

Handbook of Australian Languages

Handbook of Australian Languages

edited by
R. M. W. Dixon and
Barry J. Blake

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Preface

This *Handbook* is intended to make available short grammatical sketches of Australian languages. Each grammar is written in a standard format, following guidelines provided by the editors, and includes a sample text (where available) and vocabulary list. (See section 3 of the Editors' Introduction.)

The first volume includes one account of a living language - Guugu Yimidhirr, which is still spoken by some hundreds of people, mostly living at Hopevale Mission and at Cooktown. The other three sketches deal with dying (or dead) languages - there is one fluent speaker of Gumbaynggir, the last good speaker of Pitta-Pitta died as the volume was being prepared for publication, and the last speaker of Yaygir died in 1973. These three grammars contain all that is known of the languages; the vocabularies are also exhaustive. (There are further texts in Gumbaynggir, which are available in the Australian Institute of Aboriginal Studies, P.O. Box 553, Canberra City, A.C.T. 2601.) In the case of Guugu Yimidhirr John Haviland has provided a sample vocabulary, extracted from his fairly comprehensive dictionary, following the editors' 500-word list. Work on this language is continuing.

Haviland has employed a practical orthography for Guugu Yimidhirr, using just letters of the Roman alphabet; this has made it possible to employ italic type for all Guugu Yimidhirr material. The other authors use some non-Roman symbols, and here Australian language material is typed with a standard phonetic ball.

Each contributor to the handbook is responsible for having his grammar typed according to a standard style-sheet, and providing camera-ready copy for the editors. Authors are responsible for their own sub-editing and proof-checking.

It is planned that Volumes 2 and 3 of the *Handbook* should follow at intervals of roughly a year. It is hoped to include in further volumes Bāgandji by Luise Hercus, Antikirinya (a Western Desert dialect) by Karl Rensch, Yukulta by Sandra Keen, Marganj/Gunja by J.G.Breen, Kaititj by Harold J. Koch, Wargamay and Nyawaygi by R.M.W.Dixon, Yuulngu by Frances Morphy, Kala Lagau Langgus by Ephraim Bani and T.J. Klokeid, Warungu by Tasaku Tsunoda and Peter Sutton, Gugu-Dhayban by Bruce Rigsby and Mpakwithi by Terry Crowley. Volume 2 will definitely include a full linguistic assessment of the material on Tasmanian, and its possible relationship to mainland Australian languages, by Crowley and Dixon.

It is a pleasure to thank the typists, whose skill and patience has contributed so much to the success of this volume: Ellalene Seymour (Introduction, Gumbaynggir, Yaygir), Ann Buller and Ria van de Zandt (Guugu Yimidhirr), and Joan Juliff (Pitta-Pitta); and Val Lyon, who drew the maps with care and skill.

July 1978

R.M.W.Dixon

Barry J. Blake

Contributors' addresses

Barry J. Blake, Department of Linguistics, Monash University, Clayton, Victoria, 3168

Terry Crowley, Department of Linguistics, SGS, Australian National University, P.O. Box 4, Canberra, A.C.T., 2600

R.M.W. Dixon, Department of Linguistics, SGS, Australian National University, P.O. Box 4, Canberra, A.C.T., 2600

Diana Eades, Department of Anthropology and Sociology, University of Queensland, St. Lucia, Brisbane, Queensland, 4067

John B. Haviland, Department of Anthropology, Research School of Pacific Studies, Australian National University, P.O. Box 4, Canberra, A.C.T., 2600

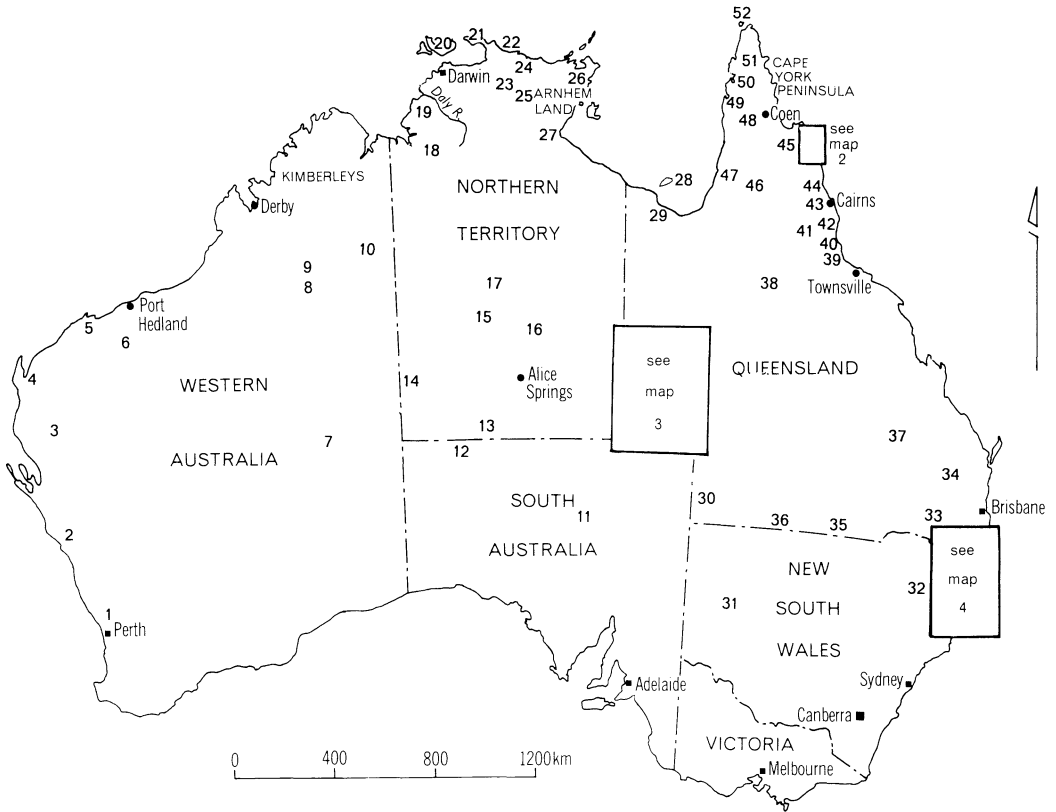
Abbreviations

A	transitive subject (function)	GEN	genitive
ABES	abessive (case)	GOAL	archaic purposive/goal (case)
ABL	ablative (case)		
ABS	absolutive (case)	H	stop homorganic with preceding nasal
ACC	accusative (case)		
ADES	adessive (case)		
ADV	adverb	IMPERF	imperfective (aspect)
ADVBLSR	adverbializer	IMP	imperative (verbal affix)
ALL	allative (case)	INC, inc	inclusive (pronoun)
ANTIC	anticipatory (verb inflection)	INCHO	inchoative (deriving intransitive verb from noun or adject- ive)
ANTIPASS	anti-passive (verb affix)		
		INST	instrumental (case)
BEN	benefactive (case)	INTER	interjection
		INTR, intr	intransitive
C	consonant		
CAU	causal (case)	K-S	kin and section
CAUS	causative (deriving transitive verb from noun or adjective)	LOC	locative (case)
CAUT	cautionary (verb inflection)	MASC	masculine (gender)
CLIT	clitic	N	noun
COM	comitative (nominal or verbal affix)	NEG	negative
COMP	complement	NOM	nominative (case)
CONTRF	contrafactive (verb inflection)	NOMLSR	nominaliser
		NP	noun phrase
DAT	dative (case)	O	transitive object (function)
DEIC	deictic		
DEM	demonstrative	PART	particle
DER	derived form (of verb)	PASS	passive (verb affix)
DISC	discourse	PAST	past tense
DU, du	dual (number)	PERF	perfective (aspect)
DUR	durative	PL, PLU, pl	plural (number)
		PREC(AUT)	precautionary (verb inflection)
EMPH	emphatic	PRES	present (tense)
ERG	ergative (case)	PRIV	privative (nominal affix)
EXC, exc	exclusive		
		PURP	purposive (noun or verb affix)
FAC CONJ	facilitative conjunct- ion		
FEM	feminine (gender)	RECIP	reciprocal
FUT	future (tense)		

REDUP	reduplicated	T	text
REF, REFL	reflexive	TR, tr	transitive
REL	relative clause		
RES	resultative	V	vowel
		V	verb
S	intransitive sub- ject (function)	VBSR	verbaliser
		VP	verb phrase
SG, sg	singular (number)		
SUB	subordinate	1	first person
SUP	superadjacent (case)	2	second person
		3	third person

In the Guugu Yimidhurr grammar, \$ indicates a 'shortening suffix' (see page 44), and the following juncture marks are used

- morpheme boundary where morphemes can be easily segmented
- + morphemes combined into portmanteaux or not easily segmented
- = compound - a morpheme boundary which does not engender lengthening



- | | | | |
|----------------|-------------------|------------------|------------------|
| 27 Alawa | 33 Gidabal | 49 Mpakwithi | 30 Wangkumara |
| 12 Andigirinya | 35 Guamu | 19 Murinykata | 40 Wargamay |
| 11 Arabana | Gumbaynggir — | 2 Nhanda | 41 Warungu |
| 13 Aranda | see map 4 | 32 Nganjaywana | 7 Western Desert |
| 49 Awnggthim | 23 Gunwinygu | 5 Ngaluma | language |
| 31 Bagandji | 17 Gurindji | 39 Nyawaygi | 48 Wik Munkan |
| 6 Bandjima | Guugu Yimidhirr — | 14 Pintupi | Yaygir — |
| 37 Bidjara | see map 2 | 7 Pitjantjatjara | see map 4 |
| 18 Brinken | 16 Kaititj | Pitta-Pitta — | 43 Yidiny |
| 25 Burera | 52 Kala Lagau | see map 3 | 51 Yinwum |
| 34 Duungidjauw | Langgus | 24 Rembarnga | 47 Yir Yoront |
| 4 Dhalanji | 46 Kunjen | 3 Thargari | 21 Yiwadja |
| 44 Djaabugay | 45 Lama-Lama | 20 Tiwi | 29 Yukulta |
| 10 Djaru | 28 Lardil | 1 Wadjuk | 8 Yulbaridja |
| 42 Dyrbal | 50 Linngithigh | 15 Walbiri | 26 Yuulngu |
| Galgadungu — | 36 Marganj/Gunja | 9 Walmadjari | |
| see map 3 | 22 Maung | 38 Wamin | |

Map 1: Australia, Showing Approximate Location of Languages Referred to in Introduction

Introduction

by Barry J. Blake and R.M.W. Dixon

1. OVERVIEW

At the time of the European invasion and settlement (late eighteenth to early twentieth century depending on area), Australia was inhabited by something like 300,000 Aborigines. They were semi-nomadic hunter-gatherers living in small groups, mostly patrilocal clan groups.

Tindale in his *Aboriginal Tribes of Australia* (1974) classifies the mainland population into approximately 600 tribes with an average membership of 450, and Jones, in the appendix on Tasmanian tribes, gives the population of that island as having been between 3,000 and 4,000 at a conservative estimate. However, no full-blood Tasmanians survive today and very few full-blood Aborigines can be found in Victoria and the adjacent parts of South Australia and New South Wales.

The difficulty of determining the number of languages spoken over a large area - essentially a difficulty in distinguishing a dialect difference from a language difference - is well known to linguists; determining the number of tribes presents similar difficulties. Moreover, the two classifications are related inasmuch as language difference is one criterion for making a tribal boundary. A clear-cut language boundary always runs along a tribal boundary; but tribal boundary - as defined on the basis of shared rites, kinship systems etc. or as seen by the Aborigines themselves - does not necessarily imply a clear-cut language boundary.

The preliminary classification of Australian languages carried out by O'Grady, Wurm and Hale (1966; see also O'Grady et al. 1966; 21ff) recognises about 230 languages, grouped into twenty-six so-called 'families' (as revised by Wurm 1972). The classification is based on cognate densities obtained from comparing items on a 100-word test list. Communalects having over 70% in common were classified as dialects of a single language. Twenty-five of these 'families' are concentrated in or near Arnhem Land and the Kimberleys in the far north of the continent. The

twenty-sixth family covers the remaining nine-tenths of Australia - it is called Pama-Nyungan, after the words for 'man' at the geographical extremes of Cape York (pama) and the Perth area (nyunga).

Australian languages have not yet been proved all to be genetically related - through reconstructions of aspects of the proto-language and demonstration of the regular processes by which modern languages developed from this. But many scholars are confident that it should in time be possible to prove their genetic unity.

The languages of Tasmania ceased to be used in the 1880's. The little written material that survives on them is of very poor quality, and could not yield any firm conclusions about linguistic relationship. Tasmanian languages show only a few cognates with mainland tongues, but what can be inferred of their structure (especially at the phonological level) fits into the general typological pattern of the mainland. Crowley and Dixon (forthcoming), in an intensive study of materials on Tasmanian, conclude that there is *no* evidence suggesting that Tasmanian languages were *not* of the normal Australian type.

Not only are the languages of Tasmania extinct, but so are the languages of Victoria and from the highly settled parts of other states. Viable languages can only be found today across the northern coast from Roebourne to Cape York and in the inland of the Northern Territory and Western Australia and the adjacent areas of South Australia. In all parts of Australia languages are dying, many having only a score or fewer elderly speakers. Of the 230 odd languages listed in O'Grady et al. 1966, approximately a dozen have over 500 speakers, about two dozen have between 100 and 500 speakers, about 50 have between 10 and 100 speakers and about 100 have less than 10 speakers (Sutton 1975).

Australian languages all employ suffixes for tense and aspect and almost all employ suffixes or postpositions to indicate case relationships. The use of these syntactic suffixes with stems that may be composed of bases and derivational suffixes gives the languages an agglutinative character, particularly as the morphemes are usually isolable and there is little fusion of number, case and gender or of person and tense. Almost all the non-Pama-Nyungan languages and some of the Pama-Nyungan ones use cross-referencing bound pronouns to indicate the major syntactic relationships of noun phrases to verbs. These features are all explained and illustrated in section 4.1.

One of the most striking characteristics of Australian languages is that they are for the most part very similar in their phonological systems (but see 4.6 below) and share some common traits in morphology and syntax, while showing considerable divergence in vocabulary. The pronouns (see 4.2) are strikingly similar across the continent, the first person beginning with *ŋa* (or in a few cases *ŋi*) in practically every language, and the second person involving a small number of forms that look as if they could easily derive from a common form. Despite the lexical diversity mentioned above, Capell (1956) has been able to compile a list of nearly fifty lexical roots that are found in every

area (though not every language) of the mainland and further isolated cognates can be found between any two areas of the continent, perhaps suggesting an earlier lexical unity.

So far it has not proved possible to demonstrate a genetic connection between Australian languages and any language found outside Australia. Despite early attempts to demonstrate resemblances between Australian languages and Dravidian languages etc., no data has been produced showing systematic correspondences between an Australian language or proto-language and a non-Australian language or proto-language. The most likely direction of genetic relationship is with the non-Austronesian languages of New Guinea. Australia was connected with New Guinea by a land bridge only 10,000 years ago (whereas a date of 30,000 or more years B.P. has been given by archaeologists for the arrival of Aboriginal man on the continent). But no detailed comparisons of Australian and Papuan languages have been attempted as yet.

Australian languages offer the linguist some exciting prospects. First of all there is the challenge of reconstructing earlier stages of Australian languages. Then there is the variety of ergative systems particularly among the Pama-Nyungan languages. Ergative languages (see section 4.1) are a distinct minority among the world's languages and they are not represented among the commonly studied languages of Europe. An understanding of these significantly different systems is essential for an appreciation of the nature of human language as a whole and as a prerequisite to the formulation of any hypothesis of universal grammar.

Australia also provides numerous examples of grammatical hierarchies, particularly person hierarchies. For example, there are a number of languages that rank the first person above the second and third and the second above the third, in grammatical rules. Thus, in some languages, the first person bound pronoun must always precede the second person bound pronoun irrespective of which is the Agent and which is the Object. The whole question of the relationship between hierarchical principles and the principles of marking syntactic functions like Agent and Object, and their interrelation with the lexical content of the nouns and pronouns involved, is a fascinating area, the study of which promises to reveal something of the motivation for a lot of apparently arbitrary grammatical rules (see especially Silverstein 1976).

And finally there is the question of the relationship between the social organisation and the culture of the speakers and the development of their languages. Prospectively interesting areas include the nature of the bi-dialectism and bilingualism that resulted from exogamy, the practice of choosing wives from other local groups and occasionally from other tribes; the 'avoidance languages' used in the presence of those who are in a taboo relationship; and the reflection of the culture in the semantic organisation of the lexicon.

2. THE STUDY OF AUSTRALIAN LANGUAGES

The study of Australian languages began with the collection of short vocabularies in Guugu-Yimidhirr by officers of Captain Cook's 'Endeavour' in 1770. The collecting of short vocabularies was to become fairly popular after the first settlement in 1788 and continued into the first decade of the twentieth century. Particularly noteworthy is a collection of vocabularies representing nearly 500 dialects published by E.M.Curr in 1886-7 in the four volumes of *The Australian Race*.

During the nineteenth century a number of amateur linguists produced sketch grammars of Australian languages. Most of these sketches are reasonable, some quite good, but almost all fail to make those phonemic distinctions that Europeans find difficult to hear.

The first generation of the twentieth century, or at least the period 1912-1930, saw practically no new work on Australian languages though some missionaries were studying languages during this period. The first professional study of Australian languages was undertaken by Arthur Capell, of Sydney University, during the 'thirties. He studied a large number of languages briefly and a few languages in depth and began producing a stream of publications which are still appearing; these range from notes on features of particular languages, to area studies and general articles, and they include the handbook *A New Approach to Australian Linguistics*, which first appeared in 1956. During the early period of professional study, Strehlow produced a grammar of Aranda (1942-1944) and other publications on the language and culture of the Aranda.

In the late fifties and early sixties, O'Grady, Hale and Wurm did extensive survey and depth work. Particularly valuable as a reference is volume 8 No. 2 of *Anthropological Linguistics*, an issue devoted entirely to Australian languages. This contains a lexicostatistic classification of Australian languages, notes on phonological systems, a history of research on Australian languages, numerous sketches of western Australian languages by O'Grady, and an appendix by Hale on the phonological peculiarities of the northern Paman languages of Cape York.

In 1961 the Australian Institute of Aboriginal Studies was founded to direct and finance research in Aboriginal Studies; by the middle of the decade they had begun to fund a number of scholars working on Australian languages. This new supply of finance coincided with the establishment of the first linguistics department (Monash 1965) and the growth of linguistics within departments or schools at the University of Sydney, Macquarie University, the University of Queensland, the University of Western Australia and at the Australian National University where linguistics was established as a department in the Research School of Pacific Studies followed in 1970 by a department in the Faculty of Arts and the Faculty of Asian Studies (within the School of General Studies). In addition, the Australian Branch of the Summer Institute of Linguistics, an international missionary organisation, was established in 1961.

As a result of all this development, the late sixties and early seventies saw a great increase in the quantity of material being produced on Australian languages, though the quantity was still meagre in proportion to the number of scholars engaged in the work and for a time the quality often left a lot to be desired, principally owing to the inexperience and lack of training of the researchers concerned. Today a substantial number of capable linguists, some employed in universities, some employed by the Australian Institute of Aboriginal Studies and some working for the Summer Institute of Linguistics, are producing a volume of significant work.

The most recent development, and perhaps the most significant from the point of view of the Aboriginal people themselves, has been the establishment of bilingual education programmes, mainly in the Northern Territory. In support of this a School of Australian Linguistics was established in Darwin in 1974 to provide training in linguistic analysis for native speakers of Australian languages. (At the time of writing the S.A.L. has been relocated at Batchelor, 100km. south of Darwin.).

3. THE HANDBOOK

In proposing that a *Handbook of Australian Languages* be produced, the editors sought to provide an avenue of publication for grammars of dying languages and sketch grammars of living languages.

A good deal of the work that has been done over the past decade has been salvage work of languages with, in most cases, fewer than half a dozen speakers. The result of this kind of study is often a grammar that is too brief for publication as a monograph but too large for most journals. The *Handbook* is intended to provide a convenient outlet for the authors of salvage grammars, and since it will bring together a number of grammars in a series of volumes it will facilitate reference for the reader. In the case of depth study of a living language, it is often the case that the linguist is involved in a study that stretches over a decade or more. The editors of the *Handbook* hope to encourage such linguists to produce a brief grammar for the *Handbook*, so that the basic facts of the language are made available earlier than would otherwise have been the case.

Grammars produced for the *Handbook* are to be empirical studies written in as straightforward a style as possible, with a minimum of esoteric terminology and conventions. They are intended not only for the professional linguist but for others involved in Australian linguistics, e.g. European and Aboriginal school teachers working on the bilingual education of Aboriginal children, and specialists in other fields such as anthropology and ethnomusicology. Since linguistics is a technical subject it is impossible to reduce the terminology to the point where an entirely uninitiated reader could follow the grammar; but someone

with one year's linguistics or the equivalent reading should have no difficulty. Some elementary texts in linguistics have been included in the bibliography at the end of the introduction.

The editors have prepared a set of guidelines for intending contributors. It is hoped that this will result in typologically similar languages receiving similar treatment. They have also prepared a list of 500 glosses which they would like contributors to use as the basis for a short vocabulary.

4. THE NATURE OF AUSTRALIAN LANGUAGES

Australian languages tend to have relatively simple morphological structures. Nouns and pronouns are suffixed to show case relationships and verbs to show distinctions of tense and/or aspect. The nouns and verbs may themselves be formed from a base with the addition of one or more derivational suffixes, or more rarely they may consist of a reduplicated base or result from the compounding of two morphemes. There is no morphologically distinct class of adjectives, and the lexical items corresponding to English adjectives behave like nouns. Locational and temporal adverbs are either uninflected or else they take nominal-type case marking for locative ('at'), allative ('to') or ablative ('from').

Except in the case of some cross-referencing bound pronouns (see below), Australian languages seldom exhibit morphophonemic alternations that obscure the agglutinative character of words; there is little fusion of any kind and little suppletion (as in English, *I/me* or *go/went* for instance).

4.1 CASE RELATIONSHIPS

Australian languages employ two methods of marking syntactic case relationships,

- (a) Case inflections
- (b) Cross-referencing pronouns.

Some languages have a fairly rigid word order, in others an underlying or basic word order can be determined, and in others again no fixed word order seems to be discernible. In very few cases, however, does word order mark syntactic relationships, except perhaps as a redundant, reinforcing mechanism. In most Pama-Nyungan languages an order of Agent-Object-Verb can be determined. In a minority of Pama-Nyungan languages and in some of the northern languages, the basic order is Agent-Verb-Object.

Languages of the Pama-Nyungan family all employ case inflections and some employ cross-referencing pronouns as well. The case inflections most frequently follow an 'ergative' pattern on nouns and an 'accusative' pattern on pronouns. The Intransitive Subject is normally unmarked,

as might be expected. With nouns the Object of a transitive verb is also unmarked whereas the Agent is suffixed by what is generally known as the ergative case. With pronouns the transitive Agent remains unmarked while the Object is marked by an accusative suffix. Since the three main syntactic functions will be referred to a good deal in this Introduction, we will use a single letter as abbreviation for each:

Transitive subject - A
 Intransitive subject - S
 Transitive Object - O

(A number of contributors to the *Handbook* will also be employing these abbreviations). The typical case system can thus be summarized:

	Nouns	Pronouns
A	ergative	ϕ
S	ϕ	ϕ
O	ϕ	accusative

Here ϕ indicates a 'zero inflection' (that is, the plain stem is used for these functions).

Such a 'norm' arrangement of cases can be illustrated from Bidjara, a Central Queensland language (Breen 1973):

- (1) mardi barri-la
 man cry-PAST
 A man cried
- (2) mardi-ndu binu-ŋu baru gundha-la
 man-ERG other-ERG axe steal-PAST
 The other man stole an axe.
- (3) ŋaya barri-la
 I cry-PAST
 I cried
- (4) ŋaya mardi naga-la
 I man see-PAST
 I saw a man
- (5) mardi-ndu ŋadyuna naga-la
 man-ERG me-ACC see-PAST
 A man saw me

In the Pama-Nyungan languages which employ cross-referencing pronouns, we find that (with only a few partial exceptions) these pronouns operate in an accusative pattern. Usually there is one cross-referencing bound form for S and A and another for O. This is the common system in Pitjantjatjara and surrounding dialects of the Western Desert language. The other possibility is found in Wik-Munkan (Cape York) (Kilham 1977) and Guamu (N.S.W.) (Wurm 1969:60), for example, where only one cross-referencing form is used and that is for S and A.

The use of cross referencing pronouns can be illustrated from Walbiri, N.T. (Hale 1973b). In Walbiri one set of bound pronouns represents S and A and another set O. The bound pronouns are normally suffixed to a catalytic particle (that can indicate tense); in a transitive clause,

these bound or clitic pronouns generally occur in the order: A followed by O. In comparing the following sentences, note that free pronouns in Walbiri inflect on an ergative pattern like nouns.

- (6) η at^Yulu ka- η a pu|a-mi
I PRESENT-I shout-NONPAST
I am shouting
- (7) n^Yuntulu ka- η pa pu|a-mi
you PRES-you shout-NONPAST
You are shouting
- (8) η at^Yulu-|u ka- η a- η ku n^Yuntulu n^Ya-n^Yi
I-ERGATIVE PRESENT-I-you you see-NONPAST
I see you
- (9) n^Yuntulu-|u ka- η pa-t^Yu η at^Yulu n^Ya-n^Yi
you-ERGATIVE PRES-you-me me see-NONPAST
You see me

Many Pama-Nyungan languages exhibit some variation from the basic pattern of 'ergative marking with nouns and accusative marking with pronouns'.

In a small number of languages free pronouns as well as nouns inflect on an ergative pattern. The case of Walbiri has already been noted. Other Pama-Nyungan languages with this system include Pintupi (N.T.), Walmadjari (W.A.), Galgadungu (Q.), Yalarnga (Q.), and Djaru (W.A.). In the non-Pama-Nyungan area, Muriny-Pata (N.T.) and Rembarnga (N.T.) also have both nouns and free pronouns inflecting ergatively.

In some languages ergative *and* accusative marking is used on some persons and numbers in the pronoun paradigm, particularly in the first and second singular, or in the third person in all numbers. And in a few languages ergative and accusative marking is found on all pronouns, e.g. in Duungidjawa (s.e.Q) (Wurm 1976) we find:

		Nominative (S function)	Ergative (A function)	Accusative (O function)
Sing.	1	η ai	η ad ^Y u	η an ^Y a
	2	η in	(η)indu	(η)ina
	3	yo:(ru)	yo:(ru)ndu	yo: η a

In some languages accusative marking as well as ergative marking is found on some or all nouns. The grammar of Gumbaynggir in this volume describes how accusative marking occurs on kinship nouns and personal proper nouns. In some Arandic languages (N.T.) accusative marking occurs on all human nouns, in Thargari (W.A.) on all animate nouns and in Wangkumara (Q.) on all nouns (Breen 1976a).

A small number of Pama-Nyungan languages do not show ergative inflections. Lardil (Mornington Island, Q.) has an entirely accusative system of case marking as have some of its neighbours. In Western Australia, Ngarluma and some adjacent languages have developed an accusative system of marking (Hale 1970). It seems likely that both these groups have developed from ancestor languages that did show a degree of ergativity, through morphological loss and re-analysis.

In some languages case marking is sensitive to tense. The accusative language Lardil (Q.), has separate future and non-future accusative and locative. The grammar of Pitta-Pitta, in this volume of the *Handbook*, describes a more complex system: this language has ergative and accusative markings on all nominals in the non-future, but in the future it uses a suffix -ŋu for S and A and a suffix -ku for O; -ku also marks the goal of verbs 'like' and 'seek' irrespective of tense.

Pitta-Pitta nominal inflections:

	Non-future	Future
S	-∅	-ŋu
A	-lu	-ŋu
O	-ŋa	-ku

The non-Pama-Nyungan languages almost all use cross-referencing bound pronouns prefixed to the verb or to an auxiliary verb. In some instances the order of the cross-referencing pronouns in a transitive clause is determined by the principle of the hierarchy of persons, first person preceding second and third, and second preceding third irrespective of syntactic function. This principle is not confined to the prefixing languages and is also found for instance in the Pama-Nyungan language, Pitjantjatjara (W.A.).

Another feature of the cross-referencing pronouns of the non-Pama-Nyungan languages is that they often show some fusion and other irregularities in transitive clauses, so that the synchronic description of these languages involves describing a set of bound pronouns for intransitive subject and another set of unanalysable portmanteau morphemes for various Agent-Object combinations e.g. first singular acting on third plural or second dual acting on third dual. This is one of the few instances where the transparent character of Australian languages is not maintained. In Gunwinygu (N.T.) (Oates 1964:42), for example we find that the bound form singular pronouns in intransitive clauses are

1st person ŋa-, 2nd person yi-, 3rd person ∅ga-

but in transitive clauses we do not get forms that can be derived simply from the above by allowing for case marking and/or hierarchical ordering. For example, gan-bun means 'You will hit me' (bun = 'hit'), ŋan-bun means 'He will hit me', and bun without any prefixed pronoun combination at all means 'I will hit you'.

In many instances the prefixing languages do not use suffixes nor any other marking on noun phrases to indicate the major syntactic relationships but instead rely entirely on the cross-referencing system.

The dative case relationship and the concrete (or 'local') case relationships are usually expressed by suffixes. In a few cases postpositions are used and some non-Pama-Nyungan languages employ one or two prefixes.

The following case relationships can be distinguished syntactically for a large number of Australian languages:

Intransitive Subject (S)
 Transitive Agent (A)
 Transitive Object (O)
 Dative
 Genitive
 Instrumental
 Locative ('at')
 Allative ('to')
 Ablative ('from')
 Causal ('because of')

but they are not all allotted separate case forms. As mentioned above nouns usually inflect on an ergative pattern with an ergative suffix representing the agent and the unmarked form representing both intransitive subject and the object. The ergative suffix usually represents the instrumental case relationship as well. The commonest ground for distinguishing agent and instrumental is that the former may be cross referenced but not the latter. In a scattered minority of languages instrumental falls together not with ergative but with locative.

It is fairly common for the dative case marker to cover the possessive (=genitive) sense without there being a separate genitive form. The dative usually expresses the notion of purpose ('go for yams') and beneficiary ('go on behalf of my mother') and it serves to mark the complement of most intransitive verbs (as in English 'weep for his friend') or nominals ('a spear for fish'). In some languages the dative expresses the indirect object but in others the indirect object is expressed by the same case as the object, i.e. by the nominative or accusative.

The allative case relationship is sometimes represented by the dative case form and in a small number of languages by the locative form. A number of languages have a case suffix to express cause as in 'die of thirst', 'flee because of the fire', etc. but often this sense is carried by the ablative, instrumental, dative or locative or by a conjunction (and a subordinate clause) rather than a case suffix.

The following noun paradigm is fairly typical. It is taken from Thargari (W.A.) (Klokeid 1969), but the allomorphy has been considerably reduced:

Nominative	-∅	(for S and O, but see accusative)
Ergative	-du	(A and instrumental)
Accusative	-ṅa	(O with animate nouns and also pronouns)
Dative	-ku	(genitive and dative)
Locative	-da	
Allative	-kuda	
Ablative	-waḍi	

The ergative case is usually marked by forms such as -lu, ṅku or -tu. In some languages -ṅku occurs with stems ending in vowels, and -tu, or better -Tu, occurs with stems ending in consonants. (T indicates a stop that assimilates in point of articulation with the stem-final consonant.) In a number of languages -ṅku occurs with vowel-final stems of less than three syllables and -lu occurs with stems of three or more syllables. Hale (1976b) suggests that all

these allomorphs might derive historically from *-lu.

The locative case is usually marked by forms such as -la, -ŋka, or -ta, i.e. by forms that are the same as the ergative forms except that the vowel is a rather than u. Hale (1976) suggests that these derive from *-la.

The accusative is almost always represented by -na -n^ɥa, or, in a very few cases, -na. The dative is -ku in a high proportion of languages, some languages having a lenited (weakened) allomorph -wu after vowels. Ablatives often begin with -ŋu-. e.g. ŋuŋu, ŋuŋi, etc. The other case inflections are realised by a great variety of different forms.

4.2 PRONOUNS

Australian languages usually distinguish singular, dual and plural pronouns over three persons: first, second and third. The following paradigm from Warungu (n-e Q.) (Tsunoda 1974) is quite typical,

	Singular	Dual	Plural
1	ŋaya	ŋali	ŋana
2	yinda	yubala	yura
3	n ^ɥ ula	bula	d ^ɥ ana

A few languages lack duals: *Gidabal* (s-e Q.) (Geytenbeek and Geytenbeek 1971:15), *Maung* (N.T.) (Capell and Hinch 1970), *Tiwi* (N.T.) (Osborne 1974:54), *Yiwadja* (N.T.) (Capell 1962:156), *Dyaabugay* (n-e Q.) (Hale 1976c). And a few have trial (= referring to 'three') or paucal (= referring to 'a few') forms: *Arabana* (S.A.) (Hercus 1966), a number of languages in the Kimberleys (Capell and Coate, forthcoming) and some languages in Victoria (Hercus 1966).

A large number of languages make an inclusive versus exclusive distinction in the first person non-singular. Thus there can be separate forms for 'I and you' (including the addressee) and for 'I and him/her' (excluding the addressee). In some languages the non-singular pronouns exhibit different forms according to the kinship relationship between the persons referred to. Hale (1966b) discusses examples from *Lardil* (Q.) and the *Arandic* languages (N.T.). See also O'Grady et al (1966:88, 130) for *Bandijma* (W.A.) and *Wadjuk* (W.A.).

The following example is from the Lower *Aranda* dialect (Hale 1966b). Two principles are involved. The first is the principle of 'alternate generation levels'. A person is 'harmonic' with respect to his own generation and all even-numbered generations counting away from his own, and 'disharmonic' with respect to odd-numbered generations. Thus a man is disharmonic with respect to his father and his son but harmonic with respect to his grandfather and his grandson. The other principle is that of agnatic kinship. A man is agnate with respect to his patrilineal descent line, each patrilineal descent line related to the first through a common male and the sisters of all the males in the group. A man is thus agnate with respect to his brothers and sisters, his children, his son's children, his

brother's children, his father, his father's brothers and sisters and so on; he is non-agnate with respect to his wife's relatives. In Lower Aranda, the third set of pronouns in the table below is used if the referents are not exhaustively agnatic. Set I is used if they are harmonic and agnatic and set II if they are disharmonic and agnatic.

	I	II	III
Dual 1	ili-ŋ	il-ak	il-an̄t̄
2	aŋ-āt̄ir	mpil-ak	mpil-an̄t̄
3	il-āt̄ir	al-ak	al-an̄t̄
P1 1	un-ar	un-aki-r	un-an̄t̄i-r
2	aŋ-āriy	ar-aki-r	ar-an̄t̄i-r
3	il-āriy	in'-aki-r	in'-an̄t̄i-r

The forms of the pronouns are quite similar across the continent. The first person pronoun in almost every language is based on the root ŋa-. For the first person singular 'I', forms such as ŋat̄Yu, ŋat̄u, ŋat̄Va, ŋat̄a, ŋaya, ŋayu, ŋan̄Va, and ŋaypa occur. These probably derive from ŋay augmented by a form that formerly functioned as an ergative (-tu), or by a form that formerly functioned as an accusative (-n̄Va), or by a form that is a phonological filler (-pa). However, no rigorous reconstruction has been completed yet.

The first person dual 'we two' is ŋali in a very large number of languages. Where there is an inclusive/exclusive distinction ŋali usually represents the inclusive while the exclusive is formed in a variety of ways, often just by augmenting ŋali. The first person plural 'we all' is represented by a variety of forms beginning with ŋa-; ŋana is fairly common, especially in Queensland.

The second person singular 'you' is represented by a small variety of forms. The first syllable is very often n̄^yun- or n̄^yin- with yun- and yin- in a smaller number of languages. In some languages, mostly in the east, the first syllable is ŋun- or ŋin-. The range of second syllables is much the same as for the first person singular, thus we find forms such as n̄^yuntu, n̄^yinta, yinta, ŋinpa.

The second person dual 'you two' is commonly represented by forms such as ŋupala, n̄^yumpala, yupala, ŋupalu. The second person plural 'you all' is usually represented by forms such as n̄^yura, ŋura, yura. The laminal nasals ŋ and n̄^y, can be shown to derive from a single original laminal N̄^y (see Dixon 1970 and section 4.6 below), and y in yinta etc. can be shown to be a lenited (softened) form of N̄^y. However, it remains to be demonstrated whether one single proto-form was the genesis for the variety of second person pronouns in modern languages.

The third person singular is sometimes represented by zero, i.e. by no form at all, in contrast to overt forms for first and second person and for third person non-singular. All languages have demonstrative pronouns, usually with a three way distinction such as between (a) near the speaker (b) distant from the speaker, and (c) neither near nor far. It is normal for one of the demonstratives to be used in unmarked circumstances where no deictic (pointing) function is required, and it thus comes to be a third person pronoun.

The only third person singular pronoun root (non-demonstrative) that is at all common is n^y ula, n ula, n^y ulu, n ulu in Queensland. In a few languages there is a masculine/feminine distinction (natural gender). In Pitta-Pitta, for example, n u- refers to non-feminine and n an- to feminine. These serve as stems to which inflections are added. Deictic clitic suffixes are then added obligatorily after the inflections: -yi (near the speaker), -aarri (distant) or -ka (non-specific), that is:

n u-wa-yi	he - nominative - near
n u-wa-ka	he - nominative - non-specific
n u-wa-arri	he - nominative - far
n an-pa-yi	she - nominative - near
n an-ku-ka	she - dative - non-specific
n an-tu-aarri	she - ergative - far

Further discussion of these forms is in the Pitta-Pitta grammar, in this volume.

The third person dual is represented by p ula in a large number of languages. In some languages, particularly in Queensland, this form also functions as the word for 'two'. The third person plural is commonly represented by t ana or t^y ana.

4.3 VERBS

Most Pama-Nyungan languages have between 2 and 5 verbal conjugations. Each verb belongs to just one conjugation and takes an appropriate set of suffixial allomorphs.

We can illustrate with the three conjugations of Yidin y (n-e Q.) (Dixon 1977). Verb roots are recognised to end in a vowel, and the inflections on verbs in main clauses are:

	Conjugation 1	Conjugation 2	Conjugation 3
present-future	-ŋ	-l	-r
past	- n u	-l n u	-r n u
imperative	-n	- \emptyset	-r
purposive	-na	-l n a	-r n a

For past and purposive we could recognise a 'conjugation marker' - \emptyset , -l, or -r, which is followed by the invariable inflections - n u and -na. But note this solution would not be appropriate for present-future and imperative.

The majority of languages in Western Australia have four to six conjugations, whereas only two or three can be recognised for most languages in Queensland and New South Wales. There are two isolated languages on the north-east coast (Guugu-Yimidhirr and Nyawaygi) that do have five or more conjugations, and these show formal and other similarities with the West Australian classes. It is likely that the ancestor language, proto-Australian, had five or six conjugations, but some of these have fallen together in various modern languages. There is a sprinkling of languages with no conjugational contrast (effectively: just one conjugation) - most of the languages of South Australia are of this type.

Each conjugation will normally have a transitivity preference, although there is no strict correlation between transitivity and conjugation. Thus in Yidin^Y 80% of the verbs in conjugation 2 are transitive while 60% of those in conjugation 1 are intransitive. There are typically just two 'open' conjugations, with the remainder each having only a handful of members (often predominantly monosyllabic). For example, only 15 verbs are known for conjugation 3 in Yidin^Y as against over a hundred for each of the other two classes.

Most Australian languages inflect verbs for tense. A three-term system 'past/present/future' is common, but there are languages which simply contrast 'past' with 'non-past', or 'future' with 'non-future'. 'Future' will normally refer to simple prediction ('will') and must usually be distinguished from the 'purposive' inflection, describing need or obligation ('want to', 'should', 'ought to' etc.). Whereas the forms of tense inflections tend to differ from language to language, purposive is -gu in most languages (Yidin^Y is an exception in having -na). Verbal purposive -gu is almost certainly to be identified with the nominal dative -gu (see Capell, 1956:77 and Dixon, 1976:421-82). Some languages have distinct inflections for positive and negative imperative, but the majority have a single imperative ending (and show the prohibition by a preposed particle 'don't').

Australian languages typically allow a number of derivational affixes - between root and inflection - with aspectual-type specifications. Apart from the widespread occurrence of a 'continuous' suffix, the semantic effect of these affixes again differs greatly from language to language.

There are also derivational affixes that have syntactic effect - deriving a transitive from an intransitive stem and vice versa, forming a reflexive or reciprocal, and so on. For instance, in Yidin^Y, verbs are marked as reflexive by a derivational affix -:d^Yi, coming between root and inflection. Corresponding to the transitive sentence:

- (10) wagud^Ya-nggu bun^Ya wawa-l
 man-ERG woman look at-PRES
 The man is looking at the woman

there is the derived intransitive:

- (11) wagu:d^Ya wawa-:d^Yi-ŋ
 man look at-REFL-PRES
 The man is looking at himself (e.g. at his reflection in a pool of water)

As in many other Australian languages, the reflexive affix -:d^Yi- can also be used to mark an 'antipassive' construction. The underlying A NP has surface S function in a derived antipassive, and the underlying O NP goes into dative case (marked by -nda). The verb again involves the derivational affix -:d^Yi. Thus the antipassive (derived intransitive) version of (10) is:

- (12) wagu:d^Ya bun^Ya:-nda wawa-:d^Yi-ŋ
 man woman-DAT look at-ANTIPASS-PRES
 The man is looking at the woman.

(12) has the same cognitive meaning as (10), just as an active sentence and its passive version do in a language like English.

There are syntactic reasons for placing a transitive sentence in antipassive form for languages like Yidin^y. For instance, two clauses can be conjoined if they have a (nominal) noun phrase in common and if this is in S or O function in each clause. Thus:

- (13) wagu:d^ya manga-ŋ
 man laugh-PRES
 The man is laughing

can not be coordinated with (10) since the repeated noun (wagud^ya 'man') is in S function in (13) but in A function in (10). However, (13) can be joined with (12), where wagud^ya is in derived S function. Thus:

- (14) wagu:d^ya manga-ŋ bun^ya:-nda wawa:-d^yi-ŋ
 man laugh-PRES woman-DAT look at-ANTIPASS-PRES
 The man laughs and looks at the woman

Some Arnhem Land languages have conjugation classes that are probably related to the Pama-Nyungan pattern. In the non-Pama-Nyungan area tense and aspect may be shown by prefixes to the verb, but the kinds of semantic distinction that are made are similar to those in the rest of the continent.

4.4 WORD BUILDING PROCESSES.

All Australian languages use derivational suffixes to form words and all make some use of compounding and reduplication.

Lexical roots are normally nominal or verbal, the nominal group covering the semantic range of English nouns and adjectives. Roots cannot normally appear in both the nominal and verbal classes (like English run, love, etc) unless overt morphological derivational suffixes are used.

There are usually derivational suffixes for the following (all exemplification from Yidin^y, Q):

[a] a suffix with the approximate meaning 'having something' or 'having some characteristic'. It is added to a nominal stem and the resulting formation is nominal, e.g. from gid^yar 'line, mark, strip' is derived gid^yar-d^yi literally 'with stripe', the name for 'policeman' as in:

- (15) gid^yar-d^yi-ŋgu bun^ya wawa-l
 stripe-WITH-ERG woman look-PRES
 The policeman is looking at the woman

[b] a suffix meaning 'lacking' e.g. from mayi 'food' is derived mayi-gimbal 'foodless' as in:

- (16) d^yad^ya mayi-gimbal badi-ŋ
 child food-WITHOUT cry-PRES
 The child who has no food is crying

[c] a suffix for forming intransitive verbs from nominal stems, having the approximate meaning 'become' e.g. *ga:dYu:l* 'dirty', *ga:dYu:l-daga-* 'become dirty', as in:

- (17) *yɪŋu bana ga:dYu:l-daga-ŋ*
 THIS water dirty-BECOME-PRES
 This water has become dirty

[d] a suffix for forming transitive verbs from nominal stems, having the approximate meaning 'make' e.g. *mada* 'soft', *mada-ŋa-* 'make soft, soften', as in:

- (18) *bunYa:-ŋgu mayi mada:-ŋa-l*
 woman-ERG food soft-MAKE-PRES
 The woman is softening the food

[e] a suffix which derives transitive verbal stems from intransitive roots. In some languages the object of the transitive sentence is identical to the subject of the corresponding intransitive construction (this is a 'causative' sense); in other languages it is the transitive subject which corresponds to intransitive subject. In a few languages the transitivising verbal suffix can have either kind of effect, depending on the semantic type of the verb to which it is added. Thus the derivational suffix *-ŋa-l* in *Yidin^y* forms transitive stem *badi-ŋa-l* 'cry about' from intransitive *badi-n* 'cry' and transitive *gun^yd^yi-ŋa-l* 'break' from the intransitive root *gun^yd^yi-n* 'break'. Compare:

- (19)a. *yɪŋu d^yugi gun^yd^yi-ŋ*
 THIS branch break-PRES
 This branch is breaking
- b. *wagud^ya-ŋgu yɪŋu d^yugi gun^yd^yi:-ŋa-l*
 man-ERG THIS branch break-TRANSITIVISER-PRES
 A man is breaking this branch
- (20)a. *bun^ya badi-ŋ*
 woman cry-PRES
 The woman is crying
- b. *bun^ya:-ŋgu d^yad^ya badi:-ŋa-l*
 woman-ERG child cry-TRANSITIVISER-PRES
 The woman is crying over the child

It is not unusual to find the same form functioning as an affix that derives transitive verbal stems from nominals, under (d), and also for deriving transitive verbal stems from intransitive roots, under (e) - like *-ŋa-l* in *Yidin^y*. However, many languages do have different forms - in the *Pitta-Pitta* grammar it will be seen that *-kuri* is the denominative transitiviser, (d), whereas the deverbal transitiviser, (e) is *-ri*. Derived stems can have fairly idiosyncratic meanings, as *Pitta-Pitta* root *ŋaŋka-* 'to remain, to sit, to exist' and transitive *ŋaŋka-ri* 'to have a baby', literally 'to cause to exist'.

Most Australian languages use a derivational verb suffix to express the reflexive, as in sentence (11) above for *Yidin^y*. In some languages this suffix expresses the reciprocal as well; *Pitta-Pitta*, described later in this volume, is an example of this type. Other languages can have distinct suffixes for deriving reflexive and reciprocal

stems, as in Dyirbal:

root - balga-l 'hit'
 reflexive stem - balga-yiri-y 'hit oneself'
 reciprocal stem - balgal-nbari-y 'hit each other'

These stems behave like intransitive verbs, taking just one obligatory NP which is in S function; this is the normal behaviour of reflexive and reciprocal stems in Australian languages.

In a minority of languages a reflexive pronoun is used instead of (rarely, as well as) a reflexive verb suffix.

In some languages dual and plural number is expressed by stem-forming suffixes. Dyirbal is fairly typical in having a dual suffix -d^yaran, but showing plurality by reduplication of the root. Thus yibi 'woman', yibi-d^yaran 'two women', yibi-yibi 'three or more women'.

Australian languages seem to make rather sparing use of compounding at least as far as nouns are concerned. Verb compounding is, however, highly developed in some western languages. In a corpus of 600 Walmatjari verbs, only 60 were monomorphemic, the remainder involving an invariable first element followed by one of the sixty 'simple verbs' (see Hudson 1978). And in Gurindji (N.T.) there are only thirty 'simple verbs'. This contrasts sharply with Dyirbal (n-e Q) where over 90% of a corpus of 600 verbs were monomorphemic.

Most if not all Australian languages make some use of reduplication, sometimes as in Dyirbal to indicate plurality, sometimes to show variety or intensity, often to form an 'adjective' from a noun e.g. in Pitta-Pitta we find ŋapu 'water', ŋapu-ŋapu 'wet'; mayi 'dirt', mayi-mayi 'dirty'; maka 'fire', maka-maka 'hot'.

To cater for introduced concepts and artifacts, Australian languages employ the three standard possibilities. They extend the meaning of existing terms, they use morphological word building processes, and they borrow. In Galgadungu (Q) for example kat^yapi ('kite hawk') was extended to cover 'aeroplane'; kaⁿimain^tyir was composed from kaⁿimai ('to tie') and -n^yt^yir (agent-noun-forming suffix like English -er) to express 'policeman' (because he ties people up) and English pot was borrowed as putu to describe 'stew'.

4.5 PARTICLES AND CLITICS

Australian languages typically employ some non-inflecting words that can be called 'particles'. These are used to express various meanings, but typically to express notions such as negation, interrogation, uncertainty, emphasis, direction or orientation. Sometimes these particles are unstressed and may be pronounced as part of the preceding word (i.e. they can be cliticised); in some cases they occur only as suffixes to a preceding word (i.e. they exist only as clitics).

In Wargamay, for example, the particles include ŋa: 'not', ŋaru 'don't', mari 'might be, perhaps', d^yamu 'just,

only', *ɲuri* 'in turn' and *wara* 'inappropriate referent of the S or O NP'. In this language the particles are never cliticised, but are always independent words, occurring in a sentence anywhere before the verb, as in:

- (21) *mamu mari ɲad^ya n^yuŋa ganda-gu*
 by-and-by MIGHT I IT burn-PURP
 I might burn it by-and-by
- (22) *n^yulanga wagun wara gunba-y*
 HE-ERG tree INAPPROPRIATE cut-PRES
 He cut the wrong tree down

Polar questions (those demanding a 'yes' or 'no' answer) can in some languages only be marked by intonation. Other languages have an interrogative clitic. In *Dyirbal*, for instance, the interrogative clitic *-ma* must follow the first word of the sentence, whatever this is. Word order is in fact very free, so that 'she saw him' could be:

- (23) *bayi baŋgun buɾa-n*
 HE SHE-ERG see-PAST

but it could equally well be *bayi buɾan baŋgun* or *baŋgun bayi buɾan* or *baŋgun buɾan bayi* or *buɾan bayi baŋgun* or *buɾan baŋgun bayi*. The interrogative version of this sentence, 'Did she see him', can also have any one of these six orders, with *-ma* added to the first word - *bayima baŋgun buɾan* or *baŋgunma bayi buɾan* and so on.

4.6 PHONOLOGY

It has often been remarked in previous literature that Australian languages exhibit great phonological similarity (e.g. Capell 1956:4, O'Grady et al. 1966:56, Wurm 1972:31). As a first approximation this is true, but considerable divergences from the norm exist in the Arandic languages of central Australia and in languages of the Cape York peninsula.

It is convenient to take the phonological system of *Pitjantjatjara* as a reference point as it represents one of two very common phonological systems found in Australia. The inventory of *Pitjantjatjara* is as follows (see Glass and Hackett 1970, Douglas 1964):

Consonants

	Bilabial	Apico- alveolar	Apico- domal (retroflex)	Laminal	Dorso- velar
Stops	p	t	t̠	t ^y	k
Nasals	m	n	ɳ	n ^y	ŋ
Laterals		l	ɭ	l ^y	
Flap		r			
Semi-vowels (w)			ɽ	y	w

Vowels

	Front	Back
High	i	u
Low	a	

The term bilabial refers simply to sounds made with the lips like English p, b, m. Apico-alveolars are made with the tip (apex) of the tongue touching the upper gum (alveolar) ridge as in English t, d, n and l. The apico-domals are produced with the tip of the tongue curled back (retroflexed) towards the roof of the mouth as in some Indian languages. These apico-domal sounds are similar to typical American pronunciations of the intervocalic consonants in words like *warder*, *morning*, *Shirley* i.e. they sound like combinations of a \bar{r} sound and a \bar{t} or \bar{d} or \bar{n} or \bar{l} sound.

The label 'retroflex' is often applied also to the sound represented here by \bar{r} . It is almost always a frictionless continuant or glide with a quality varying from the common Received Pronunciation [ɹ] to the retroflex [ɻ] of the English West Country dialect. The other rhotic, represented here by r, is normally a flap or trill as in Scots English.

The laminals t^y , n^y and l^y are articulated with contact between some part of the blade or of the front of the tongue and an area at the back of the upper teeth or with the gum ridge or palate. The point of the tongue is either resting at the back of the lower teeth or protruding between the upper and lower teeth. The exact area of articulation is relatively free in some languages, but in others there is some 'natural' allophony e.g. in Pitjantjatjara where an interdental allophone occurs before /a/ and /u/ but a more alveo-dental allophone before the front vowel /i/ (see Douglas 1964, Dixon 1970, Jernudd 1974). The dorso-velars are produced by placing the back (dorsum) of the tongue against the soft palate (velum) as in English g or ng. The velar nasal ŋ is the single sound that follows the vowel in English words like *sing*.

Voicing is not phonologically significant in most Australian languages - that is, the interchange of, say, [t] for [d] does not change the meaning of a word as it does in English e.g. *cat* versus *cad*. The part voicing plays in pronunciation varies from language to language and even from speaker to speaker. In some languages the articulation of stops is natural in that there is little if any voicing in word initial position but regular voicing between vowels especially in syllables at a distance from primary stress.

Linguists working on Australian languages have been divided in their choice of symbols for representing the stops, some preferring p, t, k, etc., others b, d, g, etc. Most base their preference on the actual pronunciation, using p, t, k, etc. where the pronunciation is predominantly voiceless and b, d, g, etc., where the pronunciation is predominantly voiced. We have used both voiced and voiceless symbols in the Introduction; the reader will soon get used to the interchangeability of b/p, d/t, and k/g in writings on Australian languages. Contributors to the *Handbook* are free to make their own choice of symbols for the stops.

Voicing is contrastive in a small and scattered minority of languages, e.g. Thargari (W.A.), Wangkumara (s-w Q). In the Kundjen examples quoted in the comparative table on page 23 the voiced symbols represent a series of unaspirated voiceless stops contrasting with a voiceless aspirated series. In some languages a prenasalised series contrasts with an oral series, and some linguists have used the voiced symbols for the former, (e.g. Sharpe 1972, on Alawa, N.T.).

Of the vowels, /a/ needs little comment. It is similar to the sound of the modern Received Pronunciation of *but*, or sometimes it is longer as in *calm*. /i/ and /u/ may be (close) like the R.P. vowels of *beet* and *boot* respectively or mid-high (half-close) like the close /e/ and /o/ of Italian *vedere* 'to see' and *sole* 'sun'. In some languages /u/ is not particularly rounded.

Pitjantjatjara makes a distinction between long and short vowels although it may be possible to interpret the phonetically long vowels as sequences of identical vowels. Vowel length is distinctive in perhaps a little less than half the languages of Australia.

Languages with the phoneme inventory of Pitjantjatjara extend over most of Western Australia and the same consonant inventory is found in the Kimberleys, although these languages have some additional vowels. Along the western and southern periphery of the state a variation occurs in which two laminal series occur instead of one.

One series is usually referred to as (lamino-)dental and the other as (lamino-)palatal. The articulation of the former series, usually written $\underset{\cdot}{t}$, $\underset{\cdot}{n}$, $\underset{\cdot}{l}$, is as described for the most forward variants of the laminal series of single laminal languages and the palatal series is articulated with contact between the front of the tongue and the pre-palatal area or the palate. This variation is common also in western and central Queensland and is found extensively in New South Wales with scattered occurrences also in Arnhem Land and Daly River. The single laminal system, as described for Pitjantjatjara, and the double laminal variation between them account for well over half the languages of Australia.

Dixon (1970) demonstrates the likelihood of the double laminal system having developed from the single laminal system on the basis of the dental cognates and the palatal cognates in double laminal languages being in the following type of complementary distribution: cognates of t^y and n^y in the single laminal languages show up as $\underset{\cdot}{t}$ and $\underset{\cdot}{n}$ respectively in double laminal languages before /u/ and /a/ and as t^y and n^y respectively before /i/, e.g.

	Double Laminal	Single Laminal
	language	language
'you (plural)'	$\underset{\cdot}{n}$ ura	n^y ura
'to see'	$\underset{\cdot}{n}$ aka-	n^y aka-
'to sit'	n^y ina-	n^y ina-

Dixon suggests that this complementarity may reflect the original allophony with palatal allophones before /i/ and dental before /a/ and /u/. The double laminal languages may have gained the extra series of laminals by introducing

palatals before /a/ and /u/ and dentals before /i/. Some support for this thesis is provided by the relatively low frequency of sequences such as t^ya, t^yu and t^yi as against ta, tu, t^yi in double laminal languages.

Almost all the languages of Cape York lack the retroflex series (ɟ, ŋ and ɟ̣), Yir Yoront (Alpher 1973) and Guugu Yimidhirr (see the grammar in this volume) being exceptions. This variation extends down into eastern and central Queensland and most of the languages of New South Wales and some Victorian languages also lack retroflexes.

In general there are as many nasals as there are stops, and there is a lateral in each stop/nasal series other than bilabial and dorso-velar. But there are languages that do not have this number of laterals. In Cape York and eastern Queensland generally, where the retroflex series is lacking, it is common to find no laminal lateral so that the languages in that area have only the alveolar lateral. This is also the case in Arnhem Land and a little further to the west: Burera, Tiwi and some of the Daly River languages have only one lateral (see Osborne 1974, Tryon 1974).

Other deviations from the norm as far as phoneme inventory is concerned are much less widespread. In the Arandic languages of central Australia and extending through Arabana right down to Adelaide, S.A., prestopped nasals occur - bm, ḍn, dn etc. - and in Arabana and the languages to the south, prestopped laterals (or laterally released stops) are encountered - ḍl, dl, etc. (Hercus 1972). Pre-nasalised stops occur in a few languages, Yinwum (Cape York, Q.) and Lama-Lama (also Cape York) for example. Fricatives occur in a number of languages, e.g. in Linngithigh and in a number of other languages of Cape York, and also in Brinken (Daly River, N.T.).

Some languages have more than three vowels, usually /e/, or /e/ and /o/, as well as /i/, /a/, and /u/. In some cases it can be shown that these systems with 'extra' vowels have developed out of the basic three vowel system. A number of instances of these developments in Cape York are illustrated in Sutton 1976 (see, in particular, the papers by Hale). An example is given on page 22 below.

The normal phonotactic pattern is for words to be of two or more syllables. In almost all languages most (sometimes all) words must begin with a single consonant and most consonants can occur word initially. However, it is unusual for a flapped or trilled /r/ to occur initially and some languages do not allow initial laterals. If there are two sets of apicals, there is usually neutralisation in initial position with the realisation being retroflex in a majority of cases.

Most languages allow some final consonants. The consonants n, l, r, ŋ and ɟ̣ are allowed in most languages of this type, sometimes with the addition of laminal nasal and lateral. Yulbaridja, a single laminal language of W.A., allows t^y, n^y and l^y (as well as n, l, r, ŋ and ɟ̣); Dhalandji, a double laminal language of W.A. allows n^y (as well as n, l, r, ŋ) word finally.

However, some deviations from this phonotactic norm occur as a result of a change or group of associated historical changes that can be conveniently labelled 'initial

dropping'. Initial dropping is a change that has taken place in a number of parts of Australia and consists in essence of the loss of an initial consonant. Minimally such a change affects the phonology to the extent that it exposes initial vowels. This has happened in Nhanda (W.A.) for example, though the change has not been complete and it remains unclear whether the limitation of initial dropping was phonologically conditioned, or reduced in its effect on the lexicon by subsequent borrowing from phonologically intact languages, or whether both these possibilities are realised. Limited initial dropping has occurred also in Galgadungu (w.Q), but here a whole initial syllable is lost, in some cases thereby exposing medial nasal-plus-homorganic-stop clusters (*N^yumpala>mpaya). Loss of initial vowels and syllables is a feature of the Arandic languages of central Australia, northern and southern (but not central) Cape York (Sutton 1976) and of Nganjaywana in New England (Crowley 1976). In some cases the initial dropping has resulted in the exposing of the most heterorganic clusters of consonants as initials, and in some cases has produced monosyllabic stems. The general effect of such changes has been to produce languages that look radically different from the Australian norm.

Essentially, initial dropping affects the phonotactics (word shapes) rather than the phoneme inventory, though the latter may be affected by the results of reinterpretation consequent on the loss. For example, the exposure of nasal-plus-stop clusters in initial position in Galgadungu allows for the possibility of interpreting these clusters as unit phonemes since they pattern like unit phonemes. However, initial dropping is often accompanied by other changes that may affect the inventory. In northern Cape York for example, stops and nasal-plus-stop clusters were softened to fricatives after an original long vowel in the first syllable, e.g. in Linngithigh, *pi:pa became iβa (father), where β represents a voiced bilabial fricative, and *mu:n^yt^yi- became ođi- (to swim), where đ represents a voiced dental fricative (Hale 1966a:169). These fricatives are phonemically distinct from the stops.

In some languages in northern and southern Cape York an initial vowel was lost in itself but is reflected in the changed quality of the second vowel. In some cases this produced mid vowels e and o. For example, in Yinwum (northern Cape York, Hale 1966a:171), a sequence C₁aC₂i became C₂e if C₂ was non-laminal, thus *ŋali became iε 'we dual²inclusive'.

In some cases, the short vowel of the first syllable, especially if high, metathesised into the second syllable, usually appearing as the corresponding glide. In Awngthim (northern Cape York, Hale 1966a:172), *n^yiŋku 'you' became ŋkyu and *t^yuma 'fire' became mwa. Changes of this type also appear in southern Cape York, New England and central Australia.

TABLE 1.1 - Examples of phonetic dropping

	Typical 'Intact' forms	West Coast Nanda	Central Arandic	New England Ngan ^y aywana	S. Cape York Kund ^y en etc.	N. Cape York Linji ^{tiy} etc.
sit	n ^y ina	-	ni-	ni-	ina-	ina-
meat, animal	min ^y a	-	itn ^y a	-	i _n	n ^y a
two	kut ^y ara	u _t ara	t _i ra	-	ud ^y ir	ut ^y i-
urine	kumpu	umpu	mpwa	-	mpu	mpu
faeces	kuna	una	tna	-	noa	nwa
I/me	ɲat ^y u	ɲayi	a _t a	ya-	a _{du} -	a _{tu} -, i _o -
tongue	t ^y alan ^y	tal ^y an ^y	lin ^y a	tan-	ley	lan (mouth)
where	wan ^y t ^y a	wan _t a	n _t a-	-	t ^y a	-
tooth	rira or lira	ira	ra-	ira	ria (mouth)	-
we two	ɲali	ɲali	ayli	ti-	(a)li	(a)li
(they) two	pula	-	ala	twa-	ul	ula, lwa