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Ditransitive Constructions in Lugbarati: A Preliminary Study

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Abstract

This study examines how ditransitive constructions are realized in Lugbarati, a Central Sudanic language of the Moru-Madi subphylum. Lugbarati has both the double object construction (DOC) and what we refer to as the adpositional phrase construction (APC) configurations, with the former having two NPs as its non-subject arguments, and the latter having an NP and a complex NP – containing a suffixed adposition – as its non-subject arguments. However, for the DOC to occur in Lugbarati, the construction must meet a semantic criterion that requires 'prior possession' of the theme/patient referent by the recipient/beneficiary referent. Crucially, Lugbarati has three constituent orders in which ditransitive constructions manifest themselves, namely SVOO, SOVO, and SOOV, with SVOO corresponding to the SVO basic constituent order, while SOVO and SOOV correspond to the SOV constituent order. While the first constituent order accommodates only verbs in the perfective aspect, the other two only accommodate verbs in the imperfective aspect. Using the architecture of Lexical Functional Grammar, the study theoretically delineates the general syntactic properties of ditransitive constructions in Lugbarati, as well as the pronominalization of arguments in these constructions, since non-animate internal arguments in Lugbarati are grammatically realized as null elements. These are represented by a higher structure value (H-STR), whose grammatical specifications are retrieved from discourse referents congruently with the lexical entries of the predicate.

Keywords: ditransitive constructions; double object construction; adpositional phrase construction; Lugbarati; prior possession

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1 Introduction

This study sets out to delineate the occurrence of ditransitive constructions in Lugbarati. Lugbarati is an understudied language, with just a handful of studies available, the most notable ones being Crazzolara (1960), Barr (1965), and Andersen (1986, 1994), plus a few bilingual dictionaries, such as Iga (1999). Lugbarati is a Central Sudanic language of the Moru-Madi subphylum, spoken in the border area of Uganda, South Sudan, and the Democratic Republic of the Congo (Andersen 1986). It is also known as Lugbara and is spoken by more than one million people (Eberhard et al. 2022). Our study involved only speakers of Lugbarati found in Uganda. Lugbarati is a tonal language with a three-tone system (i.e. high, low, and mid), as well as a rising contour tone, which is said to be rare (Lugbarati Local Language Board 2013, 10). In the official orthography of Lugbarati in Uganda, the mid tone is unmarked (Lugbarati Local Language Board 2013, 11).[1]

Studies on ditransitive constructions abound (e.g. Pinker 1989; Bresnan and Moshi 2003; Beavers 2011; Malchukov et al. 2010; Pacchiarotti 2017; Isingoma 2021, among others). But none of the available studies, to our knowledge, looks at ditransitive constructions in Lugbarati. Ditransitive constructions have been defined as three-argument constructions that take a ditransitive verb, an agent, a theme, and a recipient, as far as goal verbs are concerned (e.g. *send*), while benefactive verbs (e.g. *cook*) require an agent, a patient, and a beneficiary (Malchukov et al. 2010). As is the case in many languages (Comrie 2007), there are two configurations in which ditransitive verbs are used in Lugbarati, namely two contiguous noun phrases or a noun phrase and an adpositional phrase, resulting in: (i) the double object construction (DOC), and (ii) the adpositional phrase construction (APC) (see Comrie 2007), respectively.[2] These are illustrated in the English examples in (1) and (2), whose Lugbarati (near) equivalents are provided in (3) and (4)[3]:

(1) (a) I give my girlfriend a flower. (DOC)
(b) I give a flower to my girlfriend. (APC)

(2) (a) Mary cooked her father his vegetables. (DOC)
(b) I can cook food for them. (APC)

(3) (a) *Ma* *mà* *ezó* *mà* *máwuà* *fè.* (DOC)
1SG.IPFV my girlfriend her flower give.IPFV
'I give my girlfriend her flower.'

[1] Although an anonymous reviewer states that "the principle of not marking the mid tone may lead to misunderstandings or mistakes", we would like to follow, in this paper, the convention adopted by the Lugbarati Local Language Board (2013) of not marking the mid tone, despite the limitations that this convention may have.
[2] For languages with prepositions, the APC is usually rendered as the PPC (prepositional phrase construction) (see, e.g., Beavers 2011).
[3] Note that Malchukov et al. (2010) report that some languages may have only one of the two configurations, while other languages have up to five configurations (e.g. Kayardild), with the DOC and the APC as just two of the coding strategies.

(b) *Ma* *máwuà* *fè* *mà* *ezó-ní.* (APC)
1SG.IPFV flower give.IPFV my girlfriend-to
'I give a flower to my girlfriend.'

(4) (a) *Mèri.ø* *a'dí* *ìmà* *atí* *mà* *eríbí.*[4] (DOC)
Mary.PFV cook.PFV her father his vegetables
'Mary cooked her father his vegetables.'

(b) *Ma* *enyá* *a'dí* *'bá* *akù-a* *'diyí-ní.* (APC)
1SG.IPFV food cook.IPFV people home-at them-for
'I cook food for them.'

As can be seen, in (1) and (3), a goal verb is used, while, in (2) and (4), a benefactive verb is used. Thus, Lugbarati has both configurations of ditransitive constructions, though, as we will see later, there is a semantic constraint on the DOC. In the English language, the two configurations are said to have the event structure semantics given in (5) (see, e.g., Pinker 1989; Beavers 2011; Haspelmath 2015; Isingoma 2018; Beavers and Koontz-Garboden 2017, among others):

(5) (a) **X** CAUSES **Y** TO HAVE **Z** (DOC)
(b) **X** CAUSES **Z** TO GO TO **Y** (APC)

Each of these classes has its own semantic characteristics: the DOC encodes 'caused possession', while the APC encodes 'caused motion' (see, e.g. Pinker 1989; Beavers 2011; Haspelmath 2015). While the DOC in Lugbarati is syntactically realized by means of two contiguous objects ((3a) and (4a)), just as is the case in English ((1a) and (2a)), the APC in Lugbarati has a configuration where the recipient or beneficiary is introduced by means of an adposition suffix, *-ní* 'to/for', which is attached to the recipient/beneficiary argument ((3b and (4b)).[5]

This study, therefore, seeks to examine the structural properties of ditransitive constructions in Lugbarati. The architecture of Lexical Functional Grammar (Attia 2008; Asudeh and Toivonen 2010) is used for structural representations. The example sentences in the study were obtained from naturalistic data via recorded semi-structured interviews in which participants were primed to use ditransitive verbs in their interactions. A small corpus of 3,700 words was thus compiled, which was later searched manually for ditransitive constructions. In addition, one of the authors of this paper is a native speaker of Lugbarati and her intuition was used, together with several consultations with other native speakers of Lugbarati in Uganda. The study used the Ayivu variety of Lugbarati in Arua City, since this is regarded as the standard variety of

[4] The apostrophe in the spelling of the word *a'dí* 'cook' is meant to differentiate the consonant sound in this verb from the first consonant in, for example, *dè* 'old' (Lugbarati Local Language Board 2013, 5–7). The sound in *a'dí* is pronounced as /ɗ/ (i.e. an implosive), as opposed to /d/ (i.e. a plosive) in *dè* 'old'. This also applies to the letter *'b*, which is different from the letter *b*, with the latter pronounced as /b/ (plosive) and the former as /ɓ/ (implosive). Note also that we have a null element where the perfective aspect is used with a lexical subject (full NP), as opposed to the imperfective aspect, where the suffix *-nì* is attached to a singular lexical subject (see Section 3.1 for details).

[5] An anonymous reviewer suggests that *-ní* 'to/for' should be considered as a case marker. However, this study follows in the footsteps of Malchukov et al. (2010, 12), who argue that the distinction between cases and adpositions is usually problematic and has not yet been resolved even with respect to well-studied languages such as Japanese. For that reason, we will, for now, treat *-ní* 'to/for' as an adposition.

Lugbarati in Uganda (Crazzolara 1960; Eberhard et al. 2022).

2 Semantic properties of ditransitive constructions in Lugbarati

As already indicated above, Lugbarati has both the DOC and APC configurations of ditransitive constructions. However, there are few DOCs compared to APCs. As can be seen in example (3a), the semantics of the sentence indicates that there is prior possession of the theme (*máwuà* 'flower'), which then moves back to the recipient (*ezò* 'girlfriend'). This is different from the APC, where no such prior possessional relation is required. Any attempt to have a DOC without this kind of possessional relation results in an illicit sentence, as shown in (6):

(6) **Ma mà ezó máwuà fè.* (DOC)
1SG.IPFV my girlfriend flower give.IPFV
'I give my girlfriend a flower.'

The sentence in (6) is illicit because it lacks the possessive determiner found in (3a), namely *mà* 'her', which means that the sentence lacks the 'prior possession' component, thereby making the DOC configuration impossible. By contrast, the APC does not require this 'prior possession' component, as shown in (3b). Remarkably, when the Lugbarati verb *fè* is used to mean 'donate' (both 'give' and 'donate' are expressed in Lugbarati using the verb *fè*), the DOC is precluded, since 'prior possession' is not possible with respect to donations. That is, an item cannot be donated to a person when it already belongs to them. Other examples of the DOC in Lugbarati involving different (both goal and benefactive) ditransitive verbs are given in (7):

(7) (a) *Ma mà atí mà jó òfe.* (DOC)
1SG.IPFV my father his house rent.IPFV
'I rent my father his house.'

(b) *Ma ngà mà atí mà waràga idrí.* (DOC)
1SG.IPFV later my father his letter forward.IPFV
'I will forward my father his letter.'

(c) *Ma ngà mà adrí mà kálamù 'bè.* (DOC)
1SG.IPFV later my brother his pen throw.IPFV
'I will throw my brother his pen.'

(d) *Ma mà atípikà mà waràga ejí.* (DOC)
1SG.IPFV my parents their letter bring.IPFV
'I bring my parents their letter.'

(e) *Mèri.ø sì ìmà atí mà jò.* (DOC)
Mary.PFV build.PFV her father his house
'Mary built her father his house.'

As we can clearly see, in all the above examples, the semantic requirement of 'prior possession' is visible by means of the use of a possessive determiner preceding the theme or patient

argument. Hence, the DOC in Lugbarati could be said to go beyond the event template for the DOC in English, given in (5a). We could instead posit the event template in (8) for the DOC in Lugbarati, where the component of 'prior possession' is emphasized:

(8) **X** CAUSES **Y** TO HAVE THEIR **Z**

Specifically, the structure above means that **Z** already belongs to **Y** even prior to the action of **X.** Thus, the benefactive sentence in (7e) is actually interpreted from the perspective that the father had already planned to build himself a house, but Mary did it and thus caused her father to have his house built. Crucially, in terms of possessional relation, we see that the benefactive DOC in Lugbarati is more similar to the benefactive DOC in English, in that both encode possession (even though, for Lugbarati, there should be 'prior possession'), than to the benefactive DOC in a Bantu language such as Rutooro, which is ambiguous (see Isingoma 2021). As is well known, the benefactive DOC in English obligatorily encodes what Van Valin and LaPolla (1997, 383–384) have referred to as 'recipient benefaction' (see also Toivonen 2013, 512); this is similar to the Lugbarati benefactive DOC, which also encodes this kind of benefaction only; that is, the beneficiary is the possessor of the patient argument, although in English the beneficiary could also just be an intended possessor.

As Haspelmath (2015, 21) puts it, some languages use primarily the DOC, while others use primarily the APC (as well as other syntactic configurations). This means that there are constraints that govern restrictions to the use of a given linear order. For example, Rutooro (Bantu, JE12, Uganda) is said to have a semantic constraint that restricts it to using primarily the DOC, while the APC can only be used with goal verbs if the semantic criterion dubbed 'the locomotional constraint' is met (Isingoma 2012, 150; Isingoma 2021, 1). Thus, according to Isingoma (2012), this constraint means that Rutooro has very few APCs. For Lugbarati, by contrast, its semantic constraint, dubbed here as 'prior possession', means that it has very few DOCs.

From the foregoing, we can now posit that Lugbarati is an APC-dominant language. According to de Oliveira and Penzin (2019, 339), the APC configuration is more common in the languages of the world than the DOC, while Haspelmath (2015, 22) states that it is particularly more common in Eurasia. Although it is not yet possible to deduce that the APC configuration is dominant across the Moru-Madi language subphylum (where Lugbarati belongs), we now know that one of these languages is an APC-dominant language (i.e. Lugbarati) and we need to find out, as an outlook for future research, what takes place in other languages of this subphylum so that we can establish whether all (or most of) the languages of the subphylum are akin to Eurasian languages in this respect.

As already mentioned above, the APC in Lugbarati is realized by means of an adposition suffix, that is, *-ní*, which is attached to the non-theme/non-patient argument. The suffix is semantically specified as a recipient marker in both goal and benefactive ditransitive constructions, as shown in (3b) and (4b). Semantically specified adpositions as recipient markers in both goal and benefactive ditransitive constructions are found in many African languages. For example, Hyman (1981, 2017) indicates that Noni, a Bantoid language spoken in Cameroon, uses its preposition *ɛ* for both goal and benefactive meanings. In these scenarios, in languages such as Lugbarati and Noni, the verb used and its context will determine whether the construction has a recipient reading with goal or benefactive semantics.

3 Word order in ditransitive constructions in Lugbarati

3.1 Temporal reference (aspect) and word order in Lugbarati

In order for us to understand word order in ditransitive constructions in Lugbarati, we need to first of all understand the relationship between temporal reference and word order in the language. While this is not a specific property of ditransitive constructions alone, it is worthwhile to discuss it here, since it affects ditransitive constructions as well. Lugbarati can be said to be characterized by binarity in its temporal reference system: (i) the perfective aspect (for past accounts, as well as for completed accounts with some relevance to the present situation, i.e. the equivalent of the perfective aspect in English); (ii) the imperfective aspect (for ongoing, habitual, and future accounts). This is what Crazzolara (1960, 75) refers to as "constructions of completed action" and "constructions of incompleted action", respectively. Lugbarati has a suffix, *-nì,* which shares segmental cognacy with the adposition suffix *-ní* and is used to encode imperfective aspect. However, as can be seen, despite this segmental cognacy, this suffix is different from the adposition suffix *-ní* suprasegmentally; that is, it has a low tone (*-nì*), as opposed to the adposition suffix, which has a high tone (*-ní*). When the subject is lexical (i.e. a full NP), the suffix *-nì* is attached to it to indicate the imperfective aspect (as seen in (9b), (9c), and (9e)), while a lexical subject without the suffix *-nì* indicates that the verb is in the perfective aspect (as can be seen in (9a) and (9d)):

(9) (a) *Mèri.ø* *fè* *ìmà* *anzí* *mà* *fizì.* (DOC)
Mary.PFV give.PFV her children their fee
'Mary gave her children their fees.'

(b) *Mèri-nì* *ìmà* *anzí* *mà* *fizì* *fè.* (DOC)
Mary-IPFV her children their fee give.IPFV
'Mary gives her children their fees.'

(c) *Píta-nì* *máwuà* *fè* *ìmà* *ezó-ní.* (APC)
Peter-IPFV flower give.IPFV his girlfriend-to
'Peter gives a flower to his girlfriend.'

(d) *Píta.ø* *fè* *ìmà* *ezó-nì* *máwuà.* (APC)
Peter.PFV give.PFV his girlfriend-to flower
'Peter gave a flower to his girlfriend.'

(e) *Mèri-nì* *ngà* *ìmà* *adrí* *mà* *sendé* *fè.* (DOC)
Mary-IPFV later her brother his money give.IPFV
'Mary will give her brother his money.'

In order to encode the equivalent of the English perfective aspect, Lugbarati requires the use of the adverbial *'bo* 'already' after non-subject arguments. Note that, with plural lexical subjects, a free morpheme, that is, *yí* or *íí*, is used in lieu of the suffix *-nì*. The use of the suffix *-nì* attached to a full NP (or the free morpheme *yí/íí* used with plural full NPs) can be seen as a situation where

a nominal category is involved in expressing aspect in Lugbarati.[6] As is evident in the examples above, this phenomenon holds for both the DOC ((9b) and (9e)) and the APC ((9c) and (9d)). Note that, for representing the future, the element *ngà* should be included in the clause, as in (9e); it literally means *later.* The element *-nì* is also used in the imperfective progressive aspect, as long as the progressive marker *-rià* is added to the verb.[7] Using clausal elements other than verbs to express TAM is a phenomenon that exists in other languages of the world too. For instance, in Movima (a language spoken in the Bolivian Amazon area), tense is not marked on verbs; rather, it is marked on dependent nominals, which is known as nominal tense marking (Nordlinger and Sadler 2004; Haude 2011). It is important to note that, in Lugbarati, aspect is also indicated by the position of the verb in the clause. Specifically, the verb in the perfective aspect comes immediately after the subject, while, in the imperfective aspect, it comes later (unless there is no other subcategorized element by the verb in the clause, e.g. in an intransitive clause). This means that two syntactic elements are needed in order to express aspect in Lugbarati, namely the subject constituent and the position of the verb in a (di)transitive construction.

Similarly, there are variations in pronominal forms in relation to the two aspects in Lugbarati. When the subject is pronominal, Lugbarati uses *ma* in the imperfective aspect for the first person singular, as seen in (10a) below (this also applies to future representations provided the element *ngà* is used). On the other hand, *á-* is used when we have the perfective aspect, as seen in (10b) below. In a similar vein, *mi* (imperfective) and *í-* (perfective) are used for the second person singular. For the third person singular, *erí* is used in the imperfective aspect, while, for the perfective aspect, there is a null element (see also Crazzolara 1960, 44).

(10)	(a)	*Ma*	*mà*	*anzí*	*mà*	*fizì*	*fè.*	(DOC,
		1SG.IPFV	my	children	their	fee	give.IPFV	present)
		'I give my children their fees.'						
	(b)	*Á-fè*	*mà*	*anzí*	*mà*	*fizì.*		(DOC,
		1SG.PFV-give	my	children	their	fee		past)
		'I gave my children their fees.'						

A distinction also exists between the plural forms of personal pronouns used with the imperfective and perfective aspects. The following example (11a), slightly adapted from Iga (1999, 2) and not a ditransitive construction, shows what the plural form of the first person pronoun used in

[6] When the lexical subject has specifiers, the element *-nì* attaches to the specifier, while the free morpheme *yí/íí* follows the specifier, as shown in the examples below. Whether the aspect marker is a suffix or a free morpheme, it clearly belongs in the subject NP.

(i)	*Ezó*	*'da-nì*		*ólà*	*nyá-rià.*
	girlfriend	that-IPFV		cassava	eat.IPFV-PROG
	'The girlfriend is eating cassava.'				
(ii)	*Ezó*	*'da*	*yíí*	*ólà*	*nyá-rià.*
	girlfriends	those	IPFV	cassava	eat.IPFV-PROG
	'The girlfriends are eating cassava.'				

[7] Examples of the progressive can be seen in fn.6 and in the following sentence (i):

(i)	*Píta-nì*	*máwuà*	*fé-rià*	*ìmà*	*ezó-ní.*
	Peter-IPFV	flower	give.IPFV-PROG	his	girlfriend-to
	'Peter is giving a flower to his girlfriend.'				

the perfective aspect looks like, while in (11b), the use of the form *àma* expresses the imperfective aspect:

(11) (a) *Ajé* *à-mù* *kánisá-à.*
yesterday we.PFV-go church-to
'Yesterday, we went to church.'

(b) *Sabátú-sì* *àma* *mù* *kánisá-à*
Sunday-on we.IPFV go.IPFV church-to
'On Sunday, we go to church.'

As can be seen, the form used in (11a) is *à-* (for the perfective aspect), while the form that is required in the imperfective aspect (11b) is *àma* (Crazzolara 1960, 44).[8] Similar variations are observed for the second and third person plural forms (see Table 1 below). The above morphosyntactic patterns involve verbs that begin with consonants. When a verb starts with a vowel, Lugbarati allows the use of *ma, mi, èri* (singular) and *àma, èmi, èyi* (plural) in the perfective aspect. This means that these forms have two functions, namely: (i) distinguishing the imperfective aspect from the perfective aspect; and (ii) distinguishing verbs that begin with a vowel from those that begin with a consonant. When the verb is in the imperfective aspect, the forms encode two functions simultaneously if the verb begins with a vowel (i.e. expressing the imperfective aspect itself and indicating that the verb begins with a vowel); when the verb is in the perfective aspect, the forms encode only one function, namely showing that the verb begins with a vowel. The above can be summarized in Table 1:

Table 1: Syntactic elements involved in the realization of aspect in Lugbarati*

Syntactic element		**Imperfective aspect**	**Perfective aspect**	
Position of the verb		Contingent on the type of transitivity of the verb: Intransitive = immediately after **S** Monotransitive = after **O** Ditransitive = after either one **O** or both **O**s	Immediately after **S**	
Lexical subject (Full NP)		Noun + *-nì/yí~íí*	Noun + Ø	
Grammatical subject (Pronominalization)		Verb beginning with **C-** or **V-**	Verb beginning with **C-**	Verb beginning with **V-**
	1s	ma	á	ma
	2s	mi	í	mi
	3s	èri	Ø	èri
	1p	àma	à	àma
	2p	èmi	ì	èmi
	3p	èyi	Ø	èyi

* Notation: C = consonant, O = object, S = subject, V = vowel, Ø = null element

[8] Note that the singular *a-* 'I' and the plural *a-* 'we' used in the perfective aspect are distinguished by tone, with the former taking the high tone and the latter taking the low tone (see also Crazzolara 1960, 42).

We can thus discern that aspect in Lugbarati is characterized: (i) by a specific *-nì* / pl. *yí~íí* imperfective marker following the lexical subject or by a subject pronoun/index from the imperfective paradigm, as well as by an SO(O)V or SOV(O) syntactic order (see Section 3.2 below); (ii) by no specific marking on the lexical subject or by a subject pronoun/index from the perfective paradigm, as well as by an SVO(O) syntactic order (see Section 3.2 below). The above considerations explain our glossing; that is, where the lexical subject (full NP) is used with *-nì* / *yí~íí*, we use IPFV on the nominal element (e.g. (9b)) to indicate the imperfective aspect. By contrast, we use PFV where the lexical subject has a null element (Ø), thereby signalling the perfective aspect (e.g. (9a)). Similar glossing is employed where there is a pronominalized subject (e.g. (7a-d). It is also possible to assume that the perfective value is the default one in the unmarked context, while the imperfective marker is added in the marked context, so that only the imperfective should be glossed (e.g. *Mèri-nì* 'Mary-IPFV' in, e.g. (9b) 'Mary gives…'), with no glossing when it is absent (e.g. *Mèri* 'Mary' in, e.g. (9a) 'Mary gave…'). However, we prefer the former approach, that is, where we gloss both imperfective and perfective aspects as IPFV (imperfective) and PFV (perfective), as this explicitly shows how the subject participates in marking aspect, whether with an overt marker (imperfective) or a non-overt marker (perfective). Considerations are also made *mutatis mutandis* when dealing with grammatical subjects. We should also remind ourselves that verbs are glossed for aspect (IPFV or PFV) despite the fact that there is no segmental marker on them nor any tonal differences between the two aspects.[9] This is because, in the case of (di)transitive verbs, the position of the verb signals (im)perfectivity, as shown in Table 1 above.

3.2 Constituent order in ditransitive constructions in Lugbarati

From the examples seen so far, one striking element in the constructions is word order. We actually have three patterns, namely SVOO, SOVO, and SOOV, as in (12), (13), and (14), respectively. The main reason for the different realizations of these patterns is aspect:

(12) SVOO (Subject, Verb, [Indirect]Object, [Direct]Object)

(a)	*Píta.ø*	*fè*	*ìmà*	*ezó*	*mà*	*máwuà.* (DOC).
	Peter.PFV	give.PFV	his	girlfriend	her	flower
	S	V		IO		DO

'Peter gave his girlfriend her flower.'

(b)	*Á-fè*	*mà*	*ezó*	*mà*	*máwuà.*	(DOC)
	1SG. PFV-give.PFV	my	girlfriend	her	flower	
	S-V		IO		DO	

'I gave my girlfriend her flower.'

[9] Note that cases of suffixation onto the verb may trigger tonal changes (e.g. in fn.7, where the verb *fè* in the non-progressive form is realized as *fé* when the progressive marker *-rià* is added). However, we should also note that the issue of the grammatical import of tone in Lugbarati may be more complex than what we observe here and thus requires a more comprehensive discussion, which, for the current purposes, is beyond the scope of this study.

(c)	*Ma*	*ofé*	*mà*	*atí*	*mà*	*sándúkuà.*	(DOC)
	1SG.PFV	pay.PFV	my	father	his	savings	
	S	V		IO		DO	
	'I paid my father his savings.'						
(d)	*Píta.ø*	*fè*	*ìmà*	*ezó-ní*		*máwuà.*	(APC)
	Peter.PFV	give.PFV	his	girlfriend-to		flower	
	S	V		IO		DO	
	'Peter gave a flower to his girlfriend.'						
(e)	*Á-fè*		*mà*	*ezó-ní*	*máwuà.*		(APC)
	1SG.PFV-give.PFV		my	girlfriend-to	flower		
	S-V			IO	DO		
	'I gave a flower to my girlfriend.'						

The pattern SVOO is usually considered the canonical pattern in English. However, in Lugbarati, this pattern is only used when the perfective aspect is used, as can be seen in (12a) – (12e), for both the DOC and the APC.[10] In keeping with the typology provided by Malchukov et al. (2010, 16), there are two types of SVOO: SVO_RO_T and SVO_TO_R, found, for example, in African languages such as Tswana and Fongbe respectively, while English has both patterns (realized as the DOC and the PPC).[11] As can be seen, Lugbarati patterns with SVO_RO_T, as is the case in Tswana. We should note that, in the SVOO pattern in Lugbarati, there are no cases of aspect affixation realized on the singular subject argument as a full NP because the affix is used to mark the imperfective aspect (e.g. (13b) below) and not the perfective aspect (e.g. (12d) above).

(13) SOVO (Subject, [Direct]Object, Verb, [Indirect]Object)

(a)	*Ma*	*máwuà*	*fè*	*mà*	*ezó-ní.*	(APC)
	1SG. IPFV	flower	give.PFV	my	girlfriend-to	
	S	DO	V		IO	
	'I give a flower to my girlfriend.'					

[10] Note that the imperative also follows the SVOO pattern, as shown below. Note also that subjects may be overtly expressed in imperatives in Lugbarati:

(i)	*Í-fè*	*fizì*	*'bá*	*akù-a*	*'diyí-ní*
	you-give	fees	people	home-at	them-to
	S V	DO	IO		
	'(You) give fees to them.'				

(ii)	*Í-fè*	*'bá*	*akù-a*	*'diyí-ní*	*fizì.*
	you-give	people	home-at	them-to	fees
	S V	IO			DO
	'(You) give to them fees.'				

[11] SVO_RO_T = subject, verb, recipient (indirect object), theme (direct object); SVO_TO_R = subject, verb, theme (direct object), recipient (indirect object).

(b)	*Píta-nì*	*máwuà*	*fè*	*ìmà*	*ezó-ní.*	(APC)
	Peter-IPFV	flower	give.IPFV	his	girlfriend-to	
	S	DO	V		IO	
	'Peter gives a flower to his girlfriend.'					

In the SOVO pattern ((13a) and (13b)), the subject takes its canonical position, as is the case in other constructions in Lugbarati, while the direct object is placed between the subject argument and the verbal element, and the indirect object appears after the verbal element. Here, the construction appears strictly in the APC, and the aspect is imperfective. Above all, this is the canonical configuration of APCs in the imperfective aspect, as the indirect object is supposed to immediately follow the verb. In fact, even in the perfective aspect (see SVOO above), the indirect object in the APC also immediately follows the verb, although that means that it precedes the direct object, while in the SOVO pattern, the direct object precedes both the verb and the indirect object. However, the APC can also (marginally) occur in the SOOV pattern (see examples (14c) and (14d) below). Malchukov et al. (2010, 16) state that this configuration is found, in particular, in all languages of the Mande family in West Africa, with the pattern SO_TVO_R being dominant, as opposed to the SO_RVO_T pattern. Since Lugbarati also has the SO_TVO_R pattern, we can say that our findings provide more empirical evidence for Malchukov et al.'s (2010, 16) dictum on the prevalence of this pattern over the SO_RVO_T pattern in the languages of the world that have been studied.

(14) SOOV (Subject, [Indirect]Object, [Direct]Object, Verb)

(a)	*Ma*	*mà*	*ezó*	*mà*	*máwuà*	*fè.*	(DOC)
	1SG. IPFV	my	girlfriend	her	flower	give. IPFV	
	S		IO		DO	V	
	'I give my girlfriend her flower.'						

(b)	*Píta-nì*	*ìmà*	*ezó*	*mà*	*máwuà*	*fè.*	(DOC)
	Peter- IPFV	his	girlfriend	her	flower	give.IPFV	
	S		IO		DO	V	
	'Peter gives his girlfriend her flower.'						

(c)	*Píta-nì*	*ìmà*	*ezó-ní*	*máwuà*	*fè.*	(APC)
	Peter- IPFV	his	girlfriend-to	flower	give.IPFV	
	S		IO	DO	V	
	'Peter gives a flower to his girlfriend.'					

(d)	*Ma*	*mà*	*ezó-ní*	*máwuà*	*fè.*	(APC)
	1SG.IPFV	my	girlfriend-to	flower	give.IPFV	
	S		IO	DO	V	
	'I give a flower to my girlfriend.'					

The configuration SOOV is used when the sentence is in the imperfective aspect. As can be seen in (14a) – (14d), the subject appears in its canonical position; it is followed by the indirect object (the recipient argument), and this is then followed by the direct object (the theme argument). In this pattern, the verbal element comes after the two non-subject arguments. Since, for the

APC, the canonical pattern is SOVO (see (13b) above), the SOOV can be said to be pragmatically motivated for this configuration (APC), although we are aware that some languages in the Central Sudanic subphylum, such as Mbay, spoken in southern Chad, have permutations of such non-subject arguments without any pragmatic conditioning and, moreover, as is the case with Lugbarati, without any case marking or indexing (Heine and König 2010). While, for the APC, the SOOV is the non-canonical pattern, and, moreover, has the indirect object preceding the direct object in the imperfective aspect, for the DOC, the indirect object always precedes the direct object irrespective of the configuration or aspect. And our data, as well as the consultations we made with (other) native speakers, does not show any permutation of the non-subject arguments in the DOC, perhaps due to its limited occurrence owing to the semantic constraint involved, as already discussed above. The patterns SO_RO_TV and SO_TO_RV have been observed in other languages of the world, for example, in Uzbek and Ijo, respectively (Malchukov et al. 2010, 16) and Lugbarati belongs in the former category.

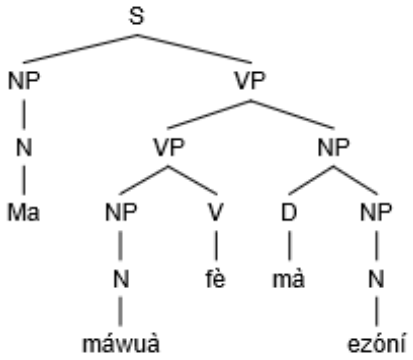
What we can also surmise as regards the constituent orders above is that our findings, in agreement with Crazzolara (1960), indicate that Lugbarati is both an SOV (Subject, Object, Verb) and SVO (Subject, Verb, Object) language – a syntactic property that characterizes a number of Central Sudanic languages (Tucker 1935, 862; Heine 1976, 41). The SOV pattern is seen where the imperfective aspect is used (see the SOOV pattern in (14) above), while the SVO pattern is seen where the perfective aspect is used (see the SVOO pattern in (12) above). The SOVO pattern also belongs with the SOV basic constituent order and is only restricted to the APC in the imperfective aspect. The imperfective constructions encoding future representations ((7b) and (9e)) also follow the SOV pattern (see also Crazzolara 1960), since they obligatorily fall under SOOV. Above all, all the above patterns (save for the APC in the SOOV pattern, which is pragmatically conditioned) are basic patterns, that is, not patterns stemming from information structure, which in derivational grammars would be seen as non-basic (see Faghiri and Samvelian 2019, 4). Other languages with both SOV and SVO orders have been identified before, such as Georgian and Modern Eastern Armenian, with the former presenting an almost equal distribution of the SOV and SVO orders (Faghiri and Samvelian 2019; Asatiani and Skopeteas 2012). In fact, Lendu (see Bunduki-Kwany 2004, 4), another Central Sudanic language (though not from the Moru-Madi subphylum), has more or less the same patterns for the SOV and SVO constituent orders as those of Lugbarati in terms of aspect.

4 Lugbarati ditransitive constructions in syntactic formalism

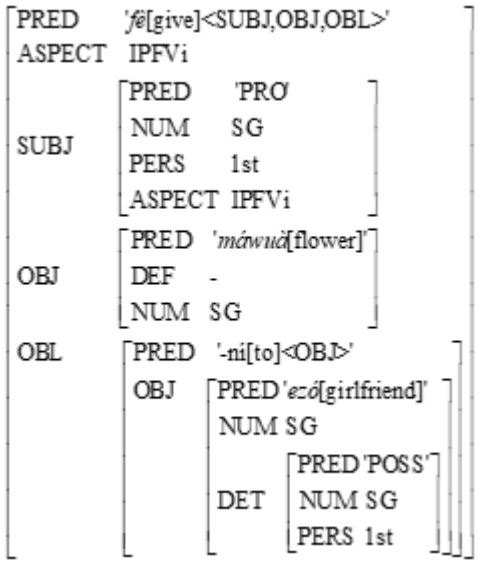
Let us now formalize the two configurations of ditransitive constructions in Lugbarati using the LFG architecture, so as to couch these syntactic aspects of Lugbarati within syntactic theory. For current purposes, we will limit ourselves to the two core parallel levels of syntactic representation, namely the constituent structure (c-structure) and the functional structure (f-structure). C-structure is the concrete level where words are hierarchically organized into larger constituents (i.e. phrases) and where syntactic categories are encoded, while f-structure is the universal and abstract organization of a sentence, encoding grammatical relations such as subject, object, oblique, etc. (Asudeh and Toivonen 2010). In addition, the f-structure contains all the grammatical information (e.g. tense, aspect, gender, number) specified in the lexical entries. Let us use the sentence in (15) to provide these structural representations for the Lugbarati APC. In (16), we have the c-structure for (15), while in (17) we have its f-structure.

(15) *Ma* *máwuà* *fè* *mà* *ezó-ní.* (APC)
I.IPFV flower give.IPFV my girlfriend-to.
'I give a flower to my girlfriend.'

(16) C-structure for the APC in (15)



(17) F-structure for the APC in (15)



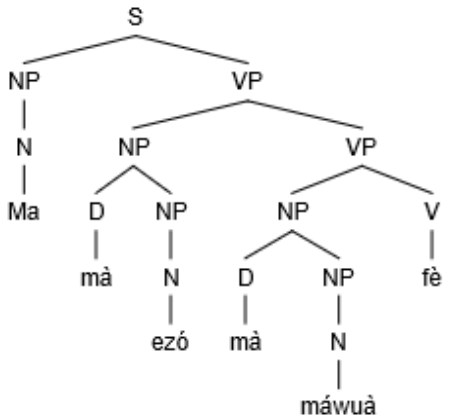
As can be seen, the c-structure in (16) shows us how the constituents are organized without providing any abstract grammatical information. For example, while the subject *ma* (partly) expresses aspect, this cannot be reflected here. It is instead reflected in the f-structure in (17). In addition, in the c-structure, we present *ezóní* as an NP, not as an AP (adpositional phrase), despite the presence of the element *-ní* (which translates into English as the preposition *to*), since it is the noun *ezó* 'girlfriend' which hosts the element *-ní*. The element *-ní* is a bound morpheme as it is suffixed to the indirect object referent, creating a complex noun phrase. However, in terms of grammatical relations, this complex NP has an oblique function because of the presence of the adposition *-ní,* as shown in the f-structure in (17) (see Hyman and Duranti 1982 on NPs with oblique functions). In other words, the NP *ezó* 'girlfriend' can only syntactically relate

to the main predicate, that is, to the verb *fè* 'give', via the adpositional suffix *-ní*. This is different from what takes place in the DOC (18), where the NP *ezó* 'girlfriend' relates to the predicate directly. What we also observe in the c-structure is the fact that the direct object is placed to the left of the verb, while the indirect object is placed to the right of the verb. This follows the pattern of the canonical ordering of Lugbarati APCs in the imperfective aspect, which is SOVO, as opposed to, for example, the English APC (or even DOC), which is canonically SVOO, with both objects placed to the right of the verb. Within LFG, it has been shown that c-structures are usually language-specific and will thus show differences that exist between languages; by contrast, f-structures are usually universal, since they reflect the lexical entries of the verb (see Asudeh and Toivonen 2010; Isingoma 2020). Hence, we do not expect any differences between Lugbarati and, for example, English in this respect (i.e. in terms of grammatical relations), although there are micro-differences in terms of the encoding of grammatical information and organization. Specifically, we see that our verb *fè* 'give' has the same grammatical relations as those of its English equivalent *give* (i.e. *give* in the APC subcategorizes for subject, object, and oblique). However, while, for English *give*, tense would be carried by the verb itself (or an auxiliary verb), for Lugbarati *fè*, it is expressed by the subject constituent co-extensively with (the position of) the verb; that is why the value IPFV is co-indexed in the f-structure. In addition, while the English oblique would have an independent entity as its predicate, the Lugbarati oblique has a dependent element attached to a noun as its predicate. These are parametric variations that are predicted by LFG (Asudeh and Toivonen 2010; Isingoma 2020).

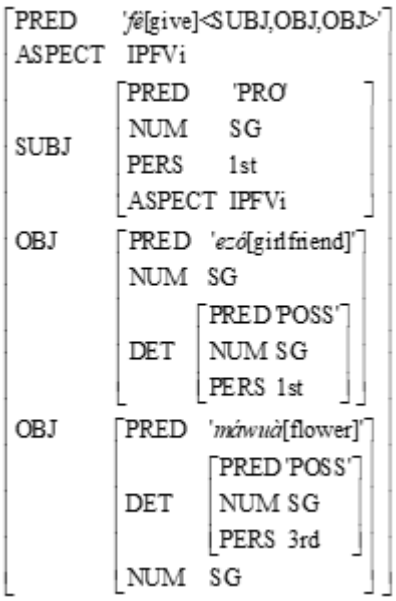
Let us now have a look at the structural representations of the DOC (18), as shown in (19) for the c-structure and (20) for the f-structure:

(18) *Ma* *mà* *ezó* *mà* *máwuà* *fè.* (DOC)
I.IPFV my girlfriend her flower give.IPFV
'I give my girlfriend her flower.'

(19) C-structure for the DOC in (18)



(20) F-structure for the DOC in (18):



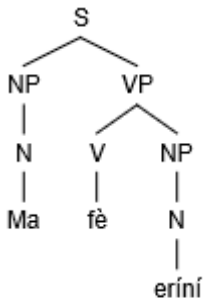
A major observation about the above structural representations of the DOC in (18) is that, as can be seen in the c-structure, the non-subject arguments are contiguous, unlike for the APC, where the direct object precedes and the indirect object follows the verb. In addition, we see that the verb in the DOC comes last, since the Lugbarati DOC in the imperfective aspect strictly follows the SOV order (ditransitively realized as SOOV). Compared to, for example, English, the c-structure in (19) shows that Lugbarati is different from English in terms of the hierarchical organization of the constituents; for English, the verb comes after the subject and is followed by the two contiguous objects, with the indirect object being closer to the verb, while in the Lugbarati DOC, it is the direct object which is closer to the verb. By contrast, apart from the small variation regarding, for example, the hosting of grammatical information, the f-structure in (20) shows us the same grammatical functions that the English verb *give,* for example, would have, namely: one subject and two non-subject arguments.

Since, for any inanimate internal argument (in all construction types), Lugbarati uses null elements to encode referents that are coded overtly with pronouns in English, pronominalization in ditransitive constructions does not follow the pattern displayed in English, in that instead of the three arguments appearing overtly in the construction (i.e. in English, we can have *I gave it to her*), there is a null element for the theme argument in Lugbarati. Such null elements are licensed by the discourse, where the referents are associated with congruent items mentioned before as given information. Languages that display such properties are referred to as 'discourse-oriented' languages (see Huang 1984, 550; Isingoma 2020, 37). An example of (implicit) pronominalization in Lugbarati is provided in (21b), as the pronominalized form of (21a). Its c-structure (22) and f-structure (23) are provided below:

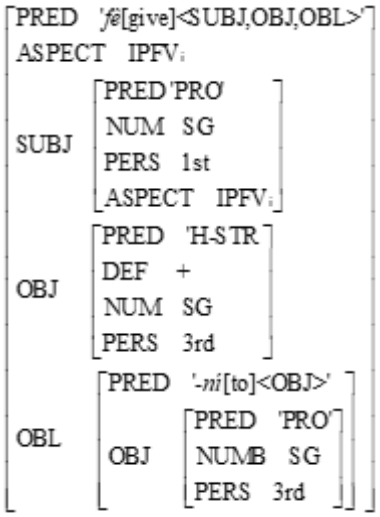
(21) (a) *Ma* *máwuà* *fè* *mà* *ezó-ní.* (APC)
1SG.IPFV flower give.IPFV my girlfriend-to
'I give a flower to my girlfriend.'[12]

(b) *Ma* *fè* *erí-ní.* (APC)
1SG.IPFV give.IPFV her-to
'I give (it) to her.'

(22) C-structure for (21b)



(23) F-structure for (21b)



As can be seen, there are differences in the c-structure and f-structure representations of pronominalized elements. In the c-structure, the theme argument is not represented, even though it is subcategorized by the verb. In generative syntax, this would be represented by an empty category (Haegeman and Guéron 1999). However, LFG does not allow empty categories (Attia 2008; Isingoma 2021), even though Bresnan (2001) points out that empty categories appear in c-structure where there has been the extraction of an element. In contrast to this argument,

[12] Note that in this paper we decided to translate *máwuà* as a singular word, thereby assuming that this was the context, as Lugbarati does not have a marker for plurality on a noun such as *máwuà*. Everything depends on the context.

Dalrymple et al. (2007) observe that empty categories are unmotivated even in such cases (see also Isingoma 2021). However, since the null element represents an argument subcategorized by the verb, this has to be accounted for structurally. To analyze the non-overtly expressed element, this study adopts Nordlinger and Sadler's (2007) approach to 'copula-less' constructions, as applied by Attia (2008) and Isingoma (2021). The approach indicates that "verbless clauses have a more hierarchical f-structure in which the f-structure of the non-verbal predicate functions as an argument within a higher f-structure which itself has a PRED, but where there is no overt syntactic element corresponding to this predicate in the c-structure" (Nordlinger and Sadler 2007, 143). In Attia's (2008) analysis of Arabic 'copula-less' constructions and Isingoma's (2021) analysis of structural properties of Rutooro ditransitive constructions, both within the LFG formalism, the two adopt Nordlinger and Sadler's (2007) approach, which indicates that "the main predicator is H-STR for 'Higher-STRucture' instead of *be* in the LFG literature which entails the assumption that there is an elided *be*-like verb" (Attia 2008, 170). Thus, Attia (2008) and Isingoma (2021) emphasize that constituent elements that are not overtly expressed should be presented in the f-structure as higher f-structures with no overt syntactic elements corresponding to them in the c-structure (see also Nordlinger and Saddler 2007, 141).

When we adopt the above approach, we realize that the null element is treated as a H-STR (higher structure) in the f-structure in (23) above, which is associated with the lexical entries of the verb *fè* 'give' – a verb that subcategorizes for a subject, a direct object, and an indirect object. The H-STR is the direct object. In fact, this analysis follows Nordlinger and Sadler's (2007) approach, which states that information about the H-STR should come either from phrase structure rules or from "information lexically associated with one of the elements in the clause" (Isingoma 2021, 16; Isingoma 2020; Nordlinger and Sadler 2007). As far as the sentence in (21b) is concerned, this information actually comes from the lexical entries of the verb and must be discoursally retrieved. We know that the verb *fè* 'give' requires a subject, a direct object, and an indirect object. Since the overtly missing constituent is the direct object, the grammatical information (e.g. person, number) about the H-STR must be congruent with the discourse referent in question, which is *máwuà* 'a flower'. However, since the null element refers to a discourse-given entity, its definiteness value is [+], as opposed to its antecedent, which has the value [–].

Note that Lugbarati DOCs (with either goal or benefactive verbs) do not allow the implicit pronominalization of the theme/patient argument. For example, the benefactive DOC in (24a) below cannot have its patient argument encoded with a null element (i.e. pronominalized), as in (24b), while the benefactive and goal DOCs in (25a) – (25d) are also illicit:

(24) (a) *Mèri.ø* *a̱dí* *ìmà* *atí* *mà* *eríbi.* (DOC)
Mary.PFV cook.PFV her father his vegetables
'Mary cooked her father his vegetables.'

(b) **Mèri.ø* *a̱dí* *ìmà* *atí.* (DOC)
Mary.PFV cook.PFV her father
'Mary cooked her father (it).'

(25) (a) **Ma* *mà* *atí* *òfe.* (DOC, benefactive)
1SG.IPFV my father rent.IPFV
'I rent my father (it).'

(b) **Mèri.ø* *sì* *ìmà* *atí* (DOC, benefactive)
Mary.PFV build.PFV her father
'Mary built her father (it).'

(c) **Ma* *ngà* *mà* *adrí* *'bè.* (DOC, goal)
1SG.IPFV later my brother throw.IPFV
'I will throw my brother (it).'

(d) **Ma* *ngà* *mà* *atí* *idrí.* (DOC, goal
1SG.IPFV later my father forward.IPFV
'I will forward my father (it).'

The preclusion of the pronominalization of the patient/theme argument in Lugbarati DOCs could be due to the 'prior possession' semantic constraint, which seems to require possession to be explicitly stated by means of a possessive specifier (together with the *possessum*). In other words, without overt possessive specifiers and *possessa*, there is no DOC in Lugbarati, yet pronominalization (including when expressed by means of null elements) replaces not only the noun referent of the patient/theme argument, but also all the congruent specifiers. Hence, the pronominalization of such inanimate entities as theme/patient arguments becomes inadmissible.

5 Conclusion

Lugbarati is an understudied African language. This study could be seen as an attempt to awaken the interest of syntacticians in the morphosyntax of this language. The study has found that Lugbarati is an APC-dominant language. The DOC exists in the language, but it encodes more than 'caused possession' in the traditional sense. Specifically, for Lugbarati, there has to be prior possession of an entity by either the recipient or the beneficiary to warrant the use of the DOC. This semantic restriction on the realization of the DOC means that there are very few DOCs in Lugbarati compared to APCs, which have no such semantic restrictions. While we know that the constituent order of ditransitive constructions in English usually takes the SVOO configuration, Lugbarati, on the other hand, has three ways of representing ditransitive constructions: SVOO, SOVO, and SOOV. The SVOO (in which the indirect object precedes the direct object) is usually realized as either a DOC or an APC in the perfective aspect. But the SOVO (where the direct object precedes the verbal element) is usually realized as an APC and this is considered to be the canonical linear order of the APC in Lugbarati; it only allows the imperfective aspect. In the SOOV (where both non-subject arguments precede the verbal element), the linear order is realized as both DOCs and APCs in the imperfective aspect. Thus, Lugbarati is an example of a language that has both SOV and SVO basic constituent orders (see also Crazzolara 1960). We have also noted that Lugbarati avoids the pronominalization of the patient/theme argument (as a null element) in benefactive and goal constructions in the DOC, while it allows the pronominalization of the patient/theme argument in the PPC as a null element, which, in our LFG analysis, cannot be represented in the c-structure, but has been represented as a higher structure in the f-structure. All in all, the current study should stimulate further analyses that will bring to light important aspects of Lugbarati syntax.

Abbreviations

D = determiner; DO = direct object; H-STR = higher structure; IPFV = imperfective; IO = indirect object; NP = noun phrase; NUM = number; O = object; OBJ = object; PERS = person; PFV = perfective; POSS = possessive; PRED = predicate/predicator; PRO = pronoun; PROG = progressive; S = subject; SG = singular; SUBJ =subject; V = verb; VP = verb phrase

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