5 Constituency and Grammatical Relations in Australian languages

1 Introduction

Australian languages have had a significant impact on the theoretical and typological stage over the last 50 years, particularly in the areas of nonconfigurationality and phrase structure constituency, ergativity, and case-marking.¹ This was triggered primarily by Hale’s work on Warlpiri (e.g. 1976, 1981, 1982, 1983, 1989, 1992, 1994) and Dixon’s work on Dyirbal and Yidiny (1972, 1977, 1979, 1994). The essence of Hale’s work was to show that Warlpiri (and by extension other dependent-marking Australian languages) doesn’t have the same syntactic nature as more familiar languages in the areas of: phrase structure constituency (including the structure of the clause, and the existence of NPs and VPs), subordination, wh-movement and extra- position. Dixon’s work on Dyirbal (and by contrast, Yidiny) showed that the familiar nominative-accusative syntactic alignment of English and many other languages was not universal, and that linguistic theory needed to be able to incorporate the phenomenon of syntactic ergativity as well. Each of these bodies of work, further reinforced by Silverstein’s (1976) study of on “split ergativity”, Dench and Evans’ (1988) seminal paper on multiple case-marking, and detailed analysis of particular languages (e.g. Nash 1980; Heath 1978, 1984; Austin 1981a; Blake 1983 and Simpson 1983, 1991) has since engendered great debate and a copious literature around the extent to which Australian languages can be analysed as underlyingly similar to other configurational and nominative-accusative languages in syntactic terms, or whether they really constitute a fundamentally different language type. Such debate thus relates to the very core of the nature of human language, and thus has had enormous significance for the development of thinking in linguistic typology and formal linguistic theory. In this chapter I survey the key issues relating to Australian languages in this extensive body of literature, including ergativity (§ 2), nonconfigurationality (§ 3), noun incorporation and polysynthesis (§ 4), NP constituency (§ 5), case and multiple case-marking (§ 6) and subordination (§ 7).

Australian languages fall into two broad grammatical types which we can loosely characterise as head-marking and dependent-marking (Nichols 1986).² Capell (1956)

¹ My thanks for Harold Koch, Peter Austin, and Brett Baker for comments on an earlier draft of this chapter which led to a number of improvements. Any remaining errors or failings are clearly my responsibility.
² This distinction almost lines up with the genetic classification of Pama-Nyungan and non-Pama-Nyungan (see Koch, this volume), but not perfectly. While all Pama-Nyungan languages are depen-
described this division as prefixing and suffixing respectively, although in fact the so-called “prefixing” languages have suffixes as well (e.g. Bininj Gun-wok (Evans 2003)), and some of the so-called “suffixing” languages have pronominal agreement marking also (e.g. Warlpiri (Simpson 1991)). In fact, the primary difference between these language types has to do with the way grammatical relations are encoded in the clause. The head-marking languages of northern Australia — primarily the “Top End” of the Northern Territory, and northern Western Australia — encode core grammatical relations primarily through verbal morphology, often resulting in substantial verbal complexity such that a single verb can encode what would be a multi-word sentence in a language like English. Such languages are often described as polysynthetic, since verbs are capable or morphologically encoding all of their arguments (e.g. Evans and Sasse 2002). This group of Australian languages is typified by languages such as Bininj Gun-wok (Evans 2003), Murrinh-Patha (Blythe 2009; Nordlinger 2010), Gooniyandi (McGregor 1990) and Wubuy (Nunggubuyu) (Heath 1984), as illustrated in the following examples.³

(1)  nga-ban-marne-yawoih-dulk-djobge-ng
1SG.SBJ-3PL.OBJ-BEN-again-tree-cut-PST.PFV
‘I cut the tree/wood for them again.’
‘I cut another tree for them.’ (Bininj Gun-wok: Evans and Sasse 2002: 2)

(2)  pudding-wunku-rlarl-deyida-ngime=pumpanka
3DU.SBJ.29.NFUT-3DU.OBJ-drop-in.turn-PAUC.F=3DU.SBJ.6.NFUT
‘They (dual sibling) are dropping them (paucal, female, non-sibling) off, one after the other, as they go along.’ (Murrinh-Patha: Blythe 2009: 134)
These languages often also allow noun incorporation (such as incorporated -dulk- ‘tree’ in (1), see also § 4), although some do not (for example, the head-marking languages of the Kimberley have no noun incorporation (McGregor 2004)), and they have minimal grammatical case-marking, with core argument NPs regularly omitted from the clause altogether.

The dependent-marking languages, on the other hand, encode grammatical relations through case morphology, which is often extensive (see § 6). Consider the following examples from Jiwarli.

(3) ngatha tharla-laartu ngurru-martu-nha pirru-ngku
   1sg.ERG feed-USIT old.man-group-ACC meat-ERG
   ‘I used to feed the old men with meat.’ (Austin 2001: 310)

(4) wuru ngunha tharrpa-rinyinja ngarti-ngka kajalpu-la
   stick.ACC that.ACC insert-PST inside-LOC emu-LOC
   ‘(He) inserted the stick inside the emu ...’ (Austin 2001: 315)

In Jiwarli, which is completely dependent-marking, case morphology is the primary means by which grammatical relations are encoded. However, some other dependent-marking languages in Australia combine a robust case-marking system with pronominal agreement marking, as illustrated in the following examples from Bilinarra (Meakins and Nordlinger 2014: chapter 4), in which case-marked forms are bolded and pronominal clitics are underlined:

(5) baga-lu=yi bu-nga ngayi=ma
    prickle-ERG=1MIN.O poke-PRS 1MIN(ACC)=TOP
    ‘A prickle poked me.’

(6) liward-ba=nggu=lu garra nyununy gajirri-lu
    wait-EP=2MIN.O=3AUG.SBJ be.PRS 2MIN.DAT woman-ERG
    ‘The women are waiting for you.’

(7) jamana-lu=rm=warla=ma=rla ma-ni warlagu=ma
    foot-ERG=ONLY=FOC=1MIN.SBJ=3OBL do-PST dog(ACC)=TOP
    nyila=ma, garndi-murlung-gulu
    that(ACC)=TOP stick-PRIV-ERG
    ‘I kicked the dog of his with just my foot, not with a stick.’

Given that Australian languages can be broadly divided into these two general types — headmarking/polysynthetic and dependent-marking — many of the issues discussed in this chapter will be relevant to only some Australian languages, and not
others. The discussions of ergativity (§ 2) and case-marking (§ 6) will primarily concern dependent-marking languages; whereas the discussion of noun incorporation (§ 4) concerns only (some) head-marking languages. Issues of nonconfigurationality (§ 3), NP constituency (§ 5) and subordination (§ 7) relate to all types of Australian languages, and I draw on examples from different language types as appropriate.

2 Ergativity

The large majority of Australian languages are morphologically ergative in their case-marking.⁴ Given the relative infrequency of ergative case cross-linguistically (or at least, amongst European languages), Australian languages have featured rather prominently in discussions of ergativity (e.g. Dixon 1979, 1994). In morphologically ergative-absolutive languages, subjects of transitive verbs (A) are marked differently from the single argument of intransitive verbs (S), which pattern the same way as transitive objects (P).⁵ Consider the following examples from Bilinarra which illustrate these three grammatical relations, respectively:⁶

(8) gula=wuliny=nga baya-mi warrija-lu
   NEG=3UA.O=DUB bite-PST crocodile-ERG
   ‘The crocodile might not have eaten the two of them.’

(9) warrija-gujarra=ma wardard-ba=wula garrinya
    crocodile(ABS)-DU=TOP bask-EP=3UA.SBJ be.PRS
    ‘The two crocodiles were basking.’

(10) ba-ni=wuliny nyila=gada warrija
    hit-PST=3UA.O that=IMM crocodile(ABS)
    ‘He killed those two crocodiles there.’

⁴ In fact, as discussed in more detail in § 2.2, the majority show “split ergative” marking, which combines ergative-absolutive marking on some nominal sub-classes with nominative-accusative marking on others (e.g. Silverstein 1976). However, for simplicity of exposition, I will focus just on ergative-absolutive patterns in this section, and will move to a discussion of split ergative systems in § 2.2.

⁵ I follow the fairly standard convention (e.g. Comrie 1989 among many others) of using A, S and P to refer to the grammatical relations of transitive subject, intransitive subject, and transitive object, respectively.

⁶ Examples from Meakins and Nordlinger (2014: chapter 4). Meakins and Nordlinger analyse the system as a tripartite system (following Goddard (1982), see § 2.2 below for further discussion) contrasting nominative (S), ergative (A) and accusative (P), and so gloss the ABS in (9) as NOM(inative) and that in (10) as ACC(usative). The Jiwarli examples given in (3) and (4) also reflect this analysis. However, in examples (8)-(10) I have changed the glosses to illustrate the basic ERG-ABS system.
Given the prevalence of morphologically ergative languages in Australia there has been a substantial amount of research into ergative patterns in Australian languages over the last few decades. Classic accounts include Dixon’s (1972) research on Dyirbal highlighting the phenomenon of syntactic ergativity (§ 2.1); Silverstein’s (1976) paper on hierarchies (including hierarchies of animacy, as well as clause linkage) and the notion of “split ergativity” (§ 2.2); and more recently, articles by Verstraete, McGregor and others (see, for example, McGregor and Verstraete 2010) on “optional ergativity” (§ 2.3). These and related research are expanded upon in the following sections.

2.1 Morphological vs. syntactic ergativity

The overwhelming majority of Australian languages have ergative morphological properties (Blake 1987: 170), most commonly ergative case-marking.⁷ In such systems, it is common for the transitive object and the intransitive subject to be treated alike morphologically — usually appearing in the unmarked “absolutive” case, as in (9) and (10) above. This is not necessarily true for all Australian languages, however, some of which have distinct nominative (marking intransitive subject) and accusative (marking transitive object) cases also — see § 2.2 and Goddard (1982) for further discussion.

Crucially, however, in the majority of case-marking Australian languages, despite the transitive subject having distinct ergative case-marking, in most other syntactic respects it behaves identically to an intransitive subject. Thus, it is unproblematic to group both grammatical relations into the role of subject (i.e. S plus A), as in English and other more familiar languages. Dixon (e.g. 1994) uses the term “pivot” to refer to such a grouping of grammatical relations determined by syntactic tests; thus these languages can be described as having an A/S pivot (like English) irrespective of their case-marking system. For example, in Wambaya both A and S can be coreferential with the subject of a subordinate clause marked with –ni loc, in contrast with objects, which cannot. In (11), the subject of the subordinate verb yandujini is understood as the nominative-marked main clause subject bungmaji, whereas in (12) the controlled subject of the subordinate verb barlanji is understood as coreferential with the ergative marked transitive subject ngankagunyani of the main clause.

⁷ There is no Australian language that has an ergative-absolutive system of verbal agreement across the board, however Ngiyampaa (Donaldson 1980: 126) has third person bound pronouns showing a distinction between A (ergative) and S/P (absolutive), and Ganggalida (Keen 1983) distinguishes all three relations A, S and P in the first and second person singular bound pronouns (Blake 1987: 102). There are a small number of solely nominative-accusative case-marking languages in Australia, such as Martuthunira (and other Ngayarda languages) (Dench 1995), and Kayardild (Evans 1995) but these can be shown to have derived diachronically from original ergative-absolutive systems (see Dench 1982, and discussion in Evans (1995: § 10.4.3), respectively).
(11) **bungmaji** gi-n **mirra yanduji-ni** barrawu
old.man(NOM) 3SG.SBJ-PRS-PROG sit mind-LOC house
‘The old man’s staying (here) looking after the house.’ (Nordlinger 1998a: 213)

(12) **ngankagunyani** irri-ng-a **nyurrunyurrnu** **barla-ni**,
this.II.PL.ERG 3PL.SBJ-1OBJ-NFUT chase be.angry-LOC
dakumaji-nka
hit-DAT
‘Those (women) chased me, being angry, to fight (me).’ (Nordlinger, field notes)

In contrast, when the subject of the subordinate clause is understood as coreferential with an object of the main clause, the subordinate verb must be marked with -barda INF rather than -ni:

(13) **nganki** ngiy-a **lurrgbanyi wardangarringa-ni**
this.II.SG.ERG 3SG.NM.SBJ-PST grab moon.II-ERG
alaji **gulug-barda /*-ni**
child.I(ACC) sleep-INF
‘The moon grabbed her sleeping child.’ (Nordlinger 1998a: 213)

Other arguments for a subject category grouping ergative-marked A with absolutive-marked S come from cross-referencing bound pronouns, which most commonly follow a nominative-accusative pattern even in languages where NPs are case-marked with ergative-absolutive. Illustrative examples include the following from Warlpiri: in (14) and (15) the first singular subject is cross-referenced with the same form -rna despite the fact that the pronoun appears in the absolutive case in (14) and the ergative case in (15). In (16), on the other hand, the first singular object is cross-referenced with a distinct form -ju (even though the pronoun has the same absolutive case form as the subject in (14)):

(14) **ngaju** ka-**rna** **parnka-mi**
1SG(ABS) PRS-1SG.SBJ run-NPST
‘I am running.’

(15) **ngajulu-rlu** ka-**rna** ngarrka nya-nyi
1SG-ERG PRS-1SG.SBJ man(ABS) see-NPST
‘I see the man.’
(16) ngarrka-ngku ka-Ø-ju ngaju nya-nyi
man-ERG PRS-3SG.SBJ-1SG.OBJ 1SG(ABS) see-NPST
‘The man sees me.’ (Simpson 1991: 155)

Thus, while the large majority of Australian languages are morphologically ergative (or, at least split-ergative, see § 2.2), they can generally be considered to have accusative syntax, whereby A and S are grouped into a single syntactic subject category, and opposed to P (and other non-core grammatical relations). Such arguments have been put forward for many languages, see Anderson (1976), Austin (1981a), Dixon (1979, 1994), Hale (1982), Laughren (1989), Simpson (1991), among many others. These languages exhibit a mismatch in the relations encoded morphologically and syntactically, grouping S and P together in the morphology (with absolutive case, in contrast with ergative case on A), but S and A together in the syntax as the single grammatical relation of subject.

Dixon’s (1972) landmark grammar of Dyirbal, a language of north-eastern Queensland, revealed that it was possible for a language to be syntactically ergative as well as morphologically ergative. Dixon showed that in Dyirbal, syntactic processes such as the omission of coreferential nominals in coordinate clauses group intransitive subject with transitive objects, rather than with transitive subjects. Thus, whereas a language with accusative syntax like English or Wambaya has an A/S pivot (17a, 18a), Dyirbal operates according to an S/P pivot (17b, 18b):

(17a) Mother(A) saw father(P) and __(S) returned. (mother returns)
(17b) ŋuma yabu-ŋgu bura-n banaga-nyu
father(ABS) mother-ERG see-NFUT return-NFUT
‘Mother(A) saw father(P) and __(S) returned.’ (father returns)

(18a) *Father(S) returned and mother(A) saw __(P)
(18b) ŋuma banaga-nyu yabu-ŋgu bura-n
father(ABS) return-NFUT mother-ERG see-NFUT
‘Father(S) returned and mother(A) saw (him)(P).’

In (17) we see that the omitted S argument in the second clause must be interpreted as coreferential with the transitive subject (A) argument of the first clause in English (17a), but with the transitive object (P) argument in Dyirbal (17b). In the examples in (18) we find that while it is ungrammatical in English for an omitted P argument in the coordinated clause to be coreferential with the intransitive subject in the first clause (18a), this is perfectly fine in Dyirbal (18b).

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8 As far as I am aware, there are no examples in the literature of a language that is syntactically ergative yet morphologically nominative-accusative.
9 Dyirbal examples are taken from Dixon (1994: 12–13).
According to Dixon (1972, 1994), all major syntactic operations in Dyirbal, including relativisation and complementation as well as coordination, group S and P together in this way. This has implications for analyses of grammatical relations, and in particular the universality of a notion such as “subject” if it is understood as a grouping of A and S. Some have argued (e.g. Kroeger 2004: 289) that the syntactic evidence points to an analysis whereby “subject” in Dyirbal consists of a grouping of the S of intransitive clauses and the P of transitive clauses. This allows us to maintain cross-linguistic generalisations regarding syntactic processes such as relativisation and complementation: we can assume that these processes consistently identify “subjects”, but that this will correspond to a category that includes the agent of a transitive verb in languages with accusative syntax, and the patient of a transitive verb in syntactically ergative languages like Dyirbal. Dixon (1979) notes, however, that even in Dyirbal there are syntactic operations such as control relations with jussive complements, and the addressee of imperative commands, that call on a grouping of A and S (i.e. the traditional “subject”) rather than S and P. He therefore argues for a distinction between “pivot” and “deep subject”, where the former is relevant to syntactic processes such as relativisation, and the latter is a semantic notion for a class of NPs that can control events. The “deep subject” groups A and S in all languages, irrespective of whether their syntax is accusative (A/S pivot) or ergative (S/P pivot).¹⁰ Thus, languages such as Wambaya and Bilinarra, illustrated above, are morphologically ergative languages with an A/S pivot (i.e. syntactically accusative), and Dyirbal is a morphologically ergative language with an S/P pivot (i.e. syntactically ergative).

Such syntactic ergativity is extraordinarily rare amongst the world’s languages. Apart from Dyirbal, only a few other north-east Queensland languages have also been described as syntactically ergative, such as Warungu (Tsunoda 2011) and Yidiny (Levin 1983), which is also identified by Dixon (1979, 1994) as having some syntactically ergative properties. In the case of Yidiny, however, Dixon (1979: 129) describes it as less ergative than Dyirbal and considers it instead to belong to the class of “mixed pivot” languages; i.e. languages in which syntactic tests fail to identify a single pivot, with different tests providing different results (e.g. A/S or S/P). Comrie (1981a) investigates syntactic ergativity in the Saibai dialect of Kala Lagaw Ya (spoken in the Western Torres Strait) and concludes that, while the language appears not to be syntactically ergative, the evidence for syntactic accusativity is “much less persuasive than that for the equivalent grouping in English” (p. 39), suggesting that it may also be a “mixed pivot” language. Blake (1987: 148) lists Kalkatungu and Yalarnnga as syntactically ergative, and provides examples such as (19) from Yalarnnga as evidence of a syntactic process being sensitive to an S/P pivot. These examples are explained in detail below.

¹⁰ This idea of distinguishing a “deep” or “logical” subject from a (syntactic) pivot is picked up in Manning’s (1996) analysis of ergativity in Dyirbal within the framework of Lexical-Functional Grammar.
Examples (19a) and (19b) illustrate an anti-passive construction, which is found in a subset of Australian ergative languages (Blake 1987). This valency-changing operation applies to transitive verbs and produces an intransitive verb with the original A appearing as S, and the original P appearing as an oblique (often marked with dative case), as in (19b). Thus, this operation allows an agent of a transitive verb to be realised in the absolutive case (S) rather than the ergative case. In Yalarnnga, the subject of the purposive clause (marked with –nytyara) must have the same grammatical relation (indicated through core case-marking) as the controlling argument in the main clause: they must both be either ergative (A) or absolutive (S/P). In (19a) the coreferential argument is A in the main clause and A in the purposive clause, and so the construction is grammatical. In (19b) and (19c), however, the relevant main clause argument is absolutive (S in 19b and P in 19c) and thus the verb in the purposive clause must appear in the anti-passive form to ensure that the subject is absolutive (S) also. The fact that these clause types operate according to an S/P pivot, as shown by the fact that these two relations behave the same in triggering the anti-passive in (19b) and (19c), suggests that Yalarnnga may also have syntactically ergative properties (Blake 1987), although it is possible that it patterns more like the “mixed pivot” languages such as Yidiny, rather than the purely syntactically ergative Dyirbal.

In fact, Dyirbal remains the one (and only) robust case of syntactic ergativity in the literature.¹¹ For this reason, and given the significant implications syntactic ergativity has for linguistic theory and language typology, Dyirbal has featured prominently in the literature on ergativity and grammatical relations over the last 50

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¹¹ This has led some researchers to argue that syntactic ergativity does not exist (e.g. Heath 1979). However, see Manning (1996), who argues that when properly defined, syntactic ergativity is more common than currently assumed.

2.2 “Split” ergativity

While the majority of Australian languages are morphologically ergative, even in these languages a pattern of ergative-absolutive case-marking is frequently not found across the whole nominal paradigm. Rather, there is usually a “split” in the case-marking system of ergative languages whereby some classes of nominals are marked according to an ergative-absolutive pattern, while others are marked with a nominative-accusative pattern, or a three-way pattern, or possibly without any marking of core case distinctions at all. This phenomenon has come to be known as “split ergativity”, following Silverstein’s (1976) classic paper in which he argues that such case-marking splits are not random, but reflect a hierarchy of semantic naturalness for a lexically-specified noun phrase to function as agent of a transitive verb, or conversely as patient (1976: 113).

For illustrative purposes, consider the Diyari system. Austin (1981a) describes Diyari as having a split-ergative system as shown in Table 1 (Austin 1981a: 47):

Table 1: Diyari case-marking system (Austin 1981a)

<table>
<thead>
<tr>
<th>1 &amp; 2 non-singular pronouns</th>
<th>Other pronouns</th>
<th>Non-singular common nouns</th>
<th>Female personal names</th>
<th>Male personal names</th>
<th>Singular common nouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>nominative</td>
<td>ergative</td>
<td></td>
<td>ergative</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>nominative</td>
<td>nominative</td>
<td></td>
<td>nominative</td>
<td>absolute</td>
</tr>
<tr>
<td>P</td>
<td>accusative</td>
<td>accusative</td>
<td></td>
<td>accusative</td>
<td>absolute</td>
</tr>
</tbody>
</table>

Thus, in Diyari we find three different case-marking patterns, depending on the type of nominal involved, with first and second person non-singular pronouns having a nominative-accusative pattern, singular common nouns (and male personal names) an ergative-absolutive pattern, and other nouns and pronouns making a three-way distinction treating A, S and P as morphologically distinct. As Austin (1981a) observes, this pattern largely conforms to Silverstein’s (1976) hierarchy of “split ergativity”, represented in Figure 1 below, with ergative-absolutive marking more likely to be found at the bottom of the hierarchy (spreading upwards) and nominative-accusative marking more likely to spread downwards from the top of the hierarchy:
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First and second person pronouns  NOM-ACC
Third person pronouns
Proper names
Kin terms
Human nouns
Animate nouns
Inanimate nouns  ERG-ABS

Figure 1: Hierarchy of “split ergativity” (based on Silverstein 1976)

Thus, in split ergative systems, ergative case-marking is more likely to be found on inanimate and/or third person nominals, whereas accusative case-marking is more likely on first and second person pronouns. This type of split is found in Dyirbal, for example (Dixon 1994: 86) and in the Diyari system shown in Table 1 (albeit with the addition of number and gender (of personal names) as relevant features). In some languages there may be overlap of the two systems at some point in the middle of the hierarchy, resulting in a three-way distinction between ergative, nominative and accusative cases. This pattern is found in Diyari as well as Yidiny (Dixon 1994: 87), for example, where proper names and kin terms (as well as human deictics and interogatives) have three distinct forms for A (ergative), S (nominative) and P (accusative). While Australian languages have been shown to vary in the different ways in which the ergative split is realised, the patterns found adhere by and large to this general hierarchy.

Silverstein’s paper triggered subsequent discussion in the literature as to the origins of such split ergative patterns, and the extent to which the hierarchy in Figure 1 can be explained in terms of functional and communicative tendencies and fundamental properties of language (see for example, the heated debate between Wierzbicka (1981) and Silverstein (1981), also Dixon (1979); Delancey (1981); Du Bois (1987)). Garrett (1990), on the other hand, suggests that such split ergative systems arise as a consequence of their diachronic source: the reanalysis of instrumental case-marking. In theoretical work focussing on Warlpiri, the split ergative patterns in that language have been attributed to aspects of its underlying syntactic structure (e.g. Jelinek 1984; Legate 2005).

Goddard’s (1982) influential paper argued for the importance of distinguishing case systems from the split case-marking forms discussed by Silverstein (1976) and others. According to traditional concepts of case, a case is a “class of nominal forms which are mutually substitutable in certain ... environments given that any two cases ... are formally distinguished by at least one subclass of nominal” (Goddard 1982: 169). Thus, Goddard argues that discussions of Australian languages need to distinguish the tasks of describing the case system from accounting for the marking patterns, which may involve homonymy of various kinds.

Returning to the Diyari case-marking patterns illustrated in Table 1 above, Goddard (1982: 172–174) shows that treating different nominal subclasses as hav-
ing distinct case-marking systems greatly complicates the grammatical description. For example, in Diyari inalienable possession constructions, both the possessor and the possessee are juxtaposed and “marked for the same syntactic function” (Austin 1981a: 138). However, when the two belong to different nominal subclasses — such as with pronominal possessors, for example — this means that the two are marked with different cases as shown in (20):

(20) \( yini \quad milki \quad tyanma-yi\-lh\mathord{\hphantom{-}}a \)

\( 2sg.\text{Nom} \quad \text{eye.Abs} \quad \text{be.open-PRS-NI} \)

‘Your eyes are open now’ (Austin 1981a: 138)

Moreover, treating different nominal subclasses as having different case systems complicates the statements regarding the case selection of verbal arguments. On the “split ergative” approach, a Diyari transitive verb requires that its subject appear in nominative case if it is a first or second person non-singular pronoun, or otherwise ergative case, and that its object appear in absolutive case if it is a male personal name or a singular common noun, or otherwise accusative case. Given the linguistic analytical preference for grammatical statements to be as general as possible, and the assumption that verbs do not “look inside” the semantics of their argument NPs in order to determine their required case frame, such complex statements suggest that the underlying generalisation may have been missed.

On Goddard’s approach, all Australian languages with properties of “split ergativity” should be reanalysed as having three core case categories — ergative (A), accusative (P) and nominative (S) — with the split ergative patterns arising through homonymy and syncretism in various parts of the paradigm for different nominal subclasses. Thus, the Diyari system provided in Table 1 would be represented instead as in Table 2, with shading used to signal homonymous forms:

<table>
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<tr>
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<td>nominative</td>
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<td>nominative</td>
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<tr>
<td>P</td>
<td>accusative</td>
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<td>accusative</td>
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<td>accusative</td>
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</tr>
</tbody>
</table>

On this view, these languages exhibit split CASE-MARKING but not a split CASE SYSTEM (Goddard 1982: 172).

Goddard’s approach removes the complications for grammatical description by allowing generalisations to be made across the case system: in (20), for example, both
nominals would be in the nominative case — the fact that the nominative case form for *milki* is homonymous with its accusative case form is irrelevant to the morphosyntax. Furthermore, transitive verbs simply select for ergative case on their subjects and accusative case on their objects, irrespective of how these cases are marked on particular subclasses of nominals and whether these markings are homonymous with other case forms. Consequently, Goddard’s tripartite analysis of case has been adopted by many Australianists over the last 30 years, although it does not remove the interest in understanding why the case-marking patterns in different languages in the way that it does.

### 2.3 Optional ergativity

Although the majority of Australian languages have ergative case-marking systems, in some of these languages the ergative case-marking is not purely grammatically motivated, and in fact may be present or absent from the transitive subject without affecting the grammaticality of the clause. This phenomenon has come to be known as “optional ergativity” and, while its existence amongst Australian languages has been known at least since Capell (1962: 111), it is only in the last decade or so that it has assumed some prominence and attention in Australianist research (e.g. McGregor 1992a, 2006, 2009: 493–497, 2010; Gaby 2008, 2010; Meakins and O’Shannessy 2010; Verstraete 2010).

The conditions on the presence and absence of ergative marking vary from language to language. In some languages, optional marking is distributed according to the features of Silverstein’s (1976) animacy hierarchy, as in Umbindhamu (Umpithamu), where ergative marking is optional with animate nouns but obligatory with inanimate nouns (Verstraete 2010). In many languages the motivation for the presence of ergative case-marking is driven by semantic and pragmatic factors such as agency and focus (see McGregor 2010 for detailed discussion). For other languages, the presence of optional ergative case-marking has been linked to language shift (Meakins and O’Shannessy 2010) or language obsolescence (Schmidt 1985, Pensalfini 1999).

### 3 Nonconfigurationality

Dependent-marking languages, most particularly Warlpiri (e.g. Hale 1983; Jelinek 1984; Simpson 1983, 1991; Laughren 1989; Austin and Bresnan 1996; Legate 2001, 2003, among many others), but also Wambaya (Nordlinger 1998b), Kalkatungu (Blake 1983) and Jiwarli (Austin 2001), have featured prominently in discussions of nonconfigurationality since Hale’s work in the late 1970s and early 1980s (e.g. Hale 1981,
Early research on this topic focussed on three primary characteristics of these dependent-marking Australian languages, taken to be central to canonical nonconfigurationality: free word order, null anaphora, and discontinuous NP constituents. “Free word order” is demonstrated by the fact that there are no fixed positions in the phrase structure for major clausal elements such as the subject, the object, and the verb. Thus, whereas a configurational language like English has fairly strict syntactic positions associated with key clausal elements, so that notions such as “subject” and “object” can be defined in terms of a phrase structure configuration, in a language like Warlpiri this is not the case. Rather, in Warlpiri “sentences containing the same content words in different linear arrangements count as repetitions of one another” (Hale 1983: 5), so that there are no particular positions in the clause that can be generally attributed to argument NPs such as subject and object. Hale (1983: 6) provides the following examples to illustrate:

(21) ngarrka-ngku ka wawirri panti-rni
    man-ERG PRS kangaroo spear-NPST
    ‘The man is spearing the kangaroo.’

(22) wawirri ka panti-rni ngarrka-ngku

(23) panti-rni ka ngarrka-ngku wawirri
    etc.

Such phrase structure flexibility is further exemplified by the possibility of discontinuous nominal constituents, where two (or more) related nominal elements occur distributed throughout the clause, rather than forming a single NP constituent in the phrase structure. Blake (1983) provides the following example from Kalkatungu, showing that the members of the English NP *this big dog* can appear in any order and need not be consecutive in the Kalkatungu equivalent. Such empirical facts lead

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12 Also the head-marking language Nunggubuyu (Wubuy) (Heath 1986).
13 Later work has referred more specifically to “pragmatically-determined” or “grammatically free” word order (e.g. Austin 2001; Nordlinger 2006, among many others) to better highlight the fact that there is a (relative) lack of SYNTACTIC constraints on the order of clausal elements. There is no intention to claim that word order plays no interpretative role in understanding the full meaning of an utterance, and in fact it is well accepted that the ordering of clausal elements in such languages is pragmatically-driven (e.g. Mushin 2006; Simpson 2007).
14 Note that the auxiliary in Warlpiri (here *ka*) is generally restricted to appearing in second position in the clause. Thus its position in these examples is not variable, unlike the position of all the other elements.
15 It is noteworthy that in the example given by Blake, the object nominal and the verb remain next to each other in all permutations provided, giving the appearance of their forming a syntactic unit.
Blake to conclude “that there are in fact no noun phrases, but that where an argument is represented by more than one word we have nominals in parallel or in apposition” (1983: 145).¹⁶

(24) a. cipa-yi thuku-yu yaun-tu yanyi icayi
   this-ERG dog-ERG big-ERG white.man bite
   ‘This big dog bit/bites the white man.’

b. cipa-yi thuku-yu yanyi icayi yaun-tu

c. thuku-yu cipa-yi icayi yanyi yaun-tu

d. yaun-tu cipa-yi thuku-yu icayi yanyi

e. cipa-yi icayi yanyi thuku-yu yaun-tu

f. yanyi icayi cipa-yi yaun-tu thuku-yu

These two features — grammatically free word order, and discontinuous nominal constituents — illustrate the significant syntactic flexibility characteristic of many Australian languages and, along with the fact that nominal arguments are frequently omissible from the sentence altogether (called “null anaphora” by Hale (1983)), have led many to argue that such languages are fundamentally different in their structural organisation from configurational languages like English (Hale 1983; Simpson 1983; Jelinek 1984; Heath 1986; Austin and Bresnan 1996; Nordlinger 1998b; Pensalfini 2004, among many others).

While there can be no denying that the surface syntax of a language such as Warlpiri is different to that of a language like English, there has been considerable debate in the theoretical literature as to the nature and source of this difference, and its theoretical implications. This variation is partly attributable to the different theoretical perspectives of the various researchers, who often use theory-internal arguments for identifying nonconfigurational languages. For example, for linguists assuming a theoretical framework such as GB/Minimalism (e.g. Chomsky 1981, 1995) in which binding principles are defined over structural c-command relations, the binding facts of a given language are considered indicative of its phrasal structure, and are therefore highly relevant to determining its (non)configurational status (see Marácz and Muysken 1989; Hale 1989, among many others). However, for researchers assuming one of the many frameworks in which binding does not refer to phrase structure configuration, but to functional hierarchies (as in Lexical-Functional Grammar (LFG) (Bresnan 2001)), or obliqueness hierarchies (as in Head-Driven Phrase Structure Grammar (Pollard and Sag 1994)), such evidence is orthogonal to the issue of configu-

However, it is quite clear from the discussion in the remainder of the paper that these elements can be discontinuous also.

¹⁶ I have replaced some of the phonetic symbols used in the original with a practical orthography: namely, I use /th/ for the lamino-dental stop, and /ny/ for the palatal nasal.
rationality: if binding principles do not refer to phrase structure, then evidence from binding in any given language will reveal nothing about phrase structure in that language. Thus, there is no clear agreement in the literature as to which evidence is relevant to determining whether or not a language is nonconfigurational in its structure.

However, once data from a range of languages is considered, it is clear that there cannot be a single parameter which determines a nonconfigurational language type (contra Hale 1983), since languages differ in terms of the properties they exhibit. Some languages have grammatically free word order at the clausal level, but do not freely allow discontiguous NP constituents, for example (e.g. Kayardild (Evans 1995), see also Pensalfini (1992) for detailed discussion). Furthermore, it is well-known that there are many languages that allow the “dropping” of NP arguments without showing freedom of word order (e.g. Mandarin (Huang 1984)). Some even question the relationship between nonconfigurationality and grammatically free word order, such as Hale (1989: 294, supported also by Speas 1990: 138), who claims that “It has been an expository mistake, largely my own, to tie the configurationality question too closely to the phenomenon of free word order. The latter property is not criterial for nonconfigurationality, and it never has been, though many putative nonconfigurational languages, to be sure, exhibit great freedom of word order.” Instead, Hale considers the definition of nonconfigurationality to be more concerned with the mode of expression of arguments, analysing Navajo to be nonconfigurational due to its extensive null anaphora and bound pronominal verbal agreement, despite its having fairly fixed word order (Hale 1989).

For other researchers (e.g. Heath 1986; Simpson 1991; Austin and Bresnan 1996; Nordlinger 1998b and various papers in Marácz and Muysken (eds.) 1989), the fundamental difference between a configurational and a nonconfigurational language is in the use of phrase structure for the identification of core grammatical relations. Nonconfigurational languages are those which do not rely on phrase structure to identify subject, objects and other grammatical relations, but do so via other means (such as with case morphology (e.g. Nordlinger 1998b) or verbal pronominal agreement). Consequently, nonconfigurational languages will show no evidence of a VP constituent, which distinguishes the subject (external to the VP) from the object (internal to the VP), and therefore no structural asymmetries between subject and object. Evidence for the lack of a VP constituent in languages like Warlpiri and Wambaya comes from the placement of the second position auxiliary: while this auxiliary can follow a range of phrasal constituents such as complex NPs and subordinate clauses, it cannot follow a sequence of verb + object, which shows that these two cannot form a single phrasal constituent such as a VP (Simpson 1991; Austin and Bresnan 1996; Nordlinger 1998b). Laughren (1989) shows further that standard VP tests for languages like German and English, such as evidence from gapping and/or coordination, fail to uniquely identify a VP constituent in Warlpiri. Heath (1986) makes similar arguments for Nunggubuyu (Wubuy), concluding that it is “more radically nonconfigurational than Warlpiri, particularly in lacking clear evidence for a subject-VP split” (p. 376).
An alternative view considers Warlpiri and other nonconfigurational languages to have the same underlying phrase structure as configurational languages (including a VP constituent) and for the surface differences to arise from other linguistic properties.¹⁷ Extremely influential in this respect was Jelinek’s (1984) “pronominal argument hypothesis” (see also Speas 1990, and the ensuing debate involving Simpson 1991; Austin and Bresnan 1996; Nordlinger 1998b; Austin 2001; M. Baker 2001; Legate 2001 and Pensalfini 2004). Jelinek argued that the apparent nonconfigurational properties arise not from different phrase structure possibilities but from the fact that the argument positions in a language like Warlpiri are filled by pronominal clitics, rather than by NPs, which are instead adjuncts. Given that NPs are adjuncts and not arguments, their lack of fixed phrase structure positions, freedom of ordering and optionality follow straightforwardly and do not need to be attributed to fundamental differences in phrase structure crosslinguistically (see M. Baker 2001 and Pensalfini 2004 for modifications of this general approach). Jelinek’s analysis is appealing in allowing for nonconfigurational languages to be easily assimilated into a configurational framework, but runs into a number of empirical problems, as discussed in detail by Austin and Bresnan (1996) and Nordlinger (1998b). The most serious of these is that there are languages such as Jiwarli (Austin 2001) that show all of the nonconfigurational properties of Warlpiri without having any pronominal clitics at all. More recent work on Warlpiri by Legate (2001, 2003) has rejected the general Jelinek (1984) approach and argued that Warlpiri is characterised by the same type of hierarchical phrase structure as other (configurational) languages and that the various unusual properties of Warlpiri are simply “UG-defined choices familiar from other languages” (Legate 2001: 68).

While much of this research has been primarily motivated by theoretical concerns, and the relative merits of different syntactic frameworks, of particular benefit to Australian language research has been the empirical research into grammatical aspects of Australian languages that such debate has prompted. This includes detailed analysis of the syntactic structure of Warlpiri and other languages (e.g. Bowe 1990; Laughren 2000, 2002; Laughren et al. 2005), discussion of the semantics of pronominal verbal agreement markers (Evans 2002; B. Baker 2002; Bowern 2006, 2008), and research into the pragmatic motivation for second position clitics (Mushin 2006; Simpson and Mushin 2008; Mushin 2008). Recent work has tackled the notion of “grammatically free word order” by probing the pragmatic motivations behind word

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¹⁷ This is the view also taken by Laughren (1989) and Hale (1994), despite acknowledging the lack of empirical evidence for a VP in Warlpiri surface structure and the basic word order that such an underlying phrase structure would generate. Indeed, Hale (1994: 185) observes that “In the study of Warlpiri overt phrase structure, no truly convincing case has been made for a basic order of constituents, nor has any convincing evidence been forthcoming in favor of a movement analysis to account for the variety of word order arrangements observed.”
order in Warlpiri and other “free word order” Australian languages, most notably Simpson’s (2007) work on word order and information structure in Warlpiri (see also Swartz 1988, 1991), expanded upon in Simpson and Mushin (2008). The interaction of discourse and grammatical structure in Australian languages is one area in which research has increased in recent years, as reflected in the Mushin and Baker (2008) volume, although there remains substantially more work to be done.

4 Noun incorporation and polysynthesis

Intersecting with the theoretical discussions of nonconfigurationality is the literature on polysynthesis, in which head-marking Australian languages have also featured. Polysynthetic languages can be defined as those in which all arguments of the verb can be encoded morphologically in the verbal word (M. Baker 1996; Evans and Sasse 2002), through such morphological means as pronominal agreement markers and/or noun incorporation. Since polysynthetic languages are head-marking, with core arguments obligatorily expressed within the verb, they generally allow a great degree of syntactic flexibility with respect to the positioning and appearance of NPs. Thus, they often exhibit the classic nonconfigurational properties of free word order, discontinuous nominal constituents, optionality of NPs, and lack an association between grammatical relations and fixed positions in the phrase structure. Since they utilise morphological resources to express what most other languages achieve with syntax, polysynthetic languages have significant implications for the nature of language and linguistic theories.

Gunwinyguan languages, especially Mayali (Bininj Gun-wok), Rembarrnga, Ngandi and Nunggubuyu (Wubuy) feature strongly in M. Baker’s (1996) Polysynthesis Parameter, in which he argues for a single macro-parameter from which all the properties shared across polysynthetic languages can be derived. One of the benefits of such a strong theoretical claim is that it can trigger a flurry of empirical research from researchers seeking to prove it invalid. One area in which this has occurred is in the analysis of the verbal agreement morphology.

Evans (2002) argues against the view advocated by Jelinek (1984) and M. Baker (1996) which treats the verbal agreement markers as pronominal arguments. The Jelinek/Baker approach allows polysynthetic languages, although quite different on the surface, to be treated as essentially identical at another level of structure to languages like English, where these arguments are expressed with full NPs. Thus on this view, the verbal element *ba*- in (25) fully instantiates the subject and object arguments, while the external nominals are adjuncts, as reflected in the English translation (Evans 2002: 25):

Constituency and Grammatical Relations in Australian languages

(25)  *bininj  ba-ngune-ng  duruk*

  man  3/3l.pst-eat-pst.pfv  dog

  ‘The man, he ate it, the dog’ (Bininj Gun-wok)

There can be no denying that the verbal morphology in polysynthetic languages (and indeed, in other head-marking languages, see Bresnan and Mchombo (1987)) is capable of fully instantiating verbal arguments. However, analyses differ in terms of whether they must always do so (as in the Jelinek (1984) and M. Baker (1996) approach), or whether the same morphological elements can function as both pronouns and agreement markers, according to the surrounding syntactic context (as in the LFG-based analyses of Bresnan and Mchombo 1987, Simpson 1991, Austin and Bresnan 1996, etc.). Evans (2002) shows that neither of these approaches can fully capture the Bininj Gun-wok data in which object-marking affixes can be used to express indefinite and generic objects, even when they are used alone (without a corresponding object NP) (26). Such behaviour is not available to free pronouns, and thus suggests that the object affixes are not (necessarily) pronouns even in these contexts. In (26), which forms part of an extended text, the object of the first verb is definite whereas that of the second verb is nonreferential. Note that it would not be possible to use a free pronoun in the second clause in English.

(26)  *nga  ben-yawoyh-kuk-ngu-n,  kaluk  nga  ben-djordm-ih-we*

  1/3pl-again-body-eat-npst  later  1/3pl-grow-ivf-throw.npst

  ‘I’ll swallow *them* again, and later I’ll grow some more (*them).*’ (Bininj Gun-wok: Evans 2002: 33)

Similar issues are raised by B. Baker (2002) for Ngalagkan, which shows further complexity in allowing systematic “disagreement” between the noun class of verbal pronominal agreement and that of external NPs.

Another area of interest in polysynthetic languages has been interclausal relations and subordinate clauses. It is a well-known cross-linguistic generalisation that polysynthetic languages tend to avoid non-finite subordinate clauses (Mithun 1984a). M. Baker’s (1996) Morphological Visibility Condition predicts this directly since arguments are required to be encoded on the verb in a polysynthetic language and, for theory-internal reasons, this is only possible in tensed clauses. Nordlinger and Saulwick (2002) challenge these predictions of M. Baker’s (1996) framework by showing that the polysynthetic language Rembarrnga has infinitival clauses both with (27) and without (28) pronominal agreement.

(27)  *nginy-waralh-miny  guwa  nginy-ro-ngœ*

  1/2-ask-pst.pfv  PURP  2-go-INF

  ‘I asked you to go.’ (Rembarrnga: Nordlinger and Saulwick 2002: 186)
(28) mala-galitj yarr-naetty-ny mahgun ma-ngœ-gan
all-other 1AUG/3-keep-PST.CONT again get-INF-DAT
‘We used to keep the other half (of bullock coaches) again to get more (while the others used to go back to the station.)’ (Rembarrnga: Nordlinger and Saulwick 2002: 186)

Evans (2006) likewise discusses a range of subordination strategies in Dalabon, both finite and non-finite, showing clearly that polysynthetic languages are quite capable of having subordination structures, even though they may be statistically infrequent.

A characteristic (although not necessary) feature of polysynthesis is noun incorporation. Within Australia, noun incorporation is found in many of the core Gunwinyguan languages (e.g. Bininj Gun-wok, Rembarrnga, Dalabon, Ngalgakgan, Ngandi), as well as Warray, Wubuy and Anindhilyakwa,¹⁸ languages of the Daly region, such as Murrinh-Patha, Ngan’gityemerri, Marrithiyel; and in Tiwi (Dixon 2002). There is no noun incorporation found in the polysynthetic languages of northern Western Australia (McGregor 2004).

There have been a number of detailed discussions of the properties of noun incorporation in particular Australian languages.¹⁹ Evans (1996) argues for the existence of three different types of incorporation in Mayali (Bininj Gun-wok): lexical incorporation, generic incorporation, and body part incorporation. Lexical incorporation is a non-productive lexicalised phenomenon in which a (typically) nominal element is compounded with a verbal root to form a new lexeme. This type of incorporation is obligatory, in that omitting the incorporated element from the verbal root results in a different verbal predicate. Thus, from the verbal root bu- can be derived danj+bu- (spear+hit) ‘to spear’ and ngey+bu- (flower+hit) ‘to flower’, but neither of these meanings can be expressed without the incorporated element (Evans 1996: 72).

In contrast, both generic and body part incorporation are productive (“syntactic” in Evans’ (1996) terms), in that they are not restricted to particular lexicalised combinations, the incorporated element is still “visible” to the syntax (e.g. it can be modified by an external modifier, doubled with an external NP), and can be paraphrased without an incorporated element. Thus, in this productive type the incorporated nominal remains an active semantic and syntactic constituent in the clause, despite its morphological incorporation into the verbal word. Examples from Bininj Gun-wok exemplifying these two types of productive incorporation include the following — the (b) examples illustrate the non-incorporated paraphrase.

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¹⁸ See van Egmond (2012) for arguments supporting the inclusion of this language in the broader Gunwinyguan family.

¹⁹ Incorporation generally involves the morphological inclusion of a nominal element into a verbal root, however other variations are also possible: Baker and Nordlinger (2008) discuss the incorporation of nominals into adjectives in Gunwinyguan languages, and Bicevskis (2012) (see also Evans 2003) examines the incorporation of adverbial elements into verbs in Bininj Gun-wok.
Generic incorporation

(29a) an-barnadja ngarri-mim-bo+wo-ni.
III-owenia:vern-fruit I AUG-frut-water+put-PST.IPVF
‘We used to put the fruit of owenia vernicosa in the water (to poison the fish).’

(29b) an-barnadjdja (an-mim) ngarri-bo+wo-ni.
III-owenia: Vern-fruit III-fruit 1AUG-water+put-PST.IPVF
‘We used to put owenia vernicosa fruit in the water.’ (Evans 1996: 73)

(30a) an-yidme-ga-n
3/1-tooth-carry-NPST
‘My tooth is hurting me, is aching.’

(30b) gun-yidme an-ga-n
IV-tooth 3/1-carry-NPST
‘My tooth is hurting me, is aching.’ (Evans 1996: 86)

In Bininj Gun-wok it is also possible for both of these types of incorporation to co-occur within the same verb. In fact, the following example shows all three types of incorporation, with the lexical incorporation girri+bo forming the verbal predicate ‘cook in a ground oven’:

(31) na-marmde ba-yaw-guk-girri+bo-m
I-devil 3PST-child-body-ground:oven+hit-PST.PFV
‘The devil cooked the child’s body in a ground oven.’ (Evans 1996: 74)

As (31) shows clearly, productive incorporation involves the morphological expression of grammatical relations – particular predicate-argument relations – that are more usually expressed in other languages via syntactic means. It has, therefore, been the subject of much discussion in the typological and theoretical literature (e.g. Mithun 1984b; M. Baker 1988; Rosen 1989), with Australian language data (typically Gunwinyguan) regularly included. Much of this discussion involves empirical issues, such as the possible grammatical functions and thematic roles of the incorporated element, its availability for interaction with the surrounding syntactic context, and determining the conditions under which a nominal will incorporate at all. More recent theoretical work focusing particularly on Australian language data includes Nordlinger and Sadler’s (2008) LFG-based analysis of generic incorporation in Bininj Gun-wok and Baker et al. (2010) on Wubuy.

20 See Evans (1997) for a discussion of incorporation into trivalent verbs in Mayali (Bininj Gun-wok) in which he argues that the argument that incorporates is the one that is prototypically inanimate.
It appears that all of the Australian incorporating languages have body part incorporation, but some languages — notably those from the Daly region such as Murrinh-Patha (Forshaw 2011), Ngan’gityemerri (Reid 1990) and Marrithiyel (Green 1989) — do not also have generic incorporation. Body part incorporation is particularly interesting from a morphsyntactic perspective since it typically interacts with external possession constructions (also known as “possessor raising”), whereby the possessor of the body part is treated grammatically as the verbal argument. Consider the following examples from Wubuy (Baker et al. 2010):

(32) nga-wu-yarrga-nagiina yii-ngarrugalij-inyung
1SG-3N-flipper-cook.PRS F.OBL-dugong-GEN
‘I’m cooking the dugong’s flipper (N).’

(33) nga-ngu-yarrga-gambana ngarra-ngarrugalij
1SG-3F-flipper-roast.PRS F.TOP-dugong
‘I’m roasting the dugong’s (F) flipper.’

In (32) the incorporated nominal *yarrga* ‘flipper’ functions as the object argument of the verb. This is shown by the fact that it is cross-referenced with the object pronominal prefix *-wu-*, and the external nominal ‘dugong’ is marked with the genitive case showing it to be a modifier. In (33), on the other hand, the object marker on the verb cross-references ‘dugong’ (which is feminine gender), not ‘flipper’ (which, as shown in (32) is neuter gender). That ‘dugong’ is in fact the object here is further evidenced by the external nominal appearing in the unmarked case,²¹ which is appropriate for object NPs. The availability of these two constructions raises interesting questions for linguistic analysis. For example, if the incorporated ‘flipper’ has the role of object in (32), what is its role in (33)? Does the verb in (33) have the same argument structure as that in (32) and, if not, how is the relationship between these two verbal argument structures best captured? Wubuy is particularly interesting in this respect since it has object agreement marking that is sensitive to grammatical gender, and therefore (as in (32) and (33) above) shows clearly which nominal is being agreed with by the verb. Hornrack (2010) and Baker et al. (2010) present (different) theoretical analyses of the Wubuy incorporation facts to address these and other questions. An alternative analysis for Anindhilyakwa is provided by van Egmond (2012).

Another area of interest is the semantic role of the incorporated nominal. In (32) the morphosyntactic evidence points to the treatment of the incorporated nominal as a verbal argument. In other cases, however, the situation may not be so clear cut, and

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²¹ This unmarked case is generally found on intransitive and transitive subject and direct objects. It is called “nominative” by Heath (1984) and “direct” by Baker et al. (2010).
the incorporated nominal appears to function more as a verbal modifier, delimiting or restricting the semantic scope of the verbal predicate. Such uses of incorporation are discussed by Harvey (1996) for Warray, and Walsh (1996) for Murrinh-Patha. Forshaw (2011) refers to this as “range incorporation”. An illustrative example is the following from Murrinh-Patha:

(34) *lithpurr thu-ngurru-pak ngarra palyirr*

| axe   | 2SG.SBJ.SLASH(23).FUT-side-put_down | LOC  | stone |

‘Put your axe beside the stone.’ (Walsh 1996: 349)

Forshaw (2011) argues that body part incorporation in Murrinh-Patha falls along a continuum with productive argument incorporation at one end, lexicalised incorporation at the other, and range incorporation falling somewhere in between. In (34), for example, the incorporated nominal is not an argument of the verbal predicate, nor is it fully lexicalised since it can contrast with other incorporated nominals in this position such as *–rdarri* ‘back’ (see Walsh 1996: 349 and Forshaw 2011 for discussion).

The semantics of noun incorporation and possible paths of grammaticalisation is one area in which further research is needed, and Australian languages may make an interesting contribution.²² Another such area involves the semantic, grammatical and discourse conditions which trigger productive incorporation, given that it is (mostly) optional; see for example Mithun (1986) and McKay (2007).

5 NP Constituency

Although the possibility of discontinuous NP constituents was given by Hale (1983) as one of the characteristics of nonconfigurational languages, subsequent research and discussion suggests that it is logically independent of clausal phrase structure (see, for example, Pensalfini 1992; Nordlinger 1998b), and may not be as prevalent in Australian languages as such discussions have led us to believe (see, for example, McGregor 2004: 275–279; Schultze-Berndt and Simard 2012, which both point out the importance of prosody in distinguishing different structural types). Nonetheless, Australian languages exhibit a number of interesting NP properties, to be discussed in this section. The research in this area is relatively limited, however, and this is definitely one domain in which further research is needed.

Australian languages generally have a single “nominal” word class that contains at least nouns and adjectives, and often pronouns, demonstratives and locational

²² In some Daly languages, for example, incorporated body parts have grammaticalised into applicative markers; see Green (1989), Reid (1990) and Nordlinger (2011) for discussion.
terms as sub-classes too. Nouns and adjectives, in particular, often show the same morphological and syntactic properties, and it can be very difficult to find any criteria to distinguish them as two distinct word classes (see Dixon 1980: 272–275; also Dixon 2006). In languages with noun classes, adjectives will be distinguished from nouns by the fact that they can generally combine with all noun class markers, whereas nouns will generally belong to only one noun class (Dixon 2002: 68, 2006: 13), but even this criterion can be problematic when nouns can belong to multiple noun classes (e.g. Murrinh-Patha (Walsh 2005)). Bittner and Hale (1995: 3), following Hale (1983: 34), identify six subtypes of nominals for Warlpiri, and note that those near the top of the list are more likely to serve as arguments, while those at the bottom (e.g. group f) are restricted to serve as either the main or secondary predicate:

(35) Subtypes of Warlpiri nominals (Bittner and Hale 1995: 3):
   a. pronouns, demonstratives and other indexicals (e.g. ngayu ‘I’, nyampu ‘this’)
   b. names (personal names, place names, subsection names, dreaming names, etc.)
   c. common nouns
   d. expressions of quality or cardinality (e.g. wiri ‘big’, nyunu ‘sick’, panu ‘many’)
   e. expressions of psychological states (e.g. pina ‘knowledgable about’)
   f. locatives and directionals (e.g. kulkurru ‘in the middle’, yatijarra ‘north’)

Although it is most common for pronouns, names, and common nouns to function as arguments, and expressions of quality or cardinality to function as modifiers, that these all belong to a single morphosyntactic word class is demonstrated by the fact that it is possible, in the right context, for expressions of quality to function as arguments and/or common nouns to function as modifiers. Consider (from Simpson 2005: 79):

(36) maliki-rli=ji yarlku-rnu wiri-ngki
dog-erg=1.obj bite-pst big-erg
‘The/a big dog bit me,’; ‘The/a dog bit me, a big one.’; etc.

As Simpson (2005) notes, although the normal interpretation would treat malikirli as the head here, and wiringki as the modifier, in principle it is logically possible for either nominal to be head, and for the modification to be restrictive or non-restrictive, depending on context.

23 A secondary predicate is a predicative expression that modifies an argument of the main clause, such as alone in the English sentence I saw her alone (lit. ‘I saw her and she was alone’).
Hale (1981, 1983) uses the terms “merged” and “unmerged” to distinguish between these two types of modification, noting that both interpretations are available when the nominals are discontinuous in the clause (as in (36)), but only the merged interpretation is possible when the two nominals form a single NP constituent in the syntax:

(37) maliki wiri-ngki=ji yalku-rnu
    dog big-erg=1.OBJ bite-PST
    ‘The/a big dog bit me.’
    *‘The/a dog bit me and it was big.’

The interpretation of (37), unlike that of (36), is restricted to the “merged” reading with restrictive modification (i.e. ‘big dog’) due to the fact that the two nominals form a single constituent in the phrase structure. This is indicated by the fact that the two nominals jointly precede the second position auxiliary, and fall under the scope of a single case marker, attached to the last word on the right edge of the phrase. In (36), on the other hand, the nominals are discontinuous and clearly distinct phrase structure constituents (termed “discontinuous apposition” by Bittner and Hale 1995), and so the possibilities for interpretation are more flexible. Simpson (2005) (see also Hale 1994: 192–194) discusses these “unmerged” interpretations as a type of secondary predicate.

The use of nominals as secondary predicates — both depictive and resultative — in Australian languages is very common and is often found with greater frequency and flexibility than in English and other European languages (Simpson 2005). Hale (1983: 32) discusses the two readings available to nominals in Warlpiri — the “argumental” (38a) reading and the “predicative” (38b) reading. The availability of the latter reading allows for the regular use of nominals as secondary predicates, as in (39) and (40).

(38) ngarrka ka-rna nya-nyi
    man(ABS) PRS-1SG.SBJ see-NPST
    a. ‘I see the/a man.’
    b. ‘I see him (as a man / and he is a man).’

(39) nya-nyi ka-rna-ngku ngarrka-lku
    see-NPST PRS-1SG.SBJ-2SG.OBJ man-after
    ‘I see you (as) a man now (i.e. as fully grown, or initiated).’

(40) yipilanji kala nga-rnu kurdu-ngku-wiyi
    witchetty PST.CUSTOM eat-PST child-ERG-BEFORE
    ‘He/she used to eat witchetty grubs before as a child (i.e. before, when he/she was a child).’
Nominals functioning as secondary predicates show case agreement with the argument of which they are predicated, as shown in (40) where the secondary predicate is inflected with the ergative case to show that it is predicated of the subject of the main clause. Such secondary predicates are also often, although not necessarily, marked with temporal clitics that indicate the relative time at which the secondary predication holds (Hale 1983), and mark the nominal as a secondary predicate, rather than a modifier. Further discussion of secondary predicates in different Australian languages and in a cross-linguistic perspective can be found in Schultze-Berndt and Himmelmann (2004), Himmelmann and Schultze-Berndt (2005), Schultze-Berndt (2006) and McGregor (2005).

As we have seen, nominal phrases in Australian languages generally exhibit a degree of syntactic flexibility (i.e. may be discontinuous throughout the clause), and a range of possible interpretations arising from the different readings possible for nominals, whether the modification is restrictive or non-restrictive, and so forth. In fact, for some Australian languages it has been claimed that there are no noun phrases at all, with multiple nominals referring to a single argument considered to be in simple apposition (e.g. Blake 1983 for Kalkatungu, Heath 1978 for Ngandi, and Heath 1984 for Nunggubuyu/Wubuy).²⁴ Sadler and Nordlinger (2010) present a formal analysis in LFG that accounts for this syntactic flexibility and allows for sequences of juxtaposed nominals in the syntax to map onto a range of different semantic structures (see also Nordlinger and Sadler 2008). Their analysis also extends to the use of juxtaposition in coordinated NPs (41), and in “inclusory constructions” (Singer 2001), in which one nominal encodes a member of the set denoted by the other nominal (42):

(41) ngul ngay kirk kempthe kal-m thul=yuk
then 1SG(ERG) spear(acc) apart carry-PST.IPfv woomera(acc)=STUFF
‘I used to carry spears and woomeras separately.’ (Kuuk Thaayorre: Gaby 2006: 320)

(42) nga-rr-a kajakaja warra-ja thaa-th
1-DU-NOM daddy(NOM) go-ACT return-ACT
‘Daddy and I will go (lit. ‘we two, (including) daddy, will go’)’ (Kayardild: Evans 1995: 249)

However, as noted by Sadler and Nordlinger (2010), this analysis of nominal sequences in Australian languages and, in particular, their range of available semantic interpretations is one area in which substantially more research is needed.

²⁴ But see Blake (2001) for a revision of this earlier view, in which he allows for the existence of NPs in Kalkatungu and, by extension, other Australian languages with similar nominal structures.
Other researchers, however, have argued in favour of NPs, but based on functional rather than formal or syntactic criteria. McGregor’s (1990) analysis of noun phrases in Gooniyandi was particularly influential in this respect (see also Harvey (1992) and McGregor (1992b) for subsequent discussion). McGregor argues that, despite the apparent syntactic flexibility of nominals and the possibility of discontinuous constituents in Gooniyandi, an NP constituent can be identified and defined in terms of the following functional template:

(43) (Deictic) (Quantifier) (Classifier) Entity (Qualifier)

Each of these functions may be realised by different subclasses of nominals: common nouns, for example, are able to function as classifiers, entities, qualifiers or quantifiers, thereby accounting for the range of possible interpretations. Sequences of nominals conform to this functional template, thereby providing evidence for the existence of an NP category.²⁵ McGregor’s approach to NP structure has been adopted in descriptions of a number of other Australian languages also (e.g. Kayardild (Evans 1995), Wambaya (Nordlinger 1998a)).

As we saw with clause-level structure, it appears that discourse and other functional factors have a major role to play in determining and structuring nominal phrases in Australian languages. Some interesting topics in this area are explored in Mushin and Baker (2008), particularly the papers by Baker (2008) on the discourse functions of noun class prefixes in languages of Southeast Arnhem Land, and Stirling (2008) on the discourse conditions governing the use of “double reference” in Kala Lagaw Ya narratives. The nature of nominal phrases in Australian languages, and the interaction between morphosyntax, semantics and discourse parameters, is one broad area in which substantially more research is needed.

6 Case and multiple case-marking

As we saw in § 2, Australian languages have featured prominently in the literature on ergative case systems, but in fact (dependent-marking) Australian languages are famous for their case-marking more generally as well. Australian-style case-marking is extensive in terms of the number of case categories, the range of case functions, and the freedom of marking including multiple case stacking (Dench and Evans 1988). Blake (1977: 3) provides the following case system from Tharrkari as typical in the categories employed:

25 Further evidence comes from case postpositions, which occur once at the end of the phrase and have scope over the entire sequence of nominals (McGregor 1990: 276).
Tharrkari case system (Blake 1977:3)

<table>
<thead>
<tr>
<th>Case</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>-Ø</td>
</tr>
<tr>
<td>Ergative</td>
<td>-du</td>
</tr>
<tr>
<td>Accusative</td>
<td>-nha</td>
</tr>
<tr>
<td>Dative</td>
<td>-ku</td>
</tr>
<tr>
<td>Locative</td>
<td>-da</td>
</tr>
<tr>
<td>Allative</td>
<td>-kurda</td>
</tr>
<tr>
<td>Ablative</td>
<td>-warti</td>
</tr>
</tbody>
</table>

It is common across Australia for the ergative case marker to also be used to encode instrumental functions (Blake 1977; Yallop 1982); and many languages also add a causal (‘because of’) case marker to this list (Dixon 1980; Blake 1987). Some languages have additional cases such as genitive (distinct from dative), perlative, semblative, comitative, among others. As in Tharrkari, case is most commonly marked by suffix, although in some non-Pama-Nyungan languages there are case adpositions; case is marked by postpositions in Gooniyandi, for example (McGregor 1990).

In addition to the cases provided in (44), Australian case systems typically include proprietive (‘having’) and privative (‘lacking’) case categories. These are primarily adnominal in their function, serving to associate nominals within the NP, rather than encode clausal grammatical relations (Dench and Evans 1988, see also discussion below). Consider the following examples from Wambaya:

(45) yarru ng-a bayigi-ngunya ngarrirna-ngunya.
    go 1SG.SBJ-PST bag-PROP.II(NOM) 1SG.POSS.II-PROP.II(NOM)
    ‘I went (taking) my bag.’ (Nordlinger 1998a: 97)

(46) yandu ngi-n murlu-wajanga-nka.
    wait 1SG.SBJ(PRS)-PROG eye-PRIV.II-DAT
    ‘I’m waiting for the blind woman.’ (Nordlinger 1998a: 99)

Some researchers do not consider these cases to belong to the inflectional case system, but rather treat them as derivational (e.g. Dixon 1980), or as “pre-cases” (Blake 1987). One primary criterion for this comes from languages like Wambaya, in which these are the only “cases” that may be followed by another case marker (as in (46), where the privative is followed by the dative case). Note also that in Wambaya, the privative and proprietive differ from other case markers in encoding gender (Nordlinger 1998a). However, unlike other derivational markers, we often find phrasal concord with the proprietive and privative (as in 45), full productivity, and in many languages they can be used with relational functions as well as adnominally. Thus there are reasonable grounds for treating them as part of the general case inventory (e.g. Dench and Evans 1988).

Case-marking in Australian languages is remarkable for its multifunctionality, a fact first brought to the literature by Dench and Evans (1988). Beyond the more stand-
and relational function (i.e. encoding grammatical relations at the clausal level) and
the adnominal function exemplified in (45) and (46), where case-marking is used to
relate one nominal/NP to another within the noun phrase, Dench and Evans (1988)
identified three further case functions: referential function, complementising func-
tion, and associating function.

Referential function involves the marking of one NP in agreement with another
(distinct) NP in the clause, and is most relevant to secondary predication structures
and other types of subject and object complements, as well as adverbal NPs, all of
which are associated through case agreement with the NP they are predicated of, as
shown in the following examples:

(47) nhulaa miyu wajupi-i mungka-rnuru wanka-a-l!
      that cat grasshopper-ACC eat-PRS alive-ACC-THEN
      'That cat eats grasshoppers alive!' (Martuthunira: Dench and Evans 1988: 14)

(48) wati-ngku mara-ngku pungu.
      man-ERG hand-ERG hit.PST
      'The man hit it with his hand.' (Yankunytjatjara: Dench and Evans 1988: 16)

(49) jalangu-rlu ka-lu-jana puluku turnu-ma-ni
      today-ERG PRS-3PL.SBJ-3PL.OBJ bullock(ABS) muster-CAUS
      yapa-ngku.
      man-ERG
      'The people are mustering the cattle today.' (Warlpiri: Simpson 1991: 208)

The distinction between referential case and relational case agreement seems to lie in
the fact that referential case serves to associate two distinct NPs in the clause, whereas
case agreement as part of more typical modification would be assumed to operate
within a single NP and therefore be treated as relational case. However, as we saw in
§ 5, many Australian languages allow discontinuous nominal modifiers and so it is not
always straightforward to distinguish between a discontinuous modification struc-
ture (which Dench and Evans (1988) would treat as an instance of relational case func-
tion) and a secondary predication structure (which would involve referential case).
Indeed, as we saw in (36) above, repeated here, both readings are possible in Warlpiri:

(50) maliki-rli=ji yarlcru-rnu wiri-ngki
      dog-ERG=1.OBJ bite-PST big-ERG
      'The/a big dog bit me.'; 'The/a dog bit me, a big one.'; etc.

Complementising case functions to relate clauses, rather than NPs. There are two
broad types: one, termed “c-complementising case” by Dench and Evans (1988), links
a subordinate clause with its controlling main clause argument through case agree-
ment (51, 52); the other—“t-complementising case”—encodes temporal relations between a subordinate clause and the main clause, and sometimes also switch-reference information (Austin 1981b, see also § 7) (53, 54). Languages differ in whether the complementising case is distributed across the constituents of the subordinate clause (e.g. 51–53) or found only on the subordinate verb itself (e.g. 54).

(51) *tangka-ya=karri ngit-a karna-ja makurrarra-wurlu-ya*
    man-ERG=3/3.PRS wood-ACC light-IND wallaby-PROP-ERG

*karna-j-urlu-ya.*
light-VB-PROP-ERG

‘The man lit a fire in order to cook the wallaby.’ (Yukulta: Dench and Evans 1988: 28)

(52) *ngatha wiya-rna ngunha-yu marlpa-yu paka-lalha-ku*
    lsgNOM see-PST that-ACC man-ACC come-PFV-ACC

*nharniwali-ku warlungkamu-la-ku*
here.ALL-ACC morning-LOC-ACC

‘I saw that man who came this way this morning.’ (Banyjima: Dench and Evans 1988: 28)

(53) *api-jirra warnapartt’arna ngapa-ka pari-nji-ikki*
    walk-towards tomorrow I.FUT water-DAT get-NMLZ-DAT

‘I will go tomorrow to get water.’ (Warumungu: Dench and Evans 1988: 19)

(54) *bungmaji gi-n mirra yanduji-ni barrawu*
    old.man.I(NOM) 3SG.SBJ(PRS)-PROG sit mind-LOC house

‘The old man’s staying (here) looking after the house.’ (Wambaya: Nordlinger 1998a: 213)

Although quite different in their function, these two complementising case types are similar in that they involve the extension of case-marking onto verbs (Blake 1993, 1999), and show that case-marking can function to contribute information beyond the immediate NP or clause to which it belongs. For this latter reason, this use of case has received some attention within the theoretical literature (Simpson and Bresnan 1983; Nordlinger 1998b, 2000). Interestingly, although t-complementising case (i.e. the development of subordinating morphology out of case markers) is reported in other languages of the world (e.g. Genetti 1991; Harris and Campbell 1995), I am not aware of other languages for which c-complementising case has been reported so extensively as in Australia.

Finally, associating case refers to the use of case to associate argument NPs with nominalised verbs and particular clause types. In many languages, the dative case is
used for this purpose, as in the following example from Thalanyji (Austin 1981c: 221), where the object of the nominalised verb is inflected with the dative case rather than the accusative case (as in finite clauses):

(55) murla-ku       paja-lpaja
    meat-DAT       eat-NMLZ
    ‘meat-eater’

Kayardild is particularly unusual in adding a separate layer of associating case on top of the regular relational case for NPs when they occur in a nominalised clause. Associating case in Kayardild, the OBL case, is marked on every non-subject NP in the nominalised clause, not just the object (Dench and Evans 1988: 32). In (56) we find the OBL associating case on both ‘water’ and ‘billycan’ to indicate that they belong to the clause headed by the nominalised verb ‘drink’.

(56) ngada       kurri-jarra  niwan-jina  kurdama-n-kina
    LSG.NOM      see-PST         3SG-M.ABL       drink-NMLZ-M.ABL

    nguku-naa-nlha  wuruman-urru-naa-nth
    water-M.ABL-ABL  billycan-ASSOC-M.ABL-ABL
    ‘I saw him drinking the water in the billycan.’ (Dench and Evans 1988: 34)

6.1 Interactions between case and tense/aspect/mood

Australian languages have also featured in the (limited) literature on the interactions of case and tense/aspect/mood marking. The most striking examples of this come from the Tangkic languages of the Gulf of Carpentaria, as most extensively described by Evans (1995).

In the Tangkic languages (more specifically, Kayardild, Lardil (Hale 1967) and Yangkaal) case-marking works in conjunction with verbal morphology to encode the tense/aspect/mood (TAM) value of the clause as a whole. This function is distinct from the more usual case function of encoding grammatical relations. Ablative case in modal function, for example, encodes only TAM information and does not encode the more usual ablative meanings of source or movement away from a location. Non-core arguments, therefore, are found with a modal case marker outside of their regular relational case marker, as evident in the following examples from Kayardild (Evans 1995: 107–108).²⁶

²⁶ Note that Kayardild also has another unusual case category referred to by Evans (1995) as “verbal case”, which appears on nominals and converts them morphologically to verbs (although they remain nominal in the syntax). See Evans (1995: 163–183) for detailed discussion and Evans and Nordlinger (2004) for discussion of the implications for morphosyntactic theory.
As shown in the above examples, the modal case marker varies in conjunction with the TAM marker on the verb; the two work together to fully specify the TAM value for the clause.²⁷ There is not always a one-to-one correspondence between the verbal morphology and modal case categories, however, as shown by the following examples, where the verbal inflection remains constant and the change in TAM category is signalled through the modal case alone.

Modal case markers appear on all non-subjects NPs in the clause, including objects (60, 61), oblique arguments (57–59), adjuncts (60, 61) and subordinate clauses (62).

²⁷ A similar situation is found in languages like Warlpiri and Wambaya, where both the auxiliary and the verb jointly encode TAM information for the clause. See Nordlinger and Bresnan (1996) for a discussion of such “nonconfigurational tense” in Wambaya.
Kayardild (along with the other Tangkic languages) is unique in having an additional case category that marks TAM independently of grammatical relations. In Pitta Pitta (Blake 1979), on the other hand, it is the regular case paradigm that interacts with clausal TAM. In this case, the system of case-marking differs depending on whether the clause is in the future or non-future tense, as shown in the following table (taken from Blake 1987: 59):

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>A</th>
<th>O</th>
<th>INST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonfuture</td>
<td>-Ø</td>
<td>-lu</td>
<td>-nha</td>
<td>-lu</td>
</tr>
<tr>
<td>Future</td>
<td>-ngu</td>
<td>-ngu</td>
<td>-ku</td>
<td>-ngu</td>
</tr>
</tbody>
</table>

The encoding of TAM information through case-marking is interesting theoretically since it shows that case morphology is capable of encoding information outside of the NP. This has been discussed in some detail, and with reference to these (and other) Australian languages by Nordlinger and Sadler (2004a, b). See also Round (2012) for discussion and reanalysis of the Kayardild morphological system more broadly.

### 6.2 Case stacking

As exemplified in the Kayardild examples above, the multiple functions of case-marking in Australian languages, combined with the often prolific agreement properties, allows for a single nominal to carry more than one case marker at a time. Although instances of “double case” or *suffixaufnahme* can be found in other languages of the world (see for example, Plank 1995), in Australia we find the phenomenon in its most extreme and complex form. Dench and Evans (1988: 35) provide examples such as the following:

(64) maku-ntha yalawu-jarra-ntha yakuri-naa-ntha  
woman-OBL catch-PST-OBL fish-M.ABL-OBL  
dangka-karra-nguni-naa-ntha mijil-nguni-naa-nth  
man-GEN-INST-M.ABL-OBL net-INST-M.ABL-OBL  
‘The woman must have caught fish with the man’s net.’ (Kayardild)

(65) ngatha pilanyjayi-nha nyinku mirta-yu paka-rnu-ku  
1SG.NOM frightened-PST 2SG.ACC not-ACC come-REL-ACC  
ngalimpa-tharntu-karta-ku yurlu-karta-ku  
1DU.INCL-GEN-ALL-ACC camp-ALL-ACC  
‘I was frightened you weren’t coming to our camp.’ (Banyjima)
In (65) we find the most heavily marked nominal *ngalimpai*-inflected with three case markers. The first — GEN — marks its adnominal role as possessor, the second — ALL — shows agreement with the head nominal of the allative NP and the third — ACC — is an instance of c-complementising case, which appears on all members of the subordinate clause in agreement with the controlling accusative NP in the main clause. In (64) we see *dangka*-being inflected with four cases: genitive to mark the possessor relation, instrumental in agreement with the head noun ‘net’, the ablative case in modal function encoding TAM information for the clause, and the OBL which here functions as a c-complementising case.²⁸


7 Subordination

The discussion of subordinate dependent clauses in Australian languages has been heavily influenced by Hale’s (1976) paper on the “adjoined relative clause”—a non-embedded, multifunctional subordinate clause type found in Warlpiri and a “large number of Australian languages” (p. 78). This paper has remained the authoritative work on subordination in Australia; virtually every Australian grammar written since contains some reference to this clause type, and it features prominently in any discussions of subordination in Australian languages (e.g. Merlan 1981; Austin 1988; Nordlinger 2006) as well as typological discussions that include reference to Australian languages (e.g., Comrie 1981b; Keenan 1985; Lehmann 1988; Diessel 2001; Cristofaro 2003; Andrews 2007, etc).

Hale (1976) uses the label “adjoined relative clause” to refer to a clause type that can have both adverbial and relative functions and which, in relative clause function, may appear in a linear position discontiguous with the head nominal that it modifies. He provides examples such as the following:

²⁸ The c-complementising case is used here as the clause is being marked as if it were a clausal argument of a perception verb (e.g. ‘I see that …’). See Evans (1995: 491–492) for details.
Constituency and Grammatical Relations in Australian languages

(66) ngajulu-rlu rna yankirri pantu-rnu, [kuja-lpa ngapa
    1SG-ERG AUX emu spear-PST COMP-AUX water

    nga-rnu].
    drink-PST
    ‘I speared the emu which was drinking water.’
    ‘I speared the emu while it was drinking water.’ (Hale 1976: 78)

In this construction the subordinate clause is fully finite; the only marker of subor-
dination is the initial complementiser *kuja*. This subordinate clause has (at least)
two available interpretations: in the first, it is interpreted as a relative clause (Hale’s
NP-relative interpretation), and in the second as a temporal adverbial clause (Hale’s
T-relative interpretation). Furthermore, the subordinate clause is not “embedded”
within the main clause — by which Hale means it appears on the edges of the main
clause, and is “never flanked by material belonging to the main clause” (1976: 86).
This is true even when the clause has only a relative clause function, meaning that it
need not form a constituent with the head noun that it modifies:

(67) Ngajulu-rlu kapi-rna wawirri purra-mi, [kuja-npa pantu-rnu
    1SG-ERG AUX kangaroo cook-NPST COMP-AUX spear-PST

    nyuntulu-rlu].
    you-ERG
    ‘I will cook the kangaroo you speared.’ (Hale 1976: 79)

The NP-relative interpretation is only available when the two clauses share an identi-
cal argument, and the T-relative interpretation is only available when the two clauses
make identical time reference (p. 79). Thus, in (66), where both conditions are met,
either interpretation is possible. In (67), however, in which the two clauses have dif-
f erent time reference, only the NP-relative interpretation is possible. And in (68) only
the T-relative interpretation is available since the clauses have identical time refer-
ce, but share no identical arguments.

(68) Ngajulu-rlu lpa-rna karli jarntu-rnu, [kuja-npa
    1SG-ERG AUX boomerang trim-PST COMP-AUX

    ya-nu-rnu nyuntu].
    walk-PST-HITHER you
    ‘I was trimming a boomerang when you came up.’ (Hale 1976: 79)

In addition to the NP-relative and T-relative interpretations, the adjoined relative con-
struction can be used to encode other inter-sentential relations including conditional
(69), causal (70) and purposive (p. 79–81).
(69) ngajulu-rlu kapi-rna maliki rluwa-rni, [kaji-ngki yarlki-ri nyuntu]
    1SG-ERG AUX dog shoot-NPST COMP-AUX bite-NPST you
    ‘I will shoot the dog, if/when it bites you.’
    ‘I will shoot the dog that bites you/that is going to bite you.’ (Hale 1976: 80)

(70) ngajulu-rlu kapi-rna maliki yalumpu paka-rni, [yungu kurdu]
    1SG-ERG AUX dog that strike-NPST COMP-AUX child
    nyampu yarlku-rnu
    this bite-PST
    ‘I am going to strike that dog, because it bit this child.’ (Hale 1976: 81)

As well as these finite adjoined relative clauses Hale (1976) discusses a set of “adjoined infinitive clauses”, as in the following non-finite equivalent of (69):

(71) ngajulu-rlu rna yankirri pantu-rnu, [ngapa nga-ninyja-kurra]
    1SG-ERG AUX emu spear-PST water drink-INF-COMP
    ‘I speared the emu while (it was) drinking water.’ (Hale 1976: 81)

These adjoined infinitive clauses in Warlpiri differ from their finite equivalents in at least two respects. Firstly, they don’t have the multifunctionality of the finite clauses — the infinitive clause in (71) can have only the T-relative (time adverbial) interpretation of the finite equivalent despite the fact that it shares a co-referential NP with the main clause. Secondly, while it is certainly possible for such infinitive clauses to appear on the margins of the main clause (as in (71)), it is also possible for them to appear within the main clause (as in (72)), showing that “prevailing surface structure marginality is fully true only in the case of finite relative clauses” (Hale 1976: 94):

(72) wawirri rna [paranka-nyja-kurra] rluwa-rnu ngajulu-rlu.
    kangaroo AUX run-INF-COMP shoot-PST 1SG-ERG
    ‘I shot the kangaroo while it was running.’ (Hale 1976: 95)

Despite the fact that Hale (1976) (as well as researchers working on other Australian languages with similar construction types) consistently refers to these clauses as “subordinate”, the typological and theoretical literature has frequently interpreted Hale’s discussion as suggesting that Warlpiri doesn’t have syntactic embedding — i.e. that it does not have “true” subordinate clauses of the type that are familiar from many other languages (e.g. Lehmann (1988: 183–185), Diessel (2001: 439–440)). Furthermore, Hale’s observation that this “adjoined relative clause” type is prevalent across Australian languages has led to the general perception that (i) Australian languages in general don’t have syntactic embedding or recursion; and (ii) Australian languages are largely homogenous in their clause-combining strategies.
Nordlinger (2006) addresses these misperceptions directly and argues that it is possible for a construction to share all of the properties of Hale’s (1976) “adjoined relative clause” and yet be demonstrably syntactically subordinate. In fact, while the multifunctional property of the “adjoined relative clause” — namely, the availability of both relative and adverbial interpretations — appears to be common across Australian languages, there is ample evidence for the existence of subordination (see also Legate (2009), who argues for the existence of clausal recursion and embedding in Warlpiri). Detailed discussion of subordinate clauses in particular Australian languages also supports this view (Austin 1988; Dench 1988; Dench 2006; Evans 2006; McConvell 2006; McGregor 1988, 1994, among others). Nonetheless, a number of issues remain outstanding here, including the extent to which subordination in Australian languages is truly different from that in more familiar European languages, or whether the apparent differences arise from other factors.²⁹

The nature of the evidence for subordination structures in Australian languages can take a variety of forms. McGregor (1988), for example, argues that mood marking plays a key role in the identification of subordinate clauses in Gooniyandi (see also Merlan 1981 for discussion of mood and subordination in Mangarrayi). In some other languages a morphological indicator of subordination is found in the marking of switch-reference, whereby the verb of the subordinate clause is marked according to whether its subject is the same or different to that of the main clause. Austin (1981b) provides a cross-linguistic overview of switch-reference in Australian languages, showing that it is an areal phenomenon, found largely in central and central-western Australia. Consider the following examples from Diyari:

(73) *karna* wapa-*ma* warrayi, *tyukuru* nandra-*lha*

  man(abs) go-PTCP AUX kangaroo(abs) kill-IMPL(ss)

  ‘The man went to kill a kangaroo.’ (Austin 1981b: 313)

(74) *karna-li* marda *matha-*ma* warrayi, *thalara* kurda-*rnanthu*

  man-ERG stone(abs) bite-PTCP AUX rain(abs) fall-IMPL(ds)

  ‘The man bit the stone so the rain would fall.’ (Austin 1981b: 313)

The subordinate clause in each of these examples is an “implicated” clause, which indicates that the subordinate event occurs after and is implicated by that of the main clause. In (73), the subordinate verb is marked with *-lha* to indicate that the subject of this verb is the same as that of the main verb (i.e. the man is both the one going, and the one killing). In (74), on the other hand, a different marker is used since the subject of the subordinate verb (rain) is different to that of the main verb (man).

²⁹ Karlsson (2007), for example, suggests that multiple centre-embedded structures may only arise in the presence of an extensive written culture.
In a number of languages the markers of switch-reference are homophonous with case markers (in Dench and Evans’ (1988) t-complementiser function, see § 6 above), as in Warlpiri (Simpson 1988, also Simpson and Bresnan (1983)). Austin (1981b: 331) notes that there are some prevalent patterns. The locative case is frequently used to mark switch-reference — in some languages marking “same subject” and in others marking “different subject”. There is also a common association between the allative case and different subject marking. We can see these patterns reflected in the following examples from Bilinarra in which the locative case is used in a simultaneous subject clause to mark “same subject” (75), in contrast with the allative case which marks “different subject” (76) (Meakins and Nordlinger 2014: 428–429):

(75) \textit{garrab=rnanggulu nya-nya jaru-ngga} \\
watch=1aug.excl.sbj>2min.o intake-pst language-loc \\
\textit{jarragab-gula} \\
talk-LOC \\
‘We saw you when we (but not you) were talking language.’

(76) \textit{ah jibu=manyjurra gurruguru=warla ya-na-ri} \\
ah just=1min.sbj>2aug.o hear.rdp=foc go-prs-hither \\
\textit{jarragab-jirri} \\
talk-all \\
‘I just came up listening to you mob talking.’

8 Future directions

The last 40–50 years has seen an enormous amount of development in our understanding of the grammatical structure of Australian languages, and particularly the unique contributions they make to cross-linguistic typology in the areas of constituency relations, case relations and configurationality. There remain, however, many issues to be explored and enriched by future research. Major areas in need of substantial research include the role that discourse and information structure play in the organisation of syntactic structure (e.g. Mushin and Baker 2008), and the interactions between syntactic structure, discourse and prosody (see Fletcher and Butcher (this volume) for further discussion, also Croft (2007); Evans, Fletcher, and Ross (2008); Ross (2011) and Schultze-Berndt and Simard (2012)).

Another important direction for future research lies in the detailed syntactic analysis of individual languages. A large majority of the work discussed above has been based on detailed analysis of only a small number of Australian languages (most
notably, Warlpiri, Wambaya, Jiwarli, Diyari, Kayardild, Dyirbal and a few others). We cannot, however, assume that surface typological similarities across Australian languages necessarily reflect identical syntactic organisation at all levels. Hopefully, now that many more Australian languages have been the subject of grammatical description and documentation, we can move towards more nuanced research into their syntactic structures and reveal many more interesting properties to expand our understanding of the nature of language.

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