

## Article

# On the Integration of Dative Adjuncts into Event Structures in Yapa Languages

Mitchell Browne <sup>1,2</sup> 

<sup>1</sup> School of Languages and Cultures, University of Queensland, St Lucia, QLD 4072, Australia; mitchell.browne@uq.edu.au

<sup>2</sup> ARC Centre of Excellence for the Dynamics of Language, Australian National University, Acton, ACT 2601, Australia

**Abstract:** Warlpiri and Warlmanpa (Ngumpin-Yapa languages of Australia) exhibit a complex predicate construction in which a class of preverbs introduces a single argument that is not shared by the argument structure of the inflecting verb, nor is there necessarily any shared event structure. This is problematic for many theories of linking structures of complex predicates, since no arguments or events are shared between the predicative elements of the complex predicate. The same grammatical relation is instantiated by a beneficiary adjunct. In light of new research in event and argument structure, I propose a lexical rule which introduces an applicative argument to account for the beneficiary construction; and that the preverbs take another predicate as one of their arguments to account for the complex predicates. The applicative rule and the preverbs both introduce an argument of the same grammatical relation, leading to interesting interactions, given that two grammatical relations of the same type are not expected to co-occur within a single clause.



**Citation:** Browne, Mitchell. 2021. On the Integration of Dative Adjuncts into Event Structures in Yapa Languages. *Languages* 6: 136. <https://doi.org/10.3390/languages6030136>

Academic Editors: Elisabeth Mayer, Carmel O'Shannessy and Jane Simpson

Received: 30 January 2021

Accepted: 10 August 2021

Published: 13 August 2021

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

**Keywords:** Warlpiri; Warlmanpa; lexicon; argument structure; event structure; complex predicates; applicatives; semantics

## 1. Introduction

This paper investigates a particular grammatical relation, referred to as 'external object', found in two Australian languages, Warlpiri and Warlmanpa. This grammatical relation can be introduced to a clause in two ways. Firstly, through an 'ethical dative', which signals a benefactive, malefactive, or possessive relation. This is an adjunct in the sense that it is not grammatically obligatory, and can be added to essentially any clause, yet is treated morphosyntactically akin to a core grammatical relation. Secondly, the grammatical relation can also be introduced in complex predicates. Specifically, in these complex predicates, one head, the 'preverb', serves only to introduce a dative-marked argument to the clause which is not shared by the 'inflecting verb' (a semantically underspecified verb, similar to light verbs in other languages). The resulting event structure cannot easily be captured by theories of complex predicate argument linking, as there is no argument shared by the two predicates of the complex predication in order for them to be linked.

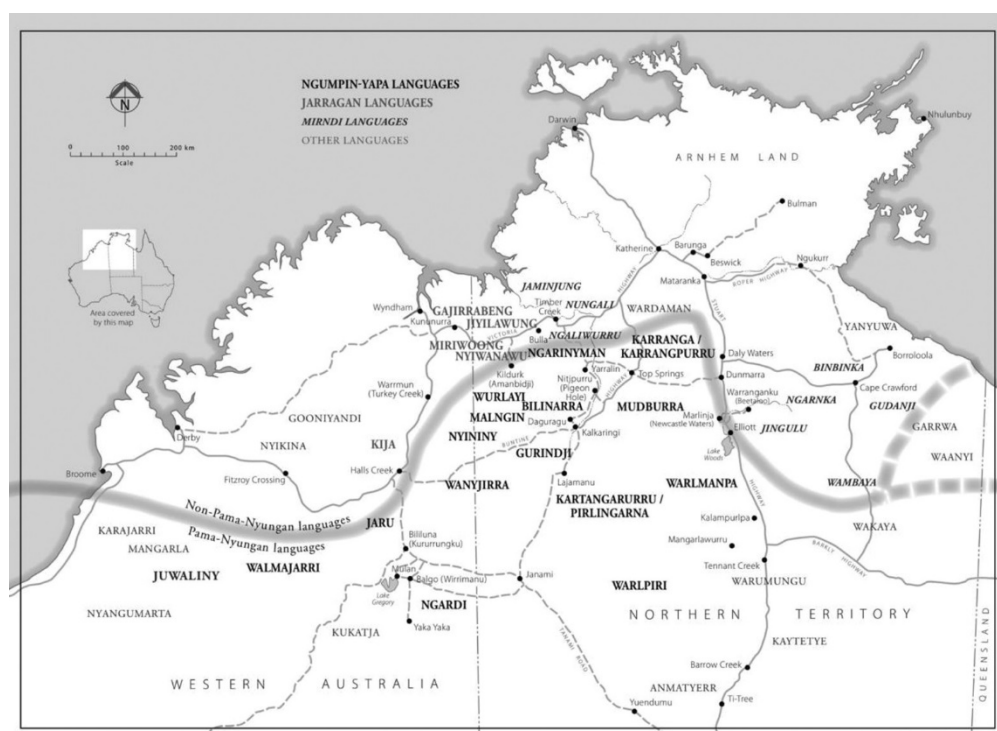
I begin by overviewing the relevant aspects of the grammatical structure of Warlpiri and Warlmanpa in Section 2.1, and in Section 2.2, I detail the 'external object' grammatical relation in these languages. Section 2.3 provides a brief summary of the framework used in this paper.

A previous account of external objects (Simpson 1991) argues that it may be selected for by the dative case, which I argue against in Section 3.1. I attempt to build on Simpson's analysis in light of new research on event structure, particularly in regard to Kifle's (2011) treatment of applicatives (Bresnan and Moshi 1993, p. 73) to account for the ethical dative construction (Section 3.2), and Butt's (1998, 2014) analysis of Argument Raising to account for the preverbs which introduce external objects (Section 3.3). The paper concludes by discussing two points of interest. Firstly, since this paper and Simpson (1991) treat external

objects as grammatical relation, the analysis needs to account for the grammaticality of multiple external objects occurring in clauses in Warlpiri (Section 4.1), since uniqueness principles stipulate that each grammatical relation should only be instantiated by one argument in a clause. Secondly, the analysis needs to account for the preverbs which may introduce an external object but are also grammatical without an external object (Section 4.2).

## 2. Warlpiri and Warlmanpa

Warlpiri and Warlmanpa are Pama-Nyungan languages of Australia, exhaustively encompassing the Yapa subgroup of Ngumpin-Yapa (Figure 1).



**Figure 1.** Ngumpin-Yapa and surrounding languages (Meakins and Pensalfini (2020): map drawn by Brenda Thornley (2017)).

Warlpiri has been the subject of extensive research, particularly in regard to phonological, morphological, and syntactic analysis, as well as language contact (Hale 1973, 1976, 1981a, 1981b, 1982, 1983; Nash 1980, 2008; Swartz 1982, 1991; Bavin and Shopen 1985; Simpson 1988, 1991, 2005, 2007; Laughren 1989, 1992, 2010, 2017; Bittner and Hale 1995; Hale et al. 1995; Legate 2001, 2002, 2008; Granites and Laughren 2001; Pentland and Laughren 2004; Harvey and Baker 2005; O'Shannessy 2005; Bowler 2014, 2016, 2017; Bundgaard-Nielsen and O'Shannessy 2019; Browne 2020). Warlmanpa has been less well-studied, but has been the subject of a vocabulary and grammatical analysis (Nash 1979; Browne 2021, respectively). The languages share extensive structural features (some explicit comparisons are made in Nash 1997, 2016). Here, I focus on the components of grammar pertinent to the realisation of (and distinctions between) arguments and adjuncts in a clause.

### 2.1. Grammatical Overview

Both Warlpiri and Warlmanpa are 'free word order' languages (constraints are analysed in Laughren 2002; Simpson and Mushin 2008) in which nominals co-referent with arguments are grammatically optional. The languages exhibit a second position phenomenon referred to as the 'auxiliary' or 'auxiliary complex' (see McConvell 1996a). The

auxiliary is a complex locus of grammatical information; of particular concern to us will be the bound pronouns (or ‘pronominal enclitics’), which form part of the auxiliary complex. The function of the bound pronouns is to register the person, number, and grammatical relation of event participants (Laughren 1999, 2013; Mushin 2006). Notably, the bound pronouns only register core grammatical relations—adjuncts are not registered (and those which are registered are the topic of this paper). Bound pronouns distinguish subject from non-subject (objects and obliques are registered with syncretic forms), other than the third person singular series, which distinguishes oblique from non-oblique (where the non-oblique form is phonologically null). Non-animate event participants are generally not registered regardless of grammatical relation, although non-animate oblique arguments provide the exception, as they are generally registered with *=rla* regardless of number (Browne 2021, p. 320).

A Warlmanpa sentence is given in (1).<sup>1</sup> In this sentence, the inflecting verb *pa-* ‘go’ is an intransitive motion verb, taking a single subject argument. This argument is first person singular, which is overtly expressed with the free pronoun *ngayu* ‘I’ and is registered by the bound pronoun *=rna* (which has encliticised to the first constituent of the clause). There is an allative-marked adjunct *pulka* ‘old man’ to indicate the goal of motion, but because this is an adjunct rather than a core argument, it is not registered by a bound pronoun.

1. *Ngayu=ma=rna pa-nanga pulka-ka.*  
 1=TOP=1SG.S go-PAST.AWAY old\_man-ALL  
 ‘I went to the old man.’<sup>2</sup>  
 (Warlmanpa: Browne (2021), p. 126)

The forms of the bound pronouns are given in Table 1. The core grammatical relations (following Simpson 1991) are subject, object, and object $\theta$  (object $\theta$  is prototypically the theme of a ditransitive verb); and the bound pronouns make a primary distinction between the subject series (S) and the non-subject series (NS). The bound pronouns have complex combinatorial properties when multiple arguments are cross-referenced in a given clause (see Hale 1973 for a more detailed overview; and Meakins et al. Forthcoming for an overview of bound pronouns in Ngumpin-Yapa languages).<sup>3</sup>

**Table 1.** Forms of bound pronouns in Warlmanpa (a) and Warlpiri (b).

	S	NS		S	NS
1SG	<i>=rna</i>	<i>=ju</i>	1SG	<i>=rna</i>	<i>=ju</i>
1DU.EXCL	<i>=ja(rra)</i>	<i>=jangu</i>	1DU.EXCL	<i>=rljarra</i>	<i>=jarrangu</i>
1DU.INCL	<i>=li</i>	<i>=ngali</i>	1DU.INCL	<i>=rli</i>	<i>=ngali(ngki)</i>
1PL.EXCL	<i>=rnalu</i>	<i>=nganpa</i>	1PL.EXCL	<i>=rnalu</i>	<i>=nganpa</i>
1PL.INCL	<i>=lpa(lu)</i>	<i>=lpangu</i>	1PL.INCL	<i>=rlipa</i>	<i>=ngalpa</i>
2SG	<i>=n(ku)</i>	<i>=ngu</i>	2SG	<i>=n(pa)</i>	<i>=ngku</i>
2DU	<i>=npala</i>	<i>=ngupala</i>	2DU	<i>=n(pa)pala</i>	<i>=ngkupala</i>
2PL	<i>=nkulu</i>	<i>=nyangu</i>	2PL	<i>=nkulu</i>	<i>=nyarra</i>
(3)SG	$\emptyset$	$\emptyset$	(3)SG	$\emptyset$	$\emptyset$
(3)DU	<i>=pala</i>	<i>=palangu</i>	(3)DU	<i>=pala</i>	<i>=palangu</i>
(3)PL	<i>=lu</i>	<i>=jana</i>	(3)PL	<i>=lu</i>	<i>=jana</i>
REFL/RECP	–	<i>=nyanu</i>	REFL/RECP	–	<i>=nyanu</i>
OBLIQUE	–	<i>=rla</i>	OBLIQUE	–	<i>=rla</i>
	(a)			(b)	

The major parts of speech in both languages are nominals, inflecting verbs, preverbs (elsewhere referred to as coverbs for Warlmanpa), adverbs, and particles. A minimal clause comprises a predicate (which can be a nominal or an inflecting verb) and the auxiliary. An example of a minimal clause is given in (2). In this case, the inflecting verb is *wa-* ‘speak’ with a present tense inflection. The auxiliary is phonologically null, as the third person subject is singular and, therefore, not realised with an overt bound pronoun.

2. *Wa-nganya=Ø.*  
 speak-PRES=3SG.S  
 ‘He’s speaking.’  
 (Warlmanpa: Browne (2021), p. 349)

Nominals have a rich case system: core relations are marked according to an ergative-absolutive pattern (Simpson 1988; Hale et al. 2015), and a large inventory of semantic cases, which marks various adjunct relations, as well as adnominal and derivational suffixes. Non-finite subordinate clauses utilise the nominal case system (and dedicated complementising suffixes) to mark constituents of the subordinate clause (Austin 1981; Simpson 1988).

Both languages have a small inventory of inflecting verbs: 45 inflecting verbs are reported in Warlmanpa (Browne 2021), and approximately 130 are reported in Warlpiri (Nash 2008). Inflecting verbs obligatorily take one TAM inflection (with the TAM value being realised in combination with the auxiliary base, particularly in Warlpiri). Warlpiri and Warlmanpa also exhibit a number of complex predicates. The focus of this paper is combinations of preverbs and inflecting verbs. Preverbs bear the main semantic load of predication, if present, and there are significantly more preverbs than inflecting verbs in both languages. These types of complex predicates are discussed in further detail in Section 3.3.

## 2.2. Simpson’s ‘External Object’

In the grammatical overview, the core grammatical relations listed were subject, object, and object $\theta$ . These grammatical relations are best identified by a combination of (a) case marking of nominals, (b) the bound pronoun series used to register the argument, and (c) the control properties of the argument with regard to non-finite subordinate clauses (each type of non-finite subordinate clause can only be controlled by particular grammatical relations). Case marking and bound pronoun registration patterns of grammatical relations in Warlpiri are shown in Table 2 (following Simpson 1991).<sup>4</sup>

**Table 2.** Identifying core grammatical relations in Warlpiri.

Grammatical Relation	Subject	Object	Object $\theta$
Case marking	ERG/ABS	ABS/DAT	ABS
Bound pronouns	Subject series	Non-subject series (=rla if 3SG.DAT)	Non-subject series

Simpson (1991) argues for the need to recognise further grammatical relations in Warlpiri—of which one, the ‘external object’, is pertinent to an analysis of preverb + inflecting verb constructions and ethical dative constructions in these languages.

The external object can be added freely to essentially any (main) clause, is realised by dative case marking on the nominal (if overt), and is registered by the non-subject series of bound pronouns (=rla is used if 3sg.s; see also Browne 2021, pp. 317–20).<sup>5</sup> When added to a clause, the semantic interpretation of the external object is that the entity being referred to is affected by the situation (referred to as ‘ethical dative’), specifically as a benefactive, malefactive, or possessor (these possible interpretations are cross-linguistically common: Lichtenberk 2002). The same construction is found in Warlmanpa: for example, (3a) is a transitive clause without an external object. There is an ergative-marked subject and absolutive (unmarked) object, and neither argument is overtly registered by the bound pronouns because they are both third person singular (as shown in Table 1). The clause in (3b) has the same predicate, *kupa-* ‘cook’, and this clause has an external object, which indicates that the cooking action was performed for the child. The external object here is realised with a dative-marked nominal *kurtu* ‘child’ and registered with the oblique bound pronoun =rla.

3. a. *Nampijinpa-rlu*                      *kupa-rnu-rra*                      *yarnununju.*  
          <subsection><sup>6</sup>-ERG                      cook-PAST-IMPF                      veg\_food  
          ‘Nampijinpa was cooking vegetables.’  
          (Warlmanpa: Browne (2021), p. 112)
- b. *Yarnunju=rla*                      *kurtu-ku*                      *kupa-nnya.*  
          veg\_food=3.OBL                      child-DAT                      cook-PRES  
          ‘He’s cooking vegetables **for the child.**’  
          (Warlmanpa: Browne (2021), p. 119)

As shown in Table 2, objects can be marked with dative case (this is often in the presence of an object $\theta$ , though not necessarily; there are some predicates which select for an ERG or ABS subject with a DAT object). In Browne (2021), I distinguish between ‘indirect object’ and ‘object’, where the former is marked with dative case and the latter is marked with absolutive case. This distinction is not made in Simpson’s (1991) analysis (both are subsumed under ‘object’), or indeed LFG more generally, and as such, I have not made this distinction here.

The morphosyntax of objects and external objects is extremely similar: both are registered with the same series of bound pronouns, and with dative marking on any overt nominal. There are three notable differences between the two grammatical relations. Firstly, a predicate can select for an object, but external objects are typically not selected for; rather, they are added to a clause (though there are a small number of counterexamples, taken up below and in Section 3). Secondly, objects can control the subject of *-kurra* subordinate clauses, whereas external objects cannot. Thirdly, the two grammatical relations can co-occur, and a clause cannot contain two of the same grammatical relation (e.g., there cannot be two subjects in a clause), reinforcing that these are two genuinely distinct grammatical relations.<sup>7</sup> An example of the two grammatical relations co-occurring is given in (4), where the object is *karli-ku* ‘boomerang-DAT’, and the external object is registered by the bound pronoun =*ju* ‘(for) me’.

4. *Karli-ku=ju-rla*                      *yapa-kanyanu-rlu*                      *wayi-nnya.*  
          boomerang-DAT=1SG.NS-3.OBL                      person-ANOTHER-ERG                      search-PRES  
          Someone else is looking for a boomerang<sub>IO</sub> for me<sub>EO</sub>.  
          (Warlmanpa: Browne (2021), p. 152)

So, despite not being subcategorised for by the main predicate, external objects are registered by the bound pronouns, just as core grammatical relations are (and adjuncts are not). As with other core grammatical relations, external objects do not require overt nominals to represent them, as in (5), where the only exponent of the external object is the bound pronoun =*ngku* ‘2SG.NS’. The major distinction between dative-marked objects and external objects is the inability for an external object to control a subordinate *-kurra* clause, whereas objects are able to control *-kurra* subordinate clauses (this will be discussed in further detail in Section 3).

5. *Kularda=ju*                      *rdilyki*                      *yu-ngka*                      *Yungu=rna-ngku*                      *ngurrju-ma-ni.*  
          Spear=1SG.NS                      broken                      give-IMP                      REAS=1SG.S-2SG.NS                      good-CAUS-NPST  
          Give me the broken spear so I can fix it **for you.**  
          (Warlpiri: Simpson (1991), p. 383)

The core grammatical relations of Warlpiri, including external object, are given in Table 3.

Table 3. Identifying core grammatical relations in Warlpiri, including external object.

Grammatical Relation	Subject	Object	Object $\theta$	Ext. Object
Case marking	ERG / ABS	ABS / DAT	ABS	DAT
Bound pronouns	Subject series	Non-subject series (= <i>rla</i> if 3SG.DAT)	Non-subject series	Non-subject series (= <i>rla</i> if 3SG.DAT)

Simpson (1991, pp. 396–400) identifies one inflecting verb in Warlpiri which selects for an external object: *parda-rni* ‘wait for’. There are no evident matrix predicates in Warlmanpa which select for an external object.

A class of preverbs constrain the interpretation of an external object. For example, in (6), the external object is first person singular, registered by the bound pronoun =*ju*. Its interpretation is constrained by the preverb *marlaja*, which specifies that the external object is the reason or cause of the main situation. The exact same structure without *marlaja* is grammatically acceptable, in which the interpretation of the external object would be the ethical dative (in this case, specifically a malefactive or possessive).

6.     *Karli=ju*                                 *marlaja-kiit-wa-nganya*                 *ngayi*.  
        Boomerang=1SG.NS     *because\_of*-broken-speak-PRES     really  
        The boomerang is broken because of me really.  
        (Warlmanpa: N\_D02-007841, BN, 28:29 min)

The remainder of this paper aims to further investigate details pertinent to Simpson’s analysis of external objects, specifically: how are external objects integrated into the event structure of a clause?

### 2.3. The Framework

Before turning to a formal reanalysis of external objects in Warlpiri, I briefly present the framework. The underlying issues and solutions presented in this paper are intended to be relevant to any formulation of event structure regardless of specific theory; however, given Simpson’s (1991) analysis is grounded in LFG principles, I too attempt to follow these principles. To briefly summarise Simpson’s analysis, the argument structure of predicates can be represented by thematic roles, which are linked to feature specifications, and some further constraints/operations beyond the scope of this paper. These feature specifications determine the grammatical relations that the arguments are assigned to in a given clause. As Butt (2006) notes, it is the feature specifications represented by the thematic roles that are crucial to the argument structure of a predicate, and I will not dwell heavily on thematic roles here. The feature system for Warlpiri (and applicable to Warlmanpa) is given in Table 4, adapted from Simpson (1991, p. 419), omitting a number of other grammatical relations that are not pertinent to this paper.

**Table 4.** Feature matrix of Warlpiri, adapted from Simpson (1991, p. 419).

Function \ Feature				
	[Restricted]	[Object]	[Open]	[Direct]
SUBJECT	—	—	—	+
OBJECT	—	+	—	+
OBJECT $\theta$	+	+	—	+
EXTERNAL OBJECT	—	—	+	unspecified

The linking rules between thematic role and features are described in detail in Simpson (1991, pp. 353–58, 417–21). The relevant aspect is that any argument which is [−r] can be linked to an external object. (Any objects will be assigned by virtue of [+object], and subjects will be assigned via the highest ranking thematic role, often leaving external objects as the only remaining [−restricted] argument.) Simpson (1991, pp. 417–18) justifies the assignment of [−restricted] to external objects on the basis of (i) the various thematic relations instantiated by external objects, and the external object’s ability to be registered by the bound pronouns, a morphosyntactic process only applicable to other [−restricted] grammatical relations. Two arguments can never be assigned the same grammatical relation (referred to as the ‘uniqueness’ principle).

To briefly exemplify, the predicate *ma-* ‘get, take’ in Warlpiri is specified for an agent and theme. Agents are intrinsically linked to [−object], and theme to [−restricted], and both to [−open] (Simpson 1991, p. 419). Both the agent and the theme are eligible for the subject

grammatical relation (in terms of compatible features). Only the theme is compatible with the object grammatical relation (and neither are eligible for object $\theta$  or external object grammatical relations). Since the theme is compatible with both grammatical relations but the agent is only compatible with the subject grammatical relation, to satisfy uniqueness, the agent is assigned subject and the theme is assigned object.

Naturally, the details of Simpson's (1991) analysis are considerably more complex than presented here; however, this discussion will suffice for the issues presented in this paper. I now turn to the integration of external objects in Warlmanpa and Warlpiri.

### 3. Incorporating External Objects into Event Structure

This analysis will diverge from Simpson's (1991) analysis of external objects in how the external object is introduced into a clause. Section 3.1 provides an overview of Simpson's analysis, in which the dative case (and some predicates) can subcategorise for an external object, and provides arguments against this view. Section 3.2 introduces an applicative rule which accounts for the ethical dative uses of the external object, and Section 3.3 utilises Butt's (1998) Argument Raising analysis of complex predicates to account for the preverbs which introduce external objects.

#### 3.1. The Dative Case?

The most straightforward analysis is to attribute the function to the lexical specification of the dative case—such that the dative case (among its numerous other functions in the languages) can introduce an external object as an argument-taking predicate. This is the analysis pursued by Simpson (1991, pp. 382–84) and Hale (1981b):

The argument-taking predicate of an EXTERNAL OBJECT is the Dative case-suffix which marks the relation of an external participant to an event or an argument of the event. (Simpson 1991, p. 383)

However, there are a few difficulties with this analysis. Firstly, as noted earlier, the nominal referring to the external object does not necessarily surface, as in (7a), where the only exponent of the external object is the registration by the oblique bound pronoun. This is not a violation of Simpson's analysis, as the pronominal clitic =*rli* acts as the argument of the clause. However, in (7b), the preverb *piki* 'hazard' is used in a non-finite clause, and so its argument is not registered by a bound pronoun, nor is there an overt nominal (non-finite subordinate clauses are regularly reduced clauses comprising only a predicate and a complementising suffix).

- |    |    |  |  |   |
|----|----|--|--|---|
| 7. | a. | <i>Ali=ma=rli</i><br>that=TOP=3.OBL<br>Jungarrayi is digging that for him/her/it.<br>(Warlmanpa: wr1-20180616-01, DK, 20:26 min) | <i>Jungarrayi-rli</i><br><subsection>-ERG<br>spear-act_on-PRES | <i>karta-pu-ngunya.</i><br>spear-act_on-PRES            |
|    | b. | <i>Maliki-rli=ji</i><br>dog-ERG=EU<br>The dog bit me when I fell in its way.<br>(Warlpiri: Laughren et al. (2007))               | <i>paju-rnu</i><br>bite-PAST<br>hazard-fall-INF-OBJCOMP        | <i>piki-wanti-nja-kurra.</i><br>hazard-fall-INF-OBJCOMP |

This places a significant onus on the bound pronouns, which must be specified as representing the grammatical relation, rather than registering arguments (as noted by Simpson 1991, p. 384), and in the case of (7b), there is no overt bound pronoun or nominal, which can represent the grammatical relation.

Secondly, there is at least one inflecting verb in Warlpiri which subcategorises for an external object (Simpson 1991, pp. 396–97). Evidence for this comes from the general constraint that an external object cannot control a *-kurra* subordinate clause (contrasting with objects, which can). For example, the inflecting verb *parda-* requires an argument in the dative case, which Simpson argues is an external object, based on the ungrammaticality of sentences such as (8). If the dative-marked argument were an object, the clause would be grammatical, because an object is able to control a *-kurra* clause.

8. \*Ngaju            ka=rna-rla            parda-rni            Nakamarra-ku            [ngapa  
1            PRES=1SG.S-3.OBL            wait-NPST            <subsection>-DAT  
*kardi-rninja-kurra-ku*.  
**fetch-INF-OBJCOMP-DAT**  
I am waiting for Nakamarra while she is fetching water.  
(Warlpiri: [Simpson \(1991\)](#), p. 398)

Because of this, the analysis redundantly specifies the external object relation via two sources—unlike all other cases selected for by verbal predicates. Where the external object is selected for by a verbal predicate, the nominal is realised with dative case in its argument-relating function (in which the case relates the nominal to the grammatical structure of the clause). Yet, the dative case is also lexically specified as itself introducing an external object in its argument-taking function when it is not selected for by the matrix predicate (in which case, the case itself is the predicate and the nominal taking the case is its argument). These two predicates selecting for an external object can never co-occur in a clause (i.e., a verbal predicate cannot select for an external object argument in the same clause that an external object is introduced by dative case), which does not fall out from this analysis. Given that the external object relation is treated grammatically like a core relation, it would be expected that it cannot be the function of a case to subcategorise for an external object which is registered by a bound pronoun.

### 3.2. Applicatives

So far, we have seen that assigning the burden of introducing external objects to the dative case presents difficulties. Instead, I propose that external objects are introduced via a lexical rule. This lexical rule must introduce a new argument into the event structure of the predicate and link it to an external object. Adapting [Kifle's \(2011, p. 230\)](#) analysis of applicatives in Tigrinya, which is revised from [Bresnan and Moshi \(1993, p. 73\)](#), this could be modelled as in (9).

9.      Applicative lexical rule (for Warlpiri and Warlmanpa)
- |   |                  |     |                     |     |   |
|---|------------------|-----|---------------------|-----|---|
|   |                  |     | ∅                   |     |   |
|   |                  |     | ↓                   |     |   |
| < | Arg <sub>1</sub> | ... | Arg <sub>appl</sub> | ... | > |
|   | [−o/−r]          |     | [−r]                |     |   |

This rule expresses that a new core argument can be introduced into the argument structure of a predicate, and the argument must have the feature [−restricted] to allow it to link to the external object grammatical relation, following [Simpson's \(1991, p. 419\)](#) analysis of grammatical relation features. In this view, the dative case marking ethical datives is not an argument-taking predicate, as analysed in [Simpson \(1991\)](#); rather it is an argument relater (i.e., the case is used to mark the nominal's relation to the predicate). This treats the dative case in these instances as more akin to a core case, rather than semantic case (which primarily introduces adjuncts), reflecting the external object's status as a core argument (as these arguments are treated by the grammars of Warlpiri and Warlmanpa).

The use of the feature [−restricted] naturally accounts for all cases of the applicative rule, including its ability to apply twice (but no more than twice), and the applicative argument's capacity to (rarely) behave as an object grammatical relation.

The applicative rule must be able to apply twice, as a clause can have two applicative arguments, both registered in the bound pronouns, exemplified in (10).

10. *Kurdu-ku*            ka=rla-jinta            jarnti-rni            yalumpuju            parraja.  
**child-DAT**            PRES=3.OBL-3.OBL2            trim-NPST            that.near            coolamon  
'He trims a coolamon for the child for its mother.'  
(Warlpiri: [Simpson \(1991\)](#), p. 408)

The feature [−restricted] allows the applicative argument to link to the object grammatical relation (instead of the external object relation), which avoids two arguments being assigned the same grammatical relation (e.g., [Bresnan 1982, p. 163](#) Biuniqueness

of Function-Argument Assignments principle). Thus, if two applicative arguments are introduced, one can be realised as an external object, and the other as an object.

Relatedly, the analysis accurately predicts that the applicative rule cannot apply more than twice, since no other grammatical relations allow [–restricted] arguments (other than the subject, which will be obligatorily filled by a higher-ranking thematic role).

Finally, the rule also accounts for rare instances where an applicative argument can seemingly control a *-kurra* clause, as in (11), where the applicative argument *ngatinyanu* ‘her mother’ is controlling the non-finite predicate *ngunanja* ‘lying down’ (marked with *-kurra*). As discussed in Section 2.2, external objects are not expected to be able to control *-kurra* clauses, as this is restricted to the object grammatical relation. As before, the applicative argument being compatible with objects accounts for these cases.

11. *Kamina-rlu ka=rla mangarri purra ngati-nyanu-ku*  
 girl-ERG PRES=3.OBL food cook.NPST mother-self-DAT  
*nguna-nja-kurra-ku.*  
 lie-INF-OBJCOMP-DAT  
 The girl is cooking food **for her mother** (who is) lying down.  
 (Warlpiri: Simpson (1991), p. 385)

It is not clear what the constraints operating on this process are—clearly, the applicative rule prefers to link to an external object (rather than an object). I assume an object is only introduced by the applicative when there would otherwise be a violated constraint (i.e., only when there would be two external objects, or an unlinked *-kurra* clause), though clearly investigating the circumstances in which a (seemingly) external object can control a *-kurra* clause will help constrain this rule. Crucially, it can only apply to the ethical dative constructions—as discussed earlier, *parda-rni* selects for an external object (evidenced by its inability to control a *-kurra* clause), independent of the applicative rule (and so, the non-subject argument of *parda-rni* cannot be realised as an object).

To exemplify the simplest case of the applicative rule, consider (12), an example from Warlmanpa. The main predicate of (a) is an inflecting verb, *pali-* ‘die’, which is intransitive, taking a single absolutive argument, illustrated in (b). The first person singular external object has been integrated as a core grammatical relation (evidenced by being cross-referenced by =*ju* 1SG.NS), via the applicative rule, with the resulting event structure illustrated in (c).

12. a. *Maliki=ju ngayu-ku palu-ngu.*  
 Dog=1SG.NS 1-DAT die-PAST  
 ‘The dog died on me.’ (Malefactive reading)  
 ‘My dog died.’ (Possessive reading)  
 (Warlmanpa: Browne (2021), p. 474)
- b. *pali-* ‘die’  
 DIE <                      theme                      >  
                                  [-r]  
                                  |  
                                  SUBJ
- c. *pali* ‘die’ + applicative lexical rule  
 DIE <                      theme                      ben                      >  
                                  [-r]                      [-r]  
                                  |                      |  
                                  SUBJ                      EX.OBJ

Similarly, for (10), where there was a transitive verb and two applicatives, the resolution of the applicative lexical rule would result in one being an object and the other as an external object. The argument structure of the inflecting verb *purra* is given in (13a), and the integration of the applicatives into this argument structure is given in (13b).<sup>8</sup> Example (10)

has an identical structure: an agent (realised as a subject), a theme (realised as an object $\theta$ ), and two applicative arguments (realised as an object and external object).

13. a. *purra* ‘cook’  
 COOK <     *agent*             *theme*             >  
                  [-o]             [-r]  
                  |             |  
                  SUBJ         OBJ
- b. *purra* ‘cook’ + applicative lexical rule (applied twice)  
 COOK <     *agent*             *theme*             *ben*<sub>1</sub>             *ben*<sub>2</sub>             >  
                  [-o]             [+o]             [-r]             [-r]  
                  |             |             |             |  
                  SUBJ         OBJ $\theta$          OBJ             EX.OBJ

### 3.3. Complex Predicates

At the most basic level, a clause comprises a predicate and its argument(s). Complex predicates, i.e., mono-clausal predicates containing two or more predication elements (Butt 2010, p. 74), have stimulated significant interest in their formation due to their multi-predicate nature (e.g., Amberber et al. 2010). This section will introduce complex predication in Warlmanpa and Warlpiri, and then, turn to ‘external object preverbs’, a subclass of preverbs which introduce an external object to a predicate and show how they can be incorporated into this analysis.

There are two major classes of complex predicates in Warlmanpa and Warlpiri: associated motion and light verb constructions. Associated motion constructions add an element of motion and/or path to another predicate (Browne 2021, pp. 241–47; see also Koch 2021). Light verb constructions comprise an inflecting (or ‘light’) verb, which are closed class items obligatorily hosting a tense/aspect/mood inflection, and one or more ‘preverbs’ (or ‘coverbs’), which do not inflect. For the remainder of this paper, I use the terms ‘inflecting verb’ and ‘preverb’. Inflecting verbs can stand alone in a clause, solely constituting the predicate, whereas preverbs generally require combining with an inflecting verb. Typically, inflecting verbs are semantically underspecified, with the preverb bearing the main semantic load, constraining the event or a participant in some way.

For example, in (14a), the predicate consists of an inflecting verb *wa-* ‘speak’, an intransitive verb of vocalisation. This inflecting verb can be combined with a preverb, such as *warlku* ‘bark’ in (14b), which constrains the interpretation of vocalisation.

14. a. *Karnta*                     *wa-nganya.*  
       woman                   **speak-PRES**  
       ‘The woman is speaking.’  
       (Warlmanpa: Browne (2021), p. 264)
- b. *Wangani*                     *warlku-wa-nganya.*  
       dog                         **bark-speak-PRES**  
       ‘The dog is barking.’  
       (Warlmanpa: Browne (2021), p. 264)

Classifying preverbs in Warlpiri and Warlmanpa has not received significant attention (though cf. Nash 1982; Laughren 2010; Browne 2021, pp. 253–70). As a preliminary classification, preverbs in these languages fall on a continuum between ‘tight nexus’ and ‘loose nexus’ (following the terminology of Schultze-Berndt 2000, p. 536). In general, ‘tight nexus’ preverbs occur immediately preceding the inflecting verb, combine with a small number of inflecting verbs in the lexicon (often just one), can have unpredictable combinatorial meanings, and their combination can result in an argument structure which is distinct from the inflecting verb in isolation. An example is *yina* ‘sing’, given in (15). The inflecting verb in this sentence, *nga-* ‘eat’, in isolation means ‘to ingest solids’; however, in combination with *yina* ‘sing’, the resulting predication only refers to the activity of singing.

The preverb is not known to combine with any other inflecting verbs in Warlmanpa.<sup>9</sup> These combinations, prototypical of tight nexus preverbs, are best analysed as a single lexical entry.

15.      *Ali-ngu=nya*      *jurlaka-rlu*      *yina-nga-rninya*      *pirnti-nga*.  
          that-ERG=FOC      bird-ERG      sing-eat-PRES      tree\_top-LOC  
          That bird on the tree top is singing.  
          (Warlmanpa: Browne (2021), p. 97)

Loose nexus preverbs generally occur immediately preceding the inflecting verb (but do not do so obligatorily), combine with a moderate number of inflecting verbs, have predictable combinatorial meanings, and maintain the argument structure of the inflecting verb. For example, the Warlmanpa coverb *wuruly* can combine with at least three inflecting verbs, illustrated in (16), where in each combination, *wuruly* adds the predictable meaning ‘out of sight’ to the event (Browne 2021, pp. 266–67).<sup>10</sup>

- 16      a.      *jutpu-*      ‘run’      *wuruly jutpu-*      ‘run out of sight’  
          b.      *kiya-*      ‘throw’      *wuruly kiya-*      ‘throw out of sight’  
          c.      *ka-*      ‘take’      *wuruly ka-*      ‘take out of sight’

When it comes to the formal analysis of compositional complex predicates, such as *wuruly* in Warlmanpa, a process of merging or sharing of argument structure takes place between the components of the predicate. To take an example from Jaminjung (Mirndi), in the combination of the inflecting verb *-yu* ‘be’ and the preverb *burlug* ‘drink’, the theme of the inflecting verb is linked to the drinker of the preverb, as represented in (17) (simplified, adapted from Schultze-Berndt 2000, p. 195).

17.      <      **drinker**      entity.drunk      >      *burlug* ‘drink’ (CV)  
               |  
          <      **theme**      >      *-yu* ‘be’ (IV)

This basic linkage is crucial to the analysis of complex predicates, regardless of the particular theoretical framework (see, e.g., ‘Coindexation’: Baker and Harvey 2010; and ‘Argument Fusion’: Butt 1998, 2014 for more formal analyses in LFG). In the analysis of (17), the arguments are linked: the ‘drinker’ of the preverb *burlug* and the ‘theme’ of the inflecting verb *-yu* ‘be’ are coreferential, providing a linking point for the two predicational elements. Alternate processes link the subevents of the predicates. For example, in their analysis of preverbs and inflecting verbs, Baker and Harvey (2010) propose the process of Merger, following Wilson (1999). In Merger, the highest major predicate function of the preverb must be shared by the inflecting verb. Where this condition is met, the shared predicate function of the inflecting verb is merged with the predicate structure of the preverb (Baker and Harvey 2010, p. 25). This accurately captures the merged meanings and provides a constrained method to predict incompatible predicate combinations (there are a small number of other restrictions not strictly relevant to this paper: Baker and Harvey 2010, pp. 25–26). To exemplify Merger, Baker and Harvey provide the following example, from Marra:

18.      *Birli=nga-Ø-ganji*.  
          go.in=1SG.S-3SG.O-TAKE.PP  
          ‘I put it in(side).’  
          (Marra: Baker and Harvey (2010), p. 24)

In Marra, *birli* is a preverb meaning ‘go in’, and *ganji* is an inflecting verb meaning ‘take’, with the LCS structures as given in (19a) and (19b), respectively. The highest predicate function of the preverb *birli* is MOVE, which is found in the LCS of *ganji*, and so, Merger accurately predicts the combination given in (18), represented in (19c). Where two predicates do not share any predicate functions, Merger fails.

19.      a.      *birli* ‘go in’:      [Event MOVE ([Thing *x*], [Path IN])]  
          b.      *ganji* ‘take’:      [Event CAUSE ([Thing *y*], Event MOVE ([Thing *x*], [Path ]))]  
          c.      *Birli + ganji* ‘put in’      [Event CAUSE ([Thing *y*], Event MOVE ([Thing *x*], [Path IN]))]

I propose that a small set of preverbs in Warlmanpa and Warlpiri cannot be adequately captured by these analyses. These preverbs, referred to as ‘external object preverbs’ (Simpson 1991, p. 386), introduce an external object to a well-formed predicate, and are extremely productive, in that they seem to readily combine with most inflecting verbs with few apparent restrictions. By way of introduction, consider (20). In (a), the inflecting verb *yula-* ‘cry’ is the sole predicate, and takes a single subject argument. In (b), the same inflecting verb *yula-* combines with the preverb *marlaja* ‘cause, relate to, belong to’. *Marlaja* introduces an external object which is typically the instigator of the event or state denoted by the inflecting verb. In (b), *kurdu* ‘child’ is the subject of the complex predicate, and the use of the preverb *marlaja* specifies the cause of the crying being the external object *karnta* ‘the woman’.

20. a. *Kurdu ka yula-mi.*  
 child PRES cry-NPST  
 ‘The child is crying.’  
 (Warlpiri: Hale (1982), p. 217)
- b. *Kurdu ka=rla karnta-ku marlaja-yula-mi.*  
 child PRES=3.OBL woman-DAT cause-cry-NPST  
 ‘The child is crying because of the woman.’  
 (Warlpiri: Simpson (1991), p. 386)

The list of external object preverbs in Warlpiri is given in (21), from Nash (1980, pp. 48–49). The list of external object preverbs in Warlmanpa still requires further study, but at least includes *jurnta* ‘away’ and *yirrkirpa* ‘comitative, with dependent’. These preverbs generally exhibit features of loose nexus features (they need not immediately precede the inflecting verb, they combine productively with a number of different inflecting verbs, but unlike prototypical loose nexus preverbs, do appear to interact with argument structure).

21. *Jurnta* ‘removal, adversity, away from, to the disadvantage of’  
*Jirrnganga* ‘comitative, with dependent’  
*Yirrkirpa* ‘comitative, with dependent’  
*Kaji* ‘benefactive, because of’  
*Ngayi* ‘benefactive, because of’  
*Marlaja* ‘causative, made possible by’  
*Piki(piki)* ‘under threat of, in jeopardy from’

As shown in (22), utilising Schultze-Berndt’s (2000) representation, the complex predicate *marlaja-yula-* forms an incompatible structure, as neither argument of the complex predicate can be linked to the other. The single argument of *yula-* ‘cry’ is the clausal subject, and the single argument of *marlaja* ‘cause’ is an external object—there is no coreferentiality between the components of the complex predicate.

22. < causer > *marlaja* ‘cause’  
 < cryer > *yula-* ‘cry’

*Marlaja*, as with other external object preverbs, can combine with inflecting verbs of varying valency, including intransitive, transitive and ditransitive inflecting verbs, and in each case, there is no coreferentiality between the inflecting verb and external object preverb.

Evidence that *marlaja* and similar preverbs are not linked to an underspecified subject (i.e., evidence that they are indeed incompatible with the argument linking processes shown above) comes from the ability of preverbs to relate to different arguments. For example, the external object preverb *yirrkirpa* ‘with’ in Warlmanpa can also combine with a number of inflecting verbs of varying transitivity, and specifies accompaniment in the event (where the accompanying entity is dative-marked, just as with the argument of *marlaja* in Warlpiri as detailed above). In (23a), the dative-marked constituent *ngurlu* ‘seed’ pertains more to the object of the predicate *yiwirti* ‘tree’, whereas in (23b), the dative-marked constituent *kurtu* ‘child’ pertains more to the subject of the predicate *Japanangka* (a subsection name).

Later, I will argue that the precise interpretation of the external object in these cases is pragmatic in nature, not lexical (the lexical specification simply links the preverb argument to the combined argument structure).

23. a. *Yiwirti=rna-rla* *yirrkín-paka-rnu* *ngurlu-ku.*  
 Tree=1SG.S-3.OBL with-hit-PAST seed-DAT  
 ‘I will hit the tree **with seeds**.’  
 (Warlmanpa: Browne (2021), p. 319)
- b. *Japanangka-rlu=rla* *kurtu-ku* *yirrkín-la-rnu* *wawirri.*  
 <subsection>-ERG=3.OBL child-DAT with-shoot-PAST kangaroo  
 ‘Japanangka, **with the child**, shot the kangaroo.’  
 (Warlmanpa: Browne (2021), p. 260)

Returning to Merger, it is difficult to propose an LCS for the external preverbs which would successfully predict their wide range of combinatorial possibilities. For example, as an intransitive activity predicate, *yula-* ‘cry’ has a single predicate function MOVE, and it can combine with *marlaja* as shown in (20b). However, *marlaja* can combine with inflecting verbs which do not have MOVE, such as with a stative verb ‘be’, as in (24), which has a single predicate function BE, among other types of predicates.

24. *Jukurrpa* *nyampu* *kuja=ka=rla* *marlaja-karri-karri.*  
 dreaming this REL=PRES=3.OBL cause-be.NPST  
 ‘This Dreaming is the creek that **belongs to him**.’  
 (Warlpiri: Laughren et al. (2007), p. 574)

Placing the burden of compatibility on external object preverbs such as *marlaja* does not lead to a parsimonious analysis. To account for external object preverbs in Warlpiri and Warlmanpa, I follow Butt’s (1998, 2014) analysis of Argument Raising. In this analysis, the external object preverbs are lexically defined as requiring another predicate as one of their arguments (Alsina 1996; Butt 1995, 1998), and are lexically specified to not link with arguments, that is, the argument structures merge without coindexation of individual arguments (Butt 2014, pp. 185–87). For example, *marlaja* would be defined as in (25a), where %Pred is a variable, which is completed by the argument structure of another predicate. When combining with *karri* ‘be’, given in (b), the resulting combination is as illustrated in (c) through Argument Raising. The variable %Pred of *marlaja* is ‘filled in’ by that of *karri*, with no argument roles being merged or linked. As such, the resulting structure requires a theme (realised as a subject) and a benefactive (realised as an external object).

25. a. *marlaja* CAUSE/RELATE < %Pred *ben* >  
 b. *karri* BE < *theme* >  
 c. *marlaja-karri* CAUSE/RELATE < BE < *theme* > *ben* >

The choice of assigning the participant argument of *marlaja* to a benefactive thematic role ensures that it is linked to an external object.

#### 4. Interactions between Applicatives and External Object Preverbs

So far, we have seen that external objects in Warlpiri and Warlmanpa can be introduced to a clause through an applicative lexical rule, or a small set of preverbs, called ‘external object preverbs’. I now discuss two remaining points of interest: interactions between multiple licensing of external objects, and variation in the argument structure of predicates formed with an external object preverb.

##### 4.1. Multiple External Objects

As shown by Simpson (1991), a clause in Warlpiri may rarely license more than one external object. This was accounted for in Section 3.2 by the applicative rule inserting a [–r] argument, thereby claiming that one of the applicative arguments is actually realised



registered by a bound pronoun =*rla*. However, this preverb does not require an external object, as shown in (28b). Here, the complete lack of external object is evidenced by the lack of a non-subject bound pronoun. Furthermore, the accompanying entity introduced by *yirrk*in can be realised as an adjunct, as in (28c), where *kirtana* ‘father’ is marked with the proprietive adnominal suffix (used to indicate accompaniment and/or possession), and an ergative case functioning as an agreement marker to indicate that this nominal is (secondary) predicated of the ergative subject of the clause, rather than relating to the predicate.

28. a. *Ngarrka-ngu=rla*                      *yirrk*in-paka-rnu                      *karli-ku*.  
 man-ERG=3.OBL                      with-hit-PAST                      boomerang-DAT  
 The man hit him with a boomerang.  
 (Warlmanpa: Browne (2021), p. 267)
- b. *Yirrk*in-pa-nya-nya=rna.  
 with-go-MOT.AWAY-PRES=1SG.S  
 I’ll go together (with an unspecified entity).  
 (Warlmanpa: wrl-20200225, DK, 12:33 min)
- c. *Ngayu=ma=rna*    *yulu*                      *yirrk*in-karta-pinyi                      *kirtana-parna-rlu*.  
 1=TOP=1SG.S    ground                      with-spear-act\_on-FUT                      father-PROP-ERG  
 I’ll dig the ground with my father.  
 (Warlmanpa: wrl-20200225, DK, 25:00 min)

Similarly, in Warlpiri, the preverb *jirrnganja* ‘comitative’ can introduce an external object, as in (29a), but does not require an external object present in the clause, as in (29b).

29. a. *Kajika=nganpa*                      *nantuwu*                      *jirrnganja-wanti*                      *rdaku-ngka*.  
 APPR=1.PL.EXCL.NS                      horse                      COMIT-fall.NPST                      hole-LOC  
 A horse is likely to fall with us (on its back) into a hole.  
 (Warlpiri: Laughren et al. (2007), p. 146)
- b. *Jirrnganja=lu*                      *nyina-ya*                      *yama-ngka*.  
 COMIT=PL.S                      sit-IMP                      shade-LOC  
 Sit together in the shade.  
 (Warlpiri: Laughren et al. (2007), p. 146)

It seems that these particular preverbs which allow (but do not require) external objects have two lexical entries, one with a participant argument, and one without.<sup>11</sup> For *yirrk*in in Warlmanpa, this would be as given in (30), where (a) is the sense which involves an external object (as in (28a)) and (b) is the sense which does not (as in (28b–c)).

30. a. *yirrk*in                      ACCOMPANY<                      %Pred                      *ben*                      >  
 b. *yirrk*in                      ACCOMPANY<                      %Pred                      >

Finally, the relation that these preverbs specify is particularly interesting. To exemplify, consider (23), repeated below. In (a), *yirrk*in introduces an external object *ngurlu* ‘seed’, and at the lexical level, this specifies that the seeds accompanied the event (of the speaker hitting the tree). Clearly, more enriched readings are either that the *ngurlu* ‘seed’ accompanies the *yiwirti* ‘tree’ (which is the object of the clause), or that the *ngurlu* ‘seed’ accompanies the speaker (which is the subject of the clause). The latter interpretation allows further enrichment, in that the seeds were involved in the event of *paka*- ‘hit’—that is, that the speaker used the seeds to hit the tree. In (b), similarly, *yirrk*in introduces an external object *kurtu* ‘child’. However, unlike (a), the more enriched meaning is that the *kurtu* ‘child’ is accompanying the subject *Japanangka* (subsection name), not the object *wawirri* ‘kangaroo’.

23. a. *Yiwirti=rna-rla*                      *yirrkin-paka-rnu*                      *ngurlu-ku.*  
 Tree=1SG.S-3.OBL                      with-hit-PAST                      seed-DAT  
 ‘I will hit the tree **with seeds**.’  
 (Warlmanpa: Browne (2021), p. 319)
- b. *Japanangka-rlu=rla*                      *kurtu-ku*                      *yirrkin-la-rnu*                      *wawirri.*  
 <subsection>-ERG=3.OBL                      child-DAT                      with-shoot-PAST                      kangaroo  
 ‘Japanangka, **with the child**, shot the kangaroo.’  
 (Warlmanpa: Browne (2021), p. 260)

Based on the variability, it would seem that the exact interpretation of *yirrkin* in Warlmanpa (and the same is true of *yirrkirnpa* in Warlpiri) can be pragmatically enriched, beyond the lexical specification that an entity accompanies the event. This is unlike other preverbs in Warlpiri which may interact with different grammatical relations. For example, the loose nexus preverb *muku* ‘all’ in Warlpiri will quantify over the external object if one is available; otherwise, it will quantify over the object if available (if an external object and object are available, *muku* can quantify over either); if neither are available, *muku* will quantify over the subject (Simpson 1991, pp. 398–400). That is, if there is an absolutive argument (the subject of an intransitive clause or the object of a transitive clause), or an external object, *muku* can constrain it (resulting in possible ambiguity in cases where there is an absolutive argument and an external object). Unlike *muku*, where the interpretation is conditioned by grammatical relations, external object preverbs seem to allow pragmatic enrichment to specify the nature of their involvement (e.g., accompaniment for *yirrkin*), independent of grammatical relations.

## 5. Conclusions

This paper has built on the analysis of external objects in Warlpiri by Simpson (1991), utilising recent innovations in predication (in particular: Butt 1998, 2014; Kifle 2011), and extending the analysis to Warlmanpa, representing the first formal analysis of preverb + inflecting verb combinations and external objects in Warlmanpa.

External objects in these languages are particularly interesting as they exhibit features of arguments and adjuncts. They are adjunct-like in that they are not required for the grammaticality of a clause. Both the ‘ethical dative’ external objects and the external objects constrained by preverbs are optional. However, when they are found in a clause, external objects are treated akin to core grammatical relations, in that they are registered by the bound pronouns (in contrast to other adjuncts).

This analysis of external objects in Warlmanpa and Warlpiri has accounted for two interrelated phenomena, namely ‘ethical datives’ and external object preverbs. The proposed applicative rule introduces an argument which may be realised as an external object or object, and certain preverbs were shown to take another predicate as an argument, as well as an (optional) argument which is realised as an external object. This analysis correctly predicts a number of interactions between ethical datives and preverbs (and combinations of preverbs).

All other Ngumpin-Yapa languages exhibit a construction in which an ethical dative is registered in the bound pronouns (Hudson 1978, p. 25 for Walmajarri; Tsunoda 1981, p. 110 for Jaru; McConvell 1996b, p. 90; Meakins and McConvell 2021; Meakins and Nordlinger 2014, pp. 131–33 for Bilinarra; Senge 2015, pp. 539–40 for Wanyjirra; Ennever 2018, p. 251; 2021; Osgarby 2018, p. 143 for Mudburra), indicative of the ethical dative being treated akin to a core argument (the exact treatment of this grammatical relation differs across analyses). Interestingly, no grammatical analyses of these languages report preverbs like external object preverbs as in Warlpiri and Warlmanpa. Clearly, an applicative rule is warranted throughout the subgroup which introduces an oblique argument (for the ‘ethical dative’), but further research is required into which languages allow multiple ‘ethical datives’ and the extent to which the grammatical relation of ‘external object’ is warranted. Understanding these aspects with further cross-linguistic data would allow a more refined understanding of the parameters of the analyses presented in this paper,

and the types of processes which can manipulate the event structures of predicates more generally.

**Funding:** This research was financially supported by the Australian Research Council Centre of Excellence for the Dynamics of Language, grant number CE140100041.

**Institutional Review Board Statement:** Data collected in this study were approved by the University of Queensland Human Research Ethics Committee B, approval number 2017000271.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The unpublished data referenced in this paper will be archived at the Australian Institute for Aboriginal and Torres Strait Islander Studies at the end of the current project.

**Acknowledgments:** First and foremost, I am grateful to the Warlmanpa speakers who have taught me what I have learnt of their language. The Warlmanpa speakers cited in this study are Bunny Nabarula, Donald Graham, and Doris Kelly. I would like to thank Tom Ennever, Mary Laughren, Elisabeth Mayer, and Jane Simpson for providing helpful feedback on this paper at various stages, as well as four anonymous reviewers.

**Conflicts of Interest:** The author declares no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

## Notes

- <sup>1</sup> The Warlmanpa data were collected by the author in and around Tennant Creek (Northern Territory, Australia), in 2017 through 2020. Where possible, I refer to published data (Browne 2021); where this is not possible, I refer to unpublished corpus data (currently in the process of being archived), collected by David Nash, Ken Hale, and the author. The citation format for these data is: track ID, Speaker initials, timestamp. Warlpiri data come from published sources, particularly Simpson (1991).
- <sup>2</sup> Glosses used in this paper are as follows: 1 first person; 2 second person; 3 third person; ALL allative; ANOTHER another; AWAY away; CAUS cause; COMIT comitative; DAT dative; ERG ergative; EU euphony; EXCL exclusive; FUT future; GEN genitive; IMP imperative; IMPF imperfective; INF infinitive; LOC locative; MOT associated motion; NOM nominative; NPST non-past; NS non-subject; O object; OBJCOMP object complementiser; OBL oblique; PAST past; PL plural; PRES present; PROP proprietary; S subject; SG singular; THEN then; TOP topic. Note that I standardise some glosses for comparability (in particular, labelling the ‘object’ series of bound pronouns in Warlpiri as ‘non-subject’).
- <sup>3</sup> Note that I view combinations of bound pronouns as being a morphologically complex head-marking system, and not clusters of independent clitics (Browne 2021, pp. 306–17), hence the notation of the internal boundaries of bound pronouns being marked with ‘-’ instead of ‘=’.
- <sup>4</sup> Note that these grammatical relations are not the same as analysed for Warlmanpa (Browne 2021); however, since this paper follows Simpson’s (1991) analysis, I follow Simpson’s treatment of grammatical relations and apply it to Warlmanpa here.
- <sup>5</sup> It is not clear exactly which predicates allow an ethical dative; however, its productivity is extremely high.
- <sup>6</sup> Referring to people by their subsection is common in Warlmanpa and Warlpiri. See Browne (2021, pp. 8–11) for an overview of subsections.
- <sup>7</sup> A fourth distinction is that external objects can control the subject of *-rlarni* clauses, whereas objects cannot (Simpson 1991, pp. 391–95). However, I will largely be relying on the three distinctions discussed in the text for this analysis.
- <sup>8</sup> See Simpson (1991, pp. 337–49) for the specifics of why the theme here is an object $\theta$ .
- <sup>9</sup> In Warlpiri, similar complex predicates are treated by specifying another sense of *nga-*, which is only used in combination with preverbs (Nash 1980, p. 246).
- <sup>10</sup> In Browne (2021, pp. 263–66), I treat these types of preverbs as essentially being adverbial, often simply modifying the manner of the event. However, this is very much an oversimplification of the different ways complex predicates can be formed in Warlmanpa and Warlpiri.
- <sup>11</sup> Simpson (1991, pp. 385–86) suggests this may be true of all ‘external object preverbs’ in Warlpiri.

## References

- Alsina, Alex. 1996. Passive types and the theory of object asymmetries. *Natural Language and Linguistic Theory* 14: 673–723. [CrossRef]
- Amberber, Mengistu, Brett Baker, and Mark Harvey, eds. 2010. *Complex Predicates: Cross-Linguistic Perspectives on Event Structure*. Cambridge: Cambridge University Press.
- Austin, Peter K. 1981. Switch-Reference in Australia. *Language* 57: 309–34. [CrossRef]

- Baker, Mark C., and Mark Harvey. 2010. Complex predicate formation. In *Complex Predicates: Cross-Linguistic Perspectives on Event Structure*. Edited by Mengistu Amberber, Mark C. Baker and Mark Harvey. Cambridge: Cambridge University Press, pp. 13–47. [\[CrossRef\]](#)
- Bavin, Edith, and Tim Shopen. 1985. Warlpiri and English: Language in contact. In *Australia, Meeting Place of Languages*. Edited by Michael Clyne. Canberra: Pacific Linguistics, pp. 81–94.
- Bitner, Maria, and Kenneth Hale. 1995. Remarks on Definiteness in Warlpiri. In *Quantification in Natural Languages*. Edited by Emmon Bach, Eloise Jelinek, Angelika Kratzer and Barbara H. Partee. Dordrecht: Springer, pp. 81–105. [\[CrossRef\]](#)
- Bowler, Margit. 2014. Conjunction and disjunction in a language without “and”. *Semantics and Linguistic Theory* 24: 137–55. [\[CrossRef\]](#)
- Bowler, Margit. 2016. The status of degrees in Warlpiri. In *The Semantics of African, Asian and Austronesian Languages 2*. Edited by Mira Grubic and Anne Mucha. Potsdam: Universitätsverlag Potsdam, pp. 1–17.
- Bowler, Margit. 2017. Quantification in Warlpiri. In *Handbook of Quantifiers in Natural Language*. Edited by Denis Paperno and Edward Keenan. Berlin: Springer, vol. 2, pp. 1–37.
- Bresnan, Joan, and Lioba Moshi. 1993. Object Asymmetries in Comparative Bantu Syntax. In *Theoretical Aspects of Bantu Grammar*. Edited by Sam Mchombo. Stanford: CSLI Publications, pp. 47–87.
- Bresnan, Joan. 1982. Polyadicity. In *The Mental Representation of Grammatical Relations*. Edited by Joan Bresnan. Cambridge and London: MIT Press, pp. 149–72.
- Browne, Mitchell. 2020. Contrast and retroactive implicatures: An analysis of =lku ‘now, then’ in Warlpiri and Warlmanpa. *Australian Journal of Linguistics* 40: 218–45. [\[CrossRef\]](#)
- Browne, Mitchell. 2021. A Grammatical Description of Warlmanpa, a Ngumpin-Yapa language spoken around Tennant Creek. Ph.D. thesis, University of Queensland, Brisbane, Australia. [\[CrossRef\]](#)
- Bundgaard-Nielsen, Rikke L., and Carmel O’Shannessy. 2019. Voice Onset Time and Constriction Duration in Warlpiri Stops (Australia). Paper presented at 19th International Congress of Phonetic Sciences, Melbourne, Australia, August 4–10.
- Butt, Miriam. 1995. *The Structure of Complex Predicates in Urdu*. Stanford: CSLI Publications.
- Butt, Miriam. 1998. Constraining Argument Merger through Aspect. In *Complex Predicates in Nonderivational Syntax, Syntax and Semantics Volume 30*. Edited by Erhard Hinrichs, Andreas Kathol and Tsuneko Nakazawa. New York: Academic Press, pp. 73–113.
- Butt, Miriam. 2006. *Theories of Case*. Cambridge: Cambridge University Press.
- Butt, Miriam. 2010. The light verb jungle: Still hacking away. In *Complex Predicates: Cross-Linguistic Perspectives on Event Structure*. Edited by Mengistu Amberber, Brett Baker and Mark Harvey. Cambridge: Cambridge University Press, pp. 48–78. [\[CrossRef\]](#)
- Butt, Miriam. 2014. Control vs. complex predication: Identifying non-finite complements. *Natural Language and Linguistic Theory* 32: 155–90. [\[CrossRef\]](#)
- Ennever, Thomas Blake. 2018. Nominal and Pronominal Morphology of Ngardi: A Ngumpin-Yapa language of Western Australia. Master’s thesis, University of Queensland, Brisbane, Australia.
- Ennever, Thomas Blake. 2021. *A Grammar of Ngardi*. Berlin: Mouton De Gruyter.
- Granites, Robin Japanangka, and Mary Laughren. 2001. Semantic contrasts in Warlpiri verbal morphology: A Warlpiri’s verbal view. In *Forty Years On: Ken Hale and Australian Languages*. Edited by Jane Simpson, David George Nash, Mary Laughren, Peter K. Austin and Barry Alpher. Canberra: Pacific Linguistics, pp. 151–59. [\[CrossRef\]](#)
- Hale, Kenneth, Mary Laughren, and Jane Simpson. 1995. Warlpiri. In *Syntax./Ein internationales Handbuch Zeitgenössischer Forschung/An International Handbook of Contemporary Research*. Edited by Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld and Theo Vennemann. Berlin and New York: Walter de Gruyter, pp. 1430–51. [\[CrossRef\]](#)
- Hale, Kenneth, Mary Laughren, and Jane Simpson. 2015. Warlpiri. In *Syntax—Theory and Analysis*. Edited by Tibor Kiss and Artemis Alexiadou. Berlin: De Gruyter, vol. 3, pp. 1677–709. [\[CrossRef\]](#)
- Hale, Kenneth. 1973. Person marking in Walbiri. In *A Festschrift for Morris Halle*. Edited by Stephen R. Anderson and Paul Kiparsky. New York: Holt, Rinehart & Winston, Inc., pp. 308–44.
- Hale, Kenneth. 1976. The adjoined relative clause in Australia. In *Grammatical Categories in Australian Languages*. Edited by Robert M. W. Dixon. Canberra: AIAS, pp. 78–105.
- Hale, Kenneth. 1981a. *On the Position of Walbiri in a Typology of the Base*. Bloomington: Indiana University Linguistics Club.
- Hale, Kenneth. 1981b. Preliminary remarks on the grammar of part-whole relations in Warlpiri. In *Studies in Pacific Languages & Cultures in Honour of Bruce Biggs*. Edited by Jim Hollyman and Andrew Pawley. Auckland: Linguistic Society of New Zealand, pp. 333–44.
- Hale, Kenneth. 1982. Some Essential Features of Warlpiri Verbal Clauses. In *Papers in Warlpiri Grammar: In memory of Lothar Jagst*. Edited by Stephen Swartz. Darwin: Summer Institute of Linguistics, vol. 6, pp. 217–315.
- Hale, Kenneth. 1983. Warlpiri and the Grammar of Non-Configurational Languages. *Natural Language and Linguistic Theory* 1: 5–47. [\[CrossRef\]](#)
- Harvey, Mark, and Brett Baker. 2005. Vowel harmony, directionality and morpheme structure constraints in Warlpiri. *Lingua* 115: 1457–74. [\[CrossRef\]](#)
- Hudson, Joyce A. 1978. *The Core of Walmatjari Grammar*. Canberra: Australian Institute of Aboriginal Studies.
- Kifle, Nazareth Amlesom. 2011. Tigrinya Applicatives in Lexical-Functional Grammar. Ph.D. thesis, University of Bergen, Bergen, Norway.

- Koch, Harold. 2021. Associated Motion in the Pama-Nyungan languages of Australia. In *Associated Motion*. Edited by Antoine Guillaume and Harold Koch. Berlin: De Gruyter Mouton, pp. 231–324.
- Laughren, Mary, Kenneth Hale, and the Warlpiri Lexicography Group. 2007. *Warlpiri-English Encyclopaedic Dictionary*. Brisbane: University of Queensland.
- Laughren, Mary. 1989. The configurationality parameter and Warlpiri. In *Configurationality: The Typology of Asymmetries*. Edited by László Marácz and Pieter Muysken. Dordrecht: Foris, pp. 319–53.
- Laughren, Mary. 1992. Secondary predication as a diagnostic of underlying structure in Pama-Nyungan languages. In *Thematic Structure: Its Role in Grammar*. Edited by Iggy Roca. Berlin: Foris, New York: Walter de Gruyter, pp. 199–246. [\[CrossRef\]](#)
- Laughren, Mary. 1999. Constraints on the Pre-auxiliary Position in Warlpiri and the Nature of the Auxiliary. Paper presented at 1999 Conference of the Australian Linguistic Society, Perth, Australia, September 28–October 2.
- Laughren, Mary. 2002. Syntactic constraints in a “free word order” language. In *Language Universals and Variation*. Edited by Mengistu Amberber and Peter Collins. Westport: Praeger, pp. 83–130.
- Laughren, Mary. 2010. Warlpiri verbs of change and causation: The thematic core. *Complex Predicates: Cross-Linguistic Perspectives on Event Structure* 167–236. [\[CrossRef\]](#)
- Laughren, Mary. 2013. A revised analysis of Warlpiri verb inflections plus auxiliary combinations: Their makeover in “Light” Warlpiri. In *Proceedings of the 2012 Conference of the Australian Linguistic Society*. Edited by John Henderson, Marie-Eve Ritz and Celeste Rodriguez-Louro. Perth: The University of Western Australia, pp. 1–14.
- Laughren, Mary. 2017. The Ergative in Warlpiri: A Case Study. In *The Oxford Handbook of Ergativity*. Edited by Jessica Coon, Diane Massam and Lisa Demena Travis. Oxford: Oxford University Press. [\[CrossRef\]](#)
- Legate, Julie Anne. 2001. The configurational structure of a nonconfigurational language. In *Linguistic Variation Yearbook*. Edited by Pierre Pica and Johan Rooryck. Amsterdam: Philadelphia: Benjamins, vol. 1, pp. 61–104. [\[CrossRef\]](#)
- Legate, Julie Anne. 2002. *Warlpiri: Theoretical Implications*. Cambridge: Massachusetts Institute of Technology.
- Legate, Julie Anne. 2008. Morphological and abstract Case. *Linguistic Inquiry* 39: 55–101. [\[CrossRef\]](#)
- Lichtenberk, Frantisek. 2002. The possessive-benefactive connection. *Oceanic Linguistics* 41: 439–74. [\[CrossRef\]](#)
- McConvell, Patrick. 1996a. *Gurindji Grammar*. Unpublished manuscript. Canberra: AIATSIS.
- McConvell, Patrick. 1996b. The Functions of Split-Wackernagel Clitic Systems: Pronominal Clitics in the Ngumpin Languages (Pama-Nyungan family, Northern Australia). In *Approaching Second: Second Position Clitics and Related Phenomena*. Edited by Aaron Halpern and Arnold Zwicky. Stanford: CSLI Publications, pp. 299–331.
- Meakins, Felicity, and Patrick McConvell. 2021. *A Grammar of Gurindji, a Ngumpin-Yapa Language of Australia*. Berlin: Mouton de Gruyter.
- Meakins, Felicity, and Rachel Nordlinger. 2014. *A Grammar of Bilinarra*. Boston and Berlin: Walter de Gruyter.
- Meakins, Felicity, and Rob Pensalfini. 2020. Holding the mirror up to converted languages: Two grammars, one lexicon. *International Journal of Bilingualism* 25: 425–57. [\[CrossRef\]](#)
- Meakins, Felicity, Thomas Ennever, David Osgarby, Browne Mitchell, and Amanda Hamilton-Hollaway. Forthcoming. Ngumpin-Yapa languages. In *Handbook of Australian Languages*. Edited by Claire Bowern. Oxford: Oxford University Press.
- Mushin, Ilana. 2006. Motivations for second position: Evidence from North-Central Australia. *Linguistic Typology* 10: 287–326. [\[CrossRef\]](#)
- Nash, David George. 1979. Preliminary Vocabulary of the Warlmanpa Language. Unpublished Manuscript.
- Nash, David George. 1980. *Topics in Warlpiri Grammar*. New York and London: Garland.
- Nash, David George. 1982. Warlpiri preverbs and verb roots. In *Papers in Warlpiri Grammar: In Memory of Lothar Jagst*. Edited by Stephen Swartz. Berrimah: Summer Institute of Linguistics, pp. 165–216.
- Nash, David George. 1997. Sketch of Warlmanpa by Contrast with Warlpiri. Available online: <http://www.anu.edu.au/linguistics/nash/aust/wpa/wpa-wlp-contrast.html> (accessed on 11 August 2021).
- Nash, David George. 2008. Warlpiri verb roots in comparative perspective. In *Morphology and Language History: In Honour of Harold Koch*. Edited by Claire Bowern, Bethwyn Evans and Luisa Miceli. Amsterdam: John Benjamins Publishing Company, pp. 221–34. [\[CrossRef\]](#)
- Nash, David George. 2016. Warlmanpa verbs in comparative perspective. Paper presented at Ngumpin–Mirndi Contact Workshop, St Leo’s College, University of Queensland, St Lucia, Australia, April 8.
- O’Shannessy, Carmel. 2005. Light Warlpiri: A New Language. *Australian Journal of Linguistics* 25: 31–57. [\[CrossRef\]](#)
- Osgarby, David John. 2018. Verbal morphology and syntax of Mudburra: An Australian Aboriginal Language of the Northern Territory. Master’s thesis, University of Queensland, Brisbane, Australia.
- Pentland, Christina, and Mary Laughren. 2004. Distinguishing prosodic word and phonological word in Warlpiri: Prosodic constituency in morphologically complex words. In *Proceedings of the 2004 Conference of the Australian Linguistics Society*. Edited by Ilana Mushin. Sydney: The University of Sydney.
- Schultze-Berndt, Eva. 2000. *Simple and Complex Verbs in Jaminjung: A Study of Event Categorisation in an Australian Language*. Nijmegen: University of Nijmegen.
- Senge, Chikako. 2015. *A Grammar of Wanyjirra, a language of Northern Australia*. Ph.D. thesis, The Australian National University, Canberra, Australia.

- Simpson, Jane, and Ilana Mushin. 2008. Clause-initial position in four Australian languages. In *Discourse and Grammar in Australian Languages*. Edited by Ilana Mushin and Brett Baker. Amsterdam: John Benjamins Publishing Company, pp. 25–58.
- Simpson, Jane. 1988. Case and complementiser suffixes in Warlpiri. In *Complex Sentence Constructions in Australian Languages*. Edited by Peter K. Austin. Amsterdam: John Benjamins Publishing Company, pp. 205–18.
- Simpson, Jane. 1991. *Warlpiri Morpho-Syntax: A Lexicalist Approach*. Dordrecht: Kluwer.
- Simpson, Jane. 2005. Depictives in English and Warlpiri. In *Secondary Predication and Adverbial Modification: The Typology of Depictives*. Edited by Nikolaus P. Himmelmann and Eva Schultze-Berndt. Oxford: Oxford University Press, pp. 69–106. [[CrossRef](#)]
- Simpson, Jane. 2007. Expressing pragmatic constraints on word order in Warlpiri. In *Architectures, Rules, and Preferences: Variations on Themes by Joan Bresnan*. Edited by Annie Zaenen, Jane Simpson and Tracy Holloway King. Stanford: Center for the Study of Language and Information Publications, pp. 403–27.
- Swartz, Stephen. 1982. Syntactic structure of Warlpiri clauses. In *Papers in Warlpiri Grammar: In Memory of Lothar Jagst*. Edited by Stephen Swartz. Darwin: Summer Institute of Linguistics, pp. 69–127.
- Swartz, Stephen. 1991. *Constraints on Zero Anaphora and Word Order in Warlpiri Narrative Text*. Darwin: Summer Institute of Linguistics.
- Tsunoda, Tasaku. 1981. *The Djaru Language of Kimberley, Western Australia*. Canberra: Pacific Linguistics.
- Wilson, Stephen. 1999. *Coverbs and Complex Predicates in Wagiman*. Stanford: CSLI.