# Syntax and Semantics of Wamesa Valency-Changing Operations

A Thesis Presented at Swarthmore College

In Candidacy for the Degree of

Bachelor of Arts

By

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December 10, 2021

#### ACKNOWLEDGEMENTS

This thesis would not have been possible without the love, work and extreme patience of many people. I would like to thank specifically Professor Ted Fernald for his abundant patience and invaluable suggestions. I would also like to acknowledge Professor Emily Gasser for suggesting this topic as an idea and providing me with a plethora of feedback, support, resources, gentle criticism and ideas. My sincere gratitude also goes to Professors Jonathan Washington, Shizhe Huang and Tricia Irwin who gave their time and abundant insights and to Ceci Williamson for their comments and maps. The feedback and comments from Sandra Casak, Eve Fleisig, Mia Limmer and Elizabeth Resendiz were much appreciated, as was the work of Yusuf Sawaki and the University of Hawai`i at Mānoa in helping me contact speakers in Indonesia. *Topa sovera!* 

#### ABSTRACT

Wamesa, a SHWNG language of Western New Guinea, has three apparent valencychanging operations (VCO's): the pseudopassive, causative and instrumental applicative. This paper takes a closer look at the syntactic and semantic forms of these constructions. The Wamesa pseudopassive is not a real VCO but simply a case of topic-motivated object fronting. Additionally, the causative likely does not actually increase verbal valency. The instrumental applicative, however, has a rather unusual [Instrument S V O] word order that is a result of the initial generation of an instrumental object in the underlying representation and subsequent movement of this object to the leftmost periphery for topic reasons. All three operations are motivated largely by either topic or focus and can be explained as resulting from the dual syntactic and discourse-pragmatic function of valency-changing operations (Peterson, 1999). Cross-linguistically, although many of Wamesa's features are unusual, they are not wholly unheard of and conform to data from other languages showing that many apparent VCO's are motivated primarily by semantic considerations. Further research is needed on this understudied language and its morphology but this short examination of just one section of its verbal morphology demonstrates both the importance of the syntax-semantics interface in Austronesian languages and the semantic motivation of syntactic phenomena overall.

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#### 1. INTRODUCTION

Wamesa, also known as Wandamen or Windamen, is an Austronesian language spoken in the southeast of the Bird's Head Peninsula in Indonesian Papua (Saggers, 1979) (see map 1.1). It is part of the South Halmahera-West New Guinea (SHWNG) sub-family of Austronesian, having been introduced to the island by Austronesian settlers from the north. Wamesa has around 5,000 speakers in three closely related dialects (Windesi, Wandamen and Bintuni) and is considered endangered, being under pressure from Papuan Malay, a regional language, and Bahasa Indonesia, used in the education system and government offices (Gasser, 2014; McGibbon, 2004). Traditional Wamesa culture was based on village life and the cultivation of sago, a starchy palm, and was animist, but following Dutch colonization in the late 19th century, the majority of Wamesa people now consider themselves Calvinist (McGibbon, 2004). Papua is one of the most linguistically diverse places in the world, with several language families, including the unrelated Trans-New Guinea and West Papuan languages, both of which have had significant substrate influence on SHWNG languages. Wamesa is mostly spoken in coastal areas and historically had extensive early modern commercial links with the Sultanates of Tidore and Ternate, two trading thalassocracies based on the monopolization of the clove trade, and

subsequently has strong lexical and grammatical influence from the West Papuan languages of Tidore and Ternate, including a more analytical morphology and serial verb constructions (Gasser et al., upcoming).



*Map 1.1:* The Bird's Head Peninsula in Papua with Wamesa-speaking areas mapped under 18. (Gasser, 2014). Languages spoken to the east of the peninsula are mostly in the unrelated Trans-New-Guinea family, while those to the west are mainly West Papuan languages.

Like many other SHWNG and unrelated Trans-New-Guinea languages (Polinsky, 2013), Wamesa has a base Subject-Verb-Object word order but is a topic-prominent language, allowing for the movement of the most semantically relevant verbal object to the left periphery. Wamesa is also a pro-drop language, not requiring a phonologically explicit verbal subject. Additionally, Wamesa has a series of apparent valency-changing operations (VCO's), including a pseudopassive, causative and instrumental applicative, which change the number of core arguments in a verb phrase. A further syntactic evaluation of these operations reveals that they have unusual syntactic features in Wamesa, as the pseudopassive and instrumental seem to only be able to co-occur alongside topic-related displacement. This provides evidence for theories laid out in Peterson (1999) and Dixon (2010) stating that all valency-changing operations are semantically motivated and serve to either emphasize or de-emphasize certain core verbal arguments.

In this paper, using corpus data, I propose that Wamesa VCO's are motivated by topic and focus and serve to syntactically mark the semantic importance of a verbal object. Furthermore, I propose that evidence from Wamesa seems to conform with previously proposed semantic theories on the motivation for these verbal derivations. I additionally propose syntactic explanations for the unique forms of these apparent VCO's using the Principles & Parameters framework in the Minimalist Program.

#### 2. DATA & FRAMEWORK

The Wamesa language data for this paper comes from a variety of sources. One particularly important source is fieldwork from Emily Gasser conducted between 2011 and 2016 in West Papua. The data includes several annotated field notebooks, as well as around four hours of recorded and transcribed audio from native speakers (Gasser, p.c.). Additional data comes from Wamesa-language grammars from Cowan (1955) and Saggers (1979), a Wamesa-language dictionary with plenty of example sentences (Henning, 1991), as well as a text containing excerpts from the Bible from 1911 published by Calvinist missionaries (van Balen) and a 2011 Bachelor's Thesis from the State University of Papua (Karubuy). All these sources contain data from the Windesi dialect, except for Henning and Cowan, which contain Wondamen data. There do not appear to be significant syntactical differences between these dialects.

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While this data set is not large when compared to that used for analyses in other languages, it constitutes the majority of published Wamesa text and all text published since 1955 in the language and is larger than the corpuses of most other languages in the region. Although the analyses from Gasser, Saggers and Cowan largely agree with corpus data, the 1911 Biblical excerpts contain significant differences from other Wamesa texts, possibly due to diachronic change. However, these differences are mostly orthographic and lexical and the valencychanging operations in this text appear to function as they do in Modern Wamesa. Finally, Karubuy (2011) contains a good amount of Wamesa-language data, but little analysis on it.

While all these sources show evidence of the three principal valency-changing operations in Wamesa, in her analysis, Saggers (1979) additionally states that there is a causative-*rV* verbal suffix that can be added to a base verb. In ex. 2.1, for example, the base verb *vavu* 'to go home'<sup>1</sup> has a valency of one, having only a subject (in this case, a phonologically null *pro*-form). When the purported -rV suffix is added (ex. 2.2) to form the verb form *vavuru*, meaning 'to leave', the verb has a valency of two, having a verbal subject and object. However, this suffix was not found outside of Saggers' analysis, a fact also noted by Gasser (2014).

2.1) base verb in Wamesa

mem-bavu.

(Gasser, p.c.)

 $2.PL^2$ -go.home.

'I go home.'

2.2) addition of supposed -rV suffix to transitive verb

<sup>&</sup>lt;sup>1</sup> Surfacing as *bavu* due to phonotactic restrictions.

<sup>&</sup>lt;sup>2</sup> A full list of glossing abbreviations can be found in the appendix.

*I-vavu-ru mia.* (Saggers, 1979, 58) 1.SG-go.home-CAUSE 2.HUM.PL.OBJ. 'I leave you.'

As a result of having no data to show the use or distribution of this supposed causative suffix besides example sentences from Saggers, this paper does not comment on its potential form. It should also be noted that there are no other examples of vowel harmony in Wamesa, casting further doubt on this analysis. Additionally, while *vavuru* (or the variant *vavaru*, as attested in Henning, 1991) does indeed mean 'leave', the lack of apparent productivity for this suffix might mean that this is either a marginal phenomenon or a misanalysis.

This paper seeks to analyze the syntax and semantics of Wamesa verbal structures by means of the Principles & Parameters framework of the Minimalist Program. Under this model, language is generated in the form of a binary-branching tree and movement is possible via merging and raising. Additionally, it is assumed that certain syntactic units are able to probe and check their binding domains for certain features and the lack of these features can lead to ungrammaticality.

#### 3. BACKGROUND

#### 3.1. TOPIC, FOCUS & SALIENCE

The semantic literature is often not clear on the difference between topic and focus and there are several competing and overlapping definitions of these terms. For the purposes of this analysis, however, focus will be treated as a pragmatic and semantic phenomenon that can be optionally reflected in the syntax and topic as a pragmatic one mandatorily reflected in the syntax. Defining focus as an "informative... extra-syntactic system of information structure" (Matić & Wedgwood, 2013, 131), a syntactic phrase is the focus of a sentence if it can answer the Q-A criterion, where it is co-indexed with the wh-word in the question that the sentence most directly answers. In the English ex. 3.1, for example, the determiner phrases *Professor Fernald* and *this paper*, as well as the verb phrase *is reading this paper* can all answer wh-questions and are co-indexed with wh-words (represented by the subscript *i*) and are thus potential foci of the sentence.

3.1) Focus as answering the Q-A criterion in English
Who<sub>i</sub> is reading this paper? [Professor Fernald]<sub>i</sub> is reading this paper.
What<sub>i</sub> is Professor Fernald reading? Professor Fernald is reading [this paper]<sub>i</sub>.
What<sub>i</sub> is Professor Fernald doing?" Professor Fernald [is reading this paper]<sub>i</sub>.

Pragmatically, utterances consist of the focus (or foci), with maximum salience, and the rest of the utterance (the "background"), which contains information elaborating on the focus. This focus frequently offers new or contrastive information not previously known to the audience and is often marked via particles or intonation (Matić & Wedgwood, 2013), as in the English ex. 3.2. In this example, the pronouns *I* or *them* can be alternatively marked as foci via intonation alone.

#### 3.2) Intonation marking focus in English

 $[I_{foc} am making a cake for them] v. [I am making a cake for them_{foc}].$ 

The focus is not necessarily syntactically marked and, in most languages, there can be multiple foci per utterance (Zimmerman, 2008). This is the case in English, where in ex. 3.3, the determiner phrases *the undergrads* and *questionable decisions* can both simultaneously answer the wh-question *"who made what?"* and serve as the joint foci of an utterance.

3.3) An utterance with multiple foci in English

*Who<sub>i</sub>* made what<sub>j</sub>? [The undergrads]<sub>i</sub> made [questionable decisions]<sub>j</sub>.

In contrast to foci, topics are not present in every language. Topics are part of a specific sentence type, in which a topic (or theme) is in the leftmost periphery<sup>3</sup> in the specCP position. This topic governs a comment (or rheme) specifying information on the topic (Paul & Whitman, 2017). The syntactic structure of a topic-comment sentence is shown in tree 3.4.

Tree 3.4) Syntax of an utterance with a topic and a comment



<sup>&</sup>lt;sup>3</sup> Although some debate exists whether this can also apply to the rightmost periphery as well, this is not applicable in Wamesa and beyond the scope of this paper.

Topics often mark new and contrastive information about a sentence or serve as semantic pivots, in which the subject of conversation is shifting and the topic serves as a link between previous and novel utterances (Paul & Whitman, 2017). The topic is a specific type of information structure and is a syntactic phenomenon. Unlike foci, in most languages, there can only be one topic per utterance and there are often limits to what phrases can be topics, with most languages only allowing determiner phrases to be topicalized (Paul & Whitman, 2017). Additionally, while focus can be reflected in the syntax via intonation, particles or clefting, topics are marked as occupying the left-periphery. From a Principles & Parameters perspective, topic-prominent languages have a [+TOPIC] Parameter allowing the node sister to C' to be filled (and the related [+TOPIC] feature must be checked by the specCP position), while languages like English have a [-TOPIC] Parameter (Yang, 2013, 411).

Languages utilizing this structure are termed topic-prominent languages and come in two primary varieties, "Japanese-style" and "Chinese-style" (Paul & Whitman, 2017). In Japanesestyle languages, topics are mandatory across utterances, are generated in the specCP position and are co-indexed with a phonologically null morpheme in their rhemes. In ex. 3.5, for example, *sore-ra no ki* 'those trees' is topicalized and co-indexed with a null morpheme that possesses the DP *miki* 'trunk'.

[Sore-ra	no	ki] <sub>i</sub>	wa	Øi	miki	ga	ōkī.	(Paul &
								Whitman,
								2017, 2)
that-PL	GEN	tree	ТОР	i	trunk	NOM	big.	

3.5) Japanese-style topic prominence in Japanese

'Those trees, (their) trunks are big.'

In Chinese-style languages, however, topics are optional and originate in the comment, moving up to the specCP position in a form of raising. In the Chinese example 3.6, the DP  $n\dot{e}i$  $zh\bar{i}g\check{o}u$  'that dog' originated in the rheme and was raised to the leftmost periphery.

3.6) Chinese-style topic prominence in Chinese

Nèi	zhī	gŏu	wŏ	yıjīng	kàn-guo	Ø	le.	(Paul &
								Whitman,
								2017, 8)
That	CL	dog	1.SG	already	see-EXP	<dog></dog>	SFP.	
'I have already seen that dog.'								

Wamesa specifically is a topic-prominent Chinese-style language, in which topic is optional and the specCP position can be optionally filled (Rakowszczyk, upcoming). In example 3.7, for example, there is no topic filling the leftmost periphery and the sentence is in the default [S V O] word order, with the verbal object *dia ma* 'the fish' following the verb.

3.7) A Wamesa sentence with no topic

Yau	i-pote	dia=ma.	(Gasser, p.c.)
1.SG	1.sG-fish	fish=FOC.	

'I eat fish.'

In example 3.8, in contrast, the object DP *dia pai* 'the fish' is topicalized and occupies the leftmost periphery of the sentence, before the verb and the (phonologically null) subject. 3.8) Wamesa sentence with a topic.

 $[Dia=pa-i]_{top}$ y-isane-i.(Gasser, 2014, 215)fish =DET-SG1.SG-spear-OBJ.SG.

'I spear the fish.'

Additionally, phonetically null heads can fill this position, meaning that even implicit objects can be topicalized. This is the case in ex. 3.9, where the instrument of this applicative phrase is topicalized and precedes the verbal subject *yau* 'I' but has no phonological content (is a *pro*-form). This is, however, a relatively rare phenomenon that mostly occurs only when the topic is highly salient in the discourse and it is obvious what the topicalized instrument contextually refers to.

3.9) Wamesa sentence with phonologically null topic.

$[\mathcal{O}]_{top}$	Yau	y-im-bui.	(Gasser, 2014, 202)
pro	1.SG	1.SG-APPL-write.	

'I use (it) to write.'

An important note is that Wamesa allows only determiner phrases to occupy the topic position. In the entire corpus, no examples were found of any phrase type other than determiner phrases in this position, suggesting that the specCP position applies selectional restrictions on what phrases can fill it. Additionally, there were also no examples in the corpus of any

determiner phrase moving out of a prepositional phrase. While absence of evidence is not evidence of absence, the sheer size of the corpus, with hundreds of pages of text and hours of audio, strongly suggests that DP movement out of a prepositional phrase is not permitted in the language (as shown in tree 3.10).

3.10) Wamesa DP movement out of a PP phrase is not allowed.



Besides topic and focus, there exists a cross-linguistically recognized salience hierarchy in terms of theta roles. Defining XP salience<sup>4</sup> as a continuous level of importance in a sentence, as opposed to focus, which is a binary feature, every syntactic phrase in an utterance has a different perceptual level of salience, with foci having maximum salience (Peterson, 1999). According to Peterson (1999), Lexical Mapping Theory posits that there exists a distinct hierarchy of DP salience by theta roles, with agents being the most prominent, followed by

<sup>&</sup>lt;sup>4</sup> Not to be confused with salience referring to discourse salience of the antecedent of an anaphor, often inversely related to DP salience.

instruments and then patients and themes. This hierarchy is posited as being universal. Since agents are often verbal subjects in nominative-accusative languages (like Wamesa and English) and themes are often accusative objects, it stands to reason that in these languages, this works out to there often being a hierarchy with subjects having higher salience than objects for many verbs (Peterson, 1999). Besides this hierarchy, Baker (1985) and Peterson (1999) both note that leftmost periphery dislocation, whether that be topic-motivated or for another reason, is correlated with higher saliency for the dislocated constituents. As topic-motivated movement results in the determiner phrase occupying the leftmost periphery, it thus increases its salience. Additionally, Peterson (1999) states that phonologically explicit determiner phrases have increased saliency when compared to null pro-forms. By moving objects into a topic (leftmost periphery) position or forcing them to be phonologically null, Wamesa valency-changing applicatives can thus influence the perceptual salience of determiner phrases in the language. These DP salience hierarchies (focus v. non-focus, theta role, dislocation and phonological content) are summarized in a readable form in chart 3.11.

	More salient ←		→ Less salient
Focus v non-focus hierarchy	Focus DP		Non-focus DP
Theta role hierarchy	Agent DP	Instrument DP	Patient/theme DP
Dislocation hierarchy	Leftmost periphery DP		Other DP
Phonological content hierarchy	Phonologically explicit DP		Phonologically null DP

#### 3.11) Chart of cross-linguistically recognized saliency hierarchies

#### 3.2 VALENCY-CHANGING OPERATIONS & FOCUS

Morphological valency-changing operations are extended verb-phrase-internal operations that change the number of core arguments of a verbal structure (Baker, 1985). These can be valency-reducing, such as the passive, which removes the subject from a verb core and relegates it to an optional prepositional phrase. An example of this can be found in English ex. 3.12, where the root form of the verb *eat* has a valency of two, requiring a subject (*I*) and object (*potato chips*) (3.12.a), while the passive operation that results in the form *be eaten* only has a valency of one, with the new subject (*potato chips*) being the object of the root form and the root subject only being expressed as an optional adjunct prepositional phrase (*by me*) (3.12.b). Thus, this operation reduces the valency, or number of core arguments, of the verb by one.

3.12) Example of passive verb in English removing subject

a) Base active verb "eat"

Sometimes, I eat ice potato chips even though they've been on the floor.

b) Passive form "be eaten"

Sometimes, potato chips are eaten (by me) even though they've been on the floor.

However, valency-changing operations can also be valency-increasing, such as the causative. This construction adds a new subject to a verb phrase, while maintaining the verbal objects of the root verb. An example of this can be found in the Hebrew ex. 3.13, where the root verb *tzachaq* 'laugh' has a valency of one, taking a subject (*ani* 'I'). However, the causative form *hitzichq* 'make laugh' has a valency of two, taking a new causer subject (*hu* 'he'; given a causer

theta role by the verb) while maintaining the root subject (although in this case granting it accusative Case).

3.13) Example of morphological causative in Hebrew (Afro-Asiatic) a) Base verb for 'laugh' *Ani* tzachaq-ti. I laugh:PST-1.SG. 'I laughed' b) Causative form for 'make laugh' *Hu* hitzichq oti. He CAUSE $\sqrt{laugh-3.SG.PST}$  me. 'He made me laugh.'

One other form of valency-increasing operation is the applicative, which adds a new object to a phrase (Dixon, 2010). There are many subtypes of VCO's and especially of applicatives, with instrumental applicatives involving an instrument theta role being assigned to the new argument and benefactive applicatives assigning a benefactor theta role to the new argument. In the Tukang Besi (Austronesian) example 3.14, the base verb *ala* 'fetch' has a valency of two, taking a third-person singular phonologically null *pro*-form subject and a direct object (*kau* 'wood') (ex. 3.14.a). However, in the benefactive applicative construction in 3.14.b, *alaako* 'fetch for' has a valency of three, with the same two verbal objects as the root verb plus a new direct object (*inasu* 'my mother'), which is assigned the theta role of benefactor. 3.14) Benefactive applicative in Tukang Besi

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a) Base verb for 'fetch'

No-ala	te		kau.		(Polinsky, 2013)	
3.REALIS-fetch	DET		wood.			
'She fetched the wood						
b) Applicative form for	fetch f	or'				
No-ala-ako	te	ina-su	te	kau.	(Polinsky, 2013)	
3.REALIS-fetch-APPL	DET	mother-1.SG	DET	wood.		
'She fetched the wood (as a favor) for my mother.'						

While every language can reach similar meanings to that a VCO expresses through periphrastic forms (the use of similar utterances with near-identical meanings to a valencychanging operation; Comrie, 1981), each language has a different matrix of allowable VCO's, with English having only a morphological passive<sup>5</sup>. For example, English can periphrastically approximate the meanings of applicative and causative constructions. In example 3.15.a, the verb *consume* has a valency of two, with a subject (*my friend*) and object (*life-threatening amounts of espresso*). Although English has no widely productive morphological causative, the language can approximate the addition of a causer subject as in example 3.15.b by use of the verb *make*, taking the causer (*I*) as a subject, the causee (*my friend*, the subject of the base verb) as a direct object and a CP containing the base verb phrase as a complement. Similarly, English can approximate the addition of a new benefactor object in a benefactive applicative, as in example 3.15.c, through a prepositional adjunct with the preposition *for* (with *my grades* receiving a theta role of benefactor of the main action). The theta role assignments in these

<sup>&</sup>lt;sup>5</sup> Although there is some argument that the verbal prefix *out*- might be a limited morphological applicative.

periphrastic forms are identical to the assignments these objects would receive in true morphological VCO operations.

3.15) Periphrastic VCO-like operations in English

a) Base sentence with "consume"

*My friend regularly consumes life-threatening amounts of espresso.* 

b) Periphrastic form resembling causative

I make my friend regularly consume life-threatening amounts of espresso.

c) Periphrastic form resembling benefactive applicative

My friend regularly consumes life-threatening amounts of espresso for their grades.

There are currently two contemporary syntactic approaches to these operations: one, elaborated by Mark Baker in 1985, views valency-changing operations as a form of verb incorporation, analogous to noun incorporation: in this view, causatives are the incorporation of a complementizer phrase into a CAUSE verbal head, passives are the incorporation of a vP into a PASS head while applicatives are the incorporation of a prepositional phrase into a verb phrase. From the Uniformity of Theta-Assignment Hypothesis (UTAH) which states that "identical thematic relationships between items are represented by identical structural relationships between these items" in their underlying representations (Baker, 1985), it is thus implied that valency-increasing operations must have the same underlying representation as their periphrastic counterparts formed via prepositional phrases or embedded complementizer phrases. However, this approach presents theory-internal problems beyond the scope of this paper (Peterson, 1999) and as a result has mostly been sidelined in favor of the view that VCO's are not a consistent class of operations but rather represent disparate morphosyntactic phenomena (Carnie, 2007).

Regardless of their structure, it has been noted that valency-changing operations have a semantic role as well, emphasizing or de-emphasizing certain verbal objects by bringing them into or out of the core verb structure. David Peterson (1999, 61) notes that "the essential function of applicative constructions is to indicate that the entity the construction refers to has a greater discourse salience or topic continuity than would otherwise be expected of it." In a similar vein, R.M.W. Dixon (2010) more generally states that valency-changing operations often tend to have discourse-determined roles, usually as a semantic pivot, which is a change in conversational topic with a topicalized object demonstrating a connection to previous ideas (Van Valin & Lapolla, 1997). With semantic pivot topics, a sudden change in the focus of the story is reflected with a fronting of a co-indexed object, also present in the previous utterance, to mark the new topic. This is exemplified in the Wamesa example 3.16. In this example taken from a longer conversation, the main idea of the conversation is shifting from the speaker's obtaining of a pen to their use of the writing instrument. Intonational and contextual evidence suggests that these are two distinct utterances. To mark cohesion between the utterances, the instrumental applicative is used to topicalize a null pro-form co-indexed with bolpen nei 'the pen' from the previous utterance. Here this topicalization serves to connect the two utterances by providing a continuity of verbal objects, even as the main ideas expressed in each one changes. This is a common application of applicative forms specifically and VCO's in general (Van Valin & Lapolla, 1997).

#### 3.16) Semantic pivot in Wamesa

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*I-rute* [bolpen=ne-i].<sub>i</sub>  $\emptyset_i \quad \emptyset_i \quad \emptyset_i \quad o = botol=ne-i.$  (Gasser, p.c.) 1.SG-hold [pen =DET-SG]<sub>i</sub>. pro<sub>i</sub> pro 1.SG-APPL-move bottle=DET.SG. 'I hold the pen. I use [**the pen**] to move the bottle.'

Additionally, as there are selectional restrictions on movement to the left periphery in Wamesa to only determiner phrases and not prepositional phrases and these phrases form islands from which movement is not allowed, it should not be possible for verbal adjuncts or embedded complementizer phrases to be moved to the topic-prominent leftmost position in Wamesa. However, since applicatives and causatives have the same theta roles as their periphrastic equivalents (with prepositional and complementizer phrases respectively; see 3.15.b and 3.15.c), they can theoretically bring these items that would otherwise not be allowed to be topics into the leftmost periphery as well. It could thus be the case that these constructions are motivated at least in part by topic prominence and a need to get non-core verb arguments into the specCP position. Additionally, the causative and passive demote verbal subjects away from their agentive positions, thus reducing their role in the saliency hierarchy.

In this paper, I argue in turn that the three Wamesa valency-changing operations, the pseudopassive, causative and instrumental applicative, are motivated in large part by topic prominence and focus and the desire to change the salience of certain verbal determiner phrases. This would add to a growing cross-linguistic body of literature showing similar ideas (see Comrie, 1981; Peterson, 1999; and Donohue, 2001), as well as evidence that many syntactic operations can indeed be explained by their semantic function and are not just semantically identical to their periphrastic alternations.

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**4** WAMESA PSEUDOPASSIVES

Defining the passive as a valency-changing operation that removes the verbal subject and instead assigns the verb's theta roles to a PASS head (Baker, 1985, 538), there is no true passive in Wamesa. The trees in 4.1 review the syntax of Passive verbs under the Minimalist program using an English-language example sentence (example 4.1.a). In the initial underlying representation (tree 4.1.b), a PASS head with no initial phonological content is generated as part of a PASSP phrase which contains the verb phrase of the root verb (in this case *bake*). The verb assigns one of its theta roles (here agent) to the PASS head, which absorbs it, and the other to its direct object (here theme). The verb cannot, however, assign Case to its object as the PASSP does not permit the verb it c-commands to do so<sup>6</sup>.

4.1) Passive verb syntax

a) Passive form in English*The cake was baked.*b) underlying representation of passive verb

<sup>&</sup>lt;sup>6</sup> This is because there is no AgrOP head generated in this position which would allow the assignment of Case. For more, see Carnie, 2003.



After this, the verb root raises and merges with the PASS head (in this case assuming the new phonological form *be eaten*) and part of this passive verb (the copula) rises to the specT' position to receive tense (tree 4.1.c).

c)



Finally, in order to satisfy the Extended Projection Principle, which states that every finite verb must have a subject, the object raises to the specTP position, filling this slot. In this position, it receives nominative Case from its structural position and the verb conjugates to reflect subject agreement (tree 4.1.d; in this case, *was eaten* to reflect a third person singular subject).

d)



The lack of a passive voice, while unusual cross-linguistically and especially for Austronesian languages (Donohue, 2001), is quite common in the SHWNG subfamily and has been documented in the closely related Ambel and Ma'ya languages (Gasser et al., upcoming). Instead of a true morphological passive, Wamesa has a construction known as the pseudopassive. In this construction, the object DP moves to specCP and is marked as the topic. Additionally, the verbal subject is a *pro*-form, a phonologically null form that refers to a contextually described entity and thus carries less semantic weight and discourse prominence than an explicit DP. This form is identical to that of a sentence with the verbal object in the left-periphery topic position. In example 4.2 in Wamesa, the verbal object *dia pai* 'the fish' is topicalized and the subject is a phonologically null *pro*-form. As a result, this sentence can be interpreted as being either topicalization of the direct object or as a pseudopassive with a meaning resembling the passive.

#### 4.2) Wamesa pseudopassive / object-as-topic

Dia=pa-i	Ø	y-isane-i.	(Gasser, 2014, 215)
fish=DET-SG	pro	1.SG-spear-OBJ.SG.	
	1 [] ] / ]	.1	

'The fish is speared [by me] / I spear the fish.'

This is not a true passive construction, as the subject is still present as a *pro*-form. It is worth noting that all Wamesa transitive verbs<sup>7</sup> have a Parameter requiring them to be followed by phonological content. When there is no explicit direct object, the language has different repair strategies. For example, when the direct object is a phonologically null *pro*-form, the language inserts a dummy -*i* particle after the verb. This is the case in example 4.3, where the lack of a direct explicit object following the verb *isera* 'I see' is remedied with the addition of the -*i* particle.

4.3) Use of -*i* dummy particle

Yau

i-sera-i.

(Gasser, 2014, 216)

1.SG

-ser u-1.

1.SG-see-DUMMY

'I see.'

<sup>&</sup>lt;sup>7</sup> As well as those requiring a locative indirect object.

Similarly, when the direct object has been fronted due to topic movement, a trace particle is appended to the verb. This particle takes the form of *-si* for a plural object or *-sia* for a singular human object or *-i* elsewise (Gasser, 2014) and is (confusingly) often homophonous with the otherwise used *-i* dummy particle. Thus, the presence of this particle in pseudopassive utterances is explained as resolving the Parameter in Wamesa requiring phonological content after transitive verbs.

With this in mind, one can describe the Wamesa pseudopassive as a topic phenomenon. An example of the syntax of a Wamesa pseudopassive is below in tree 4.4 based on example sentence 4.2 (reproduced below as 4.4.a). In the underlying representation (tree 4.4.b), the root verb (*isane* 'spear') is generated along with its direct object (*dia pai* 'the fish') and a phonologically null *pro*-form subject (here a first-person singular form). The verb assigns a theta role to its subject and object (agent and theme respectively for 4.4.a) and grants accusative Case to the object as normal.

4.4)

a. Example sentence

Dia=pa-i

fish=DET-SG pro

y-isane-i.

1.SG-spear-OBJ.SG.

(Gasser, 2014, 215)

'The fish is speared [by me].'

b) Underlying representation of pseudopassive

ø



Following this, the object, being specified as the topic, moves to the specTP position and then the specCP position, checking its [+TOPIC] feature. This intermediate step is due to the Minimalist Program's prohibition against long-distance movement. This results in the left-periphery dislocation of the verbal direct object *dia pai* 'the fish' (tree 4.4c).





Afterwards, a trace of the object remains sister to the verb head, fulfilling the Wamesa Parameter requiring explicit phonological content after transitive verbs. This trace takes on a different phonological form depending on the human and number features of the direct object. In the case of sentence 4.4.a, where the direct object is a singular and non-human, this trace takes the form *-i*.

#### d) Generation of a trace



Finally, the verb moves to the specT' position to receive tense and the *pro* verb subject moves to specTP to satisfy the Extended Projection Principle. In this position, the subject receives nominative Case from the verb and the verb agrees in person and number with the *pro* subject (adding a *y*- prefix in tree 4.4.e).

# e) Final form of the pseudopassive



Thus, although there is no syntactic way of forming a true passive in Wamesa, the language utilizes topic-motivated fronting combined with a subject in a *pro*-form to topicalize the object, which has much higher salience than the verbal subject due to both its position in the leftmost periphery and the subject's less salient phonologically null form. Thus, the pseudopassive is not a real valency-changing operation, but an example of topicalization. The question then arises of why this is even called a "pseudopassive" at all when there is no change in verbal valency: this is because when Wamesa speakers are asked to translate passive verbs in local languages like Papuan Malay or Bahasa Indonesia into Wamesa, having no true morphological passive, they use the pseudopassive instead. By placing maximum salience on the verbal object and minimal salience on the topic, this helps to approximate the semantic intentions of the passive voice. In adding increased semantic salience to the topicalized object, in this case at the expense of the subject, which is reduced to a *pro*-form, this selective emphasis on the verbal object and deemphasis on the verbal subject acts as a *de facto* periphrastic passive. It is

highly probable, in fact, that this construction is semantically motivated entirely by a desire to place as much pragmatic focus on the object topic and as little as possible on the verbal subject.

#### 5. APPLICATIVE SYNTAX AND SEMANTICS IN WAMESA

From the perspective of verbal arguments, the applicative can be described as "a syntactic construction signaled by overt verbal morphology which allows the coding of a thematically peripheral argument or adjunct as a core object argument" (Peterson, 1999, 1). From a semantic and pragmatic perspective, applicatives often serve to bring attention to an oblique argument (Peterson, 1999; Donohue, 2001). Although applicatives are a varied phenomenon, Wamesa only has an instrumental applicative, in which instrumental objects that would otherwise be expressed as peripheral prepositional phrases are made direct verbal objects. Wamesa usually marks instruments in prepositional phrases using the preposition *tuti*. This can be seen in example 5.1, where the instrumental object *kai*<sup>8</sup> forms a verbal adjunct to the main VP *yane anambet* 'I eat cold sago' and receives its theta role and case from the preposition *tuti*.

### 5.1) Wamesa instrumental prepositional phrase

Yau y-o y-ane anambet tuti kai. (Gasser, 2014, 237)

I 1sG-want 1sG-eat cold.sago with utensil.

'I want to eat cold sago using kai.'

However, in the instrumental applicative construction, instrument determiner phrases are direct objects of the verb and moreover mandatorily topics. The root verb also takes on a prefix  $it^{-9}$  to mark the applicative. One case of this is example 5.2, where the instrumental *kai nei* 'the

<sup>&</sup>lt;sup>8</sup> Chopstick-like utensils common in Papua.

<sup>&</sup>lt;sup>9</sup> Which can surface as *in-, im-, ing-, i-* or Ø- due to phonotactic constraints.

kai' is introduced not via a *tuti* prepositional phrase but as the object of an instrumental applicative. Here *kai nei* is topicalized and the root verb *kibare* 'grab' takes the applicative prefix (surfacing as *i*-).

#### 5.2) Wamesa instrumental applicative

Kai =ne-i	y-i-kibare	dia.	(Gasser, p.c.)
utensil=DET-SG	1.SG-APPL-grab	fish.	

'I use the kai to grab the fish.'

Another feature of Wamesa instrumental applicatives is that they enact selectional restriction on the instruments: namely, they cannot be human or human body parts. While the instrumental *tuti* can introduce a human instrumental object, the applicative instrumental object must be explicitly non-human<sup>10</sup>. In 5.3, for example, the use of a human instrument, *vara nei* 'my hand,' in an instrumental applicative construction results in ungrammaticality.

5.3) Human instrumental applicative

<sup>&</sup>lt;sup>10</sup> Interestingly, human body parts are prohibited, while animal body parts are allowed as instrumental applicative objects

*Vara=ne-i	y-in-dute	ana =ne-i.	(Gasser, 2014)
hand =DET-SG	1.SG-APPL-hold	papeda=DET-SG.	
"I use my hand to hold	I the papeda."		

Wamesa does, however, allow phonologically null instruments to be topicalized, provided the instrument was recently mentioned and is extremely semantically salient. This is the case in example 5.4, where the instrumental object of the applicative verb form *yitena* 'I use [something] to sleep' is a phonologically null *pro*-form co-indexed with *andiu pai* 'the mat' from the previous utterance. Here it is clear that *yitena* refers to 'I use the mat to sleep' and the sentence is acceptable.

5.4) Phonologically null instrument in an instrumental applicative

Yau i-separei andiu=pa-i. Ø Ø y-it-ena =pa. (Gasser, p.c.)
1.SG 1.SG-open [mat=DET.SG]<sub>i</sub>. pro<sub>i</sub> pro 1.SG-APPL-sleep=PA.
'I open the mat. I use it [the mat] to sleep.'

While the distribution and features of the Wamesa applicative are well-documented, its syntactic form has never been analyzed. Baker, in his explanation of Incorporation Theory (1985), analyzes the applicative as a migrating preposition that attaches to a verb to incorporate its oblique argument into the core verbal argument. This analysis was partially based on the complementary distribution of morphological applicatives and prepositional periphrastic forms with the same meaning and the assumption that under the Uniformity of Theta Assignment

Hypothesis, these two forms would have the same underlying representation. The reasoning for this is demonstrated in example 5.5, where the comparative construction *race faster than* in 5.5.a assigns a theta-role of agent to its subject (Mario) and the indirect object (Luigi) has a theta role of goal. In 5.5.b, the verb form *outran* assigns identical theta-roles to the two verbal objects and thus under UTAH these two forms should have the same underlying representation according to Baker.

5.5) Theta chart for periphrastic and applicative forms of English verbs

a) Prepositional periphrastic form:

Mario raced faster than Luigi.

	Mario	Luigi
$\theta$ -role	Agent	Goal

# b) Morphological applicative form<sup>11</sup>:

Mario outraced Luigi.

	Mario	Luigi
$\theta$ -role	Agent	Goal

Under Baker's reasoning (as in tree 5.6), the instrumental object is generated in the

underlying representation as part of an instrumental prepositional phrase and receives its theta

<sup>&</sup>lt;sup>1111</sup> While there is some debate about whether the *out*- prefix is a morphological applicative in English (which is why earlier it was stated that the only productive morphological VCO in English is the passive), this is irrelevant to this particular example.

role and Case from this preposition. Then, the preposition raises and merges with the root verb, leaving the instrumental determiner phrase as a new additional verbal object to the root verb.

5.6) Baker (1985)'s analysis of instrumental applicatives



Marantz (1993), however, disagrees with this analysis and argues that the applicative is better analyzed as a functional head which is later combined with the verb head. Marantz states that, unlike benefactives, instrumentals are semantically closer to the verbal action and are "within the event that affects the theme/patient" (114). Thus, according to him, instrumental objects are generated not as part of a prepositional phrase, but as part of an applicative phrase that contains the verb phrase. This theory explains the syntactic formation of applicatives, but unlike Baker, assumes the existence of a new type of phrase head, the APPL head. Under Marantz's analysis (as in tree 5.7), there exists an APPL head which c-commands the verb phrase. This head is responsible for giving the instrumental object both its theta role and Case. Through raising and merging, the root verb combines with this head to form an applicative construction. 5.7) Marantz (1993)'s analysis of instrumental applicatives



A significant problem with Baker's view of the applicative as a merged or raised preposition, involves instrumental-comitative syncretism in Wamesa. In this language, both instruments and comitative objects are marked with the same preposition, *tuti*. This is shown in Wamesa examples 5.8 and 5.9. In 5.8, the preposition *tuti* is used with *wona nei* ('the dog') as a prepositional adjunct to the verb phrase, indicating that the child goes alongside the dog. In 5.9, in contrast, *tuti* is used instrumentally with *sendo pai* ('the spoon') as a prepositional adjunct indicating that the spoon was used to perform the verbal action of eating the fish. While viewing the Wamesa applicative as resulting from preposition incorporation of *tuti* into a verb has the merits of complementary distribution and satisfying the UTAH, this fatally does not account for the absence of comitative applicatives in the language.

5.8) Comitative use of *tuti* 

Mararea=ne-ir < i > atutiwona-ne-i.Gasser, 2014child=DET-SG3SG-gowithdog=DET-SG.'The child goes with the dog.'

5.9) Instrumental use of tuti

Yauy-anedia=ne-etutisendo=pa-i.(Gasser, 2014)1.SG1.SG-eatfish=DET-SGwithspoon=DET-SG."I eat fish using a spoon."

Thus, I propose that the applicative head in Wamesa is not the preposition *tuti* but rather, in line with Marantz (1993), a different head that cannot exist in standalone form and must be adjoined with its verbal complement through raising. Working off Marantz (1993)'s framework, Pylkännen (2000) notes that some APPL heads are actually generated verb internally (so-called "low applicatives"), while some are generated as part of a separate APPLP (so-called "high applicatives"). Low applicatives are characterized, according to Pylkännen (2000), by the strong relation between the applicative object and existing direct verbal objects. One way to check if an applicative operation on a root transitive verb is a low applicative is to see if it can be paraphrased by the use of a direct object. In the Spanish example 5.10.a, the root verb *pelar* 'to peel' is in the benefactive applicative form and the action of peeling *la manzana* 'the apple' benefits a second person singular actor (indicated by use of the dative pronoun *te*). This can be paraphrased, as in example 5.10.b, with identical meaning by use of the root verb and the direct object *tu manzana* 'your apple' instead. This is because the benefactive applicative is of the low type and is generated verb phrase-internally.

5.10) Low applicative alternation

a) Example of Spanish benefactive applicative

Те	pel-o	la	manzana.	
2.sg.appl	peel-PRST.1.SG	DET:F.SG	apple.	
'I peel an apple for yo	ou.'			
b) Paraphrase with a change in direct object				
Pel-o	tu		manzana.	
peel-PRST.1.SG	2.SG.POSS		apple.	

'I peel your apple.'

However, a quick look at instrumental applicatives reveal that there is no way to paraphrase them with a different direct object. This is because there is no direct semantic link between an instrument and the direct object, but rather the instrument and the action as a whole. For example, while *the hammer* can be a tool used to *build a shed*, it is not possible to discuss the *shed's hammer* as the instrument used to make the shed. Thus, one can assume that like Marantz's (1993) original reasoning, the Wamesa APPL head is generated externally to the verb phrase. Even more fatally for the theory that the Wamesa instrumental applicative is of the low type is the fact that it can exist in the absence of a direct object. This is the case in ex. 5.11, for example, where the intransitive root verb *vavu* (surfacing as *bavu*) 'go home' can take an instrumental applicative.

5.11) Intransitive instrumental applicative

Yau y-im-bavu =pa. (Gasser, 2014)

'I used it to go home yesterday.'

The Wamesa applicative therefore must be a high applicative, generated outside the verb phrase. One can define this Wamesa APPL head as enacting selectional restrictions on both its sister node (the root verbal phrase) and the instrumental object. It appears that the head requires its sister node to be filled by a verb phrase without imposing other restrictions based on root verb valency<sup>12</sup>. Additionally, as the APPL head grants instrumental case to the instrumental DP, it also enacts selectional criteria on this determiner phrase, requiring it to be non-human. This is likely at least partially for semantic reasons, with human instruments being more unusual. However, this cannot explain the mandatory topicalization of the instrument, which I propose is not mandated by the APPL head, but rather a semantically and discourse-pragmatically motivated phenomenon. With this information, the final syntactic form of the Wamesa applicative can be described as the use of a high APPL head combined with mandatory topicalization of the instrument.

Syntactically, this process is described in tree 5.12 using example sentence 5.12.a. First, in the underlying representation, an APPLP phrase is generated. This phrase contains an APPL head which c-commands a verb phrase. Above the APPL head, an instrumental object (*wona pai* 'the dog') is generated. The APPL head grants accusative Case and an instrumental theta-role to this object. Meanwhile, the verb *awere* 'hunt' assigns a theta role of agent to its subject, in this

1.SG

<sup>&</sup>lt;sup>12</sup> While the lack of double applicatives suggests that there might be a valency limit of three on Wamesa verbs, there is not enough evidence to conclusively state this.

case a first-person singular *pro*-form, and the theta role of theme to its object, *rusa pai* 'the deer'. This verb additionally assigns accusative Case to the direct object (tree 5.12.b).

5.12) Syntax of Wamesa instrumental applicative

a) Example applicative sentence

Wona=pa-i

rusa=pa-i.

(Gasser, 2014)

Dog =DET-SG 1.SG-APPL-hunt deer=DET-SG.

y-it-awere

'I use the dog to hunt the deer'

b) Underlying representation



The verb *awere* raises and merges with the APPL head and receives the phonological form *itawere*. This verb then raises to T to receive tense, as all Wamesa verbs do (tree 5.12.c).

c) Verb raising and merging



Following this, the instrumental object *wona pai* moves to the specTP position and then the specCP position, checking its [+TOPIC] feature. This intermediate step is due to the Minimalist Program's prohibition against long-distance movement. This results in the leftperiphery dislocation of the instrumental object, as shown in tree 5.12.d.

5.12.d) Topicalization of the instrumental object



After this, the verbal subject raises to the specTP position to receive nominative Case and satisfy the EPP. The verb conjugates to reflect its first person singular subject, becoming *yitawere* (tree 5.12.e).

e) Final form of the utterance



Regardless of the syntactic form of the applicative, in Wamesa, as in other languages, the applicative serves as a way of both bringing focus to the instrument and making the instrument into a semantic pivot. Typically, a sentence with an instrumental applicative will feature the instrument, a familiar topic from prior discourse (and often the direct object of the preceding clause's main verb) as a subsequent applicative object to link the relevance of an utterance to the ongoing conversational discourse (Peterson, 2000).

In this way, the Wamesa instrumental serves a pragmatic and discourse-functional purpose in spoken narrative. The applicative, in contrast with the use of the comitative/instrumental preposition, marks the instrument as the topic of the phrase and thus requires the instrumental object to move to a topic position. Cross-linguistically, semantic emphasis on instrumental objects is near-universal and many of the Wamesa applicative's features are common in Austronesian. Peterson (1999) notes that "the phenomena… which have purely to do with indicating relatively high topicality of the instrument (left-dislocation and association with a discourse deictic) are consistently exhibited by instrumental applicative objects" cross-linguistically (25). Haka Lai (Austroasiatic; Peterson, 1999), Totoli (Austronesian; Himmelman & Riesberg, 2013) and Nomatsiguenga (Arawakan; Peterson, 1999) also require instruments to be topicalized. This is the case in the Haka Lai example 5.13, where the determiner phrase *tiiloy khaa* 'the boat' is used as the instrumental object of an applicative construction and is thus moved to the leftmost periphery, before the (phonologically null) subject and verbal direct object *tivaa* 'river'<sup>13</sup>.

<sup>&</sup>lt;sup>13</sup> Note that Haka Lai has a default SOV word order.

#### 5.13) Instrumental applicative in Haka Lai

Tiiloŋ khaa tivaa kan-ø-tan-naak.

(Peterson, 1999, 11)

Boat DEIC river 1PS-3SO-cross-INST

'We used the boat to cross the river.'

It thus seems that discourse-pragmatic considerations of topic-worthiness are what motivates the movement to the leftmost periphery in Wamesa. As previously discussed, Wamesa prepositional phrases form an island out of which determiner phrase movement is impossible. The applicative function allows the topicalization of an instrumental object, something that otherwise would not be allowed when the object is in a prepositional phrase with *tuti*. Thus, the applicative could be a strategy in the language to allow movement to the leftmost-periphery of the instrument out of a prepositional phrase island. In this way, one can see the Wamesa applicative as being motivated by topic and particularly the desire to make a determiner phrase in a prepositional phrase a topic, something that otherwise would not be permitted. The instrumental applicative, additionally, by placing the instrument as a core verbal object, increases its salience (Peterson, 2000).

As well as its instrumental use, the *it*- prefix in Wamesa has a variety of aspectual uses, serving as a durative, prospective, intensifying, momentane and completive aspectual marker. For example, in ex. 5.14, the *it*- prefix (here surfacing as *i*-) works not as an applicative, but as an intensifier. 5.14) The *it*- prefix as an intensifier

Set-i-sanevesie.

(Gasser, 2014, 205)

3PL.HUM-APPL-happy.

'They are very happy.'

There is also some evidence that this prefix is not simply homophonous with the applicative prefix, but rather the same morpheme since it can have simultaneous aspectual and applicative use. This is the case in example 5.15, where the *it*- prefix (here *im*-) combined with the adverb-like clitic *pa*, 'yet', adds both an instrumental applicative meaning (with a phonologically null but contextually relevant instrument) and a perfective aspectual meaning.

5.15) Simultaneous aspectual and applicative meanings

Yau	y-im-bavou	<i>=pa</i> .	(Gasser, 2014, 187)
1.SG	1.SG-APPL-go.hon	ne=yet.	

'I used it to go home.'

Interestingly, no pattern based on verbal transitivity, Aktionsart or tense can be observed to determine the aspectual meaning of *it*- and it is thus likely that this morpheme's interactions with root verbs is at least partially lexified, although there may be a more complex pattern at play (Rakowszczyk, upcoming). As it is not clear whether this is truly the same applicative prefix and there is an absence of data to make more claims about this prefix, the aspectual meanings of nonapplicative *it*- are beyond the scope of this paper. Syntactically, Wamesa instrumental applicatives are "high" applicatives attaching above the verb head and involve mandatory topicalization and thus left-periphery dislocation of the instrumental object. As Wamesa requires fronted objects to be determiner phrases and cannot extract these objects from prepositional phrases, the applicative can serve as a way to license instruments to move to the leftmost periphery, the topic-preferred position. Additionally, by making instruments core verbal arguments, the applicative increases the salience of this argument. Thus, the applicative in this language is strongly motivated by topic and serves an important discourse-pragmatic function in allowing instruments to be topics and thus semantic pivots.

#### 6. CAUSATIVES

The final valency-changing operation present in Wamesa is the causative, which is relatively rare in the language. Causatives are a form of morphological valency-increasing operation, adding an extra agent as a core verbal argument (Dixon, 2010; see ex. 3.11 for an example in Hebrew). The extra agent or 'causer' contrasts with the subject of the root verb, the 'causee'. Causatives come in many forms, both morphologically in terms of how Case is assigned to verbal objects and semantically in terms of the degree of volition and intention the causer has on the root verbal action. R. M. W. Dixon, in his *A Typology of Causatives* (2010), distinguishes morphological causatives into those that act on intransitives and those on transitive verbs. While Comrie (1981) states that every language has and indeed frequently uses periphrastic forms resembling the causative (such as in English ex. 3.13.b), Dixon states that morphological causatives acting on transitive verbs are fairly common. Dixon (2010) also claims that they are restricted in acting on root transitive verbs and are nearly unheard of with root

ditransitive verbs; this is likely due to many languages having an upper limit on verb valency and thus not being able to accommodate such a valency-changing operation.

To refer to causation, or one verbal agent making a different object commit an action, Wamesa, like all other languages (Comrie, 1981), can do this periphrastically, in this case by using a CP as a verbal complement. This is the case in example 6.1, where the verb phrase *iriute* 'I hold' has as a direct object the complementizer phrase *kambu nei ivuwui* 'the water spills.' While this can be interpreted as meaning 'I hold the water that spills', it can also represent causation, as in 'I spill the water.'

6.1) Periphrastic causative-like utterance in Wamesa

I-riute	kambu=ne-i	i-vuwui.	(Gasser, p.c.)
1.sg-hold	water =DET-SG	[3.sg-spill] <sub>CP</sub> .	

'I hold the water that spills / I spill the water.'

Additionally, Wamesa frequently uses the independent verb *ona*, meaning 'to give', alongside a CP complement, to form a periphrastic causative-like construction. These strategies can be used regardless of the valency of the main verb of the complementizer phrase. This is similar to Papuan Malay, where the verb *kasih*, meaning 'give', plays the same role. In the Wamesa example 6.2, the verb *yona* 'I give' takes as a verbal direct object the complementizer phrase *Davidi kisiau* 'Davidi is angry', resulting in a meaning of 'I anger Davidi.'

6.2) Periphrastic causative-like utterance in Wamesa using ona

Yau	y-ona	Davidi	k <i>siau.</i>	(Gasser, p.c.)
-----	-------	--------	----------------	----------------

# 1.SG1.SG-give[Davidi3.SG-be.angry]CP.'I make it so that Davidi is angry / I make Davidi angry.'

In addition to these strategies, Wamesa has a morphological causative formed by adding the prefix *on*-<sup>14</sup> onto the root verb. With this prefix, the causer serves as the verbal subject and is always marked as the focus of the sentence, direct objects of the root verb, if present, remain as objects and the causee (the subject of the original root) is non-explicit. This can occur with an intransitive verb, as in example 6.3, where the root verb *tatuan* 'kneel' in ex. 6.3.a has a valency of two, with a (phonologically null *pro*-form) subject of the third-person dual and an indirect object *so au* 'to you'. With the causative form in ex. 6.3, a new causer third-person singular subject is added (here a phonologically null *pro*-form), the indirect object *so Sien* 'to the Lord' is maintained and the causee, who is being made to kneel to the lord, is non-explicit. In 6.4, the same causative form is used on a base transitive root verb *kor* 'take'. Here the causer *tamani siniami* 'their father and mother' commands a non-explicit causee to perform the action of taking on the verbal direct object *anam pai* 'the cold sago.'

6.3) Wamesa morphological causative prefix on- can be added to a base intransitive

a) Base form of an intransitive verb

Sen-tatuan	SO	au.	(Van Balen, 1911, 21)
3.DU-kneel	to	2.sg.	

'They kneel to you.'

<sup>&</sup>lt;sup>14</sup> Although this can surface as *o-, om-* or *ong-* due to phonotactic rules

b) The use of a causative adds an additional agent (the "causer") while making the causee nonexplicit.

D-on-tatuan so Sien. (Cowan, 1955, 56)

3.SG-CAUSE-kneel to god.

'It made [someone/us] kneel to the Lord.'

6.4) Wamesa causative prefix on- can also be used on base transitive root verbs.

Tama-nisinia-misun-on-koranam=pa-imarau.(Cowan, 1955, 56)[father-3.SGmother-3.SG]FOC3.DU-CAUSE-takecold.sago=DET-SGseaward.'Their father and mother caused [someone] to take the sago out seaward.'

. While the causee is never explicit in these constructions, it is always interpreted to be human and any attempt to explicitly specify the causee results in the sentence being perceived as ungrammatical. The utterance in 6.5, for example, is ungrammatical in Wamesa as the causee *andi* (the 3<sup>rd</sup> person singular pronoun) is explicit.

# 6.5) Explicit causees in Wamesa causatives

*Yau	y-ong-gasio	andi.	(Gasser, 2014, 206)
1.sg	1.SG-CAUSE-be.angry	3.sg.	

'\*I make him angry.'

Dixon (2010) specifies the types of morphological causatives in terms of Case assignment of causers and the root verb's direct objects. In this work, Dixon states that the vast majority of Austronesian languages are what he calls type (iv) causatives, those where the causee is granted accusative Case and root verbal direct objects, if present, are moved to a prepositional phrase. As the causee is not explicit in Wamesa morphological causatives, it is not at all clear what type of causative Wamesa has. In his typology of causatives, Dixon (2010) makes no account of a language in which causees are not explicitly mentioned. However, examples from other languages do exist in which there are morphological causatives that do not allow an explicit causee, such as Songhai (Afro-Asiatic; Comrie, 1981) and Sre (Austroasiatic; Pagotto, 1992). In the Songhai ex. 6.6, for example, the causative form of the root verb *nga* 'eat' takes a causer subject *Ali* and a verbal direct object *tasu di* 'the rice' but must have a non-explicit causee.

#### 6.6) Songhai morphological causative

Ali	nga-ndi	tasu	di.	(Comrie, 1981)
Ali	eat-CAUSE	rice	DET.	

'Ali makes [someone] eat the rice.'

Comrie (1981) claims that the causee is never generated due to an upper limit on the valency of a verb. However, applicative operations can be applied on root transitive verbs in Wamesa, resulting in a valency of three, suggesting that valency limits are not responsible for the non-explicit causee in this language. Pagotto (1992) claims that some languages' causatives have mandatory non-explicit causees due not to this inherent limit in the number of core arguments,

but rather due to "case-frame saturation": the language does not have a method for reinterpreting the causee. In Pagotto's analysis, the language has no way to mark two subjects and for some reason cannot mark the causee as a direct object. Backing this up, Baker (1985) notes that languages that do not allow double accusative object constructions also do not allow morphological transitive causatives with explicit causees. With this analysis, Wamesa has no strategy for reanalyzing the causee: outside of instrumental applicatives, the language does not allow double accusatives and there are no examples in the corpus of double subjects. Thus, it is likely that the causee is not generated in the underlying form at all. However, it is also possible that Wamesa allows there to be a causee in a double accusative construction, as with the applicative, but mandates that it be phonologically null. Either way, as this results in appreciable "loss of information" (175), Comrie (1981) states that languages with this property often use periphrastic forms instead. This phenomenon, combined with the fact that the Wamesa morphological causative can only be analyzed as having a human causee, may explain the relatively small number of root transitive verb morphological causatives found in the corpus compared to the large number of periphrastic forms using the verb ona.

Although the morphological Wamesa causative does not allow for an explicit causee, this can still be signaled using a periphrastic causation form. In Wamesa, the verb *ona* can assign an agentive theta role to its subject and a theme theta role to its CP complement. For example, in ex. 6.7, the periphrastic causative-like construction with *ona* assigns a theta role of agent to the verbal subject (equivalent to a causer in a causative) *uta nei* 'the weather' and one of theme to the entire CP *imase* 'I am hot.'

#### 6.7) Periphrastic causation in Wamesa with theta chart

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Uta =ne-i	di-ona	Ø	Ø	i-mase.	(Gasser, p.c.)
Weather=DET-SG <sub>i</sub>	3.sg-make	[C	pro	1.SG-hot]j.	
'The weather cause	es me to be hot.'				

Theta chart for 'ona'

	Agent	Theme
ХР	i	j

Syntactically, the morphological causative is more complicated to decipher than the other Wamesa VCO's. The Uniformity of Theta Assignment Hypothesis states that there should be a CAUSE head that assigns the same theta roles as the ona verb (both to the causer and complementizer phrase). Based on this theory, Baker (1985) claims that morphological causatives form a CAUSEP head above the CP. This claim has since been rejected in favor of Marantz (1993)'s theory that the CAUSEP head operates instead on a verb phrase, noting that Baker's theory relies on assumptions not supported in the Principles & Parameters model. Marantz (1993) assumes that a CAUSEP head is generated above the verb phrase, enforcing selectional restrictions on the root verb phrase and its objects. In this theory, the CAUSE head assigns a theta role to the causer object. In Wamesa, however, the lack of an explicit causee creates some problems with Marantz's analysis. While this analysis still works if one posits that the causee is generated as a phonologically null pro-form co-indexed with a human entity, the causee would have to be assigned accusative Case by the CAUSE head. The syntax of the Wamesa causative, assuming there exists a phonologically null pro-form, is demonstrated in tree 6.8 using the example sentence 6.8a.

6.8) Analysis of Wamesa causative with pro-form (as per Marantz (1993))

a) Example Wamesa causative sentence

Andidi-o-sapaØ(Gasser, p.c.)3.SG3.SG-CAUSE-standupPRO.

'He makes (someone) stand up.'

Initially, in the underlying representation, a causeP phrase is generated containing a CAUSE head and a verb phrase complement. C-commanding the CAUSE head is the causer DP (in this case, the pronoun *andi* 'he'). This causer receives its theta role of 'causer' from the CAUSE head. The verb phrase contains the root verb *sa pa* 'stand up' and its subject, a *pro*-form DP. This root verb gives a theta role to the DP *pro*-form, which receives accusative Case from the CAUSE head (tree 6.8.b).

b) Underlying representation



The root verb raises and merges with the CAUSE head, receiving the phonological form *osa pa* 'make stand up'. This CAUSE+V then raises to specT to receive tense like all Wamesa verbs do (tree 6.8.c).

c) Verb raising and merger



Following this, the causer DP *andi* raises to the specTP position to receive nominative Case and satisfy the Extended Projection Principle. The verb then conjugates to agree in person and number with *andi*, becoming *diosa pa* 'he makes stand up,' as in tree 6.8.d.

d) Final form



This analysis is valid, but assumes the existence of a mandatorily phonologically null determiner phrase without giving a reason as to why this must be the case. One other thorny issue with this analysis is the case assigned to *pro*. While this can be assigned accusative Case by the CAUSE head, double objects are otherwise unattested in Wamesa outside the context of instrumental applicatives and this would be a unique assumption. It is more likely, however, that the causee is never generated at all, as Pagotto (1992) claims is the case in Sre (Austroasiatic). Here, the Extended Projection Principle is satisfied entirely by the causer DP and there is no Case justification for there to be a causee. The root verb's theta role normally assigned to the subject could be absorbed through the CAUSE head itself. Using the same example sentence from before (now 6.9.a), the syntax of this sentence supposing there is no causee is examined in tree 6.9.

6.9) Analysis of Wamesa causative with no pro-form.

a) Example Wamesa causative sentence

Andidi-o-sapa.(Gasser, p.c.)3.SG3.SG-CAUSE-standup.

'He makes (something) stand up.'

First, in the underlying representation, a CAUSEP phrase is generated consisting of a CAUSE head and verb phrase complement. A causer DP (*andi* 'he') is generated c-commanding the CAUSE head and receives its theta role of 'causer' from the head. In the verb phrase, the root verb *sa pa* 'stand up' assigns its theta role of agent to the CAUSE head (tree 6.9.b). b) Underlying form



Following this, the root verb *sa pa* raises and merges with the CAUSE head, becoming phonologically expressed as *osa pa*. This CAUSE+V raises to the specT' position to receive tense like all Wamesa verbs do (tree 6.9.c).

c) Verb raising and merging



The causer DP *andi* then raises to the specTP position to receive nominative Case and satisfy the Extended Projection Principle. The verb then conjugates to agree in person and number with the third-person singular subject, becoming *diosa pa* (tree 6.9.d).

d) Final form of the Wamesa causative



This second analysis, in which the CAUSE head absorbs the root verb's theta role, has the benefits of assuming the existence of neither a phonologically null determiner phrase nor of a double object construction. In this analysis, the causee is never generated and is interpreted as human due to extra-syntactic semantic considerations. Here, properties of the CAUSE head include assigning a theta role to a causer (like a preposition does), while absorbing a theta role from the verb.

From Occam's Razor, it is more likely that Wamesa morphological causatives involve the root verb's theta role being absorbed by the CAUSE head and not the *pro*-form. However, it is not possible to completely rule out the *pro*-form being generated. Regardless of the syntax of the morphological causative, Dixon (2010, 61) claims that "if a language has two (or more) different causative mechanisms<sup>15</sup> these will contrast semantically", a claim echoed by Peterson (1999).

In Wamesa the distinction between the morphological causative and using a semantically equivalent periphrastic form is based on focus and salience. Causation by periphrastic form in Wamesa maintains two verbal subjects, both of which are salient. Focus can be on the causee and/or the causer. In the morphological form, however, the causee is not phonologically explicit and is probably not even generated. If one assumes it is a *pro*-form, then it is lower on the salience hierarchy than a phonologically explicit DP and thus less likely to be the focus of the sentence than the causer, which is in the salience-preferred position of being a verbal subject in an SVO language (Dixon, 2010) and is usually a focus in Wamesa causative utterances. However, if one assumes that the causee is not generated in the underlying form at all, then it can never be the focus and has no semantic salience. The morphological causative puts increased emphasis on the causer, which is often the conversational topic (Dixon, 2010). In fact, Peterson

<sup>&</sup>lt;sup>15</sup> Including periphrastic causative-like constructions.

(1999) claims the motivation for the morphological causative, as opposed to a periphrastic one, is to increase emphasis and focus on the causer. In this light, one can view the Wamesa causative, which makes it likely for the causer to be the focus with the causee not even being generated, to be an extreme form of this phenomenon.

The Wamesa causative is unusual in that it does not allow a phonologically explicit causee. While this could be due to a constraint requiring the causee to be a *pro*-form, it is more likely that the causee is never generated in the first place. In this case, one cannot call this "causative" a true valency-changing operation, as the valency of the root verb and the causative form of this verb are both two. Regardless of which of these is syntactically correct, the morphological causative does not have the same underlying form as periphrastic causation forms in Wamesa. These forms, as opposed to periphrastic constructions, are motivated by a desire to make the causer an utterance focus and increase its salience (Baker, 1985) at the expense of the phonologically implicit causee.

#### 7. CONCLUSION

Although Wamesa has three apparent valency-changing operations, the pseudopassive, causative and instrumental applicative, a closer look at the syntax of these reveals that the pseudopassive is not a real VCO and the causative is not likely to be one either. All three operations are motivated at least in part by topic and focus and can be explained as resulting from the dual syntactic and discourse-pragmatic function of valency-changing operations (Peterson, 1999). Wamesa, a topic-prominent language, uses these verbal constructions to bring emphasis to some verbal arguments via movement to the leftmost periphery in the case of the pseudopassive and instrumental applicative or to de-emphasize arguments in the case of the causative. The pseudopassive serves to bring discourse prominence to the direct object at the

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expense of the verbal subject, while the applicative allows a DP in a prepositional phrase to leave this island and be moved to a topic-prominent position. The morphological causative, on the other hand, mandates an implicit causee, granting greater salience and likelihood of being the focus to the causer object. Cross-linguistically, although many of Wamesa's features are unusual, they are not wholly unheard of and conform to data from other languages showing that many VCO's and other types of verbal operation are motivated primarily by salience. Wamesa, however, goes one step further in that all its VCO's or apparent VCO's are motivated not just by salience but specifically focus and topic. Further research is needed on the interaction between syntactic operations and focus and topic phenomena but this short examination of the verbal morphology of Wamesa demonstrates both the importance of the syntax-semantics interface in Austronesian languages and semantic motivation of syntactic movement.

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#### APPENDIX: GLOSS EXPLANATIONS

- $1 = 1^{st} person$
- $3 = 3^{rd}$  person
- ACC = accusative
- APPL = applicative
- c = complementizer
- CAUSE = causative
- CL = classifier
- DAT = dative
- DEF = definite
- DEIC = deitic
- DET = determiner
- DUMMY = dummy DP with no explicit semantic meaning
- EXIST = exist
- EXP = experiential
- F = feminine
- FOC = focus
- GEN = genitive
- HAB = habitual
- HUM = human
- IND = indicative

- INDEF = indefinite
- INST = instrument(al)
- M = masculine
- NOM = nominative
- OBJ = object
- REALIS = realis
- PA = pa clitic; can mean "already" or "before"
- PASS = passive
- pro = pro-form
- PRST = present
- PST = past
- SFP = sentence-final particle
- SG = singular
- TOP = topic
- VE = ve- prefix; usually an essive
- $\theta =$  theta role