Endocentric and exocentric compounds in Kiswahili

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*The endocentric-exocentric dichotomy is the core of the discussion in this article. The discussion concerns the semantic classification of compounds in Kiswahili. The data substantiates the presence of the firm dichotomy of the endocentric and exocentric compounds. I establish that endocentric compounds split into left-headed, double-head and right-headed structures due to semantic contribution of the words which form the compounds. I suggest that exocentric compounds require special attention in that the head of the compound is projected from the semantic-pragmatic context in the speaker community. In the article, I show that Kiswahili compounds reveal grammaticalisation of the proto-item *-yánà 'child' to reflex mwana that means 'Specialist of X'. Also, Kiswahili data reveals the lexicalization of the proto-item *-ényé from the 'Possessive Pronoun' to left-most element of a compound mwenye 'Having X'. I argue that this is a kind of bahuvrihi compounding.*

Keywords: *Compounds, Endocentric, Exocentric, Grammaticalization, Kiswahili*

1. Introduction[1]

Research on the dichotomy of exocentric and endocentric compounds has yielded contradicting outcomes, which require illumination by further research in Bantu languages such as Kiswahili. On the one hand, some researchers find a clear-cut distinction between endocentric compounds, whose resultant structure contains a head[2] that contributes the main meaning to the structure as a whole, and exocentric compounds, whose semantic content derive nothing from the combined roots but an extension or inference of meaning outside the combined words, hence becomes headless (Booij 2002, 2005; Haspelmath 2002; Bauer 2003; Bisetto & Scalise 2005; Dressler 2006; Mphasha 2006; Kageyama 2010; Ilonga 2016; Appah 2017). On the other hand, other researchers raise doubts about the existence of exocentric compounds owing to the metaphorical and metonymical inferences of the semantics of the compounds, which interpret exocentric compounds as a kind of endocentric compounds in word-formation (Benczes 2004, 2006, 2015; Bauer 2008). Based on a prototypical approach to semantics, Benczes (2015: 9) concludes that "the traditional endo- and exocentric distinction as a means of classification needs to be abandoned" because compounds should be placed into the prototypical cases at the core and metaphorical/metonymical in the periphery. I find this debate worth contributing to using compounding as a word-formation process in Kiswahili.

Apart from Turkana and Kayardild which have been reported to host only exocentric compounds (Bauer 2008), new evidence substantiates the presence of exocentric compounds as a separate category (Scalise et al. 2009). Researchers affirm that some languages host a large

[1] This article was written during my sabbatical stay in the Department of African Languages at the University of Stellenbosch (South Africa). I am grateful to the University of Stellenbosch for the accommodation and insuring very conducive research environment.

[2] Common terms in compounding include headed, double-headed, left-headed and right-headed. Slightly different terms include dependent (Haspelmath 2002), right-edge and rightmost word (Bauer 2008), no-head and two-heads (Scalisse et al. 2009), headless and double-headed (Kayegama 2010), head element and right-hand element (Benczes 2015) and modifier-head (Heine 2019). I use the common terms together with element and modifier.

number of exocentric compounds which split into numerous sub-categories, some bearing semantic contents obtained through metaphoric and metonymic interpretations of the meanings of the two combining words, while other exocentric compounds have become lexicalized (Kageyama 2010; Appah 2017). Both Kageyama (2010) and Appah (2017) argue that Japanese and Akan contain many exocentric compounds which can be analysed metaphorically, metonymically and synthetically, hence there is no way the category can be dispensed with. Further research on the properties of compound words is required to establish whether the differentiation of exocentric and endocentric compounds can be plausibly correct or not.

A debate also arises about how to characterize endocentric and exocentric compounds. While some scholars postulate that even exocentric compounds may be treated as bearing a head which permits the assignment of inflectional affixes (Haspelmath 2002; Plag 2002; Dressler 2006; Katamba & Stonham 2006; Gichuru 2010), other scholars dispense with the morphological parameter in classification of compounds in favour of the semantic and cognitive approaches of classification of compounds (Bauer 2008; Kageyama 2010; Benczes 2015; Appah 2017). In the course of the presentation of data in this article, I want to argue that an interface is required in order to establish the properties of compounds in Kiswahili. While morphological operations are necessary in the formation of individual words, a semantic interface is required to assure that the combination of words yields a compound word with semantic content interpretable in the speaker community. Also, I want to suggest that based on argumenthood of nouns (Rapport-Havov & Levin 2010), the syntactic operations that surround clauses become necessary in defining the semantic-cum-syntactic properties of the various kinds of compounds in Kiswahili.

Specifically for Kiswahili, research outputs on compound words by Gichuru (2010), Lusekelo (2014) and Mashauri (2018) is not yet complete on two grounds. Firstly, the classification of compounds into two categories is amiss and would require illumination. Gichuru (2010), Lusekelo (2014) and Katikiro (2017) assume that Kiswahili contains two kinds of semantic interpretation of compounds, vis-à-vis: (a) overt meaning which derives from the meaning of the combined words, i.e. endocentric compounds, and (ii) silent (covert) meaning which is not related to the inherent meaning of the combined words, i.e. exocentric compound. The dichotomy of the semantics of resultant compounds is re-analysed and three kinds of endocentric compounds will be proposed in this article. In addition, the head of the exocentric compound is suggested to have been projected at both the morphosyntactic and semantic-pragmatic levels, rather than in separation, as has been assumed previously.

Secondly, Mashauri (2018: 9) points out that "the first word (among the words that form) be the semantic head of the compound noun". This postulation considers the previous postulation by Gichuru (2010) and Lusekelo (2014) that compounds in Kiswahili are left-headed. There are questions that arise from the postulation that nominal compounds in Kiswahili are left-headed. I present evidence to substantiate that this postulation does not work in all resultant compounds in Kiswahili. Therefore, various kinds of exocentric compounds in Kiswahili require a combined morphological analysis and semantic interpretation in order to obtain the proper outcome. Consequently, I argue in this article that there are at least three structures of endocentric compounds in Kiswahili: double-head, left-headed and right-headed compounds.

In order to advance my argument smoothly, after this introduction, I organize this article as follows. In section two, I present the morphosyntactic analysis of nominal compounds in Kiswahili in order to highlight the headedness. Based on morphosyntactic perspective, I show that scholars assumed that the left-most noun becomes the head of compounds (Gichuru 2010;

Kula 2012). This suggest does not hold when semantic approach is used. In section three, I revisit the existing literatures and expand on the data that had been used. I highlight weaknesses about endocentric and exocentric compounds in previous works. Then I establish the boundary between double-headed, left-headed and right-headed compounds. I discuss the properties of endocentric and exocentric compounds in section four. I pay much attention on metaphorical, metonymical and synthetic interpretation of Kiswahili compounds. In section 5, I highlight the grammaticalisation path and lexicalization pattern of two elements, namely the grammaticalisation of the elements *-ana*[3] 'person/thing that has X' and lexicalization of the possessive pronoun *-enye* to a lexical word *enye* 'person/thing that has X'. The conclusion is in section six.

2. Morphosyntactic analysis of compounds

Nouns in Kiswahili constitute nominal prefixes and roots, which is a characteristic feature of Bantu languages (Carstens 1993; Contini-Morava 2000; Schadeberg 2001). Basically, these nouns show number in singular and plural pairings in the noun phrase. Also, nominal prefixes determine the pronominal prefixes which are affixed to the verbs in sentences (Contini-Morava 1994). The nominal and pronominal prefixes in Kiswahili are provided in Table 1.

Table 1: Noun class system for common nouns in Kiswahili

Class	**Nominal prefix**	**Examples**	**Semantic classifications**	**Pronominal prefixes**
1	mu-	*muuguzi* 'nurse'	humans in singular	a-
2	wa-	*wauguzi* 'nurses'	humans in plural	wa-
3	m-	*mbuni* 'coffee tree'	plants in singular	u-
4	mi-	*mibuni* 'coffee trees'	plants in plural	i-
5	ji-/ø	*jicho* 'eye'	human body in singular	li-
6	ma-	*macho* 'eyes'	human body in plural	ya-
7	ki-	*kiti* 'chair'	small entities in singular	ki-
8	vi-	*viti* 'chairs'	small entities in plural	vi-
9	N-	*mbuzi* 'goat'	animate in singular	i-
10	N-	*mbuzi* 'goats'	animate in plural	zi-
11	u-	*ubao* 'board'	things (long/thin)	u-
14	u-	*utu* 'humanity'	abstract nouns	u-
15	ku-	*kulima* 'to farm'	infinitival nouns	ku-

There are possibilities of some basic semantic classifications of nouns in different classes. However, there are numerous overlaps in the classifications (Contini-Morava 2000). These overlaps arise out of the morphology of nominal prefixes and the semantic outcome of the combinations of nominal prefixes and roots.

[3] The elements *-ana* 'specialist of X' and *-enye* 'having X' are generally represented as *mwana* 'CHILD/SON' and *mwenye* 'WITH/HAS X' in the literature (see Lusekelo 2014; Mpiranya 2015; Mashauri 2018). I use the roots *-ana* and *-enye* to refer to the grammaticalised and lexicalised parts of compounds in Kiswahili. Nonetheless, the lexical entries *mwana* 'OFF SPRING' and *mwenye* 'WITH/HAS X' are still useful in the language.

The examples of clauses with nominal and pronominal prefixes are given below. The example (1) indicates the singular nominal prefixes that manifest as *m-* (class 1) and the pronominal prefix *a-* (class 1). The example (2) shows the same prefix *wa-* occurs as nominal and pronominal prefix. Some prefixes syncretic to nominal prefixes occur on adjectives, as illustrated in (3-4). The example (3) shows the pronominal prefix *u-* in this example is different in morphology from the nominal prefix *m-*. The plural pattern is given in (4).

(1) *Mu-uguzi* *a-me-m-beb-a* *m-gonjwa.*
1-nurse SM1-PFV-OM1-carry-FV 1-patient
'The nurse is carrying the patient.'

(2) *Wa-uguzi* *wa-me-wa-beb-a* *wa-gonjwa.*
2-nurse SM2-PFV-OM2-carry-FV 2-patient
'Nurses are carrying patients.'

(3) *M-buyu* *m-refu* *u-li-anguk-a* *jana***.**
3-baobab 3-tall SM3-PST-fall-FV yesterday
'The tall baobab fell yesterday.'

(4) *Mi-buyu* *mi-refu* *i-li-anguk-a* *jana.*
4-baobab 4-tall SM4-PST-fall-FV yesterday
'The tall baobabs fell yesterday.'

Compound nouns also bear the grammatical feature number, which is hosted in the nominal prefixes in Kiswahili. Table 2 provides the noun class system for the Kiswahili compounds. Example sentences appear in (5-8).

Table 2: Noun class system for compound nouns in Kiswahili

Class	**Nominal prefix**	**Examples**	**Pronominal prefixes**
1	mu-	*mfanyakazi* 'worker'	a-
2	wa-	*wafanyakazi* 'workers'	wa-
3	m-	*mdakakomba* 'shrub (*Rutaceae*)'	u-
4	mi-	*midakakomba* 'shrubs (*Rutaceae*)'	i-
5	ji-/ø	*garimoshi* 'train'	li-
6	ma-	*magarimoshi* 'trains'	ya-
7	ki-	*kipimajoto* 'thermometer'	ki-
8	vi-	*vipimajoto* 'thermometers'	vi-
9	N-	*njugumawe* 'bambara nut'	i-
10	N-	*njugumawe* 'bambara nuts'	zi-
11	u-	*ugonjwa mkuu* 'epidemic'	u-
14	u-	*uanachama* 'membership'	u-

An illustrative example (5) concerns the noun+noun (N+N) compound *garimoshi* 'train'. This compound noun bears a zero nominal prefix. The zero nominal prefix obtained in nouns also unfolds in the adjective *kuu* 'old' that modifies the compound noun. Its plural counterpart in example (6) indicates the compound *magarimoshi* 'trains' that consists of the nominal prefix

ma- (class 6). The nominal prefix unfolds in its modifier *makuu* ‘old’. In both examples, the nominal prefix control agreement pattern for adjectives and nouns. The same is true for the agreement on the verbs.

(5) *ø-garimoshi* *ø-kuu* *li-me-pinduka*
5-train 5-old SM5PFV-overturn
‘An old train has overturned.’

(6) *Ma-garimoshi* *ma-kuu* *ma-wili* *ya-me-pinduka*
6-train 6-old 6-two SM6-PFV-overturn
‘Two old trains have overturned.’

(7) *M-fanyabiashara* *a-li-zi-nunu-a* *njugumawe*
1-traader SM1-PST-OM10-buy-FV 10-bambara-nuts
‘The trader bought bambara-nuts.’

(8) *Wa-fanyabiashara* *wa-li-zi-nunu-a* *njugumawe*
2-traader SM2-PST-OM10-buy-FV 10-bambara-nuts
‘Traders bought bambara-nuts.’

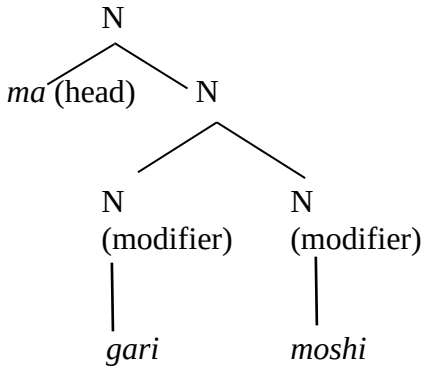
The difference is shown for the verb+noun (V+N) compound. The example (7) indicates that the nominal compound *mfanyabiashara* ‘trader’ derives from the verb *fanya* ‘do, work’ and noun *biashara* ‘trade’. Apart from combination of the two lexical entries in Kiswahili, its formation involves the insertion of nominal prefix *m-* (class 1). The plural counterpart is obtained by affixation of the nominal prefix *wa-* (class 2). In both examples, the nominal prefixes determine the subject agreement on the verb.

The post-verbal nouns behave like other nouns in Kiswahili. The nominal prefix determines the agreement with the subject. The compound noun *njugumawe* ‘bambara nut’ derives from *njugu* ‘nuts’ and *mawe* ‘stones’. The first noun hosts the nasal nominal prefix (class 10), while the second one bears the nominal prefix *ma-* (class 6). It is the nasal prefix which determines object agreement in examples (7-8). Therefore, the properties of the nominal prefixes are similar in both common and compound nouns in Kiswahili.

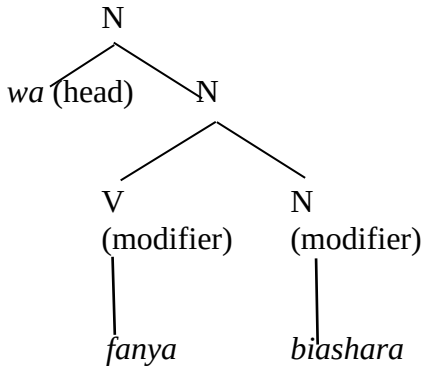
The morphosyntax of Kiswahili sentences reveal that nominal prefixes of both bare and compound determine the agreement in the noun phrases and to the verb system. It means that the nominal prefixes of the left-most noun in compounds determine the agreement patterns in noun phrases and to verbs. The nominal prefixes of the right-most nouns do not trigger any agreement.

Now on the basis of the agreement patterns described for compounds nouns, Gichuru (2010) and Kula (2012) suggest that the nominal prefix is assumed to be the head of compound nouns (see also Mphasha 2006; Musehane 2007a). In this article, I want to argue that based on morphosyntactic analysis, this claim holds. This is also supported by the analyses of the morphosyntax of common nouns by Contini-Morava (1994, 2000, 2007) and Carstens (1991, 1993, 2008). Based on these scholars, the structure of the N+N compound will be as in (9), while that of the V+N compound will be as in (10).

(9) The structure of the compound noun *magarimoshi* ‘trains’



(10) The structure of the compound noun *wafanyabiashara* ‘traders’



The suggestion that the left-most element determines the morphosyntax of compounds is not supported fully by all compounds in Kiswahili. Mpiranya (2015) points out that some compounds bear similar nominal prefixes for both nouns which are combined, e.g. *mwanamke/wanawake* ‘woman/women’ and *mwanamwali*/*wanawali* ‘maiden(s). The agreement pattern is exemplified below.

(11) *Mw-anamwali* *m-moja* *a-me-fik-a* *u-kumbi-ni*
1-maiden 1-one SM1-PFV-arrive-FV 11-hall-loc
‘One maiden has arrived in the hall.’

(12) *Wa-anawali* *wa-tatu* *wa-me-fik-a* *u-kumbi-ni*
2-maiden 2-three SM2-PFV-arrive-FV 11-hall-loc
‘Three maidens have arrived in the hall.’

The elements of the compounds *mwanamwali* ‘maiden’ and *wanawali* ‘maidens contain similar nominal prefixes. Notice that none of the nominal prefixes could be gauged openly to determine agreement. Based on this observation, I will argue in this article that the decision of the agreement depends on the inherent content of the entire compound now.

Kageyama (2010) and Appah (2017) opine that morphosyntax of compounds has to be approached separately from semantic approach otherwise the endocentric-exocentric

dichotomy can crumble. Moreover, Benczes (2015) suggests that the description of the classes of compounds can well be articulated using the cognitive approach of prototypes, rather than other approaches. In this line, I want to show evidence to substantiate that, semantically, even the right-most noun in a compound can become the head in Kiswahili. This is a different view point of headedness of compounds in Kiswahili.

In addition, I offer examples to substantiate that the inherent content of the noun-stem is pivotal in provision of semantic classification of nouns (Contini-Morava 1994). I will support the claim that the semantic and cognitive perspective of compounds holds in assigning meaning to compounds (Kageyama 2010; Benczes 2015; Appah 2017). The semantics of the compounds will then determine its headiness.

3. The data and previous analyses of compounds in Kiswahili

3.1 *Formation of compounds in Kiswahili*

The records of ancient Kiswahili, technically stored in poetic works of ancient poets, contain few compounds.[4] The earliest publications for Kiswahili (Steere 1870, 1896) contain rare compounds; some are shown in (13). But Madan (1902) contains more compounds; some are shown in (14).

(13)

COMPOUNDS	DERIVATIONS	
mwanazuo 'student'	*mwana* 'specialist of X'	*zuo* 'school'
wanamume 'man'	*mwana* 'having X'	*mume* 'male'
mwanamuke 'woman'	*mwana* 'having X'	*muke* 'male'
mwanakupona 'poet'	*mwana* 'having X'	*kupona* 'to heal'
kifungua mlango 'door opener'	*fungua* 'open'	*mlango* 'door'
wafanyabiashara 'traders'	*fanya* 'do'	*biashara* 'trade'
wafua-vyuma 'iron smiths'	*fua* 'forge'	*vyuma* 'iron'

(14)

COMPOUNDS	DERIVATIONS	
mwuza nguo 'mercer'	*uza* 'sell'	*nguo* 'clothing'
mshona nguo 'milliner'	*shona* 'weave'	*nguo* 'clothing'
mchanja kuni 'woodman'	*chanja* 'chop'	*kuni* 'firewood'
ugonjwa mkuu 'epidemic'	*ugonjwa* 'disease'	*mkuu* 'big'
mwanafunzi 'disciple'	*mwana* 'specialist of X'	*funzi* 'learning'
mwana chuoni 'student'	*mwana* 'specialist of X'	*chuo* 'college'
gari la moshi 'railroad train'	*gari* 'automobile'	*moshi* 'fume'
kondoo mhasi 'wether'	*kondoo* 'sheep'	*mhasi* 'castrated'
njugumawe 'bambara-nut'	*njugu* 'nuts'	*mawe* 'stones'
njugu nyassa 'ground-nuts'	*njugu* 'nuts'	*nyassa* 'lake'

[4] Most compounds analysed in this article are nouns. As highlighted in section 2, the structure nouns in Kiswahili consists of the nominal prefix and nominal stem for each noun class (Contini-Morava 1994), e.g. *m-fua vyuma* 'iron smith' and *wa-fua vyuma* 'iron smiths'. In the subsequent sections, I present the data without dividing the nominal structures. However, readers should be able follow the points made one once they make reference to section 2.

The coinage of compounds began during the standardization of the language in the 1930s. For instance, the name of the rail (train) was not listed by Steere (1896) but appeared as *gari la moshi* 'train' in Madan (1902). Later this expression was compounded into *garimoshi* 'train', which is typically lexicalized in Kiswahili. The word thermometer is recorded as *kipande cha kuonya homa* 'an instrument to detect sicknesses', while in the current Kiswahili *kipimajoto* 'thermometer' (from *-pima* 'measure', *joto* 'heat') is commonly used.

In socio-economics and political science, some words are not recorded in the dictionary by Madan (1902). The word investment is listed as *gharama* 'cost, charges' and *malipo* 'payment'. Contemporary Kiswahili makes use of *kitegauchumi* 'investment' (derived from *-tega* 'trap' and *uchumi* 'economy'). The words exploitation and proletariat, which are related to accumulation of wealth and political power, are not recorded. In current Kiswahili is coined as *mwanasiasa* 'politician'. The term politician is termed *mtu wa politics* 'man of politics', which is a combination of English and Kiswahili words. The words investment and politician acquired compound entries in the present-day Kiswahili.

The grammar book by Ashton (1944) contains few compound nouns. The examples in (15) show that the compound nouns formed by the prefixation of *mwana* 'child/specialist of X' are common. This is common but tracing the meaning of words such as *mwanafunzi* 'pupil' with the derivation element *-ana* gives plausible signs of grammaticalization.

(15)	COMPOUNDS		DERIVATIONS	
	mwanahewa	'airman'	mwana 'specialist of X'	*hewa* 'air'
	mwanafunzi	'pupil'	*mwana* 'specialist of X'	*funza* 'learn'
	mwanaume[5]	'man'	*mwana* 'having X'	*ume* 'manhood'
	mwanamaji	'sailor'	*mwana* 'specialist of X'	*maji* 'water'

The formation of new terms in Kiswahili is noted for coining many compounds (King'ei 1999; Kishe 2003; Mpiranya 2015). Kishe (2003: 8) states categorically that "compounding is a device for creating terminology which in Kiswahili consists of two parts namely word compounding involving Kiswahili words only and word compounding involving Kiswahili and English words." While King'ei (1999) argues that compounding is under-utilized, the dictionary of Standard Kiswahili contains numerous compounds. Examples in (16) comprise names of living organisms (TUKI 2014).

(16)	COMPOUNDS		DERIVATIONS	
	mjombakaka	'lizard sp.'	*mjomba* 'uncle'	*kaka* 'brother'
	mkatafungo	'tree sp.'	*mkata* 'cutter'	*fungo* 'node, knot'
	mkomamanga	'pomegranate'	*mkama* 'local ruler'	*manga* 'coast'
	mkungumanga	'fig tree'	*mkungu* 'almond tree'	*manga* 'coast'
	mnukauvundo	'shrub sp.'	*mnuka* 'smeller'	*uvundo* 'smell, stench'
	mdonoakupe	'bird sp.'	*mdonoa* 'pecker'	*kupe* 'tick'
	mgombakofi	'yam plant'	*mgomba* 'banana'	*kofi* 'slap'
	kombamwiko	'cockroach'	*komba* 'wipe clean'	*mwiko* 'wooden spoon'

[5] In earlier publications (e.g. Madan 1902), the word 'man' is *mwanamume* while Ashton (1944) has *mwanaume*. In the former, the derivation is *mwana* 'having X' and *mume* 'male', while in the latter it is *mwana* 'having X' and *ume* 'manhood'. Mpiranya (2015) states that both representation is common in the language.

Mpiranya (2015) presents compounds for new terms. I highlight four points from his data. The first point concerns the role of the nominal root *-ana* in the formation of compounds in Kiswahili. Mpiranya (2015: 178) points out that "a great number of technical terms or terms referring to new occupations and entities are produced by compounding two different nouns, or a noun with an adjective or numeral". Based on examples in (17), Mpiranya (2015) argues that "compound nouns based on *mwana/wana*, which means "specialist", "member", or "actor", depending on the context, instead of "child/children; offspring(s)" (p. 178). I will use such examples to argue that the grammaticalization of *-ana* has occurred and these are obvious of the use of the root *-ana* to mean specialisation or occupation. I show in section five that these three occupations listed by Mpiranya are not the only ones.

(17)

COMPOUNDS		DERIVATIONS	
mwanachama	'member of part'	*mwana* 'member'	*chama* 'party'
mwananchi	'citizen'	*mwana* 'member'	*nchi* 'country'
mwanamaji	'sailor'	*mwana* 'specialist'	*maji* 'water'
mwanahewa	'aviator'	*mwana* 'specialist'	*hewa* 'air'
mwanaanga	'astronaut'	*mwana* 'specialist'	*anga* 'sky'
mwanasheria	'lawyer'	*mwana* 'specialist'	*sheria* 'law'
mwanariadha	'athletics'	*mwana* 'actor'	*riadha* 'athletics'
mwanamitindo	'model/artist'	*mwana* 'actor'	*mitindo* 'fashion'

The second point concerns the highlight by Mpiranya that *-enye* is pronominal which is used to derive compound nouns: "the presence of the pronouns *-enye* "with (that has/have)" and *-enyewe* 'self/selves' as shown in an example *mwalimu mwenye ujuzi* 'a knowledgeable teacher (lit. 'with knowledge')" (Mpiranya 2015: 31). Mpiranya highlights that "*-enye* is unaccented, as it constitutes a "compound adjective" with the following noun, with one accent that falls on the second-to-last syllable of the group (here, accented vowels are marked with an acute accent)." (p. 31). I will show evidence in section five to substantiate that this element is also grammaticalised in Kiswahili.

The third point concerns the formation of "modern compound nouns based on *elimu* "knowledge; education", as well as nouns created by combining nouns and adjectives or numerals (additional terms" (Mpiranya 2015: 179). Irrespective of its robust in use, the word *elimu* "knowledge; education"is not yet grammaticalised. (18) shows the regular patterns of compounds formed by this strategy.

(18)

COMPOUNDS		DERIVATIONS	
elimu lishe	'nutrition'	*elimu* 'education'	*lishe* '(*la* 'eat') nutrients'
elimu misitu	'forestry'	*elimu* 'education'	*misitu* 'forests'
elimu jamii	'sociology'	*elimu* 'education'	*jamii* 'society'
elimu wadudu	'entomology	*elimu* 'education'	*wadudu* 'insect'

The last point revolves around another regular pattern of V+N compounds in Kiswahili. Mpiranya (2015: 179) states that "many nouns referring to different functions and social statuses are formed by replacing the prefix *ku-* of the infinitive with an animate class prefix *mu-/wa-*." Kiswahili lexicon has robust verb+noun compounds, as illustrated in (19) (Mpiranya 2015: 181).

(19)	COMPOUNDS	DERIVATIONS	
	mwendesha mashitaka 'prosecutor'	*kuendesha* 'conduct'	*mashitaka* 'charges'
	mtema kuni 'wood cutter'	*kutema* 'cut'	*kuni* 'wood'
	mwekahazina 'treasurer'	*weka* 'keep'	*hazina* 'treasure'
	mjasiriamali 'entrepreneur'	*jasiria* 'do'	*mali* 'wealth'
	msemakweli 'honest person'	*sema* 'say'	*kweli* 'truth'

Gichuru (2010) and Katikiro (2017) discuss the properties of compounds in Kiswahili. The examples in (20) illustrate 2-word compounds. Both authors provide data for 3-word compounds which are re-analysed in section 3.2 below.

(20)	COMPOUNDS	DERIVATIONS	
	alatuli 'immobile organs'	*ala* 'tool/apparatus'	*tuli* 'cool, calm'
	kipaumbele 'priority'	*pa* 'give'	*umbele* 'front'
	kidoletumbo 'appendix'	*kidole* 'finger'	*tumbo* 'abdomen'
	rusha roho 'modern *taarab* music'	*rusha* 'throw'	*roho* 'soul'
	mpigataipu 'typewriter'	*piga* 'hit'	*taipu* 'type'
	kipimamvua 'rain gauge'	*pima* 'measure'	*mvua* 'rain'
	mbwa mwitu 'wild dog'	*mbwa* 'dog'	*mwitu* 'wilderness'
	elimu mimea 'botany'	*elimu* 'education'	*mimea* 'plants'
	mpigania uhuru 'revolutionist'	*pigania* 'fight for'	*uhuru* 'freedom'
	nguvukazi 'labour force'	*pima* 'measure'	*mvua* 'rain'

The foregoing presentation has shown that Kiswahili has numerous compound words. Most of the compounds involve the combinations N+N and V+N. In the subsequent section, I re-analyse some of these compounds. Also, in the analysis in section 4, more illustrative examples from these sources are re-analysed.

3.2 *Re-analysis of Kiswahili compounds*

Studies on the properties of compounds (see Benczes 2006; Libben & Jarema 2006; Lieber & Štekauer 2009; Scalise et al. 2009; Kageyama 2010; Scalise & Vogel 2010; Moyna 2011; Štekauer et al. 2012; Appah 2017) substantiate that compounds exist in the world's languages as a mechanism of word-formation. The Kiswahili data provided in section 3.1 substantiates that compounds are robust in Kiswahili.

Research has shown that the semantic properties of compounds involve endocentric compounds with a head arising from one of the combined words, and exocentric compounds, with questionable head status (Scalise et al. 2009; Kageyama 2010; Appah 2017). Variations on the amount and properties of endocentric and exocentric compounds are also reported (Kageyama 2010; Appah 2017). This point is not explicitly stated in the previous studies of compounds in Kiswahili (Gichuru 2010; Lusekelo 2014; Katikiro 2017). With regard to this point, the discussion that follows highlights the areas that need to be re-defined.

The representation of the African languages in discussions about the endocentric-exocentric dichotomy is very limited (Appah 2017). Both Kosch (2006) and Miti (2006) present only in passing the compounding processes in Bantu languages. Even some specialised studies ignored the inclusion of the endocentric-exocentric dichotomy (Musehane 2007a, b; Gichuru 2010), though a few studies covered it (e.g. Mphasha 2006; Kula 2012; Ilonga 2016;

Katikiro 2017). Even though these studies suggest headedness as the main criterion towards the classification of compounds. I will draw illustrative cases from Kiswahili.
The resources for compounds in Kiswahili provide for 3-word cases given in (21) (Gichuru 2010; Mashauri 2018).

(21)	*alasauti zogezi* 'movable speech organs'	*ala* 'organ'	*sauti* 'sound'	*sogezi* 'movable'
	pembetatu kali 'acute triangle'	*pembe* 'corner'	*tatu* 'three'	*kali* 'acute'
	mwanaisimu jamii 'a member of speech community'	*mwana* 'son'	*isimu* 'linguistics'	*jamii* 'society'
	mwanajamii lugha 'a member of speech community'	*mwana* 'son'	*jamii* 'society'	*lugha* 'language'

Gichuru (2010: 81) argues that 3-word compounds in Kiswahili are left-headed and the left word determines the morphosyntax of the entire compound. Mashauri (2018) supports the idea based on the assumption that 3-word compounds reveal stress at penultimate syllable similar to 2-word compounds. This phenomenon is common in Kiswahili which "does not use tones (variations in pitch height that distinguish word meanings) but rather accents most words on the second-to-last syllable" (Mpiranya 2015: 5). However, I make two reservations from the illustrations in (21).

Firstly, the combination of three words does not always derive compounds in Kiswahili. Some examples reveal a combination of the compound noun such as *alasauti* 'speech organ' [*ala* 'organ' + *sauti* 'sound'] and the modifier *sogezi* 'movable'. The explanation by Gichuru (2010) is that usually the combination begins with the existing compounds to which another free morpheme is added yet to create another compound. In this article, I argue that these examples manifest as noun phrases, rather than compound words. Koopman (1984) argues that compound words with three words are rare. Other scholars do not provide 3-words compounds in Kiswahili (see Lusekelo 2014; Mpiranya 2015; Katikiro 2017). Due to this reason, as well as the fact that the expressions above are only technical terms, I argue that the compounding of three free morphemes is not yet available in Kiswahili. Strictly speaking, some of these examples do not constitute three free morphemes, since the component words include some bound morphemes.

Secondly, the combination of *mwanajamii lugha* 'a member of a certain speech community' is typically a noun phrase. It is composed of the compound *mwanajamii* 'a member of a society' [*mwana* 'member' + *jamii* 'society'] and the modifier *lugha* 'language'. Based on such cases, I would suggest that the compound *mwanajamii* 'a member of a society' is right-headed because the element *-ana* 'CHILD/SON' reveals absence of the semantic notion CHILD/SON. It has been grammaticalised to mean 'specialist of X', 'works in/as Y', 'lives in Z' or 'acts as'. These senses are obtained through exocentric strategies discussed in section 4 below.

I want to re-iterate that the above examples could be analyzed differently from one another. For example, *pembetatu kali* (lit. 'corner + three + sharp') looks like just a compound noun *pembetatu* 'triangle' modified by the adjective *kali* rather than a 3-word compound. And even if they are analyzed as 3-word compounds, they all have hierarchical structure (as suggested by the cited author), i.e. as indicated by the orthography, *ala+sauti sogezi* (lit., 'organ[s] + voice + mover') consists of a compound 'speech organs' modified by another word 'mover' and not e.g. 'organs of movable speech'. *Mwana-jamii-lugha* 'child + society +

language' would be divided into *mwana* 'child/practitioner' + 'society-language', not otherwise. Just describing them as 3-word noun phrases doesn't acknowledge this.[6]

Katikiro (2017) suggests that Kiswahili contains many compound words whose meaning derive from the meaning of the individual words which form the compounds. It is unfortunate that Katikiro (2017) does not present the headedness of the compounds in the language. As I highlighted above, and will discuss in section four below, Kiswahili contains three kinds of endocentric compounds: head initial, head final and double heads.

Moreover, Katikiro (2017) argues that Kiswahili compounds realise covert semantic contents in that the meanings of some resultant nouns are totally different from the inherent semantic contents of the words which form the compound nouns. This is not a unique case to Kiswahili alone. Rather it is typically a case of exocentric compounds in that the meaning of the resultant compound is not derived from the words which form the compounds (Benczes 2006; Kageyama 2010; Appah 2017). Nonetheless, the suggestion that compounds such as *mwanamume* 'man, male', *mwanajeshi* 'soldier' and *mwanamimba* 'uterine pain' are exocentric compounds is not clear. As I will argue in this article, the element *-ana* 'person/thing that has X' is undergoing grammaticalisation in Kiswahili. This is not unique to Kiswahili, as Heine (2019) highlights the possibility of a lexical word to change to a grammatical element due to semantic extension or semantic bleaching.

Lusekelo (2014) and Katikiro (2017) discuss the endocentric-exocentric dichotomy of compounds in Kiswahili. Some statistics can be generated for the sample of compounds re-analysed in this article. Based on Bauer (2008) and Scalise et al. (2009), the amount of compounds used help to establish the productivity of the two types of compounds. In the literature, the endocentric compounds outnumber, by far, the exocentric compounds in many languages of the world (Dressler 2006), but not always the case (Kageyama 2010; Appah 2017).

Kiswahili combines nouns, verbs, adverbs, and adjectives to derive compounds. Table 3 confirms the abundance of V+N and N+N compounds in the language. Also, the combination of noun-plus-adjective and *-ana* + N are also productive in the language. The limited combinations include the *-enye* + noun, verb + verb and noun + adverb. The combinations which involve *-ana* 'having X/specialist of X' and *-enye* 'having X' are discussed separately in the section of grammaticalization.

Table 3: Formation of compounds in Kiswahili[7]

Combinations	**Gichuru (2010)**	**Lusekelo (2014)**	**Mpiranya (2015)**	**Katikiro (2017)**	**Total**	**%**
V + N	24	18	26	23	91	33.82
N + N	9	11	13	52	85	31.59
-ana + N	7	16	18	8	49	18.21
N + ADJ	7	3	5	16	31	11.52
-enye + N	1	6	2	0	9	3.34
V + V	2	1	0	0	3	1.11
N + ADV	1	0	0	0	1	0.37
Total	**51**	**55**	**64**	**99**	**269**	**99.96**

[6] This point was suggested by one of the reviewers. I am grateful for the highlighted point.

[7] Compounding is very productive in Kiswahili. The list of compounds presented and analysed in this article cannot be claimed to be exhaustive.

The combination of nouns and adjectives comprises core adjectives such as *-zito* 'heavy' and *-ema* 'honest' in *ujauzito* 'pregnancy' and *raiamwema* 'law abiding citizen', derived adjectives such as *-pendwa* 'liked' in *riwaya pendwa* 'popular fiction', and lower numerals like *-tatu* 'three' in *pembetatu* 'triangle'.

Based on Lusekelo (2014) and Katikiro (2017), most of the endocentric compounds are characterized by the combination of noun + noun and noun + adjective, while exocentric nouns are formed through verb + noun and *-ana* 'person/thing that has X' + noun. The formation of both exocentric and endocentric compounds is still productive in the language. This is confirmed in Table 4, which shows the statistical distribution of these compounds in the language.

Table 4: Amount of endocentric and exocentric compounds in Kiswahili

Semantic type of compounds	**Total number**	**Percentage**
Endocentric compounds	130	48.33
Exocentric compounds	139	51.67
Total	**269**	**100**

There is variation in the statistical distribution of endocentric and exocentric compounds in Bantu languages. For instance, Mphasha (2006: 208-2013) lists 140 (66%) endocentric and 109 (44%) exocentric compounds in Sesotho. This affirms that "endocentric compounds are by far preferred to exocentric compounds in the languages of the world, because they allow much easier access to the head" (Dressler 2006: 33). But Table 4 shows a slightly large percentage of exocentric than endocentric compounds in Kiswahili. The rationale for the dominance of exocentric compounds in Kiswahili is concerned with the predominance of metaphorical and metonymical strategies of naming in the language. Both Vierke (2012) and Kraska-Szlenk (2018) affirm the abundance of metaphors and metonyms in Kiswahili culture. This topic is discussed in detail in the subsequent section.

4. Endocentric and exocentric dichotomy

4.1 *Endocentric compounds*

Many endocentric compounds result from the combination noun-plus-noun. The examples in (22) show that some Kiswahili compounds are left-headed. The inherent semantic content of left-most noun spreads across the entire resultant noun. The right-most word becomes a modifier, as it offers extra information about the left-most word. I will use two examples to illustrate this point.

(22)	COMPOUNDS		$NOUN_1$	$NOUN_2$
	askari kanzu	'spy'	*askari* 'police'	*kanzu* 'cassock'
	askari mgambo	'militia'	*askari* 'police'	*mgambo* 'guard, auxiliary'
	askari jela	'warden'	*askari* 'police'	*jela* 'prison'
	batamzinga	'turkey'	*bata* 'duck'	*mzinga* 'canoe'
	batabukini	'goose'	*bata* 'duck'	*bukini* 'grey'
	batamaji	'swam-duck'	*bata* 'duck'	*maji* 'water'

njugumawe	'bambara nut'	*njugu* 'nuts'	*mawe* 'stones'
njugupori	'wild peanut'	*njugu* 'nuts'	*pori* 'forest'

For instance, the noun *askari* 'police' is at the core of the meaning of the compound *askarikanzu* 'spy, crime investigation officer'. However, the noun *kanzu* 'cassock' is inferred to metaphorically because a spy operates secretly and dress in civilian (plain) clothes rather than the police uniforms. In Zanzibar, where the compound is highly used, *kanzu* 'cassock' is a civilian dress whose meaning is inferred as spy's dress. Almost all the compounds in (22) obtain metaphoric inference of the meanings of the modifiers.

The noun *bata* 'duck, fowl' is central in providing meaning to the three combinations in (22) above. First, head *bata* 'duck, fowl' is used with three modifiers to represent three different senses, vis-à-vis *mzinga* 'canoe' whose combination extends to mean 'turkey', *bukini* 'grey' that extends to mean 'goose' and *maji* 'water' that extends to mean 'swam-duck'. The central meaning of the entire compounds depend on the meaning of the left-most word.

Some endocentric compounds result from the combination of verbs and nouns. The examples in (23) shows that Kiswahili contains endocentric compounds with the structure double-head. Both words contribute fully to the semantic content of the resultant compounds. Two reasons substantiate that none of the two words can assume supreme power over the meaning of the derived word. I will use one compound to illustrate these two points.

(23)	COMPOUNDS		VERB	NOUN
	mfaniyakazi	'worker'	*fanya* 'work'	*kazi* 'job'
	mfanyabiashara	'trader'	*fanya* 'do'	*biashara* 'business'
	kitega uchumi	'investment'	*tega* 'entrap, set'	*uchumi* 'economy'
	kipimajoto	'thermometer'	*pima* 'measure'	*joto* 'temperature'
	kionambali	'binocular'	*ona* 'see'	*mbali* 'far'
	kipazasauti	'microphone'	*paza* 'make loud'	*sauti* 'sound, voice'
	kipaumbele	'priority'	*pa* give'	*umbele* 'ahead, front'

On the one hand, the combination of the senses in the verbs and nouns yields one semantic content of the resultant word. For instance, the compound *mfanyakazi* 'worker' for instance, obtains meaning from the verb *fanya* 'do' and the noun *kazi* 'job'. A worker requires to have some kind of ability to perform the required task. Likewise, the job is necessary to be there for the worker to perform it. Thus, the combination of both senses contribute to the meaning of the compound.

On the other hand, the use of nominal prefixes is required for the compounds which denote persons/humans. In this regard, Mpiranya (2015: 179) points out that "many nouns referring to different functions and social statuses are formed by replacing the prefix *ku-* of the infinitive with an animate class prefix *mu-/wa-*." The compounds *mfanyakazi* 'worker' and *mfanyabiashara* 'trader' were generated this way. The semantic classification of the nouns in this category is +human hence they are prefixes with nominal affixes *m-* (singular) and *wa-* (plural).

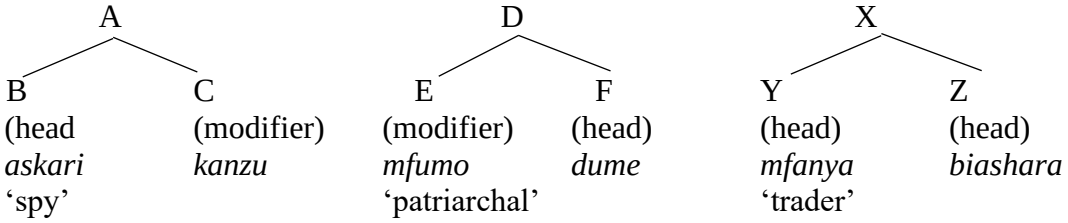
An important point is underscored here. The nominal prefix is attached to the whole compound rather than the first entry. Therefore, I will argue that on morphological grounds both the first and second elements are regarded as the heads. The outcome will be double-head compounds.

Kiswahili also has compounds with the structure right-headed. Some of these resultant compounds are associated with specializations hence are new coinages (24). Even the element *-ana* ‘specialist of X’ is also used to derive such compounds. In these nouns, the element *-ana* ‘specialist of X’ does not exhibit grammaticalization. This results from the fact that most of the compounds are new coinages.

(24)	COMPOUNDS		$NOUN_1$	$NOUN_2$
	mfumo dume	‘patriarchal’	*mfumo* ‘system’	*dume* ‘male’
	elimu mimea	‘botany’	*elimu* ‘education’	*mimea* ‘plants’
	elimu anga	‘astronomy’	*elimu* ‘education’	*anga* ‘sky’
	mwana mpotevu	‘prodigal son’	*mwana* ‘child’	*mpotevu* ‘lost’
	mwana siasa	‘politician’	*mwana* ‘child’	*siasa* ‘politics’
	mwana michezo	‘sportsman’	*mwana* ‘child’	*michezo* ‘sports’
	mwanaisimu	‘linguist’	*mwana* ‘child’	*isimu* ‘linguistics’

To summarize for this section, endocentric compounds in Kiswahili bear heads. Based on Kageyama (2010), the structures of the Kiswahili compounds will appear as in (25). Each of the type of endocentric compound is represented in the schemata.

(25)



4.2 *Exocentric compounds*

Exocentric compounds are technically a result of metaphoric interpretation of the combined words. The metaphorical expressions are a commonplace in Kiswahili speaking community, which are expressions of politeness construed cognitively (Vierke 2012). In many instances, the metaphors are used figuratively to achieve a certain purpose (Kraska-Szlenk 2018). In this section, the metaphorical interpretation of exocentric compounds does consider the social practise of the Kiswahili people who make use of figurative use of names.

4.2.1 *Metaphoric exocentric compounds*

The main source of the metaphoric exocentric compounds in Kiswahili is the combination verb + noun. The meaning of the resultant compound is achieved through metaphorical interpretation of the combined words, as discussed for the examples in (26).

(26)	COMPOUNDS		VERB	NOUN
	kifauongo	‘Memusa pudica’	*fa* ‘die’	*uongo* ‘lie’
	mlalahoi	‘proletariat, labourer’	*lala* ‘sleep’	*hoi* ‘exhausted’
	mvujajasho	‘day worker’	*vuja* ‘leak’	*jasho* ‘sweat’
	kirukanjia	‘prostitute’	*ruka* ‘jump’	*njia* ‘path’
	kirukanjia	‘night jar’	*ruka* ‘jump’	*njia* ‘path’
	mdakakomba	‘shrub (Rutaceae)’	*daka* ‘catch’	*komba* ‘bush-baby’

changamoto ‘challenge’ *changa* ‘damage’ *moto* ‘fire’

The plant name *kifauongo* ‘shame-plant (Memusa pudica)’ obtains its name in Kiswahili from its physiological behavior. It is a sensitive plant that responds to touch and other stimulation by rapidly closing its leaves and drooping. In Kiswahili, that behaviour is metaphorically interpreted as “fake death” or “false death”. The verb *-fa* ‘die’ and the noun *-uongo* ‘a lie’ combine to derive an inference which is linked to the physiological behavior of the plant.

The compound *mlalahoi* ‘proletariat’ emerged in Tanzania after the General Multiparty Elections in 1995. Politicians coined this label to represent labourers who remained poor in the country. Poor people go hungry due to low income and sleep exhausted due to hard labour. Therefore, the verb *lala* ‘sleep’ and *hoi* ‘exhausted’ are combined to infer to the poor labourers. Similarly, *wavujajasho* ‘day-workers’ is coined to represent a class of people who have no permanent jobs and keep looking for jobs on daily basis. They labour very hard but obtain small wages. The verb *vuja* ‘leak’ and the noun *jasho* ‘sweat’ combine to infer to the continued status of the day-worker.

The metaphorical interpretation of *kirukanjia* ‘sex commercial woman, prostitute’, which is also associated with breach of manners engraved in the community, obtains metaphoric name so as to maintain face (Vierke 2012). The verb *ruka* ‘jump’ is used to mean the proper custom of the community (hypothetically called *njia* ‘path’) had not been adhered to by the woman in question. In this case, the name is used metaphorically in order to avoid bad face in social communication.

The name *kirukanjia* ‘night jar’ is also associated with a bird species. These bird have short legs, short bill and short feathers. They feed on insects. It is very active at night. These features are metaphorically interpreted for persons who walk and/or work at night.

The plant species called *mdakakomba* ‘shrub (*Rutaceae*)’, which has thorns, obtains metaphoric meaning from the verb *daka* ‘catch’ that is used to mean get hold of *komba* ‘bush-baby’. The name here is figuratively used to the inability of the bush-baby to play around the branches of the shrub, as Kraska-Szlenk (2018) points out, otherwise it will get hold by the shrub’s thorns.

The combination of noun + noun also yield metaphoric exocentric compound nouns in Kiswahili (27). For instance, *changudoa* ‘sex commercial woman, prostitute’ derives its meaning metaphorically from the snapper-fish, which is a migratory fish species. Sex commercial persons also attract mobile male-customers, rather than permanent men. Likewise, *kichwamaji* ‘stubborn person’ is metaphorically derived from a head without good brain (but watery brain). Something watery cannot be easily convinced.

(27)	COMPOUNDS		VERB/NOUN$_1$	NOUN$_2$
	changudoa	‘prostitute’	*changu* ‘fish’	*doa* ‘spot’
	kichwamaji	‘stubborn person’	*kichwa* ‘head’	*maji* ‘water’
	mpasuasanda	‘bird (*Caprimulgidae*)’	*pasua* ‘tear’	*sanda* ‘shroud’
	dondandugu	‘gangrene’	*donda* ‘wound’	*ndugu* ‘relative’
	kibiritingoma	‘prostitute’	*kibiriti* ‘matchbox’	*ngoma* ‘drum’

Katikiro (2017) claims that the sources of the meaning of the compounds in (27) above cannot be traced. I argue that the metaphoric interpretation of these compounds will help to find a close connection between the words which form each of them and the resultant interpretation. This kind of analysis is suggested in the literature (Bauer 2008; Benczes 2015).

4.2.2 *Synthetic exocentric compounds*

Affixation is a common process to derive words in Kiswahili. Most synthetic exocentric compounds derive from a combination of a noun with a derived verb or adjective. The main source of the exocentric compounds in Kiswahili is the combination verb + noun. I use examples in (28) to illustrate the essence of synthetic exocentric compounds. I use the first two examples to talk of the metaphor of BECOME HEAVY.

(28)	COMPOUNDS		VERB	NOUN
	ujauzito	'pregnancy'	*ja* 'become'	*uzito* 'heaviness'
	mjamzito	'pregnant woman'	*ja* 'become'	*mzito* 'heavy'
	mjasiriamali	'entrepreneur'	*jasiria* 'struggle to'	*mali* 'wealth'
	mshikadau	'stakeholder'	*shika* 'hold'	*dau* 'dhow, boat

Bauer (2008: 64-65) introduces the compound *ujauzito*[8] 'pregnancy' to describe compounds whose meaning is clear but falls in unexpected word class, hence they "look like instances of conversion or transposition." With regard to the morphological behavior of Kiswahili, nouns change classes due to change in nominal prefixes (Contini-Morava 1994). The same is available in many other Bantu languages (Rugemalira 2014). This compound is typically synthetic exocentric compound which derives from the assignment of the nominal prefixes to the stative verb *-ja* 'become'. The prefixation of noun classes realizes such nouns as *uja* 'state of being/something that (be)comes' and *waja* 'those who are X'. Then the adjective agrees with the head-noun in number either as *ujauzito* 'pregnancy', *mjamzito* 'pregnant woman' or *wajawazito* 'pregnant women'.

There is also some kind of metonymical interpretation involved in these words. The notion *ujauzito* 'pregnancy' entails that the woman has become heavier due to the state of carrying an unborn baby. A woman literally becomes heavier when she is pregnant. The same is true for the rest of the examples above in which affixation derives nouns from verbs, which in turn combine with the next nouns to yield metaphorical interpretation of the compounds.

In both words, *mjamzito* 'pregnant woman' and *ujauzito* 'pregnancy', the meaning is attained through metonymical inference. A pregnant mother gains weight due to the growth of the unborn baby in her womb. To maintain face, as Vierke (2012) highlighted, the speakers of Kiswahili will use the expression BECOME HEAVY to mean be pregnant.

There are other compounds in Kiswahili which require special attention. These compounds derive from the combination of the elements *-ana* **'**specialist of X and *-enye* 'having X', which shows apparent signs of grammaticalisation, as discussed below.

5. Grammaticalisation of *-ana* and lexicalization of *-enye*

Two related phenomenon are discussed in this section. On the one hand, grammaticalisation is associated with the change of lexical entries into grammatical morphemes (Nurse 1997). The element *mwana* 'specialist of X' displays properties of grammaticalisation (see section 5.1).

[8] Lauri Bauer apparently indicates the source of the compound *ujauzito* 'pregnancy'. Perhaps since it is marked by a noun class prefix and functions as a noun, it is not clear why it would be described as falling into an unexpected word class. Possibly Bauer was not aware of this because of the gloss 'come' for *uja*, which instead means 'something that (be)comes'.

On the other hand, lexicalisation is likely to be a diachronic study of grammatical elements which change and become lexical entries (Brinton & Traugott 2005). Section 5.2 highlights this process using the element *enye* 'possessive pronoun'.

*5.1 From Proto-Bantu *-ná and *-yánà for CHILD to reflexes as SPECIALIST OF X*

Kiswahili contain reflexes of the noun for CHILD/CHILDREN. Guthrie (1970: 19, 147) reconstructed these proto-items for Proto-Bantu. Both *****-*ná* 'child' and *****-*yánà* 'child' were placed in class 1/2 (for humans). The reflexes for *****-*ná* 'child' include *muna* and *bana* 'child/children'. Perhaps these reflexes arose with the loss of the first syllable of *****-*yánà* 'child'. Guthrie (1970: 147) provides the following reflexes of *****-*yánà* 'child': *mwana/aana* 'child/children' in zone E55, *omwana/abaana* 'child/children' in zone E11 and *mwana/wana* 'child/children' in zone G42. It apparently becomes clear now that the element *mwana* 'son/daughter, off spring' is a reflex of Proto-Bantu items. This item reveal a grammaticalisation path towards becoming a prefix in Kiswahili.

TUKI (2014: 347) contains three kinds explanation about the lexical entry *mwana* (30). The third headword bears the feature of a prefixal material which is attached to other words in order to form new words.

(30) *mwana*[1] noun (*wana* in plural): child, off spring
mwana[2] noun (*wana* in plural): general word used to denote son or daughter of: *mwanangu* 'my son or daughter'
mwana- noun (*wana-* in plural): prefix used to form words denoting people of different professions, membership or classes: *mwanafalsafa* 'philosopher'

The discussion in the preceding sections highlighted that *mwana* 'son/daughter, off spring, specialist of X' is an independent word. The Institute of Kiswahili Studies (University of Dar es Salaam in Tanzania) has found that the entry has become an affix now. However, its form remains the same, with the nominal prefixes *mw-* (singular) and *wa-* (plural). With regard to my analysis in this article, the element *-ana* 'specialist of X' has been re-assigned its role to mean specialist, member, actor, actress etc., in short SPECIALIST OF X (specialization), e.g. *mwanaisimu* 'linguist', *mwanamuziki* 'musician', *mwanamgambo* 'militia' and *mwanamapinduzi* 'revolutionist'.

The essence of the notion OFF SPRING is still reminiscent in the root *-ana*. Therefore, the bare noun *mwana* 'child' – *wana* 'children' is still used in Kiswahili speaking community. The example (31) indicates the use of the word in a genitive noun phrase. Both words *mtoto* 'child' and *mwana* 'child' are commonly used in Kiswahili. In this example, the element *mwana* is used as a head word of the genitive phrase. However, the same word is primarily used as an element in other expressions. For instance, (32) shows that in *mwanapunda* 'colt horse' the element *mwana* is used to refer to 'a young male horse'. In this regard, example (32) represents a grammaticalised one.

(31) *Wa-toto* *wa-li-m-laki* *mw-ana* *wa* *M-falme*
2-child SM2-PST-OM1-meet 1-child ASSOC2 1-king
'Children went out to meet the son of the King.'

(32) *Yesu* *a-li-pand-a* *mw-ana-punda*
1Jesus SM1-PST-mount-FV 1-child-donkey
'Jesus came on a colt.'

The grammaticalised element allows metaphorical and metonymical interpretations of both human and non-human compound nouns. Compounds for humans are interpreted metaphorically while those for non-humans metonymically. For instance, *mwanamke* 'woman' and *mwanamume* 'man' contain *mwana* 'having X' and gender related terms of *mke* 'female' and *mume* 'male'. These words can be used to derive the reproductive organs as *uuke* 'vagina' and *uume* 'penis'. Although these body parts are generally taboo words in Kiswahili, speakers associate them with gender differentiation. Therefore, they are metaphorically interpreted to mean WOMAN and MAN respectively.

The meaning of the compound *mwanamimba* 'uterine pain' and *mwanandani* 'curve in a burial pit' has been extended metonymically. Both compounds contain *mwana* 'having X'. the elements *mimba* 'pregnancy' and *ndani* 'inside' are metonymically used to refer to the pain associated with pregnancy and a space inside the pit, respectively.

The grammaticalised *mwana* 'having X/specialist of X' is commonly used to derive abundant compounds for new terms in Kiswahili. As I highlighted in previous sections, Mpiranya (2015: 178) points out that there are "compound nouns based on *mwana/wana*, which means "specialist", "member", or "actor", as in *mwananchi* 'citizen'". Since *mwana* is grammaticalised, most of the specializations are derived in these way, e.g. *mwanajeshi* 'soldier' [<*jeshi* 'army, military'].

5.2 *Proto-Bantu *-nya and *-énýé 'OWNER OF…/HAVING …'*

Kiswahili grammar contains an element *mwenye* with the interpretation of 'owner of' or 'having X'. Meeussen (1967: 95) reconstructed the grammatical elements **-nya* and **-énýé* in such word as *munyanchí* 'owner of a country'. The element *mwenye* 'owner of/ having X' is common in words such as *mwenyekiti* 'chairperson' and *mwenyemji* 'head of family'.

TUKI (2014: 102) lists two lexical entries: *enye* [possessive pronoun] with meanings 'having', 'possession', and with' and *enyewe* [adjective] with meaning 'self', 'actual', 'owner' and concerned'. The grammatical entity has now lexicalized to mean owner or possession. The combination of the lexicalized *enye* 'owner' and another element generates compounds. I will analyse the compounds formed by this strategy as part of the bahuvrihi compounds.

The properties of *bahuvrihi* compounds allow them to be treated as exocentric or endocentric. Barcelona (2008: 210) points out that *bahuvrihi* compounds "denote an entity by explicitly mentioning a reified characteristic physical or abstract property that the entity possesses (in a broad sense of possession)." Although *bahuvrihi* compounds are assumed to be generated cognitively as endocentric compounds (Booij 2005; Benczes 2015), Barcelona (2008: 211) suggests that "they are exocentric compounds where a characteristic property is used to denote a category not explicitly mentioned in the compound."

Researchers agree that *bahuvrihi* compounds are metonymically generated with the interpretation "person/thing that has X" (Benczes 2015) or "having X" (Bauer 2008; Andreou & Ralli 2015). Specifically, Bauer (2008: 54) reports of the languages which developed the mechanism to derive exocentric-like expressions using "a suffix which may be glossed as 'having ~'". Similar combinations of nominal and adjectival roots result into *bahuvrihi* compounds across languages. For instance, in English, *bahuvrihi* compounds are generally

derived by the combination of adjective-plus-noun, e.g. *fathead* 'rigid, having fixed head' and *humpback* 'hunchback, a person with a hump' (Barcelona 2008), while Modern Greek contains these combinations: adjective + noun, noun + noun, numeral + noun, pronoun + noun, and pronoun + adjective (Andreou & Ralli 2015).

With regard to some kinds of *bahuvrihi* compounds, Booij (2005: 80) highlights that "the compound denotes the person who is in possession of the entity mentioned by the compound." This claim is satisfaied in Kiswahili because its *bahuvrihi* compounds are for humans (ex. 33). Therefore, the feature "having X" is achieved through metaphorical interpretation. This is possible because "they do not refer to the entity mentioned by the head of the compound" (Booij 2005: 80); rather the entity is projected from the context of use (Barcelona 2008).

Kiswahili examples in (33) provide metaphorical and metonymical interpretation of these *bahuvrihi* compounds. This compound obtains meaning from the first element which shows HAVING X and the second element is the possessed. Both elements give the interpretation "person/thing that has X" or "having X", then they are treated as cases of exocentric compounds.

(33)	*mwenyekiti*	'chairperson'	*-enye* 'having X'	*kiti* 'chair'
	mwenyenacho	'bourgeoisie'	*-enye* 'having X'	*nacho* 'property of'
	mwenyemali	'owner'	*-enye* 'having X'	*mali* 'property'
	mwenyenzi	'Almighty'	*-enye* 'having X'	*enzi* 'eternity'

It is understandable that the previous scholars (Gichuru 2010; Lusekelo 2014: 151; Katikiro 2017) treated these elements as noun + noun compounds because of the nominal expressions *mwana* 'child' and *mwenye* 'owner'. I analyse the examples in (33) above as clear cases of *bahuvrihi* compounds in Kiswahili.

The compound *mwenyekiti* 'chairperson' also attains its meaning metonymically. The element *-enye* 'having X' combines with the noun *kiti* 'chair'. Since meetings are assembled and the main speaker sits, usually in front of the assembly, then he/she becomes the owner of the chair. Likewise, the compound *mwenyenacho* 'bourgeoisie' was coined to differentiate poor people from rich people. The element *-enye* 'having X' combines with the adjectival *nacho* 'property of' to derive metonymically the owner of property. In this regard, property becomes the central inference.

This does not rule out the fact that *enye* 'possessive pronoun' still functions as a grammatical entry in Kiswahili. Thus, one the one hand, it may occur independently as *enye* 'owner'. On the other hand, it remains a linking element meaning 'having' and must always be followed by a noun. In this regard, it cannot occur on its own with the meaning 'owner'; instead what is owned must be specified. Also *-enye* can be marked by any noun class prefix, depending on what is said to have what, for example *kitu chenye thamani* 'thing having value'.[9]

[9] One of the reviewers is not happy with the analysis of the element *enye* 'possession' as an independent entry. I argue that both the lexical entry *enye* 'owner' and possessive pronoun *enye* co-exist in the language.

6. Conclusion

In the foregoing discussion I pointed out that most compound words in Kiswahili are nominal. These compounded nouns are derived from the composition of noun-to-noun, verb-to-noun, and noun-plus-adjective. It becomes plausible to point out that the major lexical categories, namely nouns, verbs and adjectives (Baker 2003) are involved in the formation of compounds in Kiswahili. This is not unique to Kiswahili because other Bantu languages have been reported to derive compounds through combination of these major words, e.g. Sesotho (Mphasha 2006), Tshivenda (Musehane 2007a, b) and Bemba (Kula 2012).

The morphosyntax of compound nouns reveal that the left-most nominal prefix determines agreement within a noun phrase and to the verb. This claim is discredited as being important in determining the properties of compounds. Therefore, the endocentric-exocentric dichotomy is apparently attested in Kiswahili. On the one hand, endocentric compounds may obtain semantic content from the right-most word, the left-most word or both. On the other hand, the semantics of exocentric compounds is inferred metonymically or metaphorically. Therefore, there is no way one can suggest to dispense this dichotomy in Kiswahili, as suggested for English compounds (Benczes 2015). The split of compounds into endocentric and exocentric is apparently reported for Sesotho (Mpasha 2006) and Ruhaya (Ilonga 2016). Therefore, the findings in Kiswahili confirms the two open categories of compounds, namely endocentric and exocentric.

Kiswahili contains the element *-ana* 'specialist of X'. It has been grammaticalised from the proto-item ***-***yánà* 'child'. In the current use, it manifests as a modifier of compounds, which may be assumed to be right-headed. The grammaticalisation of the element *-ana* 'specialist of X' is obvious. Heine (2019: 6) suggested that the noun meaning child, in this case *mwana* in Kiswahili, is involved in the grammaticalisation to a derivational element in this path: "the first part of the chain of grammaticalization sketched (compounding > derivation) is well established". This is true for Kiswahili in which *-ana* 'child' is now grammaticalised to refer to 'specialist of X'. While this element is highly productive in the formation of exocentric compound nouns in Kiswahili, the noun *mwana* 'child' is also used to derive endocentric compounds as well. Therefore, the process of grammaticalisation to derivational prefix is not fully achieved. However, these compounds are either interpreted metaphorically or metonymically hence they become exocentric compounds. Based on Heine (2019), this element, which grammaticalised from the lexical word through bleaching, shows this path: nouns > compound > derivation. However, its grammaticalization process is not complete because Kiswahili still bears the noun *mwana* 'child'. This kind of language behaviour is not reported for other Bantu languages (see Mphasha 2006; Ilonga 2016), though Heine (2019) found that the element related to CHILD had grammaticalised in Khoisan languages.

Also, Kiswahili contains the element *-enye* 'having X'. This has been lexicalized. According to Brinton and Traugott (2005), the diachronic studies reveal that grammatical words may change into lexical entries. This happened for the possessive pronoun *-enye* in Kiswahili. It has developed into a lexical entry of OWNERSHIP. With regard to compounds formed with this element, they become further lexicalized. This is in line with the fact that compounds are associated with new coinages that arise in the speaker community (Moyna 2011). However, when time lapses, the compounds become lexicalized (Kageyama 2010; Moyna 2011; Heine 2019). In most cases the formation of new concepts is highly connected to the development, which use compounding as one of the strategies (King'ei 1999; Kishe 2003).

I pointed out in this article that the history of compounds in Kiswahili can be traced from the historical change of the language. The history of Kiswahili begins primarily in the 11th century when the coastal Bantu came into contact with Persians (Nurse & Spear 1985; Nurse & Hinnebusch 1993). Islamic religion was introduced. Consequently, the literacy for Kiswahili began in Arabic script. The Roman script, which is another written form of Kiswahili, began in the 1700s, during the Portuguese conquest. Since compounds emerge, develop and get grammaticalised over a period of time. One of the historical changes is the re-analysis of *mwana* from CHILD to 'SPECIALIST OF X'. Likewise, the historical development of the language witnessed the re-analysis of the element *enye* from POSSESSIVE PRONOUN to a lexical element meaning 'HAVING X'.

References

Andreou, Marios & Angela Ralli. 2015. Form and meaning of bahuvrihi compounds: Evidence from Modern Greek and its dialects. In Lairie Bauer, Lívia Körtvélyessy & Pavol Štekauer. (eds.). *Semantics of complex words*, 163-184. Dordrecht: Springer.

Appah, Clement K. I. 2017. Exocentric compounds in Akan. Word Structure 10(2). 139–172.

Ashton, Ethon O. 1944. Swahili grammar (including intonation). Harlow: Longmans.

Baker, Mark C. 2003. Lexical categories: Verbs, nouns, and adjectives. Cambridge: Cambridge University Press.

Bauer, Laurie. 2003. Introducing linguistic morphology. Edinburgh: Edinburgh University Press.

Bauer, Laurie. 2008. Exocentric compounds. Morphology 18. 51–74.

Barcelona, Antonio. 2008. The interaction of metonymy and metaphor in the meaning and form of 'bahuvrihi' compounds. Annual Review of Cognitive Linguistics 6. 208–281.

Benczes, Réka. 2004. Analysing exocentric compounds in English: A case for creativity. The even yearbook 6. 11–18.

Benczes, Réka. 2006. Creative Compounding in English: The semantics of metaphorical and metonymical noun-noun combinations. Amsterdam: John Benjamins.

Benczes, Réka. 2015. Are exocentric compounds really exocentric? SKASE Journal of Theoretical Linguistics 12(3). 54-73.

Bisetto, Antonietta & Sergio Scalise. 2005. The classification of compounds. Lingue e Linguaggio 4(2). 319-332.

Booij, Geert. 2002. The morphology of Dutch. Oxford: Oxford University Press.

Booij, Geert. 2005. The grammar of words: An introduction to linguistic morphology. Oxford: Oxford University Press.

Brinton, Laurie J. & Elizabeth C. Traugott. 2005. Lexicalization and language change. Cambridge: Cambridge University Press.

Carstens, Vicki. 1991. The morphology and syntax of determiner phrases in Kiswahili. California: University of California, CA. (Doctoral dissertation).

Carstens, Vicki. 1993. On nominal morphology and DP structure. In Sam Mchombo. (ed.). *Theoretical aspects of Bantu grammar,* 151-180. California: CSLI Publications.

Carstens, Vicky. 2008. DP in Bantu and Romance. In Cécile De Cat & Katherine Demuth (eds.). The Bantu-Romance connection: A comparative investigation of verbal agreement, NPs and information structure, 131–165. Amsterdam: John Benjamins.

Contini-Morava, Ellen. 1994. Noun classification in Swahili. Virginia : University of Virginia (Publications of the Institute for Advanced Technology in the Humanities).

Contini-Morava, Ellen. 2000. Noun class as number in Swahili. In Contini-Morava, Ellen & Yishai Tobin (eds.). Between grammar and lexicon, 3–30. Amsterdam: John Benjamins.

Contini-Morava, Ellen. 2007. Kiswahili morphology. In Kaye, Alan S. (ed.). Morphology of Asia and Africa, 1129–1158. Winona Lake/Indiana: Eisenbrauns.

Dressler, Wolfgang U. 2006. Compound types. In Libben, Gary & Gonia Jarema (eds.). The representation and processing of compound words, 23–44. Oxford: Oxford University Press.

Gichuru, Mutwiri T. 2010. Uchanganuzi wa nomino ambatani za Kiswahili: Mtazamo wa mofolojia leksia. Nairobi: Kenyatta University (Master dissertation).

Guthrie, Malcolm. 1970. Comparative Bantu, vol. 4. Farnborough: Gregg Press.

Haspelmath, Martin. 2002. Understanding morphology. London: Arnold.

Heine, Bernd. 1997. Cognitive foundations of grammar. Oxford: Oxford University Press.

Heine, Bernd. 2019. On the grammaticalization of some processes of word formation in Africa. SKASE Journal of Theoretical Linguistics 16(1). 1–18.

Ilonga, Emmanuel. 2016. A comparative study of headedness in Ruhaya compounds. Journal of Education, Humanities and Sciences 5(1). 89–100.

Kageyama, Taro. 2010. Variation between endocentric and exocentric word structures. Lingua 120. 2405–2423.

Katamba, Francis & John Stonham. 2006. Morphology. New York: Palgrave Macmillan.

Katikiro, Elizeus G. 2017. Tathmini ya maana katika maneno ambatani ya Kiswahili. Mulika 36. 136–152.

King'ei, Kitula. 1999. Swahili technical terminology: Problems of development and usage in Kenya. Afrikanistische Arbeitspapiere 60. 147–160.

Kishe, Anna J. M. 2003. English influence on Kiswahili: The view of language purists. Journal of Linguistics and Language in Education 5. 1–21.

Koopman, Adrian. 1984. Zulu compound nouns: Towards a preliminary analysis. South African Journal of African Languages 4(1). 94–105.

Kosch, Ingeborg M. 2006. Topics in the morphology in the African language context. Pretoria: University of South Africa.

Kraska-Szlenk, Iwona. 2018. Kinship metaphors in Swahili language and culture. Studies in African Languages and Cultures 52. 51–73.

Kula, Nancy C. 2012. Nominal compounding and associative phrases in Bemba. In Brenzinger, Mattheus & Anne-Marie Fehn (eds.). Proceedings of the 6th World Congress of African Linguistics, 431–441. Cologne: Ruediger Koeppe Verlag.

Libben, Gary & Gonia Jarema (eds.). 2006. The representation and processing of compound words. Oxford: Oxford University Press.

Lieber, Rochelle & Pavol Štekauer (eds.). 2009. The Oxford handbook of compounding. Oxford: Oxford University Press.

Lusekelo, Amani. 2014. Linguistic morphology: A student's guide. Dar es Salaam: E&D Vision Publishing Limited.

Madan, Arthur C. 1902. English-Swahili dictionary. Oxford: Clarendon Press.

Mashauri, Michael A. 2018. The interface between morphology, phonology and semantics in Standard Swahili compound nouns. Utafiti 13(2). 1–22.

Meeussen, Achille E. 1967. Bantu grammatical reconstructions. Africana Linguistica 3: 79-121.

Miti, Lazarus M. 2006. Comparative Bantu phonology and morphology: A study of the sound systems and word structure of the indigenous languages of Southern Africa. Cape Town: Centre for Advanced Studies of African Society.

Moyna, Marfa I. 2011. Compound words in Spanish: Theory and history. Amsterdam/Philadelphia: John Benjamins.

Mphasha, Lekau E. 2006. The compound noun in Northern Sotho. Stellenbosch: University of Stellenbosch. (Doctoral thesis).

Mpiranya, Fidèle. 2015. Swahili grammar and workbook. London: Routledge.

Musehane, Nelson M. 2007a. Morphological structure and semantic classification of noun + noun compounds. South African Journal of African Languages 27(1). 29–42.

Musehane, Nelson M. 2007b. The structure and semantic classification of compounds with a verbal component. South African Journal of African Languages 27(4). 181–205.

Nurse, Derek & Thomas Spear. 1985. The Swahili: Reconstructing the history of an African society 800–1500. Philadelphia: University of Pennsylvania Press.

Nurse, Derek & Thomas J. Hinnebusch. 1993. Swahili and Sabaki: A linguistic history. Berkeley: of California Publications in Linguistics.

Plag, Ingo. 2002. Word-formation in English. Cambridge: Cambridge University Press.

Rappaport-Hovav, Malka & Beth Levin. 2010. Introduction. In Rappaport-Hovav, Malka, Edit Doron & Ivy Sichel (eds.). Lexical semantics, syntax, and event structure, 1-18. Oxford: Oxford University Press.

Rugemalira, Josephat M. 2014. Noun formation in Mashami. Journal of Linguistics and Language in Education 8. 1–21.

Scalise, Sergio & Irene Vogel (eds.). 2010. Cross-disciplinary issues in compounding. Amsterdam: John Benjamins.

Scalise, Sergio, Antonio Fabregas & Francesca Forza. 2009. Exocentricity in compounding. Gengo Kenkyu 135. 49–84.

Schadeberg, Thilo C. 2001. Number in Swahili grammar. Afrikanistische Arbeitspapiere *68. Swahili Forum VIII*: 7-16.

Steere, Edward. 1870. Swahili tales as told by natives of Zanzibar. London: Bell & Daldy.

Steere, Edward. 1896. A handbook of the Swahili language as spoken at Zanzibar. London: Society for Promoting Christian Knowledge.

Štekauer, Pavol, Salvador Valera & Lívia Körtvélyeessy. 2012. Word-Formation in the World's Languages. A Typological Survey. Cambridge: Cambridge University Press.

TUKI (Taasisi ya Uchunguzi wa Kiswahili). 2014. Swahili-English dictionary. Dar es Salaam: Institute of Kiswahili Research.

Vierke, Clarissa. 2012. *Mafumbo*: Considering the functions of metaphorical speech in Swahili contexts. In Michael R. Marlo, Nikki B. Adams, Christopher R. Green, Michelle Morrison & Tristan M. Purvis (eds.). Selected Proceedings of the 42nd Annual Conference on African Linguistics, 278–290. Somerville, MA: Cascadilla Proceedings Project.

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In SKASE Journal of Theoretical Linguistics [online]. 2019, vol. 16, no. 4[cit. 2019-12-20].Available on web page http://www.skase.sk/Volumes/JTL42/pdf_doc/02.pdf. ISSN 1336-782X