Title: The status of determining elements in Australian languages

Author: Dana Louagie (University of Leuven)

Address for correspondence:

Department of Linguistics
University of Leuven
Blijde Inkomststraat 21, PO Box 3308
3000 Leuven
Belgium

+32 16 37 24 51
dana.louagie@kuleuven.be

Abstract:

Australian languages generally lack a part of speech with typical determiner features such as obligatory use, competition for a specific position in the noun phrase, and specialization in this function. This study uses a sample of 100 languages to investigate whether Australian languages can be said to have any kind of determiner system, and if so, what it looks like in structural terms. I show that there is structural evidence for a determiner slot or zone in half of the languages. Parts of speech occurring in these slots/zones are often non-specific, also used in other functions in the NP. This offers an interesting window on the semantics of determiners, as it allows us to contrast determiner uses with non-determiner ones.

Keywords: determiners, noun phrase, Australian languages

1. Introduction

In this paper, I use a sample of Australian languages to investigate what determiner systems look like in languages without prototypical determiners. Much linguistic theorizing in this domain is based on languages that have a clear-cut category of determiners, so much so that some theories propose a DP or determiner phrase as the basic syntactic unit instead of the NP or noun phrase (see, for instance, Lyons 1999: 290-305 for a general discussion). The prototypical determiner occurs in a specific position in the noun phrase, often at its edges, and has a specialized determining function, i.e. it indicates the identifiability status of the referent (cf. e.g. Himmelmann 1997: 11; McGregor 2004: 125; Davidse 2004; see section 4 for more detailed discussion). An example is the definite article in English (or other Germanic languages), which is not only specialized in a left-edge determiner slot (or zone, see further below), as in (1a-b), but is also obligatory for definite NPs (unless there is another determiner such as a demonstrative), as in (1c-d).

(1) English
   a. *the heavy book*
   b. ** the*
   c. ** heavy book*
   d. *that heavy book*

Australian languages generally lack such typical determiner features. Overall, they have very few specialized determiners (see also e.g. Lyons 1999: 49; Dixon 2002: 66-67; Stirling & Baker 2007; Baker 2008). Some elements, like demonstratives, do typically have determining functions (such as specifying identifiability based on distance relations or anaphoricity), but they can also have other functions, typically in other positions[1]. This is illustrated in (2) from Gaagudju, where demonstratives can be used both as determiners, in initial position (2b), and with other modifying functions, following the head noun (2c) (see the general NP template in (2a)).

(2) Gaagudju (Harvey 2002: 316-317, 249)
   a. NP structure: (Deictic(s)) Entity (Qualifier)
   b. ***magaadja***   ***njinggooduwa*** *Ø-iinj-ma*   *Ø-baalgi*   *njoogi*
       that:II   woman   3I<3F-got   I-lots   white.ochre
       'That woman got lots of white ochre (too).'
   c. ***gaardu***   ***magaadja***   *gu-marraa-y=mba*   *gooyida*

---

[1] As pointed out by a reviewer, the same argument applies to noun classifying elements, where in many Pama-Nyungan languages it is the construction that determines the classifying function rather than any specific part of speech that is specialized in classification (see Wilkins 2000).

| water | that:IV | IV<1+2-eat:PRS=AUG | Don't |

nj-dja-ardangaree-ngi=mba

2-PRS-swim-PRS=AUG

'That water is for us to drink. It is not for you mob to swim in!'

Furthermore, determining elements are rarely obligatory in Australian languages (see, for instance, Stirling & Baker 2007), and they tend to co-occur rather than compete. A frequent combination, for example, is that of an adnominal demonstrative and a personal pronoun (cf. also Blake 2001: 424; Stirling & Baker 2007; Stirling 2008 for examples), as illustrated in the Yir Yoront structure in (3) below.

(3) Yir Yoront (Alpher 1973: 280-281)

wârtyuwər +áwə̠r +ôlo

woman   that.NOM   she

'she that woman'

In this study, I use a large sample of 100 languages (see section 2) to investigate whether Australian languages can be said to have determiner systems at all, and if so, what these look like in structural terms. In practical terms, I first compare the position of what are cross-linguistically prototypical determiners (like demonstratives or personal pronouns) and what are cross-linguistically prototypical modifiers (like adjectives). If a clear pattern emerges, with different positions for these two categories, there is structural evidence for a determiner slot (see section 3). For the languages in which such a slot can be distinguished, I then look at what types of elements can occur in this slot, regardless of their cross-linguistic prototypicality as determiners (see section 4). Obviously, this procedure is somewhat circular, but this is inevitable for languages without specialized determiners. The conclusions add to the very few studies we have in this domain, for instance Blake (2001), who investigates pronouns used as determiners in Australian languages and argues they constitute the head of the NP, and Stirling & Baker (2007) and Baker (2008), who use syntactic and discourse-based evidence to argue that Australian languages have a class of 'topic determiners'.

Beyond what it can add to the Australianist literature, our study also provides an interesting perspective on determiner systems more generally. Classic determiner languages like English (1) have both a specialized part of speech and a specialized slot as part of the determiner system. Given that Australian languages generally lack specialized determiners, as in Gaagudju (2) and Yir Yoront (3), we have to focus first on investigating the presence of determiner slots before we can look at the different categories of items that can go into these slots. This has a number of advantages. First, it allows us to take into account 'zones' of determiners, where multiple determiners are combined, while studying

4

specialized determiners has tended to foreground determiner slots (where determiners are in competition for a single position). Determiner zones seem to be common in Australian languages (and have also been observed in languages like English, e.g. Bache 2000; Davidse et al. 2008; Breban 2010). Secondly, the high proportion of non-specific parts of speech, which can also occur in other functions in the NP, offers an interesting window into the semantics of determiners, as it allows us to contrast determiner uses with non-determiner ones.

The rest of this paper is structured as follows. Section 2 gives a brief overview of the sample that is used for this study. In Section 3, I look at evidence for identifying determiner slots in the languages of our sample, and additionally investigate two remarkable features found in our sample, viz. optionality and co-occurrence of determiners. Section 4 investigates which elements can occur in determiner slots, showing that most of them are not specialized for this slot but can also be used in non-determiner positions. I will focus on the semantics of these elements, investigating what makes them eligible for use as a determiner, or alternatively, as non-determining modifier.

2. Sample

This study is based on a sample of 100 Australian languages, including 65 Pama-Nyungan languages and 35 'non-Pama-Nyungan' languages. The Pama-Nyungan family is the largest one in Australia and covers about two thirds of all Australian languages (Bowern & Atkinson 2012: 817). Its internal structure remains uncertain, but there is consensus on many lower-level groupings, and a higher-level grouping has been proposed by Bowern & Atkinson (2012). Both groupings are mentioned in the table in the Appendix. The other languages, spoken in the northwest of the continent, are often negatively identified as non-Pama-Nyungan, but in fact include many different families and isolates (cf. Evans 2003b for a classification), almost all of which are represented in this sample. On conservative counts (like Dixon 2002: 5-7), the sample represents about 40% of the languages spoken at first contact. The sample used is partly representative (in the sense that it tries to represent as many families as possible, including as many subgroups of the large Pama-Nyungan family as possible), but also partly based on convenience (in the sense that languages with more detailed descriptions are favoured). An overview can be found in Table 2 in the Appendix, showing the genetic classification and the sources used for each language.

3. Structural Determiner Slots in the Sample

In this section, I investigate the presence of a structural slot for determiners in the languages of the sample. There are 14 languages in the sample for which the grammatical description has already identified a determiner slot. In Gooniyandi, for instance, McGregor (1990) identifies a fixed NP[2] template in terms of functions (shown in 4a). Each functional slot can be filled with elements from different word classes, and one word class can occur in several slots. For example, the number word *yoowarni* 'one' can occur in the Deictic[3] slot (4b), functioning as an indefinite determiner (McGregor 1990: 258), in the Quantifier slot (4c), indicating the quantity of things and thus selecting a set of referents (McGregor 1990: 259-260, 270-271), or in the Qualifier slot (4d), still indicating the number of things but as a property of the referent rather than as a contribution to establishing its identity (McGregor 1990: 270-271).

(4) Gooniyandi (McGregor 1990: 253, 374, 260, 545)

    a. NP structure: (Deictic)^(Quantifier)^(Classifier)^Entity^(Qualifier)

    b. *Yoowarni-ngga /*   ***yoowarni-ngga gardiya /***   *cherrabun bore /*

       one-ERG   one-ERG   white:person   [place name]

       warangji /   *gamba/*   *bambimnga-widdangi*   *boorloomani -yoo /*

       he:sat   water   he:pumped:it-for:them   bullocks-DAT

       'There was a white man at Cherrabun Bore pumping water for the cattle.'

    c. *yoowarni*   *gamba*

       one   water

       'one (glass of) water'

    d. *babligaj-nhingi ngilanggoo*   ***balma yoowarni***   *thood-ja-winggani*

       pub-ABL   east   creek   one   descend-SBJV-FUT+(2SG)N+ANI

       'From the pub you'll go east, and cross one creek.'

For the other languages of the sample, I will identify a structural slot by both syntagmatic and paradigmatic means. A syntagmatic perspective focuses on the position of elements in the nominal expression as evidence for the presence of a structural slot. I distinguish two syntagmatic criteria, one relative and one absolute. A first criterion is whether the elements under scrutiny are in a position

---

[2] The term 'noun phrase' or NP is used throughout this paper in a general, loose sense, and not in a strictly syntactic sense (as not all nominal groups in all Australian languages can be characterised as noun phrases, strictly speaking). The syntactic status of nominal expressions in Australian languages is discussed in more detail in Louagie & Verstraete (2016), which uses the same sample as this study.

[3] Some analyses use the term Deictic slot, which seems to be equivalent to what I call determiner slot. For instance, the Deictic slot in Gooniyandi has as its function to "contextualise the phrase, relating it to the linguistic or extralinguistic context, thus facilitating the identification of its referent" (McGregor 1990: 257), or similarly in Gaagudju to "contextualis[e] the noun phrase" (Harvey 2002: 317).

clearly delimited from the nominal head and other modifiers, which would suggest a separate slot in the nominal expression. In Dyirbal (Dixon 1972: 60-61, examples), for instance, the nominal head of the NP divides the 'demonstrative noun marker'[4] on its left side from the adjective(s)[5] on its right side, as shown in the NP template in (5a) and the example in (5b). However, the demonstrative noun marker is not the only element that can occur to the left of the head: possessive pronouns can occur in the same position, as shown in (5c). What the elements on the left side of the head have in common is that they encode the identifiability status of the referent, i.e. they both have a determining function, and occur in the same position. This suggests the presence of a determiner slot at the left edge.

(5) Dyirbal (Dixon 1972: 60, 61, 105)

    a. NP structure: demonstrative noun marker – noun – adjective(s)

    b. **bayi**   **yaṟa**   **bulgan**   baniɲu

       there.NOM.I   man.NOM   big.NOM   is.coming

       'big man is coming'

    c. ŋinda   **ŋaygu bayi**   **galbin** balgan

       2SG.A   1SG.GEN there.NOM.I   child   hit.PRS/PST

       'you hit my son'

A second syntagmatic criterion is whether (potential) determiners occur at the edge of the nominal group, as would be expected according to Rijkhoff's (2002: 313, see also 218-223) Principle of Scope, which states that "modifiers tend to occur next to the part of the expression that they have in their scope." This can be illustrated with Panyjima (Dench 1991: 186), where the demonstrative occurs at the left edge, and the adjectival nominal may precede or follow the head, as in the template in (6a). When these two modifiers both occur on the left side of the head, the demonstrative occurs furthest from the head, as in (6b). This is indicative of a determiner slot (although edge position in itself is insufficient and needs to be combined with evidence from other criteria).

(6) Panyjima (Dench 1991: 186, 219)

    a. NP structure: dem – quant – adj/poss – N – adj/poss

    b. *mirlima-larta   kangkuru-ku   miyinma-larta nhupalu*

---

[4] This name suggests that they are mainly markers of noun class membership, but they also indicate deictic contrast (although the distal form is also used "when no specification of visibility/ proximity is intended" (Dixon 1972: 46)). Additionally, bound forms can be added to these 'noun markers' to indicate for instance 'uphill' or 'downhill'. They also seem to have a link with personal pronouns, and are called "pseudo-pronouns" by Dixon at one point (1972: 244).

[5] In this paper I will use labels for parts of speech (such as noun, adjective and demonstrative) as comparative concepts (cf. Haspelmath 2010), without making any statements about word class membership in individual languages.

spear-FUT	kangaroo-ACC	provide-FUT	2DU

nyiya-jirri-ku   ***kamungu-ku***   ***juju-ngarli-ku***
this-PL-ACC   hungry-ACC   old.man-PL-ACC

panti-jangu   ***nhangu-yu***   ***pili-ngka-ku***.
sit-REL   here-ACC   cave-LOC-ACC

'You two spear kangaroos to provide for these hungry old people here in the cave.'

If both these syntagmatic criteria are met, we can identify a structural determiner slot. By contrast, if neither of them is met, there is no determiner slot. This is the case, for instance, in Jaminjung (Schultze-Berndt 2000: 44-45; Schultze-Berndt & Simard 2012: 7), where the co-occurrence of a demonstrative and adjective on the same side of the head can involve either order of modifiers (7a-b).

(7) Jaminjung (Schultze-Berndt 2000: 45)

a. A: ***thanthu***=gun   ***mangurrb-bari wirib***,
         DEM=CONTR   black-QUAL   dog

    B: *ngayin*   *burrb*   *gani-bida…*
         meat/animal   finish   3SG:3SG-FUT:eat

    'A: that black dog – B: -it will eat up the meat'

b. *ngayin=gun*   *thanthu*   *burrb*   *gani-bida*   *ngarrgina*
    meat=CONTR   DEM   finish   3SG:3SG-FUT:eat 1SG:POSS

    …   ***wirib***   ***thanthu***   ***mangurrb-bari***
         dog   DEM   black-QUAL

    'it will eat up that meat of mine … that black dog'

A paradigmatic criterion for slots is whether the elements compete for the same position or co-occur in it. Complementary distribution is often seen as the only one of these options that provides evidence for a slot, and consequently, co-occurring elements are seen to necessarily belong to different slots. However, I believe that co-occurrence does not necessarily provide evidence against a determiner slot: some languages in our sample have determiner 'zones', where 'determiner complexes' form a functional unit and as a whole say something about the identifiability status of the referent (compare for English e.g. Breban & Davidse 2003, Breban 2010, Bache 2000). The phenomenon of co-occurrence of determiners has also been described as 'overdetermination' (Himmelmann 2001, Plank 2003). Co-occurrence of determiners is a common feature of many languages in the sample, and will be discussed briefly in Section 3.5.

The rest of this section looks at what evidence there is for a structural determiner slot in the languages of our sample. There are 29 languages in the sample that show convincing evidence for a determiner slot, and an additional 21 languages with some evidence for a determiner slot, but this evidence is either more limited or slightly different from that of the 'prototypical' case. There are four ways in which the determiner slot is attested in these 50 languages, which I will now discuss in turn. An overview can be found in Table 1.

type	generalised template	number of languages
1	**determiner(s)** – HEAD – modifier(s)	5 (+2)
2	**determiner(s)** – modifier(s) – HEAD – modifier(s)	7 (+8)
3	**determiner(s)** – HEAD – modifier(s) – **determiner(s)**	11 (+7)
4	**determiner(s)** … modifier(s) – HEAD (or HEAD – modifier(s) … **determiner(s)**)	6 (+4)

Table 1: Overview of the types of languages (w.r.t. manifestation of determiner slot)

3.1. Type 1: determiner(s) – HEAD – modifier(s)

The first type of language has a determiner slot on the left side of the head and other modifiers on the right side of the head. The determiner slot occurs at the edge, is clearly delineated from other modifiers, and can involve competition or co-occurrence. There are five languages that are definitely of this type, and two more that are most likely, but with slightly weaker evidence. An overview can be found in Table 3 in the Appendix, where the second column shows the elements that can occur in the determiner slot or zone, also indicating competition or co-occurrence patterns (see also §3.5 and §4). Marking with * indicates that the author of the grammar positively identifies a determiner slot in his/her analysis.

A clear example is Uradhi, for which the author proposes an NP template as in (8a) below. The template is defined in terms of word classes, but I argue that all the modifiers found on the left side of the head form a determiner zone, in which the demonstrative and 3rd person pronoun are in competition for the initial slot, followed by a genitive NP or a possessive pronoun (Crowley 1983: 371, 377, examples)[6]. This analysis is supported by (i) left edge position, (ii) clear delimitation from other

---

[6] This analysis is slightly different from Crowley's (1983: 371), who characterizes only the initial slot (filled by a demonstrative or personal pronoun) as a determiner slot, presumably because the possessive is not in complementary distribution with either of these. This is at least what the description and template suggest

modifiers with the head as barrier[7], and (iii) the common feature of 'identifiability' in demonstratives, personal pronouns and possessives (see further in section 4). Additionally, the grammar also has an example with *uɲa* 'other' in this position (see 8b), implying that this element can also be used as determiner.

(8) Uradhi (Crowley 1983: 371, 377, 393)

    a. NP structure:

$$\begin{bmatrix} \text{dem} \\ \text{3pron} \end{bmatrix} \text{(gen NP) (N) (Adj)}$$

       (N) (gen NP)

    b. *uɲa-ŋku*   *mata-ŋku*

       other-INS   hand-INS

       '[He used] the other hand.' (after having burnt his one hand)

In addition, there are two languages that look like the others in this category, but with limited (frequency-related) flexibility. In Djapu, for instance, the elements occurring on the left side of the head (see the NP template in 9a) all[8] mark the identifiability status of the referent in some way (see also §4), which, in combination with their clearly delimited edge position, argues for a determiner zone. In this zone, the personal pronoun can co-occur with a demonstrative, in this order (Morphy 1983: 84), as in (9b). This structure is very similar to what we have seen before, with one difference: unlike in Uradhi, the NP template in Djapu is only "usually" adhered to, with only the personal pronoun and the dual/plural marker having a fixed position, and quantifiers, numerals and locational modifiers being entirely 'free' (Morphy 1983: 82-87, examples).

(9) Djapu (Morphy 1983: 82-87, examples, 84)

    a. NP structure: 3pron – dem, indef/hypothetical det, N-PROP, genitive/inalienable PR – N* - du/pl modifier – modifying nominal

    b. *bala*   *[ŋayi*   *ŋunhi-ny-dhi*   *yolŋu-ny]ₛ*   *marrtji*

(Crowley 1983: 371), but unfortunately there are no examples of either a demonstrative or a personal pronoun co-occurring with a possessive in the grammar.

[7] Note that the possessive can sometimes follow the head noun (Crowley 1983: 377). A logical consequence would be that in this position it does not have a determiner function (see §4.4).

[8] One possible exception is the noun marked with a proprietive suffix. An example (i) shows that this possibly is a compound-like or classifying construction.

    (i)   Djapu (Morphy 1983: 85)

        nhä-ma   *ŋali*   *[gundirr-mirr*   *wäŋa]ₒ*

        see-UNM   1DU.INCL.NOM   antbed-PROP+ABS place+ABS

        'We saw a place with a lot of antbed'

	then	3SG.NOM	that+ABS-PRO-ANAPH	person+ABS-PRO	come.UNM

'Then that person comes along'

3.2. Type 2: determiner(s) – modifier(s) – HEAD – modifier(s)

In a second group of languages, determiners are found on the left side of the head, and other modifiers can occur on either side of the head. When both categories co-occur, determiners are furthest from the head. In other words, there is a determiner slot (or zone) at the left edge, which is delineated from other modifiers (in that it has a fixed position w.r.t. the head whereas other modifiers are flexible), and in which there can be competition or co-occurrence. Seven languages are definitely of this type, while an additional eight show some evidence, which is either more limited or mixed. An overview can be found in Table 4 in the Appendix.

A language which clearly belongs to this type is Mayi (10a). The grammar suggests (Breen 1981b: 63, examples) that the demonstrative, personal pronoun and interrogative compete for the initial slot, as for instance in (10b-c). As these elements also share a feature of identifiability, this can be analyzed as a determiner slot. It is unclear whether the numeral on the left side of the head could be part of a larger determiner zone (i.e. having a kind of determining function), or whether it has a purely quantifying function. One reason why I have chosen not to include numerals as determiners in this case is that for the purposes of this study I do not want to go beyond anything I can infer from the grammar.

(10) Mayi (Breen 1981b: 63, 66, 55)

    a.   NP structure: dem/pron/interr – num[9] – N.qual – N.head – N.qual

    b.   **kula**   **kaṯi**   *wamuranʸpir*

        this   meat   crow-ALL

        'This meat is for the crows.'

    c.   **pala**   **yampi**   *paṯampiŋu*

        3DU   dog   bite-RECP-PRS

        'The dogs bit [sic] one another.'

There are two further sets of languages which may belong to this type, but less clearly so. First, there is a set of three languages with mixed evidence, in that they seem to mainly follow the type as described above, but with some exceptions. For instance, the template of the Bundjalung NP is described by Sharpe (2005: 98) as in (11a). This is very similar to the template of Mayi as in (10a) above,

---

[9] The position of the numeral is 'not definitely established' (Breen 1981b: 63).

with probably at least the demonstrative and the possessive pronoun in a determiner zone at the left edge, as in (11b). However, a few examples with N-dem or N-poss.pron order have been found in the grammar, as in (11c). It is unclear whether this implies a second determiner slot following the head noun (as in type 3, §3.3) or whether the demonstrative could have a qualifying function in this position (as is the case for instance in Gaagudju [Harvey 2002: 317], which is also of this type). See also §4.4 on this analytical issue.

(11) Bundjalung (Sharpe 2005: 98, 99, 37, 78)

a. NP structure: dem – poss – num – A – N –A

b. *munah-mba*   *ngañah*   *bulahbu*   *bargan*
   those.NVIS-LOC 1SG.POSS   two   boomerang
   'those two boomerangs (that I had)'

c. *Mahñ*   *dabahy yung-ba-le-hla*   **gibam-bu**   **mali-yu**.
   those   dog   bark-say-ANTIP-PROG   moon-INS   that-INS
   'The dogs are barking because of the moon.'

Second, there is also a set of five languages for which we only have information on nominal expressions of two elements, and not on relative order in the case of multiple modifiers, implying there is no evidence concerning possible edge position. However, the information we do have points to a distinction between determiners and other modifiers, in that the former have a fixed position w.r.t. the head and the latter a flexible position. An example is Gathang (see the template in 12a), where the demonstrative, possessive pronoun and personal pronoun (all typical encoders of identifiability, see Section 4) seem to have a fixed initial position (as in 12b), while the adjective is flexible (as in 12c-d).

(12) Gathang (Lissarrague 2010: 39, 103-105, examples, 160, 165, 166)

a. NP structure: dem – N[10]; poss pron/NP – N; pron – N;
   A – N or N – A

b. **Nyuwa guyiwi** *mawung*   *mara-la.*
   he   shark   fast   went-PST
   'He, the shark goes (or: went) fast.'

c. *Mawung*   *mara-lanyuwa, nyaanyi-la*   **yuyn.gu**   **djukal**.
   quick   go-PST he   see-PST   mountain   big
   'Quick, he went, he saw (i.e. reached) the big mountain.'

d. **djukal** **guba** *nyaa-ga*   *girr*   *gil gil gil.*
   big   arm   see-IMP   gil   gil gil gil

---

[10] One counter-example of N-dem order was found; see discussion above and in §4.4.

'He has a big arm, see, sound of footsteps.'

3.3. Type 3: determiner(s) – HEAD – modifier(s) – determiner(s)

The third type of language is almost a mirror image of the previous type, viz. determiners are flexible w.r.t. the head and other modifiers have a fixed position (for most languages on the right side of the head). When co-occurring, determiners are further from the head than other modifiers. In other words, these languages have two determiner slots, at the edges of the NP and clearly delineated from other modifiers in that they are the only modifiers to occur in pre-head position. Again, both competition and co-occurrence are possible. There are 11 languages that are clearly of this type and another seven that are likely candidates, though with somewhat weaker evidence. An overview can be found in Table 5 in the Appendix.

A good example of this type is Guugu Yimidhirr (the NP template can be found in 13a). Haviland (1979: 104) describes the noun phrase as having a 'core' consisting of one or more of the following elements: generic, specific, inalienable part and adjective (incl. numeral), in this order. At either side of this 'core' are the possessive pronoun, demonstrative, or logical or quantifying nominal (i.e. elements such as *wulbu* 'all' or *yindu* 'a different one'), as in (13b-c). These elements appear to have a common function of identifiability (see also §4), and they have a similar distribution at the edges of the NP, which seems to be good evidence for identifying two determiner slots. In addition, a personal pronoun can occur at the left edge[11], as in (13d), which is also a determining element in terms of its function (see §4.3).

(13) Guugu Yimidhirr (Haviland 1979: 104, examples, 102, 122, 157, 116)

a. NP structure: pron - poss/dem/log/quant - [gen - spec - inal.part - adj/num] – poss/dem/log/quant

N - pron

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. *Wanhdhu* ***gudaa nhanu*** *gunda-y?*
who.ERG dog.ABS 2SG.GEN.ABS hit-PST
'Who hit your dog?'

---

[11] The personal pronoun seems to have a less flexible position than the other determiners and mainly occurs in initial position, but some examples of a noun-pronoun sequence have been found as well.

d. ***Nyulu***   ***nhayun***   ***waarigan***   *gada-y*

3SG.NOM   that.ABS   moon.ABS   come-PST

waarnggu=wunaarna-y

sleep=lie.RDP-PST

'[Then] the Moon came and lay down to sleep.'

e. ***Gamba-gamba***   ***nhayun***   *yinil*   *dyaarba-angu.*

old.woman.ABS   that.ABS   afraid.ABS   snake-PURP

'That old lady is afraid of snakes.'

There are seven other languages that seem to fit in this category, but with mixed and/or limited evidence. Evidence is mixed when not all potential determiners have the same distribution. Only some of them may be flexible at the edges, while others are fixed at one edge, as in Duungidjawu (14). Alternatively, none of the elements may be flexible at the edges, but they are fixed at one edge each, as in Nyungar (15). In other words, unlike in the other languages of this type, not all determiners can occur in each of the two slots, providing somewhat weaker evidence for these slots.

(14) Duungidjawu (Kite & Wurm 2004: 96, examples, 95, 96, 50)

    a. NP structure: N – A - degree modifier

                      pron – N

                      interr – N

                      dem – N or N – dem

                      poss.pron – N or N – poss.pron

    b. *djaŋar [mowanin*   *wunba]*

       limb   [big   very]

       'very big limb'

    c. *goro:man*   *mana*

       kangaroo   DEM

       'that/the kangaroo'

    d. *gari-ŋi*   *ŋa:m*   *ŋin-du badji-Ø*   ***mana guyur***

       DEM-LOC   1DU   2SG-ERG find-GENRL   DEM   thing

       'We (incl.) found that thing there.'

(15) Nyungar (Douglas 1976: 44-45)

     NP structure: poss.pron/poss.noun - N - [A - intensifier] - dem

Evidence is limited when we only have information about two-word NPs, as can be seen for Duungidjawu (14) above. Even though edge position is uncertain, determiners are clearly delimited from other modifiers (i.e. adjectives), in that they can all occur at least before the head, while modifiers cannot.

3.4. Type 4: determiner(s) … modifier(s) – HEAD (or reverse)

Finally, there is a group of languages that have fixed word order in the noun phrase with the head at one edge, and the other modifiers going from the adjective closest to the head to the demonstrative or personal pronoun at the other edge. For these languages, the exact delimitation of a possible determiner slot is more difficult than for the languages described above, as it is unclear where the 'cut-off' point is in the string of modifiers. Still, there is usually some other evidence to argue for a determiner slot. There are six languages that definitely belong to this type, and four languages that probably do, though with less certain evidence. An overview can be found in Table 6 in the Appendix.

A good example is Marrithiyel (16). As Green (1997: 246) puts it: 'NP modifiers fall into two broad groups. The first consists of (general) adjectives and quantifiers. The second consists of demonstrative adjectives, numerals and possessive adjectives. Members of the first group tend to occur immediately following the NP head, while members of the second cluster in NP-final position.' Additionally, the numeral has an interchangeable position with the demonstrative and the possessive pronoun, and the demonstrative and possessive pronoun never co-occur (Green 1989: 48). Taken together, these properties show that there is a final determiner slot with at least the demonstrative or possessive pronoun as fillers, and possibly also the numeral[12].

(16) Marrithiyel (Green 1997: 246)

NP structure: generic - specific - A/quant -$\begin{bmatrix} \text{num -dem/poss.pron} \\ \text{dem/poss.pron - num} \end{bmatrix}$

There are four languages that show mixed evidence for this type. Two of these, Kugu Nganhcara and Oykangand, have a fixed template, with the exception of the personal pronoun, which can occur at either side of the head (the position w.r.t. other modifiers is unknown). One possibility is that the personal pronoun is actually not part of the NP, but co-referential to it[13]. If this is the case, the

---

[12] When the numeral is the final element, the case marker moves to the penultimate element instead of the final one, indicating that perhaps the numeral is not part of the NP in this case.

[13] This is how Gaby (2006: 87, 291) analyzes the personal pronoun in Kuuk Thaayorre: it is co-referential to the NP and not an adnominal modifier, because it has its own case marking, it has a flexible position and is not

NP has a fixed template with the head at one edge, making these languages clear members of this type.

The other two languages, Yingkarta and Kala Lagaw Ya, have a NP template very similar to the ones described above, but allow for limited flexibility of the modifiers w.r.t. head. In Yingkarta, for instance, 90% of the NPs follows the template as described in (17), and there are indications that the opposite pattern has a more marked interpretation (Dench 1998: 51).

(17) Yingkarta (Dench 1998: 50-51, examples)

NP structure: Det – Mod – N

with Det: dem, poss.pron, pron

3.5. Discussion

There is good structural evidence for the presence of a determiner slot for half of the languages in the sample. I distinguished four ways in which the determiner slot was manifested. An overview can be found in Table 1 above.

The fact that dedicated determiners are infrequent in the languages of the sample and can thus not be our main focus of attention leads us to look at other features, which have perhaps not often been associated with 'classic' determiners (see also the discussion in Stirling & Baker 2007). These are optionality, the use of multiple determiners, and non-specific fillers of the determiner slot and their functions. The last feature is investigated in more detail in Section 4. The other two will briefly be discussed here.

3.5.1. Multiple determiners

The co-occurrence of two, or even three, determiners is a first notable feature of many Australian languages. Unfortunately, this phenomenon is rarely discussed in the grammatical descriptions, or only in broad terms, which means my analysis is mostly based on examples rather than explicit analyses. Nonetheless, there are some observations we can make about what determiner 'zones' in the sample look like.

---

necessarily adjacent to the NP. The NP itself is clearly defined, having a fixed word order (Gaby 2006: 297-298), thus making Kuuk Thaayorre a clear member of the category described here (see Table 6). The syntactic status of the personal pronoun in Kugu Nganhcara and Oykangand is unknown.

First, there are different combinatorial possibilities. Commonly attested combinations are that of a personal pronoun and a demonstrative, as in (18), and of a demonstrative and a possessive pronoun, as in (19). A demonstrative and a comparative modifier also often co-occur, as in (20).

(18) Mparntwe Arrernte (Wilkins 1989: 111)

Artwe	***kngerre***	***nhenhe re***	*kere*	*aherre*	*tyerre-ke.*
man	big	this 3SG.A	game	kangaroo	shoot-PST.COMPL

'This big man shot a kangaroo.'

(19) Yalarnnga (Breen & Blake 2007: 30)

Nhangu-ta nhawa	*nhina-ma*	***tjarru-nguta***	***ngatha-langki-ya***	***mutu-ngka.***
what-PURP 2SG	remain-PRS	this-LOC	1SG-LIG-LOC	camp-LOC

'Why are you in my camp?'

(20) Umpila (Hill ms)

nga'a-lu	***wiiyama***	***pulthunu***	*ngaachi-nguna-ma*
DEM.DIST1-DM	another	boy	place-LOC-PRED

'That other boy was at the place.'

Second, determiner complexes display some clear ordering tendencies, which can also be seen in the examples above. Generally speaking, a personal pronoun occurs at the very edge, although in a few languages, its position is interchangeable with that of the demonstrative, as in (21). A demonstrative usually occurs further from the head than a possessive pronoun, although some counter-examples have been found, as in (22). Finally, comparative elements are always closer to the head than other determiners, with Tiwi (23) as the only exception (Lee 1987: 221-230). These ordering tendencies seem to reflect a cline from more general (furthest from the head) to more specific functions (closest to the head). This hypothesis is in line with Rijkhoff's Principle of Scope (see also introduction to §3), which includes a claim that 'discourse-referential modifiers' (e.g. articles[14]) occur further from the head than 'localising modifiers' (e.g. possessives) (2002: 218-223, 229-231).

(21) Mawng (Forrester 2015: 47, 61)

naka-pa	***yanat–apa***	***wurakak***	*awuni-arrikpa–n*
DEM.DIST.M-EMPH1	3M.PRON–EMPH1	crow	3M/3PL-ruin-NPST

---

[14] Rijkhoff also mentions modifiers such as 'other' and 'same' as discourse modifiers (2002: 231). However, as just mentioned, these elements are found closer to the head than other determiners such as demonstratives in almost all of the languages of the sample (for which there is information on this combination of modifiers).

'That crow ruined them'

(22) Duungidjawu (Kite & Wurm 2004: 45)

guyum   **_man_**   **_ŋa-ri_**   _miye-ni_

camp   DEM   1SG-GEN further.away-LOC2

'My camp is further away.'

(23) Tiwi (Lee 1987: 225)

yoni   _awarra murrukupuni_

other(M)   that(M) country

'that other country'

There are also some issues which cannot be resolved in a typological study like this one, but that need to be investigated for individual languages. One is that in some languages there is no clear boundary that separates the determiner zone from other modifiers. This is especially the case for some languages of type 2 and type 4. An example is Kuuk Thaayorre, for which the NP template is given in (24) (in a simplified form). All modifiers, except for the adjective, are potential determiners (cf. §4). Demonstratives and ignoratives are most likely part of a determiner zone, as these elements usually are in Australian languages, but it is unclear whether the quantifier and possessive pronoun are determiners here, as they are elements which are also often found in other functions across Australian languages.

(24) Kuuk Thaayorre (Gaby 2006: 297-298)

NP structure: (N) ((Deg) Adj (Deg)) (PosPro) (Quant) (DemPro) (IgnPro) (AdnDem)

Another interesting question is what the functional motivation is for using multiple determiners. A straightforward explanation is that each element contributes its own specific semantics (such as definiteness, possession or location), while together the elements 'determine' the noun phrase, locating it in the context of the speech event or of the discourse. Interestingly, the use of multiple determiners also seems to correlate with certain functions in discourse. An example is the repetition of the same demonstrative in Ungarinyin[15], which can contrast two referents, as in (25), where the name JE mentions contrasts with the more specific names PN has in mind (Spronck 2015: 175-176). In Bundjalung, the combination of a visible and a non-visible demonstrative serves to (re-

---

[15] Ungarinyin does not belong to one of the four types described in §3, because all types of modifiers seem to have a flexible position w.r.t. the head (Spronck 2015: 37-38, 166, p.c.). However, more or less fixed 'determiner constructions' seem to occur (Spronck 2015: 167-168).

)introduce a referent in (26) (Sharpe 2005: 51-52). It remains unclear for most languages, however, what the exact functions of the use of multiple determiners are (except perhaps in the case of demonstrative + comparative determiner), both in the NP and in the larger discourse context.

(25) Ungarinyin (Spronck 2015: 176)

(PN introduces the topic of stones (*rarrki di* 'rock') and states there are rocks with different names, prompting JE's suggestion in the first line.)

JE: *manjarn   di*
    stone   N_w.ANAPH
    '[You mean] *manjarn*, stone'

PN: *aka*   **kanda** **kanda** **w-alngun**   *di*   *wumankarr*   *kanda*
    not.so N_w.DEM N_w.DEM N_w-name   N_w.ANAPH   black.rock   N_w.DEM

    dinki   *munda kumbarru*   *munda*
    limestone   N_M.DEM yellow.stone   N_M.DEM
    'No, this name here: *wumankarr*, black rock, *dinki*, limestone and *kumbarru*, yellow stone'

JE: *ah*   *yow*
    ah   yeah
    'Oh, yeah'

(26) Bundjalung (Sharpe 2005: 51)

Male   **munah**   **baygal** *yina-li-ja-hn.*
that   that.NVIS   man   lie.down-ANTIP-PST-IMPF
'That man (previously referred to) was lying down.'

3.5.2. Optionality of determiners

A second interesting feature in the languages of the sample is the optionality of determiners. There are only two languages in the sample that have an obligatory determiner, in the sense that its absence also marks the absence of the feature it encodes (see McGregor 2013). The 'definitising pronoun' at the right edge of the Arrernte NP is an obligatory marker for definiteness, i.e. an NP without a definitising pronoun is 'non-definite' (Wilkins 1989: 165), as illustrated in the contrast between (27a) and (27b) below. Similarly, in Kuku Yalanji, a bare noun 'usually conveys new and/or indefinite reference,' while a pronoun-noun combination is used for 'anaphoric or definite reference' (Patz 2002: 202).

(27) Mparntwe Arrernte (Wilkins 1989: 129, 194)

a. ***Artwe itne*** *no ahel-irre-ke*   ***artwe mperlkere ikwere***.

     man   3PL.S   no angry-INCH-PST.COMPL   man   white   3SG.DAT

     'The men didn't become aggressive towards the white man.'

b. *The* ***ayeye ampe-kweke-kerte*** *ile-me*   *ampe*   *mape-ke.*

     1SG.A   story   child-little-PROP(O)   tell-NPST.PROG   child   PL(GRP)-DAT

     'I'm going to tell a story about a baby to the kids.'

There are some other examples of obligatoriness in the sample. In Ngiyambaa, for instance, the 3ABS personal pronoun is also obligatory for definite NPs. However, this pronoun is enclitic to the previous element in the clause and consequently not part of the NP, and thus not a determiner in the sense in which I use the term here.

For all other languages, determiners are not obligatory. In other words, a bare noun can have both definite or indefinite interpretations. This is a feature that has been highlighted in the existing literature on determiners on Australian languages. For instance, Stirling & Baker (2007: 5) argue that determiners in Australian languages are 'much more at the speaker's discretion' (Stirling & Baker 2007: 5), having a '"determiner" discourse function involving speaker management of hearer attention' (Stirling & Baker 2007: 8). They identify a class of what they call 'topic determiners' for a handful of Australian languages (without making any strict claims about the syntactic status of these elements), including not only the article in Marra but also for instance the personal pronoun in Kala Lagaw Ya and the recognitional demonstrative in Gun-djeihmi (one of the Bininj Gun-wok dialects).

4. Elements which Fill Determiner Slots

Now that we have identified a determiner slot or zone in half of the languages of the sample, we can turn to the second main question: which elements can occur in these determiner slots? As already mentioned, Australian languages are generally quite different from typical 'determiner languages', in that they have very few elements which are specialized in the determiner slot (such as articles). There is, however, a whole range of elements that can occur both in the determiner slot and elsewhere, allowing us to contrast these two uses and giving us an interesting window into determiner semantics.

Elements that are attested in a determiner slot in the languages of our sample[16] are the article, demonstratives and other 'locational' elements, 3rd person pronouns, possessive pronouns, interrogatives, 'ignoratives' and indefinites, quantifiers and numerals, and logical and comparative qualifiers. As they can all occur in the same slot, I assume they must share a particular function, and thus have a particular semantic feature in common which allows them to take up this function, whether it is a prominent part of their semantics or not. I argue that this is 'identifiability'. I use this concept not just in the classical sense - encoding whether the referent(s) of the NP is/are identifiable or non-identifiable -, but also include other types of identifiability, such as identifiability of the reference mass (i.e. the intended referent is not identifiable in itself, but it is directly related to a reference mass which is identifiable), following Langacker (1991) and Davidse (2004).

4.1. Articles

Articles, as a specialized category of markers, have often been regarded as the prototype for determiners, even though they are far from universal (see e.g. Lyons 1999: 48-51). A definite article is formally defined by Himmelmann (2001: 832-833) as (i) a grammatical element which occurs only in nominal expressions, (ii) with a fixed position, and (iii) which is obligatory in grammatically definable contexts.

For only two languages in the sample does the grammatical description posit a separate part of speech with the label 'article'. The article in Marra (Heath 1981: 64, 68-70, 270; Baker 2008) is a marker of discourse topicality (as opposed to a zero for focus or contrast), and is also used in certain polarity contexts (Baker 2008: 139, 142-147). It is specialized in the determiner slot[17] and never occurs elsewhere (see (28) for an example). In the other language, Mawng, the article has recently been re-analyzed[18] as 'on the path of grammaticisation between a generic article and a noun marker' (Forrester

---

[16] Information about which elements can occur in the determiner slot in each language can be found in tables 3-6 in the Appendix. The main focus of this paper is 'simple' NPs, i.e. I will not discuss embedded or complex modifiers such as possessor NPs in much detail.

[17] Marra does not belong to one of the four types discussed in §3. However, there is some evidence for positing a determiner slot at least for the article, which has a fixed initial position (whereas all other modifiers are flexible w.r.t. the head).

[18] A different analysis was proposed by Singer (2006: 49-54), who makes a distinction between the initial article, which has a function relating to information structure, and linking articles which occur between elements of the NP. In this scenario, the initial article can be analyzed as a filler of the initial determiner zone, since it occurs in fixed initial position (similar to the demonstrative and personal pronoun, and contrary to other modifiers which can precede or follow the head, see also §3.2). The main reason why Forrester (2015: 67-92) discards this distinction between initial article and linking article is that a new analysis of data has shown that all articles are optional (instead of just the initial article, as Singer argued) and thus have the same status.

2015: 92), occurring not only NP-initially but also between other elements, and thus as not (or no longer) being a determiner.

(28) Marra (Baker 2008: 153)

ŋapa	*ŋana*	*Ø-juntuɳuka*	*wa-Ø-ciɲca-jiɲca*	*Ø-wiici,*	*Ø-maca*
also	M.TOP	M-turtle	NPST-3SG.S-DISTR-eat.PRS	M-grass,	M-sea.grass

ŋana	*Ø-waɭca,*	*wa-Ø-ciɲca-jiɲca*	*ŋana*	*Ø-wiici*
M.TOP	M-dugong	NPST-3SG.S-DISTR-eat.PRS	M.TOP	M-grass

'The turtle/turtles eat grass, sea grass [that is]. And dugongs, they eat grass [too].'

In addition, there are a handful of languages where either a 3rd person pronoun or a demonstrative has been characterized as 'general definite determiner' or 'similar to the English article *the'* in the grammatical descriptions, because they show some signs of grammaticization (such as semantic bleaching). This suggests they may be changing word class. The proximal demonstrative *=n* in Worrorra, for instance, is mainly used as a definite article according to Clendon (2014: 160): 'the main and most frequent function of *=n* in Worrorra appears to be to grammaticize identifiability (cf Lyons 1999: 278); in Lyons' terms, *=n* occupies a structural position activating definiteness in the NP in which it occurs.' Another example is Nyulnyul, where the third person minimal pronoun *kinyingk* in adnominal use is analyzed by McGregor as a 'non-demonstrative determiner' marking definiteness (2011: 124-125, 158-159). One reason for McGregor's analysis of adnominal *kinyingk* as a determiner rather than a pronoun is that it can be used for non-minimal referents as well as for inanimate referents, as in (29), which is impossible for the free pronoun.

(29) Nyulnyul (McGregor 2011: 158)

kinyingk	*bilabil*	*bardangk-ukun rib*	*arri*	*layib*
DEF	leaf	stick-ABL	bad	not	good

'The leaves of that tree are poisonous.'

Whatever the status of these elements in terms of word class (a detailed study is beyond the scope of this paper), they are elements which seem to be specialized fillers of the determiner slot(s) posited for these languages.

4.2. 'Ignoratives', Interrogatives and Indefinites

Another set of elements that are found in the determiner slot are interrogatives and indefinites. Most interrogatives can also occur on their own (i.e. as head of a NP), but there are no examples of

interrogatives or indefinites occurring in a non-determiner modifier slot, i.e. they are specialized in the determiner slot[19] in adnominal use. This is not surprising considering their rather specialized semantics of (non-)identifiability (though in addition some forms can also mark different 'knowledge categories', cf. Mushin [1995: 7-20]). Interrogatives encode that the speaker is not able to identify the referent but that the hearer possibly can (and thus invite the hearer to provide this information). Indefinite markers encode, simply stated, that the speaker assumes the referent is not identifiable by the hearer.[20]

Australian languages often (though certainly not always) take the interrogative and indefinite sense together in one element; these are the so-called 'ignoratives' or 'epistememes' (cf. e.g. Mushin 1995). Unfortunately, there is limited information on the adnominal use of these elements in our sample, especially in their indefinite sense (if it is at all possible to distinguish between the two senses). An example of an adnominal interrogative[21], occurring in the determiner slot, can be found in (30) from Nyulnyul (McGregor 2011: 405). Two possible examples of an ignorative used in the determiner slot in indefinite sense can be found in (31a) from Martuthunira and (31b) from Arabana-Wangkangurru.

(30) Nyulnyul (McGregor 2011: 136)

angka	***wamba***	*juy*
who	man	2MIN.CRD

'Who are you?'

(31) a. Martuthunira (Dench 1994: 109)

Nhulaa	*kanyara*	*thurlanyarrara*	*ngaliwa-mulyarra*	*kanarri-lha*
near.you	man	poor.fellow	1PL.INCL-all	come-PST

wawayi-l.yarra	***nganangu***	***juwayumarta-a.***
look.for-CTEMP	someone.ACC	doctor-ACC

'That poor man near you came to us looking for a doctor (assuming there might be one).'

b. Arabana-Wangkangurru (Hercus 1994: 299-300)

Nharla	*thangka-ka*	*waru,*	*kaRu*	*mudlu-nga.*	*Akuru*
person	sit-PST	long.ago	there	sandhill-LOC	over.there

ikara-nga	*Kuyani-na,*	***minha***	***wangka***	***nguRu,***

---

[19] In languages that have two determiner slots, the interrogative/indefinite form is usually (but not always) restricted to the initial slot.

[20] Davidse (2004: 522) argues that indefinites do encode identifiability, but of another type, viz. identifiability of type specifications: indefinites "instruct the hearer to conceptualize instances as corresponding to the categorization specified by the speaker" (cf. also Langacker 1991, Gundel et al. 1993).

[21] Nyulnyul is one of the languages which do not have a shared form for interrogative and indefinite senses.

swamp-LOC   Kuyani-EMPH   what   language   other

Wardityi-karla-nganha, thadlu   mathapurda,   pinya.

Mulga-Creek-from   only   old.man   vengeance.party

'Long ago some (Arabana Aboriginal) people stayed there on the sandhill. Further away over in the swamp there were Kuyani people, **speaking some language other (than ours)**; these were only grown-up men, they were a vengeance party.'

It is unclear whether the indefinites in the sample are used for specific, non-specific or even generic instances, or all of these.

4.3. Third Person Pronouns

A third person pronoun refers to referents that are not speech act participants, and is further specified for number and possibly also gender. Lyons (1999: 26-32), following Postal (1970), attributes a feature of definiteness to personal pronouns (contrasting with indefinite pronouns such as *someone*), arguing for a close link between personal pronouns and definite articles. Himmelmann (1997: 218-219) argues that the likeness between these two is only due to their common source, and refers to the tracking use of personal pronouns as a possible starting point for their adnominal grammaticalization.

Both definiteness and tracking are clearly related to identifiability, which explains why pronouns in adnominal use have their most natural position in the determiner slot, and indeed almost exclusively occur in this slot in the languages of the sample. This is confirmed in the functions identified for adnominal pronouns in the sample: they are markers of definiteness and/or specificity (e.g. in Diyari [Austin 1981: 98]), or they have a function relating to discourse management (e.g. topic continuation in Guugu Yimidhirr [Haviland 1979: 156]) (see also Louagie & Verstraete 2015: 176-178). The determiner use of personal pronouns was illustrated above for Guugu Yimidhirr (§3.3) and Mparntwe Arrernte (§3.5.2).

There are only three languages where personal pronouns cannot only occur in the determiner slot, but also in another slot. In these non-determiner uses, it seems that other features of the pronoun's semantics are profiled, while the definiteness and tracking features are backgrounded. In Djapu (one of the Dhuwal varieties), it is the number value of the pronoun that is profiled in the non-determiner use, resulting in its use as a number marker. Number markers always immediately follow the head. Adnominal pronouns in Djapu can also be used as determiners and then occur in the initial slot. Each of these uses correlate with certain formal features (Morphy 1983: 47-48, see also Louagie & Verstraete 2015: 177-178 for a discussion). An example showing both uses can be found in (32).

(32) Djapu (Morphy 1983: 48)

nhina   *nganya durdakthu-n-a ngunhi-yi*   *dhäruk*

sit.UNM   3SG.ACC learn-UNM-IM   that.ABS-ANAPH language.ABS

walal   ***mitjinarri-y***   ***walala-y***

3PL.NOM   missionary-ERG PL-ERG

'The missionaries are now learning this language.'

In the other two languages, Dalabon and Gooniyandi, the personal pronoun can be used not only as determiner, but also as qualifier. The latter use seems to relate partly to focus or emphasis, where the pronoun's inherent semantics of number or gender are potentially lost. This is also argued by Cutfield (2011: 54) for the Dalabon example in (33b), where the third person singular pronoun has 'grammaticalized into a postnominal emphatic marker.' In Gooniyandi, the adnominal personal pronoun *niyi* (analyzed as 'distal endophoric determiner' by McGregor [1990: 144-145]) regularly occurs in the post-head Qualifier slot, used when special focus is put on a previously mentioned referent (McGregor 1990: 270).

(33) Dalabon (Cutfield 2011: 50-58, 113, 54, 443)

a. NP structure: (Deictic) Entity (Qualifier)

b. *bah*   ***njel***   ***yibung*** *yala-h-bakah-ni-nj*

CONJ   1PL   3SG   1PL-H-many-sit-PST.IPFV

'but there were a lot of us'

4.4. Demonstratives

If a language in the sample has a separate category of demonstratives, they can occur in the determiner slot, but in some languages they can also occur as modifier outside this slot, although usually less frequently[22]. Both options reflect the inherent semantics of demonstratives. In broad terms, demonstratives specify that the speaker believes the hearer can identify the referent because (i) its location is specified (e.g. in terms of distance distinctions), (ii) it has been mentioned before, (iii) it is shared knowledge (cf. Diessel 1999; Himmelmann 1997). In other words, the feature of identifiability is part of the semantics of demonstratives, and it is this part that is highlighted when the demonstrative is used in a determiner slot, its most natural position. However, the identifiability-component can also

---

[22] In many, if not all, languages of the sample, demonstratives can also function as the 'head' of a NP (i.e. pronominal use). This, together with word order flexibility (both on NP level and on clause level) in some languages, sometimes makes it hard to distinguish adnominal and pronominal uses. I have followed the analysis of the author where available.

be backgrounded, and in such cases it is the location of the referent that is focused on as an attribute of the referent, explaining its use in a non-determiner slot. This often happens in 'pointing' contexts, where the demonstrative literally points to a referent which is present in the context.

The contrast between these two uses of the demonstrative can be illustrated with some examples from Gooniyandi. The NP template is given in (34a), an example of the regular determiner use of the demonstrative in (34b), and an example of qualifier use in (34c). This last example shows how the demonstrative is used in a 'pointing' context (and is even accompanied by lip-pointing); in this case, the demonstrative provides the location of the referent as an attribute. According to McGregor (1990: 267-268) this implies a predicative relationship[23]: a paraphrase of (34c) might be 'the tobacco which is here'. A similar functional analysis is given for Gaagudju (Harvey 2002: 316-320), Dalabon (Cutfield 2011: 122), and Limilngan (Harvey 2001: 112-113).

(34) Gooniyandi (McGregor 1990: 253, 268, 254)

a. NP structure: (Deictic) ^(Quantifier)^(Classifier)^Entity^(Qualifier)

b. *ngooddoo*   *garndiwiddi*   *yoowooloo*   *gimangarna*
   that   two   man   bush:dweller
   'those two bushmen'

c. ***ngoonyjoo***   ***ngirndaji***   *waranggila*   *dina -yawoo*
   tobacco   this   I:hold:it   dinner-ALL
   'I keep this tobacco until dinner-time.' (accompanied by lip-pointing at the actual object)

Here, a short explanatory note is in order on a general issue, viz. when can we analyze post-head use of demonstratives (or other elements, for that matter) as having an non-determiner function, and when can we posit a second, post-head determiner slot as in the languages of type 3? This of course depends on the exact function of the modifiers in post-head position, which can only be decided for each language individually, following a detailed study of nominal expressions. Certainly for some languages, it seems that the function of the post-head demonstrative is still determiner-like, in the sense that their use is associated with certain discourse contexts, which points to a function similar to the 'topic determiners' Stirling & Baker (2007) described (cf. §3.5 above). In Wardaman, for instance, the post-head demonstrative is associated with a shift in participants (Merlan 1994: 245). Other possible reasons to posit a second determiner slot could be a clear, systematic distribution between

---

[23] This is related to the general distinction between pre-head 'reference modification' and post-head 'referent modification'. Reference modification entails a selection of a subset of potential referents ("subclassification"), while referent modification involves a predicative relationship (see McGregor 1990: 267-268 for a discussion, cf. also Bolinger 1967).

both determiner positions in terms of use (as argued for Umpila/Kuuku Ya'u by Hill (ms)), or a functional similarity between the two slots.

4.5. Possessive Pronouns

Together with the demonstrative and the personal pronoun, the possessive pronoun is one of the most frequent fillers of the determiner slot in our sample, but it is also the least rigid of these three, in the sense that it also relatively frequently occurs outside of this slot (both within and across languages), either in a qualifier slot (on a par with descriptive adjectives) or in a slot of its own. Thinking about an explanation for this flexibility, we can see that possessive pronouns encode identifiability but also contain a descriptive element, which is perhaps more readily available here than, for instance, in demonstratives (where the identifiability-component is generally more salient). A possessive pronoun marks the referent as identifiable because of its association with another, identifiable referent (cf. e.g. Rijkhoff 2002: 174-175; Willemse 2005; Langacker 1991), which is what motivates the use of possessive pronouns as determiners. When used in a qualifying slot, it seems that the fact that the referent is a particular person's possession is merely descriptive, in the same way that a descriptive adjective for instance attributes a particular quality to the referent.

The presence of these two components in the semantics of the possessive pronoun is most clearly seen in languages where this correlates with a choice between use of the possessive in either the determiner or the qualifier slot. An example is Martuthunira (cf. the NP template in (35a)). In the determiner slot, the possessive pronoun "narrows the reference of the phrase by contextual identification of the referent" (Dench 1994: 190), as in (35b), while in the Qualifier slot it "attribut[es] some characteristic to the referent of the noun phrase" (Dench 1994: 192), as in (35c).

(35) Martuthunira (Dench 1994: 189, 190, 192)

   a. NP structure: (Determiner)^(Quantifier)^(Classifier)^Entity^(Qualifier)*

   b. ***Nganaju***   ***yaan***   *yungku-lha*   *murla-a*   *yartapalyu-u*
      1SG.GEN   wife   give-PST   meat-ACC   others-ACC
      kanyara-ngara-a.
      man-PL-ACC
      'My wife gave meat to the other men.'

   c. *Ngayu*   *kanarri-lha*   *nhuwana-a*   *wangka-lu*   ***ngurra-ngka***
      1SG.NOM   come-PST   2PL-ACC   speak-PURP.SS   camp-LOC
      nhuwana-wu-la   *nyina-nyila-a.*

2PL-GEN-LOC   sit-PRS.REL-ACC

'I came to talk to you sitting in camp, your camp'

4.6. Quantifiers and Numerals

In most languages, quantifying elements have a similar distribution as adjectives, or they have their own slot. However, there is also a handful of languages in the sample where they can occur in the determiner slot, and some more where they are flexible between the determiner slot and a non-determiner slot.

What is it in the semantics of quantifiers and numerals that allows them to be used not only as quantifiers or qualifiers, but also as determiners? At first sight, they simply encode the quantity of entities referred to, which explains their natural position in a separate quantifier slot. The quantity of entities can also be attributed to a referent, i.e. used as a descriptive feature, which explains its use as qualifier (similar to what we saw for qualifying demonstratives or possessive pronouns; see below for examples). The determiner use seems perhaps hardest to explain, but if we look more closely, there often is some sense of identifiability in quantifiers as well, which can be profiled when used in a determiner slot. As argued by Davidse (2004), in an article that focuses on English but has much broader theoretical relevance, relative quantifiers, on the one hand, select a subset of the set of potential referents (the 'reference set'). This selection may involve a part of the reference set (as with *most* or *some*), the whole set (as with *all*), or non-overlap (as with *none*) (Davidse 2004: 509, 521, also referring to Langacker 1991, Milsark 1977). As relative quantifiers compare the referent of the NP to a reference set, this implies that this reference set is identifiable (Davidse 2004: 521). Absolute quantifiers (like *many* or *two*), on the other hand, express cardinality or size (Davidse 2004: 509, cf. Langacker 1991, Milsark 1977), and are, according to Davidse (2004: 530), in complementary distribution with indefinite articles, in the sense that they can 'ground' indefinite NPs. In other words, just like indefinite articles, absolute quantifiers 'require the hearer to recognize instances as instances of T [i.e. type specifications, DL]', which implies that the type specifications are identifiable (Davidse 2004: 530; cf. also §4.2). Interestingly, absolute quantifiers can also act as non-determining modifiers in English, when combined with a definite determiner (such as a definite article), in which case they just 'count' the number of instances (Davidse 2004: 531).

Let us investigate this issue further, using two languages that can have quantifying elements both in a determiner slot and in a non-determiner slot as examples. The first is Umpila/Kuuku Ya'u (Hill ms), where quantifying elements are argued to be determiners, as can be seen in the template shown in (36a) and the example in (36b). Interestingly, this example shows how the numeral is combined with

a personal pronoun, which seems to be a definite determiner (i.e. marking or at least implying definiteness, based on the translation). This contrasts with the analysis for English as discussed above, where absolute quantifiers following a definite determiner are said to not have a determiner function. Quantifiers can also, though much less frequently, occur in the modifier slot (Hill ms), where they 'specify or emphasise the degree or number of the referent as an attribute, rather than employing the quantificational semantics as an identification tool' (Hill ms). For instance, in (36c), the numeral 'one' functions as description (as can be seen in the translation 'lone coconut'), not as determiner marking identifiability (Hill ms).

(36) Umpila/ Kuuku Ya'u (Hill ms)

   a. NP structure:

   (Det) (N) (Mod) (Det)

   with Det: [(Pron) (Dem) (Quant)] or
               [Poss.Pron]

   b. ***pula***   ***pa'amuku'unchi***   *nhiina-na*

      3pl.nom   two   old.woman   sit-NFUT

      'those two old women sat.'

   c. *nganan/*   ***kuunga***   ***nhi'ilama***   *paa'i-na*   *ngungku-lu*

      1PL.EXCL.NOM   coconut   one   stand-NFUT   DEM.DIST2-DM

      'Us lot (sat) by the lone coconut over there'

The second example is Gooniyandi (cf. the NP template in (37a)), where number words can occur in the determiner slot, the quantifier slot or the qualifier slot. An example of each use can clarify the functional differences between them, which have been meticulously described by McGregor (1990) (additional examples can be seen in (4) above). In (37b), the number word 'one' occurs in the determiner slot. Number words occur in the determiner slot for instance when used 'comparatively', either indicating - as in the example - 'that reference is being made to precisely the same one, two, etc. entities already established' (i.e. similar to comparative modifiers, cf. §4.7), or 'to each member of the previously established set of entities' (i.e. like relative quantifiers *both* and *all* in English) (McGregor 1990: 258). The example also shows how in this use the number word is often suffixed with –*nyali* 'repetition' (McGregor 1990: 258). Example (37c) illustrates the more frequent use of number words in the quantifier slot, where it simply indicates the number of things referred to, in this way contributing to the selection of a set of referents (McGregor 1990: 270-271). Finally, in (37d), the number word occurs in the post-head qualifier slot, again indicating the number of things referred to, but here just as an attribute of the referent (McGregor 1990: 270-271). The work McGregor did on Gooniyandi also shows that we need to be careful to distinguish between a determiner and a

quantifying function, which can share the function of 'reference modification' (i.e. the selection of a referent). This distinction is not easy to make for many of the languages in the sample.

(37) Gooniyandi (McGregor 1990: 253, 258, 270, 272)

    a. NP structure: (Deictic)^(Quantifier)^(Classifier)^Entity^(Qualifier)

    b. *yoowarni-nyali mayaroo*

        one-REP   house

        'the same house'

    c. *milala garndiwiddi   thadda ngaanggi*

        I:saw:it two   dog   yours

        'I saw two dogs of yours.' or 'I saw two of your dogs.'

    d. *ngaddagi   ngaloowinyi   garndiwiddi*

        my   son   two

        'the two of my sons, both of my sons'

Perhaps the most easily recognizable case of quantifying elements acting as determiners is the indefinite use of the numeral 'one'. This is only allowed in a few languages of the sample. An example is Bininj Gun-wok (Evans 2003a: 244), which does not have a clear determiner slot, except for one which can only be filled by this indefinite marker 'one, a certain'. It is used for 'the explicit treatment of an entity as a new mention' (Evans 2003a: 247), and has a fixed initial position, while the numeral 'one' (same form) can occur either preceding or following the head. An example can be found in (38). Another example, from Gooniyandi, was given in (4b) in Section 3.

(38) Bininj Gun-wok (Evans 2003a: 681)

    *"Njamed, **na-gudji**   **nayin** ga-yo!"   ba-mulewa-ni.*

    what   MA-one   snake 3-lie.NPST   3PST-inform-PST.IPFV

    '"Hey, there's a snake here!" he'd say.'

4.7. Comparative Modifiers

This section concerns elements meaning 'same', 'another, other(s)', 'some, some other', 'other, a certain', etc. Some elements are purely comparative, while others have both a comparative and a non-comparative sense (hence the often-used label 'logical modifiers'). This non-comparative sense seems to involve indefiniteness (as with 'some') and/or specificity (as with 'a certain'), which can be related to the discussions in §4.2 and perhaps §4.6 above. Consequently, this section focuses on the comparative senses. Unfortunately, these modifiers are not often explicitly discussed in grammatical

descriptions in terms of distribution in the nominal expression. For about 11 languages, we do have a mention of these elements as having the same distribution as determiners or occurring in the determiner slot. It is unclear what the distribution of these elements is in other languages, although it is likely that they also often appear in non-determiner modifier slots.

The use of these elements in a determiner slot is not surprising if we look at their semantics, which again encode a feature of identifiability. The speaker believes the hearer can identify the referent because it is the same as one previously mentioned, or because it is another referent than the one mentioned before but with similar characteristics, for instance. As argued by Breban & Davidse (2003) and Breban (2002, 2010) in studies on the determiner use of English and Dutch 'adjectives of comparison', this (post)determiner use is the result of a process of grammaticalization. It is unclear whether we can go this far for the languages of the sample; a discourse or corpus study of each individual language as well as diachronic information would be needed to assess this issue. In a non-determiner modifier use, one can presume that the non-determining semantics are profiled, viz. the descriptive quality of difference or same-ness (cf. also the 'lexical' uses in English as described by Breban 2002).

An example of a language where comparative modifiers are used in the determiner slot is Kayardild (Evans 1995: 240). The NP template is given in (39a), and an example of *niid-a* 'same' filling the determiner slot in (39b). This element has an encoding of identifiability as part of its semantics: 'Here the speaker assumes that the hearer can identify the referent, because it is identical to something that has just been talked about' (Evans 1995: 240).

(39) Kayardild (Evans 1995: 235, 240; Round 2013: 135)
   a. NP structure: Determiner - Number - Qualifier - Ent (-Modifier)
   b. (After talking about the responsibilities of the father-in-law):

rar-umban-ji	*dulk-l*	***niid-a***	***warngiid-a***	***mungkiji***
south-ORIG-LOC	country-LOC	same-NOM	one-NOM	own(NOM)
kardu	*kala-th*			
father-in-law.NOM	cut-ACT			

   'In the south land (i.e. on Bentinck Island) the same one true father-in-law performed the circumcision.'

There are also examples of comparative modifiers occurring in the qualifier slot, e.g. (40b) from Uradhi (type 1, cf. also §3.1 for an example of determiner use of 'other' in Uradhi). In this position, 'other' attributes a quality of being different to the referent, rather than having a determiner function, according to our analysis. It is, however, not entirely clear if this really is the case in this example, since

'other' here could also be interpreted to mark the referent as 'identifiable' because of non-identity with a previously mentioned group (they are other Europeans than the ones just talked about). There are also examples of a these elements occurring as head in several languages (as in 40c).

> (40) Uradhi (Crowley 1983: 399)
>
> (story of how the narrator signed up in the army and had to work as a cook)
>
> a. *ayu* *wa-ɣa:* *wa-ɣa:* *wa-ɣa:* *ayi*
>
> 1SG.NOM cook-PST cook-PST cook-PST food.ABS
>
> *ula:mu* *umay-ku*
>
> 3NSG-GEN.ABS European-DAT
>
> 'I cooked and cooked and cooked the food for the Europeans'
>
> b. ***umaŋ*** ***uɲiṉa*** *ana-a:lu* *ayi* *ayu* *u-ka:*
>
> European.ABS other.ABS go-PRS-HERE food.ABS 1SG.NOM give-
>
> PST
>
> 'Other Europeans would come and I would give them food.'
>
> (…)
>
> c. *ulaβa* *ana-n* ***uɲiṉa*** *ana-a:lu*
>
> 3NSG.NOM go-PST other.ABS come-PRS-HERE
>
> 'They would go and others would come'

5. Conclusion

This study has identified a determiner slot or zone in 29 to 50 Australian languages (of a total sample of 100 languages). This determiner slot/zone is manifested in four different ways, each showing edge position, with (mostly) clear delimitation from other modifiers. We speak of a 'determiner zone' when determiners co-occur, creating determiner complexes. In most languages, this determiner slot or zone is optional, in the sense that bare nouns can be used for all values in the system (e.g. definite or indefinite, specific or non-specific).

The function of the elements occurring in the determiner slot was broadly described as 'marking the identifiability status of the referent'. There are a few elements in the sample which seem to encode only that, and are specialized in this slot, such as the article in Marra. Most elements, however, encode other things as well, and can occur either as determiner or as another type modifier (or even as head), thus profiling or backgrounding this feature of identifiability. Preferences vary: some elements, such as demonstratives or personal pronouns, are more typically used as determiners,

inherently having a more prominent feature of 'identifiability', while other elements, such as quantifiers, are typically used as non-determiner modifiers, highlighting another feature that is more prominent (such as quantity or quality). Other elements hover in between these two, having more equally distributed features of 'identifiability' and description in their semantics. In any case, what this shows is that in the majority of cases examined in this study, there is no necessary link between parts of speech and determiner slots.

This many-to-many relation between parts of speech and functions has actually also been amply demonstrated for other languages, including 'classic' determiner languages. Possessives are a good example. Lyons (1999: 24, 130-134; referring to Lyons 1986) distinguishes 'determiner-genitive' (DG) from 'adjectival-genitive' (AG) languages, depending on the function possessives have in a particular language. A language can be both DG and AG: in Spanish, for instance, both *mi casa* 'my house' (determiner) and *la casa mía* 'my house' (adjectival) are possible (Lyons 1999: 133). English and Swedish also allow both uses, with non-determiner possessives having a classifying function in English (Willemse 2007), and functions such as measuring or swearing in Swedish (Koptjevskaja-Tamm 2003).

While this study has identified up to 50 languages in the sample that have some kind of determiner system, one question I have not yet addressed is what happens in the other half of the sample. It is certainly not the case that all 50 languages clearly have no determiner slot. For some of these languages there simply is not enough information available to decide either way (this is the case for 13 languages). Another group of 10 languages shows mixed evidence, e.g. a fixed initial position for one element and flexibility for all other elements in the NP, which may point to the presence of a determiner slot for only this element (as was suggested for Bininj Gun-wok in §4.6). Finally, there is a group of about 28 languages that do show at least some evidence against a determiner slot. This mostly concerns languages where all types of modifiers can occur on either side of the head. An example was given in (7) for Jaminjung, where potential determiners (such as a demonstrative) are not clearly delineated from other modifiers and do not necessarily occur at the edge.

Finally, it seems that Australian languages are by far not atypical cross-linguistically in terms of determiner systems. Dryer (2013: §3), for instance, questions whether it can be motivated to set up a 'grammatical class of determiners' for all languages, as many may lack articles, or may have articles and demonstratives co-occurring or occurring in different positions in the NP. Additionally, for some of the more typical determiner languages, we have evidence of the historical development of the determiner system (cf. e.g. Himmelmann 1997). An example is the development from Latin, which also shows optionality and co-occurrence of determining modifiers (cf. Spevak 2014: 6, 41-45), to Romance languages.

Acknowledgements

Abbreviations

Examples are glossed according to the Leipzig Glossing Rules (http://www.eva.mpg.de/lingua/resources/glossing-rules.php). Other glosses used are: I-IV noun classes, ACT actual, ANAPH anaphoric, ANI verbal classifier 'fall', AUG augmented, CONJ conjunction, CONTR contrastive focus, CTEMP contemporaneous, CRD cardinal pronoun, DISTR distributed, EMPH emphatic, GENRL general, H realis/assertive marker, INCH inchoative, IO indirect object, LIG possessor ligative, MIN minimal, NEW new topic, NP noun phrase, NVIS non-visible, N_w w-class neuter gender, ORIG origin, PL(GRP) plural in group, PP past punctiliar indicative, PRO prominence clitic, PROP proprietive, QUAL quality nominalizer, RDP reduplication, REMEMB remember demonstrative, REP repetition, SS same subject, UNM unmarked inflection.

Abbreviations used for word classes (e.g. in the tables) are: art (article), dem (demonstrative), inal.poss (inalienable possessor), indef (indefinite), interr (interrogative), loc (locational nominal), log (logical nominal), num (numeral), poss (possessive pronoun), pron (personal pronoun), quant (quantifying nominal).

References

Alpher B 1973 *Son of ergative: the Yir Yoront language of northeast Australia* Unpublished PhD thesis, Cornell University, Ithaca.

Alpher B 1991 *Yir-Yoront lexicon: sketch and dictionary of an Australian language* Berlin: Mouton de Gruyter.

Austin P 1981 *A grammar of Diyari, South Australia* Cambridge: Cambridge University Press.

Austin P 2011 *A grammar of Diyari, South Australia* 2nd edition Available at: http://www.academia.edu/2491078/A_Grammar_of_Diyari_South_Australia accessed 7 October 2013.

Bache C 2000 *Essentials of mastering English: A concise grammar* Berlin: Mouton de Gruyter.

Baker B 2008 'The interpretation of complex nominal expressions in Southeast Arnhem Land languages' in I Mushin & B Baker (eds) *Discourse and grammar in Australian languages* Amsterdam: John Benjamins. pp. 135–166.

Bannister C 2004 *A longitudinal study of Ngarrindjeri* Unpublished BA Hons thesis, University of Sydney, Sydney.

Besold J 2012 *Language recovery of the New South Wales south coast Aboriginal languages. Part A: Analysis and philology* Unpublished PhD thesis, Australian National University, Canberra.

Birk D 1976 *The Malakmalak language, Daly River (Western Arnhem Land)* Canberra: Pacific Linguistics.

Blake B 1979 'Pitta-Pitta' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 1* Canberra: Australian National University Press. pp. 182–242.

Blake B (ed) 1998 *Wathawurrung and the Colac language of southern Victoria* Canberra: Pacific Linguistics.

Blake B 2001 'The noun phrase in Australian languages' in J Simpson, D Nash, P Austin & B Alpher (eds) *Forty years on: Ken Hale and Australian languages* Canberra: Pacific Linguistics. pp. 415–425.

Blake B 2003 *The Bunganditj (Buwandik) language of the Mount Gambier region* Canberra: Pacific Linguistics.

Blake B, Hercus L, Morey S & E Ryan 2011 *The Mathi group of languages* Canberra: Pacific Linguistics.

Blevins J 2001 *Nhanda: An Aboriginal language of Western Australia* Honolulu: University of Hawai'i Press.

Bolinger DL 1967 'Adjectives in English: Attribution and predication' *Lingua* 18: 1–34.

Bowe H & S Morey 1999 *The Yorta Yorta (Bangerang) language of the Murray Goulburn including Yabula Yabula* Canberra: Pacific Linguistics.

Bowern C 2012 *A grammar of Bardi* Berlin: Mouton de Gruyter.

Bowern C & Q Atkinson 2012 'Computational phylogenetics and the internal structure of Pama-Nyungan' *Language* 88(4): 817–845.

Bradley J with J Kirton & the Yanyuwa community 1992 *Yanyuwa Wuka: Language from Yanyuwa country* Available at: http://eprint.uq.edu.au/archive/00000072/01/yanyuwatotal.pdf accessed 19 February 2014.

Breban T 2002 'The grammaticalization of adjectives of identity and difference in English and Dutch' *Languages in Contrast* 4(1): 165–199.

Breban T 2010 *English adjectives of comparison: Lexical and grammatical uses* Berlin: Walter de Gruyter.

Breban T & K Davidse 2003 'Adjectives of comparison: The grammaticalization of their attribute uses into postdeterminer and classifier uses' *Folia Linguistica* XXXVII(3-4): 269–317.

Breen G 1981a 'Margany and Gunya' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 2* Canberra: Australian National University Press. pp. 274–393.

Breen G 1981b *The Mayi languages of the Queensland Gulf Country* Canberra: Australian Institute of Aboriginal Studies.

Breen G 2004a *Innamincka talk: A grammar of the Innamincka dialect of Yandruwandha with notes on other dialects* Canberra: Pacific Linguistics.

Breen G 2004b *Innamincka words: Yandruwandha dictionary and stories* Canberra: Pacific Linguistics.

Breen G & B Blake 2007 *The grammar of Yalarnnga: A language of Western Queensland* Canberra: Pacific Linguistics.

Campbell L 2006 *A sketch grammar of Urningangk, Erre and Mengerrdji: The Giimbiyu languages of Western Arnhem Land* Unpublished BA Hons thesis, University of Melbourne, Melbourne.

Capell A 1953 'Notes on the Waramunga language of western Australia' *Oceania* 23(4): 297–311.

Clendon M 2000 *Topics in Worora grammar* Unpublished PhD thesis, University of Adelaide, Adelaide.

Clendon M 2014 *Worrorra: A language of the north-west Kimberley coast* Adelaide: University of Adelaide Press.

Crowley T 1981 'Mpakwithi dialect of Anguthimri' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 2* Canberra: Australian National University Press. pp. 146–194.

Crowley T 1983 'Uradhi' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 3* Canberra: Australian National University Press. pp. 306–428.

Cunningham MC 1969 'A description of the Yugumbir dialect of Bandjalang'. *University of Queensland Papers* 1(8): 69–122.

Cutfield S 2011 *Demonstratives in Dalabon: A language of southwestern Arnhem Land* Unpublished PhD thesis, University of Melbourne, Melbourne.

Davidse K 2004 'The interaction of quantification and identification in English determiners' in M Achard & S Kemmer (eds) *Language, culture and mind* Stanford: CSLI Publications. pp. 507–533.

Davidse K, Breban T & A Van Linden 2008 'Deictification: The development of secondary deictic meanings by adjectives in the English NP' *English Language and Linguistics* 12: 475–503.

Dench A 1991 'Panyjima' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 4* Oxford: Oxford University Press. pp. 124–243.

Dench A 1994 *Martuthunira: A language of the Pilbara region of Western Australia* Canberra: Pacific Linguistics.

Dench A 1998 *Yingkarta* München: Lincom Europa.

Diessel H 1999 *Demonstratives: Form, function, and grammaticalization* Amsterdam: John Benjamins.

Dixon RMW 1972 *The Dyirbal language of North Queensland* Cambridge: Cambridge University Press.

Dixon RMW 1977 *A grammar of Yidiny* Cambridge: Cambridge University Press.

Dixon RMW 1991 *Words of our country* St. Lucia: University of Queensland Press.

Dixon RMW 2002 *Australian languages: Their nature and development* Cambridge: Cambridge University Press.

Donaldson T 1980 *Ngiyambaa: The language of the Wangaaybuwan* Cambridge: Cambridge University Press.

Douglas W 1976 *The Aboriginal languages of the South-West of Australia* 2nd edition Canberra: Australian Institute of Aboriginal Studies.

Douglas W 1981 'Watjarri' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 2* Canberra: Australian National University Press. pp. 197–272.

Dryer MS 2013 'Order of demonstrative and noun' in MS Dryer & M Haspelmath (eds) *The World Atlas of Language Structures Online* Leipzig: Max Planck Institute for Evolutionary Anthropology. Available at http://wals.info/chapter/88 accessed on 20 March 2016.

Eades D 1979 'Gumbaynggir' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 1* Canberra: Australian National University Press. pp. 244–361.

Evans N 1995 *A grammar of Kayardild with historical-comparative notes on Tangkic* Berlin: Mouton de Gruyter.

Evans N 2003a *Bininj Gun-wok: A pan-dialectal grammar of Mayali, Kunwinjku and Kune* Canberra: Pacific Linguistics.

Evans N 2003b 'Introduction: Comparative non-Pama-Nyungan and Australian historical linguistics' in N Evans (ed) *The Non-Pama-Nyungan Languages of Northern Australia: Comparative Studies of the Continent's Most Linguistically Complex Region* Canberra: Pacific Linguistics. pp. 3–25.

Ford K & D Ober 1987 *Kalaw Kawaw Ya* Darwin: School of Australian Linguistics.

Ford K & D Ober 1991 'A sketch of Kalaw Kawaw Ya' in S Romaine (ed) *Language in Australia* Cambridge: Cambridge University Press. pp. 118–142.

Ford L 1990 *The phonology and morphology of Bachamal (Wogait)* Unpublished MA thesis, Australian National University, Canberra.

Ford L 1998 *A description of the Emmi language of the Northern Territory of Australia* Unpublished PhD thesis, Australian National University, Sydney.

Forrester K 2015 *The internal structure of the Mawng noun phrase* Unpublished BA Hons thesis, University of Melbourne, Melbourne.

Gaby A 2006 *A grammar of Kuuk Thaayorre* Unpublished PhD thesis, University of Melbourne, Melbourne.

Giacon J 2014 *A grammar of Yuwaalaraay and Gamilaraay: A description of two New South Wales languages based on 160 years of records* Unpublished PhD thesis, Australian National University, Canberra.

Glasgow K 1994 'Appendix 2: Parts of Speech (or major word classes) in Burarra - Gun-Nartpa' in *Burarra-Gun-Nartpa Dictionary: With English Finder List* Darwin: Summer Institute of Linguistics. pp. 893–924.

Goddard C 1985 *A grammar of Yankunytjatjara* Alice Springs: Institute for Aboriginal Development.

Godman I 1993 *A sketch grammar of Rimanggudinhma: A language of the Princess Charlotte Bay region of Cape York Peninsula* Unpublished BA Hons thesis, University of Queensland, Brisbane.

Green I 1981 *The phonology and morphology of Marrithiyel: A preliminary study* Unpublished MA thesis, Australian National University, Canberra.

Green I 1989 *Marrithiyel: A language of the Daly River region of Australia's Northern Territory* Unpublished PhD thesis, Australian National University, Canberra.

Green I 1997 'Nominal classification in Marrithiyel' in Harvey M & Reid N (eds) *Nominal Classification in Aboriginal Australia* Amsterdam: John Benjamins. pp. 229–254.

Green R 1987 *A sketch grammar of Burarra* Unpublished BA Hons thesis, Australian National University, Canberra.

Gundel JK, Hedberg N & R Zacharski 1993 'Cognitive status and the form of referring expressions in discourse' *Language* 69(2): 274–307.

Hale K 1995 *An elementary Warlpiri dictionary* revised edition. Alice Springs: IAD Press.

Hale K, Laughren M & J Simpson 1995 'Warlpiri' in J Jacobs, A von Stechow, W Sternefeld & T Vennemann (eds) *Syntax: An international handbook of contemporary research* Berlin: Mouton de Gruyter. pp. 1430–1451.

Hamilton P 1996 *Oykangand sketch grammar* Manuscript.

Harvey M ms *Warray grammar* Manuscript.

Harvey M 1986 *Ngoni Waray Amungal-yang: The Waray language from Adelaide River* Unpublished MA thesis, Australian National University, Canberra.

Harvey M 2001 *A grammar of Limilngan: A language of the Mary River Region, Northern Territory, Australia* Canberra: Pacific Linguistics.

Harvey M 2002 *A grammar of Gaagudju* Berlin: Mouton de Gruyter.

Haspelmath M 2010 'Comparative concepts and descriptive categories in crosslinguistic studies' *Language* 86(3): 663–687.

Haviland J 1979 'Guugu Yimidhirr' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 1* Canberra: Australian National University. pp. 27–180.

Heath J 1980 *Basic materials in Ritharngu: Grammar, texts and dictionary* Canberra: Pacific Linguistics.

Heath J 1981 *Basic materials in Mara: Grammar, texts and dictionary* Canberra: Pacific Linguistics.

Hercus L 1982 *The Baagandji language* Canberra: Pacific Linguistics.

Hercus L 1994 *A grammar of the Arabana-Wangkangurru language, Lake Eyre basin, South Australia* Canberra: Pacific Linguistics.

Hercus L 1999 *A grammar of the Wirangu language from the west coast of South Australia* Canberra: Pacific Linguistics.

Hill C ms *The noun phrase in Umpila* Manuscript.

Himmelmann N 1997 *Deiktikon, Artikel, Nominalphrase: Zur Emergenz syntaktischer Struktur* Tübingen: Niemeyer.

Himmelmann N 2001 'Articles' in M Haspelmath (ed) *Language yypology and language universals: An international handbook* Berlin: Mouton de Gruyter. pp. 831–841.

Hosokawa K 1991 *The Yawuru language of West Kimberley: A meaning-based description* Unpublished PhD thesis, Australian National University, Canberra.

Hudson J 1978 *The core of Walmatjari grammar* Canberra: Australian Institute of Aboriginal Studies.

Hudson J & E Richards 1984 *The Walmatjari: An introduction to the language and culture* Darwin: Summer Institute of Linguistics.

Jones B 2011 *A grammar of Wangkajunga: A language of the Great Sandy Desert of North Western Australia* Canbera: Pacific Linguistics.

Kirton J 1971 *Papers in Australian Linguistics No. 5* Canberra: Pacific Linguistics.

Kirton J & B Charlie 1996 *Further aspects of the grammar of Yanyuwa, northern Australia* Canberra: Pacific Linguistics.

Kite S & S Wurm 2004 *The Duungidjawu language of southeast Queensland: Grammar, texts and vocabulary* Canberra: Pacific Linguistics.

Klokeid T 1969 *Thargari phonology and morphology* Canberra: Pacific Linguistics.

Klokeid T 1976 *Topics in Lardil grammar* Unpublished PhD thesis, MIT, Cambridge, Mass.

Kofod F 1978 *The Miriwung language (East Kimberley): A phonological and morphological study* Unpublished MA thesis, University of New England, New England.

Koptjevskaja-Tamm M 2003 '*A woman of sin*, *a man of duty*, and *a hell of a mess*: Non-determiner genitives in Swedish' in F Plank (ed) *Noun phrase structure in the languages of Europe* Berlin: Mouton de Gruyter. pp. 515–558.

Langacker R 1991 *Foundations of cognitive grammar. Volume II: Descriptive application* Stanford: Stanford University Press.

Lee J 1987 *Tiwi today: A study of language change in a contact situation* Canberra: Pacific Linguistics.

Lissarrague A 2010 *A grammar and dictionary of Gathang: The language of the Birrbay, Guringay and Warrimay* Nambucca Heads: Muurrbay Aboriginal Language & Culture Co-operative.

Louagie D & J-C Verstraete 2015 'Personal pronouns with determining functions in Australian languages' *Studies in Language* 39: 158–197.

Louagie D & J-C Verstraete 2016 'Noun phrase constituency in Australian languages: A typological study' To appear in *Linguistic Typology*.

Lyons C 1986 'The syntax of English genitive constructions' *Journal of Linguistics* 22: 123–143.

Lyons C 1999 *Definiteness* Cambridge: Cambridge University Press.

Marmion D 1996 *A description of the morphology of Wajarri* Unpublished BA Hons thesis, University of New England, Armidale.

McGregor W 1990 *A functional grammar of Gooniyandi* Amsterdam: John Benjamins.

McGregor W 2004 *The languages of the Kimberley, Western Australia* London: RoutledgeCurzon.

McGregor W 2011 *The Nyulnyul language of Dampier land, Western Australia. 2 vols*. Canberra: Pacific Linguistics.

McGregor W 2013 'Optionality in grammar and language use' *Linguistics* 51(6): 1147–1204.

McKay G 1975 *Rembarnga: A language of central Arnhem Land* Unpublished PhD thesis, Australian National University, Canberra

McKay G 2000 'Ndjébbana' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 5* Oxford: Oxford University Press. pp. 155–356.

McKelson K 1989 *Studies in Karajarri* Manuscript.

Meakins F & R Nordlinger 2014 *A grammar of Bilinarra: An Australian Aboriginal language of the Northern Territory* Berlin: Mouton de Gruyter.

Merlan F 1989 *Mangarayi* London: Routledge.

Merlan F 1994 *A grammar of Wardaman: A language of the Northern Territory of Australia* Berlin: Mouton de Gruyter.

Milsark G 1977 'Toward an explanation of certain peculiarities of the existential construction in English' *Linguistic Analysis* 3(1): 1–29.

Morphy F 1983 'Djapu, a Yolngu dialect' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 3* Canberra: Australian National University. pp. 1–304.

Mushin I 1995 'Epistememes in Australian languages' *Australian Journal of Linguistics* 15: 1–31.

Mushin I 2012 *A grammar of (Western) Garrwa* Berlin: Mouton de Gruyter.

Nash D 1980 *Topics in the Warlpiri grammar* Unpublished PhD thesis, MIT, Cambridge, Mass.

Nordlinger R 1998 *A grammar of Wambaya, Northern Territory (Australia)* Canberra: Pacific Linguistics.

Oates L 1988 *The Muruwari Language* Canberra: Research School of Pacific and Asian Studies, Australian National University.

Ogilvie S 1994 *The Morrobalama (Umbuygamu) language of Cape York Peninsula, Australia* Unpublished MA thesis, Australian National University, Canberra.

Patz E 1991 'Djabugay' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages. Volume 4* Oxford: Oxford University Press. pp. 244–347.

Patz E 2002 *A grammar of the Kuku Yalanji language of north Queensland* Canberra: Pacific Linguistics.

Pensalfini R 2003 *A grammar of Jingulu: An Aboriginal language of the Northern Territory* Canberra: Pacific Linguistics.

Plank F 2003 'Double articulation' in F Plank (ed) *Noun phrase structure in the languages of Europe* Berlin: Mouton de Gruyter.

Postal PM 1970 'On so-called pronouns in English' in RA Jacobs & PS Rosenbaum (eds) *Readings in English transformational grammar* Waltham, Mass.: Ginn. pp. 56–82.

Reid N 1990 *Ngan'gityemerri: A language of the Daly River region, Northern Territory of Australia* Unpublished PhD thesis, Australian National University, Canberra.

Reid N 1997 'Class and classifier in Ngan'gityemerri' in M Harvey & N Reid N (eds) *Nominal classification in Aboriginal Australia* Amsterdam: John Benjamins. pp. 165–228.

Richards E 1979 'The Walmatjari noun phrase' in CA Kilham (ed) *Four grammatical sketches: From phrase to paragraph. Volume 3* Darwin: Summer Institute of Linguistics - Australian Aborigines Branch. pp. 93-128.

Rijkhoff J 2002 *The noun phrase* Oxford: Oxford University Press.

Round E 2013 *Kayardild morphology and syntax* Oxford: Oxford University Press.

Rumsey A 1982 *An intra-sentence grammar of Ungarinjin (north-western Australia)* Canberra: Pacific Linguistics. Pacific Linguistics.

Sands AK 1989 *A grammar of Garadjari, Western Australia* Unpublished BA Hons thesis, Australian National University, Canberra.

Saulwick A 2003 *Aspects of the verb in Rembarrnga: A polysynthetic language of northern Australia: Grammatical description, texts and dictionary* Unpublished PhD thesis, University of Melbourne, Melbourne.

Schebeck B 1974 *Texts on the social system of the Atynyamathanha people with grammatical notes* Canberra: Pacific Linguistics.

Schultze-Berndt E 2000 *Simple and complex verbs in Jaminjung: A study of event categorisation in an Australian language* Unpublished PhD thesis, Katholieke Universiteit Nijmegen, Nijmegen.

Schultze-Berndt E & C Simard 2012 'Constraints on noun phrase discontinuity in an Australian language: The role of prosody and information structure' *Linguistics* 50(5): 1015–1058.

Sharpe M 1972 *Alawa phonology and grammar* Canberra: Australian Institute of Aboriginal Studies.

Sharpe M 2005 *Grammar and texts of the Yugambeh-Bundjalung dialect chain in Eastern Australia* München: Lincom Europa.

Sharp J 2004 *Nyangumarta: A language of the Pilbara region of Western Australia* Canberra: Pacific Linguistics.

Simpson J 1983 *Aspects of Warlpiri morphology and syntax* Unpublished PhD thesis, MIT, Cambridge, Mass.

Simpson J 1998 'Warumungu (Australian - Pama-Nyungan)' in A Spencer & A Zwicky (eds) *The Handbook of morphology* Oxford: Blackwell. pp. 707–736.

Simpson J 2002 *A learner's guide to Warumungu* Alice Springs: IAD Press.

Singer R 2006 *Agreement in Mawng: Productive and lexicalised uses of agreement in an Australian language* Unpublished PhD thesis, University of Melbourne, Melbourne.

Smith I & S Johnson 2000 'Kugu Nganhcara' in RMW Dixon & B Blake (eds) *Handbook of Australian Languages: Volume 5* Oxford: Oxford University Press. pp. 357–507.

Sommer B ms *Umbuygamu* Manuscript.

Sommer B 1970 *Kunjen syntax: A generative view* Unpublished PhD thesis, University of Hawaii, Honolulu.

Sommer B 1976 'Umbuygamu: The classification of a Cape York Peninsular language' in *Papers in Australian Linguistics No. 10* Canberra: Research School of Pacific and Asian Studies, Australian National University. pp. 13–29.

Sommer B 2006 *Speaking Kunjen: An ethnography of Oykangand kinship and communication* Canberra: Pacific Linguistics.

Spevak O 2014 *The noun phrase in classical Latin prose* Leiden: Brill.

Spronck S 2015 *Reported speech in Ungarinyin: [["..."] -ma-]: Grammar and social cognition in a language of the Kimberley region, Western Australia* Unpublished PhD thesis, Australian National University, Canberra.

Stirling L 2008 '"Double reference" in Kala Lagaw Ya narratives' in I Mushin & B Baker (eds) *Discourse and grammar in Australian Languages* Amsterdam: John Benjamins. pp. 167–202.

Stirling L & B Baker 2007 'Pronominal apposition and the status of "determiner" in Australian languages' Presented at *the Australian Linguistic Society Annual Conference*, Adelaide.

Swartz S 1982 'Syntactic structure of Warlpiri clauses' in S Swartz (ed) *Papers in Warlpiri grammar: In memory of Lothar Jagst* Darwin: Summer Institute of Linguistics. pp. 69–127.

Terrill A 1998 *Biri* München: Lincom Europa.

Terrill A 2002 *Dharumbal: The language of Rockhampton, Australia* Canberra: Pacific Linguistics.

Thompson D 1988 *Lockhart River "sand beach" language: An outline of Kuuku Ya'U and Umpila* Darwin: Summer Institute of Linguistics.

Tryon DT 1974 *Daly family languages, Australia* Canberra: Pacific Linguistics.

Tsunoda T 1981 *The Djaru language of Kimberley, Western Australia* Canberra: Pacific Linguistics.

Tsunoda T 2011 *A grammar of Warrongo* Berlin: Mouton de Gruyter.

van Egmond M-E 2012 *Enindhilyakwa phonology, morphosyntax and genetic position* Unpublished PhD thesis, University of Sydney, Sydney.

Verstraete J-C 2010 *The noun phrase in Umpithamu* Presentation at workshop on noun phrase structure, Aarhus University.

Waters B 1989 *Djinang and Djinba: A grammatical and historical perspective* Canberra: Pacific Linguistics.

Wilkins D 1989 *Mparntwe Arrernte (Aranda): Studies in the structure and semantics of grammar* Unpublished PhD thesis, Australian National University, Canberra.

Wilkins D 2000 'Ants, ancestors and medicine: A semantic and pragmatic account of classifier constructions in Arrernte (Central Australia)' in G Senft (ed) *Systems of Nominal Classification* Cambridge: Cambridge University Press. pp. 147–216.

Wilkinson M 1991 *Djambarrpuyngu: A Yolngu variety of Northern Australia* Unpublished PhD thesis, University of Sydney, Sydney.

Willemse P 2005 *Nominal reference-point constructions: possessive and esphoric NPs in English* Unpublished PhD thesis, University of Leuven, Leuven.

Willemse P 2007 'Indefinite possessive NPs and the distinction between determining and nondetermining genitives in English' *English Language and Linguistics* 11: 537–568.

Williams C 1980 *A grammar of Yuwaalaraay* Canberra: Pacific Linguistics.

Wordick F 1982 *The Yindjibarndi language* Canberra: Pacific Linguistics.

Yallop C 1975 'The Narinjari language 1864-1964' in AP Elkin (ed) *Narinjari: An outline of the language studied by George Taplin, with Taplin's notes and comparative table* Sydney: University of Sydney.

Yallop C 1977 *Alyawarra: An Aboriginal language of central Australia* Canberra: Australian Institute of Aboriginal Studies.

Zandvoort F 1999 *A grammar of Matngele* Unpublished MA thesis, University of New England, Armidale.

Appendix

Table 2: Overview of the sample

Language name	Genetic status		References
	Pama-Nyungan (PN)		
	Lower-level subgroup	*Bowern & Atkinson (2012)*	
Kala Lagaw Ya	(unclear)	Northern PN	Ford & Ober (1987, 1991), Stirling (2008)
Uradhi	Northern Paman	Northern PN	Crowley (1983)
Anguthimri	Northern Paman	Northern PN	Crowley (1981)
Umpila/Kuuku Ya'u	Middle Paman	Northern PN	Hill (ms), Thompson (1988)
Kugu Nganhcara	Middle Paman	Northern PN	Smith & Johnson (2000)
Umpithamu	Middle Paman	Northern PN	Verstraete (2010)
Umbuygamu	Lamalamic	Northern PN	Ogilvie (1994), Sommer (1976, 1998)
Rimanggudinhma	Lamalamic	Northern PN	Godman (1993)
Kuuk Thaayorre	Southwest Paman	Northern PN	Gaby (2006)
Oykangand	Southwest Paman	Northern PN	Hamilton (1996); Sommer (1970, 2006)
Yir Yoront	Southwest Paman	Northern PN	Alpher (1973, 1991)
Guugu Yimidhirr	Yimidhirr-Yalanji-Yidinic	Northern PN	Haviland (1979)
Kuku Yalanji	Yimidhirr-Yalanji-Yidinic	Northern PN	Patz (2002)
Yidiny	Yimidhirr-Yalanji-Yidinic	Northern PN	Dixon (1977, 1991)
Djabugay	Yimidhirr-Yalanji-Yidinic	Northern PN	Patz (1991)
Dyirbal	Herbert River	Northern PN	Dixon (1972)
Warrongo	Maric	Northern PN	Tsunoda (2011)
Margany & Gunya	Maric	Northern PN	Breen (1981a)
Biri	Maric	Northern PN	Terrill (1998)
Dharumbal	Dharumbal	Northern PN	Terrill (2002)
Yalarnnga	Kalkatungic	Northern PN	Breen & Blake (2007)
Mayi	Mayi	Northern PN	Breen (1981b)
Duungidjawu	Waka-Kabi	South-Eastern PN	Kite & Wurm (2004)
Gumbaynggirr	Gumbaynggirr	South-Eastern PN	Eades (1979)
Bundjalung	Bandjalangic	South-Eastern PN	Cunningham (1969), Sharpe (2005)
Yuwaalaraay	Central New South Wales	South-Eastern PN	Giacon (2014), Williams (1980)
Ngiyambaa	Central New South Wales	South-Eastern PN	Donaldson (1980)

Muruwari	Muruwari	South-Eastern PN	Oates (1988)
Gathang	Yuin-Kuri	South-Eastern PN	Lissarrague (2010)
Dharrawal/ Dharumba/Dhurga/ Djirringanj	Yuin-Kuri	South-Eastern PN	Besold (2012)
Wathawurrung	Kulin	South-Eastern PN	Blake (1998)
Mathi-Mathi /Letyi-Letyi/ Wati-Wati	Kulin	South-Eastern PN	Blake et al. (2011)
Yorta Yorta	Eastern Victoria	South-Eastern PN	Bowe & Morey (1999)
Bunganditj	Bunganditj	South-Eastern PN	Blake (2003)
Ngarrindjeri	Lower Murray	South-Eastern PN	Bannister (2004), Yallop (1975)
Arabana/ Wangkangurru	Karnic	Central PN	Hercus (1994)
Pitta-Pitta	Karnic	Central PN	Blake (1979, pc)
Diyari	Karnic	Central PN	Austin (1981, 2011)
Yandruwandha (Innamincka)	Karnic	Central PN	Breen (2004a, b)
Paakantyi	Paakantyi	Central PN	Hercus (1982)
Atynyamathanha	Thura-Yura	Central PN	Schebeck (1974)
Wirangu	Thura-Yura	Central PN	Hercus (1999)
Alyawarra	Arandic	Central PN	Yallop (1977)
Arrernte (Mparntwe)	Arandic	Central PN	Wilkins (1989)
Warumungu	Ngumpin-Yapa	Western PN	Simpson (1998, 2002), Simpson & Heath (ms), Capell (1953)
Warlpiri	Ngumpin-Yapa	Western PN	Hale (1995), Hale et al. (1995), Nash (1980), Simpson (1983), Swartz (1982)
Bilinarra	Ngumpin-Yapa	Western PN	Meakins & Nordlinger (2014)
Jaru	Ngumpin-Yapa	Western PN	Tsunoda (1981, pc)
Walmajarri	Ngumpin-Yapa	Western PN	Hudson (1978), Hudson & Richards (1984), Richards (1979)
Nyangumarta	Marrngu	Western PN	Sharp (2004)
Karajarri	Marrngu	Western PN	McKelson (1989), Sands (1989)
Yankunytjatjara	Wati	Western PN	Goddard (1985)
Wangkajunga	Wati	Western PN	Jones (2011)
Martuthunira	Ngayarta	Western PN	Dench (1994)
Yindjibarndi	Ngayarta	Western PN	Wordick (1982)
Panyjima	Ngayarta	Western PN	Dench (1991)

Thargari	Mantharta	Western PN	Klokeid (1969)
Wajarri	Kartu	Western PN	Douglas (1981), Marmion (1996)
Yingkarta	Kartu	Western PN	Dench (1998)
Nhanda	Nhanda	Western PN	Blevins (2001)
Nyungar	Nyungar	Western PN	Douglas (1976)
Ritharrngu	Yolngu	Western PN	Heath (1980)
Dhuwal (Djapu/ Djamparrpuyngu)	Yolngu	Western PN	Morphy (1983), Wilkinson (1991)
Djinang/Djinba	Yolngu	Western PN	Waters (1989)
Yanyuwa	Warluwaric	Western PN	Kirton (1971), Kirton & Charlie (1996), Bradley (1992)
	non-Pama-Nyungan		
Kayardild	Tangkic		Evans (1995), Round (2013)
Lardil	Tangkic		Klokeid (1976)
Garrwa	Garrwan		Mushin (2012)
Marra	Marran		Heath (1981)
Alawa	Marran		Sharpe (1972)
Mangarrayi	Marran		Merlan (1989)
Wambaya	Mindi		Nordlinger (1998)
Jingulu	Mindi		Pensalfini (2003)
Jaminjung	Mindi		Schultze-Berndt (2000)
Emmi	Western Daly		Ford (1998)
Marrithiyel	Western Daly		Green (1989, 1997)
Matngele	Eastern Daly		Zandvoort (1999)
Ngan'gityemerri/ Ngan'gikurunggurr	Southern Daly		Reid (1990, 1997)
Malakmalak	Northern Daly		Birk (1976), Tryon (1974), Hoffmann (pc)
Wadjiginy (Bachamal)	Anson Bay		Ford (1990), Tryon (1974)
Wardaman	Wardaman/ Wagiman		Merlan (1994)
Gaagudju	Gaagudju		Harvey (2002)
Limilngan	Limilngan		Harvey (2001)
Tiwi	Tiwi		Lee (1987)
Giimbiyu	Giimbiyu		Campbell (2006)
Warray	Gunwinyguan		Harvey (1986, ms)
Rembarrnga	Gunwinyguan		McKay (1975), Saulwick (2003)
Enindhilyakwa	Gunwinyguan		van Egmond (2012)
Bininj Gun-wok	Gunwinyguan		Evans (2003a)
Dalabon	Guwinyguan		Cutfield (2011)

Burarra	Maningrida	Green (1987), Glasgow (1994), Carew (pc)
Ndjébbana	Maningrida	McKay (2000)
Mawng	Iwaidjan	Singer (2006), Forrester (2015)
Gooniyandi	Bunuban	McGregor (1990)
Nyulnyul	Nyulnyulan	McGregor (2011)
Bardi	Nyulnyulan	Bowern (2012a)
Yawuru	Nyulnyulan	Hosokawa (1991)
Worrorra	Worrorran	Clendon (2000, 2014)
Ungarinyin	Worrorran	Rumsey (1982), Spronck (2015, pc)
Miriwung	Jarrakan	Kofod (1978)

Table 3: Languages of type 1

Type 1: determiner(s) – HEAD – modifier(s)		
language	**possible fillers of determiner slot/zone**	**reference**
clear evidence		
Dalabon*	pron, dem, ?num	Cutfield 2011: 50-58; 92-96
Dyirbal	dem, poss *co-occurrence (example): poss – dem*	Dixon 1972: 60-61, examples
Gaagudju*	interr-indef, dem, (poss)pron, log *co-occurrence: dem – log*	Harvey 2002: 316-320
Limilngan*	interr(-indef), dem, poss, ?num, log	Harvey 2001: 112-113, examples
Uradhi	pron, dem, poss/possNP, log *competition & co-occurrence: pron/dem – poss/possNP*	Crowley 1983: 371, 377, examples
mixed evidence		
Dhuwal (at least Djapu)	indef, pron, dem, poss, inal.poss, ?num/ quant, ?log, ?loc *co-occurrence: pron – dem*	Morphy 1983: 83-87, examples
Ndjébbana	pron, ?dem, ?quant, log	McKay 2000: 293-294

Table 4: Languages of type 2

Type 2: determiner(s) – modifier(s) – HEAD – modifier(s)		
language	possible fillers of determiner slot/zone	reference
clear evidence		
Gooniyandi*	indef, pron, dem, poss/possNP, num, indef-log, NP-ABL *co-occurrence: any – indef-log*	McGregor 1990: 253-276
Martuthunira*	dem, poss, log	Dench 1994: 189-193
Mawng*	pron, dem *co-occurrence: pron – dem or reverse*	Forrester 2015: 45
Mayi	pron, dem, interr, ?num *competition: pron / dem / interr*	Breen 1981b: 63
Nyulnyul*	interr, pron, dem, poss, log *co-occurrence: pron or dem – log*	McGregor 2011: 399-413
Panyjima*	dem, ?num, ?log *co-occurrence: dem – num or log*	Dench 1991: 186
Tiwi*	def, dem, poss/possNP, ?quant/num, log *co-occurrence: log – def – dem – quant/num/log*	Lee 1987: 221-230
more limited or mixed evidence		
Biri	dem, poss	Terrill 1998: 29, 45-46, examples
Bundjalung	dem, poss, ?num *co-occurrence: dem(VIS) – dem (NVIS); dem – poss (ambiguous example of reverse order)*	Sharpe 2005: 98, examples
Gathang	pron, dem, poss	Lissarrague 2010: 39, 103-105, examples
Mangarrayi	interr-indef, dem, poss (but rarely used)	Merlan 1989: 29-30, 51, examples
Nhanda	dem, ?poss	Blevins 2001: 77, 83, examples
Wadjiginy (Bachamal)	indef, pron, dem	Tryon 1974: 209; Ford 1990: examples
Yanyuwa	interr, pron, dem, ?poss, log *co-occurrence: dem – log – poss;* *competition: dem / poss*	Kirton 1971: 10, examples; Kirton & Charlie 1996: examples
Yindjibarndi	dem, num	Wordick 1982: 160, examples

47

Table 5: Languages of type 3

Type 3: determiner(s) – HEAD – modifier(s) – determiner(s)		
language	**possible fillers of determiner slot/zone**	**reference**
clear evidence		
Arabana/ Wangkangurru	interr(-indef?) (only initial), pron, dem, poss	Hercus 1994: 284, examples
Diyari	interr-indef (only initial), pron, poss/possNP, loc *co-occurrence (initial): pron – poss/possNP*	Austin 2011: 100, examples
Djabugay	dem, poss, ?num	Patz 1991: examples
Guugu Yimidhirr	pron, dem, poss, quant, log *co-occurrence (initial): pron – any*	Haviland 1979: 104, examples
Kuku Yalanji	interr-indef, pron (only initial), dem, poss, ?quant/num	Patz 2002: 119-121, 202, examples
Matngele	dem *(note: position poss unknown)*	Zandvoort 1999: examples
Paakantyi	interr-indef (only initial), dem, poss *! modifiers pre-head: determiner(s) – modifier(s) – head – determiner(s)*	Hercus 1982: 98-101, examples
Umpila / Kuuku Ya'u *	pron, dem, poss, quant *co-occurrence (initial): pron – dem – quant; competition : poss / rest*	Hill ms
Worrorra	pron, dem, poss *co-occurrence (examples): dem & poss: one in each slot (either way), ana dem – def dem – head, def dem – head – contextual dem*	Clendon 2000, 2014: examples
Yandruwandha (Innamincka)	interr(-indef) (only initial), pron, poss	Breen 2004a: 47, 67-68, examples
Yir Yoront	pron, dem *most common co-occurrence: head – dem – pron*	Alpher 1973: 281-289, examples
more limited or mixed evidence		
Alawa	dem, poss (only final) *! modifiers pre-head*	Sharpe 1972: examples
Anguthimri	pron (only initial), dem *co-occurrence (examples): pron – dem – head, pron – head – dem*	Crowley 1981: 162, 178, examples
Duungidjawu	interr-indef (only initial), pron (only initial), dem, poss, ?num *co-occurrence (examples): head – dem – poss, 'one' – dem – head*	Kite & Wurm 2004: 95-96, examples
Emmi	interr (only initial), dem, ?compound modifier containing numeral	Ford 1998: 138, 148, examples
Nyungar*	dem(=pron) (only final), poss (only initial)	Douglas 1976: 44-45

Wajarri	dem (only final), poss[24], possNP (only initial), quant *co-occurrence: poss – quant (initial), quant – dem (final)*	Douglas 1981: 240-244
Yalarnnga	interr (only initial), pron (only initial), dem, poss, num (only initial) *co-occurrence (examples): dem – poss – head, dem – num – head* *(note: position of A uncertain; only one example of adnominal use, Blake p.c.)*	Breen & Blake 2007: 57-58, examples

---

[24] The status of the possessive pronoun is not entirely clear: the NP template in Douglas (1981: 241) suggests that the possessive only occurs in initial position and together with the head noun forms the head of the NP. However, some examples have also been found of a possessive pronoun following the head noun. The categorization of Wajarri as a type 3 language depends on how the possessive pronoun is analyzed: if it has a determiner function, we have an initial determiner slot (which can, incidentally, also include a quantifier), in addition to a final slot containing a demonstrative and possibly also a possessive pronoun.

Table 6: Languages of type 4

Type 4: HEAD – modifier(s)…determiner(s) OR determiner(s) … modifier(s) – HEAD			
language	**position head**	**possible fillers of determiner slot/zone**	**reference**
clear evidence			
Arrernte (Mpartnwe)	initial	pron, dem, ?quant *co-occurrence: ?quant – dem – pers.pron* *(cut-off point mod vs. det unknown)*	Wilkins 1989: 102-103
Kayardild*	final[25]	interr, indef, pron, dem, poss/possNP, log, compass *co-occurrence: dem – compass, 'same'*	Evans 1995: 235-241; Round 2013: 133-135
Kuuk Thaayorre	initial	interr-indef, dem (pron or adnom), ?poss, ?quant *co-occurrence: poss – quant – dem.pron – interr-indef – adnom.dem* *(cut-off point mod vs. det unknown)*	Gaby 2006: 297-298
Lardil	final	dem, ?quant *co-occurrence: dem - quant* *(cut-off point mod vs. det unknown)*	Klokeid 1976: 11, examples
Marrithiyel	initial	dem, poss, ?num *competition & co-occurrence: num – dem/poss or reverse*	Green 1997: 246
Umpithamu*	initial	pron, poss, ?num *competition & co-occurrence: num – poss/pron* *(cut-off point mod vs. det unknown)*	Verstraete 2010
more limited or mixed evidence			
Kala Lagaw Ya	final (usually)	pron, dem, poss, ?num *co-occurrence: pron – dem or reverse, dem – poss - ?num* *(cut-off point mod vs. det unknown)*	Ford & Ober 1987: 10; Ford & Ober 1991: 124-126; Stirling 2008: 177; examples throughout all sources
Kugu Nganhcara	initial	? pron, dem, ?poss/COM/PRIV.NP, ?quant *co-occurrence: quant – poss/COM/PRIVNP-dem*	Smith & Johnson 2000: 419-420
Oykangand	initial	?pron, dem, poss	Hamilton 1996: 2, 6; Sommer 1970: examples

---

[25] Round (2013: 133-135) and Evans (1995: 235) differ in their analysis of the Kayardild NP. Evans proposes a post-head modifier, which Round (2013: 135) discards because it 'fails to restrict the function of the nominal word which fills it.' In both analyses, there is a clear initial determiner slot.

| Yingkarta* | final (usually) | pron, dem, poss | Dench 1998 : 50-51 |