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# Multiple construction types for nominal expressions in Australian languages
## Towards a typology

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This paper explores the rich diversity in structural possibilities that are available for (simple) nominal expressions in Australian languages. First, I identify a number of construction types found across a 50 language sample, which may be recognised by using a restricted set of parameters. I show that an important factor is whether a given parameter (such as word order) is generalised or displayed only by some word classes. Second, I develop a four-way typology based on how the construction types cluster in individual languages. Two types are described to some extent in the literature, but I provide a more detailed characterisation: one mostly has flexible, non-phrasal expressions and the other mostly rigid noun phrases. The other two types have not been described as such. One mostly has flexible phrases, which combine internal flexibility with phrasal case marking, and the other has distinct construction types depending on the type of modifier.

Keywords: noun phrase, nominal expressions, typology, Australian Aboriginal languages

## 1.    Introduction

Nominal expressions, i.e. expressions whose elements function together to establish or track reference, come in different shapes, not only across but also within languages. This kind of variation is found abundantly in Australian languages, which show a rich diversity in structural possibilities even for simple nominal expressions (i.e. ones without complex modifiers such as relative clauses or adnominal phrases). While such variation is often described at least to some extent in individual grammars, there is no encompassing typology that fully maps

and typologises the available diversity. This paper therefore sets out to explore the range of structural possibilities for nominal expressions found across Australian languages, and to develop a typology based on which types of constructions characteristically co-occur within these languages.

Before I introduce the set-up of the study and the resulting typology, let me first illustrate some of the structural possibilities for nominal expressions that may be found within a single language, in order to provide a better understanding of the variation referred to above. In Paakantyi, adjective-noun expressions have rigid internal order (1a), while expressions with possessive pronouns have flexible order (1b)–(c), determined by pragmatic factors; all three structures have a single relational case marker at the right edge (Hercus 1982: 86–87, 98–103, examples). By contrast, demonstrative-noun expressions, which also have flexible internal order, show variation in case marking: a single case marker when the demonstrative follows the head (1d) and case agreement when it precedes the head (1e) (based on Hercus 1982: 100, examples). Paakantyi also has discontinuous nominal expressions, as in (1f), where the expression consists of a noun and an adjective. In other words, we can distinguish at least four types of structures for simple nominal expressions in this language.

PAAKANTYI

(1)  a.  *yaldi*  *gulda-ndu*  *dubura-dji*
         long    grass-ABL    hop-PST
         'It hopped out of the long grass.'

     b.  *widu-widu-la-ana*      *yala*   *widuga*   *iduna-ri*
         chase-RDP-TOP-PTCP     own     sister    his-DAT
         'He is running after his own sister!'

     c.  *ŋana*   *balgu-na*        *bagi-ŋga-adu*
         my      language-LOC     sing-ASP-1SG.A
         'I'm singing in my own language.'

     d.  *gāgudj'-ayi*      *inu-ru*      *wadu-na*   *gina*   *dalda*
         brother-1SG.POSS  this-ERG     get-PTCP   this    kangaroo
         'This brother of mine is getting the kangaroo.'

     e.  *gaŋa-ri*   *gīra-ri*   *bari-dji*
         this-ALL   place-ALL  go-PST
         'He went to this place around here.'

f.  ['Just look at this cool clear water! There are mussels in the mud (at the bottom). I'll swim in the river (and get some).']

_duna_   **_bulduru_**   _daga-adu_   **_gumbadja,_**   _diga-l-d-āba_
then    canoe       cut-1SG.A    big            return-TOP-FUT-1SG.S

_yuŋa_   _gīra-ayi-ri_
own     country-1SG.POSS-ALL

'And then I'll cut out a big canoe and go home to my own place.'

(Hercus 1982: 99, 103, 75, 100, 121, 241–242)

As with Paakantyi, many grammars have relatively fine-grained descriptions and/ or illustrations of the different structural possibilities available for nominal expressions. I use these to, in a first step, survey the existing diversity in a sample of Australian languages, and argue that it can be typologised using a restricted set of parameters. Some of these parameters are well-known, such as internal word order or locus of relational case marking; they are taken from the literature on noun phrase constituency (see e.g. Pensalfini 1992; Krasnoukhova 2012: 167–191; Louagie & Verstraete 2016; Louagie & Reinöhl 2022). Others have received less attention. In particular, I show that an important factor in the description of the variation is whether a given parameter (such as word order) is generalised or displayed only by some word classes. The latter was already illustrated in (1) above: expressions with adjectives as modifiers show rigid order, while expressions with possessives and demonstratives show flexible order in Paakantyi. Together, the parameters define a number of construction types[1] for nominal expressions found across the languages of the sample.

In a second step, I investigate how these construction types cluster in individual languages, and develop a four-way typology for the nominal domain, based on languages' default cluster of properties. Of the four types, two have already been described to some extent in the literature. One has mostly 'loose' (i.e. flexible and non-phrasal) expressions, and is probably the type that Australian languages are most famous for (see e.g. Hale 1981, 1983; Blake 1983; Heath 1986; Harvey 1992; Austin & Bresnan 1996; Rijkhoff 2002: 19–23; Pensalfini 2004; Nordlinger 2014: 227–232, 237–241; Louagie & Verstraete 2016; Louagie & Reinöhl 2022 for discussion). The other has mostly rigid phrases, a construction type associated especially with English and several other Indo-European languages, but shown to be also well-represented in Australia (see Louagie & Verstraete 2016 for a typological study, building on earlier work by e.g. McGregor 1989, 1990, 1997; Croft 2007; Schultze-Berndt & Simard 2012). While these types are not new, in this paper I provide a more detailed characterisation, and describe other construction types

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**1.**  I use the term 'construction' quite loosely here, and not in the more specialised sense as found in theories of Construction Grammar.

typically available in the nominal domain (e.g. pockets of phrasality in the flexible type, and conversely, pockets of flexibility in the rigid type). The other two language types have not been described as such before. One mostly has flexible phrases, which combine word order flexibility with good external evidence that the elements are to be considered tight syntactic units; the other has a range of distinct construction types for different categories, as in Paakantyi (see Example 1 above).

The paper thus tries to provide a more nuanced typological discussion of the nominal domain in Australian languages than is currently available. The study is based on a sample of 50 Australian languages, which is introduced in Section 2. Section 3 explores the structural options found across the sample and discusses how four independent parameters together identify a range of construction types. Section 4 investigates which construction types typically co-occur in individual languages, and provides a detailed discussion of the four-way typology introduced above. Section 5, finally, offers a conclusion.


## 2.   Sample and data

This study uses a sample of 50 Australian languages, compiled on the basis of three factors. First, the sample is a convenience sample in the sense that only languages were selected for which grammatical descriptions are available, preferably detailed ones. Some more limited descriptions were included if no detailed ones were available for a particular area or family. This relates to the second factor, i.e. the need to be representative of the genetic and areal diversity found on the continent; the sample thus includes 30 Pama-Nyungan languages and 20 languages from smaller families, spoken in different areas. The Pama-Nyungan family is the largest family in Australia, covering about two thirds of all languages (Bowern & Atkinson 2012: 817); many though not all lower-level subgroups are represented in the sample. Apart from Pama-Nyungan, 16 of the smaller families and isolates in Australia are represented in the sample (see Evans 2003b on their classification; also van Egmond 2012 on Anindilyakwa). The third factor taken into account is the expected variation in the nominal domain, based on the data and results from Louagie & Verstraete (2016). An overview of the sample is given in Table 1, showing the genetic classification and sources used for each language. Map 1 gives a geographical overview of the sample, showing the Pama-Nyungan languages in blue and the so-called non-Pama-Nyungan languages in red (actually including 16 families, as mentioned above).

**Table 1.** Overview of the 50 language sample

| Family | Subgroup | Language | References |
|---|---|---|---|
| Pama-Nyungan | (unclear) | Kala Lagaw Ya | Ford & Ober (1987, 1991), Stirling (2008) |
| | Northern Paman | Uradhi | Crowley (1983) |
| | Middle Paman | Kugu Nganhcara | Smith & Johnson (2000) |
| | | Umpila/Kuuku Ya'u | Hill (2018, p.c.) |
| | Southwest Paman | Kuuk Thaayorre | Gaby (2017, p.c.) |
| | Yimidhirr-Yalanji-Yidinic | Guugu Yimidhirr | Haviland (1979) |
| | | Kuku Yalanji | Patz (2002) |
| | Maric | Warrongo | Tsunoda (2011, p.c.) |
| | Kalkatungic | Yalarnnga | Breen & Blake (2007), Blake (p.c.) |
| | Mayi | Mayi | Breen (1981) |
| | Waka-Kabi | Duungidjawu | Kite & Wurm (2004) |
| | Gumbaynggir | Gumbaynggir | Eades (1979) |
| | Central NSW | Ngiyambaa | Donaldson (1980) |
| | | Yuwaalaraay | Giacon (2017, p.c.) |
| | Muruwari | Muruwari | Oates (1988) |
| | Karnic | Arabana-Wangkangurru | Hercus (1994) |
| | | Diyari | Austin (1981, 2013) |
| | Paakantyi | Paakantyi | Hercus (1982) |
| | Thura-Yura | Wirangu | Hercus (1999) |
| | Arandic | Arrernte (Mparntwe) | Wilkins (1989) |
| | Wati | Yankunytjatjara | Goddard (1985) |
| | Ngumpin-Yapa | Bilinarra | Meakins & Nordlinger (2014, p.c.) |
| | | Jaru | Tsunoda (1981, p.c.) |
| | Marrngu | Nyangumarta | Sharp (2004) |
| | Ngayarta | Martuthunira | Dench (1994) |
| | Kartu | Wajarri | Douglas (1981); Marmion (1996) |
| | | Yingkarta | Dench (1998) |
| | Yolngu | Dhuwal | Morphy (1983); Wilkinson (1991) |
| | | Djinang | Waters (1989) |
| | Warluwaric | Yanyuwa | Kirton (1971); Kirton & Charlie (1996), Bradley et al. (1992) |
| Tangkic | | Kayardild | Evans (1995), Round (2013, p.c.) |
| Garrwan | | Garrwa | Mushin (2012, p.c.) |
| Marran | | Mangarrayi | Merlan (1989) |
| Mindi | | Jaminjung | Schultze-Berndt (2000, p.c.), Schultze-Berndt & Simard (2012) |

**Table 1.** *(continued)*

| Family | Subgroup | Language | References |
|---|---|---|---|
| Northern Daly | | Malakmalak | Birk (1976); Tryon (1974), Dorothea Hoffmann (p.c.) |
| Western Daly | | Marrithiyel | Green (1989) |
| Southern Daly | | Ngan'gityemerri | Reid (1990, 1997) |
| Wardaman | | Wardaman | Merlan (1994) |
| Gaagudju | | Gaagudju | Harvey (2002) |
| Tiwi | | Tiwi | Lee (1987) |
| Gunwinyguan | | Anindilyakwa | van Egmond (2012, p.c.), Bednall (p.c.) |
| | | Bininj Kunwok | Evans (2003a) |
| Maningrida | | Ndjébbana | McKay (2000) |
| Iwaidjan | | Mawng | Singer (2006, p.c.), Forrester (2015, p.c.) |
| Bunuban | | Gooniyandi | McGregor (1989, 1990, 1997, p.c.) |
| Nyulnyulan | | Bardi | Bowern (2012) |
| | | Nyulnyul | McGregor (2011, p.c.) |
| | | Yawuru | Hosokawa (1991) |
| Worrorran | | Ungarinyin | Rumsey (1982), Spronck (2015, p.c.) |
| | | Worrorra | Clendon (2000, 2014) |
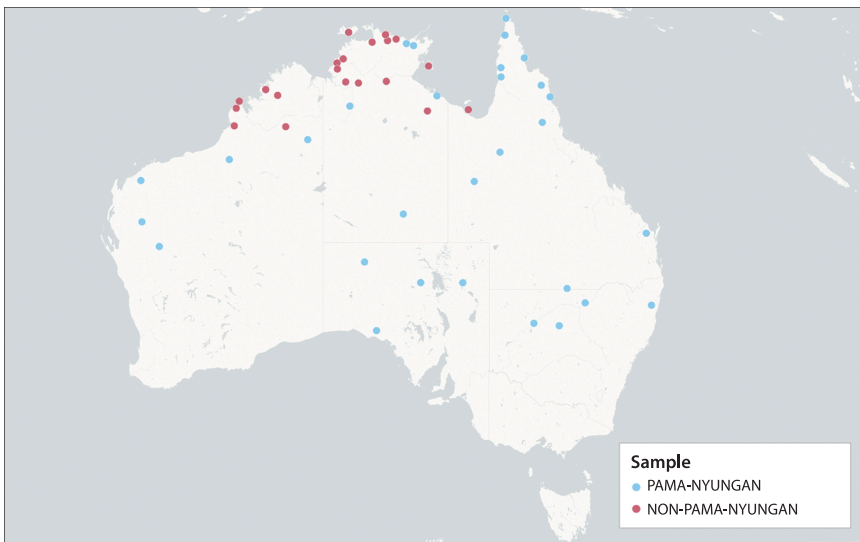


**Map 1.** Overview of the 50 language sample. An interactive version of this map can be consulted at http://bit.ly/sample-Aus50-DL (last access 12 September 2022)[2]

For each language of the sample, an inventory was compiled of the available structural possibilities for nominal expressions, on the basis of the analyses provided in the grammatical descriptions listed in Table 1 above, as well as textual examples in these sources. The main focus is on simple nominal expressions, which display a wealth of variation already, but I include reference to complex ones when relevant (esp. expressions where the head is modified by another, potentially embedded, nominal expression, e.g. for a lexical possessor). Following Himmelmann (1997: 111, 117–119), Louagie & Reinöhl (2022) and others, I use 'nominal expression' as general term for one or more elements in the nominal domain that function together to establish or track reference (among other things), regardless of their construction type and regardless of whether there is evidence for phrasal status. The term 'noun phrase' is used specifically for those nominal expressions that show evidence for phrasality, such as rigid order or external treatment as single syntactic unit (see further in Section 3; see Louagie & Verstraete 2016 for a focused investigation into noun phrase constituency in Australian languages).

The inventory compiled includes nominal expressions only; that is, elements that do not form a single nominal expression are excluded.[3] Afterthoughts, for instance, are not considered to form a single expression with the noun or expression in the core clause which they elaborate on (see also e.g. Schultze-Berndt & Simard 2012; Reinöhl 2020; Louagie & Reinöhl 2022). Similarly, structures below word-level or outside the nominal domain are not further considered, even though in some languages they are productive alternatives for nominal expressions (e.g. in Bininj Kunwok, compounding may be used to express head-modifier relations for particular classes of nouns, and verb-incorporated nouns may be modified by verb-external elements; Evans 2003a: 172–173, 235–237). Note that elements occurring discontinuously from each other but forming a single

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**2.**  The maps for this paper were created using the tool Carto (see https://carto.com, last access 12 September 2022). I use Open Street Map ('Voyager (lite)') as my basemap, which is open data (see https://www.openstreetmap.org/copyright, last access 12 September 2022, for more details).

**3.**  As one reviewer also notes, it is not always easy to determine this for all examples and for all languages, especially in the absence of any prosodic information. I have relied on the analyses presented in the individual descriptions, where available. Some also include e.g. comma marking to indicate prosodic breaks (I only relied on this when explicitly described as such by the author), which may point to an analysis as separate expressions (but see Himmelmann 2022 on the relation between prosodic and syntactic phrasing, where he shows e.g. that prosodic breaks may occur in strongly grammaticalised noun phrases). Of course, more careful analysis of the prosody of particular examples may show that alternative analyses are needed.

nominal expression on functional (and prosodic) grounds are thus included in the inventory; see further in Section 3.1.1.

Structures which encode reference to separate entities are also excluded from this study. This comprises morphologically unmarked possessive structures (i.e. 'juxtaposition' for certain inalienable possessive relations),[4] as well as coordinate and inclusory structures (the latter refer to the full set of referents with a single pronoun and further specify a subset of this set; Singer 2001). Any of these may involve single nominal expressions, separate ones and/or elements outside the nominal domain. This is illustrated in (2a)–(b) from Arrernte. Although both sentences express a part-whole relation, in (2a) the whole and part nouns together form a complex noun phrase, while they are expressed in separate noun phrases in (2b); the latter could be interpreted as an external possession construction. The analysis of (2b) as involving separate phrases follows from the repeated occurrence of the case marker (with case always marked only once per phrase in Arrernte; Wilkins 1989:102), and of the adnominal pronoun *re*, which is an obligatory marker of definiteness (Wilkins 1989:129, 165). Similar variation in structural realisation is found for coordinate and inclusory structures, some of which form complex nominal expressions and some of which do not (within or across languages).[5]

**ARRERNTE**

(2)   a.   *The*     **artwe**   **kaperte**   **re-nhe**    *are-rne*      *pwerte-ke*
           1SG.A    man        head         3SG-ACC      see-PST.IMM    hill-DAT
           'I just saw the man's head in the hills.'

      b.   *The*     **artwe**   **re-nhe**    **kaperte**   **re-nhe**     *are-rne*
           1SG.A    man        3SG-ACC      head         3SG-ACC       see-PST.IMM
           *pwerte-ke*
           hill-DAT
           'I just saw the man, in that I saw his head, in the hills.'    (Wilkins 1989: 411)

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**4.**   Note that expressions using possessive pronouns or possessive NPs which are morphologically marked as such (e.g. man-POSS dog 'the man's dog') are included, as they are structurally more similar to the other constructions discussed in Section 3.

**5.**   Although these construction types are not included in this paper, they are obviously still part of the range of possibilities languages have available. If we add them to the individual language inventories, which would be an important future step, I expect they will add some more complexity to the typology but not change it altogether.

## 3.    Inventory of construction types across the languages of the sample

Based on the inventories compiled for each language, this section surveys the different structural realisations of nominal expressions available across the sample. I show that they do not merely present unordered lists, but can be captured in a number of sample-wide construction types. These construction types are defined on the basis of four parameters. The first three are inspired by the literature on noun phrase constituency and thus quite well-known; however, I show that they do not always align neatly but instead seem to function independently of each other (Section 3.1). The fourth parameter has not received much attention but plays a vital role in describing the diversity found in the languages of the sample: Section 3.2 shows that each of the other three parameters may be category-specific or generalised, i.e. involve only some word classes or (almost) all types of elements. Section 3.3 summarises the construction types that emerge from the different combinations of values on each of these parameters; Table 5 in the Appendix lists the construction types found in each language (in alphabetical order), including the sources on which the analysis is based.

### 3.1    Parameters for defining construction types

The first three parameters used for defining construction types are taken from the literature on noun phrase constituency. These studies often use a set of parameters to determine whether nominal expressions are phrasal units or not (i.e. whether they can be identified as units not merely on functional grounds, but also on syntactic grounds), such as internal word order or locus of case marking (see Louagie & Verstraete 2016; Louagie 2020: 125–134 for more discussion of these parameters focusing Australian languages; see also e.g. Krasnoukhova 2012: 167–168; Louagie & Reinöhl 2022). However, these parameters do not always align for constituency as we might expect them to: languages may, for example, show rigid order and allow discontinuity of nominal expressions, at the same time permitting a choice between several types of case marking loci, as illustrated in (1) above. Therefore, it makes more sense to use these parameters as a way to characterise different types of nominal expressions within languages, instead of any language system as a whole. I thus distinguish construction types based on how different values on these parameters are combined for individual nominal expressions, leaving aside the question of constituency for now.

The rest of this section briefly reviews these three parameters,[6] demonstrating how each is independent from the others and can in principle be the sole distinguishing factor for a particular construction type (all other parameters remaining constant). The fourth parameter is the main focus of Section 3.2.

### 3.1.1    Contiguity / discontinuity

The first parameter is contiguity, where elements of a nominal expression may be adjacent to each other, or discontinuous from each other, as illustrated in (3a)–(b) from Wardaman. Although discontinuity of (putative)[7] nominal expressions has played a central role in debates on non-configurationality (esp. in earlier work, e.g. Hale 1981, 1983; Blake 1983; Heath 1986; Harvey 1992; see Nordlinger 2014: 227–232 for an overview), surprisingly few focused studies have been carried out; exceptions are McGregor (1997); Croft (2007); Simpson (2007) and Schultze-Berndt & Simard (2012) for detailed studies of individual languages, and Pensalfini (1992) and Louagie & Verstraete (2016: 49–54) for typological studies of Australian languages. These studies have clearly shown that discontinuous nominal expressions are separate constructions and not mere variants of contiguous ones: they generally seem to have clear formal correlates and functional motivations, often related to different types of focus, such as contrastive argument focus (as in Example 3b, which contrasts the big yams with the little ones; Merlan 1994: 241), or sentence focus (Schultze-Berndt & Simard 2012; Schultze-Berndt 2022).

**Wardaman**

(3)    a.    *barlagbarlarra*    *ø-gi-ndi-ya*    *yu*    *no*    ***majagmajad***
hide.RDP    3SG-put-PST-NAR    [you    know]    big.RDP.ABS
***mayin***
food.ABS
'he hid it, you know, the great big vegetables'

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**6.** While prosody certainly plays an important role in distinguishing nominal expressions from construction types such as afterthoughts, it is less clear what role it plays in distinguishing between types of nominal expressions (see Himmelmann 2022 for some discussion). Information on prosody is scarce for the languages of the sample, so I only discuss it where available and relevant.

**7.** Recall that only single nominal expressions are included, that is, elements which share a discourse functional role (usually a referential one). We thus need to carefully distinguish, for example, true discontinuous expressions from look-alike constructions such as afterthoughts or dislocations, which are usually prosodically distinct but often do not show any other structural differences (Schultze-Berndt & Simard 2012; also Reinöhl 2020; Louagie & Reinöhl 2022).

b. *mundul-ma*   *yirr-gi-ndi-wuya*       *manda-gan*   *wuduwudu,*
cover-PS    1EXC.NSG-AUX-PST-DU    what-INDEF   little.RDP

*oni*   ***majadmajad***   *yirr-me-ndi-ya*       ***mayin***
[only]   big(M).RDP.ABS    1EXC.NSG-get-PST-NAR   food.ABS

'We covered up the what, the little ones. We only got the big tubers.'

(Merlan 1994: 475, 346)

The parameter of contiguity is independent from those of word order and locus of case marking. In other words, we are able to distinguish several contiguous construction types, and several discontinuous construction types, each with different values for word order and/or for locus of case marking, as illustrated in the next two subsections.

### 3.1.2  Internal word order

The second parameter is internal word order, which may basically be rigid or flexible. It should be stressed that this parameter is studied independently of contiguity. That is, rigid order (e.g. modifier – head) may for example be a characteristic of a contiguous expression or of a discontinuous one. Conversely, when I categorise a contiguous type as flexible, this does not a priori mean that it includes a possibility for discontinuity. Word order may thus distinguish different contiguous and discontinuous construction types, which I illustrate in turn.

As for contiguous constructions, we find rigid ones, as illustrated in (4) for noun and demonstrative in Wajarri (Douglas 1981: 241), and flexible ones, as illustrated in (5a)–(d) for the same elements in Arabana-Wangkangurru (Hercus 1994: examples; it is unclear what motivates word order). Note that flexible constructions may still show evidence for phrasality, for example in interaction with phrasal case marking: a single case marker for the whole nominal expression shows that it is treated as a syntactic unit from an external perspective. This is the case in (5a)–(b), which has flexible order for noun and demonstrative, but a single right-edge case marker; such structures are analysed as flexible phrases (see further in Section 3.3).

**WAJARRI**

(4) ***yamatji*** ***panja*** *pala-karti*   *njina-manja*
fellow    that    that-around   sit-PRS

'That fellow (we were talking about) is sitting around there.'

(Douglas 1981: 224)

**ARABANA-WANGKANGURRU**

(5) a. *Thangka-rda* ***awarda*** ***punga-nga,***   *ulyurla-kunha-nga.*
sit-PRS       this.one   humpy-LOC   woman-POSS-LOC

'That man is staying in the house, in the one belonging to the woman.'

b. *Uka-ru    nhupa   pirda-ka:    athu    nhanhi-ka   uka-kunha*
   he-ERG    wife    beat-PST    I.ERG    see-PST    he-POSS
   *nhupa    pirda-nha-nga    nharla-ru,    **nharla    akarda-ru.***
   wife    beat-NPST-LOC    man-ERG    man    that-ERG
   'He beat his wife: I saw him beating her, that man.'[8]

c. *Thangka-ngura    **kanhangarda-nga    ngura-nga.***
   sit-CONT    that.one-LOC    camp-LOC
   '(He) was staying in that camp (the one we were just talking about).'

d. *Mayarla,    yuld-pa.rra-pa.rrai!    Uka    waya-rnda    **kadnha***
   leave    take-OPT-OPT(EMPH)    he    want-PRS    stone
   ***awarda.***
   this
   'Let it be, for goodness sake let him take that stone away, if he is that keen
   on it!'                                            (Hercus 1994: 124, 183, 73, 281)

Word order may also distinguish different discontinuous construction types,
where word order may be interpreted more broadly, concerning not only the
order of the 'split' elements, but also which types of elements may intervene.
In Bardi, for example, word order distinguishes two discontinuous construction
types: on the one hand, flexible two-word discontinuous constructions for head-
quantifier expressions, with the verb as sole intervening element, and on the other
hand, rigid discontinuous constructions where one element is found sentence-
initially and the rest of the nominal expression is elsewhere, usually sentence-
finally (Bowern 2012: 328–329, 336–338); the two constructions are illustrated in
(6a)–(b) and (6c) respectively. Unfortunately, most descriptions do not explicitly
mention word order in discontinuous expressions, and it is difficult to draw con-
clusions based on examples of discontinuity given in grammars, which are often
very limited in number.

**BARDI**

(6) a. ***Jalboorroo    i-ng-irr-i-loonga-n    aarli    bard    diird***
   little    3-PST-AUG-TR-collect-REM.PST    meat    off    run
   *i-ng-irr-i-n    mara-ngan    araboora.*
   3-PST-AUG-do/say-CONT    far-ALL    other.place
   'They picked up a little bit of meat and ran away to another place far away.'

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**8.**  Despite its sensitive content, I include this example here because it is the only clear example
of this construction type found in the grammatical description. This implies that, while the type
is attested, it is probably infrequent.

b. ***Aarli***   *i-na-m-boo-na*          ***gooyarra***
   fish   3-TR-PST-spear-REM.PST   two
   'He speared two fish.'

c. ***Jawal***   *nga-n-k-ilng-a*       ***ngajana   aamba   jina.***
   story   1-TR-FUT-tell-FUT   my         husband   his
   'I'll tell a STORY about my husband.'

                   (Bowern 2012: 337, 329, 338; additional glossing for c, DL)

Note that word order can be defined in different ways, as also done in the grammatical descriptions of my sample. Rigidity is defined in terms of word classes in the majority of them (e.g. nouns are followed by adjectives), as in the examples above. However, in a smaller number of grammars rigidity is defined in terms of functional-semantic roles (e.g. qualifiers always follow entities), regardless of what word classes the elements belong to.[9] This may be illustrated with Gooniyandi (McGregor 1990: 253–276): an element from one word class may occur in different positions in the nominal expression, but each position is associated with a different functional-semantic role (i.e. they show rigid order), as shown in the template in (7a). Compare for instance (7b), where *thiwa* 'red' in pre-head position identifies a subtype of women "according to what is perceived as the characteristic colour of their skin" (McGregor 1990: 262), with (7c), where the same nominal in post-head position functions to attribute a quality to the referent. In other words, the difference in word order of the two nominals represents an important semantic difference. Since the order of the functional-semantic roles is rigid in Gooniyandi, I analyse such constructions as involving rigid word order.

**GOONIYANDI**

(7) a. NP template: (Determiner) (Quantifier) (Classifier) Entity (Qualifier)

   b. *thiwa*        *goornboo*
      CLASSIFIER   ENTITY
      red          woman
      'a white woman'

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**9.**  As pointed out by a reviewer, a related issue concerns the flexibility of lexemes between head and modifier function that is found in some languages. There is some discussion as to whether this flexibility should be analysed as real flexibility or as involving zero-derivation, and thus whether there is a flexible word class of nominals, or distinct word classes of nouns and adjectives, respectively. For more discussion of these questions, see e.g. McGregor (2013) on Gooniyandi; and Nordlinger (2014: 237–238), Louagie (2020: 66–83), Louagie (forthc.) and Kim (forthc.) on Australian languages in general.

c.  *jiga*      *thiwa*
    ENTITY    QUALIFIER
    flower    red
    'a red flower'                                    (McGregor 1990: 253, 272)

This can be contrasted with instances which can be analysed as genuinely flexible, for instance to mark differences in terms of information structure (rather than variable word classes for a single semantic role within the NP). This may be the case for the Arabana-Wangkangurru examples in (5) above, but the available information is too limited to be sure – in fact, most descriptions do not discuss the question of what motivates word order in detail. One language for which word order variation is described in terms of information structure is Garrwa, where nominals may precede or follow their head without clear semantic implications; generally, the most prominent (e.g. newest) information is put first (Mushin 2012: 257–258). This is illustrated in (8), where in (8a) both nominals present new information and the entity nominal precedes the qualifying nominal, while in (8b) only the qualifying nominal presents new information, attributing a quality to a previously established referent, and hence preceding the entity nominal (Mushin 2012: 258). Such examples are thus analysed as involving flexible order. Admittedly, the distinction between cases as in Gooniyandi and ones as in Garrwa is not always easy to make, and it is a slippery slope. Of necessity, my analysis of particular constructions in individual languages here is strongly dependent on the analyses in the grammatical descriptions. It may well be that on closer inspection, word order differences in other languages turn out to be related to semantic differences, and more languages turn out to have rigid construction types of the kind found in Gooniyandi.[10]

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**10.**   It is also important to note that an analysis in terms of functional-semantic roles does not necessarily equal rigidity. For example, Umpila has been analysed by Hill (2018) in functional terms, with flexible order for the determiner role (see Section 4.4 for more discussion). Similarly, Louagie (2017) investigated to what extent nominal expressions in Australian languages have determiner slots, and, in addition to languages with a rigid determiner slot, also identified a number of languages with two such slots, i.e. which have a flexible position for determiners. This is separate from the question which types of elements may occur in these (rigid or flexible) determiner slots; many languages allow elements to be flexible between the determiner role and another role such as qualifier (see ibid. for more discussion and examples).

**GARRWA**

(8)  a.  *yubal-ina*    *wayka*    *wudumba*    *yal=i*    ***mundangu***
         road-LOC    down    get    3PL.NOM=PST    long-necked.turtle
         ***walkurra***
         big
         'Down the road they got a big long-necked turtle.'

     b.  *mali*    *nurr=i*    *yabimba=yi*    *nana-ba,*
         floodwater    1PL.EXC.NOM=PST    make=PST    that-DEIC
         ***walkurra***    ***mali***
         big    floodwater
         'We had a flood over there – a big flood.'    (Mushin 2012: 258)

### 3.1.3  Locus of case

The third parameter is locus of relational case marking. There are basically two options for marking relational case in nominal expressions across the sample (see also Blake 1987: 78–91; Dench & Evans 1988: 2–6; Louagie & Verstraete 2016: 30–31): once per expression (phrasal), or on each element (word); some languages do not mark case at all, or only for some non-core cases. If case is marked once per phrase, the case marker may appear at one of the edges, on the head, on the modifier, or have a variable position. We can thus say that a particular nominal expression is characterised by a particular locus of case. This is independent both from word order and from contiguity, i.e. the sample has examples of rigid, flexible, contiguous and discontinuous expressions with all loci of case marking, as illustrated further below.

Within a single language, locus of case may be a constant feature across all or most nominal expressions, or it may vary. An example of the former is found in Arrernte, where both the rigid and the flexible construction types are characterised by right-edge phrasal case marking; see Section 4.1 below for examples. Examples of varying loci of case marking are given in the rest of this section; overall, this most commonly involves the availability of both expressions with word marking and ones with phrasal marking in the same language (see e.g. McGregor 1989; Louagie & Verstraete 2016: 42–44; Louagie 2020: 143–148 on some formal and functional correlates of these patterns).

Locus of case marking may in other words function as a distinguishing factor for construction types. For example, case locus distinguishes two types of contiguous rigid constructions in Arabana-Wangkangurru: noun-adjective phrases may occur with right-edge phrasal marking, as in (9a), or with word marking, as in (9b); the latter is associated with more emphasis on the first word (Hercus 1994: 63). Note that the construction in (9b) is analysed as a single noun phrase by Hercus (ibid.), though the translation suggests an appositional analysis; the two

need not contradict each other, as elements in close apposition may still form a phrase (see Section 4.1 below for a similar analysis of Nyulnyul).

**ARABANA-WANGKANGURRU**

(9)  a.  ***Mathapurda   kumpira-kumpira-kari-ri   ngunta-ka.***
        old.man       dead-dead-PL-ERG         show-PST
        'The old men, long dead, told me this.'

     b.  ***Mathapurda-kari-ri   kumpira-kumpira-kari-ri   ngunta-ka.***
        old.man-PL-ERG         dead-dead-PL-ERG         tell-PST
        'It was the old men who told me this, the old men long dead.'

(Hercus 1994: 63)

In Anindilyakwa, case locus may distinguish different types of flexible (contiguous) constructions. Only non-core cases are marked, usually only once per nominal expression, on one of the modifiers, as in (10a), and occasionally on multiple or all elements, as in (10b)–(c). The examples also show that word order for noun and adjective is flexible, with adjective-noun order being most common (van Egmond 2012: 302–304).

**ANINDILYAKWA**

(10)  a.  *ambarri-ya*       ***arvmv-manja***     ***eeka***
         IMP.2.sit-NPST1    NEUT.big-LOC      NEUT.tree
         'sit next to the big tree!'

      b.  *kembirra*   *kvngv-ma-rerrma-ji-na*        ***mukwena-manja***
         then        IRR.3F-VEG-dry-CAUS-NPST2     VEG.heat.of.sun-LOC
         ***m-ardvdarra-manja***
         VEG-hot-LOC
         'then she will dry them [mvnhvnga 'VEG.burrawang'] in the hot sun'

      c.  *akwalha*     *narri-yena-nga-ma*        ***alyarrngandhv-manja***
         NEUT.some    3AUG/NEUT-roast-PST2-ma   NEUT.hot-LOC
         ***amarnvnv-manja***
         NEUT.coals-LOC
         'they cooked some in the hot coals'          (van Egmond 2012: 303, 304)

For discontinuous construction types, locus of case marking seems to only play a distinguishing role in one language in the sample, Bardi. Bardi has discontinuous nominal expressions with word marking, as in (11a), and with phrasal marking, as in (11b); the latter is more unusual (Bowern 2012: 337). In a handful of other languages, discontinuous expressions always display phrasal case marking (e.g. Kuuk Thaayorre, Gaby 2017: 196; and Yawuru, see Section 4.3), but in the vast majority, discontinuous expressions are always characterized by word marking, even when all contiguous expressions are characterised by phrasal marking.

**BARDI**

(11)  a.  ***Boordiji-nim***    *i-n-nya-na*          ***alinggoonoo-nim***    *barnimi*
         big-ERG           3-TR-catch-REM.PST   rainbow-ERG           around
         *booroo    i-ng-arr-ala-na.*
         look      3-PST-AUG-look-REM.PST
         'A big rainbow caught [her] and they looked around.'

      b.  *Darr    i-ng-arr-ar-na    daamanjoonoo*    ***arinyji***    *i-na-milgi-n=irr*
         come    3AUG-pierce       raiding.party    one           3-wake.up=3A.DO
         ***jinala-nim.***
         spear-ERG
         'They came as a raiding party; one spear woke them up.'

                                                                    (Bowern 2012: 329, 337)

## 3.2  Category-specific versus generalised constructions

The previous section surveyed three basic parameters that may vary largely independently for each nominal expression, and showed how each may be a distinguishing factor for construction types. This section introduces yet another parameter to cross-cut the previous three: the category-specific or generalised nature of a construction type, i.e. whether a particular type involves only specific word classes (e.g. only adjectives, or only pronominal heads),[11] or (almost) all elements that may occur in a nominal expression. The rest of this section illustrates how this parameter interacts with each of the previous ones. I first discuss category-specificity in word order, which is probably the least surprising and best described instantiation. Category-specificity in relation to the other parameters is less often discussed in grammars, so the discussion is less systematic.

### 3.2.1  Category-specificity in relation to word order

Word order patterns, whether rigid or flexible, may have a category-specific or generalised nature; each combination is found abundantly across the sample and illustrated in the rest of this section. How the different types co-occur within individual languages is investigated in Section 4.

 An example of category-specific rigidity was given in (9) above for Arabana-Wangkangurru, where adjectives always follow the head in contiguous constructions (which may be characterised by either phrasal or word marking), in contrast

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**11.**  I refer to word classes in a language-specific sense: the elements involved in a particular type may be different across languages, and if similar, they are not necessarily comparable in all respects. This does not impact on the typology, as the main contrast is between constructions which are found across most or all word classes within a language and those which are not.

to expressions with other types of modifiers. Another example may be found in Anindilyakwa, where rigidity is tied to the type of head: pronominal heads can only be modified by a following demonstrative, as illustrated in (12) (van Egmond 2012: 87–88, examples).

**Anindilyakwa**

(12) ***Ngayuwa    nvng-ena    nvng-arvma.***
      1.PRO        1-this       1-big
      'I am big.'                                         (van Egmond 2012: 169)

A generalised rigid word order pattern can for example be found in Kuuk Thaay-orre, where rigidity involves almost all types of modifiers (Gaby 2017: 195–197), as shown in the simplified template in (13a) and illustrated in (13b)–(c). Note that this construction type is characterised by right-edge phrasal marking for case (excluding the adnominal demonstrative, which cannot inflect).

**Kuuk Thaayorre**

(13)  a.  NP template:
          [((N_{generic}) (N_{specific})) (Adj.P) (Poss) (Quant) (DemPron/IgnPron)]-CASE (AdnDem)

      b.  ***ngan    puumn            ngathn-thurr    kuta        theernga-rr***
          KIN     younger.brother  1SG.GEN-ERG     dog(ACC)    hit-PST.PFV
          'my younger brother hit a dog'

      c.  ***paanth    pinalam    ith***        ***ngamal.katp-rr-ø    peln***
          woman     three(NOM)  DEM:DIST     hug-RCP-NPST        3PL(NOM)
          'The three women hug each other.'            (Gaby 2017: 195–196, 300)

A category-specific flexible word order pattern was already illustrated in Section 3.1.2 (5), for expressions with nouns and demonstratives in Arabana-Wangkangurru (contrasting with the rigid construction types available for adjectives). Similarly, in Kuuk Thaayorre, flexible word order is found only in expressions with adnominal personal pronouns, which can occur at either edge of the nominal expression (Gaby 2017: 212–216), as illustrated in (14a)–(b). It is unclear what the motivation is for choosing any one particular order. Note that the pronouns in (14a)–(b) occur in a single intonation contour with their functional head and other modifiers; it is less clear whether or not they are also syntactically integrated.[12]

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**12.**  One argument against phrasality could be that the pronouns are separately marked for case and there is thus no phrasal case marking as with other constructions in the language. However, adnominal pronouns are **always** marked for case in the languages of the sample; in other words, there is never true phrasal marking in constructions with adnominal pronouns (unless they happen to be the only element carrying case). There is one exception in the sample, where

KUUK THAAYORRE

(14)  a.  **nhul**        **Irene**        *make.friend*    *rirk-r*      **pelnungun**
          3SG(NOM)    Irene(NOM)    make.friend    do-PST.PFV    3PL.DAT
          **family**    **nhangn-mak**
          family    3SG.GEN-DAT
          'Irene made friends with her [host] family'

      b.  **pam-al**    **ith**        **nhul**        *may*    *carrots*    *yakake:rr*
          man-ERG    DEM:DIST    3SG(ERG)    VEG    carrots    cut:RDP:PST.PFV
          'the man cut up the carrots'                    (Gaby 2017: 213, 215)

Finally, an example of a generalised flexible word order pattern is found in Garrwa, where any modifier can precede or follow its nominal head (Mushin 2012: 255–259), as illustrated in (15a)–(d). There are several clear ordering tendencies, including for example that demonstratives almost always occur initially (Mushin 2012: 256–257; Mushin 2020: 218). Mushin argues that these tendencies are not reflections of syntactic restrictions to word order, but follow from the way information status determines word order, where "nouns that represent recently mentioned information tend to occur last in the group" (2012: 258).

GARRWA

(15)  a.  *karu=yi*    **nanda**    **ngawuli-nganja**    **nanga-ngi**
          tell=PST    that        FYB-ANA                3SG-DAT
          '(I've) told that one his uncle.'

      b.  *langandaba*    *ja=ngayu*        **ngaki**    **diraji**
          hang.up        FUT=1SG.NOM    1SG.DAT    dress
          'I'm going to hang up my dress.'

      c.  **yubal**    **nayi**    *munyba=yi*
          road        this        cover=PST
          'This road was flooded.'

      d.  *dudijba=yi*    *bula-ndu-yangka*    **walkurra-nyi**    **miya-wanyi**
          crawl=PST    3DU-LOC-TRANSLOC    big-ERG            snake-ERG
          **kukudu-wanyi**
          black-ERG
          'The big black snake crawled past the two of them.'
                  (Mushin 2012: 116, 257, 403, 258; cited in Louagie & Reinöhl 2022)

---

an unmarked form of the third personal pronoun may appear in a noun phrase that is marked for case elsewhere, viz. in Gooniyandi (based on McGregor 1990: 144–145, 170, examples e.g. p. 581, though he argues against a single part of speech analysis for adnominal and pronominal uses; see Louagie & Verstraete 2015: 183 for discussion), which provides some support for using case marking as criterion even with adnominal pronouns.

### 3.2.2 Category-specificity in relation to locus of case marking

There is some evidence in the sample that locus of case may also be found in category-specific or generalised patterns, although information is more limited than for word order, as many grammars do not discuss this question explicitly.

Examples of category-specific locus of case are found in Arabana-Wangkangurru, in the contrast between (contiguous) constructions with adnominal personal pronouns and those with possessive pronouns. Both involve flexible word order, but they differ in what options are available for case marking. Expressions with adnominal personal pronouns are all of the same construction type, viz. with word marking (Hercus 1994: 285), as illustrated in (16a). By contrast, expressions with possessive pronouns occur in two construction types: one with variable phrasal case marking (16b)–(d), and one with word marking (16e) (Hercus 1994: 114, 283). Note that this further contrasts with construction types available for demonstratives, which are also flexible and have either phrasal or word marking, but have the case marker invariably at the right edge instead of in variable position when marked phrasally, as illustrated in (5) in Section 3.1.2.

ARABANA-WANGKANGURRU

(16)  a.  *Uka-ru    wityikura-ru     ngurla-la-yangu.*
          he-ERG    whirlwind-ERG    lift-BEN-PLUP
          'He, the whirlwind, had lifted them up.'[13]

      b.  *[...]   thangka-rda   uka   mathapurda   **ngura-nga**   **uka-kunha,***
              sit-PRS      he    old.man     camp-LOC     he-POSS
          ***uka-kunha    ngura-nga***
          he-POSS      camp-LOC
          '[He doesn't walk about], the old man sits in his camp, in his own camp.'

      c.  *Anthunha-ruku    ngura    yuka-nha.*
          my-ALL           camp     go-NPST
          'They should go to my place.'

      d.  *Ngura    unkunha-ruku    antha    yuka-ka    kudnangkari-ri*
          camp     your-ALL        I        go-PST     south-ABL
          *wabmaRa    katyiwiRi    wiRa-ngura.*
          wind       big          blow-CONT
          'When I was walking over to your camp a strong wind was blowing from the south.'

      e.  *Uka-kunha-ru    nhupa-ru      pityamurru    mani-wapa-nha.*
          he-POSS-ERG     spouse-ERG    boxbark       get-hunt.round-NPST
          'His wife is looking around to get boxbark.'

                                              (Hercus 1994: 285, 297, 114, 280, 211)

Generalised patterns of case locus are found for instance in Gooniyandi. Gooniyandi has two construction types that are only distinguished by case locus. Both involve generalised rigid word order, but one type has variable phrasal marking, as illustrated in (17a)–(b), while the other type has word marking, as illustrated in (17c). With the former type, the case marker appears "on the constituent of the NP which is most salient and important in its textual environment[,] [...] which carries what the speaker presents as the most newsworthy item in the phrase[, and] [...]which has the greatest referential potential" (McGregor 1989:209). The latter type, with word marking, is associated with a particular function, viz. "to give equal 'prominence' or importance to each of its constituents" (McGregor 1989:207), for instance in contexts invoking presuppositions, as in (17c), or contexts involving a contrast. It seems that both construction types are available for all kinds of heads and modifiers, i.e. locus of case is generalised.

**Gooniyandi**

(17) a. ***yoowooloo   jinali-ngarri-ngga***   *maa*   *ngabga*
       man           spear-COM-ERG          meat   he:eats:it
       'The man with the spear is eating meat.'

  b. ***yoowarni-ya   mayaroo***   *bagoowoorrooyoo*
       one-LOC         house        they:two:lie
       'The two of them live in the one house'

  c. ***yoowooloo-ngga   ngoorroo-ngga***   *ngaarri*   *yiganyi*
       man-ERG            that-ERG           stone      uncertain
       ***doownga-ngarra***
       he:took:it:on:me
       'Maybe that's the man who took my money.'
                  (McGregor 1990:280, 316; McGregor 1989:213; spelling updated)

---

**13.** While the translation suggests an appositional analysis, this needn't contradict with an analysis as a single nominal expression: the two elements are co-referential and seem to function together in establishing reference; the lack of comma marking in the language example further implies that the elements belong to the same intonation unit (although this is not explicitly mentioned). Adnominal pronouns of the type illustrated here are common in Australian languages, where they have determiner-like functions (Louagie & Verstraete 2015) and are nearly always marked for case (see footnote 12). It is also possible that the translation in terms of apposition is inspired by the English restriction on using a singular third person pronoun as modifier. See Section 4.1 for another example and some discussion of potential appositional analysis in expressions with word marking.

### 3.2.3   Category-specificity in relation to contiguity/discontinuity

It is unclear whether the same principle may play a role for contiguity/discontinuity. There are some indications that suggest it does: some grammatical descriptions link the availability of discontinuity to specific categories, or mention variability between categories in terms of frequency of occurrence. It is difficult to verify this hypothesis across the sample, as the available information is very limited (and discontinuity seems to be infrequent overall), but there are a few good candidates. One language which appears to have category-specific discontinuity is Mawng, where discontinuity is allowed between head and qualifying nominal (18), but apparently not between head and demonstrative (Forrester 2015: 58–66) (though the study is based on a rather small dataset; Forrester 2015; see also Singer 2006: 99–100). Other potential examples of category-specific discontinuity are found in Anindilyakwa, where possessives can never occur discontinuously from their heads (van Egmond 2012: 307–308), and Bininj Kunwok, where discontinuity is "particularly common with measure terms" (Evans 2003a: 242). It is often unclear, however, especially for examples like in Bininj Kunwok, as to whether such tendencies or restrictions are grammatically determined, or an epiphenomenon of functional correlates for discontinuity, which at least in some languages are concerned with types of focus.

**Mawng**

(18)  ***Nakapa***    ***ja***    ***panikin***    *kurri-wurru-n*    ***ja***
     DEM.PROX.M  ART(M)  container  2PL/M-know-NPST  ART(M)
     ***ilurtpuj-ut***
     short-PL
     'You know that short tin.'                (Forrester 2015: 63)

Discontinuity seems to be generalised, i.e. available for all elements, in Jaminjung, in at least one of the two available discontinuous construction types. This construction type, which expresses sentence focus, involves discontinuity between the head and any type of modifier, or between the generic noun and the specific noun (19a); the intervening elements are the simple or complex verb and sometimes a local or deictic element (Schultze-Berndt & Simard 2012: 1041–1047). The other discontinuous construction type, which encodes contrastive argument focus and has the verb as sole intervening element, is attested with attributive property words, quantifiers (19b), possessive pronouns and interrogatives as modifier (Schultze-Berndt & Simard 2012: 1035–1041), and thus seems category-

specific based on the available information (with the same reservations as made above for Bininj Kunwok).[14]

**Jaminjung**

(19)  a.  *"girrb    girrb"    gani-yu=nu                    majani,*
            quiet    quiet    3sg>3sg-say/do.pst=3sg.obl    maybe
            *"ngayiny=gun    ngiya    jalwany    burru-yu    malara!"*
            animal=contr    prox    talking    3pl-be.prs    frog
            '"ah, quiet, quiet!" he maybe said to him, "frog animals are talking here!"'

      b.  *^jirrama    ganuny-ma-ya        jarlig,    gumurrinyji    orait,*
            two        3sg>3du-have-prs    child    emu            all.right
            *^bardawurru    gana-ma-ya \ ..    jarlig \*
            many            3sg>3sg-have-prs    child
            'She (the brolga) has two children. The emu, all right, she has many, chil-
            dren that is.'                          (Schultze-Berndt & Simard 2012: 1043, 1035)


## 3.3  Overview of construction types

Section 3.1 presented the three basic parameters of internal word order, locus of case marking and contiguity/discontinuity, and showed that they function independently of each other. By cross-cutting these three parameters, we are able to distinguish at least a dozen different construction types across the sample, as schematically represented in Table 2: each shaded cell represents one construction type. Even more sub-distinctions can be made when we take into account types of phrasal case marking (e.g. edge marking vs. variable marking). Note that not all construction types for discontinuity are equally well-supported: examples with all types of locus of case marking and ones with both rigid and flexible order are attested in my sample, but it is less clear that each combination of values is available. Overall, information about discontinuity is limited and very few detailed discussions are available; it is my hope that further research may confirm or revise the different construction types for discontinuity.

Section 3.2 then argued that the values on each of these parameters may apply to only some word classes or to (almost) all, and that construction types defined by these values may thus also be category-specific or generalised. This doubles the number of construction types available across the sample. (This is not represented in the table, so as to not make things overly complex visually.) Table 5 in

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14.  The two constructions types are also prosodically different: in the first one, each element of the clause receives prominence, while in the second one, the main prominence (marked with ^) is on the initial, contrastive element (Schultze-Berndt & Simard 2012: 1036, 1042).

**Table 2.** Construction types found in the sample (simplified)

|  | Phrasal case marking (right-edge, left-edge, head, modifier, or variable) | Word marking | No marking |
|---|---|---|---|
| **Contiguous:** |  |  |  |
| Rigid order | Rigid-phrasal | Rigid-word | Rigid-none |
| Flexible order | Flexible-phrasal | Flexible-word | Flexible-none |
| **Discontinuous:** |  |  |  |
| Rigid order | Rigid-disc-phrasal | Rigid-disc-word | Rigid-disc-none |
| Flexible order | Flex-disc-phrasal | Flex-disc-word | Flex-disc-none |

the Appendix gives a detailed overview of which construction types are available in the individual languages of the sample.

Finally, I briefly return to the question of phrasality, since it will play some role in the typology developed in Section 4: which of the construction types can be analysed as phrasal, i.e. show evidence that they can be identified as units not only on functional, but also on syntactic grounds? First, all construction types of the first row in Table 2 are phrasal by virtue of their rigid order, which signals a clear internal structure. In addition, another set of construction types may be analysed as phrasal, even if they have flexible order: those which have external evidence for phrasality, showing that the elements are treated as a single unit, such as phrasal case marking or occurrence in a diagnostic slot (i.e. in first position before a second position auxiliary or pronoun cluster) (see Louagie & Verstraete 2016 and Louagie 2020: 126–150 for more discussion of these criteria and some issues with them). In other words, we have two kinds of phrases: rigid ones and flexible ones. Flexible phrases further contrast with flexible expressions which do not show any evidence for phrasality (internal or external). This lack of evidence is taken as sufficient to analyse such expressions as having non-phrasal status; non-phrasal flexible expressions are referred to as 'nominal groups' by Himmelmann (1997) and Louagie & Reinöhl (2022).

## 4.    Focusing on language-internal diversity: Towards a typology of the nominal domain

Having surveyed the available construction types of nominal expressions across the languages of the sample, I now investigate which construction types are typically found together within individual languages, showing that the available

language-internal diversity is actually constrained. These findings can be captured in a four-way typology, which is summarised in Table 3.

In brief, languages of the first three types all have one dominant construction type (which is also generalised, i.e. applies to almost all word classes), in addition to one or more 'divergent' construction types. These are different across the language types, but systematic within each type. Thus, type 1 languages can informally be labelled as 'mostly rigid', with rigid phrases as dominant construction type, in addition to limited flexibility for one or a few categories. They typically have no or very limited other structural options, such as discontinuity. A typical example is Arrernte, as discussed in Section 4.1. Type 2 languages are the mirror image of type 1: they are 'mostly loose and non-phrasal', with flexible nominal groups as dominant construction type, in addition to phrasal constructions in some small part of the grammar. Discontinuous expressions are usually available (but not unconstrained and perhaps also not very common), also with flexible internal order. A typical example is Bininj Kunwok, as discussed in Section 4.2. Type 3 languages are in a way hybrid between languages of types 1 and 2. They may be labelled as 'mostly flexible but phrasal', and have flexible phrases as dominant construction type, i.e. expressions with flexible order and phrasal case marking. Unlike in type 2, the domain of nominal expressions is thus basically organised phrasally. Minor construction types may include rigid order for one or two categories, a less frequent pattern of word marking for case, and/or discontinuity. A typical example is Bardi, as discussed in Section 4.3.

In contrast to languages of the first three types, type 4 languages have no dominant construction type. Instead, they are 'categorially fractured': they have a range of construction types which are category-specific, with different word orders and/or case marking patterns for different types of modifiers. It is less clear what type of clustering there is for discontinuity. A good example of a type 4 language is Arabana-Wangkangurru, with different construction types discussed in different places in Sections 3.1–3.2; see Section 4.4 for other examples.

Sections 4.1–4.4 discuss each of the four language types in turn, first presenting a general characterisation and illustration, and then an in-depth discussion of the different construction types associated with the language type (i.e. roughly, each of the bullet points in the table above). A largely unexplored question is what motivates the choice (if there is one) for a particular construction type: often, only limited information is available in grammatical descriptions, if any. Some examples were given throughout Section 3, and more will follow in this section, but discussion remains quite limited overall. Similarly, information on the details of discontinuity (e.g. available orders, potential category-specificity) is often scarce, so it is hard to uncover real correlation patterns for the different language types. I hope that this study may provide some inspiration for further research into these

**Table 3.**  Summary of four-way typology of the nominal domain

| | |
|---|---|
| **TYPE 1: mostly rigid** | 12 languages |
| – <u>main type:</u> generalised rigid phrases | (+ 5 with weaker |
| – limited flexibility | evidence) |
| – typically no construction types distinguished by case locus only | |
| – typically no or very limited discontinuity | |
| **TYPE 2: mostly loose and non-phrasal** | 14 languages |
| – <u>main type:</u> generalised flexible groups, without evidence for phrasality | |
| – pockets of phrasality | |
| – discontinuous type(s) | |
| **TYPE 3: mostly flexible, but phrasal** | 6 languages |
| – <u>main type:</u> generalised flexible phrases | |
| – limited rigidity | |
| – minor constructions with alternative case loci | |
| – discontinuous type(s) | |
| **TYPE 4: categorially fractured** | 9 languages |
| – no generalised construction types | (+ 4 with weaker |
| – category-specific rigidity and flexibility | evidence) |
| – in some languages: additional types distinguished by case locus | |
| – very limited discontinuity | |

questions for individual languages. Section 4.5 briefly discusses the distribution of the language types across the sample and visualises this on a map.

## 4.1    Type 1

Languages of type 1 typically have a relatively narrow set of construction types, as summarised below (expanded from Table 3 above). Table 4 in Section 4.5 lists the individual languages of type 1 (with more details on the construction types in Table 5 in the Appendix), of which there are at least 12 in the sample. A further four may arguably be added to this list because they have a strong phrasal basis, though they allow more flexibility than the other languages; one other potential candidate has very limited information available.

TYPE 1.    *Mostly rigid*
        (i)    <u>main type:</u> generalised rigid phrases
            (typically with phrasal case marking)
       (ii)   limited flexibility
            (typically for pronouns, possessives, quantifiers)

> (iii)   typically no construction types distinguished by case locus only;
>          if there are, they involve word marking
> (iv)   typically no or very limited discontinuity

A typical example is Arrernte (based on Wilkins 1989: 102–103, 135, 415–418, examples). The main construction type in Arrernte is generalised rigid phrases with right-edge phrasal case marking. The construction is schematically represented in the template in (20a), and illustrated in the second highlighted noun phrase in (20b) ('the heavy crowbar'). In addition, Arrernte has a minor construction type with flexible order and again right-edge case marking, which applies to only two categories of modifiers, viz. dative pronouns or noun phrases encoding kin possessors, and lexical possessors marked by possessive case. This construction type is illustrated in the first highlighted noun phrase in example (20b) ('Elizabeth's husband'), and in the underlined noun phrase in (20c) ('her husband'). Arrernte does not have any construction types with word marking for case, with the exception of the one mentioned next. Discontinuity only occurs with antecedent and relative clause, as in (20c); it could be argued that they do not form a single unit, as each part is marked individually for case (in this example, dative *ke*).

**ARRERNTE**

(20)  a.   Rigid construction:

        [[Classifier Noun]$_{Head}$ Adj.P Quant.P Dem Rel.Cl 3pron]-CASE
        Head Poss.pron

    b.   *Elizabeth     ne-ke               ingke     utyene-kerte     ante*
       Elizabeth   be-PST.COMPL   foot     sore-PROP     and
       [***Elizabethe-ke   newe***]-***le***     *knge-ke*          [***crowbar***
       Elizabeth-DAT   spouse-ERG   take-PST.COMPL   crowbar
       ***ulthe-ntye***                  ***re***]-***nhe.***
       press.down-NMLZ(heavy)     3SG-ACC
       'Elizabeth had a sore foot and so her husband carried the heavy crowbar.'

    c.   *Irrkwentye*     [***arelhe***]-***ke***     *angke-rle.ne-me*               [_newe_
       police         woman-DAT   speak-CONT-NPST.PROG   spouse
       _ikwere-rle_              ***ulyepere***     *tanthe-ke*]-*ke.*
       3SG.DAT(O)-REL   thigh(O)   spear-PST.COMPL-DAT
       'The policeman is talking to the woman that stabbed her husband.'
              (Wilkins 1989: 102–103, 135, 415–418, examples; 499, 417, 419)

**i.**   Main type: Generalised rigid phrases

The dominant construction type for type 1 languages is generalised rigid phrases, i.e. involving rigid order for (almost) all types of elements. Rigidity is based

on word classes (such as demonstrative, adjective, noun) in 8 languages, and on functional-semantic roles (such as determiner, quantifier, qualifier) in 5 languages; see Section 3.1.2 for discussion. In most languages, this construction type is characterised by a single phrasal case marker, which is fixed at the right edge in all languages except in Gooniyandi, where it has a variable position depending on information structure (see Section 3.1.3). In a handful of languages, the construction type is characterised by word marking (e.g. Martuthunira; Dench 1994: 60), or by no marking (e.g. Gaagudju; Harvey 2002: 263).

**ii.** Limited flexibility

Flexibility is rather limited, in the sense that most languages only have pockets of flexibility for specific categories of modifiers. These flexible constructions may involve phrasal case marking and thus be phrasal, as in Arrernte for expressions with dative possessors (20b)–(c), or they may involve word marking and thus be potentially non-phrasal, as in Kuuk Thaayorre for expressions with adnominal pronouns ((13) in Section 3.2.1). The categories involved are often the same across languages of type 1: adnominal personal pronouns (e.g. Kugu Nganhcara; Smith & Johnson 2000: 402, 420), possessives of some type (e.g. Wajarri; Douglas 1981: 240–244), and/or quantifying elements (e.g. numerals in Marrithiyel; Green 1997: 246). One language, Yankunytjatjara, has flexible demonstratives (while, interestingly, the adnominal personal pronoun has a fixed position) (Goddard 1985: 47, 49, 55–56, 60, 68–70).[15]

Flexibility in these cases is also limited because elements are only flexible between two or three positions in the nominal expression. Quantifying elements in Wajarri, for example, may occur either immediately preceding the head, or following the head and any adjectives expressing colour, size or state; they more commonly precede the head when combined with these adjectives (Douglas 1981: 240–244). This is schematically represented in the template in (21a) (the alternative positions are marked in square brackets), and illustrated in (21b)–(c). In general, information on what motivates the use of one or the other word order is often limited or absent.[16] Note that there is evidence that flexible modifiers

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**15.** There are also some examples that look like flexibility but in fact involve separate nominal expressions. In Martuthunira, for example, "part of the noun phrase" may be "preposed" for contrastive emphasis (Dench 1994: 202–203). It is unclear whether there are any prosodic correlates to this analysis; some examples given to illustrate this include a comma, which perhaps represents a prosodic break. See Harvey (2002: 319–320) on a similar phenomenon in Gaagudju.

**16.** One motivation may be that different orders are linked to different functional-semantic roles the elements may have, as tentatively suggested for possessive pronouns in Uradhi (Louagie 2020: 170–171; based on Crowley 1983). If this is the case, however, there would in fact

are grammaticalizing in some instances, such as the pronoun in Kuuk Thaayorre (Gaby 2017: 216).

**Wajarri**

(21)  a.  Template: poss.NP/poss.pron [quant] head Adj(s) [quant] dem-CASE
            head poss.pron-CASE

    b.  ***yamatji   yaljpa-ngku***   *mama*   *kari-njtja-lu*      *murilja*
       man       many-ERG       song     perform-C.A.-ERG   pre_initiate
      *ngaka-rna*
      grasp-PST
      'The men who were dancing the corroboree grasped the pre-initiate.'

    c.  *njarlu-ngku*   ***kutjarra***   ***mayu***   ***pika***   *hospital-ki*
      woman-ERG       two           child     sick     hospital-ALL
      *kangkangamanja*
      take.PRS
      'That woman is taking the two sick children to hospital.'
                   (Douglas 1981: 240–244, examples, 240, 243; also Marmion 1996:
                                                examples)

**iii.**  Typically no additional construction types distinguished by locus of case

Most type 1 languages have no additional construction types that are distinguished by an alternative locus of case marking. Only a few do: they have rigid phrases with word marking, in addition to ones with phrasal marking; rigidity thus remains the dominant structuring principle. Example (22) illustrates this construction type for Nyulnyul, where its use is associated with prominence to each element (McGregor 2011: 419–420). Note that McGregor (2011: 419) argues that the elements in this construction are "in some sense intermediate between a single phrase and two separate full phrases in apposition, sharing features with both, and being distinct from each". A similar analysis is proposed by Bowe (1990: 53) for Pitjantjatjara (a very close relative of Yankunytjatjara), and by McGregor (1989) for Gooniyandi.

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be rigidity in terms of functional roles, and thus no true flexibility (as discussed more generally in Section 3.1.2). Analyses in terms of functional roles seem less plausible for flexible expressions in other languages, where all rigid modifiers (qualifying, quantifying and determining ones) follow the head, while the flexible modifiers more frequently precede the head, e.g. in Kuuk Thaayorre (Gaby 2017: 195, 213), Kugu Nganhcara (Smith & Johnson 2000: 419–420) and Arrernte (Wilkins 1989: 102–103, 135).

**Nyulnyul**

(22) ***yiik-in    ngarrij-in    i-n-dab    alik    war    mad    winin /***
    sore-ERG    hard-ERG    3NOM-CM-hit    sorry    other    but    emu
    'But a serious illness had struck that poor emu fellow.' Or: 'It was a serious ill-
    ness that struck that poor emu fellow.'                    (McGregor 2011: 419)

### iv.    Typically no or very limited discontinuity

Discontinuity is often absent, or extremely limited in languages of this type. Discontinuity is explicitly said to be impossible in Kugu Nganhcara (Smith & Johnson 2000: 415) and Yankunytjatjara (Goddard 1985: 93). It is said to be very rare or almost non-existent in Arrernte (Wilkins 1989: 415–418), Kuuk Thaayorre (Gaby 2017: 196), Nyulnyul (McGregor 2011: 400–401), and Yingkarta (Dench 1998: 52–53). For the other languages of this type, discontinuity is not mentioned at all, or only vaguely, or there are only one or two (if any) potential examples in the grammatical descriptions.[17] Discontinuity seems slightly more common in two languages, Kayardild (Evans 1995: 249–250) and Gooniyandi (McGregor 1997), though examples are overall still low in frequency. Note that discontinuous constructions in these languages may display flexible order, as in the latter two languages, despite the dominance of rigidity otherwise.

### 4.2    Type 2

The profile of type 2 languages is summarised below (expanded from Table 3). Table 4 in Section 4.5 lists the 14 languages analysed as type 2.[18]

TYPE 2.    *Mostly loose and non-phrasal*
        (i)    <u>main type:</u> generalised flexible groups, without evidence for phrasality
            (typically word marking, sometimes no marking for case)
        (ii)    pockets of phrasality:

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**17.**   Some languages have limited descriptions, so the fact that discontinuity is not mentioned or illustrated there does not say that much (e.g. Kala Lagaw Ya), but others have more extensive descriptions, where the absence of any mention and/or occurrence of only one or two potential examples is more suspicious (e.g. Gaagudju, Harvey 2002: 316, examples; Martuthunira, Dench 1994).

**18.**   Further research may show that some of the languages now categorised as type 2 may in fact have rigid order of functional-semantic roles, and thus be type 1; for most languages, this question has not been investigated. See also Section 3.1.2 and fn. 17.

- rigid order for some categories (typically determiner-like modifiers or pronominal heads),
- and/or flexible phrases (with external evidence for phrasality, e.g. phrasal marking)

(iii)   discontinuous type(s), often generalised and with flexible internal order

A typical example is Bininj Kunwok, where the dominant construction type involves flexibility for almost all types of modifiers (without any case marking), as illustrated in (23a)–(d) for possessive pronouns, demonstratives and nominals. Differences in word order do not correlate with meaning differences, nor is there any rigid order in terms of functional-semantic roles (Evans 2003a: 243–244).[19] In addition, Bininj Kunwok also has two, rather marginal, phrasal construction types. The first is a rigid one for the indefinite determiner *gudji* 'one', which is always in initial position in the phrase (Evans 2003a: 243–244), as illustrated in (23e). The second is a (flexible) construction type with phrasal marking for non-core cases,[20] which are optionally expressed (based on Evans 2003a: 230), as in (23f). Finally, Bininj Kunwok has discontinuous expressions (Evans 2003a: 242–243), as in (23g). It is unclear whether their use is motivated by discourse functions, though it is mentioned that they are especially common with measure terms (ibid.).

**Bininj Kunwok**

(23)   a.   ***ngale    ngarrku    ngurrurdu    djang        ka-yo***
          that.F    our        emu        dreaming    3-lie.NPST
          *ø-djang-kurrme-rr-inj*
          3PST-dreaming-put-RR-PST.PFV
          'That emu of ours is a dreaming, she put herself in the landscape as a dreaming.'

     b.   ***Na-mege    maih    ngarrgu    gabarri-bódjare        gukku.***
          M-that    bird    our        3AUG-thirsty.NPST    water
          'Those birds of ours, they're thirsty for water.'

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**19.**   This is not said with as many words but Evans states that Bininj Kunwok contrasts with languages like Gooniyandi, Kayardild and Martuthunira where "the ordering is relatively constrained when the words are contiguous" (2003a: 243); these three languages are all described as having a rigid order in terms of functional roles (with flexibility of word classes across the different roles); see Section 3.1.2.

**20.**   In some dialects, the ablative or instrumental may function like an optional ergative marker (Evans 2003a: 138, 139–141).

c. ***Djirndih    ngal-u    na-yahwurdurd,***    *ba-yi-walkka-rri-nj.*
quail      F-that     M-little             3PST-com-hide-RR-PST.PFV
'That little quail hid himself away with it.'

d. *Djidjngak    nakka    **na-yahwurd    bininj.***
[name]       M:DEM     M-small       man
(at beginning of account of who Djidjngak is) 'Djidjngak, he's a little man.'

e. *"Njamed,    **na-gudji    nayin**    ga-yo!"*       *ba-mulewa-ni.*
what        M-one     snake    3-lie.NPST    3PST-inform-PST.IPFV
'"Hey, there's a snake here!", he'd say.'

f. *Birri-marnbu-yi        kubbunj    **kun-dulk-be**    kordow.*
3AUG/3PST-make-IRR      canoe      IV-tree-ABL     bombax.ceiba
'They used to make canoes out of bombax trees.'

g. ***Na-marn.gorl*** *ga-garrme        **na-gimuk.***
I-barramundi    3-catch-NPST    M-big
'He's catching a big barramundi.'

(Evans 2003a: 668, 231, 243, 311, 681, 137, 243)

### i.   Main type: Generalised flexible groups

The dominant construction type is generalised flexible groups, which are charac-
terised by word marking in 10 languages, and no marking for case in 4 languages.
Internal word order is flexible for (almost) all elements, but many descriptions
note certain tendencies for particular orders, especially for structures with
demonstrative modifiers. This may conceivably reflect a higher frequency of the
contexts in which said order occurs and/or a starting conventionalisation. Only
few authors discuss motivations for internal word order in some detail, men-
tioning especially the impact of information structure (e.g. in Wardaman, Merlan
1994: 246; Garrwa, Mushin 2012: 255–259, see Section 3.2.1; Ungarinyin, Spronck
2015: 166–169, 192–195, 291–296, p.c.), but also heaviness (e.g. in Wardaman, to
a small extent; Merlan 1994: 232) and speaker variation (e.g. in Ungarinyin;
Spronck p.c.).

### ii.   Pockets of phrasality

The majority of type 2 languages have a rigid construction type for one or a few
elements only. Typically, the elements involved are ones with determining func-
tions, like indefinites (as in Bininj Kunwok Example 23e), interrogatives (as in
Example 24a, with rigid initial order), or adnominal personal pronouns. Rigid-
ity may also occur with pronominal heads, as in Wardaman, which has fixed
pronoun-modifier order (Merlan 1994: 234), as illustrated in (24b).

**Wardaman**

(24)  a.  ***ngamanda    menyin      yiwun-wo-ndi        mululurru***
          what.ABS      cheek.ABS    2SG/3NSG-give-PST    old.woman.RDP.ABS
          'What sort of cheek/argument did you give the old women?'

      b.  *yirrug-bulu        yi-nimanyug-bulu*
          1NSG.EXC-PL.ABS    YI-[name]-PL.ABS
          'We people of Nimanyug'          (Merlan 1994: 230, 234; own glossing for b)

Alternatively, or in addition, many languages also have a minor construction type with phrasal case marking. In one set of languages, the main construction type involves word marking and constructions with phrasal marking are rare (as in Garrwa; Mushin 2012: 60, 255). Another set of languages have no marking for core cases and sometimes phrasal marking for non-core cases; either non-core phrasal marking is optional (as in Bininj Kunwok Example 23f) or it competes with word marking. The latter is found for instance in Ungarinyin (Rumsey 1982: 58, 61; Spronck 2015: 40), as illustrated in (25), showing no marking for a core role in (25a) and word marking and phrasal marking for a locational role in (25b)–(c) respectively. Due to the infrequent use of phrasal marking and the limited availability of data, it is mostly unclear whether constructions with phrasal marking are generalised (i.e. may involve any type of modifier) or category-specific, and whether there are any functional correlates. In Bilinarra, phrasal marking is considered a language shift phenomenon (Meakins & Nordlinger 2014: 106).

**Ungarinyin**

(25)  a.  ***yirrkalngarri    ngurr    $a_1$-$y_1$ila-n***
          police            hit       3M.SG.O:3SG.S-put-PRS
          'The policeman hits him'

      b.  *nalya    $a_1$-$y_2$i-nyi-ngarri     barrel    di        **$a_1$-nangka-ra***
          pile.up  3M.SG-be-PST-SUB          bottle    NW.ANAPH   3M.SG-GEN-LOC
          ***dambu-ra***
          camp-LOC
          'He piled the bottle glass up in his house'

      c.  *nalya    $a_1$-$y_2$i-nyi-ngarri    **anangka    dambun-ra***
          pile.up  3M.SG-be-PST-SUB         M.POSS     camp-LOC
          'He stacked [things] up in his home'          (Spronck 2015: 19, 40, 283)

Finally, several languages also have flexible constructions which may be considered phrasal when they occur in first position preceding a second position auxiliary or pronoun cluster. In Bilinarra, for instance, bound pronouns usually occur after the first syntactic unit. If multi-word nominal expressions appear before these pronouns, as in (26a), they can thus be analysed as syntactic units. If bound

pronouns 'intervene' between co-referential elements, as in (26b), they are considered separate phrases (Meakins & Nordlinger 2014: 102).

**Bilinarra**

(26)  a.  ***Ngayiny-ju=ma***        ***ngamayi-lu=ma=yi***        *wanyja-rni*
        1MIN.DAT-ERG=TOP    mother-ERG=TOP=1MIN.O    leave-PST
        *yabagaru=rni.*
        small=ONLY
        'My mother left me as a child.'
    b.  ***Yalu-lu=yi***        ***ngumbid-du***    *ba-ni,*    *garndi-lu.*
        that-ERG=1MIN.O    man-ERG        hit-PST    stick-ERG
        'That one, the man hit me with a stick.'   (Meakins & Nordlinger 2014: 102)

**iii.**   Discontinuous construction type(s), often with flexible internal order

Almost all languages of this type have discontinuous constructions available. It is hard to make substantial generalisations, however, as many descriptions treat any sets of co-referential elements that are not contiguous as discontinuity, whether or not they are instances of 'true' discontinuity (i.e. single expressions with a single discourse function in a single intonation unit). Some descriptions indicate prosodic boundaries, which is helpful in excluding things like afterthoughts and topicalisation structures from the set of discontinuous examples (see also fn. 4). It is especially hard to make observations about frequency of use: the only available text count carefully including only true discontinuity is Croft (2007) on Wardaman, where it is rare (11% of multi-word NPs; Croft 2007: 6); text counts for Warlpiri (not in the sample, but likely also of type 2) also suggest it to be rare (Swartz 1988), contrary to its common treatment as a language in which discontinuity is rife.[21] A few generalisations can still be made on the basis of the available information: (i) discontinuous constructions have flexible 'internal' order in most languages; (ii) the 'intervening' element is often a verb, but can also be a particle, second position cluster or other nominal expression; (iii) discontinuity seems to be generalised, though perhaps not equally common for each type of modifier. It is expected that discontinuity in type 2 languages is used in specific (discourse functional) contexts, as with other languages; this is at least the case for Wardaman (Merlan 1994: 241–242) and perhaps Bininj Kunwok (see Example 23g above) and Yuwaalaraay (Giacon p.c.).

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**21.**  Thanks to an anonymous reviewer for drawing my attention to the latter source.

## 4.3   Type 3

The construction types typically found in type 3 languages are summarised below, expanded from Table 3. Table 4 in Section 4.5 lists the languages analysed as type 3; there are at least 6 of these.[22]

TYPE 3.   *Mostly flexible, but phrasal*
     (i)   <u>main type:</u> generalised flexible phrases (with phrasal case marking)
     (ii)   limited rigidity
        (typically for interrogative or third pronoun modifiers, or pronominal heads)
     (iii)   minor constructions with alternative case loci (e.g. word marking)
     (iv)   discontinuous type(s) (with phrasal case in two languages)

A typical example is Bardi, which has generalised flexible phrases as the main construction type: the order of nearly all modifier categories is relatively flexible (Bowern 2012:331–336), while case is always marked only once, on whichever element is in initial position (Bowern 2012:169–170). Flexible order is illustrated in (27a)–(c): modifiers such as adjectives, quantifiers and demonstratives can occur on either side of the head and in any order relative to each other (though possessives almost always occur at the edges; Bowern 2012:333). Word order is in part information structurally motivated, with pre-head modifiers being neutral and post-head modifiers contrastive (Bowern 2012:335).[23] Relative order of modifiers on the same side of the head is by contrast argued to be "stylistic" (Bowern 2012:334, 768), as in (27a). In addition to the main flexible construction type, there is a minor rigid type for interrogatives (Bowern 2012:623, examples), as illustrated in (27d). Note that this rigid construction also has initial case marking, like the main flexible construction, as seen in the examples. There are no examples with e.g. word marking (Bowern 2012:169). Finally, Bardi has several discon-

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**22.**  A few more languages may arguably be categorised as type 3 as well, but the evidence for phrasality is weaker; it is found in the rigid boundary position of certain modifiers, and not in phrasal marking. However, the modifiers involved are not obligatory and also not very commonly used, so most expressions do not in fact have this 'boundary marker'. I have taken the more cautious perspective and treated these languages as type 2.

**23.**  Alternatively, Bowern (2012:335) mentions that ordering "would also probably fit an analysis where the ordering reflects restriction," with pre-head modifiers being neutral or restrictive, and post-head modifiers non-restrictive. This alternative analysis is akin to McGregor's (1990) semantic-functional analysis of Gooniyandi, as discussed in Section 3.1.2.

tinuous construction types, which may partly be distinguished on the basis of case locus, and partly on the basis of word order (Bowern 2012: 327–328, 336–338), as discussed and illustrated in Sections 3.1.2 and 3.1.3; the first element of any discontinuous expression is in focus (Bowern 2012: 327).

**Bardi**

(27)  a.  *gooyarra    goolarr        maalba /    goolarr        gooyarra    maalba*
          two          small(AUG)     baby        small(AUG)     two         baby
          'two small babies'

      b.  *Anggi    goo-ngo-rr-o-gal=irr*                **waybal**           **jarri**
          why      2-PST-AUG-kill-REM.PST=3A.DO         white.person     this
          **gooyarra?**
          two
          'Why did you kill those two White men?'

      c.  **Ginyinggi-nim    aamba**    *aarli    i-na-m-boo-na.*
          this-ERG           man        fish      3-TR-PST-poke-REM.PST
          'This man speared a fish.'

      d.  **Anggaba-nim    laanybiid**    *i-na-ng-gala-gal=jan*
          who-ERG          thief          3-TR-PST-wander-REC.PST=1M.POSS
          *ooldoobal?*
          things
          'Which thief [lit. 'who thief'] went off with my stuff?'

                                              (Bowern 2012: 335, 623, 196, 623)

**i.  Main type: Generalised flexible phrases**

The dominant construction type for languages of type 3 is generalised flexible phrases: case is marked once per phrase (thus providing external evidence for phrasality), while internal word order is flexible and at least in some languages partly determined by information structure, as in Bardi (overall, limited information is available on what motivates internal order). Another example is found in Yawuru, where some less common orders are associated with prominence on the initial element, e.g. on the noun in noun-quantifier expressions, and on the possessor in non-plural possessive pronoun-noun expressions (Hosokawa 1991: 35, 301). Other factors also play a role in Yawuru word order. One is the use of multiple modifiers: a combination of demonstrative and possessive pronoun only allows the order demonstrative-head-possessive (Hosokawa 1991: 302–303). Another is the grammatical role of the nominal expression in the clause: there is a morphological restriction on possessive pronouns taking the ergative or dative case, so nominal expressions in these cases always have noun-possessive order (as case is expressed on the initial element), compare (28a)–(b) (Hosokawa 1991: 300–302).

**YAWURU**

(28)  a.  *babala-yi       dyanu*
          brother-DAT    1MIN.GEN
          'for my brother'
      b.  *\*dyanu-yi       babala*
          1MIN.GEN-DAT    brother
          (intended) 'for my brother'                                  (Hosokawa 1991: 302)

## ii.   Limited rigidity

Languages of type 3 often have a single minor rigid construction for specific cat-
egories. The elements involved are largely similar to the ones involved in minor
rigid constructions in type 2 languages, and typically involve interrogative modi-
fiers, adnominal personal pronouns or pronominal heads (see Section 5 for some
more discussion of this similarity). In Djinang, for example, adnominal pronouns
are fixed in initial position, as in (29) (Waters 1989: 197). Yawuru has a rigid
pronominal head – adnominal demonstrative structure (Hosokawa 1991: 297), as
in (30a). At least two languages also have rigid order for generic and specific
noun, viz. Ngan'gityemerri (Reid 1997: 166) and Yawuru (Hosokawa 1991: 79), as
in (30b).

**DJINANG**

(29)  *Murwan.g+a-ø,       ingki-ban    nginibi        **nyani**      **yat***
      Murwangi+NF-LOC     NEG-TF       1PL.EXC.ERG    3SG.UNM      yard.UNM
      *ngurrgu-nyiri*
      throw-REM.PST.IRR
      'At Murwangi, we did not then erect a yard (for the cattle)'    (Waters 1989: 219)

**YAWURU**

(30)  a.  ***Nyamba-rri    yirrgarda***    *kagap     inga-rr-garna-rn.*
          this-DU        3DU.ABS       away      3AUG-AUG-go-IPFV
          'These two [boys] are now going there.'
      b.  *Wirdu-ni     wangkarangkara    i-na-rli-rn*      ***warli     dyimbarlka.***
          big-ERG      spider            3-TR-eat-IPFV    meat      grasshopper
          'The big spider is eating the grasshopper.'        (Hosokawa 1991: 297, 34)

## iii.   Minor construction types distinguished only by alternative locus for case

Some type 3 languages have additional construction types which are distinguished
only by an alternative case locus. These are overall very minor, and may involve
case marking on multiple or all elements, or an alternative locus of the phrasal
marker for particular categories. Both are found in Djinang, for instance, where
the dominant construction type is characterised by right-edge phrasal case mark-

ing (31a), and minor types involve word marking (typically found for two-word expressions and with local cases) (31b), or head marking in some structures with possessives (31c) (Waters 1989:196, examples). Another language with a minor construction type involving word marking is Wirangu, where use of such constructions is emphatic or stilted (Hercus 1999:48).

**Djinang**

(31) a.  *nyuni*      *wanngi-pm*      *gi²-kiri-ø*      ***nyanng-a***
         2sg.nom     alive-thpro      dist-go-fut      3sg-gen
         ***ganydjarr-mirrpm***
         power-perl
         'You will continue still living (i.e. live eternally) through his power.'

    b.  *ṉu-ṉunyjirri-ø-ban*   ***gurrbi-ngir***   ***ngirr-ang-ngir***
        dist-run-fut-tf      camp-abl          1sg-gen-abl
        'He will keep running away from my place.'

    c.  *Wali*      *biling*      *pu-ny*            *kiri-nya..*
        food.unm   3du.erg      kill-rem.pst.cont   prog-rem.pst.cont+dur
        ***bush-bi***   ***nginbil-ang.***
        bush-or     1pl.excl-gen
        'They repeatedly killed/obtained food from our habitat.'

                                                        (Waters 1989:79, 81, 226)

**iv.**   Sometimes discontinuous construction type(s), with phrasal case in some languages

Most type 3 languages have discontinuous constructions in their inventories, although available information is limited. It is hard to make generalisations, but two interesting observations can be made. The first is that both Bardi and Yawuru have discontinuous constructions characterised by phrasal marking (as in contiguous construction types). For Yawuru, this is the only available construction type (Hosokawa 1991:40–41), as in (32), while Bardi also has constructions where both parts are marked for case, as illustrated in Section 3.1.3. The second observation is that category-specific discontinuity is hinted at in several descriptions. For example, discontinuity is said to be frequent with demonstratives, uncommon with possessive pronouns and impossible with adnominal personal pronouns in Yawuru (Hosokawa 1991:303, 334–335). By contrast, at least one language, Jaminjung, allows discontinuity across all categories (see Section 3.2.3).

**Yawuru**

(32)  ***Kudyarra-gun***   *a-garr-im*   *wanangarri*   ***rumarra.***
      two-loc            I-got-him     stone.abs     day
      'I will receive my payment within two days.'          (Hosokawa 1991:40)

## 4.4   Type 4

Type 4 is summarised in the box below, expanded from Table 3. At least 9 languages are of this type, and possibly another 4 as well, but the available information is limited; they are listed in Table 4 in Section 4.5; for more details about the construction types found in individual languages, see Table 5 in the Appendix.

TYPE 4.   *Categorially fractured*
   (i) no generalised construction types
   (ii) category-specific rigidity and flexibility
     (often distinguishing between determiner-like and other modifiers)
   (iii) in some languages: additional types distinguished by case locus
     (category-specific or generalised?)
   (iv) very limited discontinuity
     (no evidence at this point that category-specific)

It is more difficult to give a 'typical' example of a type 4 language, since they form a more heterogeneous group. One example is Paakantyi, which was introduced in example (1) and has different construction types at least for adjectives, demonstratives and possessive pronouns, distinguished by rigidity/flexibility and phrasal/word marking. A different example is Umpila (based on Hill 2018: 120–154), which basically allows the choice between three construction types, distinguished by rigidity/flexibility only, as listed in (33).

**Umpila**
(33) Construction types:
   (i) Pronominal.Head (Quantifier)
   (ii) (Determiner(s)) (Head) (Modifier)-CASE
   (iii) (Head) (Determiner)-CASE       (Hill 2018: 120–154)

These construction types and their distributions are category-specific in three ways. First, the type of head determines which modification possibilities there are. A pronominal head only allows post-head modification by a quantifier (Hill 2018: 120–121, 147), as in (34a), while a lexical head allows both pre- and post-head modification by a range of elements. Second, the type of modifier determines which constructions are available. Thus, the use of a Modifier (i.e. an adjective or exceptionally a quantifier) only permits the use of one construction type, as in (34b), while the use of one or more Determiners allows the choice between two construction types, as illustrated in (34c)–(d). Third, the word class of the Determiner plays a role in the choice between the two available construction types. For personal pronouns, demonstratives and/or quantifiers, the type with pre-head

position is the default one (34c), while the one with post-head position is used in a restricted set of contexts, e.g. when used as subject of a non-verbal predicate (34d). For possessive pronouns, the choice between the two types is for the biggest part determined by the person of the possessor, with first person pronouns preceding the head in the majority of examples, and second and third person pronouns following the head in all but two examples. Alternatively, one could say that Modifiers are found in rigid phrases and Determiners in flexible ones. See Hill (2018: 149–154) for more details and examples. Umpila does not have additional construction types distinguished by word marking (for one), but it does have marginal discontinuity, as illustrated in (34e).[24]

Uмᴘɪʟᴀ

(34) a. *ngana*        *puntikuma*    *ilpi-na*        *Old Mission*
    1ᴘʟ.ᴇxᴄ.ɴᴏᴍ   all            return-ɴꜰᴜᴛ      old.mission
    'we all returned to the Old Mission'

   b. *hey*   *ngku*        *waatha-ka*   *kungkay-ma*   ***ku'aka***
    hey    ᴅᴇᴍ.ᴅɪsᴛ2    go-ꜰᴜᴛ        north-ᴅɪʀ        dog
    ***chu'uchi-pinta***
    small-ᴄᴏᴍ
    'hey (he) will go northwards with the little dog'

   c. ***pula***     *nga'a-l*       *kukuthi*   *pulthunu*
    3ᴘʟ.ɴᴏᴍ     ᴅᴇᴍ.ᴅɪsᴛ1-ᴅᴍ   three      boy
    *uthatha-ngka*          *muchi-nu-*   *muchi-ku*
    swim.ᴘʀᴏɢ-ᴘʀs.ᴄᴏɴᴛ     centre-?      centre-ɢᴇɴ
    'those three boys were always swimming in the middle (of the night)'

   d. ***pama***    *nga'a-l*       *ngampa*   *chu'uchi*   (.) *mukana*
    Aboriginal   ᴅᴇᴍ.ᴅɪsᴛ1-ᴅᴍ   ɴᴇɢ       small        big
    'that man is not small, (he is) big'

   e. ***nga'a-lu***     *thanka*      *wantuna*   *wana-na*   ***mukana***
    ᴅᴇᴍ.ᴅɪsᴛ1-ᴅᴍ    pandanus      ɪɢɴᴏʀ        leave-ɴꜰᴜᴛ    big
    'that pandanus was left somewhere, the big (leaf one)'
                     (Hill 2018: 121, 125, 128, 149)

---

**24.** Hill (2018: 144–148) does not analyse examples as (34e) as instances of discontinuity, but as separate co-referential NPs, because similar structures also occur across intonation boundaries or across speakers and she advocates a uniform analysis for all. If the elements occur in the same intonation unit, however, as in (34e), an analysis in terms of discontinuity seems plausible.

### i. Category-specific rigid and flexible construction types

Category-specificity as structuring principle of the nominal domain is most clearly seen in instances where the category of head or modifier determines the availability of rigid or flexible constructions. In more than half of the languages, determining elements like demonstratives are found in constructions with flexible orders, and qualifying elements like adjectives in constructions with rigid order, as in Umpila (see above) or Arabana-Wangkangurru (see Sections 3.1.2 and 3.2.1). In a few languages, it is the other way around: qualifying elements are found in flexible constructions, and determining ones in rigid constructions. In Mawng, for example, adjectival and quantifying modifiers show flexible order at either side of the head, and determiners are fixed at the left edge of the expression (Forrester 2015: 45–46), as shown in the simplified template in (35a); note that both positions for qualifying modifiers can be filled at once, as illustrated in (35b). Finally, an interesting observation is that possessives are found in separate construction types in a number of languages. Mawng, for example, has a rigid construction type with an oblique pronoun following the head (35c), while lexical possessors are involved in the same construction type as determiners, viz. with rigid pre-head position (35d) (Singer 2006: 96–97, examples).[25]

**MAWNG**

(35)  a.  Template: Det(s) Mod(s) Head Mod
          with Determiner: pronoun with non-possessive interpretation, demonstrative;
          with Modifier: quantifier, adjective, noun

      b.  ***Taka-pa***        ***wurt***  ***wumawurr***  ***anyak***
          DEM:DIST.LL-EMPH  tiny     creek          little.bit
          *ang-ngurri–ngung*
          3LL-flow-PST.CONT
          'The small creek was flowing.'

      c.  *La*    *kurr-urlge-ø*   ***ta***  ***kurrampalk***  ***ta***  ***wenat-pu.***
          CONJ  2PL-enter-IRR  ED   house         ED   3PL-3PL.OBL
          'Or you might enter their houses.'

      d.  *Pay*    *la*    *ngapimung*      [[*ja*  *Na-wurlany*  *nuyu*]
          indeed  CONJ  1SG.CONTR.PRO  M     M-skin.name    3M.OBL
          [*ja*  *naputjanputjan*]]    *ng-eya-wng.*
          M     deceased's.clothing  1SG/3M-see-PST.PUNCT
          'Then I noticed Nawurlany's things.'              (Forrester 2015: 45, 46, 97, 96)

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**25.** There are separate construction types with formally unmarked possessors, e.g. which express kin or part-whole relations (Singer 2006: 96–97, 117–118, 193–197).

**ii.**    In some languages: (Category-specific?) construction types distinguished by locus of case

More than half the languages of this type do not have any additional construction types distinguished by case locus. For a few of the languages that do, there are indications that such construction types are also category-specific. One clear example is found in Arabana-Wangkangurru, where adnominal personal pronouns are only found in a single type, viz. one characterised by word marking, while other modifiers are also found in another construction type, characterised by phrasal marking. Furthermore, the position of the phrasal case marker is variable with possessives and fixed with other modifiers (Hercus 1994:114, 282–285, examples); see Section 3.2.2 for some examples.

Other examples are less clear, as this question is rarely discussed in grammars and insufficient data is available to investigate. Guugu Yimidhirr, for instance, has structures with right-edge phrasal marking and ones with word marking (Haviland 1979:102–105, 147–149, examples), but it is unclear if both options are equally available with any type of modifier. Both are attested with adjectival modifiers (36a–b) (which incidentally involve rigid order), but for structures with possessive pronouns (which are flexible), word marking is only attested when the possessive is in pre-head position (36b) and phrasal marking is only attested when it is in post-head position (36c). This analysis is based on the limited number of examples in Haviland (1979), so the question would need to be investigated in a larger corpus. Similarly, nominal expressions in Diyari usually have phrasal marking; those with word marking are used for special emphasis or contrast (Austin 2013:100). However, as there is only a single example in the grammar, it is impossible to draw any conclusions regarding generalised or category-specific status.

**GUUGU YIMIDHIRR**

(36)  a.  ***Nambal    warrga-al    dyaarba    baydya-rrin    nyulu.***
            rock        big-INS        snake.ABS    cover-PST        3SG.NOM
            'He crushed the snake with a large stone.'

      b.  ***Nhanu-umu-n    gudaa-ngun    warrga-al    nganhi    dyinda-y.***
            2SG.GEN-mu-ERG    dog-ERG        big-ERG        1SG.ACC    bite-PST
            'Your big dog bit me.'

      c.  ***Nyulu    biiba    Dyaagi-iga-mu-n    binal-ing-gu    bama***
            3SG.NOM    father    Jack-GEN-*mu*-ERG    know-ERG-gu    man.ABS
            ***daama-y.***
            spear-PST
            'Jack's father knowingly [i.e., on purpose] speared a man.'

                                                        (Haviland 1979:102, 103)

**iii.   Very limited discontinuity**

Discontinuity is only marginally available in most languages of the type, i.e. there are only one or two (potential) examples in the grammatical description (no frequencies are reported by authors). Discontinuity is said to be "frequent" in Yalarnnga (Breen & Blake 2007: 54), but the description is overall quite limited and it is unclear whether all examples concern true discontinuity. A logical hypothesis is that the availability of discontinuity in languages of type 4 also depends on the category of the modifier involved. However, as information is limited and discontinuity is used only marginally in many languages, it is hard to assess this hypothesis. One example that seems to confirm it is Mawng (see Section 3.2.3). Another potential example is found in Muruwari, where discontinuity is particularly frequent between head and possessive pronoun/noun (Oates 1988: 88).

**4.5    Distribution of the four types across the sample**

This section has shown that the individual language profiles available in the sample may be captured in a four-way typology of the nominal domain. The four types were detailed and illustrated in the previous sections; Table 4 shows how I analysed the individual languages of the sample (based on the data summarised in Table 5 in the Appendix).

The distribution of the four language types across the sample is visually represented in Map 2 below. Type 1 languages (blue) are found in the Paman languages on the west side of Cape York and the nearby Tangkic language Kayardild, in two languages in the centre of Australia, in the three languages in the western-most part of Western Australia (the two Kartu languages and Martuthunira), as well as in languages of different non-Pama-Nyungan families in the northwest (several of the latter with rigidity of functional roles; see Section 3.1.2). Both type 2 (yellow) and type 3 languages (green) are mainly found in the northwest of Australia, and belong to both Pama-Nyungan and other families. The region in the northwest thus seems to generally have flexibility (whether phrasal or non-phrasal) as basis for the nominal domain. Type 4, finally, is found mostly in the east of Australia: in the Paman languages on the east side of Cape York in the north, in Mayi, Yalarnnga and the Karnic languages towards the centre, and in several languages towards to coast in the southeast.

**Table 4.** Overview of languages per language type

| Languages of type 1 | | |
|---|---|---|
| Arrernte | Kugu Nganhcara | Nyulnyul |
| Gaagudju | Kuuk Thaayorre | Uradhi |
| Gooniyandi | Marrithiyel | Wajarri |
| Kayardild | Martuthunira | Yankunytjatjara |

Less clear cases:

*(i) flexibility for (almost) all modifiers, but alternative order is exceptional*[*]

| | | |
|---|---|---|
| Kala Lagaw Ya | | Tiwi |
| Ngiyambaa | | Yingkarta |

*(ii) limited information*

Malakmalak

| Languages of type 2 | | |
|---|---|---|
| Anindilyakwa | Gumbaynggir | Wardaman |
| Bilinarra | Jaru | Warrongo |
| Bininj Kunwok | Ndjébbana | Yanyuwa |
| Dhuwal | Nyangumarta | Yuwaalaraay |
| Garrwa | Ungarinyin | |

| Languages of type 3 | | |
|---|---|---|
| Bardi | Jaminjung | Wirangu |
| Djinang | Ngan'gityemerri | Yawuru |

| Languages of type 4 | | |
|---|---|---|
| Arabana-Wangkangurru | Kuku Yalanji | Paakantyi |
| Diyari | Mangarrayi | Umpila |
| Guugu Yimidhirr | Mawng | Worrorra |

Less clear cases: *insufficient information*

| | | |
|---|---|---|
| Duungidjawu | Muruwari | |
| Mayi | Yalarnnga | |

\* These languages show more flexibility and more options for word marking than the other languages in this table. However, they may arguably still be analysed as type 1: while they show flexibility for (almost) all types of modifiers, it is very infrequent (e.g. only 10% of nominal expressions in Yingkarta have a 'divergent' order; Dench 1998: 50–51), and linked to specific grammatical or informational structural contexts. It could be argued that there is a 'basic' rigid (and thus phrasal) construction type, with reverse order as a minor construction type.

## 5. Discussion and conclusion

This paper has surveyed the array of structural possibilities for nominal expressions available in a sample of 50 Australian languages, focusing on the diversity
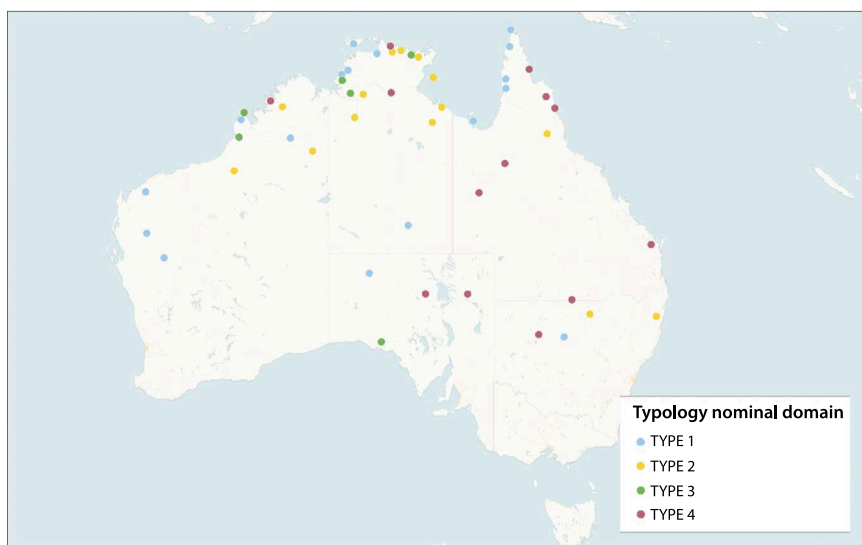
**Map 2.** Typology of the nominal domain in the sample. For an interactive version of this map, see http://bit.ly/typology-nominal-DL (last access 13 September 2022).

of constructions found within individual languages. In a first step, I identified a range of construction types occurring across the sample, by using three parameters that were inspired by the literature on NP constituency: contiguity/discontinuity, internal word order, and locus of case marking. I showed that each parameter is largely independent of the others, and that different combinations of values distinguish distinct construction types. I further argued that each of these parameters may be manifested for some categories only, or function in a generalised way. Cross-cutting all these parameters results in a set of at least two dozen construction types across the languages of the sample.

In a second step, I investigated which construction types tend to co-occur in individual languages, and I proposed a four-way typology. Three of these have one dominant construction type and several minor ones; the fourth does not have any dominant construction type but instead has a range of construction types for different categories. Types 1 and 2, which I loosely labelled as 'mostly rigid' and 'mostly loose and non-phrasal', are each other's mirror image. They further build on the traditional contrast between generalised rigidity and generalised (non-phrasal) flexibility, but take the extra step in describing correlations with minor construction types: type 1 languages have instances of limited flexibility, while type 2 languages have pockets of phrasality. Discontinuous construction types are typically not or only marginally available in type 1 languages, but occur in all type 2 languages, characteristically also with flexible internal order. This partly con-

firms Pensalfini's (1992) observation that languages with flexible word order in nominal expressions allow discontinuity, while those with rigid internal order in noun phrases do not; however, my sample includes several exceptional languages which have both generalised rigidity and discontinuous constructions (such as Kayardild and Gooniyandi). See also Louagie & Reinöhl (2022) for preliminary but similar observations regarding these two language types.

Types 3 and 4 are different from those traditionally conceptualised. Type 3 languages were informally labelled as 'largely flexible but phrasal': the dominant construction type is internally flexible constructions which are treated as phrasal units by a single, phrasal case marker. In addition, these languages have minor construction types involving rigidity for one or two categories, in some languages constructions distinguished by alternative case loci, and discontinuous ones (in two languages also with phrasal case marking). Finally, type 4 languages lack any generalised clustering of parameters in a dominant construction type, and are instead 'categorially fractured'. It is the type of modifier (or head) that determines which construction types are available. I hypothesise that this category-specificity is not only seen in constructions with different word orders, but also in those distinguished by locus of case marking or discontinuity; however, too little information is available to fully substantiate this hypothesis. Moreover, discontinuity seems overall very rare in type 4 languages.

Two further general observations may be made. The first is that the four language types differ by how wide a range of choice they allow individual speakers in the way they construct nominal expressions, and when there is a choice, by the factors that impact on it, such as information structure. The nominal domain in languages of type 1 is characterised by predominant phrasality and is primarily structured rigidly, leaving fewer room for structural alternatives. Information structure plays a limited role overall: it motivates the use of a construction with word marking or a discontinuous construction in the few languages that have these types available (e.g. Gooniyandi), and perhaps partly motivates word order for those one or two categories that are flexible, such as pronouns. This contrasts with languages of types 2 and 3, where the nominal domain is largely flexible, leaving much more room for individual choices. Word order in nominal expressions is at least partly motivated by information structure, heaviness and style, and perhaps such motivations also play a role in the use of constructions with alternative case locus (which are uncommon in both types) and of discontinuous constructions. While type 3 languages still display dominant phrasality in the way expressions are treated from an external perspective, type 2 languages have small pockets of phrasally constructed expressions. Languages of type 4, finally, are much more varied: it is the type of modifier or head that determines whether or not there is a choice between construction types and what motivates that choice;

both syntactic and discourse factors may play a role. In addition, type 4 languages more often have alternative constructions with different patterns of case locus, which are at least partly driven by information structure.

The second observation relates to the kinds of categories involved in the minor construction types languages have, whether they be flexible (as in type 1 languages, which are otherwise rigid) or rigid (as in type 2 and 3 languages, which are otherwise flexible). Interestingly, these pockets of flexibility and of rigidity often involve the same types of elements, viz. determiner-like ones such as interrogatives, personal pronouns, possessives and quantifiers. This is perhaps not so surprising for languages where these elements are involved in marginal rigid phrases amidst a flexibly organised nominal domain: they remind us of the grammaticalisation pathway for noun phrases suggested by Himmelmann (1997), which he argues goes hand in hand with the grammaticalisation of determining elements into 'true' determiners. Obviously, such hypotheses concerning grammaticalisation would need to be further investigated for the languages of my sample. The reverse can be found in languages of type 1, where determiner-like elements are the only flexible ones while the noun phrase is generally rigid. In some cases, it may be argued that additional types of determiners are added in an expansion of an already fully-fledged NP, as with the personal pronouns in Kuuk Thaayorre (discussed in Section 3.2.1). Note that for languages of type 4, it is more common to find flexibility in determiner-like elements in combination with rigid qualifying elements than the other way around (see Section 4.4). Thus, at least based on typological evidence, it seems that there is certainly no universal trend for determiners to show greater rigidity than other types of modifiers.

Finally, one important area of interest which I have only referred to a few times is how the construction types interrelate in individual languages, and what the motivating factors are for choosing one or the other construction (if there is a choice). I exemplified some syntactic and discourse-related factors motivating construction choice in Sections 3 and 4, and more generally touched on the role of information structure above, but stopped short of a more systematic overview, since many descriptions do not focus on these questions (with several notable exceptions, e.g. the seminal work of McGregor 1989, 1997, and Schultze-Berndt & Simard 2012; also recently Kapitonov 2021 on Kunbarlang, not part of my sample). Related to this, we also need more insight into how different constructions are used and combined in actual discourse and interaction. For instance, several studies point out the importance of using strings of referential expressions to build up and expand reference (e.g. Hill 2018 on Umpila), and a recent interactional study shows that in Garrwa, phrasal expressions (e.g. 'that hat') are used in smooth progressions while series of prosodically detached expressions (e.g. 'this

one, the hat') are used, for instance, for topic initiation, repair or reformulation (Mushin 2020).

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## Abbreviations

| | | | |
|---|---|---|---|
| 1-3 | person | CONTR.PRO | contrastive pronoun |
| I-IV | noun classes | CTEMP | contemporaneous |
| A | agent | DAT | dative |
| ABL | ablative | DEIC | deictic |
| ABS | absolutive | DEM | demonstrative |
| ACC | accusative | DEM.PRON | demonstrative pronoun |
| ADJ(P) | adjective (prase) | DIR | directional |
| ADN.DEM | adnominal demonstrative | DIST | distal |
| ALL | allative | DM | demonstrative marker |
| AMBIPH | ambiphoric pronoun | DO | direct object |
| ANA | anaphoric (propositus) | DU | dual |
| ANAPH | anaphoric pronoun | DUR | durative |
| ART | article | ED | edible gender |
| ASP | aspectual suffix | EMPH | emphatic/background suffix |
| AUG | augmented | ERG | ergative |
| AUX | auxiliary | EXC | exclusive |
| BEN | benefactive | F | feminine gender |
| C.A. | concurrent action | FUT | future |
| CAUS | causative | FYB | father's younger brother |
| CM | conjugation marker | GEN | genitive |
| COM | comitative | IGN.PRON | ignorative pronoun |
| COMPL | completive | IGNOR | ignorative |
| CONJ | conjunction | IMP | imperative |
| CONT | continuative/continuous | INC | inclusive |
| CONTR | contrastive focus marker | INDEF | indefinite |

| | | | | |
|---|---|---|---|---|
| INS | instrumental | | PRO | pronoun |
| IO | indirect object | | PROG | progressive |
| IPFV | imperfective | | PROP | proprietive |
| IRR | irrealis | | PROX | proximal |
| LAT | lative | | PRS | present |
| LL | land gender | | PS | particle suffix |
| LOC | locative | | PST | past |
| M | masculine gender | | PST.IMM | immediate past |
| MIN | minimal | | PST.PUNCT | past punctual |
| MPROP | modal proprietive | | PTCP | participle |
| N | noun | | PURP | purposive |
| N- | non- | | QUANT(P) | quantifier (phrase) |
| NAR | narrative | | RCP | reciprocal suffix |
| NEG | negative | | RDP | reduplication |
| NEG.IMP | negative imperative | | REC.PST | recent past |
| NEUT | neutral | | REL | relative clause marker |
| NF | non-final vowel change | | REL.CL | relative clause |
| NMLZ | nominalizer | | REM.PST | remote past |
| NOM | nominative | | RR | reflexive/reciprocal |
| NW | neuter gender | | S | subject |
| O | object | | SG | singular |
| OBL | oblique | | SUB | subordinate |
| OPT | optative | | THPRO | thematic prominence |
| OR | originative | | TF | temporal focus |
| PERL | perlative | | TOP | topicalising suffix/topic clitic |
| PFV | perfective | | TR | transitive conjugation marker |
| PL | plural | | TRANSLOC | translocative |
| PLUP | pluperfect | | UA | unit augmented |
| POSS | possessive | | UNM | unmarked |
| POSS.PRON | possessive pronoun | | VE | vegetable gender |
| POT | potential | | VEG | vegetable food |
| PRIV | privative | | YI | noun class (Wardaman) |

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## Appendix

Table 5 contains a schematic overview of the available construction types (as identified in Section 3) for each language, in alphabetical order.

Abbreviations used in the tables:

–    For types of elements:
     3pron – (modifying) third person pronoun, A – adjective, AP – adjective phrase, Adn.Dem – adnominal demonstrative, Def – definite, Dem – demonstrative, Gen – generic noun, Indef – indefinite, Ign – ignorative, Interr – (modifying) interrogative, N – noun, Num – numeral, Spec – specific noun, Poss.NP – lexical possessor, Poss.pron – possessive pronoun, pron – pronoun, Qual – qualifier, Quant – quantifier.
–    For locus of case marking:
     NO – no marking, PH – phrasal marking (with H for head, L for left-edge, R for right-edge and V for variable), W – word marking

An asterisk (*) indicates that word order in a construction type was defined in terms of functional-semantic roles in the grammar (see Section 3.1.2).

**Table 5.**  Construction types available for each language of the sample

| Language | Construction types | Reference |
|---|---|---|
| Anindilyakwa | generalised flexibility with NO (core) or multiple marking/W (non-core)<br>flexible phrases with PH-L (non-core)<br>rigidity for pron-Dem<br>discontinuity (not with possessives) | (van Egmond 2012: 87–88, 303–309) |
| Arabana-Wangkangurru | rigidity with PH-R for A, modifying N, Interr/Indef<br>rigidity with W for A, ?lexical possessors<br>flexible phrases with PH-R for Dem<br>flexible phrases with PH-V for Poss.pron | (Hercus 1994: 114, 281–284, examples) |

**Table 5.**  *(continued)*

| Language | Construction types | Reference |
|---|---|---|
| | flexibility with W for Poss.pron, Dem, 3pron discontinuity | |
| Arrernte | generalised rigid phrases with PH-R flexibility with PH-R for DAT possessors, Poss.NP discontinuity between head and non-restrictive relative clause (each part marked for case) | (Wilkins 1989: 102–103, 132, 135, 415–419, examples) |
| Bardi | generalised flexible phrases with PH-L rigidity for Interr, within AP, and with pronominal heads flexible discontinuity between Quant and head (with PH-V or W?) discontinuity between sentence-initial element and rest of noun phrase (with PH-V or W?) | (Bowern 2012: 269, 327–340, 623, 768, p.c.) |
| Bilinarra | generalised flexibility with W flexible phrases with PH-H (rare), or in diagnostic slot discontinuity | (Meakins & Nordlinger 2014: 103–108, 352 examples) |
| Bininj Kunwok | generalised flexibility with NO flexible phrases with PH-V (non-core; optional) rigidity for Indef 'one' discontinuity | (Evans 2003a: 239, 242–243) |
| Dhuwal | generalised flexibility with W (some elements optionally marked) rigidity for 3pron, Ign, free number markers discontinuity (rarely with Quant) | (Morphy 1983: 47, 82–87; Wilkinson 1991: 125, 278–281, 393–402, 682–685, examples) |
| Diyari | rigidity with PH-R for lexical possessor, Gen-Spec, A, ?Quant, embedded NPs, Interr flexible phrases with PH-R for Poss.pron flexibility with W for 3pron (edge position) other constructions with W (only 1 example; marked) discontinuity (brief mention, one example) | (Austin 2013: 67–68, 97–100, examples) |
| Djinang | generalised flexible phrases with PH-R rigidity for 3pron, Gen-Spec, reduced DAT pron generalised flexibility with W (less common) discontinuity | (Waters 1989: 31, 137, 195–196, 198, 234) |
| Duungidjawu | rigidity with W for Interr, 3pron, A flexibility with W for Dem, Poss.pron, Poss.NP, Num, Quant constructions with one element unmarked for case (few examples) constructions with PH-R within NP in COM discontinuity | (Kite & Wurm 2004: 37, 96, examples) |

**Table 5.**  *(continued)*

| Language | Construction types | Reference |
| --- | --- | --- |
| Gaagudju | generalised rigid phrases* with NO discontinuity (few examples) | (Harvey 2002: 315–320, examples) |
| Garrwa | generalised flexibility with W<br>flexible phrases with PH-V (rare), or in diagnostic slot<br>discontinuity | (Mushin 2012: 61–65, 81–82, 103–104, 119, 255–260, p.c.) |
| Gooniyandi | generalised rigid phrases* with PH-V<br>generalised rigid phrases* with W (minor; marked)<br>discontinuity (minor; marked) | (McGregor 1989, 1990: 253–284; 1997) |
| Gumbaynggir | generalised flexibility with W<br>rigidity for 1pron/2pron-Dem<br>discontinuity (properties unclear) | (Eades 1979: 289–290, 313, examples) |
| Guugu Yimidhirr | rigidity with PH-R for A, Num, Gen-Spec (only ABS examples)<br>rigidity with W for A, Num<br>flexibility with W for 3pron (edge position), Poss.NP, Quant, Dem (mostly ABS examples)<br>?flexibility with PH-R for Poss.pron, Poss.NP in post-head position, and with W for Poss.pron in pre-head position<br>discontinuity (few examples) | (Haviland 1979: 56–57, 102–105, 147–151, examples) |
| Jaminjung | generalised flexible phrases with PH-V (but restrictions)<br>generalised flexibility with case on multiple elements<br>flexible discontinuity (contrastive focus)<br>rigid discontinuity (sentence focus) | (Schultze-Berndt 2000: 43–45; Schultze-Berndt & Simard 2012) |
| Jaru | generalised flexibility with W (ERG optional on two demonstratives)<br>flexible phrases in diagnostic slot<br>discontinuity | (Tsunoda 1981: 94–95, 195) |
| Kala Lagaw Ya | generalised rigid phrases with PH-R<br>reverse order (minor; marked in some examples)<br>(no information on discontinuity) | (Ford & Ober 1991: 122, 124, 130; Stirling 2008: 177; examples in all sources) |
| Kayardild | generalised rigid phrases*[a] with W<br>discontinuity (minor; marked) | (Evans 1995: 233–247, 249–250; also Round 2013: 133–135) |
| Kugu Nganhcara | generalised rigid phrases with PH-R<br>flexibility with W for 3pron<br>(discontinuity absent) | (Smith & Johnson 2000: 388, 390–391, 402, 415–420, 428) |
| Kuku Yalanji | rigidity with W for Gen-Spec, A, N-PRIV, N-COM, ?Poss.pron<br>flexibility with W for Dem, 3pron, Interr, Poss.NP, | (Patz 2002: 51–52, 73–76, 119–121, examples) |

**Table 5.**  *(continued)*

| Language | Construction types | Reference |
|---|---|---|
|  | Quant<br>constructions with PH-R (rare)<br>discontinuity (mentioned, few examples) |  |
| Kuuk Thaayorre | generalised rigid phrases with PH-R (excl. Adn.Dem)<br>flexibility with W for 3pron<br>discontinuity (PH-R; rare) | (Gaby 2017: 195–197) |
| Malakmalak | generalised rigid phrases with PH-R<br>flexibility for pron (with possessive interpretation)<br>(no examples of discontinuity) | (Birk 1976: 25, 106, 146–148, examples; Hoffmann p.c.) |
| Mangarrayi | rigidity with W for Dem, Poss.pron, Interr<br>flexibility with W for A, Num<br>flexible phrases with PH-H for Poss.NP<br>discontinuity (few examples) | (Merlan 1989: 29–30, 51, examples) |
| Marrithiyel | generalised rigid phrases with PH-R<br>flexibility with PH-R (sometimes excl. Num) for Num<br>(no examples of discontinuity) | (Green 1997: 45–48) |
| Martuthunira | generalised rigid phrases* with W<br>(few potential examples of discontinuity) | (Dench 1994: 189–204) |
| Mawng | rigidity* with NO for Dem, 3pron, oblique pron, Poss.NP<br>flexibility* with NO for A, Quant, modifying N, pron with possessive interpretation<br>discontinuity for A, Poss.pron (minor; marked) | (Singer 2006: 93, 96, 99–100, examples; Forrester 2015: 45–47, 58–66) |
| Mayi | rigidity with PH-R for Interr, Num<br>rigidity with W for 3pron<br>flexible phrases with PH-R or PH-L for Dem (almost always initial), Qual<br>flexibility with multiple marking or W for Dem, Qual, Poss (only ABS examples)<br>(no examples of discontinuity) | (Breen 1981: 63–64, examples) |
| Muruwari | rigidity with PH-H for Poss.pron<br>rigidity with PH-R for Dem<br>flexible phrases with PH-H for A, Def, Poss.NP; with PH-V for A in LOC<br>?rigidity with W for Dem, Num, 'other', Interr, ?3pron<br>flexibility with W for A (only in LOC)<br>discontinuity | (Oates 1988: 55, 57–58, 63–64, 88, 92–93, 97–98, 204–207, examples) |

**Table 5.**  *(continued)*

| Language | Construction types | Reference |
|---|---|---|
| Ndjébbana | generalised flexibility with NO<br>rigidity for Interr<br>discontinuity (rare) | (McKay 2000: 194–195, 293–294, examples) |
| Ngan'gityemerri | generalised flexible phrases with initial head and PH-R<br>rigidity for Gen-Spec<br>(no examples of discontinuity) | (Reid 1990: 291, 326; 1997: 166–167) |
| Ngiyambaa | generalised rigid phrases with W<br>generalised rigid phrases with PH-V (minor)<br>reverse order (very few examples)<br>discontinuity (mentioned, but no clear examples) | (Donaldson 1980: 232, examples) |
| Nyangumarta | generalised flexibility with W<br>flexible phrases with PH-R (few examples)<br>discontinuity (unclear) | (Sharp 2004: 301–317, 393, examples) |
| Nyulnyul | generalised rigid phrases* with PH-L<br>generalised rigid phrases* with W (minor; marked)<br>(discontinuity absent)[b] | (McGregor 2011: 400–420, 643–644) |
| Paakantyi | rigidity with PH-R for A, Quant, Num<br>rigidity with W for Interr/Indef<br>flexible phrases with PH-R for Poss.pron, and with PH-H for Poss.NP<br>flexibility for Dem with PH-R when in post-head position, and with W when in pre-head position<br>discontinuity (few examples) | (Hercus 1982: 86–87, 98–103, examples) |
| Tiwi | generalised rigid phrases* with NO<br>reverse order (minor; focus)<br>discontinuity (mentioned but few examples) | (Lee 1987: 221–230) |
| Ungarinyin | generalised flexibility with NO (core) or W (non-core)<br>flexible phrases with PH-R or PH-V (non-core)<br>rigidity for Interr<br>discontinuity | (Rumsey 1982: 57–58, 138, examples; Spronck 2015: 35–42, 166–168, examples, p.c.) |
| Umpila | rigidity for pronominal head<br>rigidity* with PH-R for Modifiers (A, Quant)<br>flexible phrases* with PH-R for Determiners (3pron, Dem, Quant, Poss.pron)<br>discontinuity (minor) | (Hill 2018: 120–159) |
| Uradhi | generalised rigid phrases with W<br>rigid phrases with PH-H, at least for A<br>flexibility with W for Poss, Num and 'other'<br>(unclear whether discontinuity) | (Crowley 1983: 334, 370–371, examples) |

**Table 5.** *(continued)*

| Language | Construction types | Reference |
|---|---|---|
| Wajarri | generalised rigid phrases with PH-R<br>flexibility with PH-R for Quant, Poss.pron<br>constructions with W (few examples)<br>discontinuity (mentioned but no examples) | (Douglas 1981: 240–244; Marmion 1996: 33, examples) |
| Wardaman | generalised flexibility with W<br>rigidity for Dem and Poss.pron if co-occurring with other modifiers, for Interr, age terms, and pronominal heads<br>discontinuity (uncommon; marked) | (Merlan 1994: 228–239, 245–246, examples; Croft 2008) |
| Warrongo | generalised flexibility with W<br>rigidity for Interr, Num, and in certain construals with 'camp' and 'father' (some with PH)<br>discontinuity (frequent) | (Tsunoda 2011: 341, 347–361, 601, examples, p.c.) |
| Wirangu | generalised flexible phrases with PH-R<br>generalised flexibility with W (minor; marked)<br>discontinuity (with 3pron or Dem) | (Hercus 1999: 48, 81, (few) examples) |
| Worrorra | rigidity with NO for A (few examples)<br>flexibility with NO for Dem, Poss.pron, Poss.NP<br>(no examples of discontinuity) | (Clendon 2014: 166, examples) |
| Yalarnnga | rigidity with W for 3pron, Interr, Num; A (rare)<br>flexibility with W for Dem, Poss.pron, aversive pron<br>discontinuity (unclear) | (Breen & Blake 2007: 54, 57–58, examples, p.c.) |
| Yankunytjatjara | generalised rigid phrases with PH-R<br>flexibility with PH-R (sometimes excl. Dem) for Dem, Poss.pron[c]<br>(discontinuity absent) | (Goddard 1985: 38–39, 47, 49, 55–56, 60, 68–70, 93, examples) |
| Yanyuwa | generalised flexibility with W (limited info)<br>rigidity for Interr<br>(no information on discontinuity) | (Kirton & Charlie 1996: 10; Bradley et al. 1992; Kirton 1971: 10; examples all sources) |
| Yawuru | generalised flexible phrases with PH-L<br>rigidity for 3pron, Interr, 'other', 'some', Gen-Spec, for Dem and poss.pron when co-occurring, and for Dem-pron construal<br>discontinuity with PH-L (impossible for 3pron) | (Hosokawa 1991: 33–34, 35–36, 297–298, 300–303, 321, 334–335, 337–348, examples) |
| Yingkarta | generalised rigid phrases* with W<br>rigid phrases* with PH-R (few examples)<br>reverse order (minor; marked or predicative contexts)<br>discontinuity (very rare) | (Dench 1998: 21–22, 50–53) |
| Yuwaalaraay | generalised flexibility with W<br>rigidity for 3pron, and Dem-3pl.pron<br>discontinuity | (Giacon 2017: 137–140, 364–365, examples, p.c.) |

a. This analysis follows Evans (1995). By contrast, Round (2013:135; p.c.) argues that the post-head modifier is not integrated and should be analysed as forming a separate, co-referential phrase. Following Round's analysis, Kayardild is comparable to Kala Lagaw Ya and Yingkarta (see further below).

b. McGregor (2011:643–644) discusses a number of examples under the label discontinuity but in all cases, the elements occur in separate intonation units, so I do not consider them examples of true discontinuity (see further Section 3.1.1).

c. Bowe (1990:39–42, 51) argues for close variety Pitjantjatjara that the modifying third pronoun is also flexible, and that there are construals with word marking for case, involving nouns and adjectives and showing flexible order (Bowe 1990:53). It is unclear whether these are true differences between the two varieties, or whether they are due to differences in description and analysis.

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