

## Dative applicative elements in Arusa (Maa): A canonical approach to the argument-adjunct distinction

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### Abstract

The present paper analyzes the degree of the argumenthood or adjuncthood of elements licensed by the dative applicative (DA) construction in Arusa within a canonical approach to the argument-adjunct distinction. After testing DA elements for the various criteria and diagnostics associated with the typologically-driven prototype of arguments and adjuncts, the authors conclude the following: in most cases, DA elements behave as canonical arguments and are therefore located close to the argumenthood pole of the argument-adjunct continuum.

**Keywords:** Maa(sai); arguments; adjuncts; canonical typology; cognitive linguistics.

### 1. Introduction

The present paper deals with aspects of the grammar of Arusa – an Eastern Maa variety spoken in Tanzania, close to Mount Kilimanjaro (Levergood 1987: vii; Karani 2013).<sup>1</sup> Specifically, we analyze the status of the argumenthood (or the adjuncthood) of elements such as *enkérai* ‘child’ in (1.a) that are licensed by the dative applicative (DA) construction, i.e. verbs extended by the DA suffix (compare *ε-ηam-aki* in 1.a with *ε-ηamu* in 1.b):<sup>2</sup>

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<sup>1</sup> Arusa is one of the three Maasai dialects spoken in Tanzania. The other two are Kisongo and Parakuyo. From a lexical perspective, Arusa exhibits up to 30% dissimilarity with Kenyan varieties of Maasai, which underlie the standard Maasai language (cf. Vossen 1988). However, the differences between Arusa and Standard Maasai expand beyond the lexicon and reach core grammar (e.g. morphology and syntax). Crucially, Arusa speakers have a clear consciousness of their ethnic and linguistic distinctiveness both within the broad Tanzanian linguistic-demographic landscape, and within the East African Maasai community.

<sup>2</sup> We will use the neutral term ‘elements’ to avoid any reference to the taxonomical status of the slots licensed by the DA suffix. Regarding the typology of applicatives consult Peterson (2007).

- (1) a. *ε-ηam-aki Naulu enkérai enkitábu*  
 3-receive-DA Naulu.NOM child.ACC book.ACC  
 “Naulu will receive the book for the child.”
- b. *ε-ηam-σ enkitábu*  
 3-receive-MT book.ACC  
 “(She) will receive the book.”

This study will be conducted within a canonical approach to the argument-adjunct distinction formulated by Forker (2014). This approach will additionally be complemented by similar methods proposed by Arka (2014), Schaefer and Egbokhare (2014), Creissels (2014), and Haspelmath (2014), and viewed as fully compatible with categorization methods used in cognitive linguistics (Janda 2015).

The paper is organized in the following manner. In Section 2, we will discuss scholarly literature related to the topic of this article and present the framework underlying our research. In Section 3, we will introduce original Arusa evidence. In Section 4, we will examine this evidence within the adopted framework, determining the argument-adjunct status of DA elements. In Section 5, we will draw conclusions.

## 2. Background of the study

In this section, we discuss previous works dedicated to DA elements in Maa(sai) varieties, including Arusa (2.1), and present the framework that will underlie our research in further parts of the article (2.2).

### 2.1 DA elements in Arusa and Maasai scholarship

Arusa is a heavily under-researched variety of Maasai. The entire collection of scholarly literature on Arusa is limited to four publications: a PhD dissertation dedicated to phonology and morpho-phonology presented by Levergood in 1987; an MA thesis dedicated to the morpho-semantics of the verbal system written by Karani in 2013; and, more recently, two papers published by the authors of the present article, of which one deals with the tense, aspect, mood (TAM) semantics of the so-called perfective form (Andrason and Karani 2017a), and the other analyzes the phenomenon of left dislocation (Andrason and Karani 2017b).

The issue of the argumenthood (or the adjuncthood) of DA elements in Arusa has never been treated in depth. Although in all the above-mentioned publications, DA elements are consistently regarded as core arguments (Levergood 1987: 45; Karani 2013: 78; Andrason and Karani 2017b: 213, 215), that classification has not been derived from a systematic and thorough analysis.

The study of DA elements has received more attention in Kenyan Maasai scholarship. DA elements were first dealt with by Tucker and Mpaayei (1955) in their seminal Maasai grammar. It was, however, Payne (1997, 2001, 2009; see also Payne, Hamaya, and Jacobs 1994, and Payne and Barshi 1998) and Lamoureaux (2004) who have advanced our understanding of these

forms the most.<sup>3</sup> According to the standard view, DA suffixes are transitivity morphemes (Payne 1997, 2001; Lamoureaux 2004). They modify the valency pattern of a verb (Payne 1997: 102) by creating an extra slot and promoting a more peripheral oblique participant to a core syntactic element – an argument (Payne 2001: 547, Lamoureaux 2004: 33, 63). In particular, intransitive verbs are rendered transitive, while mono-transitive verbs are transformed into ditransitive ones. Additionally, some ditransitive verbs are extended to four-argument structures. However, this promotion is not universal, as there are instances where the number of arguments is not altered (Lamoureaux 2004: 33, 52, 60, 64).<sup>4</sup> Therefore, the increase of a verb's valency in DA constructions is sometimes viewed as an epiphenomenon of the intensification of a semantic relation between the agent and the other participant(s) (Lamoureaux 2004: 61, 100). In any case, according to the prevalent opinion, DA objects are understood as full-fledged arguments in Maasai. This categorization results from the following properties exhibited by DA elements, which are typical of arguments in Maasai but not of adjuncts: DA elements occur with bare nominal phrases; they are found in the accusative case; they can function as nominative subjects in the middle voice; and they may be indexed on the verb by means of pronominal affixes (Tucker and Mpaayei 1955: 130, 143; Payne 1997: 102, 110, 2001: 547; Lamoureaux 2004: 39, 42-43, 63, 67).<sup>5</sup>

## 2.2 Theoretical framework<sup>6</sup>

Our study of DA elements in Arusa will be developed within a 'canonical approach' to the argument-adjunct distinction formulated in Forker (2014). This approach draws on the method referred to as 'canonical typology' (Corbett 2005, 2007). Although we will primarily use Forker's approach, we will also exploit other similar approaches discussed in a thematic issue of *Language Discovery* from 2014. Apart from the paper written by Forker, that issue included contributions authored by Arka (2014), Creissels (2014), Haspelmath (2014), Schaefer and Egbokhare (2014), and Wichmann (2014: 1-2). In our view, the approach designed by Forker, enhanced by the above-mentioned typologically-driven and gradient proposals (cf. Wichmann 2014: 1-2), constitutes one of the most comprehensive and advanced approaches to argumenthood and adjuncthood currently available in scholarship. Given the nuanced and flexible treatment of these two categories, the canonical approach is particularly applicable to studies of under-researched languages such as Arusa. It enables one to examine, in a principled manner, a situation attested in a new language and relate it conceptually to cross-linguistic tendencies and/or universals (Forker 2014: 28, 31; cf. Croft 2003). Language-specific idiosyncrasies and divergences are viewed as compatible with – if not necessitated by – the very representation of the typological categories of argumenthood and adjuncthood and their

<sup>3</sup> The studies by Tucker and Mpaayei (1955), Payne (1994), and Lamoureaux (2004) were subsequently reused by Peterson (2007) in his typological exploration into applicatives (see especially pages 247, 249, 251).

<sup>4</sup> As far as DA is concerned, this phenomenon may be observed with motion verbs. Rather than increasing the number of arguments, such verbs mark the goal in the applied construction as mobile, reached/affected, and deliberate/volitional (Lamoureaux 2004: 45, 60).

<sup>5</sup> As we will explain in Section 2.2, even though relevant, these features do not exhaust all possible characteristics that determine the argumenthood (or adjuncthood) of an element, and the degree thereof. The details of the nominative and accusative case marking in Arusa will be introduced in Section 3.2.1 when discussing the criterion of grammatical relations (C-3). Other peculiarities of Arusa grammar will also be explained and illustrated by examples in Section 3.

<sup>6</sup> The same model has previously been applied by Andrason (2018) to the analysis of applied objects in Xhosa. Therefore, without being reproduced verbatim, the theoretical sections in the two articles are similar.

modeling as a continuum. Overall, this approach is harmonious with categorization principles postulated by cognitive linguistics (Janda 2015), to which we adhere.

The essential ideas in the canonical approach to arguments and adjuncts are the prototypes of those two categories (Forker 2014: 27-28; see also Creissels 2014: 41-42, 54). Both prototypes are cumulative. They are constructed as sets of specific properties of two types: those that are definitional (the so-called criteria) and those that are non-definitional (the so-called diagnostics) (Forker 2014: 27-28, 31). Criteria and diagnostics, on which the prototypes draw, are derived from extensive crosslinguistic studies. In those studies, scholars have observed how items classified as arguments and adjuncts tend to behave in the languages of the world. For each criterion and each diagnostic, the prototype of argument and the prototype of adjunct exhibit an opposite behavior. Therefore, one set of criteria and diagnostics is sufficient to specify both prototypes.

In this paper, we distinguish six definitional criteria determining the prototypes of arguments and adjuncts. The first five draw on Forker (2014: 28-31), while the sixth is extracted from Haspelmath (2014: 5):

- C-1 Obligatoriness – Arguments are necessitated by the predicates, whereas adjuncts are optional (Forker 2014: 28). Obligatoriness may be semantic (the item is required by the situation referred to by the verb) or syntactic (it is necessitated by the syntactic rules of a language; *ibid.* 29; cf. Koenig et al. 2003: 72; Creissels 2014: 42);
- C-2 Latency – To be omitted in a language, arguments must be definite and accessible in the context, whereas adjuncts can be omitted even though they are not contextually accessible, or their interpretation is indefinite (Forker 2014: 29-30; cf. Creissels 2014: 43);
- C-3 Grammatical relations – Syntactically, arguments are terms, e.g. subject, direct/indirect objects, or primary/secondary objects. In contrast, adjuncts are non-terms, i.e. oblique (Forker 2014: 30; Creissels 2014: 43-44);
- C-4 Iterability – Arguments cannot be iterated whereas the number of “adjuncts of the same type” can be increased freely (Forker 2014: 31). This means that “the number of arguments of a verb is limited, whereas the number of adjuncts is [...] free” (*ibid.* 30);
- C-5 Co-occurrence – Arguments are restricted to specific verbs whereas adjuncts are virtually applicable to all verbs. Arguments receive their semantic role mainly from the verb and “cannot be used with any predicate” (Forker 2014: 30);
- C-6 Learnability or predictability – Since arguments are verb-specific they must be learned separately for each verb. In contrast, the use of adjuncts need not be acquired for every verb individually, as it is independent of specific predicates (Haspelmath 2014: 5).

In addition to the definitional criteria mentioned above, the prototypes of arguments and adjuncts are sensitive to certain diagnostics. Diagnostics are tests which, depending on properties of the studied language, can, albeit need not, be applicable. Therefore, they are regarded as non-definitional characteristics. In this paper, we will adopt six diagnostics distinguished by Forker (2014: 31-32):

- D-1 Morphological (synthetic) or adpositional (analytical) marking – Arguments are marked by a morphological case, whereas adjuncts are marked by adpositions (Forker 2014: 31-32);
- D-2 Uniformity or variety of marking – Arguments are encoded in a uniform morphological manner, whereas adjuncts are encoded in a variety of manners (*ibid.*);
- D-3 Proximity to the verb – Arguments appear close to the verb, whereas adjuncts appear further from the verb (*ibid.*);
- D-4 Positional fixation – Arguments are more restricted as far as their clausal positional is concerned, whereas the position of adjuncts is more flexible (*ibid.*).

- D-5 Indexing – Arguments are indexed on verbs in head-marking systems, whereas adjuncts are not (ibid. 32);
- D-6 Accessibility to valency-changing processes – Arguments access valency-changing processes available in a language (e.g. passives, middles, reciprocals), whereas adjuncts do not (ibid.).<sup>7</sup>

The prototypes of arguments and adjuncts discussed above characterize ideal representatives of the respective categories. Accordingly, if a language-specific element meets all the criteria associated with argumenthood and if, in cases where applicable, it responds positively to all the diagnostics, it constitutes a canonical argument. Inversely, if it complies with all the criteria and diagnostics postulated for adjuncthood, it constitutes a canonical adjunct. Overall, a perfect match with one of the two categorial prototypes implies the canonicity of an element being tested (Arka 2014; Forker 2014; Creissels 2014).

Even though attested across languages, the states of full compliance with the prototypes of argumenthood and adjuncthood represent only two of the many possibilities. Language-specific instantiations of arguments and adjuncts may be more or less canonical, thus complying with a number of features postulated for the respective prototypes, albeit not with all of them. The fewer properties typical of argumenthood an element exhibits, the less canonical its argumenthood is. Similarly, the fewer traits associated with adjuncthood instantiated, the less canonical an adjunct element is. Given that the prototypes of argumenthood and adjuncthood respond to each criterion and diagnostic in an opposite manner, the relationship between canonical arguments and canonical adjuncts is inversely proportional: a higher canonicity of one of them entails a lower canonicity of the other (Arka 2014: 61-62; Forker 2014: 27).

The above implies that although the two prototypes are conceived as mutually exclusive, the categories of arguments and adjuncts are not. Instead of forming a dichotomy, they yield a scale or a continuum (Forker 2014: 27; see also Arka 2014: 57, 61-62, 74-78, 81-82; Creissels 2014: 42, 54; Wichmann 2014: 1). The two prototypes represent only the two extreme points on this continuum. Between them, there is a chain of various intermediate states where the properties of the two prototypes are intermingled in a variety of manners and are, as explained above, inversely proportional (for examples of such transition zones consult Forker 2014: 36-38; Creissels 2014: 47-52; and Arka 2014: 61-62, 74-78; see also Aarts 2008). Crucially, the borderline separating the two categories is fuzzy (Arka 2014: 57, 76-78). It is impossible to precisely determine at what point an item ceases to be an argument and becomes an adjunct.<sup>8</sup>

The canonical approach to argumenthood and adjuncthood outlined in this section harmonizes with a cognitive approach to categorization. Similar to cognitive linguistics, a category is modelled as a radial network with prototype effects. It emanates from the center, exemplified by the prototype, to the periphery, where it gradually transmutes into a different category, or a number of categories. Categorial membership is thus a function of degree, instead of

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<sup>7</sup> The above list of diagnostics is not comprehensive and other diagnostics have indeed been proposed in scholarship. For instance, arguments are expected to be marked for a grammatical case, whereas adjuncts are marked for a semantic case (Forker 2014: 31-32). Adjuncts can be introduced by overt relational predicates, whereas arguments cannot (Schaefer and Egbokhare 2014). As those diagnostics fail to be applicable to the Arusa language system, they are omitted in our list. For a review of other, more or less helpful diagnostics, consult Arka (2014), Creissels (2014), Forker (2014: 31), Haspelmath (2014), and Schaefer and Egbokhare (2014).

<sup>8</sup> Gradience and fuzziness characterize not only the argument-adjunct distinction in its totality, they are also symptomatic of each criterion and diagnostic individually. For instance, the concept of semantic obligatoriness is scalar (Creissels 2014: 41, 46).

constituting a binary alternative conceived in terms of belonging or non-belonging (Janda 2015).

### 3. Evidence

The present section introduces Arusa evidence related to DA elements. First, we provide fundamental information regarding the form and meaning of the DA construction (Section 3.1). Next, we examine how DA elements respond to the criteria and diagnostics discussed above (Section 3.2). Most examples have been provided by M. Karani – one of the two authors of this paper – who is a linguistically-trained native speaker of Arusa. Several examples have been elicited and/or contrasted with native Arusa speakers that have no linguistic background.<sup>9</sup>

#### 3.1 Form and meaning of the DA construction

In Arusa, the DA suffix has four main morphological variants that are conditioned by the TAM semantics and the phonetics of the verb: *-aki*, *-oki*, *-aka* and *-oko*. The suffixes *-aki* and *-oki* appear in the imperfective, the subjunctive, and the imperative. In contrast, *-aka* and *-oko* are found in the perfective. The selection of one of the two variants in each subtype depends, in turn, on the quality of the radical vowel, being governed by vowel harmony rules. Additionally, with a few verbs, the DA suffix appears as *-iki/-iki* in the imperfective, the subjunctive and the imperative, and as *-iki-o/a* in the perfective (Karani 2013, 2018).<sup>10</sup>

The addition of the DA suffix to a verb usually results in the creation of a new item in the valency pattern of that verb – the DA element. If the basic verb is intransitive (see *yaŋ* ‘breathe’ in (2.a)), the subsequent valency pattern involves two elements: a subject and an object (2.b). If the basic verb root is mono-transitive (see *yerr* ‘cook’ in (2.c)), the valency of the DA construction involves three elements, and the verb becomes ditransitive (2.d).

- (2) a. *a-iyay-ita*  
1SG-breathe-PROG  
“I am breathing.”
- b. *a-iyay-aki*                      *enkióyo*<sup>11</sup>  
1SG-breathe-DA                  mirror.ACC  
“I breathe [at] the mirror.”
- c. *a-te-yer-a*                        *endáa*  
1SG-PFV-cook-PFV              food.ACC  
“I cooked the meal.”

<sup>9</sup> Accordingly, we embrace the following postulation expressed by Felix Ameka (2006: 100): “the real description, the optimal record of a language, is the outcome of a collaborative effort, not only between trained native and non-native linguists but also between these linguists on the one hand and the normal speakers of the language” on the other.

<sup>10</sup> There are two other verbal constructions which are also referred to as applicatives in Arusa: the ‘instrumental’ applicative and the ‘directional’ applicative (Levergood 1987: 38; Karani 2013; see also Lamoureaux 2004). These forms are marked by their own sets of affixes. Elements licensed by these types of applicatives will not be studied in this article.

<sup>11</sup> In this paper, high tone is marked on a vowel by using an acute accent, whereas low tone is marked by a grave accent. Mid tone and other tonal patterns are not marked.

- d. *a-te-yer-aka*      *Jóni*      *endáa*  
 1SG-PFV-cook-DA    John.ACC    food.ACC  
 “I cooked John the meal.”

However, if the DA construction is derived from a motion verb – whether intransitive such as *kwét* ‘run’ in (3.a) or transitive such as *irriw* ‘send’ in (23.c) – the valency pattern may remain unaltered (compare with (3.b) and (3.d), respectively; cf. Lamoureaux 2004). In such cases, the semantic role of ‘goal’ is encoded by a prepositional phrase instead of being expressed by the DA element, as is otherwise typical of DA forms (see further below).<sup>12</sup>

- (3) a. *ε-kwét ólayioni*      *aatua enkáji*  
 3-run boy.NOM      into house.ACC  
 “The boy will run into the house”
- b. *ε-kwét-ikia*      *ólayioni*      *aatua enkáji*  
 3-run-DA.PF      boy.NOM      into house.ACC  
 “The boy ran into the house”
- c. *ε-irriw-aki*      *βάβα*      *ólayioni*      *aη*  
 3-send-DA      father.NOM      boy.ACC      home.ACC  
 “My father will send the boy home”
- d. *ε-irriw-aki*      *βάβα*      *yèyio*      *ólayioni*      *ti*      *aη*  
 3-send-DA.PF      father.NOM      mother.ACC      boy.ACC      at      home.ACC  
 “My father will send the boy to my mother home”

The semantic roles typically associated with DA elements in Arusa are beneficiary, recipient, and goal (Karani 2013: 78, 110). This is consistent with the range of semantic roles exhibited by DA elements in Kenyan Maasai, Maa, and Nilotic languages, more generally. In Kenyan Maasai, DA elements express the ideas of beneficiary or goal (Tucker and Mpaayei 1955: 130, 2001: 547-548; Payne 2009: 152; Lamoureaux 2004: 52). In other Nilotic languages, they tend to indicate direction towards an individual or a place (Dimmendaal 2009). As in the above-mentioned languages, in Arusa, the specific roles of DA elements are semantically driven, being conditioned by the properties of both the predicate and the DA noun phrase. In particular, the animacy, agency, control, and affectedness of the latter are of note.<sup>13</sup>

In Arusa, the role of beneficiary is especially pervasive with animate nouns (see *enkérai* ‘child’ in (4.a), *ηotóne* ‘one’s mother’ in (4.b), and *endásat* ‘woman’ in (4.c)) and with nouns that, even though inanimate, can be conceptualized as collections of animate individuals (see *fíle* ‘school’ in (4.d)). As defined by Niclot (2014: 276), in this usage, “X creates/acts on entity Z and subsequently transfers/intends to transfer Z or the effect of the act to Y”.<sup>14</sup> Accordingly, the action is done for, to the benefit of, or on the behalf of the referent (cf. Kittilä and Zúñiga 2010: 1-4) of a DA element. The DA referent benefits from the effect(s) of an activity, be it opening the door (4.a), holding the baby (4.b), cutting meat (4.c), or buying books (4.d).

<sup>12</sup> As will be explained in Section 3.2.1, prepositional phrases are typical of adjuncts in Arusa. They are commonly found with both basic (see 3.a and 3.c) and extended (e.g. DA) verbs (3.b and 3.d).

<sup>13</sup> Compare with Kenyan Maasai, where the concepts of animacy and control are decisive for specific interpretations of the semantic roles of DA elements (Lamoureaux 2004; Payne 2009).

<sup>14</sup> For a typological discussion of benefaction and beneficiaries see Kittilä and Zúñiga (2010).

- (4) a. *e-bol-oki* *éntito* *enkérai* *ɔlmulángo*  
 3-open-DA girl.NOM child.ACC door.ACC  
 “The girl will open the door for the child.”
- b. *e-ibuŋ-aki* *éntito* *ŋotóne* *enkérai*  
 3-hold-DA girl.NOM her.mother.ACC child.ACC  
 “The girl will hold the baby for her mother.”
- c. *e-duŋ-oki* *ade* *ólayieŋani* *endásat* *enkíriŋo*  
 3-cut-DA later butcher.NOM woman.ACC meat.ACC  
 “The butcher will cut meat for the woman later.”
- d. *e-iŋaŋ-aki* *órais* *fúle* *mkitábuni*  
 3-buy-DA president.NOM school.ACC books.ACC  
 “The president will buy books for the school.”

DA elements referring to animate participants are also compatible with the role of recipient, which arises where “X intends to transfer/transfers entity Z to Y” (Nicolot 2014: 276). In such significantly less common instances, the DA referent (e.g. *ólalafé* ‘brother’) receives the entity being transferred (e.g. *enkítábu* ‘book’ in (5)).

- (5) *a-ti-mir-aka* *ólalafé* *lai* *enkítábu*  
 1SG-PFV-sell-DA brother.NOM my book.ACC  
 “I sold the book to my brother.”

Another semantic role commonly associated with DA elements in Arusa is that of goal. This role regularly appears in situations where an applicative verb implies the idea of motion (see *aitufulaki* ‘I will put’ in (6.a) and *etanaŋaka* ‘he/she/it threw’ in (6.b)) and where DA elements are inanimate (see *ɔlmuféle* ‘rice’ in (6.a) and *ɔlkéju* ‘river’ in (6.b)).

- (6) a. *á-itú-ful-aki* *ilpómbok* *ɔlmuféle*  
 1SG-CAUS-mix-DA beans.ACC rice.ACC  
 “I will put beans into the rice.”
- b. *e-ta-naŋ-aka* *ólkipa* *empíra* *ɔlkéju*  
 3-PFV-throw-DA goalkeeper.NOM ball.ACC river.ACC  
 “The goalkeeper threw the ball into the river.”

If the DA construction implies some kind of motion (see *erirwakaki* ‘he/she/it sent’ in (7.a) and *enaŋaki* ‘he/she/it throws’ in (7.b)) and the DA element is animate (see *βàβα* ‘father’ in (7.a) and *enkíteŋ* in (7.b)), the semantic role of DA elements may be viewed as intermediate between a prototypical goal and a prototypical beneficiary/recipient:

- (7) a. *ε-irrw-ak-aki* *βàβα* *ɔlayíoni*  
 3-send-PFV-DA.IMP father.ACC boy.ACC  
 “(Somebody) sent the boy to [my] father”
- b. *e-naŋ-aki* *éntito* *enkíteŋ* *empálei*  
 3-throw-DA girl.NOM cow.ACC leaf.ACC  
 “The girl will throw the leaf to the cow”

Occasionally, DA elements assume semantic roles that cannot be classified in terms of beneficiary, recipient, or goal. For example, in (8), the DA element *enkérai* ‘child’ can be

regarded as the source of the action that affects the theme of the verb, the NP *ɔlkárahá* ‘the clothes’.<sup>15</sup>

- (8) *e-itai-kio*                      *hótope*                      *enkérai*                      *ɔlkárahá*  
 3-remove-DA                      mother.NOM                      child.ACC                      cloth.ACC  
 “The mother removed the clothes from the baby.”

### 3.2 Testing DA elements for argumenthood/adjuncthood

In the following parts of the evidence section, we examine how DA elements respond to the criteria (3.2.1) and diagnostics (3.2.2) determining the prototypes of arguments and adjuncts in the canonical approach.

#### 3.2.1 Criteria

##### *C-1 Obligatoriness*

The overt presence of DA elements in DA constructions is relatively common. Indeed, in various cases, an extra element licensed by the DA suffix is required to appear explicitly in order to make a clause complete. This is especially frequent if contextual information is not sufficient to identify the referent that corresponds to this DA element, i.e. if the referent is new or inaccessible (cf. *mkéra* ‘children’ in (9)). In such instances, the DA element cannot be left unexpressed – on the contrary, its use is syntactically obligatory.

- (9) A: *kánoo hōle*                      *mtibira?*<sup>16</sup>  
 what yesterday do  
 “What did you do yesterday?”  
 B: *á-ijnáŋ-aka*                      *mkéra*                      *ilkárafi*  
 1SG-buy-DA                      children.ACC                      clothes.ACC  
 “I bought the children clothes.”

Although common, the presence of DA elements is not always compulsory. This stems from the morphosyntactic idiosyncrasy of Arusa and Maa, which we will explain below. To begin with, the Arusa verb is inflected for subject and object. This inflection is present on the verb in the form of fused prefixes which involve both morphological and phonemic (tonal) features (Levergood 1987; Karani 2013; for other Maa varieties consult Tucker and Mpaayei 1955, and Hamaya 1997). Allowing for subject and object inflection, Arusa does not necessitate the subject and object to be expressed lexically, i.e. as NPs or independent (self-standing) pronouns (Andrason and Karani 2017b: 209-210, 216).<sup>17</sup> Interestingly, while subject inflection is explicit

<sup>15</sup> Note that in (8), the semantic role is deduced from the meaning of the basic verb and the DA suffix, as well as the broadly understood context – pragmatic knowledge of the real world. Compare with a non-DA construction: *eitai éndasat ɔlkárahá te enkérai* (lit. gloss: 3SG.remove woman.NOM cloth.ACC from child.ACC) ‘The woman will remove the clothes from the baby’. Given the scarcity of verbs with which DA elements assume roles other than beneficiary, recipient, and goal, we view the traditional label ‘dative applicative’ as appropriate.

<sup>16</sup> The symbols A and B represent two interlocutors involved in the dialogue.

<sup>17</sup> This could be viewed as a (perhaps less canonical) type of the pro-drop (ibid. 209), similar to that operating in Spanish or Polish (Flynn 1987: 79; Azra, Bachus, and Özüyrek 2017: 81, 83; Pilarski 2017: 147). A truly canonical (or even radical; see Alexiadou and Carvalho 2017) pro-drop language is Mandarin Chinese (Li and Thompson

for all persons and numbers, the explicit object inflection is limited to certain instances that involve objects referring to the 1<sup>st</sup> and 2<sup>nd</sup> person singular. In all the remaining instances, especially those involving 3<sup>rd</sup> person objects, the inflectional prefix is undistinguishable from the prefix used with intransitive verbs (Karani 2013; Andrason and Karani 2017b: 209-210; see also Tucker and Mpaayei 1955; Payne, Hamaya, and Jacobs 1994; Scarborough 2014). In our approach, such cases are interpreted as lacking object inflection (see examples (10.a) and (10.b) below). Even though in these instances objects are not indexed on the verb through inflections, the use of lexical objects is not compulsory.<sup>18</sup> As a result, internal arguments are not always realized overtly: neither by lexical NPs nor object inflection. In some cases, they are rather implied by the semantics of the context and the inherent valency pattern of a verb. Overall, given the prevalence of 3<sup>rd</sup> person object referents, examples with semantically transitive verbs in which the DP object is unexpressed are remarkably common (cf. Andrason and Karani 2017b; see also Tucker and Mpaayei 1955: 15-16, 71-72).

- (10) a. *i-yelo?*  
2SG-know  
“Do you know [it/her/him/them]?”  
b. *i-tadua?*  
2SG-PFV-see  
“Did you see [it/him/her/them]?”

The above phenomenon is also characteristic of DA elements. As illustrated by examples (11.a) and (11.b), DA elements may fail to be expressed overtly – neither as NPs nor through object inflections – if they refer to persons other than the 1<sup>st</sup> and 2<sup>nd</sup> person.

- (11) a. *é-isom-áki énkeraí enkitàbu*  
3-read-DA child.NOM book.ACC  
“The child will read the book [for him/her/them/someone].”  
b. *é-ti-mir-áka ólpayian enkíne*  
3-PFV-sell-DA man.NOM goat.ACC  
“The man sold a goat [to/for him/her/them/someone].”

Overt DA elements are not only omissible; in some cases, they are also ungrammatical. One of the most typical examples is found in left dislocation constructions. Crosslinguistically, left dislocation requires the presence of a resumptive element, typically a pronoun, in the matrix clause.<sup>19</sup> The resumptive pronoun is co-indexed with the referent located in the left periphery and specifies this referent’s syntactic, semantic, and discourse-pragmatic role (Lambrecht 2001: 1050; Westbury 2014; Andrason, Westbury, and van der Merwe 2016: 5). In Arusa, free-pronoun resumption is, however, ungrammatical if the resumptive element refers to an argument of the verb (see the ungrammaticality of *nijne* ‘him’ in (12.a)). Since for 3<sup>rd</sup> person object inflections the object is not marked, the overt presence of arguments in the matrix clause

1989: 567-675; Wu 2017: 36, 80). It should also be noted that contrary to Arusa, the pro-drop in Spanish and Polish applies only to the subject.

<sup>18</sup> Thus, the pro-drop operates even in cases where the object is not indexed on the verb through inflections.

<sup>19</sup> The term ‘matrix clause’ is commonly used in studies on left dislocation and refers to the core clause from which the *dislocatum* is dislocated (Westbury 2014, 2016; Andrason, Westbury, and Van der Merwe 2016: 5; Halla-Aho 2018).

is disallowed entirely (see *á-ta-dua* ‘I saw’ in (12.a)).<sup>20</sup> The behavior of DA elements is fully analogous to the behavior exhibited by base arguments in left dislocation constructions. As illustrated by examples (12.b) and (12.c), free-standing co-referential elements that in other languages may appear in the matrix clause of left dislocation are ungrammatical in Arusa, if they constitute DA elements of the verb. This applies both to personal full-pronouns (e.g. *nije* ‘him’ in 12.b) and to other deictic forms (e.g. *ine* ‘there’ in (12.c)). For 3<sup>rd</sup> person object referents, the resumption is also absent in the form of verbal inflections (12.b-c). Failing to be marked overtly by pronouns or object inflections, the role of the dislocate referent as a DA element can only be inferred from the semantics of a verb, the inherent valency pattern, and the general context (Andrason and Karani 2017b).<sup>21</sup>

- (12) a. *βáβa* , *éé* *á-ta-dua* \**nije*  
 father.NOM [pause]yes 1SG-PFV-see him  
 “Father, yes I saw [him].”
- b. *ólpayian* , *á-yier-áki* \**nije* *endáa*  
 man.NOM [pause] 1SG-cook-DA him food  
 “The man, I cook for [him].”
- c. *Árusha* , *á-idurr-áki* \**ine*  
 Arusha-NOM [pause] 1SG-move-DA there  
 “Arusa, I will move [there].”

### C-2 Latency

The non-obligatoriness of DA elements discussed above is related to the phenomenon of latency. In general, arguments can be omitted in Arusa if they refer to any 3<sup>rd</sup> person and are fully accessible or uniquely identifiable. For instance, in the case of the ditransitive verb *ifo* ‘give’, the object (e.g. *βáβa* ‘father’ in (13.a)) may be omitted if the referent has been previously mentioned, being thus both accessible and identifiable. A common subtype of this situation involves answers to questions in which a given referent is mentioned overtly (see *mkéra* ‘children’ in (13.b.A)). In all such instances, the use of an NP is unnecessary and that of a free pronoun is usually infelicitous (13.b.A), unless it is used for focal purposes, e.g. contrastively.

- (13) a. *á-fómo* *ηole* *á-irór-oki* *βáβa.* *á-ifó-o*  
 1SG-go.PFV yesterday to.greet-DAT father.NOM 1SG-give-PFV  
*énkitábu*  
 book.ACC  
 “Yesterday, I went to greet my father. I gave [him = father] the book.”

<sup>20</sup> The ungrammaticality of free-standing resumption is also related to the fact that the 3<sup>rd</sup> person free pronouns in object roles are often emphatic and/or contrastive in Arusa, rather than merely anaphoric. However, when referring to adjuncts, they may be used in a resumptive or anaphoric function. Indeed, adjuncts must be indexed by using free pronouns in the matrix clause of left-dislocation constructions. It is their absence that is ungrammatical: *kólo áyiok, áigúrana oo nince* (lit. gloss: these boys.NOM [pause] 1SG.play.PFV with them) ‘These boys, I played with them’. Accordingly, full pronouns are used in an anaphoric or resumptive function only with adjuncts – not with arguments (for a detailed discussion of left dislocation in Arusa and the issue of resumption, consult Andrason and Karani 2017b).

<sup>21</sup> In contrast, as is the case of base verbs, dislocated adjuncts in clauses involving DA verbs must be resumed by full pronouns.

- b. A: *kánu* *i-ncó-o* *mkéra* *enkítábu?*  
 when 2SG-give-PFV children.ACC book.ACC  
 “When did you give the book to the children?”  
 B: *á-ifó-o* *enkítábu* *ηole*  
 1SG-give-PFV book.ACC yesterday  
 “I gave [them = the children] the book yesterday.”

The same latency principle warrants the omission of overt DA elements. That is, DA elements may always be left unexpressed, if they are recoverable from the context or if they are generally known (see *βàβα* ‘father’ in (14.a)). As is true of all arguments in Arusa (cf. example (13.b.B)), responses to questions provide one of the most common contexts in which a latency-motivated omission occurs (see the absence of *ɔlmálimui* ‘teacher’ in (14.b.B); compare with (14.b.A), where *ɔlmálimui* ‘teacher’ cannot be omitted as it is not accessible or identifiable).<sup>22</sup>

- (14) a. *á-fómo* *ηole* *á-irór-oki* *βàβα*  
 1SG-go.PFV yesterday 1SG.greet-DA father.ACC  
 “Yesterday, I went to greet my father.  
*á-tí-mir-aka* *enkítábu*  
 1SG-PFV-sell-DA book.ACC  
 I sold [him = my father] a book”  
 b. A: *kánu* *í-tí-mir-aka* *ɔlmálimui* *enkítábu?*  
 when 2-PFV-sell-DA teacher.ACC book.ACC  
 “When did you sell the book to the teacher?”  
 B: *á-tí-mir-aka* *enkítábu* *ηole*  
 1SG-PFV-sell-DA book.ACC yesterday  
 “I sold [him = the teacher] the book yesterday.”

To conclude the discussion of the obligatoriness and latency of DA elements, the following may be argued: DA elements, as other arguments in Arusa, are semantically obligatory, being always present in the semantics of the verb and the context of the utterance. In contrast, their syntactic expression is not obligatory. They fail to be expressed overtly if definite, accessible, identifiable, and if referring to the 3<sup>rd</sup> person singular or plural.

### C-3 Grammatical relations

The status of being a term, i.e. the ability to exhibit a morphosyntactic behavior of “noun phrases representing participants whose semantic role forms part of the lexical meaning of the verb” (Creissels 2014: 43) in Arusa is related to three types of features: morpho-phonemic (case), morpho-syntactic (indexation), and syntactic (word order). In the subsequent discussion we will focus on one class of terms – the one which is relevant for DA elements – namely, objects.

First, DA elements behave as genuine objects from a morphological perspective. All objects in Arusa are marked by the so-called accusative case. The accusative is typically encoded by a low tone falling on the first syllable of the stem, and a high tone elsewhere (see *ɔlayíoni* ‘boy’

<sup>22</sup> In contrast, adjuncts – both in DA constructions and other types of verbs – can be omitted in Arusa (or not included in a sentence) even though they are indefinite, inaccessible, and unidentifiable.

in (15.a)), or by only a low tone in a few two-syllable words (see *nkìfu* ‘cows’ in (15.b)).<sup>23</sup> It should, however, be noted that the accusative is not exclusively used with objects. It is also employed with adjuncts introduced by the prepositions such as *te/to/ti* ‘at, to’, *aatua* ‘into’, or *oo* ‘with’ (see *ti aη* ‘at home’ in (15.a)) and with complements of motion verbs. DA elements are, without exception, marked by the accusative (see *ɔlayioni* ‘boy’ in (15.c)). However, adjuncts accompanying DA verbs may also exhibit the accusative marking (see *to osingolio* ‘at the ceremony’ in (15.c)).

- (15) a. *é-ibót-o*                      *βάβα*                      *ɔlayioni*                      *ti*                      *aη*  
 3-SG-call-PFV                      father.NOM                      boy.ACC                      at                      home.ACC  
 “The father called the boy at home.”
- b. *é-tú-ud-o*                      *Lóitu*                      *nkìfu*  
 3-PFV-treat-PFV                      Loitu.NOM                      cows.ACC  
 “Loitu treated cows”
- c. *é-ráη-aki*                      *éntito*                      *ɔlayioni*                      *to*                      *osingolio*  
 3-sing-DA                      girl.NOM                      boy.ACC                      at                      ceremony.ACC  
 “The girl sings for the boy at the ceremony.”

Second, DA elements conform to the behavior exhibited by terms, including objects, with respect to indexation. In Arusa, terms – and only terms – are indexed in the verb’s morphology in the form of subject or object indices (i.e. inflections). The indexing of subjects is regular, while the indexing of objects is less uniform. As has been explained above, only the objects referring to the 1<sup>st</sup> and 2<sup>nd</sup> person can be marked overtly on verbs albeit, even here, not in all instances. The 1<sup>st</sup> person singular object is overtly marked on the verb if the subject is the 2<sup>nd</sup> or the 3<sup>rd</sup> person singular or plural. In such cases, the verb exhibits the prefix *kí-* and *áa-*, respectively. The 2<sup>nd</sup> person singular object is explicitly marked on the verb if the subject refers to the 1<sup>st</sup> person singular (cf. the prefix *áa-*) and the 3<sup>rd</sup> person singular or plural (cf. the prefix *kí-*). In all the remaining instances, the prefix found in a transitive verb is identical to prefixes used with intransitive verbs – the objects failing to be encoded overtly.<sup>24</sup> In this regard, DA elements behave as objects. They are marked on the verb through object inflections, in all the instances where such marking is possible. This typically involves objects referring to the 1<sup>st</sup> person singular (see *kí-* in (16.a) and *áa* in (16.b)) and the 2<sup>nd</sup> person singular (see *áá* in (16.c) and *ki* in (16.d)).

- (16) a. *kí-ti-mir-aka*                                      *enkíne*  
 2>1SG-PFV-sell-DA                                      goat.ACC<sup>25</sup>  
 “You sold me a goat.”
- b. *áà-bol-óki*                                      *ɔlmulángo*  
 3>1SG-open-DA                                      door.ACC  
 “He will open a door for me.”

<sup>23</sup> Apart from word order (the position in the sentence) and subject-indexing, this type of marking differentiates objects from subjects, as subjects are marked by the so-called nominative case. Nominative is encoded by a high tone being placed on the first syllable. Nominative is also used with adjuncts headed by elements that originally functioned as conjunctions (Tucker and Mpaayei 1955; Andrason and Karani 2017b). In scholarly literature, Maa varieties are categorized as marked-nominative languages. That is, the nominative is regarded as the default marking (König 2006).

<sup>24</sup> In contrast, non-terms (adjuncts) are never encoded on the verb in Arusa.

<sup>25</sup> The symbol > implies that the subject (1<sup>st</sup>/2<sup>nd</sup>/3<sup>rd</sup> person) is acting upon the object (1<sup>st</sup>/2<sup>nd</sup>/3<sup>rd</sup> person).

- c.     *áá-ti-mir-aka*                    *enkíne*  
 1SG>2SG-PFV-sell-DA            goat.ACC  
 “I sold you a goat.”
- d.     *ki-fá-iki*  
 3SG>2SG-rain-DA  
 “It will rain on you.”

Third, DA elements act as objects as far as their position in the clause is concerned. As is true of other Maa varieties (Hamaya 1993: 11; Koopman 2001: 11; Lamoureaux 2004: 13), the basic or unmarked word-order in predicate-focus clauses in Arusa is VSO (Levergood 1987: 20; Karani 2013: 23; Andrason and Karani 2017b: 208-209), although other linear arrangements are also possible under determined syntactic and/or pragmatic circumstances (Karani 2013: 23-24; see also Tucker and Mpaayei 1955; Payne 1995; Payne, Hamaya, and Jacobs 1994; Koopmann 2001: 11; Caponigro 2003; Lamoureaux 2004: 13; Carstens and Shoaff 2015).<sup>26</sup> Constituting a VSO-prominent language, the verb tends to appear clause initially, being followed by the subject and the object. In unmarked clauses, non-terms such as locative and temporal adjuncts follow the objects as clause-peripheral entities. In ditransitive constructions, the NP referring to beneficiary (see *mkéra* ‘children’ in (17.a)), recipient, or source appears after the verb and the lexical subject (if the latter is expressed lexically) and before another NP referring to theme (*enkítábu* ‘book’) and any adjunct (*ηole* ‘yesterday’). The word order of DA elements is identical. In unmarked clauses containing DA verbs, the DA element with the role of beneficiary (see *mkéra* ‘children’ in (17.b)) occupies the position after the verb and, if expressed, the lexical subject, albeit in front of theme elements (*ilkaráfi* ‘clothes’) and adjuncts (*ηole* ‘yesterday’).

- (17) a.     *á-ífoo*            *mkéra*            *enkítábu*            *ηole*  
 1SG-give.PFV children.ACC book.ACC            yesterday  
 “I gave the book to the children yesterday.”
- b.     *a-íñan-aka*            *mkéra*            *ilkaráfi*            *ηole*  
 1SG-buy-DAT            children.ACC clothes.ACC            yesterday  
 “I bought clothes for the children yesterday.”

In ditransitive constructions, the order of the two objects explained above may be inverted. That is, the object expressing the theme (see *enkítábu* ‘book’ in (18.a)) can precede the beneficiary or recipient (*mkéra* ‘children’), if one of the two objects receives a focal interpretation, e.g. for contrast (*mkéra – mee ntoíwuo* ‘the children – not the parents’). DA constructions exhibit fully analogous behavior. A DA element (e.g. *mkéra* ‘children’ in (18.b)) may be moved to the position after the theme (*ilkaráfi* ‘clothes’), if one of the objects is focalized (*ilkaráfi – mee namúka* ‘clothes – not shoes’). As in non-focalized clauses, DA elements found in focalized constructions appear regularly before any adjunct (see *ηole* ‘yesterday’ in (18.a) and (18.b)).

- (18) a.     *aífoo*            *enkítábu*            *mkéra*            – *mee ntoíwuo* –            *ηole*  
 1SG-give            book.ACC            children.ACC            not parents.ACC            yesterday  
 “I gave the book to the children – not the parents – yesterday.”

<sup>26</sup> Word-order types that do not conform to the verb-first arrangement are found in cases of pragmatic marking, wh-questions, answers to questions, certain temporal sequences, delimiting phrases, cleft constructions, and left dislocation (Payne 1995: 454-461; Caponigro 2003; Carstens and Shoaff 2015; Andrason and Karani 2017b).

- b. *a-ijan-aka ilkaráfi mkéra – mee namúka – ηole*  
 1SG-buy-DA clothes.ACC children.ACC not shoes.ACC yesterday  
 “I bought clothes for the children – not shoes – yesterday.”

There are, nevertheless, instances where the DA element appears after the theme even though no focus on the latter constituent is involved. This occurs if DA elements are inanimate and assume the semantic role of goal (see *ólkéju* ‘river’ in (19.a), *olbénki* ‘bank’ in (19.b), and *olmuféle* ‘rice’ in (19.c)). This phenomenon is fully consistent with the behavior of other ditransitive constructions in Arusa, not only DA constructions.<sup>27</sup> Even in such instances, however, the DA element typically occurs in the position before adjuncts (see *ηole* ‘yesterday’ in (19.b) and *taisere* ‘tomorrow’ in (19.c)).

- (19) a. *e-ta-nan-aka ólkipa empíra ólkéju*  
 3-PFV-throw-DA goalkeeper.NOM ball.ACC river.ACC  
 “The goalkeeper threw the ball into the river.”
- b. *ε-irrw-aka Jóni impésai olbénki ηole*  
 3-send-DA John.NOM money.ACC bank.ACC yesterday  
 “John sent the money to the bank yesterday.”
- c. *a-itu-ful-aki ilpómbok olmuféle tenakata*  
 1SG-CAUS-mix-DA beans.ACC rice.ACC right now  
 “I will mix beans into the rice right now.”

#### C-4 Iterability

DA elements cannot be freely iterated (see the ungrammatical use of *ólalafe* ‘brother’ in (20.a)). The combination of two or more DA elements with the same predicate is thus disallowed (cf. Forker 2014: 31). The only way to introduce an additional DA element to the clause is through coordination. For instance, by means of the conjoining coordinator *oo* ‘and; with’ (20.b).<sup>28</sup> However, following Forker's criterion, such instances are not understood as another argument slot in the verb's valency but rather as an internally complex coordinated argument. This complies with the behavior of all object arguments in Arusa, but contrasts with Arusa adjuncts. Adjuncts of the same or distinct semantic type may be added relatively freely and combined with the same predicate without a conjoining coordinator (see *kaarie te enkáji naníkita ólkéju* ‘in the night in the house near the lake’ in (20.c)), while this cannot be done with arguments.<sup>29</sup> As a result, verbs or their clauses may be expanded by additional “adjunct-slots” – the ultimate limit being processing capacity.

- (20) a. *a-ti-mir-aka βàβa \*ólalafe lai enkítábu*  
 1SG-PFV-sell-DA father.ACC brother.ACC my book.ACC

<sup>27</sup> This may be related to a crosslinguistic tendency that inanimate goals tend to appear after themes, while recipients and beneficiaries may precede themes (compare the behavior of nominal and locative arguments of applicative constructions in Xhosa (Andrason 2018) or the place of dative and locative elements in West African languages (Ameka 2009).

<sup>28</sup> This coordinating conjunction is of a comitative type (Haspelmath 2003), being originally a preposition meaning ‘with’.

<sup>29</sup> Compare with *We will meet today at nine o'clock in the evening* in Forker (2014: 31).

- b. *a-ti-mir-aka*            *βàβa*            *oo*    *ɔlálafe*            *lai*    *enkítábu*  
 1SG-PFV-sell-DA    father.ACC and brother.ACC    my    book.ACC  
 “I sold the book to my father and brother.”
- c. *a-mir-ita*            *inkítábúni*    *kaarie te*            *enkáji*    *nañikita*            *ɔlkéju*  
 1SG-sell-PROG books.NOM night at house near lake  
 “I sell books in the night in the house near the lake.”

### C-5 Co-occurrence

DA elements do not co-occur with all verbs in Arusa. DA elements are, in fact, tautologically limited to a specific class of verbs, namely verbs that contain the DA suffix. Albeit large, this set of verbs is restricted as not all Arusa verbs can be extended by the DA suffix. Out of some 400 basic verbs, only 300 allow for the DA extension (compare with a similar situation in the Parakuyo variety as reported by Karani 2018). The semantic role of a DA element – whether it is beneficiary, recipient, goal, or source – is generally a product of the meaning of the verbal base and the DA suffix. Nevertheless, the selection of the role of beneficiary/recipient on the one hand or the role of goal on the other hand is often influenced by internal properties of NPs used as DA elements, especially their animacy (see section 3.1 above). Overall, by exhibiting a limited co-occurrence scope and by being relatively verb dependent, DA elements approximate arguments in Arusa. Inversely, through those two properties, DA elements distinguish themselves from adjuncts, which are virtually applicable to all verbs and are less affected by the verb (whether basic or derived) as far as their semantic roles are concerned.

### C-6 Learnability / predictability

Lastly, there is no rule determining which verbs derive DA construction and which do not. DA elements must be learned separately for each verb. In that regard, DA elements behave as arguments in Arusa, which are unpredictable and need to be acquired individually per item. To be exact, neither semantic nor syntactic properties of the basic verb infallibly predict the derivability of the DA suffix, and thus ensure the presence of a DA argument. Verbs belonging to all semantic classes (cf. Vendler 1967 and Levin 1993) may either tolerate the DA affix or fail to be compatible with it (cf. Karani 2018). Although most verbs that cannot be extended by the DA suffix are intransitive verbs (e.g. *ɲu* ‘smell’, *tírrkim* ‘gallop’, *wou* ‘come’, *borr* ‘polite’, *libv* ‘sad’), examples of DA verbs derived from intransitive verbs (e.g. *yay* ‘breathe’ and *kwét* ‘run’) are attested as well. Inversely, although most DA verbs derive from transitive bases, examples of transitive verbs that are incompatible with the DA construction are also abundant (e.g. *lim* ‘tell’, *iima* ‘pass’, *dam* ‘slap’, *añit* ‘honor’, *kodoŋ* ‘knock’). Nevertheless, once the DA suffix is present on a verbal root, the resulting valency pattern of the verb is predictable – the predicate will contain a DA element. This arguably sets the DA elements apart from typical arguments, but approximates them to adjuncts which, in Arusa, need not be learned for each verb separately. Overall, DA elements could be viewed as slightly more predictable than arguments, albeit significantly less predictable than adjuncts.

### 3.2.2 Diagnostics

Various grammatical phenomena that can be used as the diagnostics of argumenthood/adjuncthood have already been mentioned – mostly in a dispersed and/or

fragmentary manner – in the previous section while examining the compliance of DA elements with the criteria. In the present section, they will be studied systematically and holistically.

#### D-1 Morphological (synthetic) or adpositional (analytical) marking

As has already been mentioned, DA elements are marked by a morphological or, more correctly, morpho-phonemic case, namely the accusative (see *inkéra* ‘children’ in (21.a)). We have also explained that this marking is typical of all internal arguments (i.e. objects) in Arusa, as well as of a large set of adjuncts (*βàβα* ‘father’ in (21.b)) and complements of motion verbs (*enkáji* ‘house’ in (21.c)). However, while DA elements and other internal arguments are only marked morpho-phonemically by the accusative, accusative-marked adjuncts are most often additionally headed by a preposition (see *oo* ‘with’ in (21.b) and *aatua* ‘inside, into’ in (21.c)). This means that DA elements are encoded synthetically, as all arguments in Arusa, contrary to adjuncts, which tend to be encoded analytically.<sup>30</sup>

- (21) a. *e-ité-ŋen-aki*      *inkéra*      *esábu*  
 3-CAUS-teach-DAT children.ACC mathematics.ACC  
 “He will teach mathematics to children.”
- c. *á-fómo*      *oo*      *βàβα*  
 1SG-go.PFV with father.ACC  
 “I travelled with my father.”
- b. *ε-kwét-a*      *ó-l-dia*      *aatua* *enkáji*      *ŋole*  
 3-run-PFV dog.NOM inside house.ACC yesterday  
 “The dog ran into the house yesterday.”

#### D-2 Uniformity or variety of marking

The morpho-phonetic encoding of DA elements is relatively uniform. As explained in section 3.1.2, the accusative marking of DA elements – like that of all arguments in Arusa – implies the presence of high tones on all syllables except the first one (*ŋotóŋe* ‘mother’ in (22.a)). The only exceptions are a few two-syllable words whose accusative case is marked by a low tone (*aàji* ‘house’ in (22.b)). This contrasts with Arusa adjuncts, which can be encoded with greater variety. To be exact, adjuncts may be marked by the accusative case in a manner fully analogous to arguments (see *ŋòle* ‘yesterday’ in (22.c) and *nasírie* ‘morning’ in (22.d)); they may be marked by the nominative case (*βàβα* ‘father’ in (22.e)); and they are also often headed by prepositions (e.g. *aatua* ‘inside’ in (22.b) and *tenaa* ‘as for’ in (22.e)).

- (22) a. *e-tá-ret-oko*      *éntito*      *ŋotóŋe*  
 3-PFV-help-DA girl.NOM her.mother.ACC  
 “The girl helped her mother.”
- b. *e-ti-mir-aka*      *ólayioni*      *enkíne*      *aatua aàji*  
 3-PFV-chase-DA boy.NOM goat.ACC inside house.ACC  
 “The boy chased the goat into the house.”
- c. *e-tufuk-e*      *ólakwi*      *lai*      *aáŋ*      *ŋòle*  
 3-return-PFV uncle.NOM my home.ACC yesterday  
 “My uncle went back home yesterday.”

<sup>30</sup> Adjuncts may also be marked in two other manners: by a conjunction heading a nominative NP or by a simple noun in the accusative case (see below when discussing the diagnostic D-2).

- d. *áa-dál-aki* *énkoloŋ* *nasírie*  
 3>1SG-shine-DA sun.NOM morning  
 “The sun will shine on me in the morning.”
- e. *tenaa* *βáβa* , *ée* *á-ŋorr*  
 if father-NOM [pause] yes 1SG-like  
 “As for father, yes I like (him).”

#### D-3 Proximity to the verb

The position of DA elements is relatively close to the verb. As has been explained in section 3.2.1, in unmarked clauses, DA elements are found directly after the subject and before the other object and any adjuncts. For instance, in (23.a), the DA element *yèyio* ‘mother’ follows the subject *ólafetani* ‘builder’ and precedes the other object *ólmulángo* ‘door’ and the adjunct *ŋole* ‘yesterday’. Even though DA elements may occur as the last ones in a sequence of objects (as *ólkéju* ‘river’ in (23.b) and (23.c)), they are invariably located before adjuncts (e.g. *tenakata* ‘right now’ in (23.b) and *taisere* ‘tomorrow’ in (23.c)) in unmarked clauses.<sup>31</sup> Overall, the proximity of DA elements to the verb is fully analogous to that exhibited by object arguments in Arusa.

- (23) a. *e-ti-pik-aka* *ólafetani* *yèyio* *enkáji* *ólmulángo*  
 3-PF-put-DA builder.NOM mother.ACC house.ACC door.ACC  
*ŋole*  
 yesterday  
 “The builder fixed the door to the house for my mother yesterday.”
- b. *e-ta-naŋ-aka* *énkerai* *empíra* *ólkéju* *tenakata*  
 3-PFV-throw.DA child.NOM ball.ACC river.ACC right.now  
 “The child has thrown the ball into the river right now.”
- c. *ε-ŋam-aki* *yéyio* *empálai* *Sara* *taisere*  
 3-receive-DA my.mother.NOM letter.ACC Sarah.ACC tomorrow  
 “My mother will receive a letter for Sarah tomorrow.”

#### D-4 Positional fixation

The positional restriction – or the flexibility – of DA elements seems to be analogous to that exhibited by arguments. In general, in Arusa, arguments and adjuncts exhibit a similar degree of syntactic freedom. As mentioned previously, in unmarked clauses, DA elements (*inkéra* ‘children’ in (24.a)), like any object argument, appear between the subject (*Jóni* ‘John’) and the adjunct (*taisere* ‘tomorrow’), usually before the other object – theme (*ilkárafi* ‘clothes’). In contrast, adjuncts are found after the subject and any potential argument (see *taisere* ‘tomorrow’ in (24.a) and *to osingólio* ‘at the ceremony’ in (24.b, 24.c)). However, the overall mobility of adjuncts seems to be slightly greater than that of DA elements and arguments overall. The sequences of two objects of which one is a DA element (i.e. DA + theme) allow for one alternation (i.e. theme + DA) that occurs under two circumstances: if the DA element is an

<sup>31</sup> As explained above, typical exceptions are DA elements communicating the semantic role of goal (24.b) and clauses containing focal inversion of the two objects (24.d). In those two cases, the DA element occupies a position more distant from the verb, i.e. after the subject and the theme.

inanimate noun with the semantic role of goal; or if focal reading is necessitated.<sup>32</sup> In contrast, the sequence of adjuncts may be altered in a greater number of ways – each adjunct can be moved to any position in the sequence (compare *te aŋ to osingolio ŋole teipa* ‘at home at the ceremony yesterday evening’ in (24.c) and *to osingolio te aŋ ŋole teipa* ‘at the ceremony at home yesterday evening’ in (24.d), and *ŋole teipa to osingolio te aŋ* ‘yesterday evening at the ceremony at home’ in (24.e)). Moreover, adjuncts may be placed in a clause-initial position (24.f).

- (24) a. *e-ɪnaŋ-aki Jóni mkéra ilkárafi taisere*  
3-buy-DA John.NOM children.ACC clothes.ACC tomorrow  
“John will buy clothes for the children tomorrow.”
- b. *é-raŋ-aki éntito ɔlayioni to osingolio*  
3-sing-DA girl.NOM boy.ACC at ceremony.ACC  
“The girl sings for the boy at the ceremony.”
- c. *é-ta-raŋ-aka ɔlayioni ti aŋ to osingolio*  
3-sing-DA boy.ACC at home.ACC at ceremony.ACC  
*ŋole teipa*  
yesterday evening  
“She sang for the boy at home at the ceremony yesterday evening.”
- d. *é-ta-raŋ-aka ɔlayioni to osingolio ti aŋ*  
3-sing-DA boy.ACC at ceremony.ACC at home.ACC  
*ŋole teipa*  
yesterday evening  
“She sang for the boy at home at the ceremony yesterday evening.”
- e. *é-ta-raŋ-aka ɔlayioni ŋole teipa to*  
3-sing-DA boy.ACC yesterday evening at  
*osingolio ti aŋ*  
ceremony.ACC at home.ACC  
“She sang for the boy at home at the ceremony yesterday evening.”
- f. *ŋole teipa to osingolio é-ta-raŋ-aka ɔlayioni*  
yesterday evening at ceremony.ACC 3-sing-DA boy.ACC  
“Yesterday in the evening at the ceremony, she sang for the boy.”

#### D-5 Indexing

We have explained that DA elements, like other internal arguments, may sometimes be marked overtly in verbal morphology by means of object inflection (see *ki-* in (25.a) below; review examples (16.a-d) introduced in section 3.2.1 and the discussion thereof). This differentiates DA elements from adjuncts which cannot be indexed on verbs in Arusa (see the ungrammaticality of *ki-* in (25.b)).

- (25) a. *ki-ti-mir-aka enkíteŋ*  
2>1SG-PFV-sell-DAT cow.ACC  
“You sold me a cow.”

<sup>32</sup> As explained in Section 3.2.1, DA elements, arguments, and adjuncts may all appear in the left periphery in left dislocation constructions. For other exceptions to VSO word order, see footnote 26.

- b. \**ki-fómo*  
2>1SG-PFV-go  
Intended meaning: “You travelled with me.”

#### *D-6 Access to valency-changing processes*

With regard to the access of DA elements to the valency-changing processes that are available in Arusa, the following should be noted: DA elements can be promoted to subjects of the reciprocal voice (also referred to as ‘middle’; Lamoureaux 2004; Karani 2018). In such cases, they indicate that two or more subject referents do something on behalf of, for the benefit of, or, simply, to each other (26.a). This behavior is fully comparable with other object arguments in Arusa, which can function as middle subjects (26.b-c). Inversely, it differentiates DA elements from adjuncts, which cannot be promoted to reciprocal subjects in Arusa (compare a similar observation by Lamoureaux 2004).<sup>33</sup> It should be noted that DA elements cannot be promoted to subjects in the impersonal passive. This is however consistent with the behavior exhibited by all other object arguments (see Levergood 1987: 40-41; consult also Tucker and Mpaayei 1955; Payne 2011; Karani 2018).<sup>34</sup>

- (26) a. *e-ta-ar-aki-no-te*                      *éndito*                      *oo*                      *ólayioni*                      *enkíne*  
3-PFV-kill-DA-REC-PFV      girl.NOM                      and                      boy.NOM                      goat.ACC  
“Boy and girl killed the goat for each other.”
- b. *e-ibar-o*                      *éndito*                      *oo*                      *ólayioni*  
3-hate-REC      girl.NOM                      and                      boy.NOM  
“The girl and boy hate each other.”
- c. *e-ifoor-o*                      *ínkera*                      *enkítábu*  
3-give-REC      children.NOM                      book.ACC  
“The children will give a book to each other.”

## 4. Discussion

The evidence introduced in Section 3 demonstrates that DA elements in Arusa comply with most criteria and diagnostics associated with the typological prototype of argumenthood, even though this compliance is not ideal.

<sup>33</sup> It should be noted that different allomorphs are used in the reciprocal mood with non-DA verbs (see *-ro* in (26.b-c)) and DA verbs (see *-no* in (26.a)).

<sup>34</sup> The ungrammaticality of any subject promotion in the passive voice stems from the fact that the form which is used in situations where other languages employ canonical passives is an impersonal construction. It consists of the invariant 3<sup>rd</sup> person subject prefix *e-* (Greenberg 1959; Levergood 1987: 46-47), the verbal stem with the passive morpheme *-(k)i*, and objects in certain types of constructions. In the impersonal passive derived from ditransitive verbs, both objects are marked as accusative (see Tucker and Mpaayei 1955; Levergood 1987: 40-41). The lexical subject which would be marked as nominative is absent. This construction roughly translates as ‘one does *x* to *y*’ – the agent is not mentioned, and the impersonal subject is only expressed by the verbal prefix. When used in the impersonal passive, DA elements are inflected in the accusative case and occupy an object position. They fail to be marked on the verb by the co-referential subject prefix. If the DA element is the 1SG or 2SG, it is marked on the verb by using the inverse relation pronominal to indicate that the other participant is doing something for/to the first or second person, e.g. *etaarakaki mkéra enkíne* (lit. gloss: 3.kill.DAT.PASS children.ACC goat.ACC) ‘The goat has been killed for the children’.

As far as the criteria are concerned, DA elements perform as prototypical arguments with regard to latency, grammatical relations, iterability, and co-occurrence. DA elements can be omitted if they are definite, accessible, and identifiable (C-2). DA elements are fully-fledged terms, exhibiting the morpho-phonemic (case marking), morpho-syntactic (indexing), and syntactic (word order) properties typical of objects in Arusa (C-3). DA elements cannot be freely iterated, their number on a verb being strictly limited (C-4). DA elements are restricted to specific verbs (DA verbs) and their semantic role is the product of the verb (its base and the DA suffix) as well as the properties of the referent involved, e.g. animacy (C-5). However, with regard to obligatoriness and predictability/learnability, DA elements exhibit a less canonical profile. First, the two-subtypes of the criterion of obligatoriness (C-1), i.e. semantic and syntactic obligatoriness, yield distinct categorial results. Semantically, DA elements comply with the prototype of argumenthood. They seem to always be present, being necessarily implied by the semantics and valency pattern of a verb. In contrast, syntactically, DA elements fail to conform to the behavior associated with arguments across languages. The omission of DA elements is often possible and, in some cases, even compulsory (e.g. in left-dislocation constructions). Overall, the overt presence of DA elements is only required if such elements are indefinite, inaccessible, and unidentifiable. Otherwise, DA elements may be absent both as lexical NPs and as verbal object inflections. Second, regarding learnability and predictability, DA elements exhibit an intermediate profile. They are less learnable and more predictable than is postulated for the prototype of argumenthood, although more learnable and less predictable than is expected of adjuncts (C-6). Although each DA verb with its DA element needs to be learned individually (as is the case of arguments), most roots allow for the DA extension. Moreover, once the DA suffix is present on a verb, the resulting verbal stem's valency is relatively straightforward.

As far as the diagnostics are concerned, DA elements generally comply with the prototype of argumenthood. DA elements exhibit morphological, or rather morpho-phonemic case marking instead of adpositional marking, being thus encoded synthetically, not analytically (D-1). The marking of DA elements is unitary rather than varying, with only two morpho-phonemic variants available (D-2). DA elements are positioned relatively close to the verb, appearing immediately after the verb and the subject (if the subject is expressed lexically) and before any other object, typically theme (D-3). A more distant position – after the theme but yet before adjuncts – is regularly found in cases where inanimate referents of DA elements express the idea of goal. The position of DA elements in the clause is relatively fixed, although certain divergences from canonical word order (DA + theme) are attested in cases of focal structures and, as discussed above, if a DA element refers to an inanimate goal (D-4). DA elements are marked on the verb in terms of object inflections in all the instances where such marking exists (D-5). Lastly, DA elements have access to all valency-changing processes available in Arusa. They are promoted to the subjects of the reciprocal (middle) voice (D-6).<sup>35</sup>

In light of the results discussed above, we may state that when compared with the crosslinguistic prototype, the category of DA elements, envisaged holistically, can be classified as a relatively canonical instantiation of argumenthood, being placed close to the argumenthood pole of the argument-adjunct scale.

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<sup>35</sup> Accordingly, DA elements in Arusa exhibit the four properties that have been viewed as motivating the categorization of equivalent items as arguments in other Maa(sai) varieties: accusative case marking, indexing on the verb, occurrence with bare noun phrases, and the promotion to subjects in the reciprocal (middle) voice (Tucker and Mpaayei 1955; Payne 1997, 2001; Lamoureaux 2004; see Section 2.1).

However, the determination of a precise degree of argumenthood exhibited by DA elements and, thus, their representation as a point on the argument-adjunct scale seems more difficult, if not entirely elusive. As DA elements perform differently in relation to distinct criteria and diagnostics; as the criteria and diagnostics contribute to the categorial status of DA elements unevenly;<sup>36</sup> as not all criteria are equally relevant for the categorial inclusion of the DA elements; and as certain criteria and diagnostics overlap, the computation of all the phenomena discussed in this paper, into a single all-inclusive point mappable on the argument-adjunct continuum (cf. Arka 2014) is unachievable in our view. What seems achievable is rather the estimation of an *approximate* degree of similarity to the crosslinguistic prototype of arguments and a considerable proximity to it on the scale (cf. Forker 2014).

This categorial proximity of DA elements to argumenthood – and their distance from adjuncthood – becomes even more evident if the criteria and diagnostics are interpreted within Arusa grammar, i.e. in comparison to items that are viewed as genuine arguments or genuine adjuncts in the language. Indeed, in almost all cases where the behavior of DA elements departs from the crosslinguistic prototype of argumenthood, it coincides fully with the behavior of other (object) arguments of basic (i.e. non-DA) verbs. For instance, the syntactic non-obligatoriness of DA elements (C-1) is analogous to the syntactic profile exhibited by object arguments in Arusa which, in various contexts, need not be expressed overtly. In other words, although the syntactic omission of DA elements could suggest their moderate remoteness from the crosslinguistic prototype, this phenomenon is characteristic of all arguments in Arusa. As a result, a language-specific *exemplary* instantiation of arguments need not comply fully with the crosslinguistic prototype of argumenthood. Given their particular structures, some languages may disallow the prototype to be realized in its canonical form. This fact, however, does not imply that in such languages certain elements cannot constitute genuine arguments. Arusa may be viewed as belonging to these types of languages.

The close link between the categorial status of DA elements and the language system of Arusa is clearly visible in another phenomenon. Our research suggests a new, practical, and accurate language-specific diagnostic for determining arguments and adjuncts. In Arusa, both arguments and adjuncts can appear in the left periphery yielding left dislocation constructions (see section 3.2.1). The dislocate whose role in the matrix clause is argument need not be resumed by overt resumptive elements in Arusa. Indeed, most often, the presence of a resumptive element is ungrammatical. In contrast, the resumption of adjuncts is obligatory. It is its absence that is ungrammatical (Andrason and Karani 2017b). In this regard, DA elements conform fully to the behavior associated with Arusa arguments.

The fact that the categorial inclusion of elements being tested – or their proximity to the pole of argumenthood or adjuncthood – relies heavily on the hosting language system, suggests a certain relativity of the argument-adjunct scale. Rather than being simply compared with the ideal prototype, the results of each test – whether yielded by criteria or diagnostics – should be interpreted within the grammatical idiosyncrasy of a specific language, especially in relation to the other arguments and adjuncts. Therefore, the position of elements should be postulated not in absolute terms, but rather in relation to other categories of the language under study and their

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<sup>36</sup> The contribution attributed to the criteria is greater than that of the diagnostics, because the former are definitional while the latter are subsidiary.

approximate location on the scale (Forker 2014: 27, 37). A “blind” mechanical comparison with the prototype should be replaced by a more situated and contrastive analysis.<sup>37</sup>

This further increases the difficulties of any precise placement of tested elements (e.g. DA elements in Arusa) on the argument-adjunct scale and limits the applicability of the universal scale of argumenthood and adjuncthood. It is not only the opposite poles that are idealized “inventions”, the continuum itself is, to an extent, ideal too. The location of an element on it only makes sense within the context of the language in which that element exists, not abstractly. Consequently, one can question not only the ontological validity of pre-established categories (see Haspelmath 2007, 2015), but also that of fuzzy scales. Both prototypes and scales rather constitute idealized heuristic tools to explain grammatical variations across languages. As the two prototypes between which it is confined, the scale itself resides only in the eyes of observers – us linguists. Certainly, language-specific constructions can be approximately mapped onto the scale. However, such a correspondence cannot be precise as the scale is insensitive (at least at this stage of crosslinguistic research) to the situatedness of the mapped construction in its own language system. In fact, even though future scales may incorporate environmental properties of constructions that are analyzed for their argumenthood or adjuncthood, they will never include an entire language-specific situation. As a result, their position on the scale will always be, to a certain extent, imprecise.<sup>38</sup>

## 5. Conclusion

The present article studied the degree of the argumenthood – or the degree of adjuncthood – of elements licensed by the DA construction in Arusa within a canonical approach to the argument-adjunct distinction. By testing DA elements for the six criteria and the six diagnostics associated with the typologically-driven prototypes of arguments and adjuncts, we demonstrated the following: with regard to most criteria and diagnostics, DA elements behave as canonical arguments, and can, therefore, be located close to the argumenthood pole of the argument-adjunct continuum. The argumenthood of DA elements becomes even more evident if a language-specific perspective is adopted, in which DA elements are compared to other arguments and adjuncts in Arusa.

## Abbreviations

ACC – accusative; CAUS – causative; DA – dative applicative; IMP – impersonal; MA – motion Away; MT – motion towards; NOM – nominative; NP – noun phrase; PFV – perfective;

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<sup>37</sup> Compare with an analogous observation with regards to Xhosa in Andrason (2018).

<sup>38</sup> The relativity of the criteria and diagnostics and the relativity of the final position on the scale are consistent with one of the most important properties of language viewed as a complex system, i.e. its situatedness (Auyang 1998; Hooker 2011; Andrason 2016). Situatedness implies that the properties of an element depend not only on the parts of which it is composed (i.e. its internal characteristics), but are also conditioned by the characteristics of the system in which it is embedded. The essence of an element may, to a degree, derive from relations with other parts of the system, especially the environment in which the element is inserted (Andrason 2016: 14-15). (The term ‘complexity’ is understood technically, in the sense of complex-system theory (Auyang 1998; Hooker 2011). On the issues of language viewed as a complex system, consult Massip-Bonet (2013), Mufwene (2013), Bastardas-Boada (2013), Munné (2013), and Andrason (2016).

PL – plural; REC – reciprocal; SG – singular; TAM – tense aspect mood; VSO – verb subject object; 1 – first person; 2 – second person; 3 – third person.

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