considered as a nominalizer, especially when the corresponding verb is transitive: in those cases, it could be considered as a conversion from a transitive verb with antipassive *wa-*.⁷ For lack of space I will not cover this issue. I consider that *wa-* has a nominalizing function at least when it derives nouns from intransitive stative verbs. Intransitive stative verbs cannot take an antipassive marker, nor do they take the 3rd person plural object marker when their subject is plural (Marsault 2016:81).

2.4. Temporary conclusion: O.3PL ↔ ANTIP

From the examples in the previous sections, and leaving aside the nominalizing function, we see possible ambiguities between *wa-* as a 3rd person plural object marker and as an antipassive marker: the antipassive marker could be interpreted as a third person plural marker having acquired a generic reference. Thus, the form *wamóⁿthoⁿ* in (10b) can be interpreted in two different ways, and the context does not always clarify which function *wa-* is taking.

- (10) a. *moⁿthóⁿ* ‘he steals x’
 b. *wamóⁿthóⁿ* ‘he steals (things)’, ‘thief’, ‘he steals them’

Example (11) typifies this ambiguity. Here, the form *wéthai*, from the base verb *íthe* ‘to find x’, means ‘discovered the presence of enemies’, as can be seen in the translation. This example is from the second sentence of a tale, and ‘the enemies’ have not been previously introduced. Nonetheless, Dorsey glossed the verb ‘discovered them’, favoring an interpretation of *wa-* as a marker of O.3PL.

- (11) *Táxti-zhiⁿga ak^há wétha-i the.* (< *íthe*: ‘to find x’)
 Fawn the discovered them (Dorsey’s gloss)
 deer-small the.SG ?.find-PX PAST
 ‘The Fawn discovered the presence of enemies’ (Dorsey 1890:358.1 / Joseph LaFlesche)

⁶*Wabáxu* is very frequently used for ‘letter’. I have found one instance where it refers to the writer, in Dorsey (1890:509.3).

⁷As will be seen in section 3, *wa-* as an underspecified argument marker can also correspond to a referring, singular object which is left indefinite by the speaker. This use of *wa-* could account for nouns such as *wabáxu* ‘letter’.

This analysis according to which the antipassive could arise from O.3PL with a generic interpretation works in most cases in Umo^hoⁿ. However, a few corpus examples contradict this analysis, as will be seen in section 3. Moreover, while most Siouan languages have a cognate of *wa-* as an absolutive, only a few of them have the prefix *wa-* as a O.3PL marker.

3. Antipassive with referring object

In example (12), we see the prefix *wa-* on the transitive verb ‘to write *x*’, where it stands for an inanimate singular referring object. It cannot be interpreted as a O.3PL marker. The gloss provided by Dorsey, “you wrote something”, identifies *wa-* as an instance of the function of “underspecified argument marker”. In this case, however, it cannot be interpreted as an antipassive marker either. The sequence *washpáxu t^{hi}tha the thoⁿ* forms a relative clause translated ‘what you wrote and sent hither’ by Dorsey. *Wa-* stands for a specific object which has the syntactic status of a verb argument: whatever *wa-* refers to is the object of the second verb, *t^{hi}the* ‘to send *x*’, and it is the head of the relative clause, not expressed as a NP here. Note that the verb is conjugated with A2 personal marker (initial *shp-* instead of *b-*), which unambiguously distinguishes it from a noun.⁸ For such cases, *wa-* is considered as an “indefinite object” (glossed INDEF), which does not reduce the verb valency.

- (12) *wa-shpáxu t^{hi}-tha-the thoⁿ a-nóⁿ’oⁿ (...).*
 you wrote something you sent it here the ob. I heard it (...) (Dorsey’s gloss)
 ANTIP-A2.write arrive-A2-CAUS the A1.SG-hear
 ‘I have heard what you wrote and sent hither (...)’ (Dorsey 1891:64.1 / Gahige)

Example (12) is contradictory with the temporary conclusion presented in §2.4: here no ambiguity is possible with *wa-* as a O.3PL marker, and it suggests that the “underspecified argument marker” is disconnected from the O.3PL marker, despite the fact that they are homonyms.

Furthermore, *wa-* is sometimes attested in clauses where an inanimate or singular object is expressed as an NP, like in (13). To the best of my knowledge, such constructions in Umó^hoⁿ have never been explicitly described, and the translations that come with such constructions do not suggest any interpretation of *wa-*. It is possible that *wa-* has developed a partitive semantics or continuative aspect value. This could account for the presence of *wa-* in (13). With this interpretation, we could propose as literal translations of example (13) as ‘He went home after telling us to work some of the land with our hands’, or ‘He went home after telling us to do some work on the land with our hands’.⁹

- (13) *Noⁿbé tóⁿ moⁿzhóⁿ wa-thítoⁿ wagázhi agtha-í.*
 hand have land ANTIP-work O.1PL-ask go.home-PX
 ‘He went home after telling us to work the land with our hands’ (Dorsey 1890:507.7 / Te-úkoⁿha)

⁸If the verb were not conjugated, the sequence *wabáxu t^{hi}-tha-the thoⁿ* could be interpreted as ‘the letter which you sent here’, due to the fact that *wabáxu* can be a verb and a noun (compare Table 1 and Table 2).

⁹This interpretation of *wa-* was suggested to me by B. Gordon (p.c.), with the verb *wathát^he*. They reckons that it needs to be checked with speakers, and I try here to apply this interpretation to example (13).

Considering the previous examples, the precise reference of *wa-* in examples such as (14) is ambiguous: it could be analyzed either as a generic *wa-*, translated as ‘I write to you’, or as a referring *wa-*, which is the interpretation favored by Dorsey here: ‘I write something to you’, with the speaker having something specific in mind that will be made explicit in the following sentences (example (14) corresponds to the first sentence of a letter).

- (14) *K^hagé-ha, wa-wí-paxu*
 friend-VOC.M ANTIP-A1.SG/P2-A1.SG.write
 ‘O friend, I write to you about something’ (Dorsey 1890:55.1 / Noⁿzadazhi)

4. Conclusion

This paper identifies at least 4 functions for the prefix *wa-*, with possible ambiguities between them: third person animate plural object marker (O.3PL, §2.1); antipassive marker (generic reading, ANTIP, §2.2); indefinite object marker (specific reading, INDEF, §3); and nominalizer (NMLZ, §2.3). Few descriptions of Siouan languages address the issue of the referentiality of the patientive participant in constructions with *wa-*, and it cannot be easily deduced from the English translation. It seems that the generic referentiality is attested in most Siouan languages, at least on a few verbs each time (see Marsault forthcoming).

In Umóⁿhoⁿ, while *wa-* as a generic antipassive can be linked to O.3PL marker, suggesting at first sight some historical link between them, there is no link between the O.3PL marker and the INDEF marker, which often stands for non plural and/or inanimate objects.

Ambiguities are possible between O.3PL and generic antipassive (examples 10 and 11), and between generic and referring antipassive (example 14). In turn, the functions of referring antipassive (*verb* something) and nominalizer (something that is *verb*) are close, especially considering the pervasiveness of relative clauses in Umoⁿhoⁿ, and its structure (see Rudin 1991).

Figure 1: Ordered functions for *wa-* in Umoⁿhoⁿ

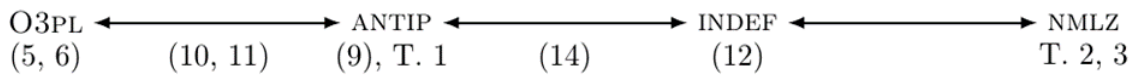


Figure 1 captures the distinct functions of *wa-* described in this paper, and the possible ambiguities between them. The reference of the illustrating example(s) or Table(s) of each function are indicated underneath. The arrows between each function illustrate possible ambiguities between two functions, and the examples illustrating these ambiguities are referred to underneath the arrows. This figure explains why it is difficult to establish a diachronic source for the antipassive in Umóⁿhoⁿ: the data show ambiguities in two opposite ways. In Marsault (forthcoming), I suggest that the antipassive reading can come from both O.3PL and INDEF, building evidence on formal distinctions which are found in some contexts.

More research is needed on this subject in order, on the one hand, to better understand which are the values of *wa-* synchronically (especially the possible “partitive” value), and on the other hand, to investigate the possible diachronic pathways of evolution, and confirm or infirm the hypothesis of two sources for the antipassive.

Abbreviations

1, 2, 3	1st, 2nd and 3rd person	INTENS	intensive
A	agentive	NARR	narrative
ANTIP	antipassive	NEG	negation
AUX	auxiliary	NMLZ	nominalizer
CAUS	causative	O	object
DAT	dative	PAST	past
DECL	declarative	PL	plural
EVID	evidential	PX	proximate
IMP	imperative	SG	singular
INDEF	indefinite	VOC	vocative

References

- Boyle, John P. 2009a. The functions of [**wa-*] in Siouan. Accompanying table of the paper “The [**wa-*] prefix in the Siouan languages”.
- Boyle, John P. 2009b. The [**wa-*] prefix in the Siouan languages. Paper presented at the Comparative Siouan Syntax Workshop in Lincoln, NE. June 12-14.
- Carter, Richard T., A. Wesley Jones, Robert L. Rankin, John E. Koontz & David S. Rood. 2006. Comparative Siouan dictionary. Unpublished database.
- Cooreman, Ann. 1994. A functional typology of antipassives. In Barbara Fox & Paul J. Hopper (eds.), *Voice: Form and function*, 49–88. Philadelphia, PA: John Benjamin.
- Dorsey, James Owen. 1890. The Čegiha language. In *Contributions to North American ethnology*, vol. 6, 1–794. Washington, DC: U.S. Government.
- Dorsey, James Owen. 1891. Omaha and Ponka letters. *Bureau of American Ethnology Bulletin* 11. 1–127.
- Graczyk, Randolph. 1991. *Incorporation and cliticization in Crow morphosyntax*. Chicago, IL: University of Chicago dissertation.
- Graczyk, Randolph. 2007. *A grammar of Crow*. Lincoln, NE: University of Nebraska Press.
- Hartmann, Iren. 2015. Valency classes in Hoocak (Ho-Chunk). In Andrej Malchukov & Bernard Comrie (eds.), *Valency classes in the world's languages*, vol. 2, 1245–1291. Boston, MA: De Gruyter Mouton.
- Heaton, Rania. 2017. *A typology of antipassives, with special reference to Mayan*. Honolulu, HI: University of Hawai'i at Mānoa dissertation.
- Helmbrecht, Johannes. 2002. Noun-verb in Winnebago. *International Journal of American Linguistics* 68(1). 1–27.

- Kasak, Ryan M. 2019. *Affix ordering and templatic morphology in Mandan*. New Haven, CT: Yale University dissertation.
- Marsault, Julie. 2016. *Le système verbal du omaha: Formes et fonctions des préfixes verbaux*. Paris, France: Université de Paris 3 – Sorbonne Nouvelle M.A. thesis.
- Marsault, Julie. forthcoming. *Valency-changing operations in umóⁿhoⁿ: Affixation and incorporation*. Paris, France: Université Sorbonne Nouvelle – Paris 3.
- Quintero, Carolyn. 2004. *Osage grammar*. Lincoln, NE.
- Rudin, Catherine. 1991. Relative clauses in Omaha-Ponca (Siouan). Paper presented at annual meeting of the American Anthropological Association, Conference on American Indigenous Languages sponsored sessions.
- Saunsoci, Alice Fern & Ardis Rachel Eschenberg. 2016. *500+ verbs in Umóⁿhoⁿ (Omaha): Doing things in the Umóⁿhoⁿ way*. Scotts Valley, CA: CreateSpace Independent Publishing.
- Silverstein, Michael. 1972. Chinook Jargon: Language contact and the problem of multilevel generative systems, part I. *Language* 48(2). 378–406.
- Ullrich, Jan. 2008. *New Lakota dictionary*. Bloomington, IN: Lakota Language Consortium.
- UNPS. 2015. *Umóⁿhoⁿ Íye conjugation charts (transitive verbs only)*. Macy, NE: Umóⁿhoⁿ Language and Culture Center. Bryan J. Gordon (compiler).