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PREFACE

The present volume offers thirteen contributions to Australian linguistics problems of a rather wide, general, high-level or off-the-mainstream nature whose discussion has been largely outside the scope of the quite numerous publications in Australian linguistics which have appeared during the last few years. Since the early seventies, these have very predominantly concentrated on individual Australian languages or on narrow aspects of particular languages or language groups.

In the light of this, the present volume contributes to the generalistic approach to the study of Australian linguistics which constitutes a necessary background and counterbalance to recent studies of a narrower nature in this field.

Michael Walsh offers a discussion of Australian linguistics research over the last ten years, with extensive bibliographical information, and a bibliography supplement for the years 1957-68 by Michael Walsh and Lois Carrington. Peter Sutton addresses himself to the problems of the writing and spelling of Australian language names. Geoff O'Grady gives an over-view of the very special problems confronting the worker in Australian comparative and historical linguistics, and puts forward his ideas in connection with them. Arthur Capell, the doyen of Australian linguistics and of linguistics in Australia, contributes three extensive papers summarising aspects of findings arising from his life-long study of Australian languages. One of these deals with Australian languages in general, hypothetical questions of their origin and possible development, and overall problems presented by their study. The other two address themselves in great detail to problems of the classification of nouns and verbs in Australian languages. Barry Blake offers extensive typological and historical observations on the case systems in Australian languages.
Jeffrey Heath writes in considerable detail on problems and perspectives of diffusional linguistics in Australia. Luise Hercus contributes a paper on problems of Australian comparative linguistics as exemplified by special phenomena observable in Arabana and Wangajuru. Neil Chadwick presents an overview of the languages of the West Barkly Tablelands. Peter Sutton and Bruce Rigsby offer a socio-linguistic discussion of linguistic communities and social networks in Cape York Peninsula and of the problems for Australian linguistics in general as highlighted by their findings. Margaret Sharpe's paper deals with Alice Springs Aboriginal children's English and socio-linguistic questions connected with it.

The contributions to the volume draw attention to many areas and questions for rich further study by Australian linguists, and highlight the need for studies of a wider and general nature in this vast field of linguistic research.

S.A. Wurm
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RECENT RESEARCH IN AUSTRALIAN LINGUISTICS

Michael J. Walsh

1. INTRODUCTION

This overview of research into Australian Aboriginal languages over the past ten years is intended to be a catalogue of research. It is not intended to be a critical review partly because this would require a book-length study but more importantly because the writer feels that a critical survey at this stage would be premature. The past ten years has seen an explosion in the quantity of research undertaken; obviously not all that is produced will be of the same quality but it is certainly very likely that the value of some recent research can only be adequately assessed when there is a clearer picture of the nature and development of Australian languages in general. At present there is a great need for detailed descriptions of Australian languages (whether or not they are cast into any particular theoretical framework). Without such a pool of basic grammars of a large number of Australian languages it is difficult to see how typological or comparative/historical studies of a pan-Australian nature cannot be doomed to being rapidly superseded. It will be seen below that such grammars are now appearing, many as a result of the larger number of institutions involved so that it seems appropriate to outline some recent research within the institutional framework before moving on to a coverage of the research in terms of its subject matter.

2. THE INSTITUTIONAL FRAMEWORK

2.1. Australian Institute of Aboriginal Studies

As has been mentioned elsewhere (Capell 1971a, Wurm 1971, 1972a,b) linguistic research received considerable impetus following the establishment of the Australian Institute of Aboriginal Studies (A.I.A.S.) in Canberra in 1961 and of the Australian branch of the
Summer Institute of Linguistics (S.I.L.) in the same year.

The A.I.A.S. initiated a linguistics programme in the mid-sixties which encouraged universities around Australia to establish scholarships and fellowships specifically for the study of Australian languages. A number of universities participated in this programme to the extent that they supervised, or provided a base for, researchers but it was not until the early seventies that the other aim of the programme, namely the creation of an active policy and interest in Australian linguistics including the setting up of teaching departments, saw fruition.

2.2. Australian National University

Perhaps the best known course in Australian Linguistics is offered at the Department of Linguistics, School of General Studies, at the Australian National University. This course, regularly presented by R.M.W. Dixon, includes a survey of work carried out on Australian languages with an account of their typological features as well as detailed study of a particular language. While this course has been a valuable precursor to later research many students have carried out field research as a part of the course. Worth mentioning in this context are Brasch's work on Gureng Gureng (1975), Beale's work on Birri (1974) and his survey of the Māri languages (1976a), Crowley's work on the Bandjalangic group (1975, 1976b, 1978), Eades' study of two remnant languages of the South Coast of New South Wales (1976a) and her work on Gumbaynggir (1976b, to appear), Austin's study (with Wurm) of Gamilaraay (1976) and his work on Dhirari (1975), and Williams' work on Yuwaalilyaay and Yuwaalarraay (1976). Other students have carried out useful research by reworking early writings on extinct or near extinct languages. Recently a sociolinguistic study dealing with multilingualism at Maningrida, Northern Territory has been carried out in connection with this course (Elwell, 1977a).

Apart from an increase in teaching and preparation for fieldwork a considerable amount of postgraduate study has been carried out over the last ten years. In particular, at the Department of Linguistics, School of General Studies of the Australian National University, Carroll has worked on Kunwinnyku (1976a,b), Donaldson has completed a remarkably detailed study of the near extinct Ngiyambaa language of the Wangaaybuwan people of central western New South Wales (1977) as well as producing a number of other studies on particular aspects of this language (in Dixon, ed. 1976, and, forthcoming). Donaldson's work demonstrates the sort of depth account that can still be salvaged from a language with
only a handful of speakers. McKay has carried out a depth study of Rembarnga, Arnhem Land, Northern Territory (1975) and later worked in depth on the neighbouring Gunavidji (Djeepana) language (McKay, to appear) under the auspices of the Department of Education (Northern Territory). Walsh worked in the Port Keats area of the Northern Territory in depth on Murinypata (1976a,b) and to a lesser extent on Maringarr, Maridyabin, Magadige and Dyamindyung; he also carried out some survey work around Darwin demonstrating that useful work can still be done on languages formerly thought to be extinct.

In the same department, research on Australian languages has been carried out by research fellows such as Haviland on Guugu Yimidhirr producing a number of studies (for instance, 1972a,b,c, 1974, forthcoming) and Rigsby on Kuku Thaypan (1976a,b) as well as by members of staff. Andrews has commenced work on Anmadyera while Koch has been engaged for some years in the study of Kaititj (forthcoming). Rensch also carried out some work on Pitjantjatjara. Dixon has studied the languages of the Cairns rain forest area and published widely on them as well as on general aspects of Australian languages (1968, 1969, 1970a,b,c,d, 1971, 1972, 1973, 1975a,b, 1976a,b,c,d,e,f, 1977a,b,c, and forthcoming a,b,c,d, Dixon, ed. 1976).

At the Australian National University's other Department of Linguistics, in the Research School of Pacific Studies, a number of postgraduate studies have been completed on Australian languages. Birk worked on the near extinct language of the Daly River area, Malakmalak (1975, 1976). Kilham (1974a,b, 1977) studied Wik-Munkan (Cape York) with special reference to discourse structure, while Kinslow Harris worked on the Gunwingguan group (1969a,b, 1970). Metcalfe (1971, 1975) carried out a detailed study of Bardi (Western Australia) concentrating on verbal morphology and presenting the results of his research in a transformational framework. Members of the academic staff of the same department have been involved in Australian studies including Laycock who has worked on the Lamalamic languages of Cape York (1969), Tryon who surveyed the Daly River area (1968, 1970a,c, 1974) and produced studies on particular languages such as Wageman (1971b) and Maranunggu (1970b) and Wurm, who has published widely on Australian linguistics, (1967, 1969, 1970a,b, 1971, 1972a,b,c, 1973, 1975a) giving general accounts of linguistic classification and research in Australia as well as studies of individual languages for instance on Duungidjawu (Waga-Waga) (1976a), Guṇu (Wurm and Hercus, 1976) Malyangaba (Austin, Hercus and Wurm, to appear), Gamilaraay (Austin and Wurm 1976) and Wanggumara (Gaļali) (McDonald and Wurm, to appear).
L. Hercus, of the Department of South Asian and Buddhist Studies, School of General Studies, Australian National University, has carried out extensive research in Aboriginal languages of Victoria and South Australia (1969, 1971a,b, 1972, 1973, 1974a,b, 1976a,b,c,d, 1979, to appear, Hercus and Sutton to appear, Hercus and White 1971, 1973).

2.3. Macquarie University

A number of studies have issued from Macquarie University including Sutton's salvage work on Gugu Badhun and its neighbours (1973), Trefry's work on Dieri (1970, 1974) which will be complemented by Austin's additional study (1978) and Yallop's study of the Alyawarra (1969, 1977, n.d.) and the Marinjari (1975). Keen described Yugulda for an M.A. degree (1972). A course in Australian linguistics is offered at Macquarie University. (Further information can be found in a recent account of Aboriginal Studies courses offered in Australia: Barlow, Hill and Jurcevic, 1977.)

2.4. Monash University

At Monash University, Platt undertook postgraduate studies concentrating on Gugadja, Pitjantjatjara and Wirangu with special emphasis on Gugada (1968, 1970, 1972, 1974). Jernudd carried out work on the articulatory phonetics of Gunwinggu (1974) as well as devoting attention to sociolinguistic aspects of Australian languages (1969, 1971, 1973). Tsunoda has worked on Warungu (Queensland) (1974a,b, 1975) towards the M.A. degree and then focussed his attention on Djurru in the Kimberleys (1978) for his Ph.D. dissertation. From the same department, Blake has been engaged in the study of Australian languages over the last ten years, being concerned with particular languages such as Kalkatungu, Jalanga (1969, 1971a,b, 1974b, 1976c, to appear) and the Pitta-Pitta dialects in collaboration with Breen (Blake and Breen 1971), as well as with more general studies including work on case systems and ergativity (1970, 1972, 1974a, 1976a,d,e, 1977, 1979). Breen has worked on a large number of languages (with only a few speakers remaining in each) in the 'corner country', the area around the borders of the Northern Territory, Queensland and New South Wales, as well as other languages in Queensland (1970, 1971a,b, 1973, 1974a,b, 1976a-k, 1977, forthcoming). A course in Australian linguistics is offered at Monash University.

2.5. University of New England

The University of New England fostered a number of postgraduate students through the Institute's linguistic programme and also has a
continuing interest in the study of Australian languages. Bolt, Cleverly and Kofod worked on the Djamindjungan family and produced a number of studies in collaboration with Hoddinott (Bolt, Cleverly and Hoddinott 1970; Bolt, Hoddinott and Kofod 1971a,b). Cleverly completed a description of the Djamindjung language (1968). Kofod and Hoddinott have worked on a number of languages in the north-west including Miriwung (Western Australia) (Kofod 1976a,b) and Ngangkikurrungkurr (Northern Territory) (Hoddinott and Kofod 1976a,b). Chadwick, starting as a postgraduate student, surveyed the languages of the Barkly Tablelands and has completed a description of Djingili (1968, 1971, 1974, 1975). Hoddinott's continuing interest in the New England area is demonstrated by his recent study of the languages and myths of that region (1978).

2.6. University of Queensland

Margaret Sharpe (née Cunningham) was supported as a Research Fellow in her work in the Roper River area of the Northern Territory, where she has worked on Alawa (1970a, 1972, 1976a) and Roper Creole (1974, 1975, 1976c; Sharpe and Sandefur 1976). Apart from more general studies (1970b,c) she has recently worked on Alice Springs Aboriginal English (1977) and on the Bandjalangic languages of the Lismore area, following on from an earlier study of Yugumbir, one of the Bandjalangic group (Cunningham 1969). Dutton worked on Aboriginal English (1969) and Torres Straits Island English (1970) before shifting his attention to the linguistics of Papua New Guinea. Flint, a member of the Department of English at the University of Queensland, has also worked on Aboriginal English in Queensland (1968, 1970, 1971, 1973). Hall carried out a depth study of Thaayorre at Edward River (1968, 1972, 1976a,b) and is at present involved in the bilingual education programme in that language. Osborne worked for a number of years on Tiwi attached to the University of Queensland and then completed this study at University College, London (1974). Osborne has carried out some salvage work in the Darwin area as well as working on a number of languages in Queensland such as Garawa and Waanyi. He is at present engaged in the study of song words in the Tiwi language, an area which has received scant attention from linguists to date. De Zwaan, another postgraduate student, carried out work on Gogo-Yimidjir (Guugu-Yimidhirr) (1969a,b,c). Recently, fresh impetus has been given to Australian linguistic study at the University of Queensland by the appointment of B. Rigsby to a Chair in Anthropology. As mentioned previously in connection with the Australian National University, he has worked on languages in Cape York.
At present one of his postgraduate students, Peter Sutton, is engaged in the study of speech forms around Aurukun, Queensland, with particular emphasis on their social context (1978). A course in Australian linguistics is offered at the University of Queensland.

2.7. University of Sydney

Although Trefry and Yallop were attached to the University of Sydney in the first instance, they subsequently completed their studies at Macquarie University. Little work has come out of the University of Sydney apart from that of A. Capell (1968a,b, 1969, 1970a,b, 1971a, 1972a,b, 1975, 1976a,b,c,d, 1977, 1979a,b,c; Capell and Coate to appear; Capell and Hinch 1970) during the period under consideration, although A.I. Jones of the Department of English carried out some work on Gurindji (Northern Territory). It is to be hoped that with the recent appointment of Alan Rumsey to the Department of Anthropology, greater attention will be focussed on Australian linguistics. Rumsey is completing a doctoral dissertation for the University of Chicago on Ungarinyin (1978) and has already completed a number of general works on Australian languages (forthcoming, n.d.). It is likely that the University of Sydney will initiate a course in Australian linguistics in its Anthropology Department in the near future.

2.8. University of Western Australia

N.F. Kerr undertook work on Nyigina (1968). For much of the period being considered von Brandenstein conducted fieldwork in the Pilbara area (1969, 1970a,b,c,d,e, 1977; von Brandenstein and Thomas 1974) while attached to the University of Western Australia. On the staff Kaldor has concentrated on sociolinguistic problems (e.g. Kaldor 1976) while presenting courses on Anthropological Linguistics. A course in Australian linguistics is offered at the University of Western Australia.

2.9. Summer Institute of Linguistics

The Australian Aborigines Branch of the Summer Institute of Linguistics has been responsible for a considerable amount of linguistic research over the past ten years. A good coverage of the research carried out by the branch can be found in the bibliography up to 1975 (Huttar, Hudson and Richards 1975) which also lists vernacular literacy materials prepared by members of the branch. Members of the Summer Institute of Linguistics have been fortunate in having the opportunity not shared by linguistic colleagues attached to universities and other
institutions to have a long and intimate exposure to the language being studied. Two recent (not mentioned in their bibliography) works of special interest should also be mentioned: Hudson and Richards' account of Walmadjari language and culture (1976) and a collection of papers on Australian Phonologies (Hudson, ed. 1977).

So far I have been giving a necessarily brief account of Australian studies within an institutional framework. I now propose to catalogue recent research in terms of its subject matter.

3. SURVEYS

The most comprehensive survey of Australian languages has been produced by the Australian Institute of Aboriginal Studies (Oates and Oates 1970). This survey provides information on the location of languages, current research and bibliographical details as well as an assessment of the total known linguistic knowledge for each language. This useful research tool has recently been supplemented by more recent information (Oates 1975). Tindale (1974) has produced 'a catalog of Australian Aboriginal tribes' which provides information on the location of Aboriginal groups, alternative spellings and bibliographical references. It is accompanied by useful discussions on the people and their habits, the naming of the tribes and tribal boundaries which are illustrated in a large map (also published separately, Tindale 1976). In the context of more general studies including classification, Wurm (1971, 1972a) has listed the Australian languages with brief notes on their features. As well as being valuable research tools, these surveys have provoked considerable discussion among researchers familiar with particular areas, discussion which, it is hoped, will improve our knowledge of linguistic distribution throughout Australia by refining these general works rather than fostering non-constructive criticism.

4. DESCRIPTIONS OF AUSTRALIAN LANGUAGES

The simple listing of 'full-scale' descriptions of languages presented here is enough to indicate the extent to which detailed research in Australian languages has increased over the past ten years. While some of the studies mentioned here are short on detail because already the information is no longer available, other very full descriptions are supplemented by separate papers dealing in detail with particular aspects of languages.
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5. LEXICON

In 1971 O'Grady outlined the state of lexicographic research in Australian languages lamenting the lack of available materials and the urgent need for the compilation of complete dictionaries. Regrettably few published dictionaries have appeared since O'Grady's overview (1971):

- Coate and Elkin (1974) Ngarinjin
- Reece (1975) Walbiri

However, Heath's work in north east Arnhem Land has produced dictionaries of a number of languages which are to be published over the next few years: Mara (to appear b), Ngandi (forthcoming a), Nunggubuyu (forthcoming b), Ritharngu (to appear c), Warndarang (to appear d) and Dhuwal (forthcoming c). In addition Capell has compiled 600-word lists for forty Australian languages which exist in typescript form (Capell n.d.).

Otherwise the many dictionaries which do exist are in unpublished form, for instance: Dixon's dictionaries of Dyirbal (1975a) and of Yidiny (1975b), Kofod's wordlist of Miriwig (1976b), Haviland's Guugu-Yimidhirr dictionary (1975b), R. Hershberger's Gugu-Yalandjí dictionary (n.d.), Hale's dictionary of Walbiri (1974) and Blundell's (1976) lexical materials from Worora with Ngarinjin equivalents concentrating on terms for material culture and environmental features.

To assist in the arrangement of lexical materials for comparative purposes the Australian Institute of Aboriginal Studies has compiled a comprehensive wordlist (to be published in the near future). The wordlist runs to over two thousand items arranged in twenty-six semantic domains and will be accompanied by a finder list. Apart from providing a standard format for comparing lexical materials from various languages the wordlist should prove useful as an elicitation tool particularly in filling 'gaps' in otherwise fairly complete dictionaries.

6. SONG WORDS

Although linguists often record Aboriginal music during the course of their work scant attention has been paid to analyzing the material at the lexical level. It is to be hoped that further work will be carried out in this area in the future perhaps on a collaborative basis between linguists and ethnomusicologists.
The most significant work carried out in recent years can be found in T.G.H. Strehlow's 'Songs of Central Australia' (1971). Osborne has been working on song words of the Tiwi and Alpher on Yir Yoront (1976a), while some other linguists have directed their attention to this area although they have not published as yet. Among these should be mentioned Heath's work on Nunggubuyu and neighbouring languages (see References under Heath).

7. ETHNOCLASSIFICATION

It is partly a factor of the large number of unstudied languages with the few people to work on them that may explain the almost total lack of material on ethnoclassification in Australian languages. Until very recently researchers needed to establish basic facts like which languages were spoken in the area quite aside from attaining the depth of knowledge of a particular language required to carry out adequate work in ethnoclassification. Now that a relatively large number of linguists are available who have worked intensively on particular languages it is to be hoped that ten years from now there will be considerable material available.

Some short pieces have appeared in recent years, for instance, Heath 1976c, 1978a,b, and Peile 1976a,b,c, 1977a,b, and while these are good as far as they go one must turn to non-linguists for larger-scale works, for example, Rudder's (1977) general work on Yolnu science and Levitt's (forthcoming) comprehensive coverage of Antindhilyagwa ethnoflora and ethnofauna. Other information from linguists generally appears in an indirect form, for example in studies of noun-classification and in dictionaries arranged in semantic (non-Aboriginal) domains which, however, often lack precise species identification.

8. TEXTS

Although linguists usually collect substantial quantities of text material in the course of their investigation of a language, the resulting texts have often been used to assist the linguist in analyzing the language and have not been readily available. Typically, a few sample texts are published with a description of a language but few substantial collections of texts have yet appeared in print. This is a pity since texts (analyzed morpheme-by-morpheme) are not only of interest to linguists but to any student of Aboriginal culture.

Texts frequently deal with subjects such as Aboriginal-white contact, food preparation, manufacture of material culture items, various aspects
of daily life, beliefs about the world, etc. In short, they are a valuable source (practically untapped) of information on Aboriginal life as told by the participants themselves providing a useful balance to interpretations presented by outside observers.

Fortunately a few collections of texts are already available: C.G. von Brandenstein's narratives from Western Australia (1970c), and collection of songs (von Brandenstein and Thomas 1974) and Lucich's (1969) children's stories from the Worora group. Hercus has published a number of texts on mythological subjects (1971a,b, 1974b) and is editing with P. Sutton a volume of texts illustrating white contact (to appear). Schebeck has produced a volume of texts on the social system of the Atynamathanha of South Australia (1974), while Heath's descriptions of languages from north-east Arnhem Land will be accompanied by substantial collections of texts (to appear b,c,d; forthcoming a,b,c). Holmer and Holmer (1969) have assembled a collection of stories from two groups in Eastern Australia.

9. DISCOURSE STRUCTURE

Even at this stage in Australian linguistics little attention (at least which has appeared in print) has been paid to discourse structure either to pragmatic aspects of conversations or to suprasentential structure. Probably the most ambitious study in this area has been carried out by Kilham (1974) on Wik-Munkan. In addition, the work of Dixon (1972) on Dyirbal, particularly in regard to 'topic chains', and Marsh (1970) on Mantjil tjara should be mentioned as well as the recent study of suprasentential structure in Rumsey's description of Ungarinyin (1978).

10. TRANSLATIONS AND RESEARCH ON EARLY SOURCES

While there is an ever increasing output from research in progress, there are many important works from earlier times which are rendered less accessible through appearing in other languages. Particularly where works have very general interest or provide a very full account of a particular Aboriginal group it is very useful to have a translation.

Recently Schmidt's Die Gliederung der australischen Sprachen (Vienna: Mechitharisten-Buckdruckerei 1919) has been translated into English by D. Clark (1972). This work should prove useful to comparativists as well as being of interest to any student of Australian studies. P. Scherer (1974-) has been working on a translation of J.G. Reuther's massive account of the Diari. This careful
translation, still in progress, includes an already completed dictionary of Diari running to over two thousand pages. It is as yet not generally available but a restricted copy is held at the Australian Institute of Aboriginal Studies.

It is usual for a linguist to take into account early sources on the language he is studying, transliterating and reinterpreting the material where necessary so that much of the research on early sources is subsumed under more general works. A few studies, however, have appeared which are devoted specifically to examining early sources in the light of modern knowledge. Among these should be mentioned Breen's (1970) re-examination of Cook's Gogo-Yimidjir wordlist, followed up by Haviland (1974) who has been engaged in a depth study of that language. Chadwick (1972) examined a wordlist of 'Chingalee' by R.H. Mathews with the advantage of a long acquaintance with the language. Soravia (1975) has studied the early manuscript on Jiwadjia (Yiwadjia) by Father Confalonieri. Yallop (1975) has presented an account of the Narinjari language over one hundred years, while Grimwade (1975) has examined the linguistic work of the early investigator, George Taplin.

11. NOTES ON TYPOLOGICAL STUDIES

A major contribution to the examination of particular aspects of Australian languages was made by the 1974 Australian Institute of Aboriginal Studies Symposium on Grammatical Categories in Australian Languages (Dixon, ed. 1976). See Comrie's review, 1978. As well as bringing together a large number of data papers (see Bibliography under the various authors) on five topics:

A. The derivational affix 'having'.

B. Ergative, Locative and Instrumental case inflections.

C. The bivalent suffix -ku.

D. Are Australian Languages Syntactically Nominative-Ergative or Nominative-Accusative?

E. Simple and compound verbs: conjugation by auxiliaries in Australian verbal systems.

each of these sections being accompanied by a summary presenting general conclusions and comments, there are a number of more general papers among which should be mentioned Hale's study of relative clauses (1976a) and on ergative and locative suffixial alternations (1976d) and Silverstein's paper dealing with ergativity (1976).
Considerable attention has been directed to the last-mentioned topic in recent years, a general account of which can be found in Dixon's 'Ergativity' (forthcoming a). Recent contributions to this general area include the following: Blake (1976c,e, 1977, this volume), Bani and Klokeid (1976), Hale (1970), Heath (1976a,b, to appear a), Hudson (1976b) and Mel'čuk (1977).

As with many of the other sections discussed, the basis of further work lies in the increasing number of depth studies of individual languages appearing, comprehensive descriptions of all aspects of the structure of the language which will provide the raw material for typological and comparative studies.

12. HISTORICAL AND COMPARATIVE LINGUISTICS

In the area of historical and comparative linguistics considerable attention has been focussed on the languages of Cape York, including the work of Hale on phonological developments in Middle Paman (1976h), Northern Paman (1976e,f), as well as commenting more generally on language change (for instance 1970, 1973a), Black on Norman Pama historical phonology (1976), Rigsby on Kuku Thaypan (1976a), Alpher on south-western Cape York languages (1972, 1976b), Dixon on Wargamay with particular reference to grammatical reanalysis (forthcoming d) and on the languages of the Cairns Rain Forest area (1970a), O'Grady on Umpila (1976). Other historical and comparative studies on the languages of Cape York appear in the volume of papers edited by Sutton (1976).

In other parts of Australia should be mentioned Crowley's work on phonological change in the New England area of New South Wales (1976b) and Tryon's survey of the Daly Family (1968, 1970a, 1974). Koch has been working on Kaititj with an interest in the Arandic group as a whole and has already produced a paper dealing with nominal inflections in Kaititj suggesting sources for the inflections (Koch, forthcoming).

In addition a number of more general comparative works have appeared including Capell's work on affix-transferring languages (1972a), Dixon's study of proto-Australian laminals (1970c) and the syntactic development of Australian languages (1977d). Attention has been drawn to the relevance of linguistics in connection with Aboriginal origins particularly by Tryon (1971a) and Wurm (1970a, 1972c, 1973, 1975b,c). Dixon (1976e) has highlighted the problem of diffusion in his discussion of 'tribes' and their boundaries, while Heath (1976a, 1978) has discussed the same problem with special reference to languages of
north-east Arnhem Land. O'Grady (1979) and Capell (1979a) discuss the problem from an Australia-wide point of view. Wurm (1971) surveys the various proposed classifications of Australian languages from which it is evident that previous classifications have needed alteration and it is likely that this process will continue for some time to come.

13. TASMANIAN

The languages of Tasmania appear to have had a particular fascination for students of Australian languages. They remain one of the unsolved mysteries of Australian language classification especially after Crowley identified 'Anewan' as an Australian language (1976b). It is likely that the relationship of Tasmanian with languages on the Australian mainland (through lack of data) may never be clearly established. Capell (1968b), Wurm (1971, 1972a) have reviewed the linguistic knowledge available and Jones (1974) non-linguistic information as well, while Plomley (1976) has brought together the lexical information into one valuable source book. Crowley and Dixon (to appear) have also recently reviewed the sources.

Concerning Tasmania specifically, there is fairly general agreement that there were at least two Tasmanian languages although some believe there were five distinct languages. At this stage it seems unlikely that much more will be discovered.

14. AUXILIARY LANGUAGES

It is not uncommon for there to be two distinct 'languages' or styles in use by members of a linguistic group. Generally one style is for use in the presence of certain taboo relatives (thus the descriptive labels: 'mother-in-law' language, 'brother-in-law' language) while the other is used in all other situations. The auxiliary styles have not been well documented in the past and it is becoming difficult to record them now since such 'special languages' fall more quickly into disuse than the 'everyday' language.

What has been recorded is of considerable linguistic interest particularly in semantics. Dixon (1971, 1972) has demonstrated for Dyirbal the many-to-one relationship between the everyday language and the mother-in-law language. This can be revealing for the semantic structure of the everyday language. In a nearby language, Yidiny, the same principles appear to be in operation (Dixon 1977b). Haviland (forthcoming) presents an account of brother-in-law language for
Guugu-Yimidhirr. Harris has reported on a mother-in-law language from Arnhem Land, Gunkurrng (1971). A quite different semantic relation between an auxiliary language and an everyday language is found in the tylliwirri style of the Warlpiri language. As reported by Hale (1971) the relation is one of antonymy whereby 'fire' is substituted for 'water', 'other' for 1st person singular and so on where the antonym pairs are not (and presumably could not be) strictly opposites.

15. SIGN LANGUAGE

Although early investigators such as Roth, Spencer and C. Strehlow documented sign language in some detail in the course of their studies, surprisingly little work has been carried out in the period under consideration. In the past many linguists, although aware of the fact that sign language was in use, found it difficult to record the material in the absence of a suitable notation. One exception is the work by Kegl, Nash, Granites and Hale (1976) on Warlpiri sign language which does transcribe the signs themselves by linking them to a chart of 'standard' hand gestures. Recent work on American sign language (for instance, Stokoe, Casterline and Cronenberg 1976, and Friedman 1976, 1977) demonstrates that notations can be developed for sign languages. Hopefully suitable notations will be developed for the study of Australian sign languages.

In the absence of a suitable notation researchers have recorded sign language by photographic means, either still photographs or movie films. La Mont West carried out extensive fieldwork on sign language in Arnhem Land and Northern Queensland recording individual signs and signed conversations on movie film. W. Laade has also filmed sign language on Saibai, Eastern Torres Straits Islands. E. Bani has recently produced a film of Mabuyag sign language from the western Torres Straits. De Zwaan has written on sign language of the Gogo Yimidjir (Guugu-Yimidhirr) (1969a,b) as well as producing a film which accompanies his thesis (1969a). Noel Wallace has made sign language films of the Pitjantjatjara, McConvell of the Gurrindji, while G. McBryde has filmed sign language at Aurukun. J. Armstrong has recorded sign language at Papunya on still photos, as has P. Black at Normanton (1975) as well as making a sign language film. Wick Miller worked on Western Desert sign language at Warburton around 1969-70 and has produced a report (1970). At Yuendumu, Northern Territory, Adam Kendon recently began a study of Warlpiri sign language and has made films for close analysis of the signs in use.
Probably the most comprehensive documentation of sign language for a single linguistic group is the sign language dictionary of (Warrabri) Warlpiri being prepared by C. Wright (forthcoming); this dictionary will contain around 1500 still photographs.

16. ABORIGINAL ENGLISH, PIDGINS AND CREOLES

For many years forms of English used by Australian Aborigines which differ markedly from so-called 'standard' Australian English have received scant attention. For this particular area there is little material available which precedes the period under consideration. In recent years various forms of Aboriginal English, some of which have been creolized, have been described and attention is being focussed on the educational implications of speech forms which are not simply 'bad' English but dialects of English or languages in their own right.

In Queensland, Alexander (1968) has described Woorabinda Aboriginal English, Dutton the English of Palm Island (1969) and of the Torres Straits (1970), Laade (1971) English of the Torres Straits, Crowley (1976a) and Rigsby (1974) the English of Bamaga (at the tip of Cape York Peninsula) while Flint (1968, 1973) has written generally of the situation in Queensland. With the exception of Sutton's (1975b) work on the English of Cape Barren Island, and Fesl's study of Melbourne Aboriginal English (1977) most of the study of Aboriginal English is concentrated in the Northern Territory including Steffensen's (1975) work on Bamyili Creole, the study of Roper River Creole by Sharpe (1974, 1975, 1976c) and Sharpe and Sandefur (1976), and Sharpe's work on the English of Alice Springs (1977, 1978a).

As mentioned previously, work is being carried out on the educational implications of non-Standard English. The Bernhard van Leer Foundation Project through the Queensland Department of Education (1971-3, 1972) has carried out work on the suitability of non-Standard English as an educational medium. In this context could also be mentioned Brumby and Vászolyi (1977), Dwyer (1974), Gardiner (1977) and Sommer and Marsh (1969).

17. SOCIOLINGUISTICS

In the past linguists have often studied languages giving little attention to the language in day to day use and to its social context. Perhaps the most ambitious projects so far undertaken which deal with language in its social context are Sutton's study (forthcoming) in the Aurukun (Queensland) area and Schebeck's (1970) little known
(unfortunately unpublished) study of north-east Arnhem Land.

Haviland's work on Guugu-Yimidhirr brother-in-law language (forthcoming) gives special attention to how the language is used by its speakers rather than just describing the structure of the language. Elwell's recent study of multi-lingualism at Maningrida (1977a) provides one of the few explicit accounts of the extent of the linguistic resources available to members of a group. Brumby and Vászolyi's collection of papers Language Problems and Aboriginal Education (1977) reflects the growing concern with the application of vernaculars to educational ends both for whites and blacks as does Tryon's (1976) account of bilingual education in the Northern Territory. This concern has thrown up less technical but more general accounts of language and its relation to the culture of the speakers, for instance Hudson and Richards' account of the Walmadjari (1976) or Pfitzner and Schmaal's account of Aranda (1977).

In connection with the sociology of language in Aboriginal communities should be mentioned Flint's work in Queensland (1973), the work of Jernudd (1969, 1971, 1973), Kaldor's studies in Western Australia (1976, 1977), Sommer's review of sociolinguistic issues in Australian language research (1976d), and Sutton and Rigsby's work on sociolinguistic problems in Cape York Peninsula (1979).

18. CONCLUSION

In the past decade a remarkable expansion in the number of specialists in Australian languages has taken place. Many languages have become extinct while many others are on the verge of extinction. In the future it is unlikely that the newcomer to Australian linguistics will be able to take his pick from numerous hitherto unstudied languages although there is still much salvage work to be done. Hopefully more scholars will be attracted to Australian linguistics and among their tasks will be the study of 'known' languages in greater depth and the consolidation of what is already known.
NOTES

1. For this reason scanning the Bibliography may be more valuable than reading the brief notes on the state of research. In compiling the Bibliography special attention has been given to published works because of their availability. In choosing which of the numerous unpublished works to include I have chosen studies which are substantial and in more or less finished form: dissertations arising from higher degrees, for instance. Other works have been included because they have been referred to in the text. The choice of other works is essentially arbitrary.

In the absence of standard spellings for Australian Aboriginal language names in general the spelling adopted by the particular researcher for a language is used when referring to that researcher's work on that language.

2. Discussion of research within an institutional framework has been confined to the main institutions within Australia although it is realised that outside bodies have been responsible for important language study in Australia.

3. See especially South's (1971/2) review of Queensland Aboriginal linguistics.
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AN AUSTRALIAN LINGUISTIC BIBLIOGRAPHY -
FROM GREENWAY TO THE LATE SIXTIES

M.J. Walsh and Lois Carrington

This bibliography is not intended to be a critical review of material on Australian linguistics published (or presented) during the period c.1959 to c.1967, but merely a checklist to bridge the gap between what may be found in John Greenway's Bibliography of the Australian Aborigines and the Native Peoples of Torres Strait to 1959 and the bibliography given in the preceding paper in this volume, Michael Walsh's 'Recent Research in Australian Linguistics'.

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1. SPELLING THE NAMES

The names of Australian languages (and also 'tribes', etc.) have always been spelt rather impressionistically and inaccurately by most of those non-linguists who have written them down. Isolated scholars of the last century attempted to introduce some orderly system into the spelling of 'tribal' and language names in Australia. Roth and Mathews, for example, had worked out phonetic systems of orthography which were reasonably consistent and Mathews, in particular, was capable of quite accurate phonetic observation. However, the first major attempt to standardise the spelling of language names on a consistent basis for the whole continent was that by Tindale (1940, revised version 1974). Tindale used a script based on the International Phonetic Alphabet and attempted to record the names as he heard them spoken by Aborigines, where this was possible. His notations are not always accurate in the light of more intensive research, and he did not attempt to phonemicise spellings, but his work represented the next major advance in establishing a general picture of the distribution of Australian linguistic groups since Schmidt (1919) first collated all the available published sources. Tindale's revised map (1974) uses a spelling system known as 'Geographic II' which contains only the symbols found on a typewriter.

Capell's Linguistic Survey of Australia (1963), in which the languages were arranged in large groups worked out 'on ecological lines' by David Moore, then of the Australian Institute of Aboriginal Studies (AIAS), basically builds on the work of Tindale, supplemented by information from Capell, La Mont West, Hale, O'Grady, Wurm and others. The orthography used in this book was designed to eliminate diacritics and non-typewriter symbols and standardise the representation of
certain sounds. In particular, it standardised on a 'voiced' stop inventory and used digraphs such as dh, nh, lh (lamino-dentals), dj, nj, lj (lamino-palatals), rd, rn, rl (apico-domals), and ng (velar nasal). The names as given in this inventory are still those forms used by the Bibliographical Section of the AIAS. Research carried out on Australian languages has expanded so much in recent years that Capell's Survey, which stimulated and directed a good deal of that research, is now very much out of date.

The revision of Capell's work by W.J. and Lynette F. Oates, A Revised Linguistic Survey of Australia (1970), attempted to update its predecessor and give a more detailed assessment of the state of knowledge for each language or dialect, but was less rigorous in its re-spelling of established names. A wholesale revision was carried out by the Linguistics Advisory Committee of the AIAS in 1973 when it decided to establish an 'official' orthography for the representation of linguistic and 'tribal' names, as part of its attempt to create a systematic yearly survey of linguistic work in Australia. In 1974 this orthography was slightly modified to avoid some confusions which had arisen, and to allow it more flexibility. Basically, the new orthography aims to be consistent, phonemic, and yet readable by the lay public. The symbols to be used (some languages require more than these) are:

<table>
<thead>
<tr>
<th>lamino-</th>
<th>lamino-</th>
<th>apico-</th>
<th>apico-</th>
<th>dorso-</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilabial</td>
<td>dental</td>
<td>palatal</td>
<td>alveolar</td>
<td>domal</td>
</tr>
<tr>
<td>stops</td>
<td>p</td>
<td>b</td>
<td>th</td>
<td>dh</td>
</tr>
<tr>
<td>fricatives</td>
<td>ph</td>
<td>bh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nasals</td>
<td>m</td>
<td>nh</td>
<td>ny</td>
<td>n</td>
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<tr>
<td>laterals</td>
<td>lj</td>
<td>ly</td>
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<tr>
<td>semivowels</td>
<td>w</td>
<td>y</td>
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<tr>
<td>flap/trill</td>
<td></td>
<td></td>
<td></td>
<td>rr</td>
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<tr>
<td>post-alveolar</td>
<td>r</td>
<td></td>
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<tr>
<td>glide</td>
<td></td>
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</tr>
<tr>
<td>vowels:</td>
<td>i</td>
<td>ii</td>
<td>u</td>
<td>uu</td>
</tr>
</tbody>
</table>

[long vowels indicated by doubling]
In some languages, the choice between using the 'voiced' series of stop symbols (b, dh, dj etc.) or the 'voiceless' set (p, th, tj etc.) may be somewhat arbitrary, since many Australian languages do not have a phonemic contrast between two such sets. In some languages, however, although there is no voicing contrast, the choice is still not entirely arbitrary, since they may have as the most common allophones of stops the voiceless, tense p, th, tj etc. as in Tiwi or Kuuku-Ya'u. Historically speaking, where a 'voiced-voiceless' stop contrast has evolved in an Australian language, the voiced (etc.) series is normally innovative, while the contrasting voiceless (etc.) series is normally original.

2. WHAT DO THE NAMES MEAN?

Perhaps the greatest problem in this area has been not so much arriving at an accurate and standardised form of names as working out just what such names refer to. Some linguists, for example K.L. Hale, have generally preferred to use established spellings, however inaccurate, simply as a recognisable label for a language. For instance, Hale refers to the language of Mornington Island, Queensland, as 'Lardil' but gives the phonemic form of the name in brackets as /Re·iil/ (and the initiation-language of the same people as 'Demin' = /teml-n/). This practice has been especially favoured where a traditional spelling is well-known in published literature. However, the question of what language 'names' or labels actually refer to, and how they function in Aboriginal societies, has in general been rather neglected. Schebeck's work on the Yuulongu dialects of north-east Arnhem Land (1968) has been a pioneering essay in this area. He attempted to set out the basis of the interrelationship between language and society for that particular culture. Lack of anthropological sophistication among linguists and lack of linguistic expertise among anthropologists can be partly blamed for the great gaps in knowledge of such interrelationship elsewhere in Australia. Linguists have not been forced to investigate these matters partly because the Aboriginal people with whom they work are no longer demographically distributed according to a traditional pattern (this prevents direct observation of residential groups ranging under traditional territorial and social restraints), and partly because until recently western academic linguistic traditions have concentrated on the formal properties of languages, without very much regard for the intricate social networks of which they are a prominent element. It is unlikely that any reasonable model of
linguistic change can be developed for Australia without detailed studies of the traditional role of language in Aboriginal social structuring and the functioning of communication networks. It is almost too late for knowledge of this type to be recovered from enough areas for a balanced picture of the Australian situation to be reconstructed. The two areas where work of this kind has been going on in recent years, the Western Desert and Arnhem Land, are not necessarily at all typical of the rest of Australia, and they certainly differ clearly from each other.

There has been little concentrated attention from anthropologists on the question of *What is language?* One of their greatest controversies has been over determining relationships between the composition of food-seeking or residential groups, totemic and/or lineal categories of kin, and other social structures. The domain of discourse often assumed by anthropologists is the 'tribe' or named dialectal/linguistic unit. It has not always been made clear what were such units (see for example Hiatt 1962), whether such named units were in fact dialectally different according to comparative linguistic criteria, nor what degree of geographical immobility characterised their members. There has in general been a failure to keep Aboriginal dialect definitions distinct from those that might be made by a trained observer comparing the speechforms 'objectively'. There has also been a failure to separate names which refer primarily to speech characteristics from names which refer primarily to other social characteristics or to some place, totemic story or whatever. Some so-called language names are in fact everyday phrases such as 'the speech of this place' and amount more to brief descriptions than to proper-name labels. Aboriginals recognise linguistic and dialectal similarities and differences but this should not be taken to imply that they always have set terms for what they consider distinct speechforms. Some languages, originally perhaps many, have no names. Many languages have several alternative names, and usually a different one used by each or several of the different linguistic communities in contact with them. Sometimes two grossly different dialects may be subsumed under a single term, while another two which differ by little more than a single common word may be distinguished by a reference to that word. A complicating factor, overriding all the above, is that perhaps all defining terms (such as language names, territorial group names, etc.) may have different meanings depending on their immediate context and function. It is not absurd, for example, to refer to one's language as 'belonging to my story' (i.e., the language is that used
by members of one's totemic land-owning unit), and therefore a possible name for one's 'language' is the title of one's patriclan or its owned sites or one of its major totemic stories. The fact is that language, land (hence mythology) and human groups and categories are inextricably interrelated in Aboriginal society, which is why the names of languages found in the literature are dominated by terms which, narrowly defined, often refer to primarily dialect characteristics, places, totemic stories, human categories such as patriclans etc., while other terms may be single labels with no recoverable literal meaning which refer equally to a language and its traditional 'owners'. In some parts of Australia, some overt distinction is drawn between the term for a language and the term for its owners (at least theoretically speakers). Roth notes (1910:83): '... in the Cairns district, the Kunggani [Gunggandji], Yirkanji [Yirgandji] and Yidinji [Yidindji] speak kunggai [Gunggay], yirkai [Yirgay] and yidi [Yidiny] respectively.'

These points can be illustrated:

Names referring to dialect characteristics:

- **Wemba-Wemba**
  
a dialect with *wemba* for *no*

- **Beraba-Beraba**
  
a dialect with *beraba* for *no* (mutually intelligible with Wemba-Wemba)

- **Biyaygiri**
  
a dialect with *biyay* for *no*

- **Pitjantjatjara**
  
a dialect with *pitjantja* for *come*

- **Kuku-Mini**
  
literally *good language* (evaluative term)

- **Kuku-Wara**
  
literally *bad language* (evaluative term)

Names referring to locations:

- **Rarmal**
  
*Morehead River*

- **Gunggari**
  
*north*

Names referring to totemic stories:

- **Awu-Laya**
  
(language) *taipan snake*

- **'Koko-Geese' Alwangara**
  
(language) *goose*

- **Kalkatungu**
  
*bandicoot + ablative (?)*
Names referring to human categories:

- Gububara: *leaf people*
- Ama Althanmungu: *people from Althan*
- Aba Yiirrkuyi: *people owning Yiirru*
- Adnyamathanha: *stone group*

Properly these are patriclan names, but may be used as labels for languages.

Of course, there are also many names given for languages which cannot be translated or traced in this sort of way. For example, Bidjara, Djirbal, Umpila and many others.

Where a language lacks a name at all, it is common for place, patriclan or other names to be given instead. One problem with this is that the choice of which place or clan to mention often depends on the personal connections of the speaker himself; this may lead to a number of so-called 'tribes' or languages appearing on a map where there was in fact only one language spoken. Scholars have sometimes had to 'invent' a name for a language (e.g., Tiwi, literally *male person*).

W.E. Roth, who was a brilliant field-worker in his time (see for example his analysis of naming practices in Australia [1910:81-3]), worked briefly in the Princess Charlotte Bay area in 1898, making some notes on the peoples whose country included Bathurst Head, the Flinders Island Group, Cape Melville and Barrow Point. Roth was usually careful to state the sources of his information, and did not attempt to go beyond immediate data to extravagant claims about social organisation. One must point out that many such claims are implicit in some of the discussions of Australian languages that have been indulged in up to the present. We have tended to take for granted such unjustified notions as 'contiguous vs. non-contiguous' languages, as if the extent of land- and language-ownership claims were isomorphic with population-distributions. We have also often assumed that the population claiming a particular language is somehow the primary gross unit of an Aboriginal society, and have tended to discuss these units (usually called 'tribes') rather than others when dealing with linguistic questions. Ownership of and access to land were related to structures such as patrilineages, and children normally claimed as their 'own' language that of their fathers. However, people did not normally range about in groups containing only those of the one patriclan, nor did they range about only on country to which they had a direct claim. Therefore while a patriclan is, according to typical Aboriginal theory, the primary linguistic unit, the
residential group containing a fluctuating mixture of people from different lineages is, demographically, the primary linguistic unit.\(^1\) Whether or not one accepts my use here of the term 'primary', it is notable that proper names are given to dialectal or linguistic units at different levels of generality, and that it is normally the patriarchal clan which is the domain of names of the least generality. This does not mean that patriarchs necessarily are the smallest named dialectal units. To illustrate: there were about forty or more defined clan countries between the Annan River and Red Point (and going inland) on the Queensland coast in the Cooktown area. These clans are said to have spoken a single language, referred to now as Guugu-Yimidhirr. At least some of the clan names are associated with discrete dialect names, and one of them with two such names\(^2\):

<table>
<thead>
<tr>
<th>'language'</th>
<th>'dialect'</th>
<th>'patriclan'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guugu-Yinaadyi</td>
<td>Munbarrwarra</td>
<td></td>
</tr>
<tr>
<td>Guugu-Nyalaadyi</td>
<td>Gunydyarrwarra</td>
<td></td>
</tr>
<tr>
<td>Guugu-Nyiguudyi</td>
<td>Yalmbawarra</td>
<td></td>
</tr>
<tr>
<td>Guugu-Garragambul</td>
<td>Dingaalwarra</td>
<td></td>
</tr>
<tr>
<td>Guugu-Arrambul</td>
<td></td>
<td>Dingaalwarra</td>
</tr>
<tr>
<td></td>
<td>etc. (?)</td>
<td>etc.</td>
</tr>
</tbody>
</table>

The last two lines of this list derive from Mr Flinders' comment that 'Dingaalwarra they half of them talk Guugu-Garragambul and half Guugu-Arrambul'.

Unless individual family groups or foraging groups can be shown to have separate dialectal labels, it seems that the domain of the least general labels is commonly the clan. A hierarchy of generality extends though the dialect name (covering more than one clan), the language name (covering a cluster of all the clans held to speak the same language), a 'nation' name (see below), and - at the most general level - a name with a very vague connotation, sometimes stretching off to infinity in one particular direction. Some of these labellings are decidedly ethnocentric and their connotations subject to some amount of vagueness or at least negotiation and disagreement between discussants. Others have a more objective basis, more precision, and are less subject to dispute. These facts pose great problems for field-workers and it normally takes long familiarity with a particular community to gain a sophisticated grasp of the socio-linguistic terminology in use.
In order to illustrate some of the pitfalls of trying to obtain reliable information on this type of nomenclature, I will give a brief account of the history of attempts to name places, 'tribes' and 'languages' in one particular area where I am currently engaged in field research.

3. NOMENCLATURES IN THE LITERATURE DEALING WITH THE AREA BATHURST HEAD, FLINDERS GROUP, TO BARROW POINT (CAPE YORK PENINSULA) ³

3.1. Roth, W.E.

a. (1898) yal-ngā-bā-rā  Refers to an inhabitant of yal-nga (Cape Melville).

too-ā, yāln-gā  Names for Cape Melville in Kokowara.

ā-pōl-lān  Local name of Barrow Point.

mō-yār  Name of Barrow Point used by Starcke River people.

pār-chām-mō-kā  Name of Barrow Point used by Kokowara.

mōr-kōn-dān  Local name of Noble Island.

b. (1910) Yalnga-barā  Group of natives at Cape Melville.

Yalnga  Name of Cape Melville.

tu-ā, yāln-gā  Names for Cape Melville in Kokowara.

wēl irān-bāi  Local name of Barrow Point.

epōlin  Name of Barrow Point used by Kokowara.

arōng-u  Name of Bathurst Head and Flinders Group in Kokowara.

Koko-nego-di  Term applied by the Cape Bedford blacks to the people (and language) along the coastline from Barrow Point to Cape Melville.

3.2. Hale and Tindale (1933)

'tribes'  'languages'  'clans'

Walmbaria  Yalgawara  { Wureimu (on Flinders Group)

Tartali (on Bathurst Head) ⁴
AUSTRALIAN LANGUAGE NAMES

'tribes' | 'languages' | 'clans'
---|---|---
Ongwara (Mack River)
Yinini (Cape Melville)

Mutumui | Eibole | Eibole (Barrow Point)
Wurkuldi (Noble Island)
[un-named] (Starcke River)

[place-names omitted here]

3.3. Tindale, N.B.

a. (1940) ('tribes')

'\(^{\prime}\)I:\(^{\prime}\)tu
(I:\(^{\prime}\)tu)

Noble Island and islands off Barrow Point
(data scant, possibly a horde of Mutumui).
Alt: Wurkuldi (map has I:\(^{\prime}\)tu).

\(^{\prime}\)Walmbaria
(Walmbaria)

Flinders Island Group and extensive reefs north of Princess Charlotte Bay; on the

\(^{\prime}\)Mutumui, \(^{\prime}\)Baulam,
\(^{\prime}\)B\(\_\)B\(\_\)
(Mutumui)

From Bathurst Bay and Cape Melville south
to Starcke River. Alt: Baulam
(Bakanambia term), Basthom (Bakanambia
variation, ? individual).

b. (1974) ('tribes') (Only noted where different from [1940] version.)

Ithu
(Map shows territory mainly comprising
Howick Group.)

Walmbaria

Adds: 'visiting the mainland only at
Bathurst Head and Cape Melville on
sufference'. Alt: (adds:) Yalnga-bar
(Yalnga = Cape Melville).

Mutumui

Bathurst Bay and Cape Melville south to near
Starcke River; at Barrow Point and Jeannie
River. Name of language is Eibole, and there
is a dialect called Ongwara in the north of
the area; Karbungga (name, probably hordal,
at Jeannie River), Ongwara (name of dialect,
means northern talk), Jugaiwatha, Mbambylmu
(horde or subtribe at Jack River).

3.4. Capell, A.

a. (1955)

Aji

Given as name of language; (N.B.: this wordlist
is in the Flinders Island language).
b. (1963)

Ju'gaiwadha Language, country is Barrow Point, Cape Melville and King Island (information from West).

3.5. West, L.M.

a. (1962)

Mbambulmuŋwa (Used for people now known to speak rather different languages, Princess Charlotte Bay area.)

b. (1964)

Cape Melville (Used for reference to languages of various Lockhart residents.)

Flinders Island " " " "

Barrow Point " " " "

c. (1965)

Manpuŋmuŋu (? language of Barrow Point area.)

3.6. Trezise, P.J.

a. (1969)

Gugu-Almura Barrow Point tribe.

Woolcooldin Local name of Noble Island.

b. (1973) (Repeats Dingo story published in [1969]; note the same story is further re-published under the name of Dick Roughsey [1973]; this story belongs to the Barrow Point area.)


Mentions a few names not found elsewhere: (I can't trace the sources).

Under Walmbaria: Alternatives:

Buruman Flinders Group and reefs in Princess Charlotte Bay (= Walmbardha?).

sub-group:

Mug-Ngambaram (No location given.)

Wurima       Flinders Island tribe.
Gambilmugu   Barrow Point tribe.
Almura       'Appears to be a dialect of Gugu Yimidyr with influence from a language with typical Peninsular loss of initial consonant.'


Bayalgayi    Flinders Island language.

3.10. Sommer, B.A.

a. (1972)

Biyalgeyi    Language of Flinders Island.
Malthanmungu Language of Barrow Point area.
Kambilmuku   ? = Mbambilmu.

b. (1974)

AlmuRa       Barrow Point area.
Pipon Island Language.
Mba wilarju  Mt Starcke area.
Mba Êmburma   Cape Melville.

3.11. Thompson, D. (1972)

Batalpirri   Bathurst Head tribe.
Bagarti      Bathurst Bay tribe.
Biyargoiya   Cape Melville tribe.

4. INTERPRETATION OF SOURCES AS LISTED

4.1. Roth (1898, 1910):

Yalngabara (see variants in spelling) = Aba Yalgai (clan name) (F-I-speaking).6
e-polin, apollin = ipulyin (name of Barrow Point).
morkonden   = wurrkulthin (name of Noble Island).
Koko-negodi = Guugu-Nyiguudyi, a northern dialect of Guugu-Yimidhirr.
4.2 Hale and Tindale (1933):

**Walmbaria** = Term in Flinders Island language referring to 'nation' of Lama-Lamic and other speakers west from Marrett River to Stewart River.

**Mutumui** = muthumuy (place-name) (in B-P-speaking country).

**Yalgawara** = Aba Yalgayi (alt. Yalgawarra) (clan name) (F-I-speaking).

**Eibole** (etc.) = ipulyin (name of Barrow Point).

**Wureimu** = wurriyima (name of Flinders Island(s)).

**Tartali** = thartali (name of beach area west of Bathurst Head, also used to refer to BH in total).

**Ongwara** = ?ungkarra (literally north).

**Yinini** = ?Aba Thalpirriyi (clan name, BH).

**Wurkuldii** = wurrkulthin (name of Noble Island).

4.3. Tindale (1940, 1974):

**I:thu** = Yiidhu, term in Guugu-Yimidhirr for the F-I and Barrow Point-speaking peoples.

**Mbambylmu** = Lama-Lamic term for a clan, possibly Ama Aampilmungu (B-P-speaking) (the term comes from West qv.).

4.4. Capell (1955):

**Aji** = Possibly ayi, *vegetable food* (F-I).

4.5. West (1962, 1965):

**Mbambîmu(nga)** = (See Mbambylmu above.)

**Manpumûngu** = (Probably) Ama Aampilmungu, a B-P-speaking clan.


**Gugu-Almura** = Local pidgin: 'Kuku' (speech), plus Almura, probably a place-name, forms basis of clan name, properly Ama Almurangu (B-P-speaking).

**Woolcooldin** = wurrkulthin (name of Noble Island).

**Buruman** = (Possibly) Guugu-Yimidhirr version of place-name in F-I-speaking country, central to Aba Wurrumuniya clan.

**Walmbardha** = A (possibly garbled) version of Guugu-Yimidhirr (Bama) Walmbaarrrga, cognate with F-I Aba Walmbarriya, refers to a 'nation' speaking several languages in Princess Charlotte Bay area.


**Wurima** = wurriyima (name of Flinders Island(s)).

**Gambilmugu** = Gambiilmugu, probably the Guugu-Yimidhirr version of a B-P-speaking clan (Ama Aampilmungu?) name.

**Almura** = (See Gugu-Almura above.)

4.9. Dixon (1972):

**Bayalgayi** = Aba Yalgayi, F-I-speaking clan.

4.10. Sommer (1972, 1974):

**Biyalgeyi** = (See Bayalgayi above.)

**Malthanmungu** = Ama Althanmungu, a B-P-speaking clan.

**Kambilmuku** = (See Gambilmugu above.)

**AlmuRa** = (See Gugu-Almura above.)

**Pipon Island Language** = Flinders Island language as I shall be defining it.

**Mba wilaRŋu** = A clan name in a Lama-Lamic language, but the clan itself speaking something else.

**Mba ŋmbuRŋa** = A clan name in a Lama-Lamic language, but the clan itself speaking something else.

4.11. Thompson (1972):

**Batalpirri** = Aba Thalpirriyi, a F-I-speaking clan.

**Bagarti** = Aba Agathi(yi), a F-I-speaking clan.

**Biyargoiyya** = Aba Yiirrkuyi, a F-I-speaking clan.
5. COMMENTS

5.1. One of the reasons for all the confusions over 'tribes', 'languages', 'clans', 'place-names' etc. in this area is that no previous scholars have worked for very long with the Aborigines from the area, and none have attempted to elicit information in one of the local languages. I was able to do this in 1974, and I have also checked much of the information with at least two local people. There is still much room to doubt my conclusions, but rather less than in the case of the earlier sources.

5.2. Another reason for the confusion is that languages in the area under consideration do not have names, at least not in the usual sense. People will offer a name for their language when asked for it, usually replying with a place-name (e.g., Wurrriyima, Flinders Island), patriclan name (e.g., Aba Yalgayi), or sometimes a phrase such as uuku malayi ngathun my own language.

5.3. There were two languages spoken in the area under consideration (i.e., from Bathurst Head through to Cape Melville, and from North Bay Point to Red Point; the former I call the Flinders Island language and the latter the Barrow Point language, since these are the commonest terms for them in the English of the people who speak them).

5.4. Some of my interpretations may look unjustified without explanation. For example, 'Yalngabara' = Aba Yalgayi. In this case, the former is a term applied to a clan in a language other than that of the clan itself, a language which incidentally preserves the proto-form (*Yalngaparra) of the less common variant of Aba Yalgayi, namely Yalgawarra (yalga < *yalnga, -warra < *-parra). This connection would not be obvious if one was not aware that the Flinders Island language has undergone strengthening of intervocalic nasals to stops (hence *ng > g) and lenition of stem-initial stops to corresponding glides (hence *p > w). This emphasises the need for a linguistically trained person to be used in any meaningful investigation of nomenclature in Aboriginal society.
6. CONCLUSION

I have discussed two aspects of language-naming in Australia, one rather trivial (spelling the forms), and the other not so trivial (the semantic contents). The range of examples indicate that language-naming is done differently in different Aboriginal sub-cultures. Linguistic scholars have sometimes gone to Aborigines with a 'standard' set of questions about their languages - such as 'What is your tribe?', 'What is your language called?' etc. - and have accordingly been tempted to fit the responses into a traditional (simplified) European stereotype of Aboriginal geographical, social and linguistic organisation. As more detailed studies of particular Aboriginal speech communities become available, the picture that emerges may be expected to be variegated and diverse rather than uniform. Types of socio-linguistic organisation reported from the Western Desert (Berndt 1959, Miller 1971a,b, Douglas 1971), north-east Arnhem Land (Schebeck 1968), south-east Arnhem Land (Heath 1975) and south-eastern Cape York Peninsula (Rigsby 1974, Sutton 1975) appear to be of rather different types and each generates rather distinct models of linguistic change and interaction for pre-European Australia.
NOTES

1. The former is connected with what Silverstein calls the 'language community' and the latter the 'speech community' (see Rigsby 1974, Sutton and Rigsby this volume).

2. Data from my own fieldwork 1974; information from Mr Bob Flinders of Hope Vale Mission; I follow Haviland's practical orthography for Guugu-Yimidhurr.

3. Primary sources only.

4. Speaking the 'Tartali' dialect of 'Yalgawara'.

5. Also 'Ebole' or 'Eipolin'.

6. The two languages in the area under discussion are abbreviated as F-I (Flinders Island language) and B-P (Barrow Point language). The territory of the clans speaking F-I includes Bathurst Head, Flinders Group, Bathurst Bay, Cape Melville; territory of B-P-speaking clans goes from Ninian Bay to Red Point, including Barrow Point. On Yalngabara see my comment 5.4. below.

7. Note that initial vowels are optionally deleted following silence in both B-P and F-I, hence, e.g. /ama a·mpilmuŋu/ = [m a·mpilmuŋu] (B-P) and /aba ŋalpiŋiyi/ = [ba ŋalpiŋiyi] (F-I).
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PRELIMINARIES TO A PROTO NUCLEAR PAMA-NYUNGAN STEM LIST

Geoffrey N. O'Grady

It was A. Capell who pioneered the diachronic study of the lexicons of Australian languages. Since the publication of his *A New Approach to Australian Linguistics* in 1956, much additional progress has been made in the study of the languages.

In 1967, with the generous support of the University of Hawaii, the National Science Foundation and the Australian Institute of Aboriginal Studies, I initiated work on the reconstruction of Proto-Nyungic lexicon and affixes. The pressure of other duties forced a temporary curtailment of this work - in which Kenneth L. Hale, Terry J. Klokeid and Bruce and Elaine Sommer were associated - when it was already well advanced. Further substantial progress had to await a study leave from the University of Victoria in 1974-5, here gratefully acknowledged.

But by this time the focus had changed radically. Repeatedly it turned out that a form showing cognation among several Nyungic languages appeared in other far-flung Pama-Nyungan languages also (a good example is *kami*, with reflexes commonly meaning *mother's mother*). The time therefore seems ripe to zero in on Pama-Nyungan itself. I do this entirely on my own responsibility. At the same time, I deem it prudent to restrict the study to languages for which - given sufficiently large dictionaries - one could confidently expect to marshall cognates in the hundreds. For this reason, languages such as Lardil and Gunwinygu, though unquestionably members of the Pama-Nyungan Family, are excluded from the study at the present time. Since the number of cognates which they share with other Pama-Nyungan languages appears to run to some dozens only, and their grammatical evolution has diverged correspondingly, I take it that they split off from the main Pama-Nyungan stream quite early - conceivably 4,000 to

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5,000 years ago. Thus for the present I find it a useful working arrangement to make a distinction between 'Proto Pama-Nyungan' and 'Proto Nuclear Pama-Nyungan' (hereafter PPN and PNPN respectively). The present study has as its focus the reconstruction and attestation of PNPN stem shapes. The quite separate task of reconstructing the meanings of stems in PNPN promises to be truly monumental; I earnestly hope that this chapter may play a role in stimulating others to take up this challenging work. Ancestral stem meanings are thus only occasionally proposed here.

Given that the present chapter has as its focus the PNPN lexicon, it will be evident that the target set falls very far short of a detailed reconstruction of Proto-Australian. This is a goal which I believe to be essentially unattainable. If by 'Proto-Australian' we mean something more or less analogous to Proto Indo-European, then I believe that we are deluding ourselves utterly. If, on the other hand, by 'Proto-Australian' we mean an ancestral stage comparable in time depth to a putative and entirely ephemeral Altaic, Finno-Ugric, Semitic and Indo-European super-family or phylum, then well and good!

My reason for making the above claim is as follows: adequate reconstruction of a proto-language demands, among other things, the assembling of a large number of cognate sets - some hundreds, say. Only in this way can such details as the patterns of consonant clustering in the ancestor language be adequately worked out. This task has been essentially completed for Indo-European, and I am confident that it can be done for Pama-Nyungan also. But not all Australian languages are members of the Pama-Nyungan Family, just as not all the languages of Europe are Indo-European. I would like to put it to my fellow-Australianists that the position of Tiwi among the Australian languages might usefully be compared to the position of Hungarian among the European. If we were to make a serious attempt to demonstrate genetic relationship between Hungarian and English, we might bring together pieces of potential evidence such as the following:

Hungarian m, as in látom I see (definite object) : English m, as in am.
Hungarian n, as in the negative words nem and ne : English n, as in not, no.
Hungarian t, as in the second person singular familiar pronoun te : δ in archaic English thou (< PIE *tū).

Excluding presumed loans into Hungarian such as hét seven and száz hundred, we might be able to double or even treble the number of the above nebulous strands, given an exhaustive study of the grammars and
lexicons of both languages. But this would still fall far short of an adequate demonstration of genetic relationship. Notice, too, however, that such a study could not demonstrate that Hungarian and English are NOT genetically related - it could merely fail to produce the evidence necessary for demonstrating such a relationship.

Thanks largely to the publication of C.R. Osborne's *The Tiwi Language* in 1974, we are in a position to make a serious attempt to demonstrate genetic relationship between Tiwi and, say, Nyangumarda. Granted that the documentation of these two languages is not as exhaustive as that of Hungarian and English, we still cannot but be amazed at the near-total lack of even the most tentative kinds of potential evidence. We seek cognates for such Nyangumarda case markers as -lu - -ju 'ERGATIVE' and -ku 'DATIVE' - entirely without success; Tiwi, in fact, entirely lacks case marking! What we do find is as follows:

<table>
<thead>
<tr>
<th>Tiwi</th>
<th>Nyangumarda</th>
</tr>
</thead>
<tbody>
<tr>
<td>ngia I</td>
<td>ngaju I</td>
</tr>
<tr>
<td>ngintha you (sing.)</td>
<td>nyuntu you (sing.)</td>
</tr>
<tr>
<td>nua you (plur.)</td>
<td>nyurra you (plur.)</td>
</tr>
<tr>
<td>-ma - mi do, go, say</td>
<td>ma-n- take, grab;</td>
</tr>
<tr>
<td></td>
<td>-ma-r- verb formative</td>
</tr>
</tbody>
</table>

Tiwi ngagha and Nyangumarda nganyjurru we (plur. inclusive) and Tiwi ngawa, Nyangumarda nganarna we (plural exclusive) seem to point, along with the first person singular forms given, to an extremely ancient shared first person pronominal base *ŋa- - but the same kind of highly tentative claim could be made for the m in Hungarian látom and the m in English am!

In comparing the lexicon of Tiwi with those of Australian languages in general, we find a single item (additional to the above) which shows promise. This is Tiwi kukuni (with masculine noun class suffix -ni) *fresh water*. The root, kuku-, is matched by Gunwinygu kuku *water*, and this shape evidently appears in north-easter New South Wales also - witness Yugambal (?) kookoo and 'Glen Innes' goko, both meaning *water*, cited in Curr (1887: III: 295-7). In Bayali we have koongo *water*, evidently /kuŋu/, (ibid: 115), supported by the Geytenbeeks' contemporary transcription of the Gidabal word for *water*: /guŋ/, i.e. kung in the system of transcription adopted here. Tiwi kuku- also compares well with Proto-Pamic *ŋuku, Mara ngu, Yagar-Yagar nguuki* and Yaralde nguke, all meaning *water* - as well as with Pintupi ngu-á-*swallow; Nyangumarda ngu-á- *steal, abduct* also comes to mind.
Assuming for a moment that Tiwi kuku- shows denasalization of the initial consonant of *ŋuku under the influence of the *k in the following syllable, we now need further cognates in order to firmly establish denasalization as a historical rule of the language. And this is exactly the essence of the problem of demonstrating genetic relationship between Tiwi and other Australian languages: there are no further putative cognates! Moreover — who knows? — the similarity in form and meaning between Tiwi kukuni and the other forms cited may be purely accidental — just as in the celebrated example of Modern Greek matai and Malay mata, both meaning eye, cited by Bloomfield (1933:297). Alternatively, Tiwi could have borrowed kuku- from a mainland language, especially in the period subsequent to Indonesian and/or European contact.

It seems inconceivable that Tiwi kuku- could be directly descended from a 'Proto-Australian' root *ŋuku, and not have been subject to far more drastic phonological change (and reanalysis?) after a presumed time span of ten to forty millennia.

I would like to take issue with Osborne (1974) in connection with his assertion (p. 3) that

"Lexical comparisons are quite useless for the purpose of establishing Tiwi's genetic relationships, as all that such comparisons ever reveal is that Tiwi has virtually no lexical cognates with any other Australian language."

It seems to me that he is putting the cart before the horse here; would it not be more reasonable to recognize Tiwi as a LANGUAGE ISOLATE — i.e., a language which, like Basque, constitutes a 'language family' all by itself? This is essentially what O'Grady, Voegelin and Voegelin did in their 1966 classification. Tiwi would then not be a demonstrated member of the large Pama-Nyungan family. For those who are fond of speculating about extremely remote linguistic relationships, Tiwi, along with all other Australian languages, could be assigned to a nebulous grouping called the 'Australian Phylum' pending further investigation. This phylum would also contain putatively, but presumably still very nebulously, interrelated languages such as Larakia, Gunavidji and Anindilyaugwa.

And this is, after all, the kind of situation which might be expected to obtain in Australia, given 30,000 years or more of continuous occupation by Homo sapiens. Bolinger (1975), citing Bender (1973), suggests that

"The rate of change observed in all living languages, if it operated in the past as it does today, would have wiped out traces of any language spoken 30,000 years ago."
I would like to reiterate that we come very close indeed to observing this effect when we place the Nyangumarda lexicon side-by-side with the Tiwi. The situation is very different indeed when we place the Nyangumarda lexicon side-by-side, say, with those of languages such as Pintupi, Wadjuk, Aranda, Wembawamba, Gidabal, Umpila, Yagar-Yagar and Gupapuyngu - even though these languages are spoken in widely separated parts of the continent. Generous numbers of cognates appear. We get very much of the feeling which Kenneth Hale once imagined Sapir would have had if he could have looked in on the Australian linguistic scene today: that Nyangumarda, Wembawamba and the other languages just named are ABSOLUTELY OBVIOUS members of a language family (in contradistinction to Tiwi, Larakia, Gunavidji, Anindilyaugwa and others), and that the time depth during which this family evolved must be of the order of 3,000 to 5,000 years only. I would remind the reader that the same Kenneth Hale, source of so many deep insights concerning Australian languages, named the family 'Pama-Nyungan' over a decade ago. There seems to me to be absolutely no reason why this name should not be used in perpetuity.

To return to Osborne's observation about the uselessness of lexical comparisons in attempting to establish the genetic relationships of Tiwi: even granted that the rate of lexical replacement in Australian languages appears to be rather high relative to languages spoken in other parts of the world, it seems to me that the following analogy is still valid: suppose, for a moment, that a linguist makes the claim that lexical comparison is useless for the purpose of establishing genetic relationship between Hungarian and English. Such a claim could be countered by pointing out that lexical comparisons had been of service in establishing genetic relationship between Hungarian and the other Finno-Ugric languages, as well as between English and the other Indo-European languages; ergo, the methodology is valuable, and if it does not produce positive results in the comparison of Hungarian with English, maybe there is something special about the languages - Hungarian and English. The 'something special' is, of course, that relatedness between Hungarian and English simply has not as yet been demonstrated, and these two languages have presumably enjoyed separate histories for 10,000 years or more. And if they did in fact evolve from a common ancestral language spoken, for argument's sake, 16,000 years ago, the once numerous shared features and elements have dwindled almost to zero, so that the most insightful and rigorous application of comparative method linguistics is of no avail.
I would heartily recommend the reader to consider adopting a convention (if he or she has not already done so) used by C.F. and F.M. Voegelin over the years: that of using the term FAMILY in cases where a proto-language can be reconstructed in considerable detail, with cognate sets presumably numbering in the hundreds at least; the term PHYLUM is reserved for situations where a little tentative and spotty reconstruction is possible, but detail is essentially lacking; putative cognates might run to a score or so. Relationships among the members of a language family are amenable to the application of scientific rigour. Those among the members of a supposed phylum are not.

The linguistic situation in Australia 15,000 years ago can presumably in no way ever be recovered. Whether there were fifty languages spoken at that time or five hundred, none of us now living can ever know. I would like, however, to be permitted to give my imagination some rein in trying to conjure up what to me seems a fairly plausible scenario. This scenario is predicated on the assumption that from 95% to 99% of the languages spoken in Australia 15,000 years ago have long since become extinct. Before dying, however, some exerted powerful influences on their geographic neighbours at various levels - phonology, morphosyntax and lexicon. The resulting picture might have been something like that given below.

The format of the chart is based on Bolinger (1975:321). What it portrays is entirely my own responsibility, however. The assumption is that even in very ancient times - in 35,000 B.P., say - the number of languages spoken in Australia was quite large. At least one of these represented a continuation of Capell's OA (Original Australian).

One of the ancient tongues, C, survived in a single offshoot, C₆, long enough to end its days as a contemporary of Old English. Another, E, had become extinct thirty-two millenia ago. D was more fortunate: one of its daughter languages, D₂, not only survived but flourished right up into modern times, and is now the well-studied Anindilyaugwa of Groote Eylandt. G had a more spectacular history still: after at times barely surviving in a very small area of northern Australia for about 15,000 years, it began to gain in prestige and supplanted a number of neighbouring languages (A₂, D₅, F₃ and others). Around 15,000 B.P. a small band of speakers, G₁, migrated on to a peninsula
HYPOTHETICAL GENEALOGY OF SELECTED AUSTRALIAN LANGUAGES

35,000 BP
A B C D E F G(OA) H I

30,000 BP
A5 A6 A1 B9 C1 D6 D9 F1

25,000 BP
A2 A4 A7 C8 C9 D1 D5 F2 F3 F5

20,000 BP
B6 B8 B2 H7 C7 C4 D4 F4

15,000 BP
B1 B8 C3 C5 D3 G2 G15 G21 G19 G20

10,000 BP
B5 B4 C3 D3 E6 G17 PPN(PA) G18

5,000 BP
B3 B4 C3 D3 G2 G15 G16

Christian Era
B10 D2 G1 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12 G13 G14
which during the subsequent post-glacial rise in sea level was cut off and became Bathurst and Melville Islands. Powerful tides scoured out the newly formed channels and rendered contact by canoe with the mainland all but impossible. Many thousands of years later, the people came to be known as the Tiwi. $G_2$ became extinct nearly 6,000 years ago, but $G_3$ survived as Larakia and $G_4$ as Gunavidji.

Several other languages which according to this scenario 'had diverged 10,000 to 14,000 years ago' - e.g., Maung - are not represented in the chart. Capell's CA (Common Australian) is represented approximately by the node at which Gunwinygu ($G_{14}$) branches off 5,000 years ago.\(^5\)

The modern distribution of Australian languages points to an almost explosive expansion of the Pama-Nyungan speech-area 4,000 to 5,000 years ago. This expansion led eventually to the establishment of Pama-Nyungan speech communities over seven-eighths of the area of Australia. These languages supplanted many earlier tongues, or in some cases donated loanwords; Anindilyaugwa mungamina breast (with which comparison can be made over most of Australia, e.g., Dieri, Nyangumarda ngama breast, milk) is evidently one of the rather rare loans in this language from a Pama-Nyungan source.

Wurm (1972:165), in noting the abrupt Pama-Nyungan expansion, draws a parallel to the dramatic manner in which the imparting of new technological skills to the Papuans by the Malayo-Polynesian voyagers changed their whole way of life. For one thing, the cultural innovations triggered extensive migrations by the Papuans. Wurm goes on to propose that Malayo-Polynesian influence reaching the northwest coast of Australia may likewise have led to the spread of a new technology and a new linguistic element through most of the continent.

While it seems reasonable to claim, as Wurm does, that the homeland of Pama-Nyungan was somewhere in the north of the continent, I see problems in according the area inland from the Eighty-Mile Beach this honour (as Wurm does in his map, p. 166). If present-day patterns of linguistic diversity within the Pama-Nyungan family are any indication, then the northern part of the Arandic speech-area, as well as the territory immediately to the northeast and east, seems more plausible as a centre of dispersal. Notice that the languages to the west of this area - for example Walbiri, Walmadjari and Nyangumara, show every indication of quite close genetic relationship, so that the area
in which they are spoken loses its attractiveness as a Pama-Nyungan homeland.

If, then, a more easterly locus for the centre of dispersal of Pama-Nyungan can be accepted, Aranda would be a language whose present special features have evolved in situ: universal loss of initial consonants, loss of distinctiveness in final vowels, development of two series of nasals (plain and pre-stopped), and complete levelling of the old Pama-Nyungan scheme of conjugations – to name a few innovations. Other Pama-Nyungan languages would have spread in all directions from this Urheimat - including northwards towards the northeast corner of Arnhem Land and northeastwards towards Cape York Peninsula and the Western Torres Strait Islands.

From the point of view of a modern Nyangumarda speaker, the scenario for the last 5,000 years might have unfolded in something like the following manner:

The ancestor of Lardil (G₁₃) diverged very soon after Gunwinygu. G₅ through G₁₂ began to diverge from their common ancestor, Proto Nuclear Pama-Nyungan, a mere 4,000 years ago. Speakers of the language ancestral to Wembawemba (G₁₀) and its congener began a southward migration at about the time when the early ancestors of the Murngin tribes (G₁₂) began to move northwards. Numerous languages were supplanted in the process. The common ancestor of the modern Pamic languages (G₆) and the Western Torres Strait language (G₉) branched off next - at around 1,000 B.C. Soon afterwards, with the original linguistic community now expanding to the west, southwest and southeast as well, the speech of the 'stay-at-homes' began its uniquely Arandic (G₁₁) line of evolution, with the language ancestral to Wadjuk (G₇) being transplanted by its carriers into the southwest corner of Australia soon after. The ancestral Wati-Marrngu speech community, by now located somewhat to the west of present-day Aranda country, held together until the fourth century of the present era. Little further movement was necessary to bring the Pintupis (G₆) into their ultimate homeland. The early Nyangumardas (G₅) emerged from the Great Sandy Desert on to the Eighty-Mile Beach while Marco Polo was at the court of Kublai Khan.
The above picture represents, of course, a very great simplification; an attempt has been made to depict a general outline by focussing on just a few representative languages. Notice that if finer lines had been drawn, the majority of modern Australian languages would turn out to belong among G₅-G₁₄: the numbers could have been extended approximately to G₁₆₀ had space been available in the chart. How much of the earlier scenario corresponds to fact and how much to fancy will presumably never be known. The state of the art of modern linguistics, together with what is now known of the G languages, lead us to have excellent expectations of being able to test thoroughly the scenario presented for the last 4,000 years (given time). As of now, I believe that the histories of the G languages might in point of fact be similar to that depicted.

Rising sea levels eventually formed Bass Strait, and a linguistically rather homogeneous population speaking B₃ in southeastern Australia was quite suddenly and irrevocably cut into two segments (once the sea made the initial sixty-metre breach - all in the space of one day - the drastically different tidal regimes on the two sides ensured that veritable torrents of water poured back and forth; after fourteen days, the gap was over a kilometre wide and eight metres deep). The 'Tasmanian' language spoken to the north of the breach survived for another five millennia; but as the speakers adopted the Pama-Nyungan languages spoken by the technologically more advanced newcomers from the north, the descendant B₃ speech forms were gradually reduced to substrate status. The people to the south of the new strait, lacking the technology needed to cross large bodies of stormy water, gave up further thought of visiting their kinsfolk across the channel after the severe winter of 6,057 B.C., when a series of westerly gales, pushing up phenomenally high tides over a wide stretch of still shallow sea, washed away the remaining low islands in the narrowest part of the channel. Their language, B₁₀, continued to evolve in total isolation for a further 79 centuries - until the unparalleled tragedy wrought on the people by the Europeans.

Authorities such as Mulvaney (1969) and Shutler and Shutler (1975) indicate that Tasmania has been an island for about 8,000 years. In
view of the truly immense gulf of time during which the people were isolated, I find it difficult to make out what Crowley means when he claims (1976:23) that Tasmanian is a 'phonologically absolutely normal Australian language'. First of all, one would like to know which languages on the mainland have 'absolutely normal Australian' phonologies: Arabana - in which all words end in vowels? Kunjen - in which all words begin with vowels? Ngarluma - in which words begin with consonants other than apicals? I think that the point could be made well enough that the mainland Australian languages exhibit considerable typological diversity in their phonological systems. If Tasmanian did have a phonology closely congruent with that of a mainland language (or languages), then this surely must be a typological similarity and not a similarity resulting from common descent! Notice that one could make a fairly strong claim that Modern Greek has a phonology which, if not exactly 'absolutely normal Spanish', still shares impressively many features with the latter. Genetically, though, the languages belong in different branches of Indo-European; and French, a language which is genetically close to Spanish, has a phonological system which is typologically very different from that of Spanish.

Unless the Tasmanian linguistic materials turn out to be data from a southern Australian mainland language which was unwittingly implanted in Tasmania by the early whalers (and which supplanted native Tasmanian), then my expectation that Tasmanian will turn out to be a Pama-Nyungan language is virtually zero. I am very curious indeed to see evidence for sound correspondences in the demonstration of genetic relationship between Tasmanian and 'Australian' to be offered by Crowley and Dixon.

Over the years, but especially in 1967-8 and 1974-5, I have been able to assemble 850 cognate sets from various mainland languages. About half of these can be brought to bear in the reconstruction of PNPN. The remaining half yield sub-PNPN ancestral forms such as Proto-Nyungic (PNY), Proto-Pamic (PP) and Proto-northern New South Wales (PNNSW) as reconstructed by Crowley. An example of a set which can be used to justify a PNPN protoform is provided by Bayungu ngajaru (with non-etymological -ru suffix of as yet undetermined function and/or meaning) and Gu papuyngu ngatha. Both of these forms mean vegetable food, so that the question of semantic change does not obtrude itself here. The short first vowel in the Gu papuyngu form leads us to posit a short first vowel in the protoform also. Hence PNPN *ŋaca. It is clear that Nyangumarda ngaji sugar belongs here also; but the Bayungu and Gu papuyngu forms alone suffice for the reconstruction of PNPN *ŋaca.
Notice that the attempt which I am making here to reconstruct as far back in time as possible at times seems to raise more questions than it answers. It might well be argued that the writer of this paper would be better advised to restrict himself to a tightly controllable body of data in very closely related languages (such as he did when writing up 'Proto-Ngayarda Phonology'). But regularities such as are exemplified in the following encourage him to continue:

$$\begin{align*}
\text{PNPN} & \quad *\text{caca} \quad \rightarrow \quad \text{Nyangumarda} \quad \text{jaji person on restricted (non-fat) mourning diet} \\
\text{PNPN} & \quad *\text{paca-l-} \quad \rightarrow \quad \text{Nyangumarda} \quad \text{paji-r- bite} \\
\text{PNPN} & \quad *\text{minja} \quad \rightarrow \quad \text{Nyangumarda} \quad \text{minyi stench} \\
\text{PNPN} & \quad *\eta \text{Alja} \quad \rightarrow \quad \text{Nyangumarda} \quad \text{ngalyi neck} \\
\text{PNPN} & \quad *\text{kuya} \quad \rightarrow \quad \text{Nyangumarda} \quad \text{kuyi animal, meat}
\end{align*}$$

The point being made here is that the rule whereby PNPN $*\text{caca}$ is reflected as ngaji in Nyangumarda is not invoked on an ad hoc basis, but in point of fact has wide applicability in the language.  

The remaining half of the cognate sets - those which yield shallower reconstructions - can be exemplified by Nyangumarda walja.ka⁷ leaves, foliage, Bandjima walha.rn leaf, Ngarluma walha.rn lungs, Yindjibarndi, Kurrama walha.rn leaf, lungs, Bayungu walha.rri-walha.rti leaf and Neo-Nyungar walja.ly lungs, 'lights'. Although an impressive array of languages is represented here, all are quite closely related, being members of the Nyungic Group, characterized by universal merger of the old PNPN long and short vowels (only in the Yura languages of South Australia do the effects of the old vocalic length distinction show up in the development of double series of nasals and liquids). Granted that the semantic relationship between LEAVES and LUNGS is explainable on the basis of shape, we reconstruct PNY *walja. Part of the task of future researchers will be to search for cognates of PNY *walja in other branches of Pama-Nyungan such as Pamic. For unless *walja simply 'materialized' (conceivably in song) at the PNY stage, then evidence of its prior existence must surely be traceable outside of the Nyungic speech-area. Then, too, we will have to face the question of whether the first vowel of this form was short or long in PNPN. For the present, protoforms such as PNY *walja must be taken to reflect what Capell called 'regional vocabularies'. Such are also strongly in evidence in Indo-European, where Proto-Germanic *hand- hand and *drenk- drink are generally held to be unique to Germanic (and perhaps reflect a pre-IE substrate).
The 850 cognate sets assembled so far include, then, only about 400 on which PNPN protoforms can be justified. But another parameter is involved here also: that of semantics. Again, approximately a half of the 850 sets require no explanation or justification of the semantics involved, but the other half have occasioned the writer much soul-searching over the last twenty years or so.

In the realm of sets which are entirely straightforward from a semantic point of view are Bayungu ngajaru, Gupapuyngu nathá, considered above. A further example is provided by Umpila maathuy and Kunjen adhor. Both of these forms mean pelican and can be taken to reflect Proto-Pamic (PP) *maacur (with *r representing the rhotic glide - see below). The further question of whether PP *maacur is in turn cognate with a Galbu form for turtle recorded by Capell as mädjür, with Thalandji and Bayungu majun and Southern Yinggarda majunpa turtle, and with Nyangumarda maju children's 'tag' game does not affect the validity of PP *maacur.

At a deeper level, taken to be PNPN, we have Nyangumarda winpal-pli-l-, Walbiri wirnpíri-lí-y-, Gawurna winbi-rra whistle, pipe, flute, Gadhang winpa-l- (and possibly Gumbainggar wîreluîbê-). All of these forms other than the Gawurna mean whistle (vb.) and are ascribable to PNPN *wînpa- (none of the daughter languages involved here happen to be diagnostic for PNPN vowel length; hence the convention of indicating the present indeterminacy with the symbols *l, *A, *U). Once again, the problem of varying semantic reference does not intrude itself.

Among instances of evident semantic change, very many could well have been culled from a handbook on Indo-European. I think that the lesson to be learned from this is as follows: insofar as universal principles of semantic change can be validated, it is neither here nor there whether Homo sapiens has been isolated in Australia from the rest of his kind for 40,000 years or whatever. The point is that we are investigating natural human languages, and we can expect instances of semantic change in Russian, say, to be replicated in Nyangumarda or Dyirbal. This is not to say that we will not have to contend with types of semantic change which might turn out to be entirely unique to Australian languages. But more of these anon.

Mulurudji tawar star, Umpila taway moon and Yagar-Yagar dapa r sky could well be taken as a classic example of meanings 'related as whole and part' - Bloomfield's synecdoche. The ancestral form had the shape *tapad (with rhotic flap/trill represented by *d). Still further back in time, it can be shown that the *-d was a suffix, supportable by evidence from Nyangumarda and elsewhere. Note, for example, Pintupi
taputapu - japujapu ball, round object (with incipient shift of initial laminals to apicals) and Thalandji, Bayungu japu.rta, Yindjibarndi jawu.rta beard (in each of which the shift is fully accomplished). The reader who may – with excellent reason – feel sceptical about a semantic association between SKY and BEARD is referred to Pintupi ngarka sky, blue sky, heavens (with which compare, for example, Nyangumarda ngarka beard) and to Pintupi ngarkurra beard, whiskers; the latter form, too, reflects the *-d suffix as in Umpila tawa.y and Yagar-Yagar dapa.r.

A further example of synecdoche is provided by Umpila walu cheek and Walbiri walu head, both reflecting PNPN *walu. Also of an Indo-European ring is the semantic difference between Ngarluma, Yindjibarndi, Bandjima thurla, Nyamarl jurla eye and Southern Aranda (Wychinga) url forehead. This set we take to exemplify metonymy, in which meanings are near each other in space or time. Consider, too, Walbiri milpa eye, Umpila miil'a face and Adnyamathanha miilpi.rri forehead, all of which reflect PNPN *miilpa.

The traditionally recognized type of semantic change which is probably exemplified in Australian languages the most lavishly of all is metaphor. Thus PNPN *miilpa, just cited in another context, descends in Nyangumarda as milpi.ny fingernail, toenail. The assumption here is that an earlier word for nail was tabooed or otherwise fell into disuse in the language, and nail was renamed as being the eye of the hand or foot. Metaphor is exemplified twice over in the following set: Ngarluma, Bandjima yalhu.ru, Yindjibarndi yathu.u tongue, Adnyamathanha yalhu flame (compare also Lardil yalulu flame), Nyangumarda yilyu tear (lachrymal) and King George Sound yal-yu-ret wet, cited by Moore. These forms go back to PNPN *yaalju – the plain lateral in the Adnyamathanha form is taken as evidence for an original preceding long vowel.

The single most important principle in establishing the plausibility of a given instance of apparent semantic divergence is that of independent documentation. Thus, although TONGUE and FLAME are associated in many semantic systems outside of Australia, we are particularly concerned here to uncover supportive evidence within Australia. Such is provided, in fact, by Linnghithig malan flame, which is a compound of ma fire (< PP *cuma) and lan tongue (< PNPN *calanj), cited in Hale (1966).

Turning now to more uniquely Australian types of semantic correspondence, it is appropriate to cite Umpila kan i up: Nyangumarda kaniny down, below, < PNPN *kaninj. Taken alone, this pair could well be
ascribed to the operation of chance factors rather than to common
descent. To inject plausibility into our claim of cognation for these
two forms, we seek to build up a chain of mutually supportive evidence.
Consider the following:

Thalandji, Bayungu kawari west : Umpila kaaway east
(< PNPN *kaawari)

Kariera yaju, Ngarla yiju east : Umpila iijul west
(< PNPN *yiicul)

In this case, the chains of mutually supportive evidence have as their
common theme a most dramatic and revealing principle of semantic change
in Australian languages. This principle is aptly encapsulated in
Kenneth Hale's recent term unity of the opposites (personal communica-
tion). Once this principle is accepted, the number of cognates which
can be recognized among Pama-Nyungan languages undergoes a quantum
leap. We can now confidently claim cognition for sets such as the
following:

Ngarluma, Yindjibarndi thama fire : Wadjuk djam water
(< PNY *cama)

Walbiri jama generous : Nyangumarda jami-r-ni-kiti stingy
(-r- conjugation marker, -ni-
ininfinitive, -kiti habituative)
(< PNY *camii)

Bayungu, Thargari yinha this : Walbiri yinya that beyond
(< PNPN *yinja)

Kariera, Bandjima ngaji-y-, Yindjibarndi ngayhi-y-, Yinggarda,
Malgana ngathi-y-, Gupapuyngu gäthi
ory (and Pintupi ngaji-l- ask for, beg) : Umpila ngaaji-l- laugh
(< PNPN *gaaci-)

Pintupi ngara-y- stand, wait, be : Umpila nga'a-Ø- enter
(< PNPN *gara-y-)

Thalandji yuka.rrí-y-, Wirangu uka- stand : Arabana,
Wangkangurru yuka- go : Yagar-Yagar
yuka- lie down (< PNPN *yuka-)

Nyangumarda -jarra-y-, Bayungu -tharri-y-, Walbiri -jarri-y-
INCHOATIVE, become, Wembawamba
jerri.ka, Dyirbal jarra-l (tr.),
But this is not all. Once the principle of the unity of the opposites is recognized, the floodgates are opened with respect to those aspects of antonymy—enigmatic to the non-native speaker—which are unique to Australian semantic systems. An absolute 'must' for the development of deeper insight into the nature of such systems is Kenneth Hale's A Note on a Walbiri Tradition of Antonymy. Needless to say, a person who is a native speaker of an Australian language and is deeply aware of his people's notions concerning antonymy AND is also trained in modern linguistics, anthropology and philosophy would be in the best possible position to enlighten the scientific world on this rich area of study.

And so we cross the threshold from the known to the previously unknown. Even so, it must be recognized that we are barely scratching the surface of this area of study. For if it should make sense to the outsider that the antonym of FIRE should be WATER, by the same token there is presumably no way in which he can deduce the antonym of EAR (to take one possible example). The following set of forms is suggestive, but by itself proves absolutely nothing:

Nyangumarda jungka, Yindjibarndi thungka, Bayungu thungka.ra
ground, earth : Wadjuk tonga,
twonga, Neo-Nyungar twangk (twongk in southern dialect) ear

Even though the sound correspondences show excellent 'fit', there is no reason a priori why there should not have been homophonous forms in the proto-language, one meaning ground and the other ear. Notice that there has apparently been a replacement of initial dental stop with alveolar /t/ in Neo-Nyungar, conceivably through latter-day pressure from English sound patterns, so that there is no reason why all of the...
forms cited should not be ascribed to Proto-Nyungic *cünkə. Nevertheless, the semantic void which a speaker of a European language such as English conceives of as existing between GROUND and EAR is so great that for a decade the writer of these lines could see no way out of this seeming conundrum. Eventually, a method of at least partially resolving it came to mind: to examine words for GROUND and EAR in a large number of Australian languages, and so hopefully gain further insights. If one takes the Gupapuyngu word for EAR as one's point of departure, the following comparisons come into focus:

Gupapuyngu butu.ru ear (and, probably, Yagar-Yagar poewth forehead) : Malgana putu, Nhanda uthu.lu, Wadjuk budjor ground, Neo-Nyungar puju.ru ground, earth, dust

Once again, the phonological correspondences work out. So long as the former suffixal status of -ru in the Gupapuyngu form, -lu in the Nhanda and the final rhotic consonant in the Wadjuk and Neo-Nyungar is recognized, the ancestral root can be identified as *pucu; and it is of PNPN age. The short first vowel in the Gupapuyngu reflex, as well as the retention of the initial *p in Yagar-Yagar, both indicate that the first vowel in the protoform was short.

Alternatively, one can, albeit arbitrarily, choose the Gupapuyngu word for GROUND as a point of reference:

Gupapuyngu muna.tha earth, ground, sand : Yulbaridja muna.rta ear

Once again, if the non-etymological -tha and -rta are accounted for, we are left with a clear indication of a PNPN root *muna.

And what of the Yulbaridja word for GROUND? Consider:

Yulbaridja, Pintupi, Wadjarrri parna ground : Thalandji, Burduna parna head

In view of the fact that shifts in meaning between HEAD and EAR are well documented in Australian languages, the set of forms given can be taken as providing further corroboration of the correlation which is emerging; the implied ancestral form *parna goes back to Proto-Nyungic (PNY).

The most impressive documentation of all emerges when one considers Walbiri. Here is the clinching evidence:

Walbiri, Djaru langa ear : Warnman langa ground

My reason for making this claim is based on the quite unusual word
shape here: both initial lateral and intervocalic velar nasal occur with rather low frequency in Pama-Nyungan languages. O'Grady (1957) and Dixon (1972a) present statistical evidence for this. The chance that the Warnman word for GROUND shares an accidental resemblance with the Walbiri and Djaru words for EAR is thus exceedingly remote. Both go back to *lana, though at no great time depth (the three languages concerned are quite closely related). This root can be ascribed to Proto Northern Nyungic (PNNY).

Five ancestral forms can thus be reconstructed on the basis of the above interlocking evidence. As already indicated, I am delighted to leave to others the task of working out the original meaning of each. The five forms are, then:

\[
\begin{align*}
\text{PNPN} & : *\text{muna} *\text{pucu} \\
\text{PNY} & : *\text{cun\textka} *\text{parna} \\
\text{PNNY} & : *\text{lana}
\end{align*}
\]

A further comment is in order concerning the approach used: comparison was made in the first instance between those languages whose grammars and lexicons show ample evidence of genetic relationship - in fact, between pairs of Pama-Nyungan languages. If, then, we are looking for a cognate of a root which appears in Nhanda, for example, we will look to Gupapuyngu far more than to Tiwi. If we do find a resemblant form in Tiwi, we will be strongly inclined to ascribe the similarity to the factor of chance (though one should not lose sight of the possibility of eventually demonstrating cognition).

The task of rigorously establishing phonological correspondences throughout a large network of Pama-Nyungan languages is a formidable one. In the first phase of the work, it was necessary to restrict the data to sets such as Bayungu ngajaru, Gupapuyngu natha. As already indicated, these forms essentially agree in meaning (vegetable food). It should be further pointed out that this meaning can be argued for strongly as being in some sense 'basic'. One of Morris Swadesh's many valuable contributions to linguistics was his notion concerning the nature of the 'basic vocabulary' of a language. There is a very direct way, moreover, to demonstrate that the concept vegetable food is basic in Australian languages: to check whether there are any forms (other than reflexes of PNPN *naca) with this meaning which have a wide distribution; and any reputable Australianist will observe, of course, that reflexes of PNPN *mayi foot the bill here.

Once reasonably tight control of the sound correspondences is achieved on the above basis, the knowledge of the correspondences can
then be turned around and used as a handle in the task of uncovering examples of semantic change. Thus, because of a rule which operated in the history of Adnyamathanha such that PNPN initial \*c is reflected as y, we are not tempted to consider Adnyamathanha yarra- fall and Nyangumarda ya-rra go! (imperative singular) as cognates. Our conviction is strengthened by the knowledge that although the handful of PNPN monosyllabic verb roots were indeed reanalyzed during the history of Adnyamathanha (or its immediate ancestor) in such a way as to make them agree in syllable count with the disyllabic majority, the extension was made via the old PNPN \*-ku- suffix. Hence, for example, Adnyamathanha nga.1.ku- eat (with which compare verb root nga- eat in Nyangumarda, with optative nga-1-ku-) and nha.ku- see (vs. nya- see in Yulbaridja, optative nya-ku-ra).

In the light of the above considerations, the Adnyamathanha verb root yarra- is thus considered as a cognate of Gupapuyngu dharra stand and the other reflexes of PNPN \*caada-ya- already presented herein.

The lesson which we learn from examples such as Nyangumarda jungka ground and Neo-Nyungar twangk ear is that no meanings can be considered a priori to be so far apart as to be unrelated. The evidence for the relatedness of the concepts GROUND and EAR in the languages so far examined appears to be overwhelming. It remains for the cultural context to be explained.

Procedures for establishing further such connections can usefully be illustrated through PP \*minja animal, meat (reflected, for example, in Kuku-Thaypan nhye, Umpila minya, Wik Mungkan mih and Linngithigh nya, all of which descend with meaning unchanged). In any connections outside of Pamic which we will propose, we will not content ourselves with making off-the-cuff assertions, but will rather seek the most effective possible motivation for such assertions.

Some knowledge of the sound correspondences leads one to expect that a Wadjuk or Nyangumarda cognate of PP \*minja will have an initial m, followed by l, which in turn will be followed by a laminal nasal; in Nyangumarda only, the vowel corresponding to the PP \*a can in this environment (i.e. following a laminal in the second syllable) be expected to be l. The leads, then, are very specific indeed, and we expect that the cognate shapes in Wadjuk and Nyangumarda, if they do turn up in these languages, will be minya and minyi respectively. The reader is urged to mark well the notion 'if they turn up'; one way in which language change manifests itself is in the total disappearance of a morph from a language (as in the loss of quoth from modern English). Nevertheless, 'Seek and ye shall find'! Moore (1884:54) contains the
entries min-ya a smell and min-ya dew; and in Nyangumarda minyi stench has already been cited. Bearing in mind the POTENTIAL:ACTUAL feature of Australian semantic systems discussed in O'Grady (1960) and Dixon (1972b), it seems reasonable to conclude that just as ANIMAL is the potential counterpart of (actual) MEAT, so also could MEAT be regarded as the potential counterpart of (actual) PUTREFACTION. And this supposition is borne out by the evidence from Kariera and Yulbaridja: in the former, mantu means meat, and in the latter we have mantu rotten.

If we now extend the search for cognates of PP *minja to the whole of Australia (but with our main hopes for success centring on the Pama-Nyungan languages, naturally enough), we are immediately struck by the existence of a whole swathe of languages in which minya = what?. In the far north, Yagar-Yagar miya.y what? evidently belongs with this assemblage, along with Dyirbal minya, Wangkangurru and Arabana minya, Dieri minha and 'Narrinyeri' 'minye'--to cite just a few examples--all of which mean what?. Languages in which the cognate form has undergone idiosyncratic truncation (as with a high-frequency item of English such as because > 'cause) include Gidabal, in which nya.ng answers to what?; note also Antakirrinya and Pintupi nya, Mudbura nya.mpa, Walbiri nya.ya (nya.yi in Eastern dialect) what? and Walbiri nya.ngu.rla, Nyangumarda nya.nga when?. An underlying a is indicated for the second syllable of the 'Narrinyeri' form by 'minya' what number? and 'minyandai' what times?, how often?.

It is interesting to note that the Pama-Nyungan languages in which *minja descends with the meaning ANIMAL/MEAT (or the clearly derived meaning SMELL-STENCH) and the languages in which the 'other' *minja is reflected are more or less mutually exclusive (and jointly make up the major part of the roster of Pama-Nyungan languages). It is even tempting to suggest that one of the hallmarks of a Pama-Nyungan language is the presence of a reflex of *minja. This might just turn out not to be taking things too far! Moreover, it is also tempting to speculate that the first major breakup of the original Proto Pama-Nyungan speech community can be traced through the root which is under discussion: if *minja descends with meaning ANIMAL/MEAT or SMELL/STENCH in a given language, then the language is a member of Group A; and if the meaning of the reflex of *minja is WHAT, then the language is a member of Group B. In other words, Pama-Nyungan languages might be thought of as having undergone a MEAT:WHAT split, just as Indo-European languages divide themselves (according to an important phonological criterion) into Centum-languages and Satem-languages.
But we are 'jumping the gun' here a little. Can substantive evidence be brought to bear to demonstrate that all of the minya-forms in Pama-Nyungan languages descended from a single root? My claim is that there is such evidence, and that it is to be found in the reflexes of a PNPN root so far not discussed herein, namely *waara. But more of *waara anon.

After their daily forays for game in their small Urheimat in central northern Australia, members of the original Pama-Nyungan speech community must regularly have been greeted with a stock phrase, *ŋaana minja what meat?. Over a period of time, a segment of the community came to accept successive truncations of this basic query: first *'na minja, and finally just *minja, which thus came to be interpreted by succeeding generations of speakers as an alternative non-human interrogative pronoun; *ŋaana, the old word for what?, was gradually crowded out.

Returning now to the question of *waara, we will find it appropriate to take the Pamic languages once again as a starting point. The human interrogative pronoun is reconstructed in PP by Hale as *waari(-na). Reflexes include Umpila waa'i who?, which in the Ergative case takes the form waa'in.ju-lu (in which, historically, ergative has been marked twice over - cf. English child.r-en). I take this ergative form to be evidence for a pre-Umpila root shape, namely *waarin(a) < *waarinj(a). This in turn was made up of root *waara plus suffixed *-nj(a), the latter reflecting PNPN *-nja, which appears in Pama-Nyungan languages commonly as an object marker on proper nouns, and in some cases marks proper nouns as such.

Other Pamic evidence for PP *waari(-na) includes Wik Mungkan wee', Uradhi arri-, Linngithigh a'i- who?. Far to the south, we have Dieri wara.nha and Wangkangurru, Arabana wara who?. The comparative evidence, for example Umpila ma'a, Wangkangurru and Arabana mara hand < PNPN *mara allows us full confidence in assigning cognation here.

The question arises, what was the referent of PNPN *waara? The answer appears to be that it was not who?. The evidence for this claim comes especially from Gumbainggar waan face, forehead and Wirangu waa face. Notice that glide deletion occurs in a number of Australian languages, although it is by no means easy to determine the precise conditions under which it operates (borrowing no doubt contributes to obscuring the picture). Nonetheless, Wirangu maa vegetable food < PNPN *mayi is instructive.

It is very plausible that in PNPN times another stock question frequently heard was *ŋaana-nja waara what-HUMAN face?, i.e. who is it?,
asked in situations where a visitor's identity was unknown. This likewise came to be truncated to *waara by some speakers, so that their descendants came to use *waara in the sense of who?/somebody. Meanwhile, the laminal nasal of the *-nja suffix exerted a fronting effect on the preceding *a in the form *ŋaana-nja (as used by another segment of the original PNPN speech community); *ŋaana was subsequently reanalyzed as *ŋaani by some speakers.

The original FACE referent of *waara showed semantic specialization in another direction also. Conceptually, FACE/FOREHEAD and VERTICAL are interrelated in Australian languages. Consider, for example, the following reflexes of PNPN *ŋAlja:

<table>
<thead>
<tr>
<th>Nyangumarda</th>
<th>ngalyi</th>
<th>neck</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yulbaridja</td>
<td>ngalya</td>
<td>face</td>
</tr>
<tr>
<td>Pintupi, Walbiri</td>
<td>ngalya</td>
<td>forehead</td>
</tr>
<tr>
<td>Pittapitta</td>
<td>ngalya</td>
<td>cheek</td>
</tr>
<tr>
<td>Walbiri</td>
<td>ngalya.rr-pa</td>
<td>sandhill and, perhaps -</td>
</tr>
<tr>
<td>Walbiri</td>
<td>ngalya.lli</td>
<td>flame, fire without smoke</td>
</tr>
<tr>
<td>Warburton Ranges</td>
<td>yapu ngalya</td>
<td>cliff (yapu stone)</td>
</tr>
</tbody>
</table>

So also, then, in Walbiri wara.rra is cliff, precipitous mountainside. It is worth pointing out that English face is used in a very comparable way, as in sheer face of rock. Nyangumarda wara.rr (noun) standing and Gadharg wara- stand (up), step from opposite sides of the continent could be taken as evidence that the semantic development FACE ———> (BE) VERTICAL is quite ancient in Pama-Nyungan.

Still another line of semantic development led to Nyangumarda wara.ja one and wari.ny other, as well as to Yagar-Yagar wara other. Finally, Ngarluma wara clothing and Nyangumarda wara rag appear to be derived from the general notion THING, which is a very plausible antonym of FACE/PERSON. The intimate relationship between FACE and PERSON is generally evident in languages of the world, including English. More particularly, however, note PNY *ŋadka > Ngarluma ngarrka face, Yulbaridja ngarrka chest and Walbiri ngarrka fully initiated man; also PNPN *ŋumpa > Kariera, Nyangumarda ngumpa (and, with as yet unaccountable initial k, Yindjibarndi, Bandjima, Nyamarl kumpa) face, Pintupi ngumpa shade or shade shelter, Djaru ngumpin man and Umpila ngumpa large black stingray. The connection between FACE and STINGRAY should be acceptable to anyone who has contemplated the striking but spurious face on the underside of these creatures.

It may well be that future research will show some of the lines of semantic shift suggested in the previous pages to be unsupported. By and large, though, it does seem that correlations are beginning to
emerge which further work can be expected to make fully acceptable. To this writer at least, several of the more extensive interlocking networks of evidence presented here appear to be well-nigh unassailable. In any event, it is crucial that further research take fully into account the tangled web which Pama-Nyungan diachronic semantics - let alone Australian diachronic semantics! - promises to be.

The above hopefully constitutes an intelligible outline of some of the problems inherent in Nuclear Pama-Nyungan comparative reconstruction. The establishment of the principles stated above has resulted in an increase in the number of cognate sets to the point where their sheer volume has begun to pose real problems of manageability. What was indicated was a narrowing of the focus so that protoforms containing a given initial consonant could be researched en bloc. Thus, after assembling 850 cognate sets, I began to focus my attention exclusively on the 120 sets which descended from protoforms beginning with the laminal stop *c. Since 850 divided into 120 is 14% or approximately one-seventh, it follows that whatever percentage of increase in the number of the *c- sets was made possible by exclusively concentrating on this initial could be predicted to apply approximately to the entire body of sets. The *c- sets were in fact ultimately increased in number to 200 - i.e., an increase of two-thirds was effected. There is thus good reason to expect that the overall number of reconstructions will eventually 'bottom out' at around 1,400.

My choice, albeit arbitrary, of *c- as a starting point for preparing the material for possible publication forced a further decision - namely to follow up immediately with work leading to protoforms in *y- and *nj-, since residual problems centring on forms with initial *c might well turn out to be resolvable once careful attention is given to other laminal-initial forms. It is hoped that two years will be sufficient for the preparation of a fascicle for each initial consonant (or group of initials, in the case of the low-frequency apicals). Thus the first version of the work may be complete by 1994.

Brief illustration of some of the phonological pitfalls in PNPN comparative reconstruction can be given here. If, for example, one's focus is PNPN protoforms in *c-, then Nyangumarda japa.rtu father is not relevant (it reconstructs back to PNPN *yapa). Nor is Ngarluma thaka-1- take, grasp (from ancestral *taka), Ngarluma japu.rta beard (< PNPN *tapu) or Ngarluma thumpu anus (< PNY *lumpu).

On the other hand, Uradhi forms with initial /l/ are grist for our mill: lalan tongue goes back to PP *calan, and further, to PNPN *calanj; lutpi stomach reflects PP *culpi; and lipa liver (which need not be taken as a loan from English!) reflects PNPN *cipa perfectly.
regularly. Then again, since one of the sources of Umpila initial /y/ is PP *c, we will be concerned to take account of such forms as yuma fire (< PP *cuma) and yipa liver, also < PNPN *cipa.

Then, too, Arabana, etc. parrku.lu two might not at first blush seem at all relevant to protoforms beginning with *c. Yet if considered in the light of Thalandji jarrku.rti, Yindjibarndi and Kurrama jarrwu.rti, Warriyangka jarrku three, then the parrku.lu forms in Arabana, Wangkangurru and a number of neighbouring languages can be viewed as the result of reanalysis of the initial consonant in PNPN *cAdku; and the pressure leading to this reanalysis was exerted by a reflex of PNPN *pula two. In Indo-European, a comparable development can be seen in the effect which the word for ten exerted on the initial consonant of the word for nine in Proto-Slavic, so that modern Russian has alongside ДЕСЯТЬ déšať ten ДЕВЯТЬ dév'ňať nine, with initial ó in place of the expected Indo-European reflex, ē.

Let us conclude this preliminary presentation of some aspects of Pama-Nyungan comparative linguistics with a short wordlist in five of the languages arranged on the basis of the referent range of each item, but with cognates identified by identical numbering.

<table>
<thead>
<tr>
<th>Bayungu</th>
<th>Nyangumarda</th>
<th>Pintupi</th>
<th>Umpila</th>
<th>Yagar-Yagar</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>-parnti</td>
<td>-ngurlu-n-gu</td>
<td>-nguru</td>
<td>-munu</td>
<td>-ngu</td>
<td>ELATIVE case</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>suffix</td>
</tr>
<tr>
<td>nhupalu</td>
<td>nyumpala</td>
<td>nyupali</td>
<td>ng'u'ula</td>
<td>nipel</td>
<td>you two</td>
</tr>
<tr>
<td>ngali</td>
<td>ngali</td>
<td>ngali(Ε)</td>
<td>ngali</td>
<td>ngaba</td>
<td>we (DUAL INCL.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nganthuru</td>
<td>nganarna</td>
<td>nganarna</td>
<td>ngana</td>
<td>ngoey ν</td>
<td>we (PLUR. EXCL.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ngoel- 3</td>
<td></td>
</tr>
<tr>
<td>nyurni</td>
<td>kiwinyiwinki</td>
<td>kiwinyi</td>
<td>kuuntu</td>
<td>iwi 5</td>
<td>mosquito</td>
</tr>
<tr>
<td>ngu1</td>
<td>ngumpa</td>
<td>miparrpa,</td>
<td>miil'a</td>
<td>paaru</td>
<td>face</td>
</tr>
<tr>
<td></td>
<td></td>
<td>yurnpa,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>yiku</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wampa-parnti</td>
<td>marla</td>
<td>lakarrpa</td>
<td>mungka 6</td>
<td>muugu</td>
<td>antbed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wirlarra</td>
<td>tartarta</td>
<td>kinnara,...</td>
<td>tawa.y</td>
<td>kisa.y</td>
<td>moon</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(kiji.rli at Warbur-ton Ras.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mirta.li</td>
<td>punyju</td>
<td>purlka</td>
<td>ma'il'a 9</td>
<td>mapul</td>
<td>heavy</td>
</tr>
</tbody>
</table>
PRELIMINARIES TO APROTO NUCLEAR PAMA-NYUNGAN STEM LIST

Bayungu Nyangumarda Pintupi Umpila Yagar-Yagar Gloss

<table>
<thead>
<tr>
<th>kamu</th>
<th>janparr</th>
<th>parljaji-rraja</th>
<th>uuli</th>
<th>yaraaga</th>
<th>hungry</th>
</tr>
</thead>
<tbody>
<tr>
<td>jitarn</td>
<td>tak!</td>
<td>nyanka</td>
<td>kupun</td>
<td>kothey</td>
<td>nape</td>
</tr>
<tr>
<td>japu.rta</td>
<td>ngarnka</td>
<td>ngarnkurrpa</td>
<td>puujan</td>
<td>yatha</td>
<td>beard</td>
</tr>
<tr>
<td>-</td>
<td>kawu</td>
<td>yarna.ngu</td>
<td>yalmpay</td>
<td>gaamu</td>
<td>body</td>
</tr>
<tr>
<td>karta.ra</td>
<td>ngalkungalku</td>
<td>murramurra</td>
<td>walu</td>
<td>daaka</td>
<td>cheek</td>
</tr>
<tr>
<td>mangku.rtu</td>
<td>piji.rri</td>
<td>milka.rli</td>
<td>kamu</td>
<td>kulu.ka</td>
<td>blood</td>
</tr>
<tr>
<td>jirnti</td>
<td>parlparr</td>
<td>ngarnka</td>
<td>-</td>
<td>dapa.r</td>
<td>sky</td>
</tr>
</tbody>
</table>

Note that Umpila ngu'ula shows the effect of reanalysis in the initial consonant, with earlier laminal nasal being replaced by ng under the pressure of first person forms such as ngall. Not given in the table is Umpila ngampu.la we (PLURAL INCLUSIVE), which reflects the first alternant of PP *ŋampul(a) - ŋampa; the second alternant is reflected, for example, in Wik Mungkan ngamp with identical meaning, and answers well to Yagar-Yagar ngaba.

Proto Nuclear Pama-Nyungan distinguished fourteen consonants and three vowels. In addition, the vowel in the first syllable of a root showed distinctive length. The stops were articulated at four positions: *p (bilabial), *t (apical), *c (laminal) and *k (velar). These were matched by nasals *m, *n, *nj and *ŋ. There were two laterals - apical *l and laminal *lj; one rhotic with apical contact, herein symbolized as *d; and three glides - labiovelar *w, rhotic *r and laminal *y. The vowels were high front *i, high back *u, low back *a, and long counterparts *ii, *uu, *aa.

Most conspicuous in the phonetic realization of forms were:

1. All words were stressed on the first syllable.
2. All consonants had fortis allophones following a short stressed vowel, and lenis allophones elsewhere.

The PNPN inventory of distinctive sound segments was, then:
Adequate validation of this system will have to await the publication of full comparative data from representative Pama-Nyungan languages. In the meantime, it is hoped that this paper will serve two purposes. Firstly, it should provide the reader with some preliminary orientation concerning the writer's views on a number of aspects of phonological, analogic and semantic change in the languages under study; secondly, the assertions made will hopefully open this arena to further productive dialogue.
NOTES

1. The work was supported through Grant No. GS-1624, administered by the University of Hawai'i. I would like especially to thank Dr George Grace, Dr Bob Hsu and Dean Howard McKaughan for their guidance, support and encouragement.

2. For this reason I am at a loss to understand what Dixon means by 'Proto-Australian'. The very title of his article, 'Proto-Australian Laminals', cries out for explanation, though the paper itself is an excellent contribution to the study of diachronic Pama-Nyungan phonology.

3. Methodologically, the appropriate procedure would be to compare Tiwi to the remotest possible reconstructible ancestor of Nyangumarda-Proto Pama-Nyungan. If this were done, however, the result would be the same: there would be virtually no potentially related material to work with.

4. Forms are presented in a spelling which adheres, for the most part, to the present-day Walbiri orthography. If allowance also be made for sounds not occurring in Walbiri, the scheme of symbols for consonants is as follows:

<table>
<thead>
<tr>
<th>STOPS</th>
<th>p</th>
<th>th</th>
<th>t</th>
<th>rt</th>
<th>j</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRICATIVES</td>
<td>s, z</td>
<td>rt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NASALS</td>
<td>m</td>
<td>nh</td>
<td>n</td>
<td>rn</td>
<td>ny</td>
<td>ng</td>
</tr>
<tr>
<td>LATERALS</td>
<td>lh</td>
<td>l</td>
<td>rl</td>
<td></td>
<td>ly</td>
<td></td>
</tr>
<tr>
<td>FLAP/TRILL</td>
<td>rr</td>
<td>rd</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLIDES</td>
<td>w</td>
<td>yh</td>
<td>r</td>
<td>y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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In languages with two series of stops, the voiced (or lenis) series is symbolized \( b, d, d', d'' \); in languages with a rhotic trill contrasting with a flap (such as Adnyamathanha), the trill is written as \( rrr \). No confusion arises from assigning \( rd \) double duty (apico-domal flap and voiced[lenis apico-domal stop), since no single language has been encountered in which both are distinctive. Notice that I consider \( rt, rn, rl \) to be clusters, as proposed in Hoard and O'Grady (1976). I have now abandoned the earlier claim that the rhotic flap/trill in languages such as Nyangumarda is to be analyzed as a cluster consisting of two \( r \) glides; the spelling convention \( rr \) is thus held to be merely a convenient way of symbolizing rhotic flap/trill \( /r/ \).

Vowels are written \( i, e, ae, a, o, u \), and with digraph \( oe \) for schwa. Where length is contrastive, the symbols are doubled: \( ii, ee \), etc., and with \( ooe \) for long schwa. Since Gupapuyngu has a well-established orthography and literature, I am adhering to the accepted usage, in which short vowels \( /i, a, u/ \) are written \( i, a, u \), and the symbols for long vowels \( /i:, a:, u:/ \) are \( e, ë, o \). The Gupapuyngu velar nasal is written as \( n \). In the case of pre-scientific materials, experience teaches that tampering with the spellings has all too often been counterproductive. I therefore choose to leave spellings used in Moore and other 19th century sources strictly alone; the reader is reminded of their status by the use of single quotation marks. If sensibilities are affected by these conventions, I gladly apologize in advance. To me their justification is that they immeasurably facilitate Australian comparative work.

5. As indicated elsewhere, I prefer to refer to the family dominated by this node as 'Pama-Nyungan', following Hale (1966).

6. See Hoard and O'Grady (1976) for a discussion of the synchronic aspect of the same rule.

7. O'Grady (1966) discusses frozen suffixes such as this \( ka \) in some detail. The convention used for identifying them continues to be \( \text{dot} \).

8. Quite possibly a mistranscription of \( wirnpal-pi-li-\).

9. The Duungidjawu example is from Wurm (1976:109) and was brought to my attention by Kenneth Hale.
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GRAMMATICAL CLASSIFICATION IN AUSTRALIA

A. Capell

1. INTRODUCTION: Types of Classification - Nouns and Verbs

Australian languages as a whole are not amongst those which recognise gender or other forms of classification in nouns and dependent categories. There are, however, certain limited areas where phenomena of this kind appear, and these are indicated in Map I. They are subdivisible as follows:

1. regions in which a distinction between feminine and non-feminine is found;
2. regions in which nouns are classified into sense-groups by a method here called 'determination';
3. regions in which nouns are classified into groups marked by suffixes or prefixes, or both in combination, involving a grammatical concord within the utterance, in a manner resembling those of the Bantu languages of Africa, but less complicated.

With one exception, all these languages are found in an area north of 18° south latitude, and spread over the continent from the Northern Kimberley Division to Cape York Peninsula. Marking by a dichotomy of feminine v. non-feminine is found occasionally south of this latitude, and a multiple class system by suffix occurs in isolation on the north coastal area of New South Wales.

The first part of this paper discusses the phenomena of the different languages and suggests ways in which these may have developed, though it still remains impossible, for lack of diachronic evidence, to assign any time scale for their establishment.
Map I: Noun Classification
LEGEND TO MAP 1: NOUN CLASSIFICATION

**KEY:**

- **MC**  Multiple classifying, either
- **MC (p)** multiple classifying by prefix  
  or
- **MC (s)** multiple classifying by suffix;
- **MC (sep)** multiple classifying by separate markers.
- **DC**  Dual classifying, either
- **DC (p)** dual classifying by prefix  
  or
- **DC (s)** dual classifying by suffix.
- **DET**  Use of determinatives.
- **MF**  Distinction of masculine-feminine, either
- **MF (n)** distinction in noun forms  
  or
- **MF (p)** distinction only in third singular  
  pronouns.
One instance at least will appear in which the noun itself carries no marker, but is preceded by a local demonstrative which varies for class. This language is Djirbal, in north-eastern Queensland. In the heart of the most complicated area in Arnhem Land, there is a case in which a kind of 'article' occurs, which is repeated along with an adjective following a noun; here some stem variation is simultaneously possible. This happens in Mawng, in north-western Arnhem Land.

In certain instances also, the grammatical feature of possession of an object may exert influence on the form of the noun, apart from the class-marker such a noun may bear. This has been called 'prefix-possessive' concord.

Noun classification, however, is not the only type of classification found in Australian languages, although it has been so stressed that in practice it is the type most thought of when the term 'classification' as a grammatical process is thought of. There is, however, classification of verbs also. In some languages the verbal stem is conjugated by suffix or less commonly by prefix, as, for instance, in Latin and European languages as a whole. The Latin type is represented by such roots as am-o, hab-e-o, etc. But there is also a Latin type such as gratias ag-o, I thank, I give thanks. Here a noun stem is supported by a verbal stem without which it cannot be conjugated. In Australia, many languages have such double verbs. In Ngarinjin, for instance, one says a-ŋ-ulu-n, him-I-give-pres.; but one says wula ŋ-ama-nanga, speech I-do-to-him, I speak to him. It is impossible to say simply *a-ŋ-wul-a-n. In the Northern Kimberley and some areas of Arnhem Land, it seems that the decision depends on whether the verb stem begins with a vowel (when it can be conjugated as a simple verb) or a consonant, when it is conjugated as a compound verb with some kind of auxiliary. The matter is not really quite as simple as this. Different auxiliaries may change the nuance of meaning. In Ngarinjin, maRa a-ŋ-o-ni, seeing I-him-do-past, I saw him, implies a simple act of vision; but maRa a-ŋ-ela-ni, seeing him-I-hold-past, is rather I stared or gazed at him.

In Ngarinjin there are eleven such auxiliaries, all of which have specified uses.

2. DICHOTOMY OF FEMININE v. NON-FEMININE

The languages included in this group have a system of classification very like those of the modern Romance languages, i.e. they distinguish feminine from masculine among living creatures; inanimate nouns are not marked. For this reason it is inappropriate to speak of a masculine-feminine division. Any noun that is not feminine falls into the other
class. Feminine is marked (usually by suffix) non-feminine is unmarked. Perhaps Latin may provide a rough parallel in that the basic gender system in Latin is masculine-feminine: the neuter is really a special subgroup of the masculine, agreeing with the latter in most of its endings (except a formal nominative-accusative division in the neuter), but having a separate set of case markings for feminine. The difference is that in Latin and the Romance languages, the gender is 'grammatical', i.e. largely independent of actual fact, while in the Australian languages, as in English, only female reference is marked as feminine. Pronouns under this system mark she as distinct from he and it, but do not distinguish the latter two.

The area of occurrence of this type of noun classification is listed by Schmidt (1919b:11-12) as that of the Kana languages of his South Central Group, those of his Middle and North Kuri Group, Bandjalong and Halifax Bay in North Queensland. For these he gives the following forms:

<table>
<thead>
<tr>
<th>Masculine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nom.</strong></td>
<td><strong>Erg.</strong></td>
</tr>
<tr>
<td>Diyari</td>
<td>nau</td>
</tr>
<tr>
<td>Kana-type</td>
<td>nu:</td>
</tr>
<tr>
<td>Darginjung</td>
<td>njuwa</td>
</tr>
<tr>
<td>Awaba</td>
<td>njuwawa</td>
</tr>
<tr>
<td>Gadhang</td>
<td>njuwa</td>
</tr>
<tr>
<td>Bandjalong</td>
<td>njull</td>
</tr>
<tr>
<td>Yugumbir</td>
<td>njula</td>
</tr>
</tbody>
</table>

Schmidt's entry for 'North Halifax Bay' is masc. balu, fem. ya:lu., but the allocation to precise languages is uncertain and these are better disregarded.

There is one occurrence of a masculine-feminine distinction that has been noted by Capell in the Roper River area, among prefixing languages: Mara has a distinction of two genders in the 3rd person singular pronoun and in the demonstratives. This distinction is found

¹The ergative form is not listed by Holmer, from whom the list is taken, but appears to be likely in the language. It may be noted in passing that ergative and non-ergative languages both share these features.
also in Alawa, but in the latter language the adjective is involved along with the verbal subject in the concord. Alawa is therefore classed with the dual-classifying languages, while Mara belongs to the group here under consideration. Mara is not an ergative language, and the pronominal forms are only nangaya, he and nayara, she. The two sentences this man is dead and this woman is dead appear in Mara as:

1. gariyimar ninja nabar uma
   man this dead is

2. giriya ninda nabar uma
   woman this dead is

as against the Alawa equivalents:

1. lilmi ninda waynma niri
   man this dead is

2. giriya anninda anwaynma ari
   woman this dead is

where a prefix an- marks the feminine in both demonstrative and adjective, with the verb differently marked for gender.

In Mara, however, a deictic nana serves to define nouns either masculine or feminine or referring to things: nana barawu, the ship (Malay prau); nana djanawu, the little girl. It is usable even with a noun that carries a built-in possessive: nana wabimar, your father - a special 2nd person form.

A short form na- is very frequently prefixed to non-feminine nouns: na-bulan, the bucket; even place names such as na-Barawu and as in the sentence nangaya na-wambiyu, he (is) the-house-at or he is in the house. There is a much rarer feminine prefix nja-, as in nja-radbur-yu wa-lindu, the camp-to he-goes; dala gunbu nja-nalwar-yu, she fell the ground-to, or nja-ngu-yu, into the water. In most cases this does not seem to be considered necessary when the noun refers to a feminine person, as in the two sentences

bandi wu:wa djawulba, head give (to) old-man
wu:wa du:la djawulba ninja, give leg (to) old-woman that

The definite appears in the last element of the following sentence but not in the first element which is clearly feminine:

giriya badada gudid gaganja nara-lga
(the) woman baby will-carry (in) the-bag
there is no corresponding plural or dual, unless the normal markers of the noun (wu- dual, and wala- plural) are to be so considered.

The same prefix na- will appear in the MC languages of Rose River and Groote Eylandt, where they can be preceded in turn by the noun class marker, e.g. Rose River: a-Raŋag, a-na-Raŋag, wood, tree. There is a similar difference of degree of definiteness.

3. GRAMMATICAL CLASSIFICATION OF NOUNS

Amongst the systems in which the classification of nouns is different from those known in European languages, several subgroups can be distinguished.

1. The languages of Cape York area of North Queensland.
2. The languages of north-eastern New South Wales.
3. The languages of Arnhem Land and the Northern Kimberley,
   (a) classification by suffix,
   (b) classification by prefix.

Both types may occur at once: a noun may carry prefix and suffix at the same time - sometimes but not always the same morpheme: the form is $P + R + S$, where $P$ = prefix, $R$ = root, and $S$ = suffix. Some languages have $R + S$, some have $P + R + S$, and some have $P + R$. The impression that grows up in a comparative study of these languages is that the real pattern is $P + R + S$, but that in some areas it becomes $\phi + R + S$, and in others $P + R + \phi$. In areas where one of the $\phi$ forms occurs, the $\phi$ can often be filled in adjectives or other parts of speech by the missing member of the pair, i.e. the $P + R + S$ system would seem to be original. This claim will be abundantly illustrated in subsequent pages. In the rarer cases in which possession is marked by a prefix, this prefix may, in a very few languages, supplant $P$, and occur in the concord of the noun phrase and even the verb phrase. Here, using $p$ = possession, the pattern would be $N = p + R \pm S$, and the noun phrase would appear as

$$NP = p + R \pm S + p + A \pm S +$$

Here, my strong right arm would be represented by a pattern such as $p + arm \pm S + p + strong \pm S + p + right \pm S$, $p$ being in each case the prefix representing my.

In most of these complicated classification systems, the number of the noun is either not represented, or only in nouns referring to living human beings.
4. CLASSIFICATION BY DETERMINATIVES

4.1. Cape York Peninsula Languages

In the languages of Cape York, a type of classification is often found in which a generic noun precedes a specific, e.g. *animal horse* for *horse*. The generic noun can be used independently if desired, but as a rule the specific noun will not be used alone. The term 'determinative' applied to such compound expressions rests on the hieroglyphic 'determinative' frequently found in Assyrian and Egyptian scripts, which precedes (or at times follows) a word in hieroglyphic or cuneiform script, to make clear what particular object is intended. A certain word may be a common noun, but in the context is referring to a person or place, and is preceded by the symbol for *town, god, king, etc.* This is precisely the function of the generic term in the languages under discussion. The term was introduced by Capell (in Capell 1956:44).

One of the clearest examples of this type of classification is seen in the Thayorre language of Cape York (Hall 1972:70). Hall finds that 'at least 15 indeclinable classifiers distinguish all nouns by their presence or absence', e.g. *miŋ*, hunt*able prey*; *yak*, *snakes*; *Rur*, *insects*; *raak*, *times*; *ŋan*, *relatives*; *ŋok*, *liquids*, etc. These are then followed by a specific noun, the two in compounding acting as a single word-phrase, e.g. *miŋ mopŋŋa*, *pied goose*; *Rur mopŋŋa*, *butterfly, moth*. Sometimes the specific can be used alone, but then with a different significance, e.g. *waŋ*, *ghost, devil, white man* > *miŋ waŋ*, *enormous eagle*. Once the phrase has been used, the determinative may replace the specific: *miŋ kotoŋ* ... *miŋ iŋ'ŋ* ... *this*.... In this situation there is no parallel with prefixes of noun class farther west: they can never be independent forms. Hall adds: 'Classifiers are phonologically, not grammatically, bound to a head. All are obligatory except (kuta) *yarman, horse*.'

This phenomenon has considerable spread in this part of Australia; nor is it actually limited to Australia. More frequently such markers appear as numeral coefficients in languages of South-East Asia and elsewhere. They seem to be quite an old device of language to specify meaning. It will appear later that some, at least, of these determinatives have served as points of origin for class markers found farther west. This applied especially to a root *mayi*, *vegetable food*, which appears in the more westerly languages of this type as *ma*-, prefix for *trees, foods, and showing*, in spite of varying uses in different languages, its origin as a free determinative. In Maranunggu of the Daly River area, the word appears in reverse shape as *mlya, vegetable*
food, and as an element in miya beri,\textit{water lily} and other food names (Tryon 1970:52. See 5.5. infra.).

4.2. The Djirbal Phenomenon

There is one region in Australia where free forms are used to mark noun classes. This is in North Queensland, in the region of Cairns, amongst what has been called the Rain Forest peoples. The language best known and used here as illustration is Djirbal, a detailed study of which is to be found in Dixon's \textit{The Djirbal Language of North Queensland} (Dixon 1972:44 and refs.).

There are several features which mark this language off from others:

1. The markers, four in number, precede the noun, but do not require concord throughout the NP, and do not influence the VP at all, except for certain directionals.

2. They are not equivalent to a definite article, although they occupy the same position in the sentence as the articles do in English. At the same time they are not equivalent to the similar markers in Mawng (Capell and Hinch 1970), although they occupy the same position in the sentence - moreover the latter are repeated with each element of the NP. Semantically they do not carry the same idea of definiteness.

3. There is a strong localising idea in them.

4. Each class has three markers, which are concerned with the distance of the referent from the speaker:

\begin{itemize}
  \item \textit{bala}- indicates visible and \textit{there}.
  \item \textit{yala}- indicates visible and \textit{here}.
  \item \textit{qala}- indicates that the referent is invisible.
\end{itemize}

5. The number of referents is not involved, as is the case with some of the prefixed markers in other languages.

The nominative forms of the indicators are somewhat irregular. They are formulated as follows:

\begin{align*}
\text{Cl. I.} & \quad \text{II.} & \quad \text{III.} & \quad \text{IV.} \\
\text{bayi} & \quad \text{balan} & \quad \text{balam} & \quad \text{bala}\phi \\
glyi & \quad \text{ginjan} & \quad \text{ginjam} & \quad \text{ginja}\phi \\
\text{na} & \quad \text{nal} & \quad \text{nal} & \quad \text{nal}\phi \\
\text{(Dixon 1972:45).}
\end{align*}
These are not comparable with the forms used in any of the other Australian languages treated here. They locate rather than define in the sense that articles define in most European languages, i.e.

\begin{align*}
\text{balan} & \quad \text{djugumbil} & \quad \text{ŋaŋgul} & \quad \text{yaRaŋguy bayan} & \quad \text{(invisible) man} & \quad \text{sings} \\
\text{man is heard, but not seen, singing to woman there} & \quad \text{(Dixon 1972:46).}
\end{align*}

The semantic range of each class often seems hard to define. Dixon elsewhere (1968:120) summarises them in terms of certain basic concepts:

- **Cl. I** (ba-yi): animateness; (human) masculinity.
- **Cl. II** (balan): (human) femininity; water; fire; lightning.
- **Cl. III** (balam): edible vegetables and fruit.
- **Cl. IV** (balaŋ): is a residue class, dealing with everything else.

He admits that the scope of Class IV is very unsatisfactorily defined - but a similar problem has come up in other MC languages concerning a corresponding class. He goes on to specify some more detailed rules for classification which are not required here. The concern here at present is rather with the forms than the usage of these classes. It is quite clear that in Djirbal the same problem of classification as in other languages has been solved in a very different way. The historical question is whether this represents a later or an earlier solution than in the north of Australia. This question will be reserved for the closing section of the paper.

Another important point is that Djirbal is an ergative language, and therefore the ergative is expressed in the markers. This is done in a rather complicated way; the marker carries three parts: stem, case, class sign. The nominative is zero, and in most cases irregular. Taking Cl. I marker bala-, the nominative is ba-yi; the ergative (instrumental) ba-ŋgu-1; dative ba-gu-1, genitive ba-ŋu-1; in Cl. I yala-forms replace the stem itself by giyi, giving giyi, ya-ŋu-1, ya-gu-1 and ya-ŋu-1 respectively. The ŋala- forms replace the root by ŋayi in the nominative but otherwise are the same. This suggests that three place markers, originally taking case endings only, have later developed into class markers as a kind of supplement by suffix, and that these languages therefore belong to the suffixing group. This also will be a matter for later consideration.

For the present, the detail here given is enough to set out the patterning in this area of Australia. Certainly it is enough to show the differences between the Djirbal system and the others already mentioned or to be mentioned later, and to suggest that in Djirbal
classification has possibly been a late development.

There is no formal pluralisation of these markers; plural of nouns may be marked by reduplication where necessary.

5. CLASSIFICATION OF PREFIXATION

5.1. The Northern Kimberley Languages

In the Northern Kimberley Division of Western Australia there are three communalaects which may rightly be ranked as 'languages' in terms of mutual intelligibility tests. These are the 'northern' languages (with dialectal subdivisions), Ngarinjin and Worora. Other forms of speech should rather be classed as dialects. Those on which some information is available are the following:

```
Proto-Northern Kimberley Language

  Northern
    Wunambal
    Wilawila
    Gambera
    Ginan
    Forrest R.

  Southern
    Worora
      Jawdjibara
      Windjarumi
      Unggumi
      Unggarangi
      Umida
    Ngarinjin
      Guwidj
      Munumburu
      Woljamidi
      Waladjangari
```

The locations of these languages and dialects are shown on Map 2 which embodies also a number of the surrounding languages. The latter are of two kinds: those on the south-west belong to the Dampier Land group. One of them, Warwa, is either a meeting place of both groups, or at least has been very strongly influenced by the neighbouring Northern Kimberley languages. (For an account of Njigina and Warwa, see Capell 1953.) On the south, adjoining the Dampier Land languages on the east, is Bunaba. This seems to be genetically related to the Northern Kimberley languages, for there is shared vocabulary, and the verbal system is closely akin to that of the Northern Kimberley, but Bunaba lacks noun classes. Thirdly, on the east, covering the Ord Valley and extending into the Northern Territory, is the Djerag Group. This seems to be more closely akin to the Northern Kimberley languages than is Bunaba; its verbal system is practically the same in principle as that of the Northern Kimberley. There is shared vocabulary, and

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1 This section is reproduced by permission from an article by the author in Oceania 53:54-65, 1972.
Map 2: The Languages of the Northern Kimberley Division, W.A.
there are noun classes, but only two of them. The classes are not only of different content from those of the Northern Kimberley, but work on different principles, and are marked entirely by suffixes, not a combination of prefixes and suffixes, like those of the Northern Kimberley. Neither Bunaba nor the Djerag languages are considered in the present paper.

In the diagram preceding, no 'type language' has been italicized for the northern section, but only for the other two. This has been done because the northern dialects are all more or less mutually intelligible. Between southern Wunambal and Forrest River there is probably the greatest difference, but even this does not make the two mutually unintelligible. Between any of these and Worora and Ngarinjin there is much more difference, including difference of grammatical principles in the noun-phrase (NP), and it is probable that in the older days when peoples did not mix so much there would not have been mutual intelligibility between them and either of them and the north.

The adjective may be disposed of briefly because it is the simpler case. The Northern Kimberley languages all have multiple classification of nouns. The number of noun classes varies between four in southern Wunambal and six in the other northern languages.¹ Ngarinjin, Worora and the other southern languages have each five classes on this reckoning.

The semantic content of the classes does not concern the present discussion, though it will be set out below. The classes are formally marked by prefixes, though Worora and Unggumi in particular also use suffixes, often concurrently with the prefixes. Both are used concurrently in Laragiya, the language of Darwin, Northern Territory, now almost extinct. There is concord of prefix between the noun and all its dependencies within the NP: pronoun, adjective, and numeral. Ngarinjin examples of this concord system are shown in the diagram following:

1. This reckoning rests on counting the personal plural as a separate class, Class III, which is being done in the present series of studies. The patterning is borrowed from standard Bantu practice.
Pluralization is possible only for people (Cls. I and II), and Cl. III serves for this case; other classes do not distinguish number.

From these examples it is clear that prefixation is a basic principle of grammatical process in these languages, and this applies to person as well as to class. In fact, person seems to be only a special example of classification. It is possible under certain conditions to vary nouns and adjectives for person as well as for class. In the Drysdale area, where endjin is man, one can say nurā-mija gut-endjin-mija, you-two are men, literally you-two you-men-two.

Amongst the nouns that, theoretically at least, take personal prefixes are those referring to parts of the body. These do have their own class assignments, but if used with possessive prefix the latter runs through the whole concord, and not that of the class. The prefixes are in general identical with those of the subjects of intransitive verbs. In Ngarinjin, for instance, one can say a-langun, his head, bīr-alingun, their heads, and also w-alingun and m-alingun if the possessors are Cls. IV or V. The a- of Cl. I amalgamates with the a- of the stem. Other than third person possession is marked similarly: ńi-alingun, my head, njaŋ-alingun, your head, etc.

However, many body parts are not constructed in this way: ḋangu, heart, gives ḋangu ḋe:nanga, my heart, ḋangu njaŋa:nanga, your heart, ḋangu ńaŋga, his heart. Here the independent possessives are used, such as are used with objects in general — spears, yams, canoes or what not.

In trying to determine why some body parts take a prefixed possessive while others do not, the student examines the semantic field in vain. Finally, it becomes clear that another principle is involved. Examination shows that it is a matter of initial consonants...
as against initial vowels. Nouns which begin with a consonant are invariable for person (including the person of the possessor). 'No prefixation without initial stem vowel' stands out as clearly as the old political slogan, 'no taxation without representation'. The semantic principle - part of body - is overruled by the phonological principle - initial stem vowel.

Adjectives yield the same result when the question of prefixation is examined. Only adjectives whose stems begin with a vowel can be inflected for class. In Ngarinjin būgyu, little is invariable; -alwa, bad, can take all the class prefixes. Suffixation for number (applied only to personal nouns) is not thus limited: Ngarinjin bōr-alwa-ri, they two bad..., carries the dual marker -ri, but this can produce also būgyu-ri, they two little.... There is no semantic question at all, only a problem as to which sounds are allowed to occur together - a problem of phonotactics.

5.1.1. The Principles of Noun-Classification

Noun-classification in the Northern Kimberley languages is not connected with any phonotactic rule, so far as appears nowadays, though the absence of a class-marker on the noun itself could possibly owe its origin to that rule. It is something quite separate and forms the second principle to be discussed in the present paper. Students have found the question so difficult that in general they have concluded that there is no principle at all, and at an earlier stage the present writer felt moved to the same conclusion.

Not only the Northern Kimberley languages classify nouns, but there is a whole area of noun-classifying (NC) languages in Arnhem Land, stretching as far as Groote Eylandt, Yanjuwa (at Borolooa) and on the Barkly Tablelands.¹ In these areas the actual prefixes used in the Northern Kimberley languages frequently recur in a way that cannot be accidental, and some principle is therefore to be expected. Further, some of the languages, e.g. Barkly Tablelands, use suffixes as markers on the nouns themselves, and these resemble the morphemes that serve as concord prefixes in the Northern Kimberley languages. Other languages use both prefix and suffix simultaneously, and these include some Northern Kimberley languages such as Unggumi. It seems that a clear and ancient Australian principle is being followed, even if it is not possible diachronically to trace its history. The second part of

¹See infra 5.2.5.
this section will therefore consider what can safely be said at this stage concerning the NC system in the Northern Kimberley languages.

What has not been noticed hitherto—because there has been no overall comparison of the various Northern Kimberley languages—is that two quite different principles are found north and south of the Northern Kimberley area respectively. The north disregards sex distinction, and man and woman belong to the same NC. The second makes the distinction man belongs to Cl. I and woman to Cl. II. The northern is concerned with the grouping of nouns on certain lines; the south also groups nouns, but allows sex a voice in the grouping. The two subsets of NC languages in the Northern Kimberley region are therefore:

Type I: Forrest River, Ginan, Gambera, Wunambal (north and south).

Type II: Worora, Jawdjibara, Windjarumi, Unggarangi, Umida, Unggumi, and all Ngarinjin dialects.

The Djerag languages have only two classes which are marked by suffixes that are not morphologically identifiable with those of the Northern Kimberley. Bunaba does not classify. Type I languages have six classes, except southern Wunambal, which has only four; the southern Type II languages each have five.

The southern group will be discussed first, using Worora as the type language because its forms are fuller than those of Ngarinjin.

The interchange of prefix and suffix is not uncommon in these languages. Nouns in Ngarinjin and the northern group do not have suffixes—this seems to be due to a sort of phonetic breakdown that cannot be discussed here. In Worora many non-nominals carry suffixes of class, e.g. qa'inja? where (is he); qa'nam? where (is it)?, e.g. a place; dambiju-m m-anaŋg-a-m, its place. Unggumi, qa'-nuŋa milk, Ngarinjin qa'-nu (both Cl. IV); maŋu-nja, am (Cl. II), Worora and Windjarumi; Jawdjibara qa'-wudja-m, my hair: initial qa-, my, final -m, Cl. V.

1See infra 7.5.1.
### Sharing of noun classes among Northern Kimberley languages

<table>
<thead>
<tr>
<th>Gender</th>
<th>Group</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculine</td>
<td>Rational males</td>
<td>i: djæ, man</td>
</tr>
<tr>
<td></td>
<td>Irrational males</td>
<td>ganänguri, dog</td>
</tr>
<tr>
<td></td>
<td>Associated objects (with males)</td>
<td>djinalja, spear</td>
</tr>
<tr>
<td>Feminine</td>
<td>Rational females</td>
<td>wonäajina, woman</td>
</tr>
<tr>
<td></td>
<td>Irrational females</td>
<td>ganängudj, bitch</td>
</tr>
<tr>
<td></td>
<td>Associated objects (with females)</td>
<td>jaŋgaldja, wommera</td>
</tr>
<tr>
<td>Neuter</td>
<td>Non-animates (not associated with male or female)</td>
<td>nguwnou, tree</td>
</tr>
<tr>
<td></td>
<td>1. General</td>
<td>dambijum, camp</td>
</tr>
<tr>
<td></td>
<td>2. Local or terrestrial connection</td>
<td></td>
</tr>
</tbody>
</table>

Number indication is confined to personal and - in this language - associated non-personal nouns.

Gender system in Worora as compared with class...
In Worora, the principles of classification, so far as they are still regular, are shown in Table 1; the term 'associated nouns' has been introduced to deal with inanimate objects, such as spears, which become Cl. I or Cl. II through being associated with personal beings. The spearthrower is the servant of the spear as the woman is the servant of the man, so that the spear becomes Cl. I and the spearthrower Cl. II. They are not masculine or feminine but used by beings who are - theirs is a derived, conditional classification. Diagram 2 shows the scheme that results in Worora.

The Worora system is based on a gender system, to which a class system has been fitted. The possible complication of such a double system, given a method of concord indication that involves simultaneous prefixing and suffixing can be seen in the following Worora NP:

woñaji-nja njind-ja m-ajaru-m m-aruŋ-andu-m nj-ŋaŋa-naŋa-ndu-m
woman-II II-this-II V-house-V V-number base-two-V II-she-of-two-V
this woman's two houses. Not all phrases are as complicated as this, and the Ngarinjin languages do not have suffixation of this kind, but that pattern is typical of the southern languages.

The northern languages know nothing of gender indication, and the system is entirely one of class, i.e. nouns are grouped into certain sense-groups, which are not ideal, especially with regard to the placing of body parts, but which do represent a real patterning. The scheme for the north is as follows:

<table>
<thead>
<tr>
<th>Nouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animate</td>
</tr>
<tr>
<td>Rational</td>
</tr>
<tr>
<td>b- I</td>
</tr>
<tr>
<td>Non-Rational</td>
</tr>
<tr>
<td>a- II</td>
</tr>
<tr>
<td>Inanimate</td>
</tr>
<tr>
<td>General</td>
</tr>
<tr>
<td>m- V</td>
</tr>
<tr>
<td>Manufactured</td>
</tr>
<tr>
<td>n- VI</td>
</tr>
<tr>
<td>Ground</td>
</tr>
<tr>
<td>w-/g- IV</td>
</tr>
</tbody>
</table>

Gender system in Worora as compared with class

'Manufactured' is here substituted for the term 'artificial' used earlier. It refers to things such as the boomerang, canoe, and even honey (manufactured by bees), and European goods have a tendency to find themselves in Cl. VI. In Cl. I both male and female are found, and they share a common plural, Cl. III, bër. In Forrest River dialect, then, big man is b-endjin bë-newër, big woman, nali bë-newër, as against
Ngarinjin a-fu a-newir and woŋaj nj-ane-wir respectively. Nouns can be transferred from class to class with change of meaning. Forrest River ŋaːli Cl. I, woman represents Cl. IV ŋaːli, paperbark; the woman is the carrier of the paperbark basket. In the Drysdale region there has been a mysterious interchange of Cl. I and II: endjin a-mrége a-newir, man big one, and a-mba bu-mrége bīnewir, kangaroo big one, which is very hard to explain.

This type of classification is found in Laragiya, of the Darwin area of the Northern Territory, but the gender-class system is commoner in Arnhem Land, dealt with next.

5.2. Multiple Classification in Arnhem Land Languages

5.2.1. Preliminary

MC languages are by no means limited to the Northern Kimberley area; a considerable number of them are found also in Arnhem Land. They are the following:

A. Northern Arnhem Land
   I. 1. Laragiya
      2. Mangeri-Urningangg
      3. Mawng
   II. 1. Gunwinjgu
        2. Gunbalang
        3. Burera-Gudjalavia-Gungorogone

B. Southern Arnhem Land
   1. Nunggubuyu
   2. Anindiljawgwa
   3. Wandarang
   4. Ngandi
   5. Ngalagan
   6. Yanjuwa

C. Daly River Area
   1. Mulluk Subgroup
   2. Daly Subgroup
   3. Maranunggu Subgroup
   4. Wogadj Subgroup
   5. Djemerí Subgroup
D. Victoria River

1. Nungali
2. Wardaman

In addition there is a group of MC languages spoken in the Barkly Tablelands area: these, however, mark class by suffixes, not prefixes, although some of the suffixes are morphological variants of the prefixes of the northern languages. These will be discussed in the following section.

Certain other languages, both in the Kimberley area (East Kimberley) and in Arnhem Land, are dual classifying, i.e. have only two noun classes. These are treated in subsections 6 and 7 infra.

The subdivisions indicated in the Arnhem Land MC languages are based on (a) the number of noun classes and (b) the forms of the prefixes. At the basis of all the languages there are certain prefixes held in common, especially ma- of plant and arboreal nouns, and a general inanimate group marked by gu-. The languages of the south deviate considerably from those of the north, although the ma- and gu- classes are generally present. The southern languages are much more complicated than those of the north and it is not easy to decide on how to arrange the classes, especially in Nunggubuyu and Anindilyawgwa. The seemingly more 'archaic' languages of Mangeri and Urningangg stand apart in many ways from the others, but bear some still uncertain relationship to Mawng. In this part of the area also there are two instances of pairs of languages, one of which has noun classes and the other does not, yet both share a considerable amount of vocabulary and a number of features of grammar. Jiwadjia has no noun classes, but is clearly closely related to Mawng. Ngandi shares a large area of vocabulary with the north-eastern languages of the Murungin or Wulamba group. The latter have no noun classes. In Ngandi, where the same roots occur, they have class prefixes, e.g. Ridarngu waŋu, dog, Ngandi awaŋu; Ridarngu dagaŋ, cheek, Ngandi gudaŋ. Verb roots are also shared, e.g. Gubabwiyngu ɲara maŋgi, I know, Ngandi ɲarəŋgi. Some agreements with the Gunwinjgu area are also present; both languages have classes but Ngandi classification differs: Gunwinjgu gun-djen, ʃiŋ, Ngandi a-djen. Yet Ngandi has the gu- class also, but it has the extra 'animal' class that Gunwinjgu does not have. South of the Daly River, Djamindjung has no noun classes but its 'sister' language Nungalinya has five classes. The following sentences show this curious parallelism:
Map 3: Languages of North-western Arnhem Land

Key: Capitals = non-classifying languages
      Lower case = multiple-classifying languages
1. *Men these three big*

Nungali     diyimbul yida:bu yidanmulu dina: dj
Djamindjung djumbul yundju murgunmulu luba

2. *Women these three big*

Nungali nja厂商 yinjambu yinjamulu njana: dj
Djamindjung maleyi yundju murgunmulu luba

No reason can be given so far for such parallel occurrences. Nungali concordance is full, as in other MC languages; Djamindjung has never developed classes. Djamindjung gunbuwa ɲargina, *my birthplace*, becomes Nungali ni-lalən ɲ̃argina, both nouns carrying a prefix (and Nungali laɭən is Ngariɲin for the *dreamtime*). So also Djamindjung djuwud ɲ̃ungina, *your eye*, is Nungali mi-ɲ̃argin mi-ɲungina. The languages differ considerably in vocabulary, but are yet 'parallel' in the same way as Jiwatda-Mawng, Ridargu-Ngandi.

In a similar way, Wardaman in the Katherine section of the Daly River, has noun classes, whereas Wageman, Djawan and Yangman do not.

5.2.2. Laragiya

Laragiya was spoken - and still has one or two speakers - in the area now occupied by Darwin and its neighbourhood. It is a five-class language, of the type of the northern section of the Northern Kimberley, i.e. it has a 'human' class but no distinction between masculine and feminine: it is a 'Bantu' type, as against the languages of the southern section of the Northern Kimberley already described. Another peculiarity of the language is that markers are simultaneously prefixed and suffixed: b-ilə-va, *man*; m-adbar-ma, *forehead*. The former points back to an early Australian root *baduŋ, man*, and the latter to a root *maləra, forehead*. While this paper is not concerned to any degree with historical restoration, it is worth noting that the root *baduŋ*, which has retained its initial consonant in Laragiya, has then used that initial consonant as a prefix for nouns of this class, while it has again added a final vowel and used it as a suffix. The stop has become a bilabial fricative v (a rare sound in Australia) in the process, producing -va. While the consonant is retained in the plural (Cl. II: -bira), this seems to be a special case of the *bara* that expresses a personal plural so widely in this part of Australia, and has been noticed earlier in this paper. It may also be added that Ngariɲin has aRu, *man* < *baduŋ, and has used the initial a- similarly
to mark the masculine class. These facts suggest that noun classing, at least here, is a comparatively late phenomenon. Something more will be said on these matters in the concluding section.

Laragiya noun classes are as follows:

Class I: b-...-va, e.g. b-il-va, man; b-injid-ba, woman.

Class II: b-...(b)t-ra, personal plurals: b-il-t-ra men; b-injid-bt-ra, women.

Class III: g-...(g)wa, general impersonal: g-aru-wa, water; g-win-gwa, nose.

Class IV: m...-ma: liquids and some other nouns: d-amul-ma, river; m-alu-ma, head.

Class V: d-...-da/la: lesser animals and some other nouns: g-udg-la, opossum; da-madj-la, blood.

There is some rather strange crossing of groups, by which the prefix of one class is combined with the suffix of another, e.g. m-uya-gwa, bone (IV + III). Here possession has played a part in that suffix is to be taken as its. dalira, sun, has probably been affected by mythology; guwa:guwa:va, crow, is really Cl. I (va) in spite of beginning with gu- (III). A Laragiya grammar at present under preparation will endeavour to deal with these matters more satisfactorily than is possible here.

Interchange of class also arises from semantic causes, e.g. biril-va (I) human hair > biril-ma (IV), hairbelt, damadj-la (V), blood > damadjidamadj-gwa (III), red paint.

Laragiya concord is exactly like that of the Kimberley region, including its presence in some words that in European languages are local adverbs, such as where in where are you going? Class enters into the object of transitive verbs - the language is not ergative; yaba bidlaŋ, he speared him or her; yaba nadlaŋ, he speared me.

This is one of the more complicated languages of the area, but serves as a direct link with the languages of the Northern Kimberley, especially the northern section of them.

5.2.3. Gagadju

Gagadju appears to have been spoken on the lower part of the south Alligator River, across to the west Alligator. Today there are only a few speakers and these usually live at Oenpelli Mission. It is an
extremely interesting language, and presents a number of unusual features. Besides marking gender in the noun classes, by means of prefixes, it has a set of suffixed gender markers that combine with number markers on the pronouns and verbs.

The pronoun set is basically a singular set of four (including a 3rd person feminine), to which suffixes are added marker number and gender. The personal stems are: person 1. na:nu-, 2. ni:nu-, 3. masc. na:yu-, and 3. fem. na:yu-. These take usually suffix -ma, which looks like an agentive marker - not ergative, for this is not an ergative language. Between stem and agentive are added gender and number markers: dual masc. -ma-, dual fem. -ndja-, plural masc. -da-, fem. -mba-. The resulting set is:

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl. m.</td>
<td></td>
<td>ma'nerama</td>
<td>ma'nedama</td>
</tr>
<tr>
<td>f.</td>
<td></td>
<td>(ma'nedjama)</td>
<td>ma'nembana</td>
</tr>
<tr>
<td>1. excl. m.</td>
<td></td>
<td>(na'manama)</td>
<td>'nadama</td>
</tr>
<tr>
<td>f.</td>
<td>(na'ndjama)</td>
<td>'nambama</td>
<td></td>
</tr>
<tr>
<td>2. m.</td>
<td>(ni:njama)</td>
<td>ninja'manama</td>
<td>ni'njadama</td>
</tr>
<tr>
<td>f.</td>
<td>(nin'jandjama)</td>
<td>ni'njambama</td>
<td></td>
</tr>
<tr>
<td>3. m.</td>
<td>'na:yu:ma</td>
<td>nano'yon:jdama</td>
<td>no'yo:ada</td>
</tr>
<tr>
<td>f.</td>
<td>'na:yu:ma</td>
<td>no'yon:jdama</td>
<td>no'yo:mbama</td>
</tr>
</tbody>
</table>

Short forms of the bases are used to mark possession, e.g. manera wa'lu camp of you-and-I; nin:nda ga'bo:ndji, your (pl. m.) house. Certain types of nouns prefix possessives; the number of items possessed is marked by suffixes - or it may be the possessors: nadj-baran:na-mana, my two brothers.

Nouns are grouped into five classes, as are adjectives and demonstratives. These are by prefix as a rule, but one demonstrative uses infixes, and yana, where? uses suffixes. The noun itself carries no marker of class. The forms are:

<table>
<thead>
<tr>
<th></th>
<th>this</th>
<th>that</th>
<th>where?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl. I.</td>
<td>miniwara</td>
<td>na-φ-ri</td>
<td>na-biri</td>
</tr>
<tr>
<td>II.</td>
<td>nji-miniwara</td>
<td>nja-na-φ-ri</td>
<td>njina-biri</td>
</tr>
<tr>
<td>III.</td>
<td>gu-miniwara</td>
<td>na-nga-ri</td>
<td>na-nabiri</td>
</tr>
<tr>
<td>IV.</td>
<td>ma-miniwara</td>
<td>na-ma-ri</td>
<td>ma-nabiri</td>
</tr>
<tr>
<td>V.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
These are very reminiscent of the Northern Kimberley, especially the southern subgroup (Worora-Unggumi, etc.) where a similar set of prefixes and suffixes is found, though without the infixing. There is very clear evidence also in the variety of the above tables that both prefixes and suffixes originally co-occurred.

The adoption of foreign words often helps to show up class concepts. A motor car to the Tiwi is mútika, and ending in -ka is feminine; to the Gagadju it is módoga and beginning with m is Cl. V: módoga maŋayni, the motor car comes. Sex plays a part in class allocation as in Worora and Ngarinjin; so does mythology, e.g. the moon as a male is maŋba, Cl. I; the sun as a female is go'bolbara, Cl. II. Cl. V contains trees and wooden objects, also manufactured goods made from wood; Cl. IV embraces many lifeless objects such as gu'dnal, fire, and wu'prari, smoke.

5.2.4. Urningangg and Mangeri

The very few speakers of these two languages - Ûnìnaŋ, Maŋe:Ri - are domiciled nowadays at Oenpelli. They would seem to have lived earlier about the east Alligator River, and the differences between them seem to be only at dialect level: no actual test of status has been made. Both have a comparatively small CA content, but such CA elements - or EA - belong to the same stratum as in Mawng and neighbouring languages. Thus I is ŋaːb in Mangeri, ŋoːg in Urningangg; water is ɔǥɔ in both - apparently a reversal of *gugu. Each is a four-class language, and it is noticeable that a fifth class answering to the personal plurals (Cl. III) of the other languages studied here is not found, for these two languages have a system of non-singular marking by suffixes. This is reminiscent of Gagadju, but morphologically different. The dual number is marked by a suffix -muː: ŋarga, we > ŋarga-μunuwu-mun, you and I and ŋane-munu, we (excl.) > ŋane-μunuwu-mu, he and I. Here a dual is being shown by -muwu(wu) and a non-singular by -mu. In Mangeri similarly ŋαː:nj, we (excl.) go and ŋαː:njamun, he and I go. The verb incorporates a pronoun object, and the object forms of a transitive verb therefore exhibit the class of the object, as in most languages of this group. There is full concord of all variable parts of the sentence. Some of the Urningangg prefixes appear in the following paradigms:
Number is then indicated by a suffix to the required class form, so that necessity for Cl. III of the other languages is not felt - and the numbering of the above classes is not semantically equivalent to those of the languages earlier set out in this paper: see below on this question. The usual pluraliser is -ad: for short, Cl. I munu-ningurb-ad; Cl. II miraningurb-ad; Cl. III u-ningurb-ad; Cl. IV man-ningurb-ad. The pluraliser -ad is found in Mawng and Jiwadjja also. The dual instead of -ad suffixes -uwuman as in the pronouns: dead, Cl. I min-yulu-wuman; Cl. II mira-gul-amun; Cl. III u-gul-amun; Cl. IV mindjagul-amun. The changes in stem and the morphophonemics have not yet been worked out in full. There is no parallel to these dual forms in the other two languages. Mangeri forms differ very little from Urningangg. The Mangeri numeral one for instance, is : Cl. I iyawa:m; Cl. II indjawa:m; Cl. III wiyawa:m; Cl. IV mayawa:m. It is hoped to publish later a fuller study of these languages in comparison with Maung and Jiwadjja.

The incorporation in the verb is the same in Mawng: intransitive verbs mark class in the subject, transitive verbs mark it in the object, and both are prefixal; the object preceding the subject.

Example: stand, present, Urningangg

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
<th>Dual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>muyandj mu-yandj-amun</td>
</tr>
<tr>
<td>1. excl.</td>
<td>ayaandj ayaandj ayaandj-amun</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>indjandj inyandj in-yandjamun</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>jandj munyandj mun-yandj-amun</td>
<td></td>
</tr>
<tr>
<td>II.</td>
<td>indjandj muradjandj mura-yandj-amun</td>
<td></td>
</tr>
<tr>
<td>III.</td>
<td>uyandj uyandj u-yandj-amun</td>
<td></td>
</tr>
<tr>
<td>IV.</td>
<td>mandjandj mandjandj mand-yandj-amun</td>
<td></td>
</tr>
</tbody>
</table>

There is also a trial possible here: mu-yandj-o:ndj, etc. suffixing the root of the numeral uno:ndj, three.
While pronouns are used before nouns to indicate possession, some kinship terms and body parts are least prefix possessives, adding number suffixes if required. A few of the object prefixes are exhibited in the following Urningangg sentences:

1. wurig ɲunja wa:dja-ma-waRag  
   man us came-us-after  
   The man came after us.

2. im-bai-ja-waRag  
   you-came-me-after  
   You followed me.

3. jagiwendj arabilm menj-ar-uwemb  
   crocodile leg IV - I - bit  
   The crocodile bit his leg.

From the verb imewemb, I bite it, forms such as the following can be produced on the basis of object - subject - root: Cl. I subject

menj-ar-uwemb  
me - I - bit

nj-ar-uwemb  
you - I - bit

-am-uwemb  
I - I - bit

From these few notes, which the length of this paper does not allow to be increased, it is clear that these languages present a number of complications not seen in the other languages of North Australia, except so far as they appear in Mawng or Jiwadjja. The very small number of recognisable CA roots, as well as the complex phonemic structures, point to an old stage of language, which is seen also in, for example, Margu.

5.2.5. Northern Arnhem Land

For the purpose of the present survey, languages A.I. and the whole of B may be taken together.

The class markers in these languages are as follows:
<table>
<thead>
<tr>
<th>Class</th>
<th>Mawng</th>
<th>Gunwinjgu</th>
<th>Gunbalang</th>
<th>Gungorogone</th>
<th>Burera</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>yi-</td>
<td>na-</td>
<td>na-</td>
<td>a-</td>
<td>an-</td>
</tr>
<tr>
<td>II</td>
<td>ninj-</td>
<td>ŋal-</td>
<td>ŋal-</td>
<td>dju-</td>
<td>djun-</td>
</tr>
<tr>
<td>III</td>
<td>wi-</td>
<td>biri-</td>
<td>awiri-</td>
<td>abiri-</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>wu-(ŋ)</td>
<td>gu(n)-</td>
<td>gu(n)-</td>
<td>gu-</td>
<td>gun-</td>
</tr>
<tr>
<td>V</td>
<td>ma-</td>
<td>man-</td>
<td>ma(n)-</td>
<td>mu-</td>
<td>mun-</td>
</tr>
<tr>
<td>VI</td>
<td>aw-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are other languages (or dialects: no examination has been made) such as Gundjembmi, Mayali, which belong to the Gunwinjgu group; Gungorogone is very closely related to Burera, as also is Gudjalavia. These are not listed separately here.

The coverage of the different classes shows a good deal of local variation, and it is difficult to give detail in a short space. For Mawng reference should be made to Capell and Hinch 1970:44 ff. Roughly the Mawng classes cover: Cl. I names of male beings; Cl. II names of female beings, both either rational or irrational; Cl. III plurals of Cl. II and III for rationals only; Cl. IV objects associated with the ground and general inanimates, except plants; Cl. V trees and their parts, Cl. VI vegetable foods and plants in general. One important point is the ability of Mawng and some other languages to cross classes. Thus taking mawur, *arm*, it may be yi-mawur, *a man's arm*; ninj-mawur, *a woman's arm*; wu-mawur, *arm of a river*; ma-mawur, *arm of a tree, branch*; or a-bawur, *arm or tendril of vine*. Some of the other languages share to a limited extent in this power of cross-classing. The concord extends through the whole sentence (and any dependent clauses may be involved), and includes not only the subject of intransitive and the object of transitive verbs, but in Mawng the subject of a transitive verb may also be involved, e.g. ŋanja-, subject of Cl. II, IV, V, or VI *does it to me*; ganbuna-, *you (sing.) will do it to* Cl. III, and many other complicated combinations. There is more differentiation here than in the Forrest River dialects of the Northern Kimberley.

In addition, Mawng has what can only be described as an 'article', which also varies for class. It occurs before a noun and dependent adjectives, e.g. dja ŋani-malgbanj, *my father*; mada gargbin mada walg, art. *big art. tree, the big tree*. There is much idiomatic use of these articles which is detailed in the *Maung Grammar*.

The other languages behave similarly but most are simpler in their usages. In Burera an-gigaliye an-muŋu, *man big; gigali-yiridje*
muňmuňo-yarlde, two big men shows the form of a dual number. The
congjugation patterns are similar also among the languages, but as a
rule the non-personal classes use the person markers of the verb, so
that there is not the complication of prefixes such as Mawng presents.

5.2.6. Southern Arnhem Land

In all the six languages listed in this group, the situation is
much more complicated, and the feeling arises that classification is
not really 'at home' in this area. Not only are there extra classes,
but many subdivisions which cannot be detailed here. Reference may be
made, for instance to the Nunggubuyu Dictionary (Hughes 1971(I):xxiii-
xxv). Capell (1940) at first divided nouns in Nunggubuyu and
Anindilyaugwa into eight classes, and modelled Yanjuwa nouns on the
same pattern. This was not satisfactory, and left minute distinctions
between III and VIII which were hard to justify. Hughes has reduced
Nunggubuyu to five classes, but with many subdivisions in which
differences occur in the behaviour especially among demonstratives.
Moreover, Nunggubuyu has two forms of most prefixes, one being more
definite than the other. There is no space to treat these features
in detail here. The language also has dual and plural forms for each
class. Anindilyaugwa agrees fairly closely with Nunggubuyu in most
classes - and gave the same trouble, for the same reasons, in the
preliminary classification. The assignment of nouns to classes is
roughly the same as in the more westerly languages, but some interest-
ing transfers sometimes occur, e.g. Nunggubuyu ana-Raŋag, tree; mana-
Raŋag, canoe, by a transfer from the 'vegetable' to the 'water' class.

In these languages the sentence concord can become very complicated,
e.g. Nunggubuyu

yanĩ-njuŋ nani-muwa:d-juŋ na-walyi-njuŋ nu-waŋi na-Ruŋgal-juŋ
what-I his-name-person I-man-person I-that I-big-person

ŋani-na-ni
I-him-see-past

What is the name of that big man (whom) I saw?

In the plural (Capell's Cl. III):

yanĩ-yani waru-mumuwa:dj wara-waljawalja wara-wurala
what-(pl.)III-names III-men (pl.) III-big (pl.)

wara-Ruŋgraŋgal ŋara-na-ni
III-big (pl.) I-them-see-past
This language also has a dual for feminine and masculine as well as a plural. The reduplication of forms for plurals is worth noting. Animal names use practically the same prefixes as personal plurals, but do not form plurals and do not take the personalising suffix -njuŋ, etc. Thus:

\[
\text{yanji waru-muwa: dj wa-landurg waru-wawa waru-Rungal \eta ara-na-ni?}
\]

*what III-name III-dog III-that III-big I-it see-past*

What is the name of the big dog that I saw?

The same sentences are constructed on very similar lines in Anindilyawgwa but of course with different morphemes. The prefixes in the two languages (retaining Capell's count for the same of simpler setting out) are:

<table>
<thead>
<tr>
<th>Class</th>
<th>Nunggubuyu</th>
<th>Anindilyawgwa</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>na-</td>
<td>ni-</td>
</tr>
<tr>
<td>II</td>
<td>wi-ni-</td>
<td>wuna-</td>
</tr>
<tr>
<td>III</td>
<td>wara-</td>
<td>wura-</td>
</tr>
<tr>
<td>IV</td>
<td>\eta(ra)-</td>
<td>da-</td>
</tr>
<tr>
<td>V</td>
<td>wi-ni-</td>
<td>wurja-</td>
</tr>
<tr>
<td>VI</td>
<td>a- ~ ana-</td>
<td>a-</td>
</tr>
<tr>
<td>VII</td>
<td>ma- ~ mana-</td>
<td>ma-</td>
</tr>
<tr>
<td>VIII</td>
<td>wa-</td>
<td>yi-</td>
</tr>
</tbody>
</table>

In Nunggubuyu, examples are:

I: na-walja-yuŋ, male person (-yuŋ marks personality); II: na-walja-wa, two male persons; III: wara-walja-walja, persons, male (reduplication of stem included here); IV: \eta ara-manin-juŋ, aboriginal woman; V: \eta ara-manim-ba, two aboriginal women; (III: \eta ara-manan-uŋ, aboriginal women; this is an irregular noun); VI: ø or a- or ana-; a(nda)Raŋaj, tree; VII: ma(na)larda, spear.

In those languages also there is concord within the verb for class of both subject and object throughout, so that they present a very complicated pattern of sometimes very lengthy words. Practically nothing has yet been published about Anindilyawgwa, but Miss Judith Stokes, of the Church Missionary Society, has studied it for many years and is producing local reading matter in it. She has not published a grammar as yet. It is quite likely that, like Hughes, she
will ultimately adopt a different arrangement of classes.
P. M. Worsley, however, has discussed the nature of these classes in an interesting article (Worsley 1954:275-88), and has pointed to 'a cross-cutting system of noun classification by means of prefixes, entirely unconnected with the known noun-classes, and most definitely based on semantic considerations'. He has listed some twenty secondary prefixes, such as -uru(r)gwa- for birds, some animals, e.g. d-urugw-in names for fowl, cockatoo, curlew, horse; m-urugw-in names for lorikeet and emu; -embirg- for round things, as embirg- (Cl. VI) water lily roots; m-embirg- a white berry; y-embirg- (Cl. VIII), stingray species, egg, red love-apple. Obviously much more analysis needs to be done on this language.

The southern neighbour of Nunggubuyu is Wandarang. There would seem to have been some territorial changes in this region, as Wandarang has more vocabulary in common with Mara than with Nunggubuyu, while adding classification which is not present in Mara. Mara radbur, camp becomes Wandarang wu-radbur; Mara duŋal, spear becomes ma-duŋal (the 'wood' connotation of ma- remains - although it apparently derives from an original *mayl, vegetable food), while Mara wungan, dog is Wandarang (R)awungan. Another Mara touch is a great fondness for compound conjugation (to be discussed in the second part of this paper) which is not found in Nunggubuyu.

Wandarang has five noun classes, but Cl. III is not the plural of I and II but a separate class. Dual is indicated by a suffix wulu-, and plural by yiri-. The former is shared by Mara. The class forms are shown in the following phrases (a couple of which are theoretical and would hardly occur in daily life, certainly not Cl. I). They are:

Cl. I. na-waRiyi na-balwayi na-nuŋiŋa na-wanani
      man    big    my    that

Cl. II. ŋi-woybi ŋi-balwayi ŋa-nuŋiŋa ŋi-waŋani
       woman big my that

Cl. III. wu-radbur wu-balwayi wu-nuŋiŋa wa-wuni
        camp big my that

Cl. IV. ma-duŋal ma-balwayi ma-nuŋiŋa ma-manl
       spear big my that

Cl. V. (R)a-wungan (R)a-balwayi (R)a-nuŋiŋa (R)a-warani
       dog    big    my    that

It is noticeable that the demonstrative takes a kind of double concord within itself: such an infixing of class marker was seen in Gagadju.
The initial consonant of Cl. V is optional: both Ra- and a- are used. The a- form is found in Mawng, and the ra- form in Yanjuwa, but the class is relatively uncommon in the group.

The number markers are seen in the following sentence:

\[
yiri-waR\text{iyi yiri-balwayi wawuruni waR\text{?} na\text{l\text{"u}}-windima-ni
\]
pl. man pl. big those seeing I-them-do

The class prefixes play a part in the transitive verb, following the general pattern (common throughout these MC languages) obj + actor + verb, e.g. na\text{gu}-ni-ba\text{\text{\text{"a}}}n, me-I-bites; na\text{gu}-Ra-ba\text{\text{\text{"a}}}n, me-V-bites; but without -gu- in IV na-ma-ba\text{\text{\text{"a}}}n, me-IV-bites, as ma-wanga na-ma-ba\text{\text{\text{"a}}}n, bandicoot bites me. There is one difference: duals and plurals of objects are marked differently from nouns: waR\text{?} naRa-windimani, he or she sees me; waR\text{?} nja-raru-windimani, he sees us two (incl.); waR\text{?} nji-litu- windimani, he sees us (excl.). This is all very like Mara.

While this is not put forward as an example of a so-called 'mixed' language, there are certainly some cross influences at work in it, that may well have historical information to yield. Something more will be said in the general section of this paper.

Between the Phelp and Wilton Rivers the Ngandi language is domiciled. In general it is very similar to Wandarang, but its borrowings (if such they are) are mostly from the Ridarngu language, which belongs to the 'Yulungu' languages of north-east Arnhem Land, an enclave that is not classifying. Here there are six classes; Cl. III is again a common plural for personal members of I and II, but a dual is formed by the addition of -bula to a stem of any class. This is the early Australian root *buladj, two, and it means that originally this language did not provide for the expression of a dual. The same set of sentences as were used for Nunggubuyu will serve again in Ngandi translation to illustrate the classes:

Cl. I. nandja ni-yul ni-wa\text{\text{"a}}rara ni-na na-na-na-ni?
who man big that I-him-see-past

Cl. II. nandja na-manu\text{\text{"u}} na-wa\text{\text{"a}}rara na-na na-na-na-ni?
who woman big that I-him-see-past

Cl. III. bandja bi-yul ba-wa\text{\text{"a}}rara ba-na na-barra-na-ni?
who men big those I-them-see-past

Cl. IV. gundja gu-djundo gu-wa\text{\text{"a}}rara gu-na na-gu-na-ni?
what stone big that I-it-see-past
The development of class and number have been distinct in this language. The Murngin waŋaŋ, one, is added to a word for two, to make three, and both carry the plural prefix baː-: baː-yabban baː-waŋgaŋ, 2 + 1. The word gabbul of Ranjbarnugu, etc. can be used in Ngandi as the suffix of a paucal plural.

The remaining language of this group is Ngalagan, which belongs to the west of Wilton River, between it and the Roper. Here there are considerable variations on the common pattern: (1) four classes only; duals and plurals are marked by suffixes, like Ngandi: -bira, dual and -gabbul plural; (2) the Cl. prefixes are: I nu(gu)-; II dju- (as in Burera); III gu-; IV ma-. This is then rather a northern type language, influenced by those on the west (which are not classifying). (3) The class prefixes are separable, and sometimes the noun appears without them, sometimes with a strengthened form of prefix. The previous sentences here become:

**Cl. I.**

<table>
<thead>
<tr>
<th>Cl.</th>
<th>V.</th>
<th>Cl. VI.</th>
</tr>
</thead>
<tbody>
<tr>
<td>w.</td>
<td><strong>mandja ma-wangara ma-waŋara ma-na ḥa-ma-na-ni?</strong></td>
<td><strong>andja a-waŋu a-waŋara a-na ḥaRa-na-ni?</strong></td>
</tr>
<tr>
<td>w.</td>
<td><em>what</em></td>
<td><em>what dog</em></td>
</tr>
<tr>
<td>w.</td>
<td><em>bandicoot</em></td>
<td><em>big</em></td>
</tr>
<tr>
<td>w.</td>
<td><em>that</em></td>
<td><em>I-it-see-past</em></td>
</tr>
</tbody>
</table>

nu-yana? ḥeː nugu-n?biri nugu-bigur nugu-nolggo

*what name that man big*

ŋu-na-ni-n?

*I-him-see-pres.*

**Cl. II.**

dju-yana? ḥeː djugu-n?biri bolo?bolo djugu-nolggo

*what name that woman big*

ŋu-na-ni-n?

*I-her-see-pres.*

In an example of a plural formation:

nu-yana?-bira nuŋe gun-bira-bira bigur-bira

*what name those men*

ŋu-bun-na-ni-n-bira?

*I-them-see-pres.-plur.*

It is unusual for plural to be marked with Classes III and IV. Another peculiarity of this language is that it is ergative: this also will have been taken over from languages to west, some of which have it.
5.3. Multiple Classification outside Arnhem Land

5.3.1. Yanjuwa

This language, which has been called at different times Anyuula or Yanyula, but which its own speakers call Yanjuwa (Yanyuwa), is spoken about Boroloolu and the lower Macarthur River. It is quite definitely the most complicated structurally of the MC languages - more so than Anindilyawgwa or Nunggubuyu. The formations point to stages in the formation of the MC languages and for this reason are particularly important for the present study. They are therefore given in some detail here, because reference to them will be necessary in the general discussion in the following section of the study. The first beginnings of an analysis was made by Capell in 1941; workers from the Summer Institute of Linguistics have been stationed among the people for a number of years past, and reference should be made especially to the work of Jean Kirton of the SIL (Kirton 1964, 1967, 1970, 1971a,b) and also to Elfreda MacDonald (MacDonald 1964) and on more general grounds to Dixon on Noun Classes (Dixon 1968). A study of the Yanjuwa is still awaited; practically all the above references refer chiefly to the noun phrase, although Kirton (1970) does go beyond this. The present concentration is, of course, on the noun-classing system.

This system has complications not only in range of classes and their contents, but in the formatives as well. Yanjuwa is an ergative language, as are some of the others which have been looked at in the preceding pages, but Yanjuwa has the special feature that ergativity is marked in the prefix as well as in the normal manner of indication by suffix to the complete noun. This feature was noticed to a small extent in Nungali; it is more noticeable in Yanjuwa.

One of these other phenomena, indeed the most important, is the form of the ergative case in Yanjuwa. In Nungali words beginning with d- change this to nj- in the ergative. In Yanjuwa all nouns mark ergative in the prefix as well as in the ending. The ergative marker is the normal Australian suffix -lu. This is added to the noun in a Yanjuwa sentence, but the class prefix is also modified by change of final vowel to -u. Thus:

Intrans.  giya-wingga nja-miŋiŋiya  
he-walks  the-man

Trans.  ganj-ilu-yambina-njdji nju-miŋiŋiya-lu  
him-he-make-well-pres.  the-man

The change of nja-miŋiŋiya to nju-miŋiŋiya-lu is a characteristic of Yanjuwa. It will be argued later that this points directly to a time
when the class prefix was a free determiner, not a bound form at all, and it will be further argued that this stage preceded noun classification in all the languages (see 9.3. below). In a meeting of the Linguistic Society of Australia at Macquarie University, Sydney, in 1975, Miss Kirton presented a paper on Yanjuwa nominative and ergative-allative cases, concluding with a diagram that is here reproduced as a summary of the present argument:

<table>
<thead>
<tr>
<th>Nouns, noun-modifiers</th>
<th>Free Pronouns</th>
<th>Participles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Ergative</td>
<td>-1u</td>
<td>-1u</td>
</tr>
<tr>
<td>Allative</td>
<td>-1u</td>
<td></td>
</tr>
</tbody>
</table>

This patterning is peculiar to the Yanjuwa language amongst the classifying group of Australian languages.

Basic class prefixes in Yanjuwa are the following:

<table>
<thead>
<tr>
<th>Class</th>
<th>Prefix</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>nja-</td>
<td>male</td>
</tr>
<tr>
<td>II</td>
<td>ra-</td>
<td>female</td>
</tr>
<tr>
<td>III</td>
<td>ri-</td>
<td>personal dual</td>
</tr>
<tr>
<td>IV</td>
<td>li-</td>
<td>personal plural</td>
</tr>
<tr>
<td>V</td>
<td>ma-</td>
<td>food, and certain other items</td>
</tr>
<tr>
<td>VI</td>
<td>na-</td>
<td>arboreal and some other items</td>
</tr>
<tr>
<td>VII</td>
<td>naňu-</td>
<td>abstract¹</td>
</tr>
</tbody>
</table>

Examples:

Cl. I nja-mĩnĩiya, man; nja-duwara, initiated boy.

Cl. II ra-nanawaya, woman; ra-wamalaŋi, girl in early adolescence; ra-wunamuŋu, female opossum.

Cl. III ri-baŋibaŋi, two old women; ri-wulu, two aboriginal men.

Cl. IV li-yumbuwara, young people.

¹This diagram is a conflation of Capell's original arrangement and Kirton 1971b:20. It does not give as much information as the latter, but follows the building up of what has to be said below with less complication.
Cl. V  ma-ŋara, food (same word as Nungali); ma-yulbu, rope; ma-wudawuda, stone knife.

Cl. VI  na-alanjiti, camp; na-wulgu, bark canoe; na-wulanji, river; na-wulan, breast.

Cl. VII  naŋu-njirga, corroboree ground; naŋu-waŋi, evil, badness (waŋi, bad), naŋu-yagayaga, madness (yagayaga, deaf).

There is also a masculine class marked by zero prefix, but taking masculine concords: awaRa, earth, country; wurundula, male dingo; galabir, ghost gum; wuga, word, language; yiliri, blood and many others. The numerous nature of this zero class is an indication, perhaps, of a late adoption of classification into the language - which is suggested by certain other phenomena also.

This language has elaborate sets of prefixes for person - including first and second person, as well as all the Classes of 2nd person - some of which apply to body parts, three separate sets applicable to kinship terms - and, of course - still others applicable to verbal stems and not to nouns. There are sets of suffixes labelled by Kirton as nuclear, referent, directive and accessory. These cannot be dealt with here (see Kirton 1970, 1971). Some of these are prefixes, others suffixes, if case markers are included. A full analysis in terms of generative linguistics in its various branches, would probably throw a lot of light on the linguistic history and on the psychology of the speakers at the same time. The functional divisions between prefixation and suffixation could also provide profitable studies along these lines - but they are beyond the scope of the present paper.

There may also be historical information hidden in the fact that Yanjuwa, on the north-eastern border of the prefixing MC languages and Worora on the north-western border, are both among the most complicated languages of their type. On the south of Yanjuwa there are other MC languages, but these act by suffixation only, and they form the next section to be studied. They, in their turn, have languages of rather similar construction, but much greater simplicity, in an area of north-eastern New South Wales, far away to the south-east of the central core.

5.4. Isolated South-western Languages

There are two isolated MC languages which may be discussed along with the Daly River languages, although they do not belong to this group in any more than a geographical setting. They belong to the mainstream of the MC languages as far as their actual formatives are
concerned. These are Nungali and Wardaman, both of which were chronicled by the writer in 1939.

5.4.1. Nungali

Nungali is spoken in an area between the Daly and Fitzmaurice Rivers. It is a 'sister' language to Djamindjung and Yilingali - fairly close to them in vocabulary, but both of them are classless languages, whereas Nungali has five noun classes of the common form, not of the Daly River type.

Examples in sentence form of the resemblances between Djamindjung and Nungali were given in an earlier section of this paper (5.2.1.). Some additional matter and clearer analysis is added here.

Where vocabulary is shared, the Nungali words often - but not necessarily - have class markers prefixed: Djamindjung wiRa, hair; Nungali ni-wiRa; Djamindjung djarA, mouth; Nungali ni-yaRa. A different case is Djamindjung dju-wiya, nose; Nungali ni-wiya; the first could be a class marker in Burera, but in Djamindjung apparently is not.

Nungali noun classes are:

<table>
<thead>
<tr>
<th>Class</th>
<th>Pronunciation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>di-</td>
<td>chiefly male beings</td>
</tr>
<tr>
<td>II</td>
<td>nja-</td>
<td>chiefly female beings</td>
</tr>
<tr>
<td>III</td>
<td>wiRi-</td>
<td>plurals of I and II (persons)</td>
</tr>
<tr>
<td>IV</td>
<td>ma-</td>
<td>vegetable foodstuffs</td>
</tr>
<tr>
<td>V</td>
<td>na-</td>
<td>objects in general, and meat foods</td>
</tr>
</tbody>
</table>

In the plural class given here, the common prefix wi-, wu- is marker of the 3rd person plural in the verb: in Djamindjung it is bu-, bu-. Nungali extends the concord through all the usual categories excluding verbal objects.

Nungali nouns do not necessarily carry a class marker: ni-yab, liver, but du'lu, heart. Curiously enough, vegetable food, manjara is Cl. I (yidabu, this), the same as meat di-ya'nara, which is also kangaroo.

There is an ergative suffix -ni which occurs in some of the collected examples, but its use does not seem to be consistent, e.g. baba-ni ngargu nanimilim numurun di-ya'nara-g, brother-erg. my dug a hole kangaroo-for: baba-jiram-ni di-ngargina-jiram wi'nginjdji dumurum di-ya'nara, my two brothers killed three kangaroos. But the plural was recorded as baba di-ngargina birijada... not baba-ni: and also the ergative seems not to occur with a dependent word such as adjective after the subject noun.

Examples of the concords are given as follows: di-yimbul yl-dabu, man this; daruwuru yl-njambu, married man that; but there is infixing
in these demonstratives: ma-ŋara yi-ma-mbu, *that food*; nja-ŋaruŋ yi-nja-mbu, *that woman* - so that Cl. I form is actually yi-ŋ-mbu just as in Gagadju na-ŋ-ri, *this*, rather than *yi-ŋ-mbu.

There is another peculiarity: Nungali does not appear to be an ergative language, but initial d > nj in Cl. I nouns as subjects of a transitive verb, e.g. dulga ganijuburag *father told them...*; but njulga ǧenangdani, *father gave it to me*; duRib, *dog*, but njuRib ǧaniwa, *the dog bit you*; njuRib ǧananbawa mIRi, *the dog bit my leg*. Other initials do not seem to change in this way.

No fuller recording has been possible, and a search for speakers of Nungali about 1970 failed to locate any.

5.4.2. Wardaman

Wardaman belongs to the Upper Daly, towards Katherine, but it is not identical with Wageman, as stated in A Revised Linguistic Survey of Australia (Oates and Oates 1970:14). The latter has no noun classes, but Wardaman has three, and, like Nungali, they are formally consistent with the northern languages, not with those of the Daly River. The information drawn on was gathered in 1940 by Capell.

The noun classes are three:

---

<table>
<thead>
<tr>
<th>Class</th>
<th>Noun Class</th>
<th>Example 1</th>
<th>Example 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl. I</td>
<td>yi – yu-</td>
<td>yi-biwan yi-yibi, man living; baŋbun yi-man, woman bad</td>
<td>gaŋman yu-guRul, kangaroo big</td>
</tr>
<tr>
<td>Cl. II</td>
<td>wu-</td>
<td>yumin wu-guRul, tree big; yumin wu-man, tree bad</td>
<td>guša wu-djuda, firestick short</td>
</tr>
<tr>
<td>Cl. III</td>
<td>ma-</td>
<td>may?in ma-ŋadu, food little; govin ma-guRul, honey plenty</td>
<td>may?in ma-Rinun, food no good</td>
</tr>
</tbody>
</table>

Class I contains names of living beings, whether human or animal, male or female. Some names of valued implements such as the spear, and such an important item as water are included. Class I contains all other names of objects, except vegetable food - and this may also be treated as a valued item and go into Cl. I, though it is also Cl. III, the general class of vegetable foodstuffs.

Wardaman does not extend the concord to the pronoun, numeral or verb, as most of the MC languages do. Plurals are indicated when necessary by suffix or marked in the verb, there is a dual suffix -wiya, as in baba-wiya, *two brothers*. There is also an ergative suffix -yi
(Nungali -nl); for example

\[
\text{baba-wiya-yl \, nan\lgin-yl wurmin \, djarin ga\^ma-wu}
\]

\[
\text{brother-two-erg. \, my-erg. \, they-dug hole \, kangaroo-for}
\]

My two brothers dug an oven for the kangaroo (ga\^man).

In both Nungali and Wardaman the feeling grows that noun-classing is a foreign process that has been introduced. The general kinship is with the northern languages, perhaps through the Gunwinjgu group. The ergative will be a still later introduction; evidence will be cited in the closing section of this paper for considering ergativity to have been introduced to these languages after noun-classing. This becomes particularly apparent in Yanjuwa (Kirton 1971a,b).

5.5. The Daly River Languages

The Daly River languages not only form an obvious group, but there is good documentation for them. They differ from the other multiple classifying languages to a certain degree in features, most of which are shared among them, and these are not limited to the system of noun classification. Verb classification is also a similar shared feature (see Tryon 1970). Hence the position assigned them in the present paper. There is a detailed study of the Daly River and neighbouring languages available (see Tryon 1974). It is therefore sufficient to indicate their general features and to give short specimens to illustrate the points drawn out by Tryon. The chief references here are based on Tryon's closing chapter ('Overview', Tryon 1974:287-305), recommending the work itself to students requiring more detail.

Tryon states (1974:292) that 'unmodified noun classes within the Daly Family number between four and seven'. All the languages have four classes in common, arranged as follows:

Class 1: Body parts, kinship terms, natural phenomena.
2: Animals hunted for meat.
3: Vegetable food and plants.
4: Wooden implements, trees, weapons.

In most of the languages masculine and feminine animates are provided for specifically. The four classes found are more limited, and no language actually shows all. They are:

Class 5: Trees (as opposed to implements, wood products).
6: Male humans.
7: Female humans.
8: Domesticated animals.
MAP 4: The Daly River Languages (From D.T. Tryon, "Daly Family Languages in Australia", p. xv.)
<table>
<thead>
<tr>
<th>Language</th>
<th>Class:</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mulluk-Mulluk</td>
<td>te-</td>
<td>mi-</td>
<td>tjön-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Djeradj</td>
<td>te-</td>
<td>miyu-</td>
<td>tjuŋu-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Madngala</td>
<td>pinya-</td>
<td>miyi-</td>
<td>ylm-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a. Yunggor</td>
<td>yinja-</td>
<td>yi yi-</td>
<td>yim-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b. Gamor</td>
<td>pinja-</td>
<td>meyi-</td>
<td>yim-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Maridhiel</td>
<td>a-</td>
<td>mi-</td>
<td>yeli-</td>
<td>ţar-</td>
<td>wati-</td>
<td>ȵuŋku-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4a. Maridjabin</td>
<td>a-</td>
<td>mi-</td>
<td>yeli-</td>
<td>ţa-</td>
<td>ma-</td>
<td>munti-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Maramanandji</td>
<td>a-</td>
<td>mi-</td>
<td>yall-</td>
<td>ţar-</td>
<td>wati-</td>
<td>wuŋku-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Marengar</td>
<td>a-</td>
<td>mi-</td>
<td>yerī-</td>
<td>ma-</td>
<td>mul-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Maranunggu</td>
<td>awa-</td>
<td>miya-</td>
<td>yili-</td>
<td>wati-</td>
<td>wuŋku-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7a. Ami</td>
<td>awa-</td>
<td>miya-</td>
<td>yili-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7b. Manda</td>
<td>awa-</td>
<td>miya-</td>
<td>yili-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Bungubungu</td>
<td>metjem-</td>
<td>menenji-</td>
<td>win-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8a. Wadjiginj</td>
<td>metjem-</td>
<td>menenji-</td>
<td>win-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Ngangigurunggur</td>
<td>a-</td>
<td>mi-</td>
<td>yer-</td>
<td>wa-</td>
<td>wur-</td>
<td>wur-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9a. Nangomeri</td>
<td>a-</td>
<td>mi-</td>
<td>yer-</td>
<td>wa-</td>
<td>wur-</td>
<td>wur-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Noun Class Prefix in the Daly River Languages  
(After Tryon 1974:293.)

In the language, Cl. 7 is marked by a zero prefix. In the table,  
(Table 1), adapted from Tryon 1971:293, therefore, Cl. 7 is  
 omitted in order to save space. His languages 4b (Marengulu) and  
4c (Maridjabin), also 8b (Bungubungu) for which his Table  
gives no forms, are omitted here.
6. MULTIPLE CLASSIFICATION BY SUFFIXATION

6.1. Introduction

The languages included in this group are two sets of dialects and languages spoken originally on the Barkly Tablelands, Northern Territory, immediately south of Yanjuwa-Alawa-Mangaray. The languages are Djingili, with Ngarndji on its northern border related to it practically at dialect level (no count has been made), and Wambaya, with Gudandji and Binbinga at dialect level. No full account of any of these has been published. N. Chadwick has given a short account of Djingili and Ngarandji (Chadwick 1968, 1971); K.L. Hale has gathered manuscript notes on Wambaya and its relative which remain unpublished, though he has kindly supplied the material for the present purpose.

The characteristic of these languages is that they are multiple class languages, each having four classes, but they act by suffix, not by prefix. There is no personal plural class, but plural is indicated by suffixes, as is also the dual. In this regard they depart from the more northerly MC languages. Moreover, they are also ergative languages, and the ergative markers (or 'operative' as they are called in Chadwick's arrangement) are both suffixal, but differ in form from each other. The operation of the entire system is greatly complicated, at least in Djingili, by a system of retrograde vowel harmony, in 'the vowel of the affix determines the vowel of the stem'. Thus a base wiwi, girl, has a nominative wiwi-ŋi, Cl. II but ergative wawa-ŋa, because the vowel of the suffix reacts on those of the stem. This type of formation is present also in Waramunga and Walbiri, and there have apparently been mutual influences at work throughout this area. The CA *lu of the ergative is therefore missing, and is replaced by a *ŋa/ga which is not CA.

6.2. Djingili

The suffixes given by Chadwick (1968:225-6) for Djingili are as follows:
Class I. Predominantly masculine and objects associated with males; also acts as common gender for small fauna:

Nom. -a/-i/-dji/-lji/-r/-l
Erg. -η/-da/-lηa(*)

Class II. Predominantly feminine - some implements and parts of body; also acts as common gender for small fauna:

Nom. -η/-d
Erg. -ο/-a/-dga(*)

Class III. Is a general neuter, some implements and parts of the body. All flora, except some fruits and vegetables.

Nom. -u/-i/-a or cons.
Erg. -u/-i/-a or cons. (*)

Class IV. Mostly nouns related to vegetables and fruits but also any rounded or full-shaped object:

Nom. -mi/-bι
Erg. -ma/-ba(*)

It will be seen that there is very little resemblance between these endings and the northern prefixes, except Cl. IV which in the north is {-ma}, and as will appear later, derives from a CA root *mayi, vegetable food. It is just possible that Djingili mami, food, may derive from *mayi, but one would be right in putting a question mark after it.

6.3. Wambaya Group

For Wambaya, K.L. Hale's notes give a picture that is similar but differs in many details. The class suffixes are: I -γι (masculine); II -να (feminine); III -(w)α (inanimate); IV -(u)ma (vegetable).

Number is marked in Wambaya by suffixing again to these -wulu for dual (EA) *buladj, two, and for plural -gunjdji (I), -gunja (II), gunjdja (III), -gunjma (IV) as substitutes for the singulants, i.e. singular is N + Cl., plural is N + pl. + Cl. Wambaya demonstratives are a little more complicated. Hale's notes give yini, I, this and yiniya, I, that. The forms are:

(*) Altered by Chadwick from his 1968 publication and communicated in a private letter to Capell.
The ergative and dative forms of that vary again rather unexpectedly:

Erg. Cl. I ṅingiya II ɗangiy a III ɗangiy a IV ɗangiy a
Dat. ɗinagiya ɗanagiya ɗanagiya ɗanagiya

The surface appearance of these two sets is that the class markers are prefixed instead of suffixed. It is possible, however, to interpret them as compounds resulting from reduction of formerly free forms to bound forms, with postpositions. This is not the place in which to consider these developments; that belongs to the historical consideration later.

The Gudandji forms given in a second manuscript by Hale are very similar, and so far as can now be ascertained about Binbinga those also fit the same pattern.

A set of examples from Hale's notes will show the concord of the adjective in Wambaya in predicative position in the sentence. There is no space to give a complete set; some examples must be sufficient:

- yini-gunjdi djanjdiŋara maliyimaŋdi?
  - these dogs (are) big-ones

- yiniya djuwa guRidjbiyi
  - that man (is) good

- yiniya-gunjdi djuwa-damaŋdi guRidjbi-maŋdi
  - those men (are) good

- ɗaniya giriy a guRidjbi-ŋa
  - that woman (is) good

- mama maŋajma guRidjbima
  - this food (is) good

- guRidjbi-maŋara mamiya-gunjma maŋajma-ɗara
  - good (are) those foods

- guRidjba yana baganga
  - good (is) that cooliba (tree)

- guRidjbi-wulu mama-wulu djiga-ma-wula
  - good (are) those-two yams-two

Person in the verb is also involved in the concord, as in
The class is marked in the subject only for third person, it does not appear in 3rd person object, which is zero but objects of other persons are indicated by bound forms, e.g. ŋadbi ŋi-nja see I-you. Tense is then added after the person forms: djanjini gini-ŋa-ma gudayiba dog it-me-did bite, the dog bit me.

This group of languages completes the MC class. The dual classifying class will be studied next, and it is noticeable that these tend to surround the suffixing MC languages – Mangaray and Alawa to the north, and Wagaya to the south. Map 1 shows that feature.

7. DUAL CLASSIFICATION
7.1. Introduction

The term dual classification implies that nouns are divided into two classes only. In Europe such types are provided by the Romance languages and by some of the modern Scandinavian languages.

There are three discontinuous areas in which dual classification is found in Australia:

1. The Eastern Kimberley division, athwart the northern half of the Ord River Valley.
2. In Arnhem Land, near the mouth of the Liverpool River on the north coast.
3. Two languages on the south-eastern edge of Arnhem Land.
4. In certain areas of New South Wales.

These are areas in which classification is made by the use of prefixes, as in the MC languages, with the difference that here there are only two classes. Most of these languages operate by suffixation, like their European counterpart, but those on the north and south of Arnhem Land operate by prefixes, like the MC languages, though formally there is little resemblance between the morphemes involved.

Neither in form nor in function do the classes in the dual systems overlap to any great degree. It would seem to be a case of separate development in each area. Historically the problem is considerable, for it does not seem easy to see why such a type – a minority type in Australia – should have developed. In the case of New South Wales it is almost certainly a local evolution.
It is convenient to discuss the prefixing dual languages first, then the suffixing languages. The language of Bathurst and Melville Islands is an isolate; in Arnhem Land there are five languages in which dual classification has been found - two in the north, Gunavidji and Nagara, both on the south of the Liverpool River - Gunavidji on the eastern side and Nagara about Boucault Bay, and two in the south, Alawa on the south of the Roper River and Mangaray farther west, about Elsey Station.

7.2. Bathurst and Melville Islands

The Tiwi language of Bathurst and Melville Islands is formally a dual classifying language, logically it has four classes. Reference may be made to Osborne's *The Tiwi Language* (Osborne 1974) and only the barest reference will be made here. He states that 'the conceptual scheme which underlies the classification of Tiwi nouns is two-dimensional, one dimension having the poles masculine and feminine and the other human and non-human' (p. 51). As actual endings are masculine {-nl} and feminine {-ka}, with a common plural -wi, there are formally only two classes to take care of. There is concord of dependent words, including verbal subjects, but verbal objects differ: Osborne says that 'third person-singular direct object is inferred from the absence of a prefix, and gender of such an object (except when it co-occurs with third person-singular subject in past tense verbs) is expressed by means of the tense marker pe- or te-, depending on the tense of the verb' (Osborne 1974:39).

It will be seen that this language differs considerably from the general run of Australian languages in this as in most other regards. The formal agreement of the plural -wi with Northern Kimberley and Arnhem Land birl-, bara- (also suffix -bira in Laragiya) may be only accidental: detailed comparative study of Tiwi has yet to be made.

7.3. Northern Group

7.3.1. Gunavidji

In Gunavidji there are two class divisions, which may be satisfactorily labelled masculine and feminine. Special forms are found in pronouns of the 3rd person singular, but in all other word classes there is a regular feminine prefix in the singular, -nji, which links with the NK nj-. Gender is not marked in the plural, just as in the Djerag languages. The feminine marker nj- is actually replaced by nj- in some of the demonstratives. The masculine noun, unlike those of Djerag, does not carry a marker, but in demonstratives there is a marker dji-. Adjectives use nj- - nj- but not dji-. Examples:
Some adjectival roots are invariable for class, e.g. do:dbalg, good (syn. of madjan). Further examination will probably show that as in the NK, it is a question of initial vowel or consonant, and that as in Ngarinjin, etc. only adjectives with initial vowel can take the prefixes. This has not been examined in detail as yet.

The plural marker for both classes is bara-, again comparable to the NK and Djerag biri-. Example: ñarama, woman, plur. bararama-ba.¹

Rules of concord are well marked in the following verbless sentences, which represent the contrastive forms used to mark comparisons in Gunavidji:

\[\text{nja:ja ñarama nj-raragarawa:dba; një:jaba ñarama nji-ndela:dja}\]

\[\text{this woman (is) tall} \quad \text{that woman (is) short}\]

I.e. this woman is taller than that one. Plural:

\[\text{barija baraRa:amba bara-ragama:dba; bara-re:ndjea bara-ndeladja}\]

It should be remarked in passing that the 'adjectival' can be verbalised but taking on person markers of all persons as prefixes.

The noun in general does not carry a class marker, and class assignment - 'gender' is grammatical, as in the Romance languages.²

7.3.2. Nagar

Present study of this language is limited to Capell's investigations in 1941, which have not yet been followed up; but the notes then made suggest that noun classes are two in number, and that dual and plural prefixes are found as well as singulars. Gender appears to be masculine and feminine, each marked, and the gender system is found in the pronoun, adjective and verb: the noun itself bears no marker. As

¹The apparent prefix na- in the singular of this noun is not understood. The language still awaits depth study, and the present statements are taken from the author's field notes which it has not been possible to follow up.

²The word man is identical with Worora idja; but it has already been pointed out that Gunavidji shares some vocabulary with the western Torres Strait Islands (Capell 1942, 13/1:29).
far as the evidence goes, gender is 'natural', i.e. female creatures are marked as such, otherwise masculine markers are used. An example among the list of nouns shows that in some cases nouns can be marked: yawurin, young man (a word shared with the Gunwinjgu group) > njawurin, young woman. This is unexpected in that in Gunwinjgu jawurin is monomorphic; in Nagara its treated as ja-prefix with a stem wurin. In any case the masculine marker is na-, so that *nawurin would be expected. There are also some other such terms, e.g. galugwona, boy > ngalugwona, girl, formed on normal procedures. It is possible that some such procedures are to be found that have been noted in Laragiya, where kinship terms can take prefixes not otherwise used in the language. Capell was given dja:ba, elder brother, but for younger brother dja:ba galugwon(a), which looks like an ad hoc translation by a speaker at a loss - but at least shows the masculine term for boy.

As a rule, however, the noun does not carry a gender marker: the other members of the NP do. So babal ni-jaŋga, the wind comes is marked as masc. by the verb prefix; ngara go:ga, this water is marked similarly by the adjective, like ngara ngajara ṣabalawa, this (is) camp my.

The demonstratives are:

<table>
<thead>
<tr>
<th></th>
<th>NEAR</th>
<th></th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Singular</td>
<td>Plural</td>
<td>Singular</td>
</tr>
<tr>
<td>Masc.</td>
<td>ngā:Ra</td>
<td>arabuga:Ra</td>
<td>ngāna</td>
</tr>
<tr>
<td>Fem.</td>
<td>ngi:Ra</td>
<td>arabugi:Ra</td>
<td>ngi:na</td>
</tr>
</tbody>
</table>

These have both adjectival and pronominal reference.

In the pronouns three numbers are marked, and gender is shown in the third person of all numbers. The dual involves as an infix the numeral root -gagaRa-, two; the pronouns carry the -ba suffix shared by a number of languages elsewhere in Australia.¹

The third person forms are in Nagara:

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>masc.</td>
<td>na-ga-ba</td>
<td>ba-na-gagaRa-ba</td>
<td>ba-baRa-ba</td>
</tr>
<tr>
<td>fem.</td>
<td>ngi-ga-ba</td>
<td>bara-na-gagaRa-ba</td>
<td>bara-baRa-ba</td>
</tr>
</tbody>
</table>

This is a fairly complicated formation, and quite peculiar to the language.

¹These are treated in the paper on Australian languages in general, elsewhere in this volume.
In the verb, person markers are prefixed, and the object is incorporated into a portmanteau prefix. The intransitive masculine prefix in 3rd singular is ni-, the feminine gini- as in ni-yanga, he comes, gini-yanga, she comes. It would seem, however, that the transitive prefix does not distinguish between the two genders. In the dual number there are ba-ni-yanga, masculine, and bara-ni-yanga, feminine, and in the plural bi-ni-yanga, masculine, and bi-ri-ni-yanga, feminine. In these two the feminine marker is clearly -ra-/ri-. This is of interest in that the usual pluralisers in the MC languages of north Australia have some form of bara-/biri-, regardless of class. There are also changes of prefix for future tense - a contrast of future v. non-future. Capell's examples also include

wunagalaya na-ga:ya maladj(a)  
man brought turtle

and a phrase ginaga:ya nawara, translated as he brought the woman, but it is possible that this was a mistake on the informant's part and really means the woman brought it.

The non-singular forms are not quite clear and will not be adduced here. The language needs to be studied afresh while it is still available. It seems to have many peculiarities of its own.

7.4. Southern Group
7.4.1. Alawa

The Alawa language is spoken on the southern side of the Roper River and has been studied by the writer, and much more thoroughly by M.C. Sharpe. Here also there are two noun classes, a feminine marked by the prefix an-, and a masculine which is unmarked. Mrs Sharpe (Sharpe 1969) says: 'most feminine gender nouns have a feminine gender prefix and denote human beings. The feminine suffix is occasionally dropped from feminine stems. It is always absent from wunaru, sun' - and she adds 'this noun is sometimes masculine, as in wunaru malara\'a/na\'a, sun up he/she goes, the sun is rising'. She also adds that in a few instances nouns regarded by English-speakers as non-human or inanimate are marked for gender in Alawa, nawanga, totem; anmunamuna, women's corroboree; anyaraman, mare. The last is the only animal name marked for gender, and it is derived from a commonly adopted aboriginal term yaraman, horse, whose origin is apparently not established. Gender is marked in adjectives if they are applied to feminine gender nouns, but not otherwise. Examples from Capell (1942)
include nula waylnma, he is dead; ṣaḍula anwaylnma, she is dead.
Object forms appear in gun geren, I see him; gun gerendĩnurĩ, I see her. Here the gender is marked by a change of suffix, but the case is not always so simple. A few further examples from Capell: nanaṣa gun djana, did you see my father?; angudjaga gun djandaŋuru, did you see my mother?; ṣaru dul ṣuraṇaṇa nanaṣaraṇa wagari niri, we two saw my father sitting there; ṣaru dul ṣuraṇaŋuru angudjaga wagari ariri, we two saw my mother sitting there.

7.4.2. Mangaray
This language, spoken in the region of Elsey Station, to the west of Alawa, shares with it the marking of two genders. The feminine prefix is ṣala- in this instance, and there is frequently a masculine marker na-. Demonstrative and third person pronouns are not always easy to distinguish. The forms recorded are:

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>ṣiː</td>
<td>ṣala</td>
</tr>
<tr>
<td>1. excl.</td>
<td>ṣaya</td>
<td>ṣiR</td>
<td>ṣila</td>
</tr>
<tr>
<td>2.</td>
<td>njanga</td>
<td>nuR</td>
<td>nula</td>
</tr>
<tr>
<td>3. m.</td>
<td>ni (wa)</td>
<td>garan gala(riwa) nariwa</td>
<td></td>
</tr>
<tr>
<td>3. f.</td>
<td>gi(wa)</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

There is also a set of oblique pronouns, which can be either datives or possessives, but as possessives -gu can be superadded to them.

Demonstratives found in the sentence material to hand seem to point to a 'natural' gender system. Phrases recorded include niwa muyig, that dog; niwa malam, that man; giwa landi, this tree; gi: ṣugu, this water; ni: garawi, that kangaroo. There is a masculine prefix na- and a feminine prefix ṣala-: na-wawa, brother; ṣala-wawa, sister. These do not always appear in sentences: banam, camp (citation) but ṣila garagwa nabanam ṣilaṇaniwainji, we were talking in the camp suggests that the prefix acts rather as a definite article. More often a separate demonstrative is used:

Cook me some meat: yalaR naya ṣandju
meat cook for-me

Don't cook that meat: ṣiındjag ṣiñanaya jalaR giwa
don't you-cook meat that
Grammar Classification in Australia

Whose meat are you cooking?: djal-nanggu ginariwa yalaR ganyanaya
who-his that meat you-are-cooking

What is that (mark) on your hand?: djal-na ginariwa na-ngayma-gan
what-it that the-hand-on

In such a case the prefix does not appear: malam, not namalam in:

\[ \text{njinda baylbub giwa malam?} \]
who killed that man?

Nouns in Mangaray can also receive person markers: nang-wangidj, I (am) a child, when I was a child, so that the na- prefix may be construed as 3rd sing. masc. of the verb. Compare:

\[ \begin{align*}
\text{baja-nga} & \text{ na-djililig} \\
\text{father-your he-alive} & \text{Is your father alive?}
\end{align*} \]

\[ \begin{align*}
\text{na-la-la-nga} & \text{ nala-djilil} \\
\text{mother-your she-alive} & \text{Is your mother alive?}
\end{align*} \]

There is also an example of a reduplicated prefix: na-nangariwa banam, that country in a context, I'm afraid to go to that country. But reversed word order may also produce a full pronoun in final position, as in nanga niwa, it is for you, which may be analysed as na (masc.) - nga, your (suffix) followed by the pronoun niwa; it was tobacco, giwa baga, that tobacco. Also of a fish: giwa balgur, that fish - balay giwa, long one it.

As verbal objects, the gender prefixes do not appear in all cases:

\[ \begin{align*}
\text{na-yumbub malam nandju} & \\
I-left man mine & = I left my husband.
\end{align*} \]

\[ \begin{align*}
\text{nja-yumbub na-ngadugu} & \\
her-left fem. wife & = He left his wife.
\end{align*} \]

In the absence of a full study of this language fuller notes have been given; they may act as a guide for future investigation.

7.5. Dual Classification by Suffixed

7.5.1. Languages of East Kimberley

These languages are referred to as the 'Djerag' group, from the verb speak which is commonly djerag amongst these languages. Geographically, they are found chiefly between the Durack Range and the Western Australian border with the Northern Territory, i.e. in the valley of the Ord River, where they are bounded on the north by the sea, and on
the south by the Malngin language, the northernmost member of the Western Desert languages. On the east they are bounded by the Mudbura-Ngarinman languages, also of the WD type.

In the present reference no detail is given on the languages apart from the grammatical features being discussed. They are reckoned usually as Gidja (or Lungga) on the south towards the Fitzroy River, Mirriwn, Gadjerong, Guluwarin. They still need more investigation.

As the languages are all fairly closely related, they are simply termed 'Djerag' in the following pages. Most of the examples are given in Gidja, but no matter of principle is involved in the choice of such examples.

Djerag nouns fall into two classes, a masculine and feminine - this nomenclature is recognised by native speakers themselves and so the gender terms may rightly be kept, though they are better not used in the more complicated systems of the Northern Kimberley. With the noun, the adjective and pronoun (including demonstratives) must agree, and the pronoun object of the verb agrees with the noun to which it refers in gender and number. This object is often incorporated into the verb. The typical ending of the masculine noun is the interdental n, and for this reason it is hardly necessary to indicate the interdental variety of this sound. Unlike d, it does not occur except at the end of a masculine noun. The feminine nouns are usually indicated by a final l. In the absence of either distinguishing consonant, the gender must be learned empirically. The change of n to l often shows a change in the sex of the person or animal mentioned: banariŋ is a male plains turkey, banaril the female of the same species. So with many other words, but relationship terms can only in some instances be thus changed over, though each ends in its proper gender-consonant. So ŋaːlili, a woman (Northern Kimberley nali). ¹

In the plural both genders change the ending to -m. The following table (Table 2) shows typical words:

<table>
<thead>
<tr>
<th>Masculine: singular</th>
<th>Plural</th>
<th>Feminine: singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>djiiŋ</td>
<td>djilim</td>
<td>ŋaːlili</td>
<td>ŋaːlim</td>
</tr>
<tr>
<td>winjagiŋ</td>
<td>winjagim</td>
<td>ŋaːldjam</td>
<td>ŋaːlim</td>
</tr>
<tr>
<td>malambar gaːlin</td>
<td>malba gaːlim</td>
<td>wanjagii</td>
<td>wanjagim</td>
</tr>
</tbody>
</table>

¹See page 156.
Both genders have a dual number formed by adding -warln to the stem: djilawarln, naliwarln, etc.

The adjective tends to end in the interdental -n, in the masculine, and this changes to -l in the feminine, but the final vowel of the feminine sometimes undergoes modification also. The plural of both genders ends in -m. The following examples show agreement for both gender and number.

<table>
<thead>
<tr>
<th>English</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>masculine</td>
<td>feminine</td>
</tr>
<tr>
<td>large</td>
<td>naweran</td>
<td>naweril</td>
</tr>
<tr>
<td>small</td>
<td>wudon</td>
<td>wudol</td>
</tr>
<tr>
<td>alive</td>
<td>mo:lin</td>
<td>mo:lip</td>
</tr>
<tr>
<td>bad</td>
<td>gilwanglin</td>
<td>gilwangill</td>
</tr>
<tr>
<td>good</td>
<td>jilgin</td>
<td>jilgil</td>
</tr>
</tbody>
</table>

As a general rule these agreements are not made when the adjective stands in the predicate; but the rule is not absolute. Thus one does ask:

\[
\text{nulna}l\text{na mo:lip? nowa}, nja}n\text{lnwa}d. \text{Is your wife alive?}
\]

\[
\text{No, she is dead.}
\]

These languages have a concord system that is as strict as that of the multiple-classifying languages of the NK. In Gidja for instance:

\[
\text{ja}n\text{ani-}n \text{dji:y}i\text{lt-}n \text{nawara-}n \text{maran}i-\text{n }\eta\text{arc:}nari \text{n-amanga}? \\
\text{who} \text{man} \text{that} \text{big} \text{seeing him-I-did?}
\]

\[
\text{ja}n\text{ani-}l \eta\text{a:lip-}l \text{nawara-}l \text{maran}i-\text{l }\eta\text{arc:}nari \text{nji}l\text{-amga}? \\
\text{who} \text{woman} \text{that} \text{big} \text{seeing her-I-did?}
\]

\[
\text{ja}n\text{ani-b}l \text{dji:y}i\text{li-m b}\text{tri-}\text{jana maran}i-\text{m }\eta\text{arc:}nari \text{n}-\text{manga}? \\
\text{who} \text{men} \text{those} \text{big} \text{seeing them-I-did?}
\]

The plural prefix btri- is identical with that of NK. Further remarks on this will be made later. The sharing of nali, woman, with these languages has already been noticed.

8. ISOLATED CLASSIFYING LANGUAGES
8.1. East Coast Languages of Queensland and New South Wales

An isolated area of noun classifying languages by suffixation is found on the north-east coast of New South Wales, overlapping into
Map 5: Languages of the Central East Coast of New South Wales
Queensland, from approximately Evans Head to that coast opposite Stradbroke Island, and stretching inland as far as the Dividing Range. This group of dialects forms the Banjalong language. The best known of the dialects is Gidabal, studied by the Geytenbeeks (1971). These students define it as follows: 'at least nine dialects mutually intelligible are still extant.... The names of most of the dialects end in -bal, the ones who say (sometimes spelled -bul): Dinggabal - those who say dingga, that's right; Gallbal, those who say gall, this (in sight); Gidabal, those who say gida, that's right; Ngara:ngbal, those who say gara:, what?; We:luvb, those who say we:lu, you; Wiyabal, those who say wlya, you; Wudjebal, those who say wudje, you; Yugumbe:, those who say yugumbe:, no.' This last dialect has also been studied by Margaret Sharpe (Sharpe 1969) and is also called Yugumbir.

An older, more generalised study, was made by Livingstone for Fraser's edition of Threlkeld's *An Australian Language* (Threlkeld, Fraser, ed., 1892). There are vocabularies in Curr's *The Australian Race* and mentions in later authors. In the earlier accounts, such as Livingstone's, the language is called Minyung (what?) and as such is discussed by Schmidt (1919a,b). Although these languages distinguish four classes, and the neighbouring languages are clearly akin to them, the full system is not found in the others, with one exception: the feminine ending -gan appears in a number of the languages north and west of the Bandjalong group in Queensland. Gabigabi, for instance, is one of these languages. At the end of this section there will be found some discussion of this problem of apparent 'overlap' of systems, for it is not easy to decide whether this is really a remnant of a once more widespread series of classifying languages, or a borrowing from Bandjalong into the neighbouring tongues.

The bulk of the discussion here will be based on the Geytenbeeks' work on Gidabal, and Livingstone's more generalised Minyung. There is no need as a rule to specify the dialect quoted. In Minyung, there are said to be four classes of nouns, a masculine, whose adjective ends in -bin, a feminine using an ending -na-gan, a 'things' class in -njon, and a double set of animates and places using zero marking. For Gidabal the description is more complicated. The adjectival endings are easier to use in this connection. The Geytenbeeks state that with adjectives the endings are optional, with certain limiting cases in

1This etymology for the ending is open to doubt; it seems to be a form of an early Australian *-gallg, a group of people*. There is discussion of the matter in the section on the origin and spread of Australian languages in the earlier part of this volume.
which they do not occur at all. There are four classes:

-\textit{gali} masculine
-\textit{gali, gan} feminine (normal quality)
-\textit{gan} weaker quality feminine
-\textit{Ca:gan} feminine, adjectives of size
-\textit{Ca:n} arboreal
-\textit{gay} neuter

This list differs from Livingstone's considerably. 'Size' adjectives consist of four words only, one of which will serve to illustrate the actual usage, i.e. \textit{gamay, big}, which shows \textit{gamay-gali, big (man)}; \textit{gamay-nja-gan, big (woman)}; \textit{gama-nja:n, big (tree)}; \textit{gamay-gay, big (neuter)}; \textit{gama-nja-nbil, big (trees - arboreal plural)}. This system differs considerably from those of the northern languages and is clearly based on different premises from theirs. The marking of plurals by different suffixes is only one point amongst a number. Case endings (including ergative) are added to the first of a set of units in a noun phrase, e.g. the example given, \textit{gada\-mir-u bulunj-dju, hard plur.-with clay lumps-with, i.e. with hard clay lumps}.

In Gi dadal there are other suffixes with class nouns but not in the same way as these; there is, for instance, \textit{-gir, class of, e.g. gawan-gir, mother's brother class of person; wulun-gir, teenage gir class, a teenage girl}. This suffix occurs only with human kin terms. Some of the variants in Livingstone's list seem to be accounted for as parts of this system of semantic suffixes, which are disregarded here. Plural number is indicated in Bandjalong in a way quite different from those seen in the northern languages: \textit{-man} is suffixed to words for \textit{boy and girl}; \textit{-dja}ll to words for \textit{man and woman}, while 'other human status nouns' take \textit{-girmam}, most other animate nouns either \textit{-gen} or \textit{-gara}, trees and a few place words \textit{-nbil}, and other place words, some foods and animals \textit{-mir}. Obviously there are completely different premises behind these languages and those of North Australia. The latter is a relatively homogeneous group, at least in principle; these of the east coast are not historically related to them.

The optional nature of the suffixes is stressed also by Livingstone, who says: 'Adjectives generally agree in termination with the nouns

\(^1\text{C-} \) indicates a variable form preceding.
they qualify; but it should be noticed that they do not follow any hard and fast rule. The suffix may be dropped from the adjective; more frequently it is dropped from the noun and retained with the adjective; and rarely, when the sentence can be understood without it, it is dropped from them both' (Threlkeld 1892:Appendix p. 11). This, again, is in complete opposition with the North Australian languages. It rather suggests that the historical basis of this system is a number of free forms which have lost status first of all on the phonological level of stress, and then on the semantic level as well.

This suggestion gains strength from the next remarks of Livingstone, 'On the other hand, this rule is carried out to an extent that surprises us. For instance, nubuŋ and nubugan mean husband and wife, but the longer form of nubuŋ-gan is nubuŋ-djar-gan. Now, Kibbin-baia means Kibbin has, and to say Kibbin has a wife would generally be Gibin-baja-gan nubuŋ-djar-gan. Again, bura djin ɲayabaya mia would mean take the speck out of my eye; where ɲaya-baya and mia agree in termination, yet mia has the shorter non-life form and ɲaya-baŋa has the longer life form'.

It is obvious that a system different from those of North Australia is present here. Firstly, the class markers are stem-final, not stem-initial. Secondly, they are often omitted altogether. Again, other suffixes may be added after them, until the whole word pattern becomes one of a not always quite simple agglutination. This last fact suggests that in this area of Australia, the class marking is almost an afterthought, at least, not a true part of the essential structure of the language. There is an unmarked class, that of the general neuter, and this covers a wider semantic field than the corresponding class does in the north. In the northern regions, moreover it is never the neuter class (so far as there is one) that is unmarked. It is therefore to be presumed that class marking is a development of comparatively later date, and that originally these languages did not have it. Some of them developed a feminine, -gan, and this is found in Gabigab and a few other languages outside Bandjalang. The suggestion is that Bandjalang dialects first become dual classifying, then further distinctions were made. At first there was lack of marking, then females were picked out for marking, and then in Bandjalong alone, further subdivisions were made.

The lack of concord in many instances also suggests a later development of a marking system, which is only imperfectly developed.

1Livingstone's spellings here have been adjusted to those of this work.
In the neighbouring languages such as Gabigabi and Durabal, there is no concord even when the feminine ending occurs. In Durabal for instance, that man and that woman are wunmal dagay and wunmal djandal respectively, omitting the 'locational' question of where they are in regard to the speaker. In Bandjalong the phrases would be gile baygal and gile:gan dubay.

Again, Bandjalong adjectives display much uncertainty about their form in the sentence. The Geytenbeeks (1971:20) speak of 'quality' adjectives and four - four only - 'size adjectives', which take somewhat different forms of suffix, and both groups subdivide the feminine class, giving the sets previously quoted here. Moreover, individual adjectives have individual idiosyncrasies: gamay, big, has a plural allomorph of the root, gamad:i:n, and no other adjective has such. Words for small (bidaq) and short (mul) use with masculine reference -galaq in preference to -gall without complete rejection of the former. On the semantic level, reduplication of the root is possible: guli-gali, active man, but guli:guli:li-gali, fairly active man. Size adjectives take a feminine -Ca:gan (where C represents a morphophonemically changed consonant) which mul, short and dalgay, dry, share also in Classes III and IV, and the Geytenbeeks describe the difference by 'galigan, Fem. (normal quality) and -gan, Fem. (weaker quality)'. All this makes one feel that the entire system is not really at home in Bandjalong, and is a local development of perhaps relatively late date. This, of course, can only be speculation, but the facts do strongly suggest it, and there is no reason to count these languages as historically part of the 'multiple-classifying' languages of Australia as a whole.

The impression that a local cause has been at work here is strengthened when comparison is made with the Gumbainggar language immediately to the south of Bandjalong. Smythe's grammar (Smythe 1952:156-7) rejects the term 'noun classes' for certain differences in Gumbainggar words, and prefers to speak of 'noun categories', of which, he says, there are nine, marked by endings. Some of these endings are found also in the Geytenbeeks' lists of noun-markers for Bandjalong, and not all of them have been accepted here as 'class' markers. Thus the social 'section' called wirungga has a feminine wir-gan-na; garbungga has gar-gan-na; and in both cases -gan- marks the female members of the class. Other terminations have formal correspondences in Bandjalong but the uses are different. There has been a tendency to 'classify' in these areas but 'noun-classes' as such have generally not developed. In point of fact there are instances of the feminine
ending -gan as far south as Awaba about Lake Macquarie, Newcastle district, but in all instances only on the coastal side of the Dividing Range. Examples are seen in yi'nal, son, yi'nal-gan, daughter; boribay, husband, bori-gan-bay, wide. The suffixed -bay occurs also in blyaqbay, father, but is not explained, and the vocative of this is blyaq. It does not appear even in the related languages, Darginjung or the remains of the Guringgay language, and this is remarkable, because these are hardly more than dialects of the Awaba. Nor does it appear in Dharug or Iyora (Sydney).

Awaba does contain a system of noun classification that has not hitherto been remarked on. It is both complex and unique in Australia in that it is based on principles different from those found in the other languages, even the Bandjalang group. It is therefore justifiable to deal with it at some length here, and to give the analysis that came to light in the preparation of this paper.

The Awaba system of classification depends on the case suffixes, and comes to light only in the processes of declension. First of all, there are two sets of case endings, one of which is added to proper nouns and to pronouns. The other is common to all other types of nouns, but certain particles are used between stem and suffix which varies according to a system that can only be called noun classification. In this way the surface form of the noun becomes N + C1 + c, where N = noun, C1 = class and c = case. There is no inflection for number in the noun as such. Apart from proper nouns and pronouns, nouns can be dichotomised into those that take the suffixes direct and those that interpose a class marker. The feature of masculine and feminine pronouns was mentioned in the opening section of this paper, and on a superficial view Awaba is simply one of the languages in which a masculine-feminine division is recognised, at least as far as pronouns are concerned. Nouns can be classified into six groups, one of which has a zero marker (Ø), but the markers are not permanently attached to one particular noun: a man can be 'personal animate' and so the marker -gin- is used with the word guRi, man; or he can be a place of origin of an action and then the marker is -ga-. The same facts apply also to pronouns and proper nouns. The 1st person singular pronoun ŋaduwa, I, has an oblique base emowuŋ: emowuŋ-ga-duwa is by me as, e.g. a place to sit; emowuŋ-gin-biruŋ is from me as a personal source of action; and similarly, guRi-gin-gu, to the man as a person; guRi-ga-gu, to the man as a place reached, i.e. allative case. Threlkeld (1892) gives as examples: governor-umba-baŋ, I am the governor's (man); governor-gay-gal baŋ, I belong to the governor's place; muruRaŋ-gu-ba guRi-gu-ba,
belonging to a good man (something unspecified, with but a genitive-dative marker -gu [the common Australian form] plus a -ba of location, as in the name Awa-ba, a plain surface with accent on the first syllable). Other suffixes can then be added, e.g. Awa-ba-gal-in-du, Awa-place-inhabitant-feminine-ergative in the normal manner of agglutinative languages.

The above classes can then be formalised as follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>Formative</th>
</tr>
</thead>
<tbody>
<tr>
<td>proper noun or pronoun</td>
<td>-um-</td>
</tr>
<tr>
<td>personal</td>
<td>-gin-</td>
</tr>
<tr>
<td>animate</td>
<td>-la-</td>
</tr>
<tr>
<td>people or place</td>
<td>-gal- (masc.)</td>
</tr>
<tr>
<td></td>
<td>-gal-in (fem.)</td>
</tr>
<tr>
<td>location or time</td>
<td>-gay-</td>
</tr>
<tr>
<td>unspecified</td>
<td>-∅-</td>
</tr>
</tbody>
</table>

There can be crossing from one to another or combination of two, e.g. buŋ, today, buŋ-gay-gal, belonging to today (as though today were the inhabitant of something); njugu-wuŋ-gin-gu, him-of-person-to, to him (allative). The complexities possible cannot be illustrated here.

Case forms themselves also are complicated, and there are numbers of morphophonemic modifications. The ergative starts from -*lu as in most parts of Australia, but takes on forms such as -lu, -(r)u, -gu, -du. The dative -gu can be combined with -ba (place where) to form -guba, 'possessive' and -guwa, 'accompanyive'; -gay is not only used alone but combined as -ga-ba (associative), -ga-biruŋ (ablative), -ga-gu (allative) and other shapes. There is also a -din which is causative but not ergative, while personal nouns use -nuŋ as accusative and dative marker, and -um-ba as possessive. The full analysis of this system will, it is hoped, be published later. Languages north and south of Awaba have not developed such elaborate nominal forms.

9. A HISTORICAL VIEW OF NOUN CLASSIFICATION
9.1. Introduction

At this point the thoughtful student will ask how the present processes of noun classification in various parts of Australia came about. That question cannot be answered apart from the entire history of language within the Continent, and this is not known. In fact,
time depths considered, it is doubtful whether it can ever be properly answered. What follows is an attempt to reach a logical answer which however, will still lack documentary historical proof.

The present situation is statable as follows: (a) In various parts of Australia there are languages which classify nouns in a number of different ways. (b) These areas are not continuous. It seems, then, either that they developed separately and have no historical connection with each other, or that they developed in one area and spread. (c) In the latter case their present separation is due to subsequent movements of other types of languages, which have broken a formerly continuous sequence. But on the other hand such an argument is not necessary. A similar principle may have come into use discontinuously: there are other examples in the world of such happenings. Each of these theories will be taken into account, though each may not be argued in full.

The present noun classing systems fall into a number of types:

1. Multiple classification, i.e. a number of classes greater than two, and involving concord between the noun and all other parts of the utterance logically dependent upon it.

2. A similar system, but involving only two classes, which can sometimes be regarded as a masculine-feminine division, or a feminine-non-feminine division, only the feminine being marked.

3. Each of these types of classification may be either prefixal or suffixal. The regions in which each type occurs show no logical determination: the Northern Kimberley languages are multiple-classing by prefixation, the Eastern Kimberley dual-classing by suffixing, while east of these, in Arnhem Land, multiple classifying by prefixation prevails, with an enclave of dual classification by prefixing at two points on the north coast, and multiple classifying by suffix to the south and south-east of the area. There seems to be complete geographical confusion.

4. In coastal New South Wales (with a corner of Queensland) there is multiple classification by suffix, but the actual forms and even the principles of classification do not show any apparent connection with those of North Australia. In the central coastal area of New South Wales there is an example of multiple classification (in Awaba) based on seemingly entirely different root principles as well as different morphemes. Awaba, in fact, seems to be quite disparate and to be local in origin.
5. In the Cape York Peninsula region, there are languages which employ the system here called 'determinatives' to class nouns, and this is a logical, not a linguistic process at all in the strict sense: no morphology is involved, but only juxtaosition of a general and a specific noun. This may actually, in spite of appearances, provide a possible point of origin for the whole principle of classification.

These, then, are the basic facts as they appear today. The problem is now to arrange them historically, if it is possible to do so. At the same time, the identity or otherwise of the actual morphemes marking the various classes, must be considered, as any historical explanation depends finally on such an identity. The occurrence of a ma- (-ma) class almost everywhere - even in northern New South Wales - is an example of what is meant here.

In passing, it may be remarked that typological similarities between the Australian MC languages and Bantu are often very noticeable, but the differences in principle must not be overlooked (Capell 1951). The unclassified Burushaski language of north-western India also recalls the Australian types in many regards: but in all these cases there is no morphological overlap, so that historical connection is not to be presumed.

9.2. Characteristics of Classification Systems

While there are obviously considerable formal differences in the various systems by which classing is marked, these can be reduced to the undermentioned patterns:

Classification by
1. determinatives preposed concordant or or
2. deictic formants postposed dual or multiple
3. determiners non-concordant

The term 'determinatives' has been used earlier in this paper; the terms deictic formant and determiners need to be explained; this will come out of the idealised examples below.

The various types of classification can be exemplified by using an English example set in what seem to be the deep structures of the aboriginal expressions used in the various languages. If a type sentence I threw that long spear is set out in terms of the basic expressions lying behind the various aboriginal languages, the following four types will appear:
Type I: \textit{that-spear} \textit{that-long-one} \textit{that-one} \textit{that-I-threw}  
\begin{align*}
d + N & \quad n + A & \quad d + D & \quad d + S + V 
\end{align*}

Type II: \textit{spear-that} \textit{long-one-that} \textit{that(-that)} \textit{(that)-I-threw}  
\begin{align*}
N + d & \quad A + d & \quad D (\text{id}) & \quad (\text{id}) + S + V 
\end{align*}

Type III: \textit{S-spear} \textit{S-long-one} \textit{S-that} \textit{S-I-threw}  
\begin{align*}
F + N & \quad F + A & \quad F + D & \quad F + S + V 
\end{align*}

Type IV: \textit{spear-r} \textit{long-one-r} \textit{that-r} \textit{I-threw-r}  
\begin{align*}
N + F & \quad A + F & \quad D + F & \quad S + V + F 
\end{align*}

The symbols used in the diagram are:

\begin{itemize}
\item \texttt{d} = deictic; prefixed if preceding, suffixed if following;
\item \texttt{F} = deictic formant, similarly prefixed or suffixed.
\end{itemize}

It is doubtful whether Type IV occurs in Australia; it is, however, a theoretical possibility which must be allowed for in setting out a pattern. The diagram itself provides for full concord; the languages do not always have such concord, but parts of it are present in almost all cases except those of New South Wales-southern Queensland.

The Djirbal pattern is unique in that only the demonstrative is affected. The possible historical setting of this fact will be dealt with at a later point. For the moment it is enough to set out a diagram of what can happen. When this is correlated with what does happen in various parts of the continent, it will be possible to study also possible historical sequences and developments.

The terms used in abbreviations need a little further definition. Although 'determinatives' were defined in the earliest section of this paper, a little more clarity may perhaps not be out of place. As there stated, the word is derived from the use made of it by Egyptologists and Assyriologists. By them it is applied to the written language, not to the spoken. In Sumerian, for instance the determinatives placed before a sign were actually (in the earliest times) pronounced before it. One writer has compared such a sign with the 'St' used in English before, e.g. 'St Paul' - to signify just which Paul is spoken of. Those instanced in the Cape York languages are all of this kind, and so it seems a suitable term for such compounded words as were illustrated above from those languages. The use of determinatives of this kind involves no grammatical concord. If, however, they are to be regarded as precursors of the prefixal concord-markers in other languages, it would be necessary to assume a period in which the determinative actually was repeated aloud before each
element of the utterance. There is no evidence whatever for this, so that determinatives must rather be looked upon as *sui generis* and not as a historical part of the multiple-class developments. They would be more closely akin to the suffixed determiners used in the Bandjalang and Awaba types of language, e.g. Awaba *emowumba-gin-gu*, *my person-to, to me*; *emowumba-ga-gu*, *my place-to, to me*.

This interpretation would then serve to set off the Cape York languages from the others, connecting them possibly with those of eastern New South Wales. This is possible, because there is considerable lexical agreement between the two groups - a feature which does not come out in the present paper.

On the other hand, there has clearly been usage of the determinative type elsewhere than in Cape York - but of deictics, not of noun forms, for the whole 'concord' principle in Australia seems to rest on the use of deictic determinatives before (or after) each item to which the idea applies, and the multiple-classifying language seems to have come into being through some such process.

9.3. Stages in the Development of Class Marking

This is an instance where internal reconstruction is the only means available to establish the history of a phenomenon. The outcome of such an internal examination points to classification of nouns as a relatively late phenomenon, and to the development of concord as later still.

In ergative languages, the class marker tends to be declined as a separate element from the marker, i.e. in such a language as Yanjuwa, the vowel of the marker assumes an ergative case form as does the noun stem. This implies that the ergative process was already functioning when noun classification appeared. Noun classification is therefore historically later than ergativity, and as this seems to be later than non-ergativity, the historical sequence must be: non-ergative : ergative : classification. This applies, of course, only to classification of nouns; that of verbs is an independent occurrence.

Another fact that suggests that classification is relatively late, is that CA roots have been involved in the process, and these represent a secondary stratum of Australian language. For example, in the Northern Kimberley languages, the root for *man*, CA *badu* has developed into *bendjin* in the north (*endjin* in one area), plural *bir-endjin*. In the south, Ngarinjin has developed *aru*, a later formation. In the northern languages, the Cl. I prefix is *b-*; while in Ngarinjin it is *a-* . The relative sequences are clear. In both cases, Cl. III prefix
**TYPOLOGICAL DIAGRAM OF NOUN CLASSIFICATION IN AUSTRALIAN LANGUAGES**

**GROUP OR STAGE:**
A. No recognition of Gender or Class.
B. Mascs./Fem. (a) pronoun only, (b) NP also.
C. Classification-concord System.

**C. CLASSIFICATORY LANGUAGES**

<table>
<thead>
<tr>
<th>Location</th>
<th>Determinatives</th>
<th>Dual Classification</th>
<th>Suffixing</th>
<th>Prefixing</th>
<th>Noun Classes</th>
<th>Demonstratives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape York</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daly River Group A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern North Kimberley-Laraglya</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern North Kimberley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nth. Arnhem Land: Gagadju</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Gunwinjgu Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Arnhem Land: Nunggubuyu-Anindilyawngwa</td>
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<tr>
<td>Yanyuma</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Multiple Classes</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North:</td>
<td>Djingilli</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Wambaya, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East:</td>
<td>Bandjalang</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Awaba</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N.E. Queensland:</td>
<td>Djirbal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MORPHEMES EMPLOYED**

<table>
<thead>
<tr>
<th>Class</th>
<th>Djingilli Nominative</th>
<th>Djingilli Ergative</th>
<th>Wambaya Nominative</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>-a, -i, -r, -l</td>
<td>-ga, -da, -la</td>
<td>-yi</td>
</tr>
<tr>
<td>II</td>
<td>-qi, -qa</td>
<td>-ga, -ga, -ga</td>
<td>-na</td>
</tr>
<tr>
<td>III</td>
<td>-wu, -i, -c, -r</td>
<td>-u, -i, -a, -c</td>
<td>-(wa)</td>
</tr>
<tr>
<td>IV</td>
<td>-mi, -bi</td>
<td>-ma, -ba</td>
<td>-(u)ma</td>
</tr>
</tbody>
</table>

**BANDJALONG:**
- *gai*: masculine
- *gai-gan*: feminine (normal)
- *gan*: feminine (lesser)
- *ca:gan*: feminine, adjectives of size
- *ca:n*: arboreal
- *gay*: neuter

**AWABA:**
- *wa*: proper noun and pronoun
- *gin*: personal
- *ja*: animate
- *gai:i-n*: people of place (m and f)
- *gay*: place or time
- *g*: unspecified

**DEMONSTRATIVES:**
- Masc. *yi*, Fem. *n*, Veg. *m*, Neutral *g*

**TABLE OF NOUN CLASSES**

<table>
<thead>
<tr>
<th>Language</th>
<th>Masc.</th>
<th>Fem.</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gunawardji</td>
<td><em>g</em></td>
<td><em>nja</em>,  <em>nji</em></td>
<td><em>bira</em> *, <em>bara</em></td>
</tr>
<tr>
<td>Ngarra</td>
<td><em>g</em></td>
<td><em>nja</em></td>
<td><em>nja</em></td>
</tr>
<tr>
<td>Alawa</td>
<td><em>g</em></td>
<td><em>an</em></td>
<td><em>yil</em></td>
</tr>
<tr>
<td>Mangaray</td>
<td><em>ni</em></td>
<td><em>gali</em></td>
<td><em>nja</em></td>
</tr>
<tr>
<td>Tiwi</td>
<td><em>n</em></td>
<td><em>g</em></td>
<td><em>w</em></td>
</tr>
<tr>
<td>East Kimberley</td>
<td></td>
<td><em>n</em></td>
<td><em>m</em></td>
</tr>
</tbody>
</table>
is blr-, giving FR blr-endjin but Ngar. irregularly buR-uRu. The NK languages were in essentials developed (without classification, presumably) when the change of structure came about.

Again, where CA words appear in the classifying languages - in many the percentage is rather low - they are not always treated the same way as regards classification. The same applies to widespread EA words occurring in these northern languages. For example, *maRa, eye, light, seems to be at the base of Worora maRa-ma, light; Ngarinjin maRa. These are Cl. V, as though the stem were *ma-Ra. Worora has suffixed the marker: ma-Ra-ma, as though the initial ma- of Cl. V had been mistakenly supposed to be present in a non-root *-Ra- > *ma-Ra-ma. Ngarinjin does not suffix markers, so the base remains maRa > *ma-Ra. In Laragiya, however, the base was classed differently, giving da-maRa, eye. Even local roots are sometimes treated in a similar way. A word common in the Fitzroy Basin, djiridj, magpie lark, has been borrowed into Laragiya as djirjdjiridba, Cl. I as non-human animate. In some cases, transference of idea may take place without change of class where it might well be expected, e.g. Laragiya da-mbar-gwa, (1) tooth; (2) knife edge.

9.3.1. The Free Forms called Determinatives

It needs no argument to suggest that the earliest type of classification in Australia is represented in the free forms, generic nouns preceding specific nouns, which have been called above 'determinatives'. Such a device for classing nouns is by no means limited to Australia. It is very widely used in the languages of South East Asia, to mention only one group. So it will be taken for granted here that such a practice represents the first stage of classification in Australia, so far as historical processes can be established at the present time. The historical problem is how to account for the transition from determinatives to determiners.

The Daly River languages (5.5. above) are the first to be considered in this setting.

The probable stage of development from the use of determinatives is presented by the main bulk of these languages, which use class markers before the noun - with some exceptions - and these are in most cases actually identical with the independent nouns. As one uses the Cape York N + N, so does one in this area of the Daly River. The pattern then becomes:

spear long that I threw
wood-spear wood-that wood-long I threw
The languages which are not of this type are the small dialect group Nos. 4, 4a, 5 and 6 in Table I. In these another principle appears which will be discussed below.

The analysis of this Table (Table 3) is as follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>Marker</th>
<th>Root in individual languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>te, awam matjem pinja</td>
<td>meat: te, awu, metjem, pinja</td>
</tr>
<tr>
<td>3</td>
<td>miyi</td>
<td>vegetable food: miyi</td>
</tr>
<tr>
<td>4</td>
<td>tjön, yili</td>
<td>tree: tjön, tjunu</td>
</tr>
<tr>
<td>5</td>
<td>ūr</td>
<td>tree: ūr (groups 4-7b)</td>
</tr>
<tr>
<td>6</td>
<td>wati, ma, wa</td>
<td>forms of CA *baduŋ, man. See below.</td>
</tr>
<tr>
<td>7</td>
<td>ūŋŋu, wur</td>
<td>(unidentified)</td>
</tr>
<tr>
<td>8</td>
<td>wur</td>
<td>wuwu, dog in 9 and 9a</td>
</tr>
</tbody>
</table>

As this list stands, therefore, it is just a case of putting a noun of general meaning before a noun of specific meaning, but with the difference that the first N is beginning to exhibit phonetic changes, and that not all belong to precisely the same language.

The forms in No. 6 for man are more remarkable. They just do not belong to the series: *baduŋ is part of the WD languages, and its usual modern form there is wadi. That is to say, that the Mara- languages are beginning to show true class prefixes, and these are derived from outside the Daly River area.

These Daly River languages thus show a clear step towards the development of class marking by prefix. At the moment, this is a typological matter, not a historical one. Whether it can also be read as historical remains still to be proved or disproved.

The matter of concord becomes of interest at this point, for one of the features of MC languages is usually a more or less elaborate concord between the noun and its dependent elements. But this is not always the case.

Tryon summarises the Daly River languages as follows:
See Tryon 1974:294, and the whole paper for details. It is clear that there is no original unity in these languages as regards anything more than the fact that nouns are classed.

The further problem, of the interconnection of the morphemes used in various languages to mark noun classes, depends on the possibility of identifying the markers and providing at least feasible original meanings for them. Can this be done?

The Table following (Table 4) shows the actual prefixes occurring in the different language groups. It should be noted at this stage, that in some cases, prefixes occur in one language with a certain set of nouns - a limited set only - which are not normal components of the language as a whole. Laragiya kinship terms sometimes distinguish sex by the use of prefixes ni- and ṭal- for males and females respectively, but as normal markers of sex these are found only in the Gunwinjgu group, while Laragiya usually does not distinguish sex but uses a prefix b- for animate, like the m(u)- of the African Bantu languages.

In Laragiya, son (m.s.) is ni-mar, daughter ṭal-mar; nu-wag is younger brother, while ṭal-ag is younger sister (w- being simply a glide); nu-gunji, sister’s son (m.s.), and ṭal-gunji, sister’s daughter. This can hardly be accidental. Moreover, in Gunwinjgu, only monosyllabic nouns appear to take the masculine prefix at all (e.g. bininj, man, rather than na-binin, as against gun-djem, tooth). What the exact history in these phenomena is lies outside the present scope and perhaps even possibility of knowing, but the facts need to be borne in mind.
9.3.2. The History of the 'Determiners'

It is presumable that these forms here called 'determiners' began life as free forms. It might appear that they, being descriptives, would have a closer connection with deictics than with other categories, but the most clearly distinguishable of them, -m or m-, for vegetable food, points back to a noun, *mayi which in various shapes is still in use. Certainly deictics were used, and in some languages their influence is very clear, so that must be rejected out of hand. It can still be assumed that as a rule, suffixed markers represent an older word order N + D, i.e. noun follows deictic, and prefixed markers and order D + N, i.e. deictic followed by noun. What then of the reduplicated forms, simultaneous prefix and suffix of some language, built on the pattern det + N + det? This double ordering seems to point back to an ordering of the deictic for which there is very little evidence anywhere in Australia. It would seem to entail some original mistake. The commonest occurrence of deictics in normal Australian languages is after the noun. This would suggest that the N + N is the older pattern, leading to suffixed determiners when this stage was reached. When the further stage was reached that origin of the determiners had been forgotten (as, e.g. the fact that -m or m- stood for *mayi) and emphasis was needed as against generalisation, then the determiner began to be repeated for emphasis after the noun, through a probably brief stage when the deictic, in its required class, was used before the noun, in its required class marked by suffix. This is the intention behind the diagrammatisation as Type IV, *this-F spear-F long-one-F this-F, in formula

\[(d) + [N + F] + [A + F] [d + P].\]

It may be suitable to take Djirbal as a starting point (without any historical implications). Here there is distinction between male and female (the latter including other items which probably have mythological connections), vegetable foods (-m) and a general group including all other items, marked by φ. This zero class belongs to a time when classing was not practised at all in Djirbal; the distinctive markers belong to the period in which classing took place. The male class received most distinction (as might be expected in an Aboriginal society), and the root forms of the marker were changed, the second syllable being lost, and a substitution made for it. This substitution was -yi, which itself appears as a masculine marker in one area of Arnhem Land. The vegetable food was marked by -m which clearly represents *mayi, and points back to the system of determinatives.
already discussed. The marking by -n takes in the feminine and other
groups that seem to be interrelated. The three distance markers work
on similar lines and may be tabulated as:

- bala → bala(yi) - bala-n - bala-m
- ginja → ginja(yi) - ginja-n - ginja-m
- ḡala → ḡala(yi) - ḡala-n - ḡala-m

These sets then present a consistent pattern. They began with
distinction between masculine and feminine (a dual classification) as
against all others, which were zero-marked (bala-, ginja-, ḡala-).
Next for this language came a setting apart of vegetable foods, marked
by the initial m- of *mayi.

Although this is a purely logical analysis, it may suggest itself
as very likely also a historical analysis of the development which
took place in this part of Australia. Is it possible that similar
states of development are represented by the other languages as well,
i.e. that dual classification preceded multiple and that multiple
classification came last of all?

These suggestions need testing against the languages. Do any of
the other groups suggest a similar development from zero classing,
through dual, to multiple, the latter capable of indefinite expansion
(if the languages had chosen to carry on such subdivision as it was
carried on, for instance, outside Australia, in Nauru and Bougainville,
to mention only two)?

The answer seems to be only a very limited assent. In the Eastern
Kimberley languages it is a negative answer, for these have a
masculine ending -n, a feminine -l, with a common plural -m. The mark-
ing of a plural is unusual in Australia. The multiple classifying
languages mark a plural only for rational animates, and usually it is
a form of -biri. Research published elsewhere\(^1\) shows that a plural in
-r(a) is characteristic of certain areas in Australian pronouns, and
has nothing to do with the formations now under study. The -*bira* or
*bira* forms, whether prefixed or suffixed, can be ruled out; those in
-m have no parallel elsewhere at all. The Tiwi language has masculine
-ni (which fits another pattern, but not the Djirbal), feminine -ga,
also different, and plural -wi, which belongs to the -*bira* tradition.
The answer would seem to be that the Djirbal series is not a universal
model, even as a theoretical reconstruction, let alone a historical

\(^1\)See general paper on the Australian languages in this volume.
precedent. Yet the vegetable class in -m < *mayi does stand. It is needful, then, to look for correlates to the other common class forms. Table 4 presents the commonest markers of the various classes found in MC languages. They appear to have originated in a number of centres, not in any one, and represent the clothing of a principle in forms which differed from region to region.

If it is true that -m, m- stands for *mayi, were all the prefixes/suffixes originally independent semantemes? This is not easy to prove, because there is so much variety among them, and at the best they could have been only of local validity. It has appeared that the EA root *baduŋ, man, can account for the Cl. I prefix b in Laragiya and becoming *aRu and also *aRi in Ngarinjin, for the Cl. I a- of that language. In Worora the prefix i- could easily point back to indja *baduŋ in precisely the same way.

9.3.3. Stages of Noun-classing

Certain features of some of the languages involved in the present study suggest that what are now bound prefixes were once free forms preceding the noun. Yanjuwa (5.3.1.) is one of the languages in which this feature is clearest, for in Yanjuwa the class prefix to the noun varies for case. A prefix whose vowel is -a- changes this to -u- in the ergative form, while still adding the ergative suffix -*lu to the noun as well. It is clear that the prefix was only a free form preceding the noun, and that it agreed in case with the noun to which it belonged. Thus Kirton (1971:39) gives the prefix sets:

<table>
<thead>
<tr>
<th></th>
<th>Class 5</th>
<th>Class 6</th>
<th>Class 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>nuclear</td>
<td>ma-</td>
<td>na-</td>
<td>naŋu-</td>
</tr>
<tr>
<td>referent</td>
<td>mu-</td>
<td>nu-</td>
<td>nuŋaŋu-</td>
</tr>
<tr>
<td>directive/accessory</td>
<td>muŋu-</td>
<td>nuŋu-</td>
<td>nuŋaŋu-</td>
</tr>
</tbody>
</table>

as specimens of prefix changes, the corresponding suffixes to the same nouns being -∅, -wu, -lu/-la respectively. Uses such as these suggest very clearly an original independence of what are now prefixes.

If it is now asked, what free forms would originally have stood before the nouns, the answer is either an article or a demonstrative.
Of these two, for Australian languages the demonstrative is the more likely choice. So the theory accepted here is that the present class markers in the languages that now prefix them were originally demonstratives preceding the noun.

Yet some of the languages suffix class markers. This would suggest that in the earlier stages of these languages the demonstratives followed their nouns. Given the originally rather free word order of Australian languages - still preserved in many of them - there is no difficulty in this suggestion. There is therefore no difference in principle between the prefixing and the suffixing of class markers. Details will have to be discussed infra in regard to individual languages and forms, but the principle is hardly controvertible.

There are languages in which the class markers are simultaneously prefixed and suffixed. These would seem to point back to the expression of the demonstrative both before and after the noun. This is less to be expected, but there are indications to be discussed later that some such process actually did take place. The phenomenon of 'class crossing' seems to point in this direction. Laragiya is one of the languages in which such events can take place, and Mawng is another.

Can anything be said about the forms of the demonstratives that were originally used? Their forms and their nature need to be studied together, because form and meaning naturally go together: if there is no meaning to be expressed no form is needed. The first question will then be: what noun classes are 'original' in a given area; then - where did they come from? What are the principles of classification at work? The forms will naturally follow the meanings they are intended to express. Some of the languages give clearer indications than others. The Daly River languages are 'primitive' in this sense and in some cases it is easy to see that the class prefix is an abbreviation of an independent noun. The Cl. V prefix ma- which generally refers to vegetable foods (amongst other things), is clearly linkable with the root *mayi, vegetable food. Its application to such things in the abbreviated form of a prefix or suffix is reasonable: the only problem arises as to the 'other things' subsumed into such a class.

It is desirable to make distinction between classifying languages as such and gender marking languages. In the former there is no differentiation of masculine and feminine: one prefix marks human beings of either sex. Bantu languages are classifying in this sense. In Australia such languages are limited to the extreme north of the Northern Kimberley district and to Laragiya; all other languages are gender languages: Lamalama, Djirbal, the east coast languages, all the dual classifying languages.
It is suggested that dual classification represents the earliest stage of the process under study. Beginning as demarking sex of living beings, it subsumes finally all existence under one of the two groups. It is a sort of linguistic dual organisation. Schmidt, following the Culture Circle philosophy, tried to work out links between such social phenomena and linguistic phenomena. There is no intention here to do such a thing: on the contrary, the areas of dual organisation in society and in language do not coincide. Actually two different discussions have to go on side by side; one is concerned with the principles of classification in a language, the other the formal means by which the classification is made. Multiple classifying languages and dual classifying languages may both be either prefixing or suffixing.

Masculine and feminine distinctions are the chief marks of the DC languages, especially those which suffix. In some cases these are 'natural', i.e. males are masculine, females are feminine; in others they are 'grammatical' as in Romance languages in Europe. This is another crossing of principles which occurs in apparent irregularity in Australia. Even in DC languages in which classing is grammatical, there is no necessary agreement in the morphemes used for each marker.

Other types of distinctions than M and F seem clearly to have begun by the marking of a non-human/human, rather, perhaps than inanimate/animate, because the assignment of the non-human animates still presents much variety in the various languages. The non-human will include the animals. The latter are marked in CY by the determinative miŋ, where as the inanimate marker *may is not only CY but universal wherever such marking takes place at all. Obviously food was a first necessity: *may is the most important concept in Aboriginal – or any – life. So the beginnings of a four-class system appear: masculine, feminine, food, remainder. In some cases it was a three-class system that developed: human, animal, remainder.

Let the remainder first be called 'neuter', without implying that this means 'lifeless'. Neuter might be subclassified, and in Arnhem Land this took place in a number of ways, varying from region to region. In one area tools were picked out for special mention, as in Forrest River, where n- became the marker for artifacts of human origin and, indeed, in the case of waŋa, honey, insect manufacture, but of high value to man. In another region reference to the earth was picked out for marking, as in Mawng and the Gunwinjgu group, Rose River and Groote Eylandt. All these less common cases are scattered.
The animal world would probably be classified first according to the sex of the animal. This was usually done by separate words for each, as items in a landscape, not by any theoretical taxonomy. Such taxonomy, when it occurred implied contact, knowledge and a certain special importance. In Forrest River a became the sign of the animal class, which was regarded as indeed animate, but not human. In this class the clearly animate spirit world was included for that also is non-human. So a spirit (FR djuwarri) came to take the a-concord: djuwari a njinga, this spirit. The same thing happened in some Bantu languages. The prefix a seems to be an abraded form of Ra- of the SE languages (Nunggubuyu and Anindiljawgwa).

The chief difficulty that arises in connection with noun class prefixes is not the variety of morphemes, but the variety in the semantic fields which they denote. It is more than possible that the latter variety arises from the falling together of originally separate prefixes into homonyms through phonetic or other types of change during the lifetimes of the languages. One outstanding example of this is the prefix ma-.

This prefix is the only one which occurs in all the languages under consideration, without exception. Reference to the Table (5) will show that it is universal. But its semantic field is not the same in all. Generally it refers to vegetable food, but in parts of Arnhem Land and the north in general it refers to ground or water - in some cases to objects connected with ground or water, in others only to objects connected with the water. The former subgroup is exemplified in the Gunwinjgu group, the latter in the Rose River-Groote Eylandt group. The fact that in the Gunwinjgu group the prefix can in certain cases be man- instead of ma- is also worth noting.

Where ma- refers to foodstuffs, it can be traced to *mayi, vegetable food. But this does apply to cases such as Nungguburu ma-Raŋaq, canoe (as compared with a-Raŋaq, tree, wood). It is in these cases that the alternative man- seems to occur, as in Gunwinjgu man-gabo, a creek. There could then be an alternative root *man- to be traced - but for the fact that Gunwinjgu man-me is vegetable food. Harris (1969:17-18) says for Gunbalang that 'ma- occurs before retroflexed 'C', before 'C' followed by u, o, also before w, y; man- occurs elsewhere, the n conforming to initial nasal 'C' of stem'. However, her examples are ma-wayag, shadow, and man-dułum, mountain, neither of which refers to either food or water! Actually both are atypical references.

In Laycock's Lamalama there is a prefix mun- referring to starch foods such as mun-arem, lily root. It is interesting that he quotes
certain of his informants as translating these into English with a maya- prefix to the English word: maya-\-lily, etc. This means that they did not distinguish two groups, mun- (or man-) and maya (or mayi-). It would perhaps be possible that water plant and water itself have caused a cross between the two forms and meanings here.

9.3.4. Syntactic Factors in the Development

Two types of syntactic influence are seen in the development of the class markers which work by prefixation. The first has already been referred to: an ergative language tends to mark this factor in the changing shape of its prefixes for ergative and sometimes other cases. This means that the determiners now prefixed were once free forms - up to the time of the advent of ergativity into the languages. The most notable case of this is seen in Yanjuwa as described above (5.3.1.), for in Yanjuwa a class prefix may take on three forms. Kirton (1971:39) gives the prefix sets, of which three classes exhibit the following forms:

<table>
<thead>
<tr>
<th>Class</th>
<th>Class 5</th>
<th>Class 6</th>
<th>Class 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>nuclear</td>
<td>ma-</td>
<td>na-</td>
<td>na-nu-</td>
</tr>
<tr>
<td>referent</td>
<td>mu-</td>
<td>nu-</td>
<td>nu-nuwa-</td>
</tr>
<tr>
<td>directive/accessory</td>
<td>mu-gum-</td>
<td>nu-gum-</td>
<td>nu-gum-</td>
</tr>
</tbody>
</table>

The names of the cases are hers, and their meaning does not matter at the moment. At the same time the nouns themselves take as case affixes -\(\check{\alpha}\), -wu and -li/-la respectively.

That these markers were then free forms preceding the noun is clear. What would they have been? Either articles or demonstratives would be likely to occupy such a position. For Australian languages a demonstrative is the more likely choice. So the theory here accepted is that the present class markers began life in the present prefixing languages as demonstratives preceding the noun. This does not rule out the possibility that they were earlier nouns - determinatives - later reduced to demonstrative function. This is precisely what the determinatives in CY and Daly languages are doing now. As nouns they are secondary, of only general meaning. It has been shown earlier how the process of degradation is suggested by the present-day uses in Djirbal.
Another syntactic problem, however, arises from the fact that some languages are suffixing. This would suggest that at some stage the embryo class markers – nouns becoming demonstratives – followed the radical noun. Given the originally free word order of Australian languages – still preserved in many of them – there is no difficulty in this suggestion. The case of simultaneous prefix and suffix \((p + R + s)\) is a little more difficult, but the suggestion made above that this represents a more or less 'cockney' emphasis being given to the noun by the repetition of the determinative still seems reasonable. A case could be made out for suffixing being earlier than prefixing, and the example given in Djirbal of a hypothetical *bala-m mayl gun-\(\text{b\text{a}\text{Ra}}\) points in this direction. This will account for suffixing (*bala-m *bala mayl) and *mayl gunun\(\text{b\text{a}\text{Ra}}\) for prefixation. The not uncommon linguistic phenomenon of contamination can account for doubling in reverse order. There is the possibility of a demonstrative being repeated after the noun as well as being used before it: in Djirbal terms, *mayl gunun\(\text{b\text{a}\text{Ra}}\) – mayl, as was mentioned above. It is possible and no decision can be made between the two processes, in view of the absence of diachronic material. The double process is commonest in the NK area: Worora and Unggumi both show instances of it on a considerable scale.

The resultant arrangement in terms of number of classes per language and their types and remarks on them appears in Table 6. The 'types' referred to are those of the theoretical English example used in 9.2. The added Type 5 consists of the determinatives in the Daly languages.

The preceding section has dealt chiefly with prefixation. But there is also suffixation, and suffixation is the most usual grammatical process in Australian languages. The smaller group of prefixing languages does not seem to represent a genetic subdivision but something developed apart, based finally on syntactic factors. The suffixing class languages seem to belong to another movement of language, from different areas or times – or both. Many of its members have a considerable share of the CA vocabulary and some kind of EA vocabulary too, but the two contents together seem to be small, and much of the word-store of such languages seems to be idiosyncractic. In general, as remarked at the very beginning of this paper, Australian languages do not distinguish between male and female beings, much less show a division into grammatical masculine and feminine like the Romance languages. Where they do, the feminine is the marked class and the masculine unmarked.
The base type in Australia is therefore a language in which neither gender nor class is marked and where the oldest pronouns are singular only. Number marking seems to have come later, and there is more agreement about a dual indicator (usually *buladj, two) than about a plural. A trial is least uncommon, though not absent.

The first deviation in morphology from this type is the marking of the feminine third person singular pronoun. These have been discussed in (9.3.2.) above. The distinction is not always made in other than the singular number, even at this stage.

Number seems to have been left undefined at first. It will be suggested elsewhere that in Australian languages (as also apparently in Tasmanian), only singular pronouns at first existed - plural, dual and in some places trial (or paucal) were built up differently in different areas and at different times. There is a clear dichotomy between languages which mark a plural (or dual) by suffix, like other classes, and those that differentiate number from class by using a suffix for dual and plural number, even though it may be morphologically the same as the class prefix, biri- or -bira, apparently originally *bara.

In nearly every case number indication is limited to humans. A noun of the animate class does not mark plural unless it belongs to the subclass animate-human: man and woman can be pluralised but dog (if in this class) or spear (if Cl. I, as it often is) cannot.

Present day classing seems almost chaotic, apart from these very broad outlines. It cannot be thought that this has always been the case. Mythology has played a part: generally sun is feminine and moon is masculine because in Aboriginal mythology these are respectively woman and man. There are exceptions to this, e.g. Forrest River, where sun is Cl. VI (n-) like a manufactured article. Association also has played a part; frequently spear is masculine because it is the man's weapon; wommera, spear-thrower is the servant of the spear as woman is of the man, and so it becomes feminine. Remarks by J.R.B. Love in this connection among the Worora are enlightening (Love 1936: 44 ff.); on pp. 44-5 he has an interesting note on the assignment of classes to introduced objects, and the motives that lead to such an assignment. Phonology has also most probably played a part.

The idea of concord needs historical explanation also if such can be found. So do the forms of the concord markers, which are not always identical with those of the noun. The idea itself most likely sprang from an attempt to define references, and there is evidence that at first the markers used in concord were free forms. This is especially
### Table 6: Classes found in Australian Languages

<table>
<thead>
<tr>
<th>Language Type</th>
<th>Classes</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Kimberley as a whole</td>
<td>3</td>
<td>4-6</td>
</tr>
<tr>
<td>Arnhem Land - North: Laragiya</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Gagadju</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Urningangg )</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Mangeri )</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Gunwinjgu Group</td>
<td>3</td>
<td>5-6</td>
</tr>
<tr>
<td>South: Nunggubuyu</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Anindilyawgwa</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Wandarang</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Ngandi</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Ngalagan</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Yanjuwa</td>
<td>3</td>
<td>7*</td>
</tr>
<tr>
<td>Barkly Tablelands</td>
<td>4</td>
<td>4*</td>
</tr>
<tr>
<td>Djingili</td>
<td>4</td>
<td>4*</td>
</tr>
<tr>
<td>Wambaya, etc.</td>
<td>4</td>
<td>4*</td>
</tr>
<tr>
<td>Daly River</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Mulluk Group</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Brinken-Wogadj</td>
<td>5</td>
<td>4-7</td>
</tr>
<tr>
<td>South-West Isolates</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Nungali</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Wardaman</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Dual Classifying</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Tiwi</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Gunavidji</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Nagara</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Alawa</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Mangaray</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>East Kimberley</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>East Coast</td>
<td>4</td>
<td>4*</td>
</tr>
<tr>
<td>Bandjalong</td>
<td>4</td>
<td>4*</td>
</tr>
<tr>
<td>Awaba</td>
<td>4</td>
<td>6*</td>
</tr>
</tbody>
</table>

*Languages with this mark are ergative.
noticeable in Yanjuwa, where the class prefix changes to mark the case of the noun. Incidentally, this serves to suggest that class marking was later than the development of an ergative case, for this case shows itself in the prefixed class marker.

From the grammatical point of view, NCs are syntactic features rather than morphological, and the variation in number of classes and details of concord may be syntactic phenomena as much as semantic. They are attempts to connect in the speaker's mind the ideas that belong together. They are not elaborations which try to picture increasing details of thought on the speaker's part. Hence it is quite possible that variations found throughout Australia may be often of - so to speak - local manufacture. This truth would certainly apply to the distinctions of local forms in pronouns and demonstratives: similar processes have taken place in the Scandinavian languages though not in German or English.

For these reasons it may not be possible to do more than fix certain broad outlines of probable development - in the absence of diachronic information - which may show how the existing situations have come about psychologically rather than in terms of historical linguistics. It thus seems very likely that determinatives represent an early manner of gaining clarity of references in Australia, as in the Middle East; but there is no necessary connection between their appearance in the Cape York and about the Daly River. A distinction of two genders can well have developed in more than one area: the diversity of markers suggests this may be so.

Multiple classification is rather different. There are signs of a common origin of this process in the frequent agreement of morphemes marking the classes. But there is no reason to suggest that this was a spread from one centre at one time (more or less), as seems to be the case in the spread of CA languages, including perhaps the ergative case. Even here some of the ergative suffixes stand apart from the *-lu series and must be historically independent of it. The MC languages agree only partially in the distinctions they make. One may suppose transfer of a very few determinatives to the rank of determiners at first - the most outstanding features of landscape and the most important needs of human life will have affected the development. There would be a distinction between human and non-human; then within the non-human, between animate and inanimate. The relative importance of items of the non-human world will have had an effect - food and water for living, and among foods, animals of chase and other kinds of animal, and non-animal elements of the surroundings. Instruments and
tools may well be set apart, as they are in some languages.
Frequently the non-human groups seem to be regarded primarily from
point of origin - earth, water, etc. Body parts are so irregularly
classified that they do not seem to belong to early strata, except in
rare cases such as Lamalama, where they have their own prefix (-ar),
and even then they are not grouped under it. In Lamalama, Laycock's
'genital' class seems to be a further refinement of the body parts
class - and so on to varying degrees. This applied equally well to
the Bandjalong type on the east coast, while the Awaba classing seems
to be primarily social and not a classification of nature at all.

9.4. The East Coast Classifying Languages

The languages referred to here are Bandjalong and Awaba, and
incidentally a number of languages apparently related to these but
lacking classificatory systems. These languages are not only histori-
cally quite distinct from those of the north and north-west, but they
have used different original materials to construct their systems.
The main distinctive feature is a masculine classifier -gali, -gal,
and a feminine -gali:n. These two are found in the Sydney language
(generally called Iyora for lack of a true name).

This is an important and interesting early EA word. It is found in
its fullest in Victoria, but occurs in Central South Australia
(Arabana, etc.). In the form of -gal it forms a widespread ending of
tribal names: with phonetic variants such as -wa:l, -bal, it is found
in southern New South Wales, a number of regions of Queensland, and in
the Northern Kimberley in the name of the Wunambal tribe. It is
treated more fully as to its distribution in the general study of
Australian languages in another paper of this book. Here the treat-
ment is limited to the part it plays in these eastern central coast
languages.

The basic form of the suffix is -*gali:g. This ending is added to
words in the central and western Victorian languages to indicate trial
number or a paucal plural. It is one of the characteristics of these
languages, and has been the subject of a paper by L.A. Hercus (1966:
335-7). She shows that in Arabana it is still a trial: anirigari, we three; anirigari, we, limited by the addition of gari < *gali:g. She
then defines it as 'guli or gari meant a group of people sitting
together or associated with each other in some way'. People in general
in Wembawemba (Victoria) is bən, from *bən, a word already discussed
frequently in these pages.
In the east coast classifying languages, this root has become first of all gali, *male member of tribe*, then in Awaba has taken on the form gali:n, *female member of tribe*; in the north it has become gan by abbreviation, and so appears in Bandjalong as a feminine marker, there apparently with differentiation into a second form, whereby galigan is *female (normal quality)* and gan, *female (weaker quality)*. Just what this implies, the Geytenbeeks do not make quite clear; it is, however, a local development. In Waga and Gabigabi dialects gan is simply woman, *female*, as also in Danggadi. It was pointed out in 8.1. that the occurrence of this word in some of the surrounding languages is quite likely a borrowing from the coastal languages, the word gradually working its way northward. In any case, if this explanation is right, it represents a most unusual case of semantic differentiation in a series of successive regions. The original meaning of *social group* is retained in the languages of Queensland and in the Winambal of the Kimberleys (though there is no accounting for its isolated appearance in the north-west). It also occurs as a tribal name ending in parts of the western Torres Straits.

Thus a word that began as a trial number marker has gone through some unexpected stages:

1. trial (gali)
2. group of associated people (gari, gal)
3. member of a tribe (-gal)
4. female member of a tribe (gali-n > ga-n)

The combination gali-ga-n in Bandjalong is a fourth development of very limited validity and not clearly explained as yet; gan = woman is a local development in the area north of the Bandjalong and to a less degree south of it.

In the Bandjalong region there is no appearance of *may* as marker for vegetable foods. The 'residue' class here, called 'neuter' by Geytenbeeks, 'refers to all inanimates other than trees, and to all animate beings other than humans' (Geytenbeek and Geytenbeek 1971:8). It is marked by a zero ending, and the final -n of Djirbal is probably cognate with -gan of Bandjalong. There are other subgroupings in Bandjalong also, such as -gir, *the set or class of...* (almost in the mathematical usage of *set*): these are peculiar to the locality. The ending -gay given for neuter reappears in Awaba, where it is applicable to locations and times.
The Awaba system is again peculiar and seems to be of local development. Unfortunately, the more closely related languages are not well enough preserved to make clear whether the system is found in Dharug, Iyora, Guringgay or Darginjung.

The patterning in Awaba has certain connections with that of Bandjalang, sharing the -gal, gali:n, *galig, and also -gay, but in this language the latter is applied to locations or times. The personal marker is -gin- which occurs between noun stem and case ending. No explanation for this offers itself as yet. The other difference is that proper nouns and personal pronouns insert -um-, between stem and case ending. The word for eaglehawk, biraban, has a genitive biraban-gu-ba but, as the name of Threlkeld's tutor, the same case becomes Biraban-um-ba. Similarly, naduwa, I, has a genitive emmo-wum-ba, my, and a dative emmo-wu-n, to me, as well as the personal emmowu1-gin-gu, to the place where I am, as against the common noun forms biraban-gu and biraban-da-gu and the proper noun forms Biraban-(n)uŋ and Biraban-gin-gu. The doubling of n in the personal form seems to be an error based on English use: -um- remains as proper noun and pronoun oblique case marker. R.H. Mathews' notebooks show nothing similar in Darginjung or Dharug, so that the peculiarities look like local developments in Awaba itself.
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CLASSIFICATION OF VERBS IN AUSTRALIAN LANGUAGES

A. Capell

0. INTRODUCTION

Noun and verb are the two principal formal categories in Australian languages. Another paper in this volume deals with the classification of nouns. The present paper sets out the various manners in which verbs may be classified. It is not concerned directly in the expression of person, tense or mood, although mention will be made of these factors in describing the verb classes and how they are reflected in the classificatory systems. The general introduction to the paper on the classification of nouns makes mention of verbal classifications in the most general terms. Details are given in the present paper.

From the viewpoint of classification there are three types of verbal system in Australia: 1. Language in which the verbal stem is invariably for person, tense, mood and voice, the markers of these being indicated by affixes to the root itself. The affixes may be suffixes or prefixes; the majority of languages use suffixation as a conjugational process. 2. Languages in which the markers are added, not to the base, but to an auxiliary which may vary according to the semantic class of the verb - and in the northern Kimberley according to whether the verb base begins with a vowel or a consonant. 3. Languages in which only tense, mood and voice indicators are added to the stem, while person - and occasionally tense - is marked by the affixation of the relevant markers to an invariable particle which does nothing more than act as a carrier. This has been called by the chemical term 'catalyst' because of itself it adds nothing to the reaction.

Other divisions of the matter are possible, but these have their place in the general chapter on the nature and development of the Australian languages elsewhere in this volume.

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The systems of classification of verbal stems may be diagrammed as follows:

The types are equally divided between prefixing and suffixing languages, except that no prefixing language uses catalysts.

In the western Torres Straits there is no compound conjugation. These languages have the simple type, but there are prefixed elements which modify the meanings of stems in a way best described as adverbial. The Map indicates the regions in which the various subgroups occur, and the methods of indicating person and number. In some areas insufficient is known about the conjugation systems to enable classification to be made: these are extinct languages that were not recorded while they still existed.

It is not necessary to treat prefixing and suffixing languages separately. The probable origin of prefixation is discussed in the general study elsewhere in this book. The system of person marking has no relevance for this chapter. It is possible that it did have an influence in determining what type of verb classing a language would develop, but that is a minor point at the descriptive level. In this chapter the only indication whether a language is prefixing or suffixing will come to light in the numbering (1 or 2) of the actual examples, and if the language does not mark person at all, the matter will not arise.

In European languages the verbal stem is usually conjugated by a suffix which indicates person and number of the actor. The Latin
type is represented by such roots as am-o I love, habe-o I have, etc. But there is also a Latin type such as gratias ag-o I give thanks. Here is a noun root supported by a verbal stem without which it cannot be conjugated. In Australia many languages have such double verbs. In Ngarinjin of the Northern Kimberley, for instance, one says a-ŋ-ŋulu-n him-I-give-PRES., I give it to him; but one also says wulan ŋ-ama-nanga speech I-do-to-him, I speak to him. It is impossible to say simple *a-ŋ-wula-n. Here and in some areas of Arnhem Land, it seems that the decision regarding the type of conjugation depends on whether the verb stem (for a prefixing language at least) begins with a vowel or a consonant: in the latter case it is treated as a compound verb with some kind of auxiliary. The matter is not really as simple as this, but detail will be given in due place (2. below).

1. SIMPLE CONJUGATION

The term 'simple' here means that person and other endings are added directly to the verbal stem, without any use of auxiliaries of any type. These are of the Latin type am-o, and just as in Latin there are different classes of 'conjugations' (am-o, hab-e-o, fac-i-o, aud-i-o, etc.) so there may be different 'conjugations' or classes in Australian languages of the 'simple conjugation' type. This is not what is meant here by verb classification, as will become clearer in the following pages. The 'classification' referred to in Australia means the use of different groupings which are basically semantic.

In Australian languages of type 1 there is usually only one 'conjugation', i.e. one set of markers applicable to all verbs. In probably the majority of cases these markers are added to all verb stems, not to classes in the Latin sense. Such simple conjugation is presumably the original system in Australia, and its occurrence is marked on the Map. But compound conjugation in its various forms is widespread also. It seems to be concentrated in the north-west and to decrease in frequency from west to east. At least the available examples are less common in the latter area.

This type of conjugation need be hardly more than mentioned and illustrated in this paper. An example of simple conjugation without person markers is found in Gadhang of the Hunter River region, New South Wales:

\[
\begin{align*}
\text{ŋanda mǐrì nja:-njala} & & \text{I dog see -PAST} \\
\text{mǐrì-gu bāraŋa nja:-njala} & & \text{dog-ERG me see-PAST} \\
\text{I saw the dog and the dog saw me}
\end{align*}
\]
No matter what the actor, the verb ending will not change; this must be indicated in the actor - as the language is ergative, this is easily done. While the pronouns do not have an ergative, they have oblique cases built on different stems in a way that is not relevant here.

A second example is taken from Djabugay, in the Rain Forest region of North Queensland:

\[
\begin{align*}
\text{ŋawungu} & \quad \text{ŋuma} & \quad \text{gali-na} & \quad I \text{ tomorrow go-FUT} \\
\text{bama-lu} & \quad \text{minja} & \quad \text{baga-na} & \quad \text{man-ERG meat eat-FUT}
\end{align*}
\]

I will go tomorrow and the man will eat meat

Beyond this point a number of complications may be found, but the system is still 'simple' even though person, number, etc. may be indicated in the verbal affixes. There seems to have been a series of developmental stages: see Capell (1962; 1972) and particularly Wurm (1969).

Information supplied by J.G. Breen (Capell 1976:624) indicates, in his own words that 'Western Queensland languages in general have no compound conjugation'. One exception is Midhaga (see 2.2.1.7.4).

Most languages however seem to have very few compound verbs, e.g. Bularnu has a few of the form V + baga meaning to do V while going (baga to go); Bidjara has a couple of what may be compounds with bura to go away, e.g. wagani-bura to run fast (wagani to run); Wagaya (Eastern Northern Territory, not West Queensland) has a few such as budjagañund to run away with (budjaga to run, ñund to give); Wangga-Yudjuru has  חוותpirraka to (run and) spear, (חא to spear, pirraka to run). None of the processes involved seem to be productive. There are a few productive formative stems clearly derived from verbs, e.g. בדביד-yança to do while going along, cf. kaŋça to go.

Andegerbina has compound verbs in -alba- action while going towards the speaker (?), cf. alba to go, e.g. bidjalba- to return (bidja to come). Gñadjalba to bring (gñá- to carry, and also verbs that seem to be compounded with la to go, function not clear to me yet. I would not call any of these things compound conjugations. Other languages similar to one or other of the above, or with less semblance of compound conjugation are Marganj, Gunja, Gunggari, Wanggumara, Ngawun/Mayagulan, Warluwara.

Such compound conjugation is not treated in the present statement it is really a matter of stem compounding, which does not belong to the classification types under discussion.
The largest area of Australia completely without compound conjugation appears to be Victoria, and if the thesis that Victoria represents the most archaic area of the country is upheld, then it would seem that the Early Australian level of language had only simple conjugation - and other facts support the idea that this stratum had only verbs invariable for person and number. It is possible that the paucity of information on Victoria is leading to a wrong conclusion in this matter. Study of Hercus' *The Languages of Victoria* (Hercus 1969) serves only to point up this scarcity. Capell (1956 (1962)) showed that the Wudjawuru language of western Victoria has the affix-transferring system of the WD languages well developed, although R.H. Mathews' brief paper (1902) does not give the least suggestion that this is so. Even if, as Capell now holds (see the general paper on Australian languages in this volume) affix transference is only a special syntactic event, its occurrence in western Victoria shows influence from the WD languages on a considerable scale. It is possible, therefore, that auxiliaries in some form or other occurred in Victoria more widely than they are documented, but nothing can be built on this to invalidate the statements made above.

Apart from these two fairly continuous areas from which compounding is absent there are others more fragmented. One of these is Tiwi (Bathurst and Melville Islands), others are Gunavidji and Nagara on the north coast of Arnhem Land, Nunggubuyu at Rose River on the east coast, and Groote Eylandt. As well, there are some - but not all - languages in Cape York Peninsula which do not compound verbs in the way here discussed. In the north-west of Western Australia also there is a fair sprinkling of such languages, along the margins of the WD languages. The areas can be found on the Map.

2. COMPOUND CONJUGATION

Processes similar to those outlined in the Introduction as 'compound conjugation' are found in parts of Australia other than those mentioned and mapped in the preceding section. It is the business of this part of the paper to review these processes. As a general definition, that offered by D.T. Tryon is useful: 'Two verbs to translate one action, the first indicating the type of action being performed, and the second specific, indicating exactly which action is being performed within the field delimited by the particular verb class. As with the Daly Family, the general verb delimiting the field is bound, while the particularising verb is a free form. Again, as with the Daly languages, only the bound form is required to denote
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certain actions.' (Tryon 1971:10). One example in Wageman is wurl maŋa-ma-yi hunt I-go-past, I hunted. In Ngarinjin and other languages however, there is the complication that the generic part of the verbal compound is often a noun, or perhaps a gerund. In the example below maRa is a Cl. V noun, light (Worora maRa-ma, with Cl. V suffix when used as a noun, but maRa alone when used as the first element of a compound verb). In Worora maRa gaŋ-o:-na I see him is literally I hit him (with) light. There is actually structural difference between this type and the Daly type as defined by Tryon, and this needs to be kept in mind in the study of the verbal systems involved. Unfortunately, it is not always possible to isolate and classify the first element of the compound. In Mawng, although the majority of the verbs are simple, some are compounded on a still different system: the conjugated verb comes first, not second, and the second element is usually a type of stative noun or gerund, as in yuRan ab he went sit = he sat down; yuRan alja he went forget(ful), he forgot. In other Mawng examples, the verbs to do, take, eat, hit and others are used (Capell and Hinch 1970:69-83). Exchange of auxiliaries is not unusual. In Ngarinjin it is possible to start from mindjal mouth and form mindjal ňe: I eat (as an action, usually in the continued tense form), mindjal ň-ama I do eat (a certain kind of food) and mindjal wuŋ-o:n I am eating (a certain food now) using three different auxiliaries in varying circumstances, each defining the manner of eating.

The analysis of such compound conjugations, in the case of the NK languages, and those of East Kimberley and Arnhem Land can be best illustrated from Ngamarinj of NK, which is entirely typical. The form remains similar throughout, the semantics of the auxiliaries influence the combinations but not the forms. In Ngamarinj, maRa light, takes on the form maRa aŋ-o:-ni seeing I did to him, I saw him. This implies a simple act of vision, willed or otherwise, but maRa aŋ-ela-ni seeing I held him is rather I stared at him, kept him in view. In Ngarinjin there are eleven such auxiliaries, all of which have specified uses, and the student must learn which one (or ones) are usable with a given verb.

The phrase structure patterns of the two types are as follows:
1. aŋuwiljani I speared him

2. māRa aŋoni I saw him

Where a noun-object is involved the pattern is extended:

3. ganangud aŋuwiljani I speared the dog
4. ganaŋgud maRa aŋoni I saw the dog

NP₁  VP
   NP₂  V
      B  Aux
(Ø)  (ŋe:n) ganaŋgud maRa a-ŋ-o-ni
I  dog seeing him-act-on past

This formal patterning is modified by the auxiliaries in use in a given language, and these are best illustrated under the various subsection headings which now follow:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>BASE MEANING</th>
<th>NGARINJIN STEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. stative</td>
<td>be</td>
<td>-e-</td>
</tr>
<tr>
<td>2. action</td>
<td>do</td>
<td>-ama-</td>
</tr>
<tr>
<td>3. motion</td>
<td>go</td>
<td>-a-</td>
</tr>
<tr>
<td>4. reflexive</td>
<td>fall</td>
<td>-awa-</td>
</tr>
<tr>
<td>5. effective</td>
<td>strike</td>
<td>-bu-</td>
</tr>
<tr>
<td>6. continuous effect</td>
<td>hold</td>
<td>-ela-</td>
</tr>
<tr>
<td>7. ejective</td>
<td>throw</td>
<td>-ebi-</td>
</tr>
<tr>
<td>8. taking</td>
<td>take</td>
<td>-uma-</td>
</tr>
<tr>
<td>9. junctional</td>
<td>give</td>
<td>-unu-</td>
</tr>
<tr>
<td>10. locating</td>
<td>put</td>
<td>-iniŋa-</td>
</tr>
<tr>
<td>11. causative</td>
<td>make</td>
<td>-andju-</td>
</tr>
</tbody>
</table>

As stated, the verb base remains unchanged, and the auxiliary takes markers of person, number, tense, etc.

In these languages, noun class is marked in verbs of the third person. In the southern subgroup, to which Ngarinjin belongs, subject marking by class concord is required only in intransitive verbs: maŋa a he is walking, maŋe njia: she is walking. With transitive verbs,
Ngarinjin does not mark class of subject (though the northern languages, Gambera etc., and in Arnhem Land Laragiya, Mawng and Anindiljawgwa do), the eastern dialect of Ngarinjin does have a common Cl. IV and Cl. V marker; otherwise, only object class is marked. Thus:

<table>
<thead>
<tr>
<th>Class</th>
<th>English</th>
<th>Murrinh-Patha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl. I</td>
<td>I bring the kangaroo</td>
<td>ilal anumam</td>
</tr>
<tr>
<td>Cl. II</td>
<td>I bring the phalanger</td>
<td>langari njanumam</td>
</tr>
<tr>
<td>Cl. III</td>
<td>I bring the children</td>
<td>jile: la bunumam</td>
</tr>
<tr>
<td>Cl. IV</td>
<td>I bring the stone</td>
<td>mandja wunumam</td>
</tr>
<tr>
<td>Cl. V</td>
<td>I bring the sandstone</td>
<td>banaru munumam</td>
</tr>
</tbody>
</table>

In the compound verb a corresponding procedure takes place. A transitive auxiliary carries both subject and object of the action, object preceding subject: jile: la gudu bu-η-oni children striking them-I-do-past, struck the children. If the auxiliary is intransitive, an object required in the compound is shown by suffixing the direct object marker: with the root bu blow with the mouth (homonym of the auxiliary bu striking); o:ndan bu qama-ŋa paint blowing I-do-it, I blow the paint on to it. Dual or trial objects are shown by suffixes, as in bururu maŋa bu-ŋ-o:n-ŋiri men seeing them-I-do-two, I see both the men.

Interchange of auxiliaries is frequent but not at will. An example with ada sitting: ada ŋama rest, I do a resting, I stay or sit; ada a-ŋ-inina-Ra sitting him-I-put-past, I made him sit down. An intransitive auxiliary may receive transitive powers not only by the addition of an oblique pronoun, as in ŋara ŋa-ŋa-n nga paint falling I-fall-pres. (Aux. 5) > ŋara ŋa-ŋa-n nga I fall on him but also by conjugation with transitive prefixes: ŋ-ŋ a I go > dambun mu-ŋ-a-n-balu camp it-I-go-pres.-directive, I am coming this way to the place. This manner of transitivising an intransitive verb seems to be peculiar to the southwestern section of the NK languages.

With this general introduction it is now possible to pass on to the various subgroups of different kinds of compound conjugation found in various parts of Australia. They are set out in terms of the small letters placed beside each in the preceding diagram.

2.1. Phrasal Verbs

2.1.1. Phrasal verb compounding

This type of compounding is chosen as a beginning because in it the individual verbs of a compound retain most freedom, both of
transference to other settings and in regard to their own semantics. In languages of this kind, each verb is still able to be used as a full verb apart from its occurrence as an auxiliary. The languages concerned are found mainly in Cape York Peninsula, and the examples here are drawn from Thayorre of Edward River district. The information used is based on the work of A.H. Hall (Hall 1972).

Hall (1972:82ff.) states that 'normally the verb may have one or more auxiliaries before or one after or both these alternatives occur simultaneously.... In order to understand the nature of the verb phrase, it will be necessary to decide which are nuclear tagmemes, what fillers can occupy available slots, and then to illustrate these showing how many auxiliaries tend to occur before the verb and how many after and whether any preferences occur for some and not for others'. He then illustrates, first, the nuclear tagmemes, of which he says two are necessary, the head tagmeme plus one tagmeme in either position:

(Auxiliary) Head Auxiliary

... ank yu:mp okun....

try do (it) maybe

He then proceeds to exemplify eleven different combinations of word classes such as directive + verb or verb + directive, two verbs together, noun + verb or noun + verb, verb + auxiliary, which cannot be illustrated in full here. A few examples must suffice:

kana ya: - n pa! have go-do come = have come here

yup ge:rk i:-wal soon return this way = come back soon

kana ka:l-ku:k gi:-n (n)anjn We've sat waiting for your answer.

In the third example, ka:l-ku:k take-word is one type of compound, kana is an auxiliary of completion (not in terms of 'auxiliary' as here considered), gi:n-n is sit-imperfective, sitting, so that ka:l-ku:k-gi:n is a double compounding of verb + noun + verb. The whole pattern allows of a good deal of movement and interchange of parts. The system is not rigid, and it will appear in the following sections of this study that a pattern of increasing rigidity is being developed, rather than one of increasing complexity. In Australian linguistic development such has been the case throughout: increasing rigidity of construction has been combined with increasing complexity, the one leading on to the other. If the tendency is for languages to decrease in complexity, as W. Tauli (1958) has tried to show in his
book on the subject, then the Australian languages have not yet reached the stage of breakdown. It seems fairly clear that Indo-European languages with the exception of the Slavonic languages (within limits, as shown by Bulgarian) and the Baltic languages (again with limits shown by Latvian) have withstood the tendency and have retained their morphological complexity. The Australian languages do not seem to have done this, and as they seem to be surrendering, with varying speeds, to the pressure of English since colonisation, it is unlikely that they will survive long enough to do it.

There is considerable variety possible in the Thayorre recombinations of free forms into 'bundles' which as a total act as another free form. At the same time there are elements which are bound forms that can be added to make the 'bundles' into usable verbs, as in ninjiR-p-un ready + verbaliser + causative to which again tense indicators etc. may be added, as in Hall's example (p. 138):

gul ku:lan ṣaṅkn kana ninjiRpun-ṇam he track your now ready-verbaliser-causative-future, _He is now going to prepare your path._ The basic element of the compound is here an attribute (ready) made into a verb by a bound suffix (-p-) to which a causative (-un-) is linked before the tense marker is added. But, as Hall says later (p. 155), 'auxiliaries may fill an obvious gap in the inflectional pattern, syntactically rather than morphologically,' either before or after the verb base. These modifiers intersect with a perfective-imperfective system.

Verbs may combine, as in law ḋik snap break, i.e. break with a snap or break by snapping; tup ke'er swish spear-did. In particular there is one noun stem which combines with (in Hall's list) twenty-three verb bases. This is ḡa:(w) mouth, and all the actions listed involve the mouth. This process reminds one of formations that will be seen in other parts of this survey, such as Arnhem Land compounds. A very few compounds are built on ko:(w) nose, as ko:mat croak: but Hall's other two examples do not seem to belong to the set except in form. They are ko:piŋq rescue and ko:-qunp show off. The root ne:r eye gives ne:r-mu:ng blink, ne:r-ru:k sharpen and ne:r-ţi:k copy. At this stage, as Hall points out, it becomes a matter of 'compound' words. In his later chapter on compounding he quotes among other types which are non-verbal, ka:l-u-ne:n remember, me:R-t-pa:r weep; wark-(y)an-t wander round, wut-wun sleep lie, pot-pa:t shiver, ḟar-n-(R)e:k strengthen; manjiR-wunp measure, ṣapaR-(p)IRk rip off. The bracketed elements mark phonetic changes that take place in the process of combination.
2.2. Auxiliaries

When one element of the phrasal verb has reached a subordinate position in the phrase, it is easy for it to lose its individual force and be debased into an auxiliary place in which its general or basic meaning remains only as an indicator of the way in which the action of the dominating verb has been carried out. This appears in the Daly River languages as marking action by sitting, standing, etc.; elsewhere in other ways. At this stage the tendency is for only a few verbs to be used in the subordinate position, and these can then be regarded as auxiliaries. They may develop as in English into 'modal' verbs - *can, may, should*, etc. In the Australian languages they have not in general done this (in a few cases in the NK, for instance, they may have done so: at this length of time it cannot be proved). In Australia there are ways of expressing all these ideas, and a certain amount of agreement in the forms of the indicators suggests common origins, but there is no evidence that the modal verbs are such debased auxiliaries. At a later stage auxiliaries may lose their semantic identity and become simply means by which person, tense, etc. may be indicated in forms whose roots were perhaps not originally verbs at all. The former usage is here treated as 2.2.1, and the latter as 2.2.2. These two sub-groups are now treated in sequence.

2.2.1. Free auxiliaries

2.2.1.1. Cape York languages

The Thayorre system which has just been considered approaches fairly closely to the one now to be considered, but a type language for this subsection is better supplied by Gog-Nar, a language of the south-western edge of Cape York, treated by Breen (1976a and b).

In this language verbs can be compounded, usually of N V bases, as in *yel yem eye throw*, i.e. *look*. Subject still has to be indicated and so do tense and mood: these are not in question here. This does in a way compare with Ngarinjin *burgadj aŋe:bu-n question him-I-throw-pres.*, *I ask him*. In English also one can speak of 'casting a glance'. There are also what Breen has called 'formatives', and these are auxiliaries much as in Bidjandjadjara (2.2.2). Their exact status is equally uncertain in both, and something will need to be said about them because they occur widely in New South Wales as well, and apparently represent a fairly old and widespread development, including Cape York, New South Wales, Western Desert and South-west
Australia. Breen uses mba as a 'formative', which he defines as a stative; it might possibly be better defined as inchoative. An example is man Ray-mba-ŋ throat got dry < Ray dry. There is an allomorph, ba, and another baŋa, and the latter may still retain word status - showing that this type is a debasement of the Thayorre type. Breen gives seven such auxiliaries (1976b:252). An important subdivision is supplied by 'certain verb stems, all with initial /ŋ/ and all very common, have a bound form from which an initial consonant has been deleted and which is used much more frequently than the free form. These include /ŋi/ go, walk, and homonym /ŋi/ to spear, kick...' (Breen 1976b:252). His examples show something actually more complicated, in that the dependent phrase is amalgamated with the verb almost in a polysynthetic manner: ŋ and ɡ namely let's go now, glossed as we (pl.) now-go-PURP, ɲu ɲinyaŋ I will eat some meat which is ɲ meat-eat-PURP: the base for eat is /ŋa/. There is also an independent ɲiŋu become, seen in ɲuŋu ɲiŋu got to his knees (ɲuŋu knee). The stages involved here are obvious: an independent word, an auxiliary and finally a polysynthetic unit. Breen quotes as examples of the independent stage a phonologically free stem, ɬaŋdaŋ ɡim is itchy, binwar ɡaŋ in is thinking (person is not marked). He also shows how a causative bi added to the imperfective future tense of an intransitive verb derives from it a causative transitive as in yegi ɡlim > yegi-n-biŋ lifted or woke (trans.). A similar result may be obtained by using bala leave: added to an N stem, ɡiŋu ɡlim > ɡiŋu-bala-ŋga deepen it. Here it is possible to see the development of a compound conjugation, illustrating with some probability a process through which such systems could have arisen elsewhere in Australia - and it must be remembered that absence of documentation diachronically makes it necessary never to say more than 'could have' in any of the present studies.

2.2.1.2. South-western languages

Very similar processes have been at work also in South-west Australia, in the Wadjug languages about Perth. Here the modern authority is W.H. Douglas (1968). Douglas presents many examples of N + V, V + V and other compounds which are similar in principle to those of North Queensland. Douglas states: 'compound stems of two types: free plus bound root; free root plus free root' show the patterns and exemplifies them by muŋ dig strong, + -b become + aspect > muŋ digjabinj becoming strong; wəŋ talk + njin sit > wəŋ njin converse; wəŋ throat > wəŋ baŋaŋ throat grasp, choke a person, and many other examples scattered through the work.
2.2.1.3. The Dampier Land languages

The outstanding difference between these languages and those treated earlier is that the Dampier Land languages are prefixal, like those of the Kimberley to the north and Bunaba-Guniyan to the east of them. They comprise the following languages (see Wurm 1972:124, where they are classed as 'Njul-njulan' from the name of one of them). In construction and vocabulary alike they stand largely apart from others, and although there is CA material in them, they provide one of the distinctive 'regional' vocabularies in Australia (Wurm 1972:93-4; Capell 1956/62:103-6). The materials used here are partly from published sources (Capell 1953:450ff.; Worms 1942:125ff.; Nekes 1938:139-63), and partly from unpublished fieldwork of Capell. The only published references to Bunaba and Guniyan are in Capell 1940:416ff., where also some Dampier Land material is given in 411-15.

The Dampier Land languages are listed by Wurm (1972:124) as follows:

1. Njulnjul, with an associated group of dialects: Bard, Djabirdjabir, Nimanbur, Djawi, Ngo:mbal, Djugan. These are all located on the Dampier Land Peninsula.
2. Yawur, also spelled Yauor, Djauor, about Broome.
3. Njigina, about Derby, and 4. Warwa, between that region on the area of the Northern Kimberley languages.

In the present setting, the description will be limited to the Njulnjul and Njigina groups: the characteristic features are all included within these.

In all the languages, person marking is by prefix and tense and mood by suffix: this is in keeping with the general patterning of Prefixing Languages in Australia. In both groups there are simple verbs and compound verbs. Worms (1942) using as examples the verb to smell, gives Njulnjul ŋan-moreran (transitive) I smell it, and ŋa-bonyen (= ŋa-bunjin) (intransitive). Forms of the same root appear in the other languages, except that in Njigina there is only one root involved: ŋan-bandjun, with a slight variant ŋam-bandjun as intransitive.

The pattern in general for compound conjugation is a number of auxiliaries which in their Njulnjul form are: (1) ŋandin I say, (2) ŋanin I am, (3) ŋanam I put, (4) ŋanag I bring, I carry, (5) ŋandjid I go, (6) ŋanar I bite. These seem to be very similar to
those found in the WD languages and some of them may be CA roots, e.g. 
-\textit{am} put (*\textit{a}\\textit{ma}); -\textit{ag} bring (*\textit{ga}); \textit{\textbf{nandin}} I say seems to agree with 
\textit{G\textit{unwinjgu}} -\textit{di} (see earlier, but there is change of meaning if this is 
so). It is difficult to link -\textit{ar} bite with *\textit{bad(j)a}, but it may be 
possible.

Warwa deviates considerably and seems to have been influenced 
rather deeply by the Northern Kimberley languages (Capell 1953:458ff.). 
Capell has stated that there has been NK influence in Warwa not only 
forms but such that it 'has thrown it out of order in two ways: 
(1) the wrong meanings have become attached to person prefixes, e.g. 
\textit{\eta} is used in the 3rd sing. and plur. as well as in 1st sing. and 
(2) a totally new type of transitive conjugation has been developed, 
though the general outline of tenses and moods remains as in Njigina'.

The auxiliaries used in Warwa are: 1) \textit{\textbf{\textbf{nangan}}} I am, 2) \textit{\textbf{\textbf{\textbf{naran}}} I say, 
3) \textit{\textbf{naniman}} take or put, 4) \textit{nangan} I hit, \textit{nanim} I stay, put, 
5) \textit{\textbf{nangaweran}} I follow, 6) \textit{\textbf{nanganama}} I give. One example of each 
will show: wodidj\textit{nangan} I dig ground, bindanuna \textit{\textbf{naran}} I am sick, 
\textit{\textbf{liyan}} \textit{naniman} I like, lit. put to stomach, or inside, \textit{\textbf{gitar}} \textit{nangan} 
I pull (gulin \textit{\textbf{najajalu}} I sleep is a Warwa variation for the Njigina 
given below), \textit{nili ganangaman} I show him.

The Njigina auxiliaries with corresponding examples are very like 
these but rather different from Njulnjul:

<table>
<thead>
<tr>
<th>Auxiliary</th>
<th>Example</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{nand} do, say</td>
<td>wodidj \textit{nand}</td>
<td>I dig ground</td>
</tr>
<tr>
<td>\textit{niiyan} be</td>
<td>\textit{ii:ga niiyan}</td>
<td>I am sick</td>
</tr>
<tr>
<td>\textit{naniman} take, put</td>
<td>\textit{liyan naniman}</td>
<td>I like</td>
</tr>
<tr>
<td>\textit{nangan} hit</td>
<td>\textit{gitar nangan}</td>
<td>I pull</td>
</tr>
<tr>
<td>\textit{nanim} stay, put</td>
<td>\textit{gulin nanim}</td>
<td>I sleep</td>
</tr>
<tr>
<td>\textit{naniman} follow</td>
<td>\textit{garba naniman}</td>
<td>I help one to look for</td>
</tr>
<tr>
<td>\textit{namin} change of state</td>
<td>\textit{pila namin}</td>
<td>I show him</td>
</tr>
</tbody>
</table>

2.2.1.4. Daly River languages

The Daly River languages have a type of verb compounding that is 
peculiar to them. This is described by Tryon (1974:304) in the follow-
ing terms: 'In all of the languages there are, in general terms, two 
verbs contained in every verb phrase, one a bound form, used to 
indicate the verb class and general type of action; such verbs may be 
called secondary verbs, for they indicate either the general action
type or the physical position in which the action denoted by the primary verb, normally a free form, is performed; the other, the free form verb stem, indicates generally the particular action which is performed within the range delimited by the secondary or bound stem'. A few examples from various languages of the group will make the meaning of this rather complicated explanation plain to those who have had no experience of the particular set of languages. Reference is made here to Tryon (1970:51ff.), examples being taken from Maranunggu. Firstly, there are twenty-two verb classes in this language - and it is typical. The auxiliary verbs consist of three parts, tense + person + aspect, the name used by Tryon for the particularising verb stem. So wad gaŋani I went, which consists of a base verb wad, of going, and a compound auxiliary ga-ŋa-ni past-I-movement. Actually the form here is simple non-future, a definite past involves adding a past auxiliary yi at the end of the phrase (Tryon 1970:18). Another auxiliary, -ma-, of standing, yields forms such as djinda nala ga-ŋa-ma gay ayi spear for past-I-stand call past, i.e. I called out for a spear.

A paper by D. Birk on Mulluk-Mulluk (Birk 1976) deals with what is really the same system. He brings out the fact that 'in the great majority of cases the verb root has the choice of up to six conjugations, of which five have the semantic role of variously defining the manner' of the action. Thus 'it is not the case that each verb root always co-occurs with a particular auxiliary; the choice is, in principle, multiple, all conjugations being productive'. This is the state of affairs also in Ngarinjin, whose eleven possibilities have been listed earlier, but there is in the NK languages less variety allowable in practice, whatever the theory may have been. In all the languages, the semantic aspect is primary, and indeed suggests that there has been a coalescence of more than one system.

Some of the languages are more elaborate than Maranunggu: Ngangigurunggur has twenty-nine auxiliaries among which a choice can be made. There are also other elements which are invariable and indicate the manner of an action, such as du touching, which occurs with four auxiliaries, e.g. ḟar in du I feel for turtles; ṣudubun du I taste, try the point of a spear; ḟebem du I grind up and ḟerim du I awaken somebody. These uses are slightly different from the others. The classification of the auxiliaries given by Hoddinott and Kofod (1976:695-6) is a double one: (a) semantic particles which express the verbal meaning, as in yenim fa he screams; wudem fel he dives. These come from a variety of word classes, mostly adverbs, some
gerunds; (b) particles largely adverbial and retaining the function. They indicate how the action was done: *da-ba arm*, *mengin ba wa he picks up* *by the arm*. Markers of tense detail are also free forms such as *the ype* past and *qini* future. The Maranunggu (a)*yi* of past time is similar.

The exceptional language of the Daly River group is Wadjiginj, where the verbs are still certainly double, as in the rest of the areas, but the verbs of manner and position are not present. Instead, there is a compound verb which is very like those of the Northern Kimberley languages, in which a noun or gerund form is completed by a verb in which subject and object are amalgamated, just as in the NK group.

The main feature of Wadjiginj to be noted here is the transitive verb, in which the object is represented by a marker used with that of the subject prefix. For details reference should be made to Tryon (1974:214-5), who says: 'The subject and pronoun object are fused into a combined or portmanteau morpheme, a feature not found elsewhere here in the Daly Family. With noun objects, then, there are four possible forms for each actor'. The transitive verb phrase is pictured as

\[ VP \text{(Trans)} = + \text{subject/object} + \text{predicate (+vb stem + tense)} . \]

This is again precisely the picture found in the NK and AL languages, and repeated in Lamalama in N.E. Queensland. In Wadjiginj, however, there are future and non-future forms as a general rule, not past forms. As in the NK also, object precedes subject in the combination: *ya-ŋ- him-I; yi-ŋ him-you*, but there are irregularities and Tryon (1974:216) was not quite happy about all details of the analysis. This, however, is beyond the immediate subject. What is important here is the system of conjugation, which shows that this language stands apart from the rest of the Daly Family and seems to have connections with the type that blossomed out chiefly in the languages to the north of it.

2.2.1.5. Languages along Southern Arnhem Land

There are some languages spoken along the southern edges of Arnhem Land that have connection with the present section. These are chiefly those of the Roper River area - Wandarang, Mara and Alawa, Mangaray and Yangman. Some of them were noted by Capell (1942) and brief notes given on them. The first three were outlined by M. Sharpe (1976); the last two were noted by Capell but no material on them has yet been
published. The bulk of the Arnhem Land languages, although they have noun classes, do not compound verb stems; those in N.E. Arnhem Land (the Murngin and Yulngu group) do compound verb stems but have no noun classes, while in the north-west the Gunwinjgu group have both noun classes and verb classes of the kind here considered.

The following notes rest largely on the as yet unpublished paper of Sharpe, and the field notes of Capell for the south-western languages. Wandarang, Mara and Alawa form a subgroup in a number of respects, including the classification of verbs. The systems of classification, however, seem to be rather irregular, and give the feeling - for what it is worth - that they are not basically part of the languages. According to Sharpe, Alawa exhibits ± thirty auxiliaries, Mara and Wandarang ± fifteen, whose conjugational forms (person, tense, etc.) are often irregular and even suppletive. She deals chiefly with Alawa, where she finds different auxiliaries used with roots marking qualities of a thing, transitive sensations, instrumental transitives, change of state, motion, and such ditransitive verbs as give. Present space allows only brief illustrations of the verbs so classed. Firstly, the statement about the irregular and suppletive nature of the forms may be illustrated by a few examples from her lists: na sit, gives punctiliar past nagaQan I sat, future neyi I shall sit, present nen'i - there are also irrealis forms; ma do, has in the same order ma, mi and manjdji, and yura go has aga or ina, djura, lindu or lindiyi. These irregularities in themselves suggest a complicated history that probably cannot be worked out in the absence of diachronic information.

Some of the classifications can be similarly illustrated in outline:

1. Qualitative verbs: gulg ri to be heavy; ruwu gulg nen'i the tree is heavy; ruwu gulg manjdjawa nda the tree is not heavy.

2. Instrumental qualitative verbs: galur ri be round for a purpose, as in ludjuludju galur nen'i (or galur mayin) the coolamín is round for water.

3. Transitive sensation verbs: gaya na to hear; njīnaya ri to like (with a different auxiliary), shown in dul ņulaŋanna nda yargala we found the kangaroo; gaya ńenени nda garuReru njur nembelī hear the dingo howling.

4. Transitive action state: lilmiri gunn ganna nda girimbu man watch he-did-it kangaroo, i.e. the man watched the kangaroo.

5. Change of state verbs: buŋ njidi be born; budid winja get up and go, as in lilmī budid nāla the man sets out.
In Mara, Capell's examples show the following situations: gal inyuliyi I bite you, gal malyuliyi I bite him; nan inalindu I run; mal nga I climbed (aux. go, past); walanjan ngowil wilindu the fish is swimming (here the Murungin dialect Maragulu can reverse the order though using the same construction: gwi:ya mardji gabagar fish goes swimming); dar nalima I hid (myself); gal nganajdi I speak (doing talk); others appear on the lists but have not been worked out as yet.

There are exactly similar structures in Wandarang, Ngalagan and Ngandi that do not call for detailed illustration in the present survey context. They are not present in Garawa and Yanjuwa to the east. The chain of this language type stretches westward. It is found in Mangaray, on the immediate west of Alawa, but has not yet been analysed. Like Alawa, Mangaray has simple verbs such as ngayag I go, ngama I hold, and compounds as shown in gabudji duRur bundi ngandju blind man I lead; b:ndi bOrran naywu yinji the snake is crawling.

Exchange of auxiliaries with consequent semantic change is possible here also: compare the above blind man I am leading with duRur bu drag it! and the simple ngayag go with mi ngaba liwu yag I dive into the water.

Farther west, towards Katherine, the Yangman language shows a similar phenomenon, but this again has not been analysed. A few scattered examples from Capell's field notes, however, show the presence of such compound verbs as wogba nganimen follow me; if -me(n) represents the common Australian ma take, do root, then the analysis is a following do-to-me. Yangman is one of the few Australian languages that show a strong tonal patterning: here it is wogba nganimen. A further example, from a story text, shows ingenba njelma buriya nolgin translated by the informant as another man mustered the people; njelma buriy-a gather he-them-went shows a transitive use of -a or -ya go, as can be found in the Ngarinjin and other NK languages. Some further examples may be quoted, although they cannot be analysed in detail as yet: yingengar ngarlo:yi we meet; wiriyi wungumbururi he turned and hit (-bu-) them; la:1 yirugari we were tired (la:1 t ired, yiru- we, -ga verb root (be?), -ri past). The neighbouring language, Wageman, has already been listed with the Daly River languages, to which it is akin, and shows verbal phenomena similar to theirs.

A little to the north, however, Wađaman (Wardaman) does show the compounding phenomena. Among the auxiliaries listed there are

1 In this example, an acute accent indicates high tone, grave the low tone, and macron the mid or level tone.
nThe common -ma- root), 

(ja-gi-n take, place (common -ga-), 

These compare with some of the NK roots, and through them with some form of 

early Australian, and similar comparison may be made with the suffix 

-ba, a frequentative in both NK and Wardaman - in the latter, for 

instance, baqba nam in I break it with frequent blows (also good 

Ngarinjin!). In point of fact, comparison can often be made between 

this language and Ngarinjin, e.g. Wardaman qawa-dari I left them, cf. 

Ngarinjin djari buñuni, also I left them, Wardaman jamin djerin he 

dug (a hole) compares also with Ngarinjin djari dig though the latter 

uses a different auxiliary.

2.2.1.6. The Northern Arnhem Land languages

The comparisons made above between Wardaman, near Katherine, and 

the Northern Kimberley languages allows a turn northwards in the 

investigation towards the languages of northern Arnhem Land, especially 

those in the north-west.  

2.2.1.6.1. Laragiya

The Laragia (Laragiya) language formerly spoken about Darwin 

patterns in practically the same way as the NK languages. There are 

simple verbs, and there are also compound verbs. In the compound 

verbs the first element is gerundial in nature, the second - the 

auxiliary - carries person, tense and other necessary markers. One 

of the commonest auxiliaries in the compound verbs is -la- hit which 

corresponds to the NK (and CA) root -bu-, but differs from it 

formally. It is therefore possible either that the formation by means 

of hit in the extended sense of 'acting upon', is older than the use 

of *bu-, but it could be that Laragiya has imitated the common usage 

with its own equivalent, i.e. that -la- is a calque or loan transla- 

tion. This cannot be historically determined. As in Ngarinjin, the 

basic meaning of hit is lost: it is only in Worora of NK that the 

basic as well as the extended meaning of the root is retained. 

Examples in Laragiya are: duidui bilañ I knocked, diridj bilañ 

I pinched him. Another frequent auxiliary is -ga- do, say which 

answers to the NK and elsewhere -ma-. The fact that in CA *ga = take, 

hold may or may not be important. In Laragiya the root sometimes 

indicates becoming (take on) or being in a state, as in qirñir qagam 

I am hot, but note bidid bgaññ I waved it, bididjbaw bgaññ I rolled 

it along, qirñir bgaññ I scratched it (*qidi(qidi) tickle, scratch, 

probably EA), mañamañ mañi maññ the wind blew. A third is -ag to go,
as in way ɲaylgə  I swim, bawRull ɲagag  I shall lead him, bawudjış ɲaledjı  I passed by (a suppletive form, cf. Mara etc. in 2.2.1.4), njul ɲaledjı  I dived. This auxiliary may be used transitively or intransitively, e.g. luglug wagag  I shall steal it. A further example is -r hold, gugar  I will hold it, as in mingil muwar  I hop, presumably I hold a hopping position, the m- class prefix probably referring, as it would in Ngarinjin, to the ground; murg gugar  I'll grab it. Still another is -(w)al make, as in gulgwa gugwaw  I'll make a song, I'll sing.

In all these forms the strong typological resemblance of Laragiya to the NK languages is maintained, even when the vocabulary is quite different. Seeing that CA vocabulary is at a lower percentage in Laragiya than in NK, it is open to suggestion that the system in Laragiya is basically common to this and all the NK languages, but that the latter have incorporated CA material at a later date. When this material is examined from an LS point of view (which cannot be done here) the conclusion is greatly strengthened. It has already been suggested, in another paper in this volume, that noun-classing in the NK is a relatively late formation, the structures of Laragiya and NK remain as early types, on to which classification patterns have been added later.

2.2.1.6.2. Other Western Arnhem Land languages

The lesser known languages - Gagadju, Mangeri, Urninggang - do not use compounding. Their verbs are all simple bases to which person and other markers are added as affixes either before or after the base. The first group that shows compounding, eastward of Laragiya, is the Gunwinjgu group. It must be recalled, however, that some languages such as Warrai, are not known structurally at all.

2.2.1.6.3. Gunwinjgu Group of Languages

Under this heading are subsumed Gunwinjgu itself, along with Mawng, Gunbalang, Gundangbon, Mayali (a dialect of Gunwinjgu not of free standing). The Jiwadjia language is the nearest relative to Mawng, but has no noun classes (Capell 1962:127-170). In Mawng there is very little compounding of verbs, and in Jiwadjia apparently none at all. The Mawng situation has been mentioned already in (2) above. It is not enlarged here; the main stress is on the phenomena in Gunwinjgu.

In Gunwinjgu, noun object incorporation into the verb complex is allowable: I am making a spear may be either man-gole ɲa- manbu-n or ɲa-gole-manbu-n I am washing my head is normally ɲa-go: djiridjbu-re-n I head wash. The peculiarities of verb classification in
Gunwinjgu seem to rest on this capacity; the gerund is incorporated between subject (± object) marker and tense etc. ending. This formation does not seem to have been noticed before, certainly not by the present author in earlier publications, but if it is assumed to be acting, the analysis of the verbal systems becomes much easier. The pattern in the Gunwinjgu compound conjugation then becomes uniformly

+ subject ± object + gerund + tense etc. markers

and in 'tense etc. markers' the reflexive suffixes are contained.

The papers put out in the Australian Institute of Aboriginal Studies Seminar in 1974 (see Dixon, ed. 1976) did not notice this fact, and therefore both Carroll's paper (Carroll 1976) and Capell's comments on it need to be revised from this new angle. The earlier Gunwinjgu grammar (Oates 1964) also needs to be revised from this point of view.

In all these earlier analyses the compounding of verbs in Gunwinjgu has stood apart from that in other languages as being suffixal, e.g. ɳa-wog-di I spoke as compared with gun-wog a word, speech. A simple verb such as ɳa-bu-n I hit him does not really contrast with the compound in the same way as in the other languages. There are no verbs in Gunwinjgu of the gerund + auxiliary type. But if ɳa-wog-di could be broken up into *wog ɳa-di, the normal pattern would be attained. Owing to the fact that noun incorporation is the rule in Gunwinjgu (though not now compulsory), *wog ɳa-di becomes impossible, and the incorporative type becomes standard. The various 'suffixes' listed by Oates and Carroll then become the stems of verbs preceded by a 'noun' of some type, which often does not exist as a free form. This is true of many of the 'bases' in the NK and other languages; in these the 'bases' are functionally gerunds, followed immediately by the verb; in Gunwinjgu they are still nouns incorporated into the verb - but the principle of compounding remains the same.

The interpretations of these forms are not at all clear in many instances. J.T. Platt remarks in another context: 'semantic analyses based on morphology run into all sorts of difficulties... the semantic analyses may, at first, look to be very language specific, but if we look further we may see that there are interesting parallels between the morphological analysis and possible underlying structures for related lexical items in English and other languages' (Platt:1974:119). The same remarks may be made for Gunwinjgu as for Bidjandjdjara, to which Platt's remarks refer. Some of the suffixed auxiliaries in Gunwinjgu are recognisable as either free forms within the present-day language or related to other forms, either *CA or *EA. The
present summary statement will therefore be divided into two sections, one referring to roots which can be recognised with fair confidence, and the other roots not so recognisable at least nowadays.

What are the bases in Gunwinjgu? In some cases, such as gun-wog, they can appear with a noun-class prefix and function as nouns. In others, they do not function independently, but there are signs that once they did: there is the infix -bo:- of *reference to water*, combining with -nu- *eat or drink*, to make ga-bo:-nu-n lit. *I-water-eat*, i.e. *I drink*. This does not stand alone, but the writer well remembers it as the first call in the Marayin ritual, a prolonged gunbo:, gunbo:, gunbo: by the song leader and master of the rite, and clearly a call to *water* which is central to the mythology. Another, -bolg- *reference to ground* does occur alone as gun-bolg *ground, earth, camp*, and in verbs such as -bolg-ge *drop to the ground* and in other nominals such as gunRed ga-bolg-neyo *earth its ground name, the name of the place*. If a man in a temper calms down, he ga-nyd-me; if a stormy sea calms down it ga-bo:-nyd-me. These prefixed elements are noun classifiers extended to verb classification, not auxiliaries: the suffixed -me is the auxiliary, usually intransitive, with -ge as the corresponding transitive.

The result turns out to be a picture not unlike the Daly River Family languages already dealt with. Moreover, some of the markers listed by Oates (Oates 1964:37ff.) do not seem to be justified, e.g. ginje *cook* looks to be a simple root and not -gin-je: no suffix -je appears. This applies to quite a number of other allomorphs. The final analysis at present will then be:

1. Recognisable roots:

   -bu *hit*
   -di *stand*
   -ga *take (hither)*
   -ma *take (away)*
   -na *see*

   -ni *sit*
   -Re *go (-m-Re come)*
   -we *throw*
   -wo *give*
   -yo *lie*

2. Not now recognisable roots:

   -do
   -ge (< -ga?)
   -wa (?)

   -me (< -ma?)
   -ri
The two sets are now briefly exemplified:

(1) *-bu hit CA *bu: most of the examples are in NK languages reduced to 'action on an object': -dulu-bu pierce, -djiridj-bu wash (-djiridj-bu-Re=Ren wash oneself), -maŋ-bu make, heal. This is almost as common a formative as in NK languages.

(2) -di stand, qa-di I stand, -wog-di talk (standing as a rule) -
there does not seem to be a corresponding *-wog-ni talk
while sitting, -miri?-di be sharp, like a point, standing out.

(3) *-ga- take, with basic idea of motion towards speaker, bring,
-manga- fall down, take a fall (to oneself), -walga hide.

(4) *-ma take, motion away from speaker, as in bunja-ma kiss, which
must be away from actor towards recipient, -la!ma separate,
again in the same manner. The root is used by itself as
qa-ma-n I do, I say, a double meaning which is very commonly
found with this CA root, e.g. in the NK languages and in
Alawa, etc. There seems to be a phonetically variant form
in the third root of group 2, -me, as also there is a -ge
from -ga; these are discussed below. As an auxiliary the
root -ma is Australia wide, being found as far from NK as
northern New South Wales.

(5) *-na see, also a CA root, but not commonly found as an auxiliary
in other languages. It is involved with activities which
involve the eyes: -wo?na watch, keep watch on, be alive.
An interesting case is found in the modern verb to read,
-bim-burg-na: -bim is carve, write, -burg is body, and -na:
one who sees the form which has been carved or written.

(6) -ni sit, qa-ni I sit, dwell, remain. This is the simplest form
of an EA root *ni which appears in CA as *nin(i). An example
is wa yi-ni sing, which is really sit and sing, as is usually
done.

(7) *-Re go, and with prefix of reversed motion, -m-Re come. This is
auxiliary for verbs of movement as a whole, whether by the
actor or not, e.g. -bo:Re to flow out, issue is built from
the water indicator -bo previously mentioned, and -Re,
-djargRe assemble uses the plural action prefix -djarg-;
-djalg-mi-Re- to tear as cloth, uses the tear -djalg-, and
can also be -djalgme- without the direction suffix; some other
cases are not so clear, e.g. -bugiru-Re to dream and
wuyug-mi-Re to be tired - again a form of -me, plus the
directional -Re.

(8) -we to throw, related to the NK root wadj: Gunwinjgu ŋa-we- I throw it away. In Ngarinjin, however, this would be a compound word: wadj aŋebun throwing I-do-to-it, whereas here it is a main verb: what is the history of the formation of these compounds? Examples: munge-we to send, mari-we to be in a hurry (sc. to get away), -go-we to tell a lie (it is thrown at the recipient!), -bugburi-we to knock over.

(9) -wo give, one of the forms of a CA root that appears as *wu, *yu or *ŋu. As a full verb it is ŋa-wo:n I give it to him. Oates remarks that it acts on various speech categories, e.g. -ba-wo to go away, -bele-wo make clean (clear -bele), -woybug-wo make true, i.e. believe a thing, -ware-wo make a mistake (CA root *wari bad), -yag-wo to finish (yag done). The Gunwinjgu word -ŋu however, is the verb eat, and comes from a different root.

(10) -yo to lie down: ŋa-yo. This does not seem to be a general Australian root of either stratum. It appears in -ge-yo to sleep, -yiri-yo stretch oneself, -boyboyo lie prone, -lumbari-yo lie supine, -go:dj-bugiri-yo to dream, where -go:dj is head.

The second set of formatives is shorter, but not to easy to deal with, particularly in the cases of -ge and -me, which are clearly derived from -ga and -ma respectively. The former is a common transitiviser, the latter an intransitiviser, and the two will often interchange with the one verbal (or gerundive) prefix; Oates' illustration is ŋuri-boled-ge-men you turn it over and ga-boled-me he turns (himself) over. She adds, however, 'but there are many intransitive verbs ending in -me, and transitive verbs ending in -ge which have no corresponding transitive or intransitive counterpart' (Oates 1964:37). There is no solution offered in the present short space to the matter; it would seem that a further suffix -i has been added (ma + i = me; ga + i = ge), but what this would be cannot be said.

The remaining roots are -do, -ri and -wa, the last being doubtful, since none of the examples in Oates seems to appear also without the -wa, i.e. it would be part of a stem, not a suffix at all.

For -do the evidence is unsatisfactory. It could be that it represents a phonemic variation of -ro, a verb to throw ŋa-ro, and that -dagendo put or place in a container refers to throwing an
article into the container. According to Capell's vocabulary there is also -da?gen-di to embark on a canoe, i.e. to stand in a canoe as a container, thus isolating the root -dagen- or da?gen- (dialect variation). Whether -Ro-me to dodge belongs here depends on checking as to ro/Ro. A verb -do-we die could belong to the -do root as well, but the whole matter of these non-separable suffixes is unsatisfactory and is best left so for the moment.

This demonstration of the nature of the Gunwinjgu verb has been given probably an over-great proportion of a work of the present nature, but as it represents a type not previously reported for Australia this seemed advisable. As remarked, it does look rather like the Daly River type previously treated more briefly.

The remaining uncertain formative is -ri, and here Oates' examples are ambiguous. It is true that -durgmi-ri to work may represent -*durg-me + *di-, as work is mostly done standing, and the -di form is used with some laxity about position, but -diri play looks like a simple verb, and -benyi-ri listen needs more analysis, since it evidently has connections with -bega- hear and -ben-ga know. The last appears as -bengu in Gundangbon.

For Gunbalang, J. Kinslow Harris states in regard to compound stems, that 'in some of the compound and reduplicative stems each morpheme is semantically identifiable, i.e. ngayn- has the meaning "actions towards the speaker" and -ka has the meaning go, so that in combination -ngaynka (read -ganjga in present orthography) means to come. However, the majority of these stems are a combination of a non-productive morpheme in unique occurrence with a morpheme which may occur elsewhere as a simple root, i.e. -puyn (= -bu-nj *CA bu hit) is a simple root which occurs with the non-productive morpheme -mij giving the combined meaning -mijpuyn to meet.' (Harris 1969:6).

In the south-central area the group of dialects known as Buwan, Ngalgbon or Dalabon has a system very much like that of the Gunwinjgu. Reference may be made to Capell (1962:112), where six suffixal classifiers, all cognate to Gunwinjgu forms, are set out as follows:

(1) -bu-, action upon an object: gula? skin > -gula?bu- to skin, an animal; danj- spear > danjbu to spear; bi:m clay > -bi:mbu- to mark with clay, to write, draw.

(2) -ga-, transitiviser, with some exceptions: cf. Gunwinjgu -ge, -ga:- boled-ga upset, overturn; -ra?ga- to drop; and among intransitives: -do?ga- be awake. The distinction between -ga and -ge found in Gunwinjgu does not appear here.
(3) -ma-, intransitiviser: -wulub dive > -wulub-ma bathe; -wo?ma- be drowned; -dadadj-ma- grow weary, seemingly connected with -dadaj#ga cut. There is apparently no connection between -wo?ga- sing and -wo?ma- be drowned.

(4) -m+-, equivalent to Gunwinjgu -me, described by Capell (op. cit.) as neutral in regard to goal, marking a derived verb, used when other, more specific markers are not called for: -wilyal-m+ hiccough; -gunon-m+ tell, narrate.

(5) -na-, the root meaning see is largely lost in compounding: -jidj-na hold; -wad-na throw, wo-na hear; -gunwo-na think. There is a compound with -ri- (not otherwise used in Dalabon): non spittle > non wad-na-ri to spit, which Capell there interpreted as a -ri- reflexive, throw for oneself spittle; similarly nunj wadnari to sneeze.

(6) -wo-, root of the verb give: -djan-wo- ask, give a question; mañ-wo make, heal, constructed in Gunwinjgu with -bu- as -mañ-bu-; -doge?wo- find; -we? bad > -we?wo- to swear.

All these forms in Gunbalang and Dalabon are capable of interpretation as compounds of noun root plus verb auxiliary, preceded by person marking, treating the noun as an incorporated form.

2.2.1.6.4. Other Arnhem Land languages

Compounding of verbal stems seems to be absent among the other languages of northern Arnhem Land. It does not appear in Gunavidji, Nagara or Burera - and those to the east belong to another group of non-classifying languages, which will be mentioned in their place (see 2.2.2.7.5 below). In the south-east, Nunggubuyu and Anindilyawga also lack the system. It is found in the Roper River area, where it has already been mentioned. The Dalabon type, which belongs to the Gunwinjgu model, has been mentioned in 2.2.1.6.3.

2.2.1.7. South Australian languages

This subgroup comprises the South Australian languages in which compound conjugation occurs. It consists of six interrelated languages:

Diyari
Dhirari
Ngamini
Midhaga
Yandruwanda
Yarluyandi
occupying an area east of the Lakes district and stretching towards the north-west corner of New South Wales and the south-west corner of Queensland. They are characterised generally by certain common features, apart from vocabulary. They do not mark person in the verb, but require a noun or pronoun subject and object to be expressed. They are ergative languages. They use a small number of auxiliaries (eight at the most) which mark tense and mood, while the main verb remains unaltered to a very large degree. The auxiliary verb itself can also function as a main verb.

Diyari (Dieri) is the best known of the languages. There is a New Testament translation by Reuther dating from 1896, as well as some published grammatical studies of varying degrees of unsatisfactoriness. The remaining languages have received less attention. The information used in the present notes is derived from work by sundry students - published materials on Diyari, and papers by Breen (1976c,d) and Austin (1976), with reference to a little material made available by L. Hercus in which Yarluyandi is mentioned.

2.2.1.7.1. Diyari

Diyari has no genders or classes in nouns but does mark masculine and feminine in pronouns on a basis of 'natural' gender. The normal sentence type is SOV, and in the verb the pattern is base + auxiliary. The simple base is used alone only in dependent clauses, and the suffix then has a special use. There is a verb to be - wandi - which is one of the auxiliaries but appears in equational and descriptive sentences. In one of Berndt's texts there occurs the sentence nanija ŋanay widla ŋuruŋuru she is woman strong, where the syntax can be justified in a way not relevant here. Apart from the present (or aorist), verb bases can be used only with auxiliaries: jada ŋanay is speaking.

There are six auxiliaries, each having its own basic meaning, and usable under certain conditions as a main verb. They are:

<table>
<thead>
<tr>
<th>Auxiliary</th>
<th>Meaning</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>bara</td>
<td>lie</td>
<td>state just attained</td>
</tr>
<tr>
<td>ŋana</td>
<td>be</td>
<td>permanent state</td>
</tr>
<tr>
<td>waba</td>
<td>go</td>
<td>entry upon a state</td>
</tr>
<tr>
<td>wandi</td>
<td>seek</td>
<td>state attained or action done</td>
</tr>
<tr>
<td>wara</td>
<td>throw</td>
<td>action already done</td>
</tr>
<tr>
<td>wiri</td>
<td>enter</td>
<td>state recently attained</td>
</tr>
</tbody>
</table>
There are aspect endings used with the auxiliaries, as in navu worga-la wandi, bunjani wiri-la he came to enter the house and the imperfective -la also indicates purpose. The details of tense and aspect are expressed in various combinations of roots and auxiliaries:

1. With -na perfective: nani jada-na wandi I spoke, nani jada-na waray I have spoken, nani jada-na bara-ya I spoke some time ago; bara suggests I have thrown in my word, and it's all done.

2. With -la imperfective: nani jada-la najay I am about to speak, I shall speak, nani jada-la waba-ya I am in the process of speaking, going to speak, nani jada-la wiri I have entered upon speaking, begun to speak.

It is possible for auxiliaries to qualify themselves in a repetitive manner, as in wandina wandi, which occurs twice in Reuther's New Testament translation: Matthew 2:20 were seeking - also John 11:56. On the other hand he uses in Luke 4:33 warana wandi he threw, where Austin quotes warana waray. This may be a stylistic use of Reuther's: it is difficult now to say.

The entire system of auxiliaries here is different from those used in the other languages studied here. It seems to be a matter of expressing first of all by means of an aspect marker whether the act is complete or not, then by an auxiliary when it was or will be completed, and what sort of activity is involved in the completion.

In terms of phrase analysis the various situations might be set out in something like the following ways:

1. 

```
S
  NP
    Pron.
  VP
    V
      MV       ASP        AUX
      jada-na wandi

I
I have just spoken.
```
2.

\[ S \]

\[ NP \]

\[ V_1 \]

\[ \text{nani} \]

\[ \text{worgara-na} \]

\[ \text{baraia} \]

\[ \text{MV} \]

\[ \text{ASp} \]

\[ \text{AUX} \]

\[ V_2 \]

\[ \text{jada-la} \]

\[ \text{MV} \]

\[ \text{ASp} \]

\[ \text{AUX} \]

\[ \emptyset \]

I come perf. (just) speak purpose

I have come to speak.

An example of the ergative construction, the locative ending and the sentence medial use of -na aspect is seen in the following:

\[ \text{nu-lu bradjana madjadinda-na nuga-\text{nu-bini} mida-ni,} \]

he-erg. everything now having-\text{lost} that-in-emph. land-in, hunger great make-perf. past.

When he had lost everything, a great famine happened in that country.

2.2.1.7.2. Dhirari

The Dhirari language is a dialect of Diyari, and the notes used in this section rest on a paper by Peter Austin given at the 1974 May meeting of the Australian Institute of Aboriginal Studies, Canberra (Austin 1976).

The general pattern is similar to that of Diyari 'with the added complications of an additional auxiliary verb' (Austin). Austin also finds that some of the Diyari auxiliaries are not functioning in Dhirari, but (using his spellings) wangi\text{y} and war\text{ay} are regularly found, marking 'distant past' and 'less distant past' respectively. They occur after buri which is not an element of Diyari. This buri is fall and as such appears in Diyari also: Austin gives nani \text{naba-}ni buri-\text{ya}g\text{i} she fell into the water. This becomes in Dhirari
The buri verb, then, is characteristic of Dhira Ri; and with the absence of most of the auxiliaries used in Diyari, gives its special character to the dialect. Aspect and tense and other endings are added to buri, and the dialect presents a totally different aspect from that of Diyari however close the two may be in vocabulary. Further reference needs to be made to Austin (1976).

2.2.1.7.3. Ngamini

The information on this language is drawn from a paper presented by J.G. Breen at the above-mentioned meeting (Breen 1976c). He links Ngamini, Midhaga and Yarluyandi in a dialect chain stretching north-east from Dhira Ri-Diya Ri.

Ngamini shows eight auxiliaries, which are:

1. barga run, momentary action while the actor is moving.
2. diga return, action directed back to where the original action took place.
3. guru motion away - not used as main verb.
4. marga crawl, continuing action while the actor is moving.
5. nana do - but Breen is uncertain - denotes intention; rare as main verb.
6. waba go, walk, habitual action in past time.
7. wara throw, marks past time.
8. wiri enter, seems to denote arrival, but some uncertainty.

There are, however, extra suffixes which Breen calls 'verb stem formatives'; these have suspicious resemblance to some of the WD auxiliaries:

1. -ba added to intransitive verb stem, makes a causative: from 8. above, wiri-ba to insert.

2. -ga may be added to an intransitive stem such as waba go to form wabaga take: this certainly looks like the CA root ga- take, carry, hold.

3. -naga is added to a non-verbal stem to indicate causation: nari dead, naRinaga kill. This looks like a form of -ga, but if the
stem is non-verbal it is hardly likely to be the imperfective marker
(which is -ŋa).

(4) -ni turns a noun stem into a verb stem: biŋa big, binaŋi grow. This looks like a form of CA nin(i) sit. If these identifications can be accepted, then we have double composition in this language.

Concerning these auxiliaries Breen (1976c:747) writes: 'by far the most frequently used is wara, used in its present tense form warayi to mark the past tense'. He illustrates:

\[\text{gubanu maŋa ŋaganamu waraŋa warayi} \]
\[\text{child-ERG stone me-IO throw- past} \]

The child threw a stone at me.

He proceeds to illustrate the other auxiliaries with examples that are precluded here by considerations of space.

2.2.1.7.4. Midhaga

Breen (1976c:749) found data on this language very uncertain, and notes that 'it did have at least two auxiliary verbs' - guli sit, wait, and wiiri enter. His examples are:

1. wani ŋadu yadabanda guli
   song I sing-pres. sit
   I am singing a song.

2. waŋaŋanda wara yini daRinda wirindari
   where-from you come - arrive - past
   Where did you come from?

It is also possible to use at least the first one independently and with itself as in gulinda guli sitting.

These few examples show a system that is essentially the same as that of Diyari itself, with again some variations from pattern.

2.2.1.7.5. Yandruwanda

Here again the information is chiefly from Breen (1976d), but Hercus and Wurm have also gathered material in the language. Here such compounding as is found seems to be borrowed, for Breen remarks (1976d:750) that only in the Strzelecki Creek dialect is anything such found, and then only with ŋana do as an auxiliary. He exemplifies with
However, he adds: 'It does, however, have a system in which verbs (or certain other words) are compounded with a main verb to perform a wide range of functions, including some similar to those performed by auxiliaries in Ngamini. Thus it forms a link between the auxiliary verb system and the more common system in which verb modification is by affixation or morphemes which exist only in bound forms.' In this it seems to be closer to other systems studied in his chapter than to the present subsection as a whole. It also, noticeably, has subdivisions of morning-noon-night tenses, such as appear in Tiwi of Bathurst-Melville Islands and parts of New South Wales.

2.2.1.7.6. Yarluandi

No information is to hand regarding this language; only a mention that it belongs to the present grouping.

Introductory Note on 2.2.2. and 2.2.3.

Preliminary Note on the Western Desert (WD) Languages

The group of languages which has become known in Australian linguistics as 'Western Desert' (WD) is very clearly marked off from all the other languages by certain characteristics. These are a subject for another paper by the same author in the present work as far as more detailed description is concerned, but something needs to be said about them here to make clear the designations 2.2.2. and 2.2.3. in the present section. They form a whole in that they alone employ as person endings in the singular number sing. 1 -ŋa, sing. 2 -n and sing. 3 Ø. All other languages either use none at all or have a set of markers of quite different origin. Their vocabulary is that originally designated 'Common Australian' (CA), in the sense that the highest percentage of CA words is found in these languages - up to almost 90% in some of them. It is claimed it was from this region that CA vocabulary moved out south-east, east and south-west - a comparatively small proportion only to the north and north-east, and also to the south-west. Historically these seem to have been the latest developments of language in Australia before European immigration. Western Desert languages share certain grammatical features which need to be mentioned here: they are
explained more fully in the other paper. They are divisible into two subgroups on the basis of the behaviour of the verb, and for that reason they are examined in the present setting. The two subdivisions are (1) those that do not mark person in the verb itself, but use a 'catalyst' on which the person markers are congregated, and (2) those which add the person markers to the verb stem itself. Both, however, have the phenomenon known as 'Affix Transferring' (AT) though each employs it according to its own genius. The nature of this phenomenon and its historical explanation are also included in another paper in this volume, and seeing that it occurs in both, in spite of their structural difference, it would have to be either prior to the division of the WD languages into the two subgroups, or borrowed from one into the other. This question does not concern the present purely descriptive paper, for both subdivisions have the system of auxiliary verbs in common.

It is simpler to take the Catalyst languages first, so that they become 2.2.2, and the other WD type follows as 2.2.3.

2.2.2. The 'Catalyst' Languages

These languages are predominantly WD, but are found in parts of eastern Australia - Victoria and New South Wales - as well, to which they seem to have been imported from the WD area. The historical discussion of this claim is featured in the historical paper to which reference has already been made. On the map they appear as 2.2.2. and have been described in outline by Capell (1956/62 and earlier, 1940). The present description will be divided into three area sections: Western Desert and Northern Territory, Victoria and New South Wales.

As described in the earlier account by Capell they were labelled 'Mudbura' type languages because the complication is greatest in this language. They include

1. Ngardi, about Lewis' Creek, Northern Territory.
2. Wanayaga, about Tanami, Northern Territory.
3. Djaru and Njinin (dialects of one language) with possible addition of Wandjira, to the south of Hall's Creek, Western Australia.
4. Malngin, Upper Ord River, Western Australia.
5. Ngarinman (ŋəRinman), from about Rosewood Station towards Victoria River, Northern Territory.
7. Gurindji may now be added, east of Mudbura.
The name 'catalyst' applies to a particle to which markers of person, both subject and - for transitive verbs - objects are added. The particle is monosyllabic, being either ba, qa or in its Djaru form ɩu. It is as a rule meaningless - though there are complications in Mudbura, where a number of particles are used, determined by the tense or mood of the verb. To say ba-qa simply means that 'I' am or do something. It says nothing about time or manner of the action. This is made clear in the ending of the verb. A Mudbura example is:

\[ \text{ba-n qa-nanari ma\-nari ma} \]
\[ C-\text{you eat-past food} \]

i.e. have you eaten food? A meaningless, purely functional particle of this kind has therefore been given the name 'catalyst' from its use in chemistry for a substance which enters into a total reaction and makes it possible, without being affected itself.

The 2.2.2. languages are mostly - but not necessarily - ergative, and the noun phrase does not enter into the present subject matter; it is enough to say that if a cardinal pronoun is used (for emphasis) as well, then it precedes the whole phrase and if the phrase is transitive the ergative form will appear, as in Waljbirí:

\[ \text{ŋadjulu-ɭu ga-ŋa-ngu wari-ŋi} \]
\[ I-\text{ERG C-I-you seek-PRES.} \]

Here the ergative subject phrase stands outside the construction entirely; it is not necessary except to provide emphasis - unless, of course, it is a noun subject, when it will appear, but then the C carries no person marker:

\[ \text{ŋarga-ɭu ga-ŋa-ngu wari-ŋi} \]
\[ \text{man-ERG C-he-you seek-PRES.} \]

a man is looking for you.

The reason for classing these languages as examples of compound conjugation is that in other parts of Australia the particles - ba especially - occur as bearers of meaning in their own right. This original meaning is in abeyance if not entirely lost in the C languages but it may still influence the particle chosen.

In these languages the principle of Affix Transference is found in certain cases: negatives and interrogatives tend to remove the person markers from the C, eliminate the C and carry the markers as suffixes to the head word of the phrase, e.g. Waljbirí:

\[ \text{gula-ŋa-ngu ju-ngu} \]
\[ \text{not-I-you give-FUT.} \]
I shall not give it to you, or with an interrogative:

\textit{njaRba-la-\text{-}nga balga manu}
\textit{where-he-you find-PAST?}

*where did he find you?* - balga ma- being a compound verb of the type to be discussed later. AT processes can occur even when the head word carries a case marker of its own. Yulbaridja:

\textit{buli-nga-na dadi-n-ba}
\textit{rock-on-I climb-PAST}

I climbed on to a rock. Yulbaridja is a 2.2.3. language (not using C constructions) but otherwise works in the same way as 2.2.2.

In most of the C languages, word order is fairly free, and C is not bound immediately to its verb. It may precede or follow it or be disjoined in some other way. Djaru:

\textit{\=na-\=na-la nja-\=nani wuna djadjadjji \=na-\=\emptyset}
\textit{C-I-him see-PAST walk about C-he}

I saw him walking about. Again: ba\=\=dai ja-ni \=na climb go-PAST he, he climbed up, or with extension: \=na-nalu burungu ba\=\=dai ja-na\=\=ngu
\=naliwa: C-we early climb go-FUT. we; we shall climb early.

In Mudbura there are complications in the systems, in that while ba is still the basic or indicative particle, there is a form bi for a hypothesis or contingency and nja- for an emphatic future, and a conditional ba---nja-- with infixed pronouns (Capell 1940:427). Examples of these are: ba-\=\=na \=na-nani ma\=\=nari C-I eat-PAST food, I have eaten food; nja-\=\=na juguru C-(fut)-I give-FUT, I shall give; nja-\=\=na-ba ginanguya yali ga\=\=Ru, ba-\=\=na baru-ru If I catch that boy I'll beat him; ba-\=\=na-ba wandula, nja-\=\=na-ba nja-ngala I would catch him if I saw him. No examples of this complication have been adduced in the other languages.

The mere possession of C would not qualify these languages to be classed as 'compound conjugation' languages, but the examples have been necessary for two reasons (1) because the phenomenon is itself different from the situation in other Australian languages, and (2) because they actually do possess compound verbs. The compounding is practically the same as in the languages of 2.2.3. except that in the latter there are no catalysts and the person markers are added directly to the second element of the compound. In 2.2.3. also there are simple verbs as well as compound verbs, and while this is the case also in 2.2.2. languages, in these neither basic nor auxiliary verb carries the person markers.

The languages of 2.2.2. and the forms of the catalysts are as follows:
The Waljbiri group of dialects (including Walmanba) differ from the others in that they have an alternative 2.2.3. type in which the person markers are added directly to the auxiliary verb, ga- to the non-past and ba- to the past, but alternating freely with affixation to the verb stem itself, without particle. Walmanba uses ba- but replaces ga- by a-. In Waljbiri, *I look for it* may be either *wayunu ba-ŋa-la* or *wayunu-ŋa-la*, while Walmanba can say either *wayunu ba-ŋa-la* or *wayunu a-ŋa-la* for the same phrase. *I will look for it to-morrow* is in Waljbiri *djugura ga-ŋa-la wayini*, in Walmanba *djawadi a-ŋa-la wayini* (or in the other word order, of course; note also vowel harmony here in the tense changes).

Something must now be said about the auxiliary verbs that justify the classing of these two subdivisions of WD as 2.2.2. and 2.2.3. respectively. The auxiliaries form a small closed group, and they are historically extremely important for the tracing of linguistic history in Australia, as appeared in the paper referred to several times already. Here 2.2.3. may be introduced first and the two groups treated together subsequently.

**2.2.3. Languages Using Free Auxiliaries**

In a typical language of this group such a structure may be found as **see-do-I-shall-I-him** = *I shall see him*; **spear throw-FUT-you-us** = *you will spear us* and similar periphrastic arrangements. They differ from those of 2.2.2. in not using a catalyst of the type of **C-I-him spear throw-FUT** = *I shall spear him*.

Contrary to the type of the Daly River Family, where all verbs are double, in 2.2.2. some verbs are simple, others double. In all of them simple verbs exist in considerable numbers and in most they are in a great majority. The 2.2.2. languages in general mark tense by suffix, and add a final person suffix, including a second object suffix if the object is a pronoun, giving the pattern \( V = R + t + p \), 'root followed by tense marker, followed by person marker of both subject and object -
even in some cases an anticipatory object'. It is, however, possible—and this demarcates 2.2.3. as a class—to express by means of an auxiliary a particular shade of meaning or emphasis, e.g. -bu- hit found as free verb, may assume the role of an auxiliary as in Bidjandjadjara _guran_i do wrong > _gur-a-Ra-bu-ŋanji do great wrong to_. Actually it is not right to conjoin the two roots in spelling, as has been done in Bidjandjadjara writing. The -Ra- of _guraRa-_ is the suffix of the sentence medial I form (a type of participle implying that the same actor performs both actions (Trudinger 1943:219).

A transition language appears between 2.2.2. and 2.2.3. in Ngardi of the Northern Territory, which combines all three conjugation types. There is the possibility in this language to use

1. direct suffixing of pronouns to a simple verb stem:
   AT processes with a negative will then produce, e.g. _wagura-lu la-ni not-they-two spear-PAST_, i.e. _they did not spear_;

2. suffixing of pronouns to an auxiliary, e.g. _dalj ma-ngu-ŋa breaking do-shall-I_, i.e. _I shall break_;

3. just a catalyst, e.g. _ŋa-lili djura ja-nani C-they down PAST_, i.e. _they descended_.

These languages cover the bulk of the Western Desert area, and can be regarded as forming a definite subdivision of Australian languages by themselves. They are not the only languages in which this process occurs, however; there are isolated groups elsewhere. The Dampier Land languages are contiguous, it is true, but their methods and actual morphemes are quite different, so that they call for separate statement.

Most of the Western Desert 2.2.3. languages are also AT languages. The utterance (or sentence, in this case) consists of a head word to which suffixes are added. There are two types, according to whether the head word is the verb stem or not. Two patterns result:

(1) Head word (H) is the verbal stem:

\[ U = H + t + p_s \pm p_o \]

where \( t = \) tense marker, \( p = \) person marker, either as subject (s) or object (o).

(2) If \( H \) is a nominal (including free pronouns, which may be used in such a situation, but the suffixed pronouns must still be added to the verb):
\[ U = [H + p_s + p_o] + [V + t] \]

Variations of detail take place according to the exact nature of \( H \):

1. \( H \) is a noun or free pronoun:
   
   **Bidjandjadjara**  
   \[ \overline{\text{nana-lu-}ni \text{ bambu-nu?}} \]
   \[ \text{who-ERG-me touch-PAST} \]
   \[ \text{Who touched me?} \]

2. \( H \) is a negative:
   
   **Waljbirri**
   \[ \overline{\text{gula-}na-ngu \text{ yu-ngu}} \]
   \[ \text{not- I-you give-will} \]

3. \( H \) is adverbial:
   
   **Bidjandjadjara**
   \[ \overline{\text{nja:gu-ngu-n bu-}qanji?} \]
   \[ \text{why-self-you hit-PRES} \]
   \[ \text{Why are you hitting yourself?} \]

These examples are adapted from Capell (1972:5-36) where more detail on the whole subject may be found.

2.2.3.1. Western Desert Languages

Wurm (1972:127) lists forty names under 'Western Desert Languages', and these are practically all dialects of one language - differing considerably in vocabulary from area to area but very similar to each other in structure. Also structurally not unlike them is a group of three languages grouped as 'Marngu' - the basic word for man being used as is often done by Australian students to name either a language or a group. These three are Njangumarda, Garadjari and Mangala. They are sufficiently close to each other to be subsumed under the heading 'Western Desert' for the present purpose. The main features of these WD languages as far as verbal systems are concerned are:

1. A majority of simple verbs to which tense endings are added, followed by subject pronouns and in some also object pronouns, which are not abbreviations of free pronouns. In the paper dealing with the history of Australian languages in this volume, it is suggested that these suffixed pronouns are not related to the free pronouns, but that the latter have been developed from an original suffixed set that provided only for the singular number. In the present paper, however, the synchronic situation is considered: all numbers are provided for, but the non-singular suffixes are built up in various ways (Capell 1955:283ff.). In general, dual and plural are present, but some
languages, such as Bidjandjadjara, do not make full provision for a
distinction of inclusive and exclusive in the dual and plural.

2. In a minority of cases, whose number varies from language to
language, the verb root remains unchangeable, and conjugation is
carried out by means of a set of auxiliary verbs, whose number also
varies, to which subject and usually object markers are added.
Certain elasticity of arrangement is allowed, especially where AT
processes occur. In some languages, such verbs are used mainly to
provide nuances of meaning (as has been shown already for
Bidjandjadjara); in others, the simple stem is either conjugated by
itself or is not changed at all and auxiliaries are used instead.
This would rather suggest that the historical development of these
systems has been gradual and without uniformity (not from a single
centre), but this again is a diachronic matter for which only indirect
evidence is available.

The normal patterning in this subgroup is

\[ V_{ph} = R + t + p, \]

i.e. the verb phrase consists of a root to which tense and person
markers are added. In the case of a compound verb, the pattern is

\[ V_{ph} = R + [A + t + p] \]

where \( A = \) auxiliary; and again, the order of \( R \) and \( A \) may change, but
that of \( t \) and \( p \) is fixed.

Example:

\[ \text{Bidjandjadjara} \quad \text{baluRu nji-nanj} \]
\[ \text{child} \quad \text{sit-PRES} \]
\[ \text{The child is sitting.} \]

\[ \text{qana-}lu \quad \text{djidu}ja \quad \text{baladja \quad wadabara-l-gu?} \]
\[ \text{who-ERG} \quad \text{dog} \quad \text{that} \quad \text{chase-LINK-PUT} \]
\[ \text{Who will chase that dog?} \]

This is the general usage of all the WD languages, including some
of the Waljbiri forms (present tense, optionally). But in
Bidjandjadjara and the related dialects it is possible to use auxiliary
verbs, of which there are five: \( bu- \) hit, marking intensity of action;
gadi- continuity of action; ma- do (also say, take); wan- throw, and
njin- stative. These roots can all be used as simple verbs as well as
serving as auxiliaries. In this latter use, it is unfortunate that
the habit of writing them as part of the verbal stem was early adopted;
if they are separated out their function becomes clearer:
There is one feature here that is not shared by most languages: the base verb is participialised, the ending -Ra being the SM I form - the participle which indicates that the same actor acts in both verbs. These SM forms are themselves rare in Australia, and the Bidjandjadjara usage, more complicated than most, would seem to be a relatively late development. This must not, however, be taken to imply that the whole system is 'late', but only that its use in Bidjandjadjara probably is.

A few fixed auxiliaries in Bidjandjadjara are omitted, such as -(a)ri inchoative, -gara having, -ŋara standing. These are not separable and present a different type that is not germane to the present study.

The only other WD language of this type that can be illustrated here is Yulbaridjja, which has been studied by O'Grady as well as Capell: see O'Grady et al. (1966:150ff.). This language has both simple and compound verbs, and the person endings are typical of the languages throughout WD. O'Grady's list of compounding elements (O'Grady et al. 1966:156) contains:

-ŋara stand as component of stative verbs: it can also be a free verb to stand;
-bu hit, which marks transitivity: wiri-bu-wa throw it!;
-ya go, verbs of movement: galgi_yagaya- akulk about;
-nya see, of mental action (cf. English I see!): djala-nja-forget.

Yulbaridjja is an AT language, as the following examples show:

may-dja ju-wa
food-me give-IMP
Give me some food

bu-ŋa-nja-ŋa-nda
hit-will -I- you

bull-ŋa-ŋa_dadinba
stone-on-I climb-will

waRu-ŋa njana-njin
fire-I see-PRES
On the northern boundaries of the WD area certain other languages call for mention; these are Njangumarda, Garadjari, Mangala and Walmadjari.

Njangumarda shows precisely the same type of structure as those of the WD area as a whole. Concerning the verbal system of this language, O'Grady (1964:66) says: 'verb compounds involve a relatively large number of morphemes as first member, and relatively few as second member.' The morphemes that occur as second member are the following:

1. -ya- go, as a free verb and as the auxiliary for motion: wağa yaŋara he went off the road. In this example the verb as spelled in a free form is spelled by O'Grady as a suffix to the main verb; but he says that it can be separated from its referent: yangulumuŋu yuŋagaŋi wiyaŋara I am going to go fishing.

2. -ga- carry: wağa ganyara he took it off the road; gaŋir ga-nja-ŋa I slipped.

3. -yi- give (CA *yu-): mura yinjanja he cheated me.


5. -baŋi-, meaning not recognised in a free form, only known in a compound: djunara baŋi-ŋi-yalu they encircled him.

6. -gama- call, shout: djuŋi gama-la taste it!

7. -badji- bite: djuŋi badji-ŋa he tasted it.

8. -Ruwi- hit with a missile: djidiŋi Ruwi-yiŋi I twisted it.

9. -burĩ- pull: ḍaŋdaŋ buri-li stretch it!

There are further details in the grammar that are not relevant here. What does appear is a large use of auxiliaries to which person markers are added. Unfortunately there is no statement about the category to which the root belongs - it apparently is not always a verb. There are no catalysts in the language and no AT process.

Immediately to the east of Njangumada comes Garadjari. A grammatical sketch of this language has been given by the present author (Capell 1962:51ff.), from which the following remarks are adapted to clarify the situation. It should be stated, however, that another analysis suggests an appearance of the catalyst ba: reference will be made at the end of the paragraph concerning this matter, which is not certain but a possible interpretation.
There are three dialects: coastal (Ngadj or Murgud), Ngangu (inland to S.E. of La Grange), and Ngawudu or Baldu, to N.E. near Mangala. These differ considerably, as shown in the 1st sg pres of bite: Ngadj badja-ŋa; Ngangu badja-n ba-ŋa; Ngawudu badja-n ba-naŋ. The point of interest is that two dialects use the catalyst ba- while the third - the farthest west - does not. Examples here are usually eastern, as Capell's work was done mostly with speakers found at Beagle Bay. More recent work done by Fr McKelson is mostly Ngadj, from La Grange Mission. The latter has unfortunately not been published except in xerox form within the Mission itself.

Fr McKelson's work treats all verbs as either single roots or compounds, writing -ba- as part of a single root. He divides verbs into five 'conjugations' but does not distinguish the catalyst of the two dialects as a separate element. Nekes and Worms treated ba as come, but this does not seem to be correct; the auxiliary djay- come is the only form with this meaning (Nekes and Worms 1938). Capell's arrangement of auxiliaries treated ba- as come (and this, as stated, is wrong), plus eight others. With adjustment by the omission of ba, the list would now be:

1. -bu- fall: maRu -bu- to dance, as against maRu jin-ba-.
2. -dja- put: galay dja- to finish; jarga dja- conceal.
3. -djay- come: gurga djay- arise; jay djay hunt.
4. -ga-, bina ga- hear; miRa ga- look at.
5. ma- do, say: wiŋiri ma- lead; baŋi ma- smell.
6. nja- see, but the meaning implies a homonymous form of which no interpretation is to hand: gunđi nja- climb; njaruga nja- laugh (Capell 1962:72).
7. wandi- be; jagar wandi float.

The root given as jinba- say has been omitted here; it would break into jin ba- with catalyst. The form in McKelson is regularly indanba- and it forms many compounds, such as garg indanbana I clear my throat, dinjirb indanbana I sneeze. These in Capell's analysis would be gard jindan ba-ŋa, dinjirb jindan ba-ŋa. Dialect difference appears to lie at the base of this discrepancy, rather than difference of analysis.

Mangala has had effect in the Garadjari area border on the S.E. and something must be said about this language, which lies between Garadjari and Walmadjari (or Wolmeri as it was earlier called). Some material was collected by Capell but remains unpublished; a few notes
were included in Nekes and Worms (1938), but the language still awaits study in any detail. The language is subject to AT processes: gu-ŋa-ŋu djari angry-I-you become, I'm angry with you; also catalysts are present, as in Rai ŋa-ŋa djari I'm afraid; jin ba-ŋja he speared.

There are both simple and compound verbs; in each case person markers are the same, as also in the neighbouring languages, e.g. simple: gaqidju-ŋu-ŋu I shall pinch; jinba-ŋu-n you will spear him; wiridjangu-ŋa I shall throw it away. Some of the verbs are used both as simple verbs (jinba is one of them) and as compounds (djudu jinba-ŋu-ľu he will sing; djari-ŋja I become; bulga djari-ŋja I grow big, mature.

The auxiliary verbs evidenced in the material collected include:

1. djari- become (as illustrated above); ray ŋana djari-ŋja I turn about.
2. bu- strike, hit; djudjud bu-ŋana I spread it out.
3. ga- get, take; garaوانงaŋana I gather, collect.
4. ma(n)- take; gađi man-ŋa-ŋa I hold; gidar manŋana I lead; gawu man-ŋa-ŋa bani-wura I will call to him.¹

A few others are less certain until further analysis is done:

5. yu- give; bo: yu-wa blow it!; muj jiu-ŋa-ŋa I move it; ŋij jiu-ngu-ŋu I shall return.²
6. ŋa-, meaning undetermined; wandjə ŋana I leave (trs.); ŋaj-ŋu-na buđana I will meet (someone).
7. wandu- be; djidanj wandu-ľu he is seated; lambu wandu-ľu he is asleep.

There are also some doubly compounded verbs: wona-ŋa jan-ŋa I am walking; wona-ŋa janja jab I pass him by. Here also there seems to be an AT effect that is unusual in a compound verb.

One example in the material is intriguing, as it seems to be a Walmadjari formation - which is likely seeing the conditions under which the material was gathered. In the sentence

¹It would seem that the root ma- do, say, act on, needs to be distinguished from man- take, and there may be confusion in the analysis elsewhere; but in Mangala the distinction seems to be quite clear.

²The exchange between -ŋa and -ŋu as 1st person ending seems to be an optional vowel harmony in Mangala.
a flea bit me; the ba is a Walmadjari 3rd sg. subject marker, and -dja or -dj u is a not uncommon WD 1st sg. object marker.

Walmadjari, spoken about Fitzroy Crossing, has been studied of recent years chiefly by Joyce Hudson of the Summer Institute of Linguistics, who read a paper on the verbal auxiliaries at the May meeting of the Australian Institute of Aboriginal Studies in Canberra in 1974. Some notes from her as yet unpublished paper make the structure of the language plain. There are some differences in the principles involved. The author states (1976:653) that 'one of the functions of the verbal auxiliary in Walmadjari is to indicate the mood of the sentence... Mood is shown in the verbal auxiliary but morphemes in the verb also play a part... Stems may be simple or compound and are divided into five conjugation classes. There are many compound verb stems and in present data less than 10% are simple stems (monomorphic).' Again, some auxiliaries can also serve as simple stems, such as bu-ngu ma nga I shall hit it.

The elements listed by Hudson for Walmadjari are nine in number, mostly those found elsewhere, a few rather unusual. They are:
(1) badjar- bite, chopping, which seems to link somehow with the Australian root bad(j)a bite; (2) bu- strike, hit; (3) djari- become; (4) gar-, undefined; (5) gudji cause; (6) jan- motion; (7) man- do distinguishable from (8) manj- say; (9) wandi- be. Only the less usual will be illustrated here.

Number 1, badjar- biting, chopping, is a simple verb, but compounds as in djuŋ-badjar- to chop: djuŋbadjar-gu ma nga mana I will chop the tree; gar- does not seem to occur alone, and Hudson says of it 'meaning undefined'; Rugu-gar-gu ma nga giliŋiri I will block the hole; the rest are fairly parallel to those of other languages.

The person marker ma nga is of interest - and difficulty. The suffix -ŋa is the 1st sg. sign; the root is then ma-. This would look like the auxiliary ma do, cause, but Hudson says that the root is ba- of which the initial becomes m- when the marker following begins with a nasal. The paradigm in the singular would then be: ma-ŋa, ma-n baŋ. Her examples seem to bear this out. The root is then ba-, which is an early Australian pronoun for 3rd sg. he, she, it. At the same time there is the catalyst ba already noticed in 2.2.2. Can it be that this catalyst is ba-, a pronoun, later degraded? Again, there is a Walmadjari catalyst nga- which occurs 'in interrogative and implied admonitive mood' (Hudson 1976:9). In cases where ba- would occur alone
it is usually in conversation omitted altogether, but this cannot be
done when ṇa- would be used: he...him... becomes ṇaḍa; contrast ṇanbayi-
ḷu bari-Ø binja the man hit the boy and ṇanbayi ṇaḍa girāna ṇura-ṇa
is the man sitting in the camp? To the present writer it seems better
to suggest that ma- is primary and that ma-ṇa is therefore basic, ba-
becoming a substitute 3rd person pronoun within a suppletive system.
This, of course, cannot be proved but, as requiring less morphological
adaptation or morphological change, is simpler.

2.2.3.2. North-east Arnhem Land

In deciding whether auxiliaries are free or bound it is desirable to
use the stress pattern of a language as a criterion. Platt (1974) has
so used the initial stress of Bidjandjadjara: 'It seems appropriate to
consider such compound verbs as single lexical items, unless the stress
occurs on two or more lexical items as it does with some compound
verbal groups.' This is what has actually been done in the preceding
pages. The WD languages therefore have a majority of compound verbs.

In the so-called Yulngu or Murngin languages of north-east Arnhem
Land (NEAL) it is not possible to separate compounding elements out in
the way it has been in some of the WD languages. In the course of the
preceding study it has been possible to suggest that certain of the
languages combine either catalyst systems or free auxiliary systems.
Waljbiri and some of its neighbours belong to this set. The same thing
will appear below in some of the New South Wales languages, where a verb
obviously is compounded, but the second element of the compound cannot
be isolated within the language, and frequently the base or stem cannot
be used alone. This is the basis on which 2.2.3.2. languages are
isolated.

The Yulngu or Murngin languages form one such set. These languages
number about forty, and no full study of them has yet appeared.
Introductory notes were given by Capell (1940:40ff.), but Schebeck has
lengthened the list in papers not fully published since then. These
languages contrast with those of the rest of Arnhem Land in that they
are suffixing, not prefixing, and have no noun classes. In vocabulary
they seem to be offshoots of WD or CA languages, rather than members of
the largely unclassified AL languages as a whole. Between these and
the Yulngu languages lie Djinang and Djinba, which are catalyst
languages of a somewhat peculiar type, not here treated.

In most of the Yulngu languages, it is difficult to regard the
compounding elements as auxiliaries in the sense used above, because
they do not occur independently as morphemes. When New South Wales is reached it is simply a matter of base + bound morphemes: the morphemes do not occur apart from the base and it is only by comparison with other languages that the original semantic independence of the morpheme can be recognised — in fact some cannot be recognised at all.

While there is a general pattern in the Yulngu languages, there is much difference in detail between them. Gubabwiyngu is used as the model because there is most material available in that form of the NEAL languages. The others seem to follow precisely similar patterns.

In Gubabwiyngu it is not easy to decide whether a system of compound conjugation is coexistent with one in which bound morphemes occur. It is possible to use certain roots as elements in compounding: CA *bu hit is found in dar bu-ma stab, pierce, where the initial element is apparently to be linked with darba wood, tree. There seems to be no regular system of compounding in the sense with which this paper is concerned, so that it has seemed better to include these languages amongst those having only bound morphemes as the basis of conjugation systems. There are certain cases here where some disagreement is possible: the problem might be solved by comparison with other Yulngu dialects, for which the present materials are inadequate. One of these is -maRa-ma, a transitivising suffix. The final -ma appears to be the root *ma, leaving -maRa-, and it is tempting to identify this with CA *maRa(n) hand. The Gubabwiyngu verb take, however, is mara-ma, with a flapped -r-. It may still be the same root, with a locally developed distinction of the rhotic consonant, and the addition of the verb class marker -ma, one of nine such markers. The transitivising value of the suffix appears in such contrasts as:

<table>
<thead>
<tr>
<th>Intransitive</th>
<th>Transitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>turn over</td>
<td>bil-yu-n</td>
</tr>
<tr>
<td>wake up</td>
<td>binga?yu-n</td>
</tr>
<tr>
<td></td>
<td>bil-maRa-ma</td>
</tr>
<tr>
<td></td>
<td>binga?-maRa-ma</td>
</tr>
</tbody>
</table>

Some longer series can be found, such as:

| slow     | bulna       |
| slow down| bulna?yu-n  |
| make slow| bulna-gu-ma |
| slacken  | bulna-maRa-ma |

In some cases the transitive suffix is added not directly to the stem but to what Miss B. Lowe has called the 'short quaternary form' of the
verb: ɗŋa-ma die > ɗŋa-ŋa-maRa-ma kill. The quaternary forms, amongst other values, have that of indicating a purpose, so that the suffix -*ŋaRa-, -ŋa- indicates purpose and is strengthened by the genitive ending -wa, producing a long form -ŋaRa-wa and a short form -ŋa, to which -maRa-ma is superadded, make to.... There is also another causative, added to the dative ending -gu to form -gu-ma. This form is usually applied to adjectival stems: Ragunj dead > Ragunj-gu-ma kill, lit. die-for-make (cause). There are also numbers of morphophonemic changes which act within the groups listed, and the groups themselves are not here listed in full. The total result is a grammatically complicated language, and the chief impression is that of a language conjugating by one system which is not compounding, but based on the use of bound morphemes of various kinds.

If it is possible to regard the -ŋa- as the auxiliary *ŋa take, with the -ma of the 'primary grade' added, then we are left with a transitiviser -gu-/yu whose forms are morphophonemically determined: d after stop or nasal, y after liquid w or another y, in each case plus the vowel u: -yu-, -gu- etc. according to grade. Semantically, however, the problem is not solved, as verbs with one of these forms may be either transitive or intransitive: -maRa-ma is always transitive. It may be that -ma is simply a marker of type of conjugation, in which situation -maRa- must be regarded as the basic transitiviser, and -gu-/yu- as only a verbaliser. This raises a further theoretical question as to why adjectives should have a special verbaliser based on *gu-ma in order to, as already indicated.

In spite of these uncertainties, the Murngin or Yulngu languages seem as a whole to bridge the gap between languages that definitely use bound auxiliaries (as has already appeared in the WD languages) and those in which the original auxiliaries have lost all independence and been reduced to conjugation mechanisms, as appears in the following section of the paper, 2.2.4., to which a transition may now be made. At the same time, however, we shall meet at least one language in the extreme south of the continent that uses {-yu-} as a verbaliser: Murundi, for which see 3.2.1. below.

2.2.4. Bases with Bound Morphemes

The languages to be dealt with here use some of the same auxiliaries as are found in the other groups, but they are no longer recognised auxiliaries occurring in their own rights as lexical elements. It has already appeared in 2.2.3. that the recognition of auxiliaries as
free elements was diminishing as one came eastwards and southwards. In New South Wales and the south-east of Queensland, so far as compounding occurs at all, there is a use rather of 'formatives' than 'auxiliaries'. It is recognised that 'formatives' is an ambiguous and unsatisfactory word: any element that goes to form a word is a 'formative' in a general sense. What is meant here is that an element which can be analysed in another language and assigned a basic meaning as a morpheme, now occurs without such status simply as a means of forming a verb from a noun, or some other similar process. This is particularly the case of ga and ma, which hitherto have definitely been indicators of causality, and still farther west, directionals as well as means of expressing transitivity. In New South Wales, however, they are generalised and help to form verbs from other parts of speech without any very clear indication of a basic direction of the action, or anything that would give them clear lexical value.

The languages concerned are found along the east coast of New South Wales in the main: from roughly the region of present-day Brisbane southwards, and nearly all on the coastal side of the Dividing Range. The large group of Bandjalang dialects will be treated first, then a gradual move southward will bring in a review of Gumbainggar, Dhanggadi, Gadhang, Awaba, Guringay, Iyora, Dharrwal, Dhurga, and so towards eastern Victoria. In the inland languages there is less certainty about identification of the type. In Gamilaray, for instance, ga- take is a lexical item in its own right; the past tense is ga-ne and the 'today' past is ka-ne but the vocabularies do not seem to suggest that it helps to form compound verbs of any kind. Some attention will be given to the interior languages of New South Wales and Queensland at the end of this section, but in any case there is insufficient information in many of the languages that might be concerned.

One of the main points of interest is a possible answer to the question: seeing that these formatives do occur in the east of Australia in this way, but, so to speak, not in their prime form, how far can such generalised uses of originally free 'words' as 'formatives' be diagnostic of the historical position of the languages in which they occur? The elements used seem to be all WD morphemes, and in the WD languages they lead an independent existence which is at least much curtailed in the far east of the continent.

Various uses of ga- and ma- in the reduced forms of suffixes to a root, not necessarily verbal, are found right from the Brisbane area southwards, until Sydney is reached, when ma- changes its character and becomes a conjugational element with the verb stem, marking a
tense. No exhaustive exploration of these changes can be undertaken here, but examples will be given from the various languages in which the particles or suffixes are found. In Durubul (Ridley 1875:77-98) no explicit statements are made regarding ma-, but a number of examples are given both in the vocabulary and in translated Biblical texts (which are not well done, but clear enough to show the structures implied in most cases). A common past tense ending in the language seems to be -ri, as yuga:ri made: it would seem, then, that the translator whose work Ridley reproduced meant by the ending -murri, a past tense -mari < -ma, the -ur indicating a short a followed by a flapped r, as often in the earlier writings in Australian languages. Examples then are given in Ridley’s spelling and an attempted phonemicisation, as follows:

2.2.4.1. Durubul (Djandawal, Yagarabal, etc.)

1. ba- become: this is an extra morpheme not found in all the New South Wales languages but common in Ridley’s material for this language:

   bayim ba- to be sick; murumba bayi he will be(come)
   good; mil bulbu alive > mil bulbu ba- become alive,
   arise from the dead; nayi name > nayi ba- to name;
   num-ba-yi shining; guruga ba- to throng a person;
   dul ba- to sit up, come to a sitting position.

2. ga- seems to be a transitiviser, not so definite as ma- in its uses, in fact the difference between the two is not always clear:

   yu ga- make (if this is a true compound; the material is insufficient in that *yu does not occur, but mostly yugari made; bul ga- bring (but bul-ga-yi is often come); gun ga- cry out (fetch a cry?); gal ga- cut.

3. ma-, transitiviser, also independent verb ma-ni seized; cf. also maRa hand:

   gali ma- punish; bugan sleep > bugan ma- put to sleep;
   bulgan ma- raise up (cf. bul above; the compound bul ga with a final -n is not clear); gungiri ma kill;
   wu:n ma- lay (in a position); bun ma- separate, pluck up (as flower), draw out; duluqundu ma- to close up;
   guru ma- hide oneself (make shade for oneself? < guru shade).
This is a language in which yan go is conjugated with ma so that yan ma-walk, go. The same is true of Gabigabi and other neighbouring languages. It will appear that in Iyora (Sydney) ma- becomes a simple tense marker, and ba- becomes another tense marker). There are unclear cases in the texts, e.g. yungar murumba yuggali is translated they cannot make well; this should apparently be yungar marumba yu-ga-li not well make-ga-they. Another series is: dayi-na he lay (stick); dayi ma-ri lay (something on the ground); dayi duña he lay, in gungi: r dayiduña he lay dead; the root duña as a single word means weep, EA *dunga. The above notes, however, make the salient features of this part of Australia clear; some comparisons might also be made with Gabigabi and Waga.

2.2.4.2. Bandjalong Dialects

Of these dialects, bridging the New South Wales-Queensland border, there are nine, listed in another paper in this volume. The chief dialect used here is Gidabal, after Geytenbeek and Geytenbeek (1971), with references to Yugumbir (Cunningham 1969).

According to the former authors some auxiliaries still exist in the various forms, but there is evidence that they are not securely established in the language. Thus, 'most nouns that refer to noises may be verbalised with the verb root ba- say; ñur ba- growl; yare:ŋ ba- scream; buru:ŋ ba- snore, etc.' The authors add: 'a few other combinations have been recorded involving nouns and verbs, e.g. bu:n gawa-roll up (as blanket), lit. coil-break; girur gaware- slip, lit. smooth-run. With adjectival phrases ma- is the verbaliser: bugal ma- to do something well; daram ma- to dry something; yingam ma- to make angry' (Geytenbeek and Geytenbeek 1971:40). Further about ma- (p. 23) we read: 'It also conveys a causative meaning when verbalising the nominalised forms of the irregular verbs of Groups A and B. A verb root ma- following a locational phrase means put.' The mention of 'nominalised form' will prove important when Dharawal is discussed, because all roots there involving ma- are nominalised (by means of -l) and it will appear that this -l is a EA nominaliser frequently combined with the purposive *-gu to form -l-gu 'future action'. Dharawal bul ma-i-a he hit him (from *bu, hit is exactly of this pattern). In Gidabal, ga:ŋa is bring, from the *ga root, but with a compounding element. On the other hand, such verbs as galga- cut look like gal ga- and do fit the pattern found in Durubul (above), though not recognised as compounds by the Geytenbeeks.
For the Yugumbe: or Yugumbir dialect, Cunningham (1969:88) says: 'Some of the adjectives in the data took various verbalising affixes converting them to verb roots, which could then take normal verbal affixation.... Suffix ma- could be assigned the meaning causative, and may be suffixed to nouns also.' Amongst her second order suffixes are -ba, -ga, -ma, -gira and -i.

2.2.4.3. Gumbainggar

This language impinges on Bandjalang to the south and continues as far south as Nambucca Heads and inland to the Dividing Range. The information is drawn from W.E. Smythe (1948). Unfortunately, Smythe's methods of spelling introduce some complications, especially his use of the diphthongs -ai-, -ei and his habit of working with an 'infinitive' -eig as a base form of the verb, under the influence of English grammar. The form seems to be -ay-gu with phonetic fluctuation to -ey-gu, and quite a number of adjustments of his spelling are needed here, so that the relationships may be plainer. A form such as bindaim eig throw is much plainer if taken as binday may+gu: from which it would appear that *ma- in this language becomes -maY. These forms are therefore used in what follows, but it must be borne in mind that they are interpretations of Smythe's actual spellings.

After dealing with simple forms of the verb, Smythe has a section (pp. 45-6) on 'modified forms', and these seem to be the compounds that Gumbainggar has to offer in comparison with the more northerly - and for that matter, more southerly - languages, taking as his base (-ei, -i:, ai, i)gu (i,e, in the present spelling -ey, -iY, -ay, -i + gu), he gives:

\[-(eY, -iY)gureYgu\] causative or permissive

and with 'a few verbs' variants replacing -gureY by -mbeY- or -ndeY-, -(i):baiji:gu desire to, -(e)reY- 'reciprocal'; -(i)leY- 'action by carrying'; and -(a, a:)reY- 'action in a direction away from some point' (Smythe 1948:45-6). On page 45 also he says: 'In this way the verb behaves very much as though it were composed of two parts - an invariable, or more or less invariable stem, and a series of attached terminal elements which undergo the various modifications...' This, of course, is what he should have done, and it would then seem that the elements concerned are: aY- be become; -gura- cause or permission (rather like Yugumbir-gira), causatives also mba-, nda-, bai want to, laY- carrying; raY- 'action away from speaker', which would then be treated in writing as separate words. Actually there are other forms
not listed in the grammar but found in the vocabulary, e.g. the series:
\[
\text{ju:ngu bad} \rightarrow \text{ju:ngu mba}- \text{make bad}
\]
\[
\rightarrow \text{ju:ngu wa}- \text{become bad}
\]
The last may well be equivalent to Durubul ba- mentioned above. He does exemplify modern verbs adopted from English (p. 57), such as
\[
\text{lo:nimbeigu to learn; njoinjimbeigu to know; gi:bimbeigu to keep; bailimbeigu to boil.}
\]
There is also here \text{warali sorry} > \text{warali wa}- \text{become sorry}; and \text{daruwi good} > \text{daruwi ay}- \text{become good} seems to be a variant of this same marker. The \text{ma-} form appears in \text{ju1 ma}- \text{tell a lie}, with what seems to be a phonetic variant in \text{jurun da}- \text{lengthen}. This language also has a long series of prefixes which indicate direction of action, but these are outside the present essay. The English loans referred to above include \text{lo:ni mba}- \text{learn; njoinji mba}- \text{know; gi:bi mba}- \text{keep and baili mba}- \text{boil.}

Although the formations are far from clear and really need re-examination (largely thanks to the author's unsatisfactory spellings), it is quite clear that much the same set of compounding elements is found in Gumbainggar as in the more northerly languages.

2.2.4.4. Dhanggadi and Gadhan9

These two languages cover the area from Nambucca Heads to Newcastle and its neighbourhood. The information here rests on the work of Holmer (1966, 1967). In these two languages the whole structure seems to be simpler than in the northern languages, and contrasts with the far more complicated structures of Awaba and Guringgay to the south of Newcastle.

These languages have the ga- and ma- auxiliaries in common, although of course the shapes assumed in the conjugation of them vary. The presence of more than these two auxiliaries seems doubtful and Holmer had difficulty with further analysis. While Holmer's account is not entirely clear, it will supply enough information for the present need. In Holmer (1966:43-4) he writes: 'The verbal derivatives (-ba, -ma or -mba-, -nda, -nja-, -ra-, -baja-, -buja-, -windi- or -windji-) have a more vague function than the above nominal suffixes, but usually they form causative verbs. This, at least, is true of the Dhanggadi -nja-(also -njara-, that is -nja- plus -ra-), as in: \text{mananja- make go} (from T \text{mana- go}), \text{T bajanja- let go out} (from T \text{baja(ja)- go out}), \text{T balajanja- (bala\-nja-) make jump} (from T \text{balaja- jump}). Some of these formatives are originally independent verb stems; especially the suffix -windi- (as in T \text{bukawindi- kill}, from buka \text{dead}) is no doubt
the same as the verb $\text{T winda}$ (windja-), $\text{windji}ta$- do, make, go (about), etc.; -ma- may be connected with the verb stem ma-$\text{get}$, take, etc. (usually expressing action by hand... As for -baja-, it is formally identical with the Dhanggadi verb stem baja(ja)- get out, etc.; cf. T wutubaja- grow up (from T wutu- big).' He goes on to mention -buja, as in maRu$\tilde{n}$buja feel good < maRu$\tilde{n}$ good and mundurbuja to smell < mundur a smell. He also mentions, what has appeared in other languages, that the formatives may be combined, and instances for Dhanggadi -nja-ra and ba-ra to extinguish a fire is either badi-ba, badi-ba-ja or badi-ba-ra. He finds one instance of the -nda (listed for Gumbainggar) in juwanda- put, leave, but is unable to analyse it.

The formative ga- is shared by both languages, and may combine with noun stems or follow verb stems. The general meaning, Holmer says, is be or become, and this is somewhat different from its uses in other areas - a loss of force, actually. Gadhang garwanga gagi! it is becoming fine; baga ga-ndi will become mad. With nouns he gives Dhanggadi dimbunj g-in became a ghost; nunmar g-in it became night. Gadhang dalga ga-njila it became hot; banma gaga keep quiet.

2.2.4.5. Awaba and Guringgay

These two languages were probably dialects of each other, Awaba had its centre about Lake Macquarie and probably extended as far as present-day Newcastle. It is the theme of L.E. Threlkeld's writings now best known through Fraser's edition of the major part of them (Threlkeld, ed. Fraser 1892, but see also Gunson 1974). The Guringgay dialect was also investigated by Threlkeld, but all that remains is a lengthy manuscript in the Mitchell Library, Sydney, which has never been published, but has been noticed by Capell (Capell 1972). The exact relationship between this and Awaba has yet to be made out; there is considerable difference in vocabulary, as is usual in Australia even when geographical distance is small. The grammatical structure in each case is practically the same. The real gulf is between this northern language and the Iyora and Dharug of Sydney district, where similar linguistic elements are used in a rather different way. At the present moment, of course, only the verbal structure is under discussion.

Some study in this was made by Capell (1956-62; especially pp. 69-70 of the latter edition), but one correction has to be made to a statement on p. 70 of the earlier work, and this will be included below. The Awaba verb is extraordinarily complicated as compared with that of the languages to the north which have just been discussed, and
Threlkeld's explanations are not always easy to follow: his analysis seems to be too thorough, in fact, and to be reduced to meanings of individual phonemes in a way that even Fraser rejected - and rightly so (Threlkeld, ed. Fraser 1892:94).

None of the analyses so far published of Awaba formatives is really clear - whether Threlkeld's or Müller's (Müller 1876), based on these. Neither, for that matter, was Capell's (1956-62). The root trouble seems to be the involved nature of Threlkeld's explanations, based on a theory of phono-semantics (Threlkeld 1850). Capell stated that there are four indicators which serve to show types of verbal action, viz. ba, ga, ma and qa. The first three are right and will be explored here; the fourth seems to be ruled out by closer study: it does do so, but only with certain interrogatives. It is itself the stem of qa-who and is used in only a few situations which Threlkeld illustrates. In other words, qa- is a pronominal base rather than a verbal marker. This perhaps does not invalidate the connection suggested by Capell between this qa and the homonymic catalyst of the WD languages.

The remaining three hold good, however, and they are used very much as in the other New South Wales languages dealt with already. It seems safe to retain the analyses given by Capell in the earlier work:

- ba action as such
- ga being as such
- ma transitivity

the last including causativity, i.e. transitivity of an intransitive base. These formatives occur in sundry forms, and ma is the formative mostly found in the formation of transitives. Thus, starting from the base bidal glad, it is possible to form:

- bidal ga- be glad: bidal ba-ŋ ga-dan I am glad
- bidal ma- make glad: bidal ma-ŋ bon ba-ŋ I make him glad

The ba- formative is the basis of personal action, and the person markers in the singular number are added to it, as in ba-ŋ I (do).¹

The system, however, is not nearly so simple as these examples suggest. Some verbs use almost entirely a given formative as, so to speak, part of themselves: beːl ma- to mock is not found without the ma-. It would moreover seem that in this language the basic forms

¹The limitation of these markers to a singular pronoun is one of the facts that suggests that Australian pronouns provided originally only for singular pronouns - dual, trial and plural are all later, composite formations. This is treated in the longer paper already referred to.
carry a final -n in many instances where this is not part of the original root: *bu hit becomes in the present tense bu-n-dan; ma- becomes ma-n in, e.g. ga-ma-n-bin bon ba-ŋ I allow (ma-n) him to be (ga-).

Moreover, the nominalising or gerundial -1 (which is really *1 in EA) plays an important part in Gadhang, Awaba and Dharawal, as well as in other parts of Australia. This, again, is not a subject for discussion here. It sometimes appears with ma-, e.g. ŋagoya deception > ŋagoy ma-li-gu in order to deceive, which the writer is inclined to analyse as ŋagoy + ma(l) + gu deception making-for.

At the same time, not all Awaba verbs are compounded; there are also simple verbs: wiya say > wiya-n ba-ŋ say-PRES ba-I, where ba-simply serves to show personal action of the type indicated by the root wiya saying. The root *bu gives bu-n-da-n bon ba-ŋ strike-PRES him actor-I. The auxiliaries can be used also by themselves, often in composition with each other: ga-dan ba-ŋ I am, lit. be-PRES actor-I.

There are also other 'side' developments of some auxiliaries in Awaba, especially in the uses of ma-. This becomes a 'permissive' in many instances, e.g.

\[
\text{bu- ma-n- bila bi dia bon} \\
\text{hit-allow IMPERT. you me him}
\]

allow me to hit him!

The intransitive marker ga- be can also be used in compounds, e.g. bolō:ŋ ga- set of the sun: bunul bolō:ŋ ga-dan the sun is setting. This also appears to be part of the noun formant seen in wiya speak > wiya-lī-gani word, that which is spoken.

The Guringgay forms have not yet been analysed. The sole source of this dialect of Awaba is a manuscript by Threlkeld held in the Mitchell Library and not yet published (see Threlkeld, ed. Fraser 1892). Most of the grammatical forms are identical with those of Awaba, except that ba-nuŋ I do it to you always appears as ba-nu - and it does not look like a mistake on the part of the recorder. As in Awaba, the structure of the VP is

\[
\text{VP = V + tense etc. + pronoun(s), e.g. ŋuruŋ-ala bi?} \\
\text{here-did you? As in Awaba ba + yi > bi.}^1
\]

\[^1\text{As the pronoun you in Awaba is ŋin-du-wa, and the possessive ŋi-ro-wumba, it would not be logical to posit ba + yi, as here is done, but for the fact that the same recorder (Threlkeld) in his Guringgay manuscript writes your as yiroumba, i.e. yi-ro-wumba < yɛro+wuŋ+ba. So it seems that the northern Awaba may have changed an initial ŋ into y in this instance.}\]
The first person form is ṣurun-ala ba-ŋ as in Awaba. Note that as in the Catalyst languages, tense is marked in the verb, not in the person signs in both Awaba and Guringgay. There is a difference also in the desiderative form: wiya-d-ul ba-nu I want to talk to you (Guringgay) as against Awaba wiya-n-uwil ba-nuwŋ.

2.2.4.6. The Sydney Area

The area covered by the Awaba dialect group finishes at the northern shore of Sydney Harbour. The language of the Sydney area has no known native name, but has been called Iyora (Iora) after the local word for people, and this is serviceable as a designation. To the immediate west of this, and reaching to the Blue Mountains - definite boundaries again are unknown - was the language recorded by R.H. Mathews (Mathews 1901) as 'Dharrruk' (Dharug in the present spelling). This apparently reached to the southern bank of the Hawkesbury River; on the other side, stretching north-westwards, came the related Darginjung language. These seem all to have formed one subgroup by themselves, and are quite distinct from the Awaba group to the north and Dharawal south of Botany Bay. Gandangara, according to Mathews, was hardly more than dialectally different from Dharug.

Information on all these languages is insufficient for any real analysis of them, and the grammar reputedly written by Lieut. W. Dawes of the Sydney speech has come to light only since about 1970, and no analysis of it has been published yet. Even Dawes did not give a name for the language, so that Iyora is retained here.

In these languages there are traces of the auxiliaries found in Awaba and northwards, but their uses are quite different. They now function not as auxiliaries at all, but simply as tense markers, and Capell finds that it is easiest and clearest to treat the Iyora verb as a simple root, conjugated by a separate particle variable for tense, as in English I do come, I did come - I shall come then using a different particle. In Iyora, three separate particles are used for the three simple tenses: one of these is dja- (which has not appeared in the other languages), and the other two ba and ma. The two latter are future markers, dja- marks a past, while the present (probably an aorist) is marked by change of person endings.

Dawes' manuscript is not perfectly clear as to distinction between ba and ma, so that it seems best at this stage of the study to give simply a few examples of verbs as set out by him. It is worth noting

---

1The present writer has the matter in hand.
that he is the only writer to supply non-singular verbs, and his account of dual and apparently trial number, is not entirely clear.

However, with Dawes' material, our knowledge of Iyora is now greater than our knowledge of Dharug, especially in regard to the verbal system, for of that Mathews only says that it is similar to Dharawal (which is not true) and that lack of space prevents him from giving examples. His manuscript notes in an exercise book give a better reason than that for omitting it. His word list in Dharug is much better than his grammar. In Dharug, and apparently in Iyora as well, the formatives discussed for the more northerly languages do appear and do function, but as consistently as in the north. It may be that the formatives used for tense formations in Iyora and that auxiliaries are accidentally homonyms, but that is inherently unlikely. Before the matter is examined it is best to give some conjugation forms from Iyora according to Dawes' manuscript. It should be remarked first that he does not allow for the distinction of inclusive-exclusive and gives simply '1st person plural', the ending for which is -ŋun, but occasional examples of a final -na which looks to be exclusive are found by another writer whose work Dawes included with his own - the two handwritings are quite different. Thus, for Dawes' na: djanun we saw, the second writer has na: djanna: one must suppose therefore that the language - which is an ergative language with AT processes - does make provision for both forms: only the one will be given here because it is Dawes' own writing that is being used.

In Dawes' exposition, the present tense seems to be really an aorist, and is rarely given. For the verb see he has ŋaya na: only.1 The other two tenses given by Dawes are:

<table>
<thead>
<tr>
<th>Past</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>na: djəw</td>
<td>na: bəw</td>
</tr>
<tr>
<td>na: djami</td>
<td>na: bami</td>
</tr>
<tr>
<td>na: djanə</td>
<td>na: baban or na: ba</td>
</tr>
<tr>
<td>na: djanun</td>
<td>na: banun</td>
</tr>
<tr>
<td>(na: djanna)</td>
<td></td>
</tr>
<tr>
<td>na: djanye</td>
<td>na: banye</td>
</tr>
<tr>
<td>na: djawi</td>
<td>na: bawi</td>
</tr>
</tbody>
</table>

In these examples, it is easy to see that ba has been reduced to a formative, as stated above; after a nasal ending ma- is apparently a

---

1Some other writers use na: instead of na:- for see, and it is of course impossible now to decide; either could be right. The velar nasal form occurs in the second writer in Dawes' manuscript.
morphophonemic change for it: yan ma I shall go, etc.

However, the form ba is also used as a copula in some sentences given by the second writer in the manuscript: mi bā djara? What is its name?, answer: Djegomarani djara ban Its name is Djegomorani. The ending -djaŋa often given with verbs in 3rd sg. past, looks like an error: bay djaŋa he beat should undoubtedly be he beat me.

For Dharug the documentation is unsatisfactory. In some of Mathews' examples the verb is not marked for person at all, but does carry the -ma suffix, as in

\[\begin{align*}
\text{najja badi ma} & \quad \text{I eat} \\
\text{njindi badi ma} & \quad \text{you eat} \\
\text{nanu badi ma} & \quad \text{he eats} \\
\text{nali badi ma} & \quad \text{you and I eat}
\end{align*}\]

In others, there is change of final vowel for the persons at least of the singular:

\[\begin{align*}
\text{najja naliviwa-du} & \quad \text{I am sitting} \\
\text{njindi nalawawa-di} & \quad \text{you are sitting} \\
\text{nanu naliviwa-d} & \quad \text{he is sitting}\end{align*}\]

In the future tense, -ba becomes the suffix in the following examples: maraga nalaway-bi nali perhaps we two eat, i.e. let us two eat.

This is also rendered nali-dja nalaway bi, the pronoun being in the ergative case for no obvious reason. The 3rd person singular remains constant, as in nalawad nunbi she,its. On the amount of information in Mathews' notebooks (material which he never published), it seems impossible to go further.

To pass now to the occurrence of compound verbs in both Dharug and Iyora, many examples occur in both the languages and the two do not always agree in the formation. There are instances in which the Dharug vocabulary of Mathews (1901:157-60) shows a verb ending in ma where the Iyora lists give it without ma and Dawes' conjugations show ba (or morphophonemically ma) or dja as tense markers. Thus: Iyora wīda, Dharug wadama drink; Iyora wad ma swim, Dharug warī-ŋa, which seems to have a different ending, reminiscent of Awaba -ŋa; Iyora bada, Dharug bada ma-eat. The -ŋa ending seems rarer, and in the present state of knowledge it cannot be defined as holding the same position as in Awaba, the words ending in -ŋa, in the vocabulary do, however, seem to be all intransitive, as Iyora yil-ŋa leap, Dharug gari-ŋa; but for laugh the

\[1\text{As there is evidence of Aux. process in Iyora, there may have been more than one way to say these things in Dharug.}\]
languages disagree slightly: Iyora djan-bl, Dharug djan-di-ga; Dharug stand (Iyora not given); d nga weep in both languages, is monomorphemic, but there is woin-ga whistle (Dharug) wogawina (Iyora). Tense formation here seems to be involved in Dharug wangi-d, (Dharug) pretend as 3rd sg. of the -ga verb, cf. ma:ni-d takes.

The few examples in Ridley (1875:101) of sentences in the Gwyagal (George's River) dialect of Iyora (see Capell 1972:25-7) do show a similar structure but they are too sparse for it to be clear. They include: bun-ma kill, man-ma take! This dialect however seems to have a different method of person marking if the analysis of bindwagun I'll give you as bln-dwa-gun give-I-you is right and wuni-djeru-n-bi want-you-PRES, you want bears it out.

2.2.4.7. South Coast of New South Wales

Most of these languages are no longer in use and it is difficult to distinguish boundaries. Examples will be taken here only from Dharawal and Dhurga, which are fairly closely related. They have been studied by Diana Eades (1976). These languages are rather more difficult to analyse than those north of Botany Bay, largely because the material is inadequate and inconsistent. This fact is well brought out by Eades. She, however, has denied entirely that these languages use auxiliaries at all. It is true that so far as the material goes they do not use them as free formatives, such that different auxiliaries can be used with one root, and she denies the present writer's claims that they can be found at all in the languages. The author, nevertheless still feels that this is wrong, and based perhaps in too great a caution in analysing what must be admitted to be faulty material. In both the languages she takes the verbal stem as ending in a consonant and the person markers as beginning with a vowel (Eades 1976:54ff.). Hence Dharawal bulm-aya he struck as against Capell's bu-l ma-y-a. She states that the appended -l on the root *bu strike is unexplained. She speaks of 'the unexplained link -l'. However, the link can be explained; it is the gerund-forming -l that can be assigned to EA as *-l. It is frequent especially in WD languages in a future formed as -l-gu. She is equally sceptical of R.H. Mathews' -gay, as a formant for intransitive verbs derived from adjectives, which the present writer takes as the auxiliary ga already found in the more northerly languages, and as EA *ga of carrying. There is a difficulty in explaining the final consonant, but the usage is so similar to that of other languages that the two can almost certainly be identified. Thus nagun good, nagun-gay-nya I am good, past tense nagun-ga-ya-nya, future
naguŋ-gay-naya-ŋay. It should also be noted that the negative in Dhurga comes between the auxiliary stem and the tense or person signs: Dhurga dja ma-ŋamba-ga I do not speak.

To take ma- do, make, cause first: it seems arbitrary to deny the form as an auxiliary once the nature of -I is realised. It is true that in Wiradjuri and other languages across the Dividing Range -I is not involved: Wiradjuri bu ma-ra I hit (now) as against Dharawal bu-I ma-ŋay. This may be compared with mi ma-ra detains, and Awaba mi ma-li remain cause-to, detain. Wiradjuri does use ma as a normal auxiliary with transitive verbs, without -I, but nearly all the Wiradjuri tenses except the present include an -I with the auxiliary, not with the root: ma-l-ŋarin (this morning past), ma-l-ŋurani (near past), ma-l-gowan (completive morning tense), while with verbs of the yan-go type this does not occur, while with those of the bada bite type (simple stems) the gerundial is added directly to the root: bada-l-giri ate.

There are other Dharawal verbs in which Eades makes the root or stem end in -Cm in what seems to be an unjustified way, e.g. ʔanm- eat rather than accept dan ma- as a compound verb. Again, some verbs end in -Cg where Capell would interpret -C + ga, as in naŋ ga- sleep, yila ga- rejoice (Eades 1976:54). Most of these are intransitive verbs, as they should be according to the other languages, except babu-g bite (which may be either transitive or intransitive in English).

Other examples occur which could be reinterpreted, such as mim-bisa, with what would be the ba auxiliary treated in Awaba supra: in that language actually the verb to kiss or salute takes ga- according to Threlkeld: buŋbuŋ ga-. The Dharawal example pattern is mim ba-. There is also an apparent form *da which has no relations in other languages; taking Eades' forms, nand- see, yand- go, bind-/ bing- give, ʔandi- hear. These are quite normal Australian forms without the final -d, and in some languages without the -n either. With the last mentioned, N.E. Arnhem Land qa-ma seems a reasonable cognate: -ma is here the 'infinitive' ending, not the auxiliary. The root for give in Australia varies between ŋu-, wu- and yu-; bind- could possibly belong here but is outside the present research. Presuming -n to be a final of root at some stage at least of Proto-Australian language, it still remains to identify the -d, this could represent -l/-r for -la/-ra after a nasal, but there is no means of identification at the moment and the form is best left marked as an auxiliary but uninterpreted.
In Dhurga there are also numerous examples which come to light in a critical examination of R.H. Mathews' vocabulary. There are simple verb forms to which person and tense endings are added directly, as na:ra-ga I bind; nambadja-ga I catch; ya:wa-ga I talk; wa:galuwal-ga I search for — and nja-ga I see, which lacks the final consonant of the corresponding Dharawal verb listed above.

There are examples where a ma auxiliary can be safely identified: dja ma-ga I talk; nu ma-la-ga give did-PAST-I — quite different from Dharawal — gana ma-ga I eat; guwinj ma-r twist it; bulu ma-ga I wash; djinja ma-ga I build it; and quite a number of other examples. A smaller number evidence ba, as in djindju ba-ga I spit; djarum ba-r be quiet! (interpreting Mathews' spelling djarumbur). There are also a few of the doubtful d-forms as in qunda-ga I drink, and nara-ga I hear seems to be a simple verb here. Although Eades does not accept such analyses — and indeed holds that the available materials are inadequate, there is nothing inherently unlikely in what is said here, and both form and sense support the suggestions made here. It may be added in passing to the next section, that Wiradjuri binan ga-ra hear seems to be quite the right interpretation of binanggara, in view of the CA *binan ear compounded in Ngarinman binan + auxiliary to hear, especially as in that language the noun ear has been replaced by la:na.

2.2.4.8. Languages Inland from the Dividing Range

A note needs to be added concerning these, because mention has been made of Wiradjuri, where certainly ma and ga are present as bound auxiliaries — and the point is exactly that in all this area the auxiliaries are not only morphologically bound forms (even if it is convenient to write them separately) but bound to certain verbs also.

There is no satisfactory grammar of Wiradjuri, but the notes by Günther in Threlkeld, ed. Fraser 1892:Appendix, 56-120, enable certain things to be said on the formatives in this language. Ba, ga, ma are among others.

1. ba be, also in form bala is used with pronoun suffixes: bala-du I am.

2. ga be, used only with present tenses, but may also be interrogative, example: wadan-ga- to be angry.

3. ma- is causative: giway sharp > giway-ma sharpen. It is also used with English loanwords: ring ma- to ring a bell.

There are also certain others which are not fully explained, e.g. gana burn (intr.) > gana bi- set on fire; bulu die + bu strike >
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balubu- l kill; baŋa break (intr.) > baŋa-nar- break by falling. In point of fact Wiradjuri word formation (not only verbs) in general is rather complicated.

For the Ngunawal language (about Goulburn, New South Wales) most of the information rests on R.H. Mathews (1904:297ff.) and his notebooks (unpublished). His model verb beat is in present tense ɳubu-maŋga - in his spelling ɳubumangga, in which ma- is clearly involved as a formative. This, however, becomes -ri- in past tense and -ni- in future, recalling the abovementioned Wiradjuri markers which are limited to a single tense. However, he notes that 'a predicative adjective will become an intransitive verb' and this then involves ma, ri and ni - showing that the basic meanings have been lost: munun maŋga I am large. A substantive verb 'to be' does not occur in this language: yēḡā madi ɳunu good very this, this is very good.

There is thus at least a suggestion that Ngunawal was not entirely without a system of formatives similar to those of Wiradjuri.

To the north of the Wiradjuri there are a number of languages, of which Gamilroy (Kamilaroy) is the best recorded (Ridley 1875:3-43). The same auxiliaries are found in these languages also, but again reduced to the status of formatives and in some cases changed considerably in form. Communications from Peter Austin (Canberra, Australian National University) have helped considerably in clearing up the situation in Gamilroy and the neighbouring languages and have been embodied in the present note. Austin in a private letter states that he cannot identify the ga auxiliary in this language, but it seems to the present writer that it is to be recognised in the forms of gi-, given by Ridley (1875:13) as be, become. In regard to the other auxiliaries, it seems best to embody the information supplied by Austin, who writes: 'The morpheme -ma-l turns up in Gamilaraay [Austin’s spelling], Yuwaalilaay and Yuwaalaraay as an affix on y and ɳ conjugation intransitive verbs, which converts them into 1 conjugation transitive verbs...all these languages have four verb conjugations, y, ɳ, 1, and n.’1 It is also found on English loanwords which are borrowed as verbs, for example gigima-l kick which is borrowed from English. Examples of the ma transitiviser include the following taken from the honours thesis of Mrs Corinne Williams (Williams 1976), a grammar of Yuwalaray:

1 The treatment of 1 as a conjugation marker differs from mine; I discuss it lower down in section 3.0 of this paper.
That man made me fall over

I'm going to make you go to sleep

'The same affix is found in Wiradjuri, Wayilwan and Wangaybuwan to the south and west to which the three northerly languages are closely related...As for the intransitivising marker ga I can find no trace of it in any of these languages;¹ the only affixes affecting the change from transitive to intransitive stems are the reflexive and reciprocal which are not at all connected with ga.'

Austin also remarks that he would expect to find these formatives also in Queensland and quotes their occurrence in Diyari, as has been already mentioned here. Professor Wurm (Wurm 1972), however, does not recognise them in the New South Wales languages between the Darling River and the South Australian border.

3. THE NATURE AND HISTORY OF THE SYSTEMS

3.1. Introduction

The time has now come to undertake a discussion of the history of the various systems of compound conjugation which have been outlined in the preceding sections. It is obvious that EA verbs did not have this dual system of conjugation. It would in fact seem that the earliest verbal system was hardly a system at all: this seems - from the few remains that can be interpreted - to have remained the form in Tasmania (Capell 1968). Compound conjugation is Australia developed first of all as a syntactic matter, a device probably for vividness and clarity of expression, certainly not for any grammatical reason.

The stages that will be suggested are as follows:

1. Uses of V + V > V + auxiliary V > V + morphemic V.

2. Gradual subdivision of this scheme in different areas in different ways, with involvement of N as well as V.

It even seems possible that the more elaborate scheme belongs to the relatively modern CA period, which must be dated as later than 10,000 B.P. The frequent use of the gerundial marker -l is the ground for

¹ See previous footnote.
making this statement, for -l certainly appears to belong to the CA stratum, and is most marked in regions where such influence can be suggested on other grounds also. This is, in fact, the main reason for treating the Dharawal verb, e.g. bu-l-ma-y-a he hit him as bu мая, and this seems to have been a borrowing from the Wiradjuri subgroup where the system was developed more highly. In fact, the tendency for the construction to occur with the CA *bu hit root makes it tempting to suggest that something like a 'sprachbund' was operating in the south-east of New South Wales, and perhaps elsewhere.

By way of preliminary, attention may be suggested to rather similar phenomena, of course with different morphemes, found at least in parts of the Indo-European languages. In modern English it is possible to say not only I came but I did come. Such a construction is at first emphatic, then becomes functional on its own merits which, especially for non-English speakers learning the language, are considerable. There is a tendency to simplification visible in language as a whole: the loss of the Latin future-by-inflection and its replacement by a future-by-auxiliary in the Romance languages, is not isolated, and would probably be found more frequently if the early history of non-literary languages were known.

The various systems of auxiliaries that have been noticed lend themselves to classification, as in the following diagram:

<table>
<thead>
<tr>
<th>Independent</th>
<th>(a) Syntactic combination, derived from an original phrasal verb combination.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Syntactic combination derived from an original N + V phrase, N being object, or gerund derived from a verb stem by the addition of -l, the CA gerundial marker.</td>
</tr>
<tr>
<td>Catalyst</td>
<td>The catalysts were originally independent verbs, whose independence was lost and their meaning reduced to verb in general terms.</td>
</tr>
<tr>
<td>Dependent</td>
<td>Originally fully meaningful, but the meaning has been largely lost and has assumed a semantic change in the resulting compounds.</td>
</tr>
<tr>
<td>Bound</td>
<td>A final stage, in which very little of the original is retained, and it is used only to make the compound phrase possible.</td>
</tr>
</tbody>
</table>
In the diagram on page 237 some Ngarinj in sentences were transformationally analysed under the general form of

\[ S \rightarrow NP_1 \rightarrow VP \rightarrow NP_2 \rightarrow \text{V} \rightarrow \text{Base} \rightarrow \text{Auxiliary} \]

subject object gerund

This same general pattern suggests a combination diagram in which the various types of Base and Auxiliary can be arranged in forms which allow for typological classification of the phenomenon. This diagram follows as Diagram II. Both NP and NP₂ being optional, the VP phrase only is taken as base. The next diagram therefore takes the form:

\[ V \rightarrow \text{Base} \rightarrow \text{Auxiliary} \]

gerund obj. sub. root tense and mood etc.

The classification types rest on the morphemic and semantic contents of 'base'; the order of subject and object markers may also be SO or OS in different types of languages. This last point is diagnostic for the present purposes and needs to be regarded especially in the analysis of the Gunwinjgu type verbs (2.2.1.6.3.). A re-study of this section will show that it is just the order of 0 and S that has decided this particular type of compounding. As a matter of fact, of course, it is not essentially different from that of Ngarinj in and the Kimberley languages in general, but does lead to different emphases and therefore different orders, as will appear below.
Regarding the WD languages, K. Hale (1972) writes as follows: 'The process of de-stressing and cliticizing pronouns eventually became an obligatory rule and subsequently independent pronouns were recreated from other sources available to the language (sc. Waljbiri), such as oblique forms of pronouns like those found in possessives or in other functions not normally subject to cliticization.' In this essay, Hale regards the Warnman pronouns as re-creations. Wider comparison with languages of Victoria (for instance) leads the author to disagree with Hale in this matter, and to believe that the WD languages (brought to birth from *CA) originally had only suffixes for person-number developed later, as did the distinction between inclusive and exclusive. He has tried to show this in an earlier writing (Capell 1955). In some the inclusive-exclusive distinction has never developed (e.g. Bidjandjadjarra) and in others it is limited to certain situations: in Yulbaridja it is found only in suffixed and not in cardinal pronouns. Eastern Australia (representing *EA type languages) quite frequently shows pronouns that are built on a nominal root (Capell 1956-62:21ff.) just as apparently Warnman originally had. Moreover, only singular forms are sometimes present, as seems to be the case in Tasmanian. 

In the WD languages the suffixes are as a rule only those for 1st and 2nd persons singular; 3rd singular is zero, and other numbers are all composite. This is a matter belonging to the historical section in this volume and cannot be enlarged on here, but its conclusions are accepted for the present discussion also.

3.2. The Phrasal Verb

The simplest form of phrasal verb is the combination of two bases both verbal by nature; slightly less simple is the phrase in which one element is nominal by nature. Both occur in the Cape York area of Australia. Not only is this the simplest type of compounding, but in fact it is not grammatical compounding at all, nor is it limited to Australian languages. Such compounding as look see is used in Chinese, and snap break is a similar example in Australia (2.1.1.). This process is entirely syntactical, and reappears often as a stage in thought development. For the purposes of this paper it had, of course, to be mentioned and illustrated, but it need not be treated as a stage in the historical part of the compounding process, but only as a phenomenon in its own right. As a matter of fact, such compounding is found outside the Cape York area as well. Idiomatic uses of such double verbs is found for instance in the Bandjalong and other regions.
There are areas of the continent where phrasal verbs are not in use. These are areas in which there is complication in the morphology of the verbal system demanding that each verb be marked for person, tense, etc. Nor is there any historical development from area to area, for phrasal verbs are found both in Cape York in the extreme north-east and Njungar in the extreme south-west.

There is, in fact, a tendency to PV organisation in many languages in Australia in which verb compounding is not developed; examples from Bularnu and other south-west Queensland languages have already appeared in the Introduction to this section. The same process is appearing in English in phrases such as to baby sit.

Where phrasal verbs exist, they may be either V + V or N + V; on account of the basic SOV typology of Australian languages, there is a bias against V + N. In a language such as Gog-Nar, such a compound as ye1 + yem eye throw = look is natural; so also is the Njungar waŋ + njin talk-sit = sit talking. A language such as Thayorre, however, allowing a series of verbs together, becomes more complicated. The following examples are culled from Hall (1972); they also show examples of the rarer V + N combination

```
pa:l pir- nan okun
  come snatch-will perhaps
will probably snatch

petn pik
  skin rip
  husk, skin

djat ke'e-r
  swish spear-did
  the spear went swish

pal kal
  come carry
  bring
```

Longer combinations of various degrees of intimacy are possible here: kana ya:-n pal have go-do come = have come here; ant te:Ra-ŋa ka:r-p try kill-can not-too = won't threaten to kill. Examples of this type show a maximum of separability within a total limit of order, as appears in:

```
kana ka:l-k-ku:k ni:n-n (ŋ)andja
  have back-speech sit-ting we
We've sat waiting for your answer.
```
At this stage all that is involved is a sequence of words (plus inflections) each of which can occur separately. In other languages this will harden into a fixed set of elements which can occur only when they do, as in the Gunwinjgu:

\[
\text{ŋari-} \quad \text{ben-} \quad \text{mane-} \quad \text{djal-} \quad \text{djarg-} \quad \text{gole-} \quad \text{manbo-yi}
\]

\[
\text{we} \quad \text{them} \quad \text{10 continuity group} \quad \text{spear} \quad \text{make IMPF.}
\]

\[
\text{we used always to gather together and make spears for them}
\]

Here no element is free; even spear, to appear in the free state, must take the class prefix and become mangole. The various types of verbal compounding seen in the preceding pages are therefore to be regarded as the growth of a complex system in different parts of Australia differently, and influenced no doubt by many different facts, in each of them. But it seems impossible to doubt that these various systems originated in a simple Phrasal Verb system to which other elements were added under other conditions.

3.3. Compounding by Auxiliary

The various systems of compounding by auxiliaries which have been illustrated here represent complex developments, not all resting on the same foundation, but all agreeing in at least one point; a certain number of basic verbs were chosen out of the whole vocabulary of the language as 'builders' for verbal expressions. The free choice of combination existing in the PV languages became limited when certain basic ideas were accepted as foundations for compounding. Auxiliary verbs as they appear in the different languages grow fewer and fewer in different regions, until finally it seems to be forgotten that the auxiliaries were ever free forms with full semantic force, and they become simply instruments for expressing verbal categories, even a simple difference between transitive and intransitive - and in so far as roots ma and ga come to do this in some languages, they themselves had so far lost their meaning that it was apparently forgotten that both of them are originally transitive! An auxiliary is a full verb that has been downgraded in certain circumstances. It would also seem that there are occasional homonyms to be reckoned with: the transitisiser ma was originally do, and so cause, bring about an action in most areas, but where it is, as in the Daly River area, the coefficient of 'standing action', as in gaŋama gay I (stand and) call, I call from a standing position, this clearly is a different root.
The appearance of ma in a language does not allow it to be taken for
granted that it is always the same ma, although generally it is.

In terms of TG set-out, sentences of the type of the Daly example
djinda nala ga-ŋa-ma gay ayi spear for past-I-stand call-past, i.e.
I (stood and)\(^1\) called for a spear (2.2.1.4.) a tree of the following
shape seems to be acceptable:

\[
\begin{align*}
\text{S} & \rightarrow \text{NP} \quad \text{VP} \\
\text{NP} & \rightarrow \text{Postp.} \quad \text{V}_1 \\
\text{VP} & \rightarrow \text{V}_2 \\
\text{V}_1 & \rightarrow \text{p.} \quad \text{R.} \quad \text{tn} \\
\text{V}_2 & \rightarrow \text{R.} \quad \text{tn} \\
\end{align*}
\]

djinda nala spear for 
\hspace{1cm} ga-ŋa-ma past-I-stand 
\hspace{1cm} gay ayi call-for past

There are stages between the PV verbs and the compounding processes
that have been studied in the preceding pages. What is being exhibited
first of all is a logical division into types, not a historical account
of origins and stages. So far as it is possible, hints concerning this
latter will be given in a final section of this paper.

3.3.1. Free Auxiliaries

The first stage of development of auxiliaries is probably represent-
ed by those languages in which the auxiliary is free, i.e. leads a
semantic as well as a grammatical life of its own. In Ngarinjin, for
instance, ñe is I am – but it can also help to make a verbal phrase.
In some of the languages there is a considerable number of such free
verbs used as auxiliaries as well as standing in their own right. They
combine with bases that are, so far as distinguishable in grammatical
terms, nouns rather than verbs, or sometimes even adverbs. In 2.2.1.
comparison was made between Gog-Nar ye el em eye throw, look at and
Ngarinjin burgadj æebun question I-throw-him, I ask him. These two
are parallel except for the added grammatical features in the Ngarinjin
verb. They are both N + V structures. In Ngarinjin burgadj does not
seem to be used as a noun as it would be in English what is your
question?, but that is not important; an Aboriginal speaker would

\(^1\)Stood has no logical part in the sentence as a kind of action; it is simply that
calling is done in a standing position, as this language structures the activity.
certainly prefer the more concrete expression what are you asking me?. The point is that structurally both phrases are the same. In Gog-Nar the combinations of N + V are very numerous - and so in other CY languages as well; in Ngarinjin there are only eleven such combinations, and in other NK languages usually less. The 'phrasal verb' is beginning to be an auxiliary, one of a certain - small - number of helpers which retain their own functions as well as 'helping out'. As other areas of Australia are reached, these 'helpers' are fewer and their work greater, except in so far as more actual verb roots are developed. Free auxiliaries certainly seem to be the earliest stages historically as well as logically, but there is no need to lay that principle down at this stage.

In the process of development it is noticeable that V + V tends to disappear and N + V remain a lot longer on the historical scene. The Ngarinjin tree patterns have already been set out (section 2.) and need not be repeated. The difference between these and the Gunwinjgu type has also been mentioned, and it was there suggested (2.2.1.6.3.) that a theoretical difference exists between them and the NK shapes, due to object incorporation as part of the agglutinative picture in Gunwinjgu and its relatives. Some tree diagrams showing the Gunwinjgu analysis may be of help to reinforce this difference. A series of sentences showing the different types produced by the occurrence of inset nouns in these languages is therefore given here.

(1) bininj ga-ŋuŋ-me the man calms down:

```
S
  |
NP   VP
  |

bininj  ga-ŋuŋ-me
```

(2) gurula ga-bo-ŋuŋ-me the sea calms down:

```
S
  |
NP   VP
  |
Pers. Class Base Aux.

gurula  ga-bo-ŋuŋ-me
```
(3) gunRed bolg-ŋeyo camp its name, name of the camp:

To which is added an example not used above:

ŋa-godj-dji-re-n I wash my head

which is exactly parallel to

ŋawogdanj I spoke, I said a word

on which the assertion was based that the Gunwinjgu subclass rests on its power to inset noun objects before the verb, retaining in the VP the syntactic structure of S.

Very similar patterns can be worked out for the Dampier Land languages. The historical problem in this case is more difficult, in that Dampier Land shows one of the Regional vocabularies which suggest an origin apart from those of the chief body of Australian languages. That question cannot be gone into in this paper. It is worth recalling that here also not all verbs are compounded; as in most of the languages (except Daly River) there are simple verbs also.
Mention of the fact that all verbs are compounded in Daly River languages brings out the fact that a different principle is at work in these, and this needs to be demonstrated in some detail. The fact itself has been stated by Tryon, but he has not compared Daly River compound verbs with those of the NK and AL languages.

First of all, although the compounding is still normally in the same order - Base + Aux., this does not need to be so, and Aux. + Base is allowable. The difference lies in the fact that Daly River auxiliaries classify actions in a way similar to noun prefixes classifying nouns. It is a classification by kind of action, so that the same base can sometimes take different auxiliaries in a somewhat different sense. This is true also of the NK languages, as has already been shown in the relevant section of this paper, but the true nature of the auxiliaries is not quite so clear in NK as in Daly River. Moreover, the order of elements in the auxiliary itself is different:

NK: \( O + S + B + T \)

(where T covers mood and voice as well as tense)

Daly: \( T + S + B + O \)

The originally free position (it would seem) of the pronoun object has caused it to be left outside the Daly River compound. In the NK the basic order SOV has led to its being included in the verb phrase, and not only so, but to its having priority over the subject marker. This latter peculiarity might be accounted for by supposing that the system points back to a preceding free subject, so that VP represents \( (O + S_2) \), the second S being incorporated in the VP. The earlier sentence type in NK would then have been

\[ S + O + VP = S_1 + O + (O + S_2 V). \]

In the Daly River languages the auxiliaries are concerned with manner of action. Tryon's summary (1974:298ff.) speaks of five verb classes in the Mulluk group, but adds 'within the Brinken-Wogadj and Djemerri groups, however, in addition to the five verb classes just listed, there are up to twenty further classes,' and they are all concerned with the manner in which an action is done. There is a world of difference, therefore, between the NK type and the more general Australian type to be reviewed below, and those of the Daly River. The latter seem to have developed quite independently of the rest of Australia - and indeed the cognate count between Daly River and the rest of the continent is also often very small.
3.3.2. The Degradation of Auxiliaries

The subsequent sections of this paper have shown the auxiliaries gradually losing their independence. First they are reduced to indicators of various kinds of action, while still retaining an identity, e.g. as in south-eastern New South Wales, where the negative follows the auxiliary and not the main verb (see the Gandangara and Dhurga examples). Later they become simply grammatical formatives, which are very well treated in writing as part of an entire verbal stem to which tense and other suffixes are added. At this stage there is loss of identity to the extent that it becomes impossible to prophesy which auxiliary will appear in a given case and whether it will retain any clear sign of its original meaning. Last of all, a set auxiliary is used with a given verb, with little regard for meaning.

In all this there is no precise geographical link; Djirbal -ba and -ma (as will be shown below) no longer function as anything but markers of intransitive and transitive verbs respectively, and both add an -l which is in that language a conjugation sign and not a gerund (probably not even historically derived from the gerund -l-), and moreover -ba is reduced to -bi-l, functioning as such a compound.

Parallel to all these developments, there are languages in which the same functions are carried out by totally different sets of markers, and to these attention must now be turned.

3.4. Other Systems of Verb Derivation

It would seem that in the extreme south-west of Australia the various derivational systems here studied, did not hold good. In most cases there is insufficient material for analysis of the verbs in Njungar and the related dialects. The same facts hold good in the extreme south-east - Victoria and even the south of South Australia. This would fit in with the 'areal' linguistics theory. There is no intention of embarking on this type of argument here, but some notes will be given on the south-eastern groups of languages in order to make it clear that the various methods of conjugation and derivation that have been studied above are to be connected with the CA languages, and result from the movements of speakers of such languages from their original homes towards the east and south of the continent.

Notes will be given on the verbal systems of Banggala (Parnkalla), Gaurna (Kaurna), Narrinjeri or Yaralde, and Murundi from the South Australian languages to bear out what has just been said. Study of
Hercus (1969 Part I) will show that Victoria is equally innocent of the systems of auxiliaries and formatives that have been studied. A beginning is made with Banggala.

The fact that, although the phenomena just considered belong for the most part to the CA stratum, they are based on analogues in EA will become clearer if a look is taken at the latter types of language. Few, if any, Australian languages are entirely free from CA intrusion, though some are much less influenced than others. This is particularly true of the south-eastern languages (and for that matter the grammar of the south-western languages is largely EA), more markedly perhaps than some of the AL languages not dealt with in detail here.

A preliminary glance at the structures of Banggala and Gaurna (Kaurna), Yaralde and Murundi among the South Australian languages, and those of Victoria still farther east, will be taken first. The citations of words in this section will be largely those of the original grammar writers, except for Yaralde, where later work (Yallop 1975; Grimwade 1975) allows of greater phonological approximation.

In Banggala – see Schürmann (1844) – quite a number of auxiliary verbs are found, but these are actually of the PV type, seen in the CY languages. Schürmann says, 'When the sense admits it, the following words are frequently used, where we would employ the auxiliary to be, viz. yuwa-ta to stand; ikka-ta to sit; padna-ta to go; kari-ti to continue; wawi-ti to lie down; as: kutyo yurari yarlanga padnata the other men are hunting...’ His sentences are best analysed to show what is really happening: pallari kangaranga kari tanna the women among the grass tree roots continue, i.e. are; kutyu yurari yarlanga padnata tanna the other men hunting go they, and so forth. The first of these auxiliaries recalls the Daly River system, but unfortunately it is not illustrated by a sentence – nor, of course, can it be said in the absence of text matter, that these were all the auxiliaries in use. There are interesting uses of padna-ta go, as in ninna yureyappu padnata? are you aware?, lit. you ear-attending go?; ngai kubmanna padnata I am alone, lit. I one go; karakurtu karkurar-kuru ngukatao kaunungu the boat goes whizzing through the water (very rapidly), seemingly

\[
\begin{align*}
ggu & \quad \text{go-PRES-3sg} \\
gawu-ngo & \quad \text{water-in} \\
guaga-da-wu & \quad \text{go} \\
guaguru & \quad \text{whizzing} \\
guaguru & \quad \text{Boat}
\end{align*}
\]
Other examples culled from the vocabulary include parungu karl tanna\textsuperscript{1} yuKari game-for continue men, i.e. the men are still hunting; kaya ilka padna (tanna) they go spear-having, i.e. they have spears.

The causative, expressed by the ma auxiliary in the CA languages, is here expressed by +gutu, e.g. birkibirki-\textit{gutu} to break into many pieces, from birkibirki-\textit{rri-ti} to crumble (intr.); ngalaniti grow large > ngalaningutu enlarge; marniti good, be good > marni-\textit{ngutu} make good. And Schürmann adds that ngutu can be appended only to intransitive verbs, including such as \textit{yuwa-\textit{t mana}} stand > \textit{yuwa-ngutu} raise up; \textit{wo\textit{rni}} fall > \textit{woringutu} drop something.

This system providing means for deriving one type of verb from another or verbalising another part of speech, obviously works quite differently from those studied above.

In the Gaurna (Kaurna) language of the Adelaide district (Teichelmann and Schürmann 1840) there are differences again, and apparently compounding was not greatly in evidence. For \textit{make \textit{wapp-e-ndi}} is given, and it is abbreviated slightly to \textit{-app-e-ndi} (\textit{-e} is a conjugation class marker, and \textit{-ndi} 'infinitive') as a causative suffix, e.g. \textit{wakkina bad}, \textit{wakkinarndiappendi} cause or allow a person to become bad - apparently both halves of such a compound could be conjugated - the lack of text material is here a problem. This suffix seems to have been fully productive; the root would be *(\textit{w})app-. On the other hand, \textit{-r-e-ndi} marks the intransitive or even benefactive; \textit{pingya-r-e-ndi} to turn, to lighten, to flash, with causative \textit{pingya-ri-app-e-ndi} turn something round. There is, however, a suspicion that \textit{ma} has come into the language also as formative, for the authors give \textit{bakka} dry bark > \textit{bakka-ndi} dig out roots, but \textit{bakka-ma-ndi} to peel something. However, \textit{ma-ndi} is glossed as draw, pull, and may be compounded with \textit{karra} up, high, as \textit{karramandi} to hand, take, pick up, and this is apparently the root *(\textit{ma} with a local suffix.

In these final examples it is possible - though the possibility is hardly justified - to see a southern extension of CA influence. Further south, in Yaralde, Murundi and some Victorian languages - there does not seem to be any such influence discernible. According to a personal communication from S.A. Wurm, the CA formation does not occur in New South Wales west of the Darling River. The system of auxiliaries, therefore, must be taken as derived ultimately from the CA stratum. Phrasal verbs occur in Cape York and in Banggala, but these

\textsuperscript{1}I take it that tanna represents the 3rd person plural pronoun so common in Australia, and write it separately, though Schürmann makes it part of the verb.
are not historically diagnostic in any case, as has been already stated. The question of how CA auxiliary formations got into eastern New South Wales has still to be faced.

First, however, the Yaralde and Murundi evidence, negative but no less important, must be assessed.

The Narrinjeri group of dialects of which Yaralde is one (Taplin 1878, 1880; and Yallop 1975) occupied the lower Murray region between that river and the southern ocean, and Murundi (Moorhouse 1846) was spoken on the Murray near the southward bend. These are the only two forms of speech from this region at all well recorded.

In Yaralde according to Taplin there are three auxiliaries: -war (which Yallop takes as -uwal/-uwar) and -min- both causative, along with -en- of being or doing, and -el- be, do, intend (Yallop) - the last a most unsatisfactory designation, although certainly it does serve as a copula verb. Among Yallop's examples (orthography here modified):

\[ \eta a:bi(n) \text{ el-un } \eta a:di j \]

*I am a friend* shows el taking the tense markers, but just as often - or more often? - these were added to the main verb:

\[ \text{ya:n-un } \text{ el ab} \]

*I am speaking*, or

\[ \text{yu:n el idj brag-an} \text{i nani} \]

*the sun will soon rise.*

Transitivity is marked by -uwal/-uwar, but also derived from other parts of speech are similarly marked: wireŋi bad > wireŋ-uwar-un act bad-PRES; -min- or -mind- does just the same task: buldumul-min-un tired-make-PRES. There is just the possibility that this may represent *ma*, especially in view of the occasional final n in some languages, but it is not convincing. It does not seem possible to fit these suffixal morphemes into any of the patterns hitherto examined, they represent a system sui generis.

Murundi as set out by Moorhouse seems even less clear. The -un present tense marker of Yaralde is shared, but the other tense endings differ between the two languages - and for that matter there is in Murrungin in N.E. Arnhem Land a class of verbs ending in -un in the present tense, which need to be examined before this section is closed. The Murundi formatives have to be dug out from the vocabulary, and the
surprising result is that Murundi in its system does seem to show a surprising resemblance to Murngin. Moorhouse's material is not good enough to enable a system to be properly worked out. Examples of verb derivation occur in the vocabulary, but though a number of verb classes can be found, they do not seem to be clearly analyzable — nor do those of Murngin, to the degree that any reason for a given verb being in a given class can be suggested. The following are just some of the discernible subgroups in Murundi. Even the basic EA roots of words are largely missing from Murundi.

Moorhouse's spellings are largely retained because it is often uncertain what they stand for. For *hit the root *bu may be hidden in bund- (present tense bund-un) but this is not certain. It would point to an original EA *bund- which nearly everywhere has lost its final consonant, and in any case this chapter is not concerned with reconstruction of EA or CA vocabulary. A number of consonant additions to the stem are found: not to the intransitive, as in tap- bury > tap-t- be in the grave; djerub- chase > djerub-ul- run away; woarn- (= wuan-) come > wuan-u- carry, cause to come; kailk- ask > kailk-ua- ask for, order a thing; and a common intransitive ending -ang- is added to a number of roots, e.g. wir-ang- tremble; bokk-ang burn, blaze > bokakn-order or arrange the fire; gidl-ang- be angry > gidl-ar- become angry; gir-edl-an- be in love > gir-b- make love to a woman; parlk- hit > parlk-udl- ma- beat-cause-make — the sole or nearly sole suggestion of the *ma root.

In some cases, as noted, there is a suspicious resemblance to the Murngin or Yulngu languages (chiefly Gubabwyngu will be cited) of N.E. Arnhem Land, where a present tense marker -un may be preceded by a consonant that does seem to be diagnostic. For the previous reference to these languages see 2.2.3.2. above. In the Murundi examples in Moorhouse, the chief linking consonant seems to be t (= d), which is the consonant in Murngin that serves to verbalise a stem ending in a stop, as y verbalises one that ends in a non-stop. In Murundi, the distinctive function of the added consonant is not clear (at least in the available material): gab-un and gab-d-un both mean speak, say, but there is also an example or two in which -an is written by Moorhouse, with a difference in meaning: yurrun be afraid, but yurrum frighten. In Gubabwyngu also there is an -an conjugation to which attention has been called earlier.

There are unexplained cases such as kudl-un to warm > ku-edl-un to shine > ku-e-dl-emat-un be shining; djab-d-un accompany each other
(go in a group?) > djab-b-un accompany\textsuperscript{1}; de-rrl-n stand > de-dd-in cause to stand, raise. While it is not the purpose of this section to suggest analyses for these forms, they do emphasise the great difference between the languages of the area and those of the CA groups, and suggest possible links with north Australia – links which are clearly established by comparisons between the Northern Kimberley, Arnhem Land and Western Victoria, as discussed in the general section on the Australian languages.

3.5. Summary and Probable History

The establishment of the series

\begin{center}
\begin{tikzcd}
PV \arrow[r] & \text{auxiliaries} \\
\text{free} & \text{bound}
\end{tikzcd}
\end{center}

brings the historical element into focus. It does not follow, however, that the development has been in terms of present day distribution of these features, from one point of the compass to some other. Moreover, the system of catalysts does not seem to fit directly into the series at all. There will have been many local developments, especially if the Sprachbund association earlier suggested is at all real.

Classification of nouns in the northern parts of the continent has also caused complication. The Daly River 'coefficient of kind of action' system also does not belong in the series. These languages with such a small percentage of CA are so different in structure from most other Australian languages that they seem to represent a separate movement into the continent, affected by such later movements as EA and CA – probably both.

The possibility of the following stages is therefore suggested – with the proviso that it may not be right, certainly not in all details!

1. Systems of 'phrasal verbs' would be quite early. Whether the still extant systems of the CY area represent the early stage of this is open to doubt until the historical position of these languages can be more definitely established in terms of lexical investigation. There

\textsuperscript{1}My personal inclination is to spell djab-un for accompany so that djab-d-un may be regularly derived from it. Double consonants do not seem to have phonemic value in Moorhouse's spelling. There is also marked vowel harmony in the tense endings in Murundi, which Moorhouse does not mention. But cf. -in and -un endings in his vocabulary.
is certainly much in common between them and the New South Wales coastal languages that lies outside the present paper. While some vocabulary (such as *duŋa weep) is common to these and New South Wales (including Sydney area), some of it (including this same root) is also found in the north-west of Western Australia, as O'Grady's study (1967) shows. These types do represent an early stage of syntactic expression in Australia, but are so widely shared - outside the continent as well as in it - that it can hardly have the historically diagnostic value one might be inclined to assign to it.

2. A small set of auxiliaries - ma-, ga-, ba- and with greater limit ŋa-, seems to hang together all over the continent, from WD to New South Wales. The connection between the presence of these as a series is so constant that they do seem to be established as a related set. The first two have definite semantic content that also seems to be constant. Its activity varies; in some areas these roots can still function as independent verbs, in others rather less so. Another stage can possibly be recognised in the contrast between languages in which conjugation is based on an auxiliary ma as one or sole auxiliary, and languages in which ma is a formative, not in any sense a free form with a definite lexical meaning, but without semantic content other than 'transitivity' of which it serves as a marker. This group seems to comprise the languages between the Dividing Range and the Darling River in New South Wales (where even some intransitive verbs can have ma). Other auxiliaries, especially ga, may be present here, and it seems likely that this represents the breakdown of a system still holding fairly well together on the coast (Dhurga northward to Bandjalang), and that this is itself the remains of a fuller system from WD and Central Australia. If these hypotheses are reasonable, something more may be built upon them. At the same time, ma is still felt to be an auxiliary rather than part of a verb stem in the coastal languages themselves, in that another suffix - such as the negative - is interpolated between the root and the ma to which personal endings are added, e.g. Gandangara:

\[ ñaḷa muga ma-nja \]
\[ sit not AUX-I \]

as against Dharawal

\[ bu-I ma-mbera-gay \]
\[ strik-ing AUX-long-ago-I \]

which seems to represent an even earlier pattern in which the verbal noun bu-I strik-ing occupies the 0 position in SOV sentence type
patterning as

```
S
  NP Q
  V1 Suf.
  V Adv. pers.
  bu-
  strik-ing
  ma mbera nay
  bring long-ago I
```

This is an even earlier pattern, for nay is practically the free pronoun nayu I. The implications of this occurrence in this area where noun roots + suffix so often = pronoun cannot be brought out here.

From the historical point of view a suggested summary of the foregoing study would be as follows:

1. The ma-, ba- and ga series of auxiliaries is CA. This statement rests on the wide occurrence of these in the acknowledged CA regions of the continent, and their overwhelming influence where these CA languages have spread. In the WD area in particular they are of great importance. The ba and ga series are chiefly manifested as independent elements in the catalyst area, but occur in a somewhat degraded form in the eastern languages also. Their use as formatives will be the latest development, and in many of the eastern languages their original meanings are not always clear, in that ma is liable to occur with intransitive roots, and not only with transitives, as it originally did. In the eastern languages they have come rather as formatives than as free auxiliaries because they were not native to languages which took them over, and so had not discrete conceptual meaning to the speakers, only a general indication of type of action. The ga forms remain somewhat obscure: it would seem that these did not spread very widely. Threlkeld in his 'Key' (Threlkeld 1850) in his continual effort to analyse the Awaba formatives psychologically or conceptually, speaks of ña- as a personal marker; ña- as 'actuality of personality', 'person as actual', and ñä- 'indication of person', a peculiar phrase used when one leaves another to be in place: ñ≠-noa-ki you remain, I go. Under the first heading he refers to ña- n who?, ñatau (ñaduwa) it is I who..., and ñé: l place of action as in ta-ki-li-ñel (dagilíne:l) eating place. This suggested to the writer (Capell 1956/62:70) 'personal action', and the catalyst ña as a local phonetic variation of it. However, if there is any truth in this, ña- became a pronominal root rather than a marker of verbal activity. In fact it is the marker of first person pronouns in the bulk of Australian languages, and the situation is still obscure. The possible history of ña- is best left
unsettled, and the general discussion limited to the other three auxiliaries.

There has been higher development of the auxiliaries in the western desert area, where the original CA group of languages would appear to have taken on its special character. The movement eastward remains to be traced, but this is a matter for the general paper on the languages and not for this special line of study.

2. The PV systems are to be set apart from this development altogether. They would seem to be indigenous to the CY languages and traces of them are still found in areas in which dependence on the CY stratum are located — along the east coast at least as far south as Bandjalang.

3. There are non-CA systems visible also in a number of languages such as those of the far South Australian languages (Yaralde, Murundi, etc.) and other southern areas where CA had less influence.

If it is true that the basic auxiliaries do not occur in New South Wales west of the Darling River, and are absent from the greater part of Queensland, but do occur in eastern New South Wales and southern Queensland, further investigation is required as to how they reached these latter areas. Vocabulary comparisons (which belong to the general paper) indicate that CA influences cross through northern Victoria into coastal New South Wales, and as suggested here, spread by Sprachbund methods to the interior regions of the Wiradjuri-Gamilaray. It is to be presumed that the use of the auxiliaries ma, ga, and in some cases ba reached New South Wales as part of the 'packet'. What is needed is further information on east coastal Queensland, and this is lacking for the regions south of Djirbal.

In Djirbal, Dixon (1972:86) shows a formative -bil which forms intransitive verbs from other parts of speech, and -mal which forms transitive verbs from roots of two syllables (if there are more than two syllables the suffix is -mbal). Amongst his examples are

bayi yaRa bulgan the man is big
bayi yaRa bulganbil the man has become big

In these cases the final -l is a conjugation marker, not the gerund marker; the suffixes are -ma and -bi (-ba?). If the last identification is right then two of the auxiliaries are present here, ma and ba, transitive and intransitive respectively. They would seem to be late formations in that they do not strictly follow the original uses and meanings of the suffixes. In Awaba (New South Wales) for instance, they do have much greater sense of function or original meaning, so
that the southern forms would seem to be earlier and possibly brought in with the CA stratum of language directly.

At the absence of information from Djirbal south to Waga-Gabigabi-Bandjalang is a handicap. There is very little such to hand at present and it will be of interest, if further material can still be gathered, to find out what it has to tell about the movements of the CA auxiliaries.

At present the survey seems to end at this point, with the list of suggestions made at the beginning of this section. The commonly shared auxiliaries are of CA origin, but have been modified in both usage and meaning in different ways in various regions. How this has historically come about is part of the questions that belong to a general history of language in Australia.
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The phonemicisation used in quoting examples in this paper has been regularised to the scheme given below. However, I have retained the voiceless symbols (p, t, etc.) or voiced symbols (b, d, etc.) as in the sources. The difference between voiceless and voiced stops is not normally significant in Australian languages.

Labials: p, m; lamino-dentals: ɭ, ɳ, ɿ; apico-alveolars: t, n, l, r (flap); apico-postalveolars (retroflexes): ɭ, ɳ, ɿ, ɭ (glide); lamino-palatales: tᵝ, nᵝ, lᵝ, y; velars: k, ɭ, w; vowels: i, a, u. Some languages have a 'trilled r': rr; some have a glottal stop: ʔ.

In general language names have been spelled in accordance with A.I.A.S. conventions.

Examples quoted in the text are numbered consecutively and numbers quoted in the text refer to these examples. Paragraphs are referred to by compound numbers, e.g. 2.1.

The expansion of the abbreviations for Australian states (e.g. Q. for Queensland) is available on the map.

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Notes on the Map

The map does not include Tasmania. It is uncertain whether the extinct languages of Tasmania were related to those of the mainland. Recent work by the author has tentatively established a tenuous lexical link with the western Kulin languages of western Victoria and hence indirectly with the mainland in general.
LANGUAGES AND ISOGLOSSES
This map is based on published sources plus information supplied by P. Austin, J.G. Breen, T. Crowley, J.T. Platt and T. Tsunoda.
1. TYPOLOGICAL OUTLINE

1.1. The Major Syntactic Case Relations

In this paper I use the convention of labelling case relations in capitals (DATIVE, INSTRUMENTAL, etc.) and case forms in small letters (dative, instrumental, etc.). The major syntactic case relations are labelled INTRANSITIVE SUBJECT (S₁), AGENT (A), and PATIENT (P). A morphological or syntactic system identifying S₁ and A is described as 'accusative', a system identifying S₁ and P is described as 'ergative'.

In describing the systems for marking the major syntactic cases (S₁, A and P) to be found in Australian languages, it is convenient to distinguish between the Pama-Nyungan family which covers most of the continent and the non-Pama-Nyungan family which occupy the Kimberleys and the Top End (see map). The classification of Australian languages that recognises Pama-Nyungan, etc. was based on cognate densities between lexical items. However, this classification corresponds broadly to what we would find if we classified according to cognate densities between function morphemes or according to morpho-syntactic systems. The classification in its revised form (Wurm 1972) recognises twenty-seven non-Pama-Nyungan families.

Most Pama-Nyungan languages employ an ergative system of case marking for nouns and an accusative system for pronouns. The case marking is in the form of suffixes to the last word in the noun phrase or to all primary constituents of the noun phrase. The ergative is commonly marked by allomorphs such as -lu (after vowels) and -tu (after consonants), the latter assimilating in point of articulation to some or all consonants. In some languages -ŋku is used with vowel stems of fewer than three syllables and -lu with longer stems. The accusative is usually marked by -ŋa or nŋa. Many but by no means all the Pama-Nyungan languages employ cross-referencing bound pronouns. In some languages these are suffixed to the verb, in others to the first word
of the clause and in others again to a special auxiliary particle. Almost invariably these bound pronouns operate in an accusative system, the identification of $S_1$ and $A$ showing up in case marking or via suppletion (as in English *she* v. *her*).

The following examples are from Pitjantjatjara (S.A., W.A., Douglas 1964, Glass and Hackett 1970). Pitjantjatjara is a typical Pama-Nyungan language with nouns operating in an ergative paradigm and free pronouns operating in an accusative paradigm. There is also a system of bound pronouns which operate in an accusative paradigm, these bound pronouns generally being suffixed to the head word of the clause (but see example 7). The choice between using bound pronouns or free pronouns or both is free at the information level. A number of factors determine which pronouns are used; the bound forms generally represent the unmarked choice but a free pronoun is used if the referent is to be emphasised. The bound pronouns are potentially cross-referencing, but we do not have the classic cross-referencing system of obligatory bound pronouns that characterises most of the non-Pama-Nyungan languages.

1. *wati pika*
   *man sick*
   *The man is sick* (Douglas: 30)

2. *wati-lu tyitvi pu-ŋu*
   *man-erg child hit-past*
   *The man hit the child* (Douglas: 30)

3. *ŋayulu ɲaraŋka ɲina-ŋu*
   *I there sit-past*
   *I sat there* (Douglas: 32)

4. *ŋayulu papa ɲa-ŋu*
   *I dog see-past*
   *I saw a dog* (Douglas: 58)

5. *wati-lu ɲayu-ɲa ɲa-ŋu*
   *man-erg me-acc see-past*
   *The man saw me* (Douglas: 59)

6. *ɲuntulu-ɲ yiña tyukumuŋunu*
   *you-you old man big*
   *You are a very old man* (G & H: 96)

7. *ɲayu-ɲa munta-ŋi-n wana-1ku*
   *me-acc query-me-you follow-fut*
   *Will you follow me?* (G & H: 48)
8. *ka-nta-ya pli-ng lu nва-ku*
   and-you-they many-erg see-fut
   *And many people will see you*  (G & H: 48)

Note the appearance of a hierarchical principle of ordering bound pronouns in the last two examples. In general the first person bound pronoun precedes second or third and second precedes third, irrespective of grammatical function (though -*н*, the second person singular form for *S₁* and *A*, is always sequence-final (G & H: 47-48). Hierarchical principles involving person, and to a lesser extent number, are fairly common in Australia, and they usually show up in the relative ordering of bound pronouns.

Typically the non-Pama-Nyungan languages lack case marking for *S₁*, *A* and *P* and rely instead on cross-referencing pronouns to mark the major syntactic relations. These cross-referencing systems operate either on an accusative system as in Tiwi (Bathurst and Melville Islands, N.T., Osborne 1974) or in a way that involves sufficient fusion and other sources of irregularity as to make the system synchronically unanalysable. In most of the non-Pama-Nyungan languages, the cross-referencing pronouns are prefixed to the verb. The following example is from Gunwinggu /kunwίŋgu/ (N.T., Oates 1964:108), from the story of Godewele the Giant,

9. *n̄abаn gan-n-ci-bom narewonen nadug yabog*
   *cheeky us-he-killed us two my sister*
   *A 'cheeky' one killed both me and my sister*

*gan* is not specifically *us*. *ga-* can refer to a first person *P* of any number acted on by a second person, or a non-singular first person *P* acted on by a third person. -*н*, if the combination is to be analysed, is an accusative marker, but I am dubious about whether an analysis is a valid reflection of the synchronic organisation of the prefix rather than an exercise in internal reconstruction.

Very broadly we could sum up the case marking systems for the major syntactic relations as follows:

<table>
<thead>
<tr>
<th></th>
<th><em>S₁</em></th>
<th><em>A</em></th>
<th><em>P</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nouns</td>
<td>-<em>н</em></td>
<td><em>ʻlul</em></td>
<td>-<em>н</em></td>
</tr>
<tr>
<td>Pronouns</td>
<td>-<em>н</em></td>
<td>-<em>н</em></td>
<td><em>Nva</em>²</td>
</tr>
</tbody>
</table>

(Bound Pronouns Accusative System)
Non-Pama-Nyungan

<table>
<thead>
<tr>
<th>S1</th>
<th>A</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>-φ</td>
<td>-φ</td>
<td>-φ</td>
</tr>
</tbody>
</table>

Nouns and Pronouns

Bound Pronouns

Accusative System (or a system that is difficult to analyse synchronically but which can be shown diachronically to have been an accusative system)

There are numerous exceptions to the broad summary given above; some details appear in Blake 1977. Among the Pama-Nyungan languages accusative marking often intrudes into the basically ergative system so that in some cases human nouns (e.g., Arabana, S.A., Hercus p.c.) or all animate nouns (e.g., Thargari, W.A., Klokeid 1969), or in a few instances all nouns, have accusative as well as ergative marking (e.g., Wangkumara, Q., Breen 1976a). Also in some Pama-Nyungan languages ergative marking often intrudes into the basically accusative pronoun paradigm so that some person-number combinations, especially first and second singular, have ergative as well as accusative marking. For example, the Giramay dialect of Dyirbal has a three-way contrast (S1, A and P being separately marked) in the first and second singular (Dixon 1972:50) as has Gabi (Q., Mathew 1910:28, quoted by Dixon 1972:7). Yandruwantha (S.A.) has a three-way contrast for all singular pronouns (Breen 1976c:595) and Aranda (N.T.) has a three-way contrast on first singular only.

Ergative marking is scattered sporadically among the non-Pama-Nyungan languages with a concentration in the east, e.g., Garawa, Yanyula, Wagaya, Wambaya, Djingili and Alawa exhibit ergative marking.

It is rare for ergative marking to be found in the bound pronouns. Yugulda (Q., Keen 1972) has an ergative/nominative/accusative distinction in the first and second person and some languages in or near New South Wales, especially near the '± bound pronoun isogloss' (see map), have some ergative bound forms. Yanyula (N.T., Hale p.c.) is unusual among non-Pama-Nyungan languages in having some ergative marking in the bound pronoun system.

1.2. Dative

Almost every Australian language has a suffix that could be labelled 'dative'. In very many of these languages the form is -ku or -wu or both; where both variants occur, -ku normally appears with consonant-final stems, and -wu with vowel-final stems. The range of function may embrace: (a) the adjunct of an intransitive verb or the
complement of a semi-transitive verb; the 'indirect object' of transitive verbs, (c) possessor, (d) purpose, (e) beneficiary and in some languages the notion of indirect cause or reason (compare English for in She did it for spite). However, in a large number of languages there is a separate genitive suffix to make the possessor; in a few languages there is a separate form to mark purpose, and in a very small number of languages there is a separate form to mark beneficiary. The indirect object of verbs for give is quite often expressed in the same way as P rather than by the dative, but the indirect object of verbs for show, teach and tell is usually in the dative.

In some languages the dative form also expresses to or towards, but more often there is a separate allative form.

In some languages, mostly the Pama-Nyungan languages of Western Australia, the form that expresses the LOCATIVE case relation competes with the dative form in expressing some of the functions listed above. In Pitjantjatjara, for example, the indirect object of the verbs for say to, teach and show appear in an indirect object/locative/instrumental form.

The dative plays a part in a number of interesting constructions. In some instances its use is semantically motivated; in others it is syntactically motivated.

A few languages use an intransitive-like construction to express ongoing as opposed to completed activity, and/or attempted as opposed to successfully completed activity and/or indefinite as opposed to definite P. In Kalkatungu (Q), for instance, we find contrasts such as

10a. ɲai nỳun-ku ɲanjamai-kin
     I   you-dat   look for-you
     I'm looking for you

10b. ɲa-ʈu nỳini njanjamai-ŋa-kin
     I-erg you   find-past-you
     I've found you

Note that in 10a we have the same case marking as in an intransitive sentence, but note also the presence of the bound pronoun (-kin) for P. This cross-referencing bound pronoun could not be used in a genuinely intransitive sentence such as

11. ɲai nỳun-ku ɲoŋka
     I'm coming for you

10b represents the normal ergative construction. In Kalkatungu pronouns as well as nouns operate in an ergative system. The use of
bound pronouns in independent clauses is optional.
Examples of syntactically motivated constructions involving the
dative are given in 3.3 and 3.4. See also 3.6.1 for further dis­
cussion of the construction illustrated in 10a.

1.3. Concrete Cases

Australian languages typically exhibit an allative case (to), a
locative case (at, near, etc.) and an ablative case (from).

The INSTRUMENTAL case relation is rarely expressed by a separate
case form. Most often it is syncretised with the ergative, in a
minority of languages with the locative (e.g., Pitjantjatjara, W.A.,
Warluwara, Q.). Where it is syncretised with the ergative, the
INSTRUMENTAL can usually be distinguished from A on syntactic grounds.
If the language has a cross-referencing system, A but not the
INSTRUMENTAL is cross-referenced.

The sense of indirect cause or reason (He died from snakebite) is
often expressed by a separate case suffix, the 'causal'. Where there
is no separate causal case form, this function is expressed by the
ablative, or in some instances by the locative, instrumental or dative.

1.4. Pama-Nyungan Case Systems

The following chart is intended to give an overall impression of the
Pama-Nyungan case system. It is not the system of any particular
language but a generalised version to which the systems of most Pama­
Nyungan languages approximate. The curly brackets indicate common
syncretisms.

It is not possible to display the rather more divergent non-Pama-
Nyungan systems on a chart. The principal difference is that usually
they exhibit no case marking for S, A and P and that the other case
relations are expressed by a greater variety of forms.
12. Pama-Nyungan Case Systems

<table>
<thead>
<tr>
<th>Case</th>
<th>Nouns</th>
<th>Pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P</strong></td>
<td>--topic</td>
<td>-NLa</td>
</tr>
<tr>
<td><strong>S1</strong></td>
<td>-lu, -ŋku, -tu</td>
<td>-g</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>almost always syncretised</td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUMENTAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LOCATIVE</strong></td>
<td>-la, -ŋka, -ta</td>
<td>similar to noun locative, but different allomorphs are common</td>
</tr>
<tr>
<td><strong>ALLATIVE</strong></td>
<td>various</td>
<td>various</td>
</tr>
<tr>
<td><strong>DATIVE</strong></td>
<td>-ku, -wu</td>
<td>-ku, -wu, -ŋa, -ŋu, -nta, -mpa</td>
</tr>
<tr>
<td><strong>GENITIVE</strong></td>
<td>various</td>
<td>various</td>
</tr>
<tr>
<td><strong>BENEFECTIVE</strong></td>
<td>various</td>
<td>various</td>
</tr>
<tr>
<td><strong>ABLATIVE</strong></td>
<td>-ŋuru, -ŋulu, -ŋuni, etc.</td>
<td>various</td>
</tr>
<tr>
<td><strong>CAUSAL</strong></td>
<td>various</td>
<td>various</td>
</tr>
</tbody>
</table>

1.5. Transitivising Mechanisms

Most if not all Australian languages have a productive suffix to convert intransitive verbs to transitive and some have suffixes for converting transitive verbs to ditransitive.

The most commonly encountered mechanism is a suffix for forming transitive verbs from intransitive ones with the P of the transitive verb corresponding to the S₁ of the intransitive. In Kalkatungu, for instance, we find,

13a. piŋa-piŋa iti
    child return
    The child goes back

13b. maŋapai-ŋu piŋa-piŋa iti-niŋi
    woman-erg child return-cause
    The woman sends the child back

Kalkatungu also has the non-productive causative -ma and also a productive causative -pun for nouns and adverbs

14. maŋ paa yarka
    food there far
    The food is over there
15. maa paa yarka punli
   food there far-cause
   He put the food over there

-nti (- -manti) may also be used to express a LOCATIVE, INSTRUMENTAL or CAUSAL relation through the verb,

16. ūkuku-ku nu-ntii-ña
   dog-erg lie-LOC-past
   The dog lay on it

17. na-ū kuni wati-ntii
   I-erg house clean-INSTR
   I cleaned the house with it

18. mašu-ku lai-mantii-kin
   mother-erg hit-CAUSAL-you
   (Your) mother hit you because of it

However, these constructions are used mostly in subordinate clauses where the noun phrase bearing the case relation is anaphorically deleted and the case marking transferred to the verb,

19. ucan caa ñpa-ya maa-tvi ūyi-manti-caya
   wood here gather-imp food-dat cook-INSTR-purposive
   Get some wood to cook the food with

Some languages have devices for expressing the DATIVE case relation in the same way as P. This enables certain intransitive verbs to be transitivised and certain transitive verbs to become ditransitive. In Pitta-Pitta (Q.) for instance, -la is used to transitivise a verb like ūiwa (be jealous of) so that it can be made reciprocal, reciprocal formation applying only to transitive verbs,

20. ñañtāya muyu-ku ūiwa-ya
    I old woman-dat jealous-pres
    I'm jealous of the old woman

21. ūiwa-la-mali-ya maña pula-ka
    jealous-tr-recip-pres might they two-unmarked deictic
    They might be jealous of one another

It is also used to incorporate the DATIVE in the case frame of the verb of a transitive verb as a 'second object' in examples like the following,

22. ñanpaka kañta-ka yañuzzu-ña mari-liña ñañyaři-ña
    she go-past food-acc get-infin me-dat-acc
    She went to get food for me
23. *nanpaka kan⁴⁹-ta-ka yaŋɩuru-ŋa marl-la-liŋa ŋaŋ⁴⁹a
she go-past food-acc get-tr-infin me-acc
She went to get me some food

2. MORPHOLOGICAL DEVELOPMENT
2.1. Nouns
2.1.1. Ergative(-Instrumental)

The ergative is commonly represented by -lu, -ŋku, and -tu, one or more of these forms appearing in a given language. Where all three variants occur, -lu often occurs with vowel-final stems of more than two syllables, -ŋku with disyllabic vowel stems (very often there are no monosyllabic stems), and -tu occurs with consonant stems. T assimilates in point of articulation to the final consonant of the stem.

The relationship between -lu and -tu is determined by whether we have a hardening or softening environment. -lu, the weaker variant, occurs with vowel stems, i.e. with the consonant in the intervocalic leniting environment; -tu occurs in the hardening environment of a consonant. The alternation between -lu and -tu is paralleled in the dative where -wu occurs following vowels and -ku following consonants, and also with the phonological filler -wa - -pa (see 2.2.2.1) where -wa occurs with vowels and -pa with consonants.7

The relationship between -ŋku and the other variants is explained by Hale (1976e) as follows.

Some Australian languages have a rule that appends a velar nasal to vowel stems. In some dialects of Anmatjera, an Arandic language of Central Australia, the velar nasal is appended to disyllabic noun stems only. If we posit *-lu as the basic, historically underlying form of the ergative, we can account for allomorphs such as -tu with alveolar stems and -tu with retroflex stems by rules of hardening and assimilation. The distribution of possible final consonants in contemporary languages suggests that a greater variety of consonants could once have occurred in word-final position in many languages than is now the case. In particular, labials and velars tended to be eliminated from word-final position. This would mean that stems ending in velar nasals and exhibiting ergatives in -ku, would come to display an alternation: nominative in zero, ergative in -ŋku. If languages ancestral to those that have -ŋku with disyllabic vowel stems once had the Anmatjera-type rule of adding velar consonants to vowel stems, then they would have had a preponderance of velar nasal stems and, after elimination of word-final velars, a preponderance of ergatives in -ŋku. -ŋku could then have been reinterpreted as the allomorph for
disyllabic vowel stems and generalised to all such stems. In some languages (e.g. Dyaru, W.A., Tsunoda p.c.) -ŋku dissimilates to -ku if there is a nasal-plus-stop cluster in the stem (see 37, cf. Blake forthcoming).

Some languages lack the full set of variants given above. In some languages (e.g. Yalarnnga, Q.) there are no consonant-final stems and so it is not surprising to find no -tu. However, many languages have generalised -lu or *ŋku. In Pitta-Pitta (Q.) -lu is the only variant of the ergative, but -ŋu from -ŋku marks S₁ and A in the future (see 54, 55). Warungu uses -tu with consonant stems but has generalised -ŋu with vowel stems to the extent that -lu occurs only with waru (who) and as an optional variant with gayana (father) (Tsunoda 1974:84).

The forms given above have been subject to a few phonetic changes in various languages. -ŋu (*-ŋku) occurs as the variant for disyllabic stems in Walmatjarri (W.A., Hudson forthcoming) and in Kunggari (Q., Breen field notes) as well as in Pitta-Pitta as noted above. -ku (also *ŋku) occurs in Warluwara (Q., Breen 1971) and several languages of Victoria and New South Wales. -ru (*-lu) occurs in Wangka-Manha (Q.) and in Arabana and Wangganguru (both S.A., Hercus p.c.). Vowel harmony, or more particularly harmony involving the high vowels occurs in some languages. Arabana and Wangganguru in fact have the harmonising variant -ri as well as -ru. Loss of final vowels has occurred in Cape York and in the Arandic languages of Central Australia. Thus in Aranda the generalised variant -lu appears as -!. In the south-west corner of the continent metathesis-cum-vowel reduction has produced ak (*-ku *ŋku) and al (*-lu). Thus in Wadjug -al appears as the generalised variant of the ergative (O'Grady et al. 1966:132) and in Nyungan -ak appears as the ergative marker (Douglas 1976).

The ergative marker occurs in all Pama-Nyungan languages except Lardil, Yanggaal, and Gayardild (all closely related to one another and located on the Wellesley Islands and adjacent mainland at the bottom of the Gulf of Carpentaria) and Bandjima, Yindjibarndi, Ngarluma and Gariera in north-west Western Australia. However, reflexes of lu occur marking the INSTRUMENTAL in Bandjima and the INSTRUMENTAL and the A of the passive in Yindjibarndi (O'Grady et al. 1966:84-103).

In some Pama-Nyungan languages use of the ergative is optional. In these languages it is employed only when it is necessary to disambiguate a sentence. Baagandji (N.S.W., Hercus p.c.) is extreme in this respect using its ergative marker, -ru, very sparingly.
Ngarluma and the other languages referred to above as lacking the ergative marker are in fact accusative languages. The W.A. group (Ngarluma, etc.) seems to have moved from an ergative system to an accusative system by generalising 'surface intransitive' type patterns as illustrated in 10a. It is notable that in this group of languages P is marked by -ku (and other variants) which represents a syncretism of P and DATIVE. -ku is very widely distributed in Australia as a dative marker. The following example is from Ngarluma (Hale 1968:14),

\[
24. \text{maŋkuŋa ŋalku-ŋa yuкуru-ku} \\
\text{child strike-past dog-acc/dat} \\
\text{The child struck the dog}
\]

If this hypothesis is correct, viz. that these languages have become accusative by generalising the 'surface intransitive' pattern, then what would otherwise be a remarkable coincidence, viz. the use of -ku for P as well as DATIVE in just the accusative languages, is explained.

In Lardil and the other 'Gulf' languages cited above, we find an accusative system rather than an ergative system. In Lardil itself the only language of the group on which data has been published (Hale 1965, 1967a, Klokeid 1976), the accusative is marked by (i)n, perhaps a reflex of the common Australian accusative marker *Ny a (see below). However, in the future the accusative is marked by -kur - wu - r (see 2.1.4).

I rather think that Lardil has moved from being ergative to accusative, having generalised the 'surface intransitive' type construction in the future tense in the same way as Pitta-Pitta (see 54, 55) and then having extended this construction to the non-future.

There are positive signs of Lardil having been ergative, both in the forms of the first and second person singular pronouns (see discussion in 2.2.2.1) and in what Klokeid calls the cleft construction in which P is in the nominative and A in the genitive (Klokeid 1976:557-558),

\[
25a. \text{taŋka kupaŋkun ti:nin waŋalkin} \\
\text{man make this-acc boomerang-acc} \\
\text{The man made this boomerang}
\]

\[
25b. \text{ti:n waŋal taŋamən kupaŋkərəkun} \\
\text{this boomerang man-gen make} \\
\text{It was this boomerang that the man made}
\]

The verb form in 25b. is not passive, but the genitive is used to mark the A of the passive.
The use of the 'surface intransitive' construction for the future tense probably requires some explanation. The construction involves using the same marking that is used for an intransitive verb and its adjunct for a two-place verb (see 10a). Thus a verb for go will normally be intransitive and the 'goer' will appear in the nominative. The adjunct of such a verb normally appears in a case other than the one used for the P of an unambiguously transitive verb, usually in what we call the dative. This same construction is usually used for some two-place verbs that do not involve impingement on the goal of the verb, e.g. verbs for look for or like. This often involves an awkward question of whether these verbs are simply intransitive or a special kind of transitive. If one is lucky, one finds certain formal characteristics of transitive verbs associated with them. In Kalkatungu, for instance, the verb ɲkumai (to look for) takes a distinctively transitive pronoun form in the imperative, but on the other hand it has to be transitivised like any intransitive before it can be made reciprocal. Given this mixture of characteristics it should probably be labelled something like 'semi-transitive'. What is important however is the use of intransitive-like case marking for two-place verbs that do not involve impingement on the goal and the use of this same marking where reference is to uncompleted activity or future action. In each case there is no impingement or at least no completed impingement. The intransitive marking is also used for indefinite goals (I'm cooking tucker), where reference is to the activity indulged in rather than specifically to activity carried out on the goal. It may be relevant to note that indefinite objects are probably more common with verbs in the imperfect or future. Think of characteristic patterns such as We are going to hunt kangaroo(s)/We cooked the kangaroo.

In any event we have a certain kind of 'logic' involved that opposes impingement and non-impingement so that the optional goal of a one-place verb, the goal of two-place verbs that do not involve impingement because of their inherent semantics, and the goal of any two-place verb in the imperfect or future or an indefinite goal are treated alike in terms of case marking. The 'logic' is somewhat fuzzy and indefinite in Kalkatungu. In Yugulda (Q.), to judge from Keen 1972, it is more definite but the 'logic' is slightly different in scope in that the use of the negative demands intransitive case marking. Pitta-Pitta (Q.) exhibits another version of the 'logic' (see 3.2). It is interesting to note that these examples are all from north-western Queensland and there is not much evidence of this kind of
thing reported from other areas.10 Yugulda, interestingly enough, occupied an area on the southern coast of the Gulf across the water from the other accusative languages of the area. It is not surprising then to find that Lardil makes a future versus non-future distinction in its case marking using -kur etc. to mark the future accusative.

Whether I am on the right track in suggesting that Lardil became accusative by generalising the surface intransitive pattern to all future verbs and then generalising the S1A:P schema to the non-future remains to be seen. It is certainly a plausible line of development and it is a line of development for which there is some evidence in the case of Pitta-Pitta (see 3.2).

It is interesting to note the -ku (assuming Lardil -kur contains a reflex of *-ku) is involved in the West Australian accusative languages, in the Wellesley Island accusative languages and in Pitta-Pitta, which is an accusative neutral mixture.

Among the non-Pama-Nyungan languages the ergative is not strongly represented. Many of these northern languages lack it entirely (e.g. Tiwi, Osborne 1974), or use it rather sparingly (e.g. Dalabon, N.T., Capell 1962:111). In some languages a marker is used on S1 as well as on A, and although such a marker is sometimes reported as an ergative, probably because it is common with A, its claims to being an ergative are dubious. In Ngangikurungur (Daly River, N.T.) Hoddinott and Kofod (1976b:401-405) report the use of niŋgi as an ergative (and instrumental) form, but they note that it is not always used to mark A and that it is sometimes used to mark S1.

Non-Pama-Nyungan languages exhibiting an ergative, whether obligatory, optional or 'dubious', are scattered around and do not occur in a contiguous bloc. Since ergative marking is a minority feature among the world's languages, I interpret this distribution as reflecting remnants of a once ubiquitous ergative system. The argument based on the scattered distribution is not conclusive of course, but it is made more plausible when one considers that all non-Pama-Nyungan languages employ cross-referencing bound pronouns for the major syntactic cases and therefore there would be some redundancy involved in having case marking on noun phrases. I argue below that these cross-referencing bound pronouns are an innovation (see 2.3).

One weakness in this line of argument might appear to be the variety of forms marking the ergative in non-Pama-Nyungan languages. Ngandi (Arnhem Land, Heath forthcoming) appears to be one of the few with a reflex of *-lu - tu.11 However, Ngandi has borrowed its form -tu from the neighbouring Ritharnugu language as Heath (forthcoming:
chapter III) clearly demonstrates. Ritharngu is a Pama-Nyungan language of the Pama-Nyungan enclave in northeast Arnhem Land (see map). Alawa (N.T., Sharpe 1972) has forms like -ri, -yi, -yiri, Rembarnga and Dalabon have yi?, Muriny Pata (Port Keats, N.T., Walsh 1976) has -te and -re. These may or may not turn out to be reflexes of *-lu ~ *-tu. A number of languages have forms such as n\-yi-Nungali (N.T.), -ni Ngaliwuru and Djamindjung (N.T., Hoddinott and Kofod 1976a:397-401), -ni Wambaya (N.T.) and -\-qi Djingili (N.T., Chadwick 1975, 1976). Ngangikurungur (N.T., Hoddinott and Kofod 1976b:401) has ni\-gi as a 'dubious' ergative cum instrumental, and forms such as ni occur in a number of Daly River languages (Tryon 1974) as an instrumental, and forms such as n\-yini, n\-yine, n\-yinta, n\-y\-in\-ke occur as instrumental forms in the languages of the Kimberleys. It is likely that these forms are cognate and that they have as their origin the provenience suggested by Chadwick (1976) for Djingili. They are likely to reflect a third person pronoun form.12 There are a number of possible ways this could have happened. The most likely seems to be from the use of a third person pronoun following an A noun phrase and bearing an ergative inflection. In Pitta-Pitta (Q.) for example, a language in which there are no bound pronouns, noun phrases in S1 or A function are normally followed by a third person pronoun.13 In Wangkumara (Q., Breen 1976a:336-339), third person pronouns have become suffixed to nouns as class markers, the non-feminine pronoun becoming a masculine singular marker, the feminine pronoun becoming a non-masculine-singular marker. In fact the forms used in Wangkumara, which are forms common in Queensland, may be cognate with the forms under discussion.

<table>
<thead>
<tr>
<th></th>
<th>Masculine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom</td>
<td>ga-la-14</td>
<td>ga-nani</td>
</tr>
<tr>
<td>Erg</td>
<td>ga-ulu</td>
<td>ga-n-ru</td>
</tr>
<tr>
<td>Acc</td>
<td>ga-n-na</td>
<td>ga-n-a</td>
</tr>
</tbody>
</table>

When these forms are used as class markers, in most cases the initial nasal is lost.

This line of argument needs further substantiation of course, but there is a plausible line of development from characteristically placing third person pronouns at the end of phrases to suffixing them and there is some similarity in form between the third person pronouns of Queensland and the 'nasal ergative' forms under discussion. The disyllabic forms that occur such as n\-y\-in\-ke may reflect the common
ergative marker in the second syllable.

2.1.2. Locative

The locative is usually represented by one or more forms that match the ergative forms in consonants but have the vowel a instead of u. Thus in Dyaru (W.A., Tsunoda p.c.) we find the ergative represented by -ŋku (for disyllabic vowel stems), -lµ (for longer vowel stems) and Tµ (for consonant stems), and parallel to this we find the locative represented by -ŋka (for disyllabic vowel stems), -lα (for longer vowel stems) and Tα for consonant stems.

In some languages there are some discrepancies between the full set of ergative allomorphs and the locative allomorphs, but in general the evidence points to a proto-form that matches the ergative in consonants but has a instead of u, i.e. a proto-form -*lα - *ta, with -ŋka being derived along the same lines as -ŋkµ (see above).

The phonetic changes that have affected the ergative naturally affect the locative in the same way. Thus Walmatjari (W.A., Hudson forthcoming, and Malyangaba (S.A./N.S.W., P. Austin p.c.) have a locative allomorph -ŋα to match the ergative allomorph -ŋu, and Warluwarra (Q., Breen 1971) has locative -kα matching ergative -kµ.

Where phonetic changes such as loss or reduction of final vowels have occurred, this has had the effect of syncretising the ergative and locative. As noted in 1.3, the INSTRUMENTAL is normally expressed by the ergative (or better ergative-instrumental) case form, but in a few scattered languages it is expressed by the locative (or locative-instrumental) form. If loss or reduction of final vowels occurs, a syncretism of A, INSTRUMENTAL and LOCATIVE occurs. This has happened in Wagaya (N.T., Breen 1976b:340, the Arandic languages of Central Australia and Kurtjar (Q., Black p.c.) for example.

The generalising of one variant at the expense of others that was noted above in the discussion of the ergative is not always paralleled in the locative. Since this is not a phonetic change, the different development of the two forms is not surprising. In Pintupi (N.T., K. and L. Hansen forthcoming), -lµ has been generalised as the ergative marker and -ŋka as the locative. In Pitjantjatjara an innovation has occurred in the conditioning of these allmorphs in that -lµ (ergative) and -lα (locative-instrumental) are used with personal proper name vowel stems, but -ŋku and -ŋka are used with common noun vowel stems.

Most Pama-Nyungan languages have forms that are fairly obviously derivable from proto -*lα - *ta. Kalkatungu (Q.) has locative
allomorphs -gil and -pi a but these presumably represent an innovation as the expected familiar forms can be found lurking on some irregular high-frequency nouns and on adverbs, e.g. kuu-ŋka (at the water), uŋka (behind, at the back). Pitta-Pitta (Q.) has locative -ina but the familiar forms can be found with other functions. -ŋa (*ŋ-ŋka cf. future S₁), A marker -ŋu (*ŋ-ŋku) expresses purpose, and -la expresses indirect cause or reason (drunk from rum), a function often covered by the ergative-instrumental or locative-instrumental in languages lacking a separate 'causal' suffix.

The common locative forms are not well represented outside the Pama-Nyungan family. Most non-Pama-Nyungan languages have an exclusively locative suffix, a few exhibit syncretism of the LOCATIVE, INSTRUMENTAL and AGENT (e.g., Alawa, N.T., Sharpe 1972) or LOCATIVE and ALLATIVE (e.g., Gunwinggu, Arnhem Land, N.T., Carroll 1976).

2.1.3. Accusative

The accusative case does not occur much with nouns though it is common with pronouns. It is used with all nominals in Pitta-Pitta (Q.), except in the future tense (see 54, 55), and it is used with all nominals in Wangkumara (Q., Breen 1976a:336-338), but in the latter instance this is the result of suffixing case-marked pronouns to nouns forming a system of class markers (see 26). As noted above, it is used in the accusative language, Lardil, but separate accusative marking is used in the future as opposed to the non-future.

A number of languages exhibit accusative marking on some classes of nominals, usually personal proper names and/or kin terms or these categories plus human nouns or plus human and animate nouns (see Silverstein 1976).

The form of the accusative is commonly -ŋa or -ŋYa. If we accept Dixon's thesis that both the dental laminal and palatal laminal series of phonemes in Australian languages derive from a common laminal series, then the proto-form will be *NYa where the capital represents a laminal in a proto-language having only one series of laminals.

I see no evidence in the distribution of accusative marking with nouns to suggest that accusative marking was increasing its territory (i.e., 'spreading' from pronouns) or decreasing it. In some special cases it probably spread, e.g. Wangkumara, for the rather special reason that pronouns (marked for A and P) were suffixed to nouns, and perhaps in Lardil as suggested earlier. In any case the distribution of accusative marking as we find it is natural in the sense that it is concentrated at the end of a scale that runs from inanimate through
animate, to human, to subclasses of human and this accords with patterns of accusative marking in some non-Australian languages, e.g. the use of a for definite, animate PATIENTS in Spanish, pe for human PATIENTS in Roumanian, the use of the genitive for animate PATIENTS in Russian, the accusative -(i)g in Mongolian for human PATIENTS and the use of -ko for animate PATIENTS in Hindi.¹⁵

There do not seem to be any examples of accusative marking with nouns among the non-Pama-Nyungan languages. This is not too surprising when one considers that they make greatly reduced use of case marking for the major syntactic functions, relying instead on cross-referencing pronouns. There is clear evidence in these cross-referencing pronoun systems of accusative marking, and more particularly reflexes of -*NYa. This is discussed in section 2.3.

2.1.4. Dative

A form -ku marks the dative in a very large number of languages. Besides occurring in something like ninety per cent of the Pama-Nyungan languages, it is also fairly well represented among the non-Pama-Nyungan languages. Often there is a variant -wu following vowel-final stems, with -ku occurring on consonant-final stems.

2.1.5. Summary

The following forms then can be reconstructed as belonging to some remote proto language:

<table>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ergative</td>
<td>-*lu</td>
</tr>
<tr>
<td>locative</td>
<td>-*la</td>
</tr>
<tr>
<td>accusative</td>
<td>-*NYa</td>
</tr>
<tr>
<td>dative</td>
<td>-*wu</td>
</tr>
</tbody>
</table>

The ergative was probably once more widespread than it is now, and is likely to have been lost from languages like Ngarluma and Lardil and from most of the non-Pama-Nyungan languages.

The accusative may have lost ground in the non-Pama-Nyungan languages as they shifted the burden of syntactic case marking from the use of case suffixes to cross-referencing pronouns.

The dative is likely to have been retained in form and function from a remote proto-language, but has probably been extended to mark P in Ngarluma, P in the future in Pitta-Pitta, and it has probably been extended to marking purposive on verbs and also future tense (see Blake 1976:421-424).
The LOCATIVE relation is expressed by a distinct marker over most of Australia. The Pama-Nyungan languages tend to reflect a common proto-form, the others express the relation by a variety of forms.

2.2. Free Pronouns
2.2.1. General

As indicated in 1.1 free form pronouns in the Pama-Nyungan languages operate in an accusative paradigm whereas in other Australian languages there is usually no case marking for $S_1$, $A$ and $P$, either with pronouns or with nouns. The accusative is almost always marked by what is clearly a reflex of $-\#NYa$.

In some Pama-Nyungan languages we find:

(a) Ergative as well as accusative marking on third person pronouns, particularly if the forms are demonstrative in origin. This is fairly common.

(b) Ergative as well as accusative marking on an odd person/number combination or two. In a few instances this occurs with first or second person singular.

(c) Ergative as well as accusative marking on all pronouns.

(d) Ergative marking rather than accusative marking on all pronouns.

Major syntactic relations apart, the rest of the pronoun paradigm is similar to the noun paradigm in most languages but rarely exactly the same. There are usually some differences in the number of case forms and in their actual shape or phonemic form. For one thing, pronouns, certainly first and second person pronouns, are typically human and the semantic category of locative is not much required though comitative needs to be expressed.

In the area possessive-indirect object-purposive-benefactive the pronoun paradigm often shows a different number of distinctions from the noun paradigm of the same language but it is difficult to generalise. Also we find that besides $-ku$ $-wu$, forms such as $-\eta$, $-nu$, $-nta$, $-ta$, $-mpa$ are common. Usually the first and second person singular have a different inflection in the dative (and genitive or benefactive) from the other person/number combinations. Thus in Warluwara (Q., Breen 1971) the first and second singular forms of the dative are $\eta\alpha$ and $yinda$, but all the other person/number combinations consist of the nominative plus $-\eta$. It is fairly common for the oblique cases of pronouns to be built on a stem other than the
nominative. In Gumbainggir (N.S.W., Smythe 1948), the dative paradigm runs: 1s ŋa:ŋyŋ, 2s ŋi:nnu with the other first and second person forms suffixed by -mba, e.g. ŋali-mba. Other oblique cases (except for the accusative) are then built on this stem, e.g. ŋali-mba-la (we two (inclusive) locative).

Some of the forms used to mark the dative (or genitive or benefactive) with pronouns (and in some instances nouns) look like locative allomorphs (e.g., -nta, -ta, -mpa) and indeed this is likely to be their source. These forms do in fact occur as locatives with nouns and pronouns in some languages, e.g. Warungu (Q., Tsunoda 1974: 180-181) ŋali-ŋu-nda, the locative of we two (-ŋu is the genitive).

Quite independently of the forms under discussion, the locative in a number of Australian languages covers indirect object and allative functions and when one considers the fact that locatives are not going to be required very frequently with human referents it is not surprising if locative allomorphs assume dative and similar functions. -ŋu, though not clearly related to -*ŋka -*la (see 2.1) is attested as a locative in a number of Cape York languages and is the locative for pronouns in Kalkatungu (Q.). -ŋa is found in very many languages including a number of non-Pama-Nyungan languages as a dative or purposive.

2.2.2. Major Syntactic Relations

2.2.2.1. Pronoun Augmentation

The main feature of interest in the pronoun paradigm is the distribution of nominative, ergative and accusative marking, especially the distribution of the case forms with pronouns vis-à-vis their distribution with nouns.

Before discussing the free pronouns, let us look at a typical Pama-Nyungan pronoun paradigm. This example is from Warungu (Q., Tsunoda 1974:180-181). Only the nominative and accusative are shown, but there are also two dative case forms, a locative, a comitative and an ablative.
28. Warungu Pronouns

<table>
<thead>
<tr>
<th></th>
<th>Nominative</th>
<th>Accusative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$S_1$, A</td>
<td>P</td>
</tr>
<tr>
<td>Sing. 1</td>
<td>n ça ya</td>
<td>n ça n'ya</td>
</tr>
<tr>
<td>2</td>
<td>y int a</td>
<td>y in a</td>
</tr>
<tr>
<td>3</td>
<td>n y u l a</td>
<td>n y u n'ya</td>
</tr>
<tr>
<td>Dual 1</td>
<td>n a l i</td>
<td>n a l i n'ya</td>
</tr>
<tr>
<td>2</td>
<td>y up a l a</td>
<td>y up a l a n'ya</td>
</tr>
<tr>
<td>3</td>
<td>p u l a</td>
<td>p u l a n'ya</td>
</tr>
<tr>
<td>Plural 1</td>
<td>n a n a</td>
<td>n a n a n'ya</td>
</tr>
<tr>
<td>2</td>
<td>y u r a</td>
<td>y u r a n'ya</td>
</tr>
<tr>
<td>3</td>
<td>t y a n a</td>
<td>t y a n a n'ya</td>
</tr>
</tbody>
</table>

It will be noted that while in the non-singular the accusative is added to the nominative, in the singular the accusative contrasts with a nominative suffix added to a monosyllabic stem. If one examines these nominative suffixes to singular pronouns in a range of languages one finds that they seem to consist of

(a) a syllable resembling an ergative marker;
(b) a syllable -pa or -wa;
(c) a syllable resembling an accusative marker.

Warungu probably falls into category (a) although this is not immediately obvious. In many languages however the nominative consists of a form such as n ça n' or in a smaller number of languages, n ça p a or n ça n'ya.

In a recent paper Dixon (1977) suggests that at an earlier stage Australian languages allowed monosyllabic words but then at a later stage they ceased to tolerate them - this is the situation in a majority of contemporary languages. He suggests that at an earlier stage the singular pronouns operated with ergative and accusative marking and that when monosyllabic words became proscribed the $S_1$ forms were augmented by extending the ergative form to cover $S_1$ as well as A or by augmenting with a syllable -pa (widely used in Australia as a phonological filler) as suggested earlier by Hale. In this way he seeks to account for the appearance of an 'ergative looking' marker.
on the $S_1$ form of pronouns. If the ergative form was extended to embrace $S_1$, an accusative system resulted; if $-pa$ was added, a three-way system of marking resulted.

There seems to be no doubt that the singular pronouns have been augmented. Dixon's argument concerns only first and second person where the proto-forms are reflected almost ubiquitously, but I think that the argument can be applied to the fairly widespread third person singular forms (see examples in 34. below). Moreover, I think that $-nya$ can be added to the list of morphemes used as augment (see below). However, I wonder if an early proto-language had ergative as well as accusative marking for first and second person singular. This seems to involve positing a rather unusual proto-language. It may be that in some instances the ergative form of nouns was simply extended to cover both $S_1$ and $A$ with pronouns. There is some evidence to support Dixon's position. In some languages that have retained the use of monosyllabic words, we find a system nearly identical to that posited by Dixon for the proto-language. For example, in Gabi (SE. Q., Mathew 1910:208, quoted by Dixon 1972:7) we find,

29. Gabi

<table>
<thead>
<tr>
<th></th>
<th>first singular</th>
<th>second singular</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>$\eta_{\text{ay}}$</td>
<td>$\eta_{\text{in}}$</td>
</tr>
<tr>
<td>$A$</td>
<td>$\eta_{\text{ay}d\text{yu}}$</td>
<td>$\eta_{\text{indu}}$</td>
</tr>
<tr>
<td>$P$</td>
<td>$\eta_{\text{ana}}$</td>
<td>$\eta_{\text{ina}}$</td>
</tr>
</tbody>
</table>

Also in the related language, Duungidjawu (SE. Q., Wurm 1976) we find much the same thing,

30. Duungidjawu

<table>
<thead>
<tr>
<th></th>
<th>first singular</th>
<th>second singular</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>$\eta_{\text{ai}}$</td>
<td>$\eta_{\text{in}}$</td>
</tr>
<tr>
<td>$A$</td>
<td>$\eta_{\text{adyu}}$</td>
<td>$(o)\eta_{\text{indu}}$</td>
</tr>
<tr>
<td>$P$</td>
<td>$\eta_{\text{ana}ya}$</td>
<td>$(o)\eta_{\text{ina}}$</td>
</tr>
</tbody>
</table>

No language seems to have a form of ergative provenience marking $S_1$ but not $A$. However, whether the ergative once functioned with singular pronouns or was extended from nouns to cover $S_1$ and $A$, the same distribution would result. It would not normally happen that a language would extend an ergative from nouns to $S_1$ pronouns without embracing $A$ pronouns.
Almost without exception bound pronoun systems operate accusatively for all person/number combinations and they presumably reflect the earlier system operating with free pronouns. This would argue against Dixon's suggestion that the free singular pronouns had a distinct A form.

Dixon's list of augment s can probably be extended to include -*NYa. Consider the following forms from Nyungar (SW. W.A., O'Grady et al. 1966:131) and Kunggari (Blackall, Q. - not to be confused with Gunggari, Roma, Q., Breen field notes).

31. Nyungar

<table>
<thead>
<tr>
<th>First Singular</th>
<th>Second Singular</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>ḡanyā</td>
</tr>
<tr>
<td>A</td>
<td>ḡatvū</td>
</tr>
<tr>
<td>P</td>
<td>ḡanyā</td>
</tr>
</tbody>
</table>

32. Kunggari

<table>
<thead>
<tr>
<th>First Singular</th>
<th>Second Singular</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>ḡana</td>
</tr>
<tr>
<td>A</td>
<td>ḡatvū</td>
</tr>
<tr>
<td>P</td>
<td>ḡana</td>
</tr>
</tbody>
</table>

Perhaps the ergative systems that have resulted in these cases (at least with first and second singular) could be taken as supporting Dixon's putative proto-system. The 'accusative looking' form for S₁ would be seen as an extension of the accusative for the phonological reasons, the ergative would be seen as 'original'.

How common the use is of -*NYa as an augment can only be answered after some problems of historical phonology are solved. A number of languages in south-west Queensland have forms such as ḡanyi (first person S₁), (y)ini (second person S₁) and since some have ḡani for first person plural where other languages have ḡana, it is likely that ḡanyi derives from ḡanyā by regular sound change.

There are a number of phonological problems involved in deriving some attested forms from the proto-forms. Dixon suggests ḡay + tu¹⁷ as the proto-sequence for the first person and nyun or nin + tu for the second. These allow the straightforward derivation of forms such as ḡaytū, ḡatvū or ḡatvū and nyuntu or yintu. Certainly lenition of NY to y has occurred in some languages; see for instance the Warungu...
second person singular, dual and plural forms in 28. Similarly vowel reduction has occurred producing forms such as Warungu yinta from *NYintu and yupala from *NYumpalu. However, although a form such as ηayu in Garawa (Q., Purby 1972) probably derives from ηay + tu via ηaTYu, a form such as Warungu ηaya could derive from ηay + tu via ηaTYu > ηayu > ηaya (cf. yinta) or by simply repeating the vowel of ηay. This is a common augmenting principle among the world’s languages and is attested in Australia, e.g. assimilating English words to vernacular phonemotactic patterns. A similar doubt arises with a not uncommon form for the second person, viz. n’ini. Is the i an assimilated a, n’ini reflecting *NYin + NYa, or is n’ini derived from n’in by repeating the vowel? There are also problems in sorting out some of the stems. Is the second person NYin, NYun, qin or qun? What is the significance of y in ηay, an element which does not appear in the dual or plural? What is the significance of -n in NYin etc., another element that does not appear in the dual or plural? However, the problem of the stems is not directly relevant to the question of the development of the case marking.

If we accept that forms like ηaTYu, n’inti etc. reflect ergative morphemes in their second syllables, this has important consequences for the non-Pama-Nyungan languages. Since these lack case marking in most instances for the major syntactic functions, the question of the relationship between this system and the Pama-Nyungan system arises. As we noted in 2.1.1, a scattered minority of non-Pama-Nyungan languages exhibit ergative marking on nouns and pronouns and this scattering probably represents the relics of a widespread if not ubiquitous system. Further evidence of former ergativity can be found in the pronoun forms for the singular in some of these northern languages. Consider the following,

<table>
<thead>
<tr>
<th>First Person</th>
<th>Second Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiwi</td>
<td>ηia</td>
</tr>
<tr>
<td>Gunbalang</td>
<td>ηayi</td>
</tr>
<tr>
<td>Yiwadja</td>
<td>ηabi</td>
</tr>
<tr>
<td>Djingili</td>
<td>ηaya</td>
</tr>
<tr>
<td>Worora</td>
<td>ηayu</td>
</tr>
<tr>
<td>Gunwinggu</td>
<td>ηaye</td>
</tr>
<tr>
<td>Maranunggu (Daly R.)</td>
<td>ηanY</td>
</tr>
<tr>
<td>Pungu-Pungu (Daly R.)</td>
<td>ηetYe</td>
</tr>
</tbody>
</table>
These examples have been chosen more or less at random. It would have been possible to select a sample specifically to bring out the number of 'ergative looking' forms to be found among the non-Pama-Nyungan languages, but as it is one can see a sprinkling of forms that probably reflect the ergative marker. There is no suggestion that these reflect an ergative system however, only that they reflect an ergative marker. They could well reflect a marker that had been generalised to $S_1$ from $A$ or from the noun paradigm.

In 2.1.1 I suggested that Lardil may have moved from being ergative to accusative. It is worth recording that the $S_1$, $A$ pronouns for first and second singular are $\eta_\text{ata}$ and $\eta_\text{Yi}hki$ respectively. These seem likely to reflect the ergative marker in the second syllable.

The following table gives examples of singular pronouns in $S_1$, $A$ and $P$ forms for a number of Pama-Nyungan languages. The first dual is given also as an example of a disyllabic stem where the putative augmentation did not take place.

The suggested lines of development outlined above account for most of the forms that appear. Dyaabugay illustrates another feature not mentioned above, namely the use of the plural stem $\eta_yura$ for the singular stem, a change reminiscent of the replacement of $thou$ by $you$ in English and a change that occurs sporadically over the continent.

The table has an eastern Australian bias but the deficiency is made good in example 40 where a number of Western Australian forms are quoted. In some of the Western Australian languages augmentation has occurred more than once as can be seen by inspecting Table 40. This additional augmentation is discussed in the text following 40.

<table>
<thead>
<tr>
<th></th>
<th>1s</th>
<th>2s</th>
<th>3s</th>
<th>1du</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warluwara Q.</td>
<td>$\eta_\text{ana}$</td>
<td>$\text{yipa}$</td>
<td>$\text{yiwa}$</td>
<td>$\eta_\text{ali}$ (inc)</td>
</tr>
<tr>
<td>A</td>
<td>$\eta_\text{ana}$</td>
<td>$\text{yipa}$</td>
<td>$\text{yiwa}$</td>
<td>$\eta_\text{ali}$</td>
</tr>
<tr>
<td>P</td>
<td>$\eta_\text{ana}$</td>
<td>$\text{yina}$</td>
<td>$\text{yin}^a_\text{a}$</td>
<td>$\eta_\text{ali}^a_\text{a}$</td>
</tr>
<tr>
<td>Pitta-Pitta Q.</td>
<td>$\eta_\text{an}^a_\text{vtya}$</td>
<td>$(\text{y})\text{inpa}$</td>
<td>$\text{nuwa-}$</td>
<td>$\eta_\text{ali}$</td>
</tr>
<tr>
<td>A</td>
<td>$\eta_\text{atu}$</td>
<td>$(\text{y})\text{intu}$</td>
<td>$\text{nulu-}$</td>
<td>$\eta_\text{alilu}$</td>
</tr>
<tr>
<td>P</td>
<td>$\eta_\text{ana}$</td>
<td>$(\text{y})\text{ina}$</td>
<td>$(\text{y})\text{inpa-}$</td>
<td>$\eta_\text{alina}$</td>
</tr>
<tr>
<td>Bidjara Q.</td>
<td>$\eta_\text{aya}$</td>
<td>$\text{yinda}$</td>
<td>$\text{nula}$</td>
<td>$\eta_\text{ali}$</td>
</tr>
<tr>
<td>A</td>
<td>$\eta_\text{aya}$</td>
<td>$\text{yinda}$</td>
<td>$\text{nula}$</td>
<td>$\eta_\text{ali}$</td>
</tr>
<tr>
<td>P</td>
<td>$\eta_\text{adyuna}$</td>
<td>$\text{yuna}$</td>
<td>$\text{nuna}$</td>
<td>$\eta_\text{alin}^a_\text{a}$</td>
</tr>
<tr>
<td>Language</td>
<td>1s</td>
<td>2s</td>
<td>3s</td>
<td>1du</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Garawa</td>
<td>$\eta_1$</td>
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<td>$\eta_1$</td>
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</tr>
<tr>
<td>Q.</td>
<td>$\eta_1$</td>
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<td>$\eta_1$</td>
<td>$\eta_1$</td>
</tr>
<tr>
<td>A</td>
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<td>$\eta_1$</td>
<td>$\eta_1$</td>
<td>$\eta_1$</td>
</tr>
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<td>$\eta_1$</td>
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<tr>
<td>Yalarnnga</td>
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<tr>
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</tr>
<tr>
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<td>Ngawun</td>
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<tr>
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<td>$n_1$</td>
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</tr>
<tr>
<td>A</td>
<td>$\eta_1$</td>
<td>$n_1$</td>
<td>$n_1$</td>
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</tr>
<tr>
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<td>$n_1$</td>
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</tr>
<tr>
<td>Dyaabugay</td>
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</tr>
<tr>
<td>Q.</td>
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<tr>
<td>A</td>
<td>$\eta_1$</td>
<td>$n_1$</td>
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</tr>
<tr>
<td>P</td>
<td>$\eta_1$</td>
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</tr>
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<td>Duungidjawu</td>
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<tr>
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<tr>
<td>Warungu</td>
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<td>$n_1$</td>
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<tr>
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<td>Dharawal</td>
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<td>$n_1$</td>
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<tr>
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<td>$n_1$</td>
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</tr>
<tr>
<td>Madi-Madi</td>
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<tr>
<td>Vic.</td>
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<td>$n_1$</td>
</tr>
<tr>
<td>A</td>
<td>$\eta_1$</td>
<td>$n_1$</td>
<td>$n_1$</td>
<td>$n_1$</td>
</tr>
<tr>
<td>P</td>
<td>$\eta_1$</td>
<td>$n_1$</td>
<td>$n_1$</td>
<td>$n_1$</td>
</tr>
</tbody>
</table>
Free Pronouns in an Ergative Paradigm

As noted earlier the free pronouns in some languages operate in an ergative paradigm. The set of languages exhibiting this feature is as follows:

(a) Warnman, Dyaru, Yulbaridja, Walmatjari, Walbiri, Pintupi (a roughly contiguous set extending over an area in the northern W.A. and into N.T.).

(b) Dharawal and some related languages as in Eades 1976 (south coast of N.S.W.).

(c) Rembarnga, Ngandi (Arnhem Land N.T.), Muriny Pata (Port Keats N.T.).

(d) Kalkatungu, Yalarnga, (Kunggari?) (western Q.).

In some instances at least it is possible to find evidence to suggest that the ergative pronoun paradigm is an innovation. Warnman (W.A., O'Grady et al. 1966:136-7) has a set of free form pronouns that consist of a stem para to which forms marking person and number are suffixed,

<table>
<thead>
<tr>
<th>1st Person</th>
<th>2nd Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing</td>
<td>para-Ø</td>
</tr>
<tr>
<td>Dual</td>
<td>para-Ø-kuityara</td>
</tr>
<tr>
<td>Plural</td>
<td>para-Ø-waṭa</td>
</tr>
</tbody>
</table>

This system seems to have derived from an earlier auxiliary or catalyst particle plus a bound pronoun. Catalyst particles to which bound pronouns are attached are a feature of the area and -ŋku is not only synchronically the second person $S_1$. A bound pronoun in Warnman, it is the $S_1$, A bound pronoun in a number of Western Desert languages. It seems fairly clear that a combination of catalyst particle plus bound pronoun has usurped the position of an earlier free pronoun. If this is so, it is not surprising to find that the new forms operate in an
ergative paradigm since this would have been the only paradigm available as a model when the earlier free pronouns fell into disuse.

The following example illustrates the use of the 'new' free pronouns and the cross-referencing pronouns. The free pronouns are optional.

36. para-ง-lu-งกุ para-งกุ-กุ
pronoun-I-erg-I(S)-you(P) boomerang make-past pro-you-dat
I made a boomerang for you.

In other languages in the area that have ergative pronoun paradigms, there is evidence that the free pronouns for the major syntactic functions have been recreated probably on the basis of oblique forms. This is in fact Hale's suggestion regarding Walbiri (Hale 1973b:340),

'The process of destressing and cliticising pronouns eventually became an obligatory rule and, subsequently, independent pronouns were re-created from other sources available to the language, such as oblique forms of pronouns like those found in possessives or in other functions not normally subject to cliticization.'

The evidence is largely the discrepancy between the actual shapes of the bound forms and the shapes of the free forms (as pointed out by Hale), plus the regularity of the ergative affixation. Consider the following forms from Dyaru (W.A., Tsunoda p.c.) where both these features are evident,
37. Dyaru Pronouns
(a) Free Forms

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁, P</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sing. 1</td>
<td>ŋat'yu</td>
<td>ŋat'yu-ŋku</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>nyuntu</td>
<td>nyuntu-ku</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>nyuntu</td>
<td>nyuntu-ku</td>
<td></td>
</tr>
<tr>
<td>Dual 1 inc</td>
<td>ŋali</td>
<td>ŋali-ŋku</td>
<td></td>
</tr>
<tr>
<td>ex</td>
<td>ŋatyara</td>
<td>ŋatyara-lu</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ny unpula</td>
<td>ny unpula-lu</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ny anpula</td>
<td>ny anpula-lu</td>
<td></td>
</tr>
<tr>
<td>Plural 1 inc</td>
<td>ŋalipa</td>
<td>ŋalipa-lu</td>
<td></td>
</tr>
<tr>
<td>1 ex</td>
<td>ŋanampa ~ ŋanimpa</td>
<td>ŋanampa-lu ~ ŋanimpa-lu</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ny uraa ~ ny urafa</td>
<td>ny uraa-lu ~ ny urafa-lu</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ny antu</td>
<td>ny antu-ku</td>
<td></td>
</tr>
</tbody>
</table>

(b) Bound Forms

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Sing. 1</td>
<td>-ŋa</td>
<td>-yi</td>
</tr>
<tr>
<td>2</td>
<td>-n</td>
<td>-ŋku</td>
</tr>
<tr>
<td>3</td>
<td>-ś</td>
<td>-ś</td>
</tr>
<tr>
<td>Dual 1 inc</td>
<td>-li</td>
<td>-alin'ya</td>
</tr>
<tr>
<td>ex</td>
<td>-liya(r)</td>
<td>-yiraŋ ~ -yaraŋ</td>
</tr>
<tr>
<td></td>
<td>-npula</td>
<td>-ŋkuwuka</td>
</tr>
<tr>
<td></td>
<td>-wula</td>
<td>-wula(y)anu ~ -wulany</td>
</tr>
<tr>
<td>Plural 1 inc</td>
<td>-liwa</td>
<td>-alin'ya-pa ~ -ŋalipa</td>
</tr>
<tr>
<td></td>
<td>-ŋalu</td>
<td>-(ŋ)animpa ~ (ŋ)anampa</td>
</tr>
<tr>
<td></td>
<td>-nta(lu)</td>
<td>-nyura</td>
</tr>
<tr>
<td></td>
<td>-lu</td>
<td>-(ŋ)anu</td>
</tr>
</tbody>
</table>
The discrepancy between the bound forms and the free forms can be gathered from an inspection of the table. Note that some of the accusative bound forms are marked by -nY(-), clearly a reflex of the accusative marker that is found over most of Australia. The allomorphs of the ergative marker on the free pronouns are distributed according to the principle operating with nouns: -ŋku occurs with disyllabic stems (dissimilating to -ku if there is a nasal stop cluster in the stem) and -1u occurs with longer stems.

Dyaru then seems to have formed a new series of free forms for S₁, A and P and to have modelled them on the noun paradigm with one form for A and another for S₁/P. The same line of argument can be followed with the other languages listed under (a) above.

Of the languages noted under (b), namely those languages of the south coast of N.S.W. treated by Eades (1976), it is generally true that the free pronouns exhibit ergative allomorphs distributed as for nouns, at least insofar as there is evidence available. There are also systems of bound pronouns in use, and all in all it seems as if the suggestion made about Dyaru could be repeated in the case of these languages.

In one language of this area, Gundungurra, we find a system the same as that described above for Warnman. The free pronouns consist of a base gula- to which bound pronouns are suffixed,

<table>
<thead>
<tr>
<th></th>
<th>Sing. 1</th>
<th>gula-ŋga</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>gula-nYdYi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Dual 1 inc</th>
<th>gula-ŋa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 ex</td>
<td>gula-ŋgulan</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>gula-mbu</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Plural 1 inc</th>
<th>gula-mbanYan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ex</td>
<td>gula-mbanYila</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>gula-mbandu</td>
</tr>
</tbody>
</table>

The bound pronouns exist independently of their use with -gula. Presumably this system has the same genesis as that proposed for the Warnman system.

Of the non-Pama-Nyungan languages exhibiting an ergative pronoun paradigm, Rembarnga, Ngandi and Muriny Pata, Ngandi can easily be accounted for. Heath (forthcoming b) demonstrates convincingly that
Ngandi has borrowed its ergative marker from the neighbouring Pama-Nyungan language, Ritharngu. The use of this ergative marker with pronouns reflects a situation in which an introduced functional morpheme is generalised to all nominals.

In the case of Rembarnga (McKay 1975) and Muriny Pata the only evidence of possible innovation lies in the fact that the bound pronouns operate in an accusative system and this presumably would reflect the earlier free pronoun paradigm.

As for the remaining languages, Kalkatungu exhibits a discrepancy between the shape of its bound pronouns and its free ones, so one would expect that the free forms represent a relative innovation. Yalarnnga has virtually no bound pronouns. Kunggari may or may not exhibit an ergative pronoun paradigm. It certainly does in the first and second singular (see 32) but the information available on the other person/number combinations is incomplete.

On balance then one could say that since bound pronoun paradigms probably reflect an earlier system and since bound pronouns operate in an accusative system, the free pronoun paradigms were once accusative. We have also seen that in the case of some of the languages with ergative pronoun paradigms, there are additional reasons for believing the ergative system to be a comparative innovation.

2.3. Bound Pronouns

If we consider bound pronouns in Australian languages, we can classify languages into four types along a seriation scale thus:

(a) languages with no bound pronouns

(b) languages with bound pronouns that are transparently abbreviated forms of the free pronouns

(c) languages with bound pronouns that are not simply abbreviated forms of the free pronouns

(d) languages with bound pronouns that exhibit fusion and various irregularities in transitive clauses (where the bound pronouns for A and P are juxtaposed)

2.3.1. Languages with no Bound Pronouns or 'Abbreviated' Free Pronouns

It is interesting to note that most of the languages lacking bound pronouns are to be found in a contiguous area running from the Great Australian Bight in South Australia to the Gulf of Carpentaria in Queensland (see map). This suggests that the process of developing
bound pronouns or dropping them is subject to diffusional pressure, but leaves the question of whether the 'boundless' languages are ones which have not developed bound pronouns or whether they are ones which have lost them. One cannot apply stratigraphical arguments to the distribution of 'bound' and 'boundless' languages in the way one can with the distribution of lexical items. Since the form of lexical items is, in almost all cases, arbitrary, a discontinuous distribution as opposed to a continuous one must normally be interpreted in terms of the continuous area representing an innovation and the discontinuous one representing a conservative form. However, with the choice between 'bound' and 'boundless' languages we are not dealing with an arbitrary expression-content relationship, rather it is the case that a language can develop bound pronouns from free ones (where else could they come from?) and it can also lose bound pronouns, as has been the case in Europe, for instance. In any case, the stratigraphical evidence is ambiguous since there are discontinuous 'boundless' areas (NW. W.A., tip of Cape York) as well as discontinuous 'bound' areas.

Gavan Breen points out that if the boundless languages had lost bound pronouns, one would expect to find vestigial evidence of this and in fact there seems to be practically none (but see below). There are one or two instances of isolated bound pronouns, e.g. Yalarnnga -nu marking the S₁ or A of imperatives, but often, as in this case, their transparent relation with free forms suggests innovation.

One can see the force of this argument if one considers developments in Europe. Pronouns functioning as S₁ and A (subject pronouns) were suffixed to verbs, became unstressable, and in many cases monophonemic, and were supported by optional free forms for the purposes of emphasis, contrastive stressing and the like. Thus in Latin the first person singular (at least in some active tenses) was represented by -m as in amabam (I used to love), with ego available when the first person singular was to be stressed. In French, ego appears as a proclitic /3a/, which has become unstressable, so that the disjunctive moi has to be introduced to allow the first person singular to be emphasized, moi, je t'aime (I love you). In general an older layer of bound pronouns shows up as a set of verb inflections, and even in English, the European language to have lost most of its inflections, a third person singular form is retained in he comes, etc. where -s reflects a pronoun, ultimately a demonstrative (being an Anglian form of Germanic *-θίξt. E.*-t). In sum it appears that one can expect bound pronouns, if they are lost at the expense of a set of free forms, to disappear gradually, leaving vestiges on the verb or wherever they were affixed.
On the other hand one cannot dismiss entirely the possibility of a kind of pidginisation involving the sudden and complete loss of bound pronouns. In Kalkatungu, for instance, where bound pronouns are optional in non-dependent clauses (at least with most tense/aspect markers), informants will normally omit them for the benefit of a struggling European linguist. One can imagine circumstances involving inter-tribe bilingualism in which a pidginised form of the language ousted an earlier, morphologically irregular paradigm, a process which can be observed in a number of present day Aboriginal communities where the natural transmission of the language to the younger generation is suffering from competition with English.

However, when one considers that those languages bordering on the boundless area for the most part exhibit bound pronouns that are patently abbreviated free forms, it supports the contention that the development is largely, if not entirely, a one-way development from 'boundless' to 'bound'.

Breen (p.c.) claims specifically in the case of Badjiri (Q.) that it borrowed the system of bound pronouns but not the forms from the neighbouring Gunya (Q.). Similarly, Heath (forthcoming) demonstrates that Ritharrngu, a Pama-Nyungan language of the Pama-Nyungan enclave in north-east Arnhem Land, developed bound pronouns under the influence of Ngandi, a neighbouring non-Pama-Nyungan language which makes extensive use of cross-referencing bound pronouns. Ritharrngu developed the bound pronouns from its own free pronouns and is the only Pama-Nyungan language of the Arnhem Land enclave to have developed such forms.

One area where there does appear to have been a kind of loss of bound pronouns is northern Cape York where the former bound forms are suffixed to the free forms obligatorily and hence no longer function as bound pronouns. In Mpalityanah, for example, the first person singular $s_1$, A form is $ayu-\eta$. $-\eta$ is a reflex of a bound form of the pronoun. Independently of this the initial velar nasal of the stem $\ast ayu$ has been lost as part of a general 'initial dropping' change. Similarly in Yinwum, first dual inclusive is $le-\imath$, where $le$ reflects $\ast al$ with loss of the initial syllable and $-\imath$ ultimately reflects the same stem having been used as a bound form (Hale 1976b:30). In Yinggarda (W.A., O'Grady et al. 1966:118) the first person $s_1$, A bound pronoun has become permanently suffixed to the free form. $-\eta\alpha$ remains as a means of indicating first singular, but the free form is no longer $\ast a\alpha$ but $a\alpha a\alpha$.
To clarify the preceding generalities the following examples are presented. The first is from Narinyari (S.A., Yallop 1975:40) and illustrates a language in which the bound pronouns are patently reduced forms of the free ones.

<table>
<thead>
<tr>
<th>1st Person</th>
<th>2nd Person</th>
<th>3rd Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>free/bound</td>
<td>free/bound</td>
<td>free/bound</td>
</tr>
<tr>
<td>Sing.</td>
<td>napi/-api</td>
<td>inti/-inti</td>
</tr>
<tr>
<td>Dual</td>
<td>nel/-angel</td>
<td>url/-url</td>
</tr>
<tr>
<td>Plural</td>
<td>nurn/-arn</td>
<td>xum/-xun</td>
</tr>
</tbody>
</table>

Narinyari is one of the few languages in which ergative forms appear, thus

<table>
<thead>
<tr>
<th>1 Sing.</th>
<th>3 Sing.</th>
<th>3 Dual</th>
</tr>
</thead>
<tbody>
<tr>
<td>napi/-api</td>
<td>kitvi/-itvi</td>
<td>keŋk/-enk</td>
</tr>
</tbody>
</table>

The few examples of ergative bound forms occur in eastern Pama-Nyungan and where they occur in general they reflect the comparatively recent derivation of the bound forms from the free forms.

In general, bound pronouns in eastern Pama-Nyungan languages bear a transparent relation to their free counterparts. Capell gives a number of examples from New South Wales languages in his *New Approaches* (Capell 1956:16-17).

2.3.2. Languages with Bound Pronouns Distinctly Different from the Free Pronouns

The following table is presented mainly to illustrate languages in which there is some discrepancy between the shape of the bound pronouns and the shape of the corresponding free ones. However, it has been extended to cover most of the Pama-Nyungan languages of Western Australia and of the adjacent parts of the Northern Territory and South Australia, since a number of interesting factors can be found within this range. Only the first and second person singular has been shown. In general there is a closer correspondence between free forms and bound forms in the other person/numbers.
<table>
<thead>
<tr>
<th></th>
<th>Free</th>
<th></th>
<th>Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$S_1$</td>
<td>A</td>
<td>$S_1$,A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P</td>
<td>P</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DAT</td>
<td>D</td>
</tr>
<tr>
<td>Ngarla</td>
<td>1s</td>
<td>$nayə,nayi$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>$nyinpa$</td>
<td></td>
</tr>
<tr>
<td>Nyamal</td>
<td>1s</td>
<td>$nayə$</td>
<td>$nayuku$ $-na$</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>$nyinta$</td>
<td>$-ṇa$</td>
</tr>
<tr>
<td>Bailko (Balygu)</td>
<td>1s</td>
<td>$nayə$ $nayalu$</td>
<td>$-na$ $-ṭya$ $-tyu$</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>$nyinta$</td>
<td>$-ṇa$</td>
</tr>
<tr>
<td>Bandjima</td>
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<td>$nayuku$ $nayuku$</td>
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<td>2s</td>
<td>$nyinta$ $nyinta$</td>
<td>$nyinku$ $nyinku$</td>
</tr>
<tr>
<td>Yindjibarndi</td>
<td>1s</td>
<td>$nayi$ $nayi$</td>
<td>$nayu$ $nayu$</td>
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<td>$nayə$</td>
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<td></td>
<td>2s</td>
<td>$ni$</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td>Subject</td>
<td>A</td>
<td>P</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Bayungu</td>
<td>1s</td>
<td>nata</td>
<td>nata</td>
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<td>2s</td>
<td>nyinta</td>
<td>nyintalu</td>
</tr>
<tr>
<td>Thargari</td>
<td>1s</td>
<td>nda</td>
<td>nda</td>
</tr>
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<td>2s</td>
<td>nura</td>
<td>nura</td>
</tr>
<tr>
<td>Yinggarda</td>
<td>1s</td>
<td>nata</td>
<td>nata</td>
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<td>2s</td>
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<td>nyintalu</td>
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<td>Nhanda</td>
<td>1s</td>
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<td>nayi</td>
</tr>
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<td></td>
<td>2s</td>
<td>nyini</td>
<td>nyini</td>
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<tr>
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<td>nanya</td>
<td>natyu</td>
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<tr>
<td></td>
<td>2s</td>
<td>nyini</td>
<td>nyuntu</td>
</tr>
<tr>
<td>Nyungar</td>
<td>1s</td>
<td>nanyet</td>
<td>nanyet</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nyintak</td>
<td>nyintak</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nyunak</td>
<td>nyunak</td>
</tr>
<tr>
<td>East Mirniny</td>
<td>1s</td>
<td>nantu</td>
<td>nantu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nuntu</td>
<td>nuntu</td>
</tr>
<tr>
<td>Gugada</td>
<td>1s</td>
<td>nayulu</td>
<td>nayulu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nyura</td>
<td>nyura</td>
</tr>
<tr>
<td></td>
<td>Free</td>
<td>Bound</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$S_1$</td>
<td>A</td>
<td>P</td>
</tr>
<tr>
<td>Ooldean (Ngalia)</td>
<td>1s</td>
<td>ɲayulu</td>
<td>ɲayulu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụra</td>
<td>nụra</td>
</tr>
<tr>
<td>Pitjantjatjara</td>
<td>1s</td>
<td>ɲayulu</td>
<td>ɲayulu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụntulu</td>
<td>nụntulu</td>
</tr>
<tr>
<td>Pintupi</td>
<td>1s</td>
<td>ɲayunyə</td>
<td>ɲayulu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụranyə</td>
<td>nụralu</td>
</tr>
<tr>
<td>Yulbaridja</td>
<td>1s</td>
<td>ɲayu</td>
<td>ɲayulu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụntu</td>
<td>nụntulu</td>
</tr>
<tr>
<td>Nyangumarda</td>
<td>1s</td>
<td>ɲat̪yu</td>
<td>ɲat̪yulu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụntu</td>
<td></td>
</tr>
<tr>
<td>Garadjari</td>
<td>1s</td>
<td>ɲat̪yu</td>
<td>ɲat̪yulu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụntu</td>
<td>nụntulu</td>
</tr>
<tr>
<td>Mangarla</td>
<td>1s</td>
<td>ɲayu</td>
<td>ɲayŋku</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụntu</td>
<td>nụntŋku</td>
</tr>
<tr>
<td>Walbiri</td>
<td>1s</td>
<td>ɲat̪yu(lu)</td>
<td>ɲat̪yu(lu(])u)</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>nụntu(]u)</td>
<td>nụntu(]u(])u)</td>
</tr>
<tr>
<td></td>
<td>$S_1$</td>
<td>A</td>
<td>P</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>Mudbura</td>
<td>1s</td>
<td>Ɪai</td>
<td>Ɪai</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>Ɪuntu</td>
<td>Ɪuntu</td>
</tr>
<tr>
<td>Guurindji</td>
<td>1s</td>
<td>Ɪayu</td>
<td>Ɪayu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>Ɪuntu</td>
<td>Ɪuntu</td>
</tr>
<tr>
<td>Dyaru</td>
<td>1s</td>
<td>Ɪatyu</td>
<td>Ɪatyu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>Ɪuntu</td>
<td>Ɪuntuku</td>
</tr>
<tr>
<td>Walmatjari</td>
<td>1s</td>
<td>Ɪatyu</td>
<td>Ɪatyu</td>
</tr>
<tr>
<td></td>
<td>2s</td>
<td>Ɪuntu</td>
<td>Ɪuntu</td>
</tr>
</tbody>
</table>
It is interesting to note that of the languages illustrated, only Bandjima, Yindjibarndi, Ngarluma, Wadjug, Nyungar and Mirininy have pronoun systems in which the oblique case marking is suffixed to a monosyllabic stem in the first and second singular, i.e. only these languages pattern like the Pama-Nyungan languages of eastern Australia as described in 2.2.2.1. All the rest have disyllabic stems. Contrast the A and P forms in Nhanda and Wadjug,

\[
\begin{array}{c|c|c|c|c|c}
 & A & P \\
\hline
\text{Nhanda (disyllabic)} & \etaa-yi & \etaa-yi-\etaa \\
\text{Wadjug (monosyllabic)} & \etaa-tyu & \etaa-n\etaa \\
\end{array}
\]

Note in particular the distribution of the 'monosyllabic stems' on the map. They are all peripheral. Note too the distribution of languages with bound pronouns and those without bound pronouns and see the correlation between monosyllabic stems and lack of bound pronouns. No language in the area covered has bound pronouns and monosyllabic stems (though some have disyllabic stems and no bound pronouns):

<table>
<thead>
<tr>
<th>disyllabic stems</th>
<th>+</th>
<th>+</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>bound pronouns</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

The first person disyllabic stems involved are \(\etaa-tyu\), \(\etaa-t\), \(\etaa-yi\), \(\etaa-yu\) and \(\etaa-tyu\). It is fairly clear that these are ergative in origin. The possibility that they derive from a dative and locative source (unlikely on semantic/syntactic grounds), a possibility raised by the similarity of some of the forms with some dative and locative forms, is ruled out by the clearly ergative shape of the second person \(n\etauntu\) (\(n\etaunta\) being the only other variant).

What appears to have happened is that analogy has operated on the first and second singular to bring them into line with the other person/number combinations of the pronoun paradigm and indeed into line with all other nominals. With other nominals the case suffixes would have been attached to the nominative, as they still are, whereas in the first and second singular there would have been an actual nominative suffix so the other case suffixes would have been attached to a stem.
I doubt whether this represents an innovation made at a stage that we might think of as proto-western-Pama-Nyungan but rather an innovation that diffused from a non-peripheral area. The peripheral languages with monosyllabic pronoun stems are quite similar overall to the languages with disyllabic pronoun stems, certainly not a significantly different substratum (though that is not to say that they lack substratum features entirely). In the case of the other feature that is distributed geographically in much the same way as disyllabic stems, viz. bound pronouns, we find that similar languages sometimes fail to share the feature. Ooldean (Ngalia), Gugada and Pitjantjatjara are quite similar, but only Pitjantjatjara has bound pronouns. Ooldean does exhibit some instances of -ŋa (first person singular). As I stated earlier, I believe that the bound pronoun principle was probably spreading rather than receding, but the considerable discrepancy between the bound and free forms is disturbing.

A number of other developments must have followed the introduction of disyllabic stems in the singular. As noted in 2.2.2.2, a number of the northern languages under consideration developed an ergative system of pronouns. On the evidence available to me it is not clear whether Nyangumarda, Garadjari and Mangarla have completely ergative paradigms; Mangarla appears to have mostly a three-way system. Pintupi has developed an ergative system with -ŋa generalised to $S_1$. A number of languages in the area have generalised -ŋa to $S_1$ with some classes of nominals. This development is not isolated. Pitjantjatjara and some adjacent languages have transferred -lu from the noun paradigm to the pronoun paradigm, extending it from A to $S_1$ and A, an interesting development in light of the putative augmentation discussed in 2.2.2.1.

However, the main reason Table 40 was presented was to illustrate
the discrepancy between the shape of the bound pronouns and the free pronouns. In almost all the languages in the area that have bound pronouns, the first person singular $s_1$, a bound form is $-\eta\#a$. There is virtually no possibility of relating this to $\eta\#a$ via sound changes. Warluwara (Q., Breen 1971), a Pama-Nyungan language that does not employ bound pronouns, has $\eta\#a$ as its first person singular $s_1$, a free form, and so does Yanyula (N.T., Kirton 1964), a non-Pama-Nyungan language on the southern coast of the Gulf of Carpentaria. These languages may retain a relic of the free form from which $-\eta\#a$ is derived. Warluwara is not far from the periphery of the languages under discussion and indeed is contiguous with Kalkatungu which can be shown to be an outlier of western Pama-Nyungan. Yanyula is some distance to the north but Yanyula and Warluwara share strikingly similar pronoun paradigms (Breen p.c.) though geographically separated and typologically quite different. As can be seen from the table, Mirniny has $\eta\#a$ as the free $P$ form for first person. This too looks like a relic of the form from which $\eta\#a$ must have been derived. There is no need to posit $\eta\#a$ as having occurred in proto-western-Pama-Nyungan nor indeed directly in the history of any one language in which it is now found. All that needs to be posited is a form $^\star \eta\#a$ in a language in which bound pronouns developed. Loss of the first syllable of a disyllabic stem and retention of the second syllable is very common in the formation of bound pronouns from free ones. It must be remembered that $\eta\#a$ is disyllabic. In explaining the development of disyllabic stems in western-Pama-Nyungan, earlier monosyllabic stems were posited. We need to posit $^\star \eta\#a$ as a source of $\eta\#a$ and $^\star \eta{ay}^\star lu$ as a source of the disyllabic (and monosyllabic) stems. The continuous distribution of both these features is strongly suggestive of diffusion. There is no theoretical difficulty in positing these as sources occurring independently at some stage of the history of the area.

The first person bound form for $P$ is represented by $-t\#u$, $-\eta{i}$, $-n\#a$, $-t\#u$ and $-yi$. $-n\#a$ is simply a reflex of the accusative marker (see Capell 1962:80 re Garadjari). $-t\#u$ is a dative in origin. Note that it is distinctively so in Yulbaridja for instance and represents a syncretism of $P$ and DATIVE in Walbirí. Its ultimate origin is plausibly $^\star ku(^\star \eta{ay} + ku > \eta{at}^\#u)$. Compare the corresponding second person forms. $-yi$ is a dative form also and occurs only in some of the languages where $P$ and DATIVE are syncretised in the bound forms. The evidence is the parallel appearance of $-ku$ with the other person/number combinations and the parallel vowel shift and lenition of the
$S_1$, a form (*\eta \nu > \eta v > \eta y$) at least in Mudurara.\textsuperscript{19} -t\textsuperscript{\varnothing}a in form is plausibly a locative; compare the parallel form -ta with the second person. If this assumption is correct, it suggests a system in which P was marked by a locative in the first and second singular. -\textsuperscript{\varnothing}i is even more difficult to explain but the Mirniny free form dative \textsuperscript{\varnothing}iya (alongside accusative \textsuperscript{\varnothing}an\textsuperscript{\varnothing}a) is suggestive. Where it occurs, it is paralleled by -ta in the second person.

Of the second person forms, -n for $S_1$, A is a not unexpected reflex of *NY\textsuperscript{\varnothing}n, and -np\textsuperscript{\varnothing}a is simply -n plus -pa, a phonological filler added in some languages that do not allow final consonants (cf. Hale 1973b). The P form -nt\textsuperscript{\varnothing}a is interesting in that it looks as if it might reflect the locative *-la (cf. 2.1.2, 2.2.1). -\textsuperscript{\varnothing}ku occurs only where there is a syncretism of P and DATIVE, but note that -nt\textsuperscript{\varnothing}a and the corresponding first person forms contrast with dative forms in a number of languages.

\textbf{2.3.3. Languages with Fused, etc. Bound Pronouns}

The final stage of the development of bound pronouns can be illustrated from a number of non-Pama-Nyungan languages particularly in Arnhem Land. In a majority of these northern languages the bound pronouns are prefixed to the verb or to the auxiliary verb. In transitive clauses the pronouns representing A and P are usually contiguous.

In Maung (Goulburn Is. N.T., Capell and Hinch 1970:73-76) the $S_1$ forms for first and second singular are \textsuperscript{\varnothing}a and an respectively, but in a clause where first singular is A and second P or vice versa we do not find these two morphemes. Instead for \textsuperscript{\varnothing}s + \textsuperscript{\varnothing}s (where + = 'acting on') we find \textsuperscript{\varnothing}un and for \textsuperscript{\varnothing}s + \textsuperscript{\varnothing}s we find \textsuperscript{\varnothing}an. \textsuperscript{\varnothing}an is not \textsuperscript{\varnothing}a + an since the -n upon closer inspection turns out to be a marker of P function for first and second person, i.e. it is an accusative marker presumably reflecting *-NY\textsuperscript{\varnothing}a. Maung exhibits a number of principles in the formation of its bound pronoun complications. Where A and P are both first or second person, the person of P only is marked. This is true of the example just quoted. \textsuperscript{\varnothing}u- is to be glossed as second person in P function. Where A and P are third person, P precedes A but if a first or second person actant is involved that person precedes a third person. There are a number of neutralisations, e.g. \textsuperscript{\varnothing}an\textsuperscript{\varnothing}n or \textsuperscript{\varnothing}a+ni+n consists of a first person marker, or plural marker and -n, the accusative marker, but it is used not only for 2 pl + 1 pl but also for 2 pl + \textsuperscript{\varnothing}s. Moreover, there are a number of phonological constraints operating that force a number of morphophonemic changes. The total effect of the person hierarchy, suppletion, neutralisation, morphophonemic changes, and
the constraint on specifying the person of A in combinations involving first and second person is to render the system synchronically unanalysable. The only reasonable synchronic analysis is to assume that a speaker of a language like this learns off by heart the finite set of forms involved. On the other hand an internal reconstruction of the system can easily be carried out.

I will not present the Maung data in full. The reader is referred to Capell and Hinch or to Blake 1977 where data in Maung, Yiwadja, Rembarnga and Gunwinggu is displayed and partially analysed.

There is no doubt that in these languages and in some other languages of Arnhem Land, e.g. Nunggubuyu and Ngandi, the representation of combinations of A and P by bound pronouns is quite opaque and represents the end of a line of development from the exclusive use of free forms via transparently abbreviated bound pronouns.

It is important for the overall argument presented here to note that in most of the non-Pama-Nyungan languages one finds clear reflexes of \*-NYa. Ngandi is an exception in that \*-ku has been generalised at the expense of \*-NYa (see Heath forthcoming: section 3.6).

Some non-Pama-Nyungan languages are not opaque in the way I have described above. In some of the Daly River languages, for example (Tryon 1974), the S1, A pronoun is prefixed to the auxiliary verb and the P pronoun suffixed. Usually there is some fusion of the S1, A pronoun and the auxiliary and discrepancies between the shape of free forms and their bound counterparts.

2.3.4. Summary

The evidence suggests that with few exceptions there has been a development from having independent pronouns only to using obligatory cross-referencing bound pronouns with free forms being used only for emphasis. The languages lacking bound pronouns are almost all to be found in a swath running from the Great Australian Bight in South Australia to Cape York. This represents the most conservative area typologically. This area is flanked, particularly to the east (most especially in and near to New South Wales) by languages exhibiting bound pronouns that show a clear relationship with the free forms. Most of the Pama-Nyungan languages of Western Australia have a bound pronoun system that is not clearly related to the system of free forms especially in the first and second singular. The non-Pama-Nyungan languages often have complicated systems of obligatory cross-referencing bound pronouns, complicated in that there is no clear
relationship between the A and P bound forms and the $S_1$ bound forms and between the free ($S_1, A, P$) forms. Where this relationship has been obscured by morphophonemic constraints, hierarchical rules, person or number neutralisation rules, etc., it is possible in every reported case to demonstrate that an accusative system underlies the irregularities.

3. SYNTAX

The presence of ergative morphology raises a number of interesting syntactic questions. Since in an ergative system of marking it is $P$ that is identified with $S_1$ one wonders if $P$ is identified with $S_1$ in syntactic rules. One wonders if $P$ is in some sense more closely tied to the verb than $A$, the latter being a peripheral constituent like the $A$ in a passive construction. And one wonders if there is an active/passive distinction in these ergative languages.

Because of lack of data it is not possible to pursue this question in detail covering a wide number of languages. I will confine myself to a few selected examples.

3.1. Walbiri

Walbiri (N.T.) a western Pama-Nyungan language illustrated in a number of papers by Hale, seems not to be syntactically ergative though it has a fully ergative case marking system operating with both nouns and pronouns (see example 40). In fact Walbiri seems to have rules that identify $A$ with $S_1$ and rules that make no exclusive identification of either $A$ or $P$ with $S_1$.

For example, in indirect commands it is $S_1$ and $A$ that must be supplied as covert constituents of the subordinate clause (Hale 1968: 36-37),

42. ɳarka-ŋa-ŋ ɳaru-ŋu wanti-ɲyɨrə-ku
    man-I-him tell-past fall-gerund-complementiser
    I told a man to fall (duck down)

43. ɳarka-ŋa-ŋ ɳaru-ŋu wawiri panti-ɲɨnɨyərə-ku
    man-I-him tell-past kangaroo spear-gerund-complementiser
    I told a man to spear a kangaroo

Similarly with the following constructions, it is $S_1$ and $A$ that must be understood as covert constituents of the subordinate clause under identity with the $P$ of the main clause (Hale 1968, and p.c.).
Walbiri does not have anything like a passive construction. In English rules for the well-formedness of complex sentences often make reference to the notion of grammatical (i.e. derived or surface) subject. The grammatical subject is S₁ or A in the unmarked case, but it can embrace P if the passive construction is used. The constructions illustrated above operate strictly with reference to S₁ and A, more particularly, with reference to the identity of S₁ and A in the subordinate clause and P in the main clause. If one wants to say something like The man speared the kangaroo that was being followed by the dogs then another construction must be used,

This latter structure is exemplified in Hale 1976 (d) and he refers to it as the 'adjointed relative clause'. It appears to be a construction in which there might be no actant common to the main and subordinate clauses (in which case it corresponds to English sentences of the type X did Y while W did Z) or it might involve identity of reference between any of the actants of the main clause and any of the actants of the subordinate clause. Where there is this co-reference, the co-referent noun phrase in one clause or the other is anaphorically deleted or represented by a pronoun:
This construction does not seem to be oriented either accusatively or ergatively.

3.2. Pitta-Pitta

In the non-future Pitta-Pitta (W.Q.) employs ergative and accusative marking for all nominals. In the future, a single form represents $S_1$ and $A$, while $P$ is represented by a dative (-ku) or the accusative (-na). Roth (1897) records -ku, but the main informant consulted by Breen and myself uses -ku or na.

49. palku $\nu$-wa-$ka$ ka$\tilde{n}$a-ya-$\nu$
   man he-nom-deictic go-pres-hither
   The man comes

50. pi$\bar{\imath}$i-$ka$ palku-lu $\nu$-lu-$ka$ kulparri-na
   kill-past man-erg he-erg-deic emu-acc
   The man killed the emu

51. palku-$\nu$ $\nu$-$\nu$-$ka$ ka$\tilde{n}$a-$\bar{\imath}$
   man-fut he-fut-deic go-fut
   The man will go

52. pi$\bar{\imath}$i-$\bar{\imath}$ palku-$\nu$ $\nu$-$\nu$-$ka$ ($\nu$-ku-$ka$) kulparri-ku
   kill-fut man-fut he-fut-deic he-dat-deic emu-dat
   The man will kill the emu

These examples illustrate the system for marking $S_1$, $A$ and $P$ in the non-future and future. The word order is fairly flexible, but a preferred order is VS$_1$ and VAP, especially if the actants are represented by pronouns. The use of a third person pronoun cross-referencing $S_1$ and $A$ is practically obligatory, and a third person pronoun cross-referencing $P$ is employed occasionally (see bracketed item in 52 above) if $P$ is definite.

Clearly the case marking system in the non-future is neutral rather than ergative or accusative, while in the future it is, at least in terms of identification of $S_1$ and $A$, an accusative system. It is not too surprising then to find that the syntax is neutral.

Consider for example the following sentences:
53. mamakaya-ka ŋa-ŋu plyawali-ŋa ʧinpa-ma-ka-ŋa
grab-past I-erg dog-acc run-around-past-acc
I grabbed the dog \{as he\} ran around

54. mamakaya-ka ŋa-ŋu kaŋi-ŋa piyawali-li ʧati-ka-ŋa(-)watvi
grab-past I-erg meat-acc dog-erg eat-past-acc-before
I grabbed the meat before the dog ate it

55. mamakaya-ka ŋa-ŋu piyawali-ŋa kaŋi-ŋa ʧati-ka-ŋa
grab-past I-erg dog-acc meat-acc eat-past-acc
I grabbed the dog \{as he\} ate the meat \{who\}

In each sentence an actant of the main clause is co-referent with an actant of the subordinate clause; more specifically P of the main clause is co-referent with $S_1$, P and A in 53, 54, 55 respectively. In a transformational model one would describe the formation of these sentences in terms of deletion of an actant from the subordinate clause under co-reference with an actant of the main clause. Note that no exclusive identification of $S_1$ with P or of $S_1$ or A with P is required; an identification of any actant in a major syntactic relation in the subordinate clause with P in the main clause makes for the formation of a well-formed sentence. This holds true for other constructions. In general the syntax seems to be neutral, identifying neither A nor P with $S_1$, the neutrality of the syntax reflecting the neutrality of the case marking.

3.3. Kalkatungu

Kalkatungu (W.Q.) has a morphological system similar to that of Walbiri (nouns and free pronouns operate ergatively, but bound pronouns accusatively) but differs from it syntactically in that it does have a passive-like case-switching rule.

Let us consider first of all constructions involving -nYin(-tYin). -nYin occurs on the verb of subordinate clauses that translate English adverbial phrases and clauses of time (while working, as he was patting the dog) or relative clauses (who was ...). It seems to be a nominalising suffix to which noun case marking may be added; I refer to it as a part(icle).
56. ŋa-ŋa ̱lai-ŋa pila-pila ̱ŋka-tyn
I-erg hit-past child go-participle
I hit the child as he was walking along

57. ŋa-ŋa ̱lai-ŋa pila-pila kaṉkari-i nita-i-nyn
I-erg hit-past child knife-dat steal-a/p-part
I hit the child for stealing the knife

58. ŋa-ŋa watiṉi-i ̱lai-ŋa pila-pila ̱yuku-yu itya-nyn
I-erg carry-past child dog-erg bite-part
I carried the child who got bitten by the dog

In 58 pila-pila represents the P of the main clause and the P of the subordinate clause. In 57 pila-pila represents the P of the main clause and the A of the subordinate clause. Note that in 57, the verb is marked by a suffix -i, which I have glossed as a/p for anti-passive. In the anti-passive construction A is marked by the nominative and P by the dative. The term 'anti-passive' (see Silverstein 1976) captures the analogy with passive constructions.

In both, the case relation occupying the nominative case form is demoted to a more peripheral case slot and a case relation previously occupying a non-nominative slot is promoted to the nominative slot. This construction is used in Kalkatungu in -nyn clauses, and in a number of other types of subordinate clause, whenever the A of the subordinate clause is co-referent with an actant of the main clause. It can be considered a device to facilitate deletion, since the use of this construction enables the case relations of anaphorically deleted actants to be recovered. If one considers 57 then it might seem that the anti-passive is a device for ensuring that only actants in the nominative are deleted. Indeed it may well have been motivated originally by such a consideration, but in 57, the case relations can be determined from the case marking of the overt actant. If there were no anti-passive in the language, then a nominative noun phrase in the complement would indicate a deleted A. And of course it must be remembered that many Australian languages work quite happily without an anti-passive. The fact that there is a choice between the unmarked construction and the anti-passive, means that a subordinate clause with no overt actants can be uniquely interpreted, for instance:

59. ŋa-ŋa ̱lai-ŋa pila-pila nanvi-i-nyn
I-erg hit-past child see-a/p-part
I hit the child for looking
Languages without the anti-passive either allow ambiguous structures ranging over the two possibilities or they provide entirely separate constructions for the two possibilities.

Before going any further I should point out that the anti-passive marker is permanently affixed (and therefore non-functional) to independent verbs in Kalkatunungu. This point is taken up again in 3.6.1.

From a consideration of the \(-n' in\) construction, Kalkatunungu appears to be a mirror image of English. S\(_1\) and P are identified in the unmarked construction (56, 58) and A is treated specially as it is in the case marking. However, if we consider the favourite construction, further complications arise. This construction, so termed because of its high functional load and high frequency, is used principally to express purpose and indirect commands, but also to provide complements for noun phrases. It differs from the \(-n' in\) construction principally in that the subordinate clause contains at least one bound pronoun suffixed to a particle which I will call the complementiser. A typical purposive example would be,

61. \(\text{\textit{n} in\text{-a} u\text{can}-ku a-ni appa-}\text{-i?}\)

Did you go to collect firewood?

\(-n\) is a bound pronoun representing second person singular and it co-references \(n' in\) in the main clause. The \(-i\) on the verb is the anti-passive marker. The case marking in the dependent clause is in accordance with the anti-passive construction, \(-n\) being the A and appearing in the nominative, while \(u\text{can}\), which is the P, is marked by the dative. Note however that the bound pronouns operate in an accusative paradigm only. \(-n\) represents \(S_1\) and A and is opposed to \(-kin\) the form for P.

For the most part, only one actant can appear as a bound pronoun in the complement clause of the favourite construction. The actant to be chosen for representation as a bound pronoun in the case of a transitive complement is determined by a person hierarchy rule, first person taking precedence over second and third, and second taking precedence over third. If both actants are third person, A takes precedence over P. If one actant is first singular and the other
third plural, then both may appear as bound pronouns suffixed to the complementiser.

For example, a sentence such as *He came here to hit me* would be translated into Kalkatungu as

62. ñauŋa iŋka-ŋa a-ŋi(-)lə²⁰
hither go-past comp-me-hit
He came here to hit me

whereas *We went there to hit them* would be translated as

63. paŋuŋa iŋka-ŋa ŋata ñina-a a-ti lə-i
thither go-past we they-dat comp-we hit-a/p
We went there to hit them

The anti-passive construction is used in the subordinate clause where A and only A is represented by a bound pronoun and where it co-references S₁ or P in the main clause. Thus it is used in 61 (S₁ = A) and 63 (S₁ = A) but not in 62 where the bound pronoun represents P. The following sentence illustrates its use where the A pronoun co-references P (P = A),

64. n̄ini ŋkai-ŋa ucən-kə a-ni aŋpa-i?
you send-past wood-dat comp-you gather-a/p
Did he send you to collect firewood?

So far everything appears to operate on an ergative principle, but since in the case where we are dealing with third person actants, it is A rather than P that must be represented by a bound pronoun in a transitive complement, A rather than P is being identified with S₁.

In sum, Kalkatungu appears to have:

(a) an active/passive-like distinction that involves identifying S₁ and P in the unmarked case;

(b) a principle that operates on the basis of grammatical subject. In the -n̄in and certain other constructions P of a main clause can be co-referent with S₁, P or A, but if with A, the anti-passive must be used (57);

(c) a principle that operates on the basis of an underlying subject (S₁ and P), viz. the principle that determines whether the anti-passive is to be used in the favourite construction and the 'lest' construction (not illustrated);

(d) a principle that identifies S₁ and A, viz. the principle that requires that these actants be represented by bound pronouns in the
favourite construction and the 'lest' construction (subject to the person hierarchy).

3.4. Dyirbal

Dyirbal (NE.Q.), the only Australian language which has been described in any syntactic detail (Dixon 1972), appears to be ergatively oriented in its syntax.

In Dyirbal, nouns operate in an ergative paradigm and first and second person pronouns operate in an accusative paradigm. Dixon characterises the language as one in which the syntax operates consistently on an ergative principle, even though the morphological case marking is partly ergative and partly accusative (1972:128-130).

Dixon presents sentences such as (1972:130),

65. bayi ya ра banin'yu bangun dyugumbi ru bal gan
   the man come-past the-erg woman-erg hit-past
   The man came and was hit by the woman

66. bayi ya ра banin'yu bangun dyugumbilgu balgaljan'yu
   the man come-past the-dat woman-dat hit-a/p-past
   The man came and hit the woman

In 65 a complex sentence is formed on the basis of the actant common to the two clauses (bayi ya ра) being S₁ in the first clause and P (deleted or covert) in the second. In 66 a complex sentence is formed on the basis of the common actant being S₁ in the first clause and A in the second. Note however that in 66, an anti-passive construction must be used in which A is in the nominative (but deleted in our example) and P in the dative, with the verb being marked by the anti-passive marker -qay.

The general principle is that where A is co-referent with a major actant of another clause in the same sentence, the clause (or clauses) with a co-referent A must be anti-passivised (see Heath forthcoming a). Dyirbal is ergative in its syntax in that A is specially treated. It operates largely in terms of S₁ and P being treated as a grammatical subject with A being promoted to that syntactic slot under certain co-reference conditions. One could compare English sentences such as I persuaded him to go, I persuaded him to eat the cake and I persuaded him to be fumigated by a health officer. Where S₁ and A in the infinitival complement are co-referential with the 'persuaded', the unmarked active construction is used in the complement. Where P is
co-referent with the 'persuadee', the passive must be used in the complement to promote P to the grammatical subject position.

3.5 Summary

As stated at the beginning of the syntax section of this paper, it is not possible to say much about the syntax of Australian languages in general. The type represented by Walbiri, i.e. a type in which there is nothing akin to a passive rule and where there are syntactic rules based on $S_i$ and A and neutral syntactic rules is probably widespread. Languages with an anti-passive are not too widespread. Yidin\textsuperscript{y}, Djaabugay and Warungu, three languages whose territory was contiguous with or close to Dyirbal territory exhibit anti-passive constructions though they are not closely related to Dyirbal. Anti-passive constructions also appear to be a feature of Bandjalang (N.S.W., Q., Crowley p.c.), Yalarnnga (Q., author's and Breen's field notes), Kala Lagau Langgus (Torres Strait Q., Bani and Klokeid 1976), and probably, or at least possibly, Guugu-Yalandji (Q., R. Hershberger 1964). Pitta-Pitta does have an anti-passive in independent sentences, see 3.6.2.

The accusative Pama-Nyungan languages both Lardil and the other 'Gulf' accusative languages and Ngarluma and the other accusative languages of NW. Western Australia have passive constructions. Ngarinyin and some other non-Pama-Nyungan languages of the Kimberleys also have a passive construction.

3.6. Some Suggested Historical Developments

It is interesting to speculate whether the ergative elements represent an older layer in these systems or whether the accusative elements represent an older layer or whether there is movement in both directions, from ergative to accusative, or from accusative to ergative. There is also the possibility that there is movement to or from a neutrally oriented system.

In two cases it is possible to detect the direction of change. In Kalkatungu the anti-passive has been generalised in non-dependent clauses and in Pitta-Pitta it has been generalised in at least one type of dependent clause.

3.6.1. Kalkatungu

In Kalkatungu the -$i$ that features in examples such as 57, 59, 61, 63 and 64 as an anti-passive marker occurs regularly on non-dependent verbs in the present and past tense.
Kalkatungu does employ a construction in which A appears in the nominative and P in the dative. This is used to indicate uncompleted activity (see 10) and it is also used where there is a predictable indefinite P and in drink water, cook tucker, etc. However, -i appears regularly on the verb in this construction also. Since -i does not have any function with independent verbs, I have interpreted the anti-passive function with dependent verbs as representing the older usage. There is one very plausible reason why the anti-passive marker might have been generalised. In the nature of things -i will appear on over ninety per cent of dependent verb tokens. One often has occasion to use patterns such as: X went to do such-and-such, X told Y to do such-and-such, but rarely does one need to use patterns such as: X went to be verbed by Y, or X told Y to be verbed by Z. Remember that the anti-passive is used when A in a dependent clause co-references S₁ or P in a governing clause. Under these circumstances the verb forms in -i must have been very common and so it is not too surprising that they were generalised to main verbs as the regular form. This may not be a correct explanation, it may be that there was a usage of the anti-passive in main clauses and that the -i was generalised from this construction. It is to be expected that -i would have been used in the construction in which A is marked by the nominative and P by the dative. One way or another the unmotivated use of -i with independent verbs must represent a relative innovation.

It is worth noting in passing that proto-Kalkatungu *i developed to *y so that -yi or -i21 can plausibly be derived from *-ii, -ii being a common reflexive or reflexive/reciprocal marker in Pama-Nyungan languages and the anti-passive in the adjacent language Yalarnnga and in Pitta-Pitta, immediately to the south of Yalarnnga.

Kalkatungu uses some dependent verb forms as independent verbs. For example, -ντvaya the infinitive or purposive form, can occur as a dependent verb as in

68. ηaτa ηaini iŋka tvipuly-u mani-i-ντvaya
   we later go duck-dat get-a/p-purposive
   We will go later to get ducks

or as an independent verb as in
When it is used as a dependent verb the anti-passive principle operates, however when it is used as an independent verb, there is no alternation between passive and unmarked forms. The unmarked form is the only form that is used. This would be the form required if it were dependent with its A co-referencing a governing A.

The favourite construction is also used as a non-dependent verb form and it is always the non-anti-passive form that is employed,

70. ṇa-ta-i ku'u a-ti it'ya  
we-erg egg  (comp)\textsuperscript{22} we eat  
We will eat the eggs

In sum there is no choice between having -i or not having it in independent clauses. Where dependent verb forms are used as independent verbs, -i is not used. With ordinary independent verbs, -i is almost always used.\textsuperscript{23}

The construction illustrated in 70 is interesting that the bound pronouns assume a cross-referencing rather than a co-referencing potential.

3.6.2. Pitta-Pitta

In Pitta-Pitta -li is suffixed to the verb to indicate activity that is potentially rather than actually directed towards P. In the '-li construction' A is in the nominative and P is marked by -ku, which I will gloss as dative, or alternatively by the accusative -ŋa. -ku, besides marking P in the '-li construction' marks the complement of certain verbs such as yapa- (to like) and manuwan'yi- (to be wild with). There is also a suffix -ŋa covering the possessive and purposive functions.

In Roth (1897) -li is illustrated as providing a means of expressing a transitive verb in the absolute sense, i.e. with no P (op. cit. 23, author's phonemicisation),

71. ṣat'vi-li-ya ŋaŋyt'ya  
eat-a/p-pres I  
'I am at-eating, at dinner, etc.'

This usage is confirmed by the best available informant, but she also produces sentences such as:
72. plṭi-li-ya ṅanpya in-ku  
hit-a/p-pres I you-dat  
'I feel like to hit you'

73. patya-li-ka ṅuwaka in-ku  
bite-a/p-past he you-dative  
He was very wild with you

In purposive complement clauses, the verb is always suffixed by -li and then further suffixed by -ŋa the suffix used to express purpose (or possession) with nouns. Consider the following sentences,

74. kantja-ka-yaŋu ṅanpaka ṭinpa-ma-li-ŋa  
go-past-hither she run-around-li-purpose  
She came to have a run around

75. kantja-ka-yaŋu ṅanpaka ŋuru-ŋa plṭi-li-ŋa  
go-past-hither she spouse hit-li-purpose  
She came to hit her spouse

76. kantja-ka-yaŋu ṅanpaka ŋuru-wara-lu plṭi-li-ŋa  
go-past-hither she spouse-her-erg hit-li-purpose  
She came so her spouse could hit her

Note in particular that -li occurs in 75 where we would expect a syntactically motivated anti-passive in a language with such a feature, and also in 74 and 76 where we would not expect an anti-passive. Since the use of -li is significant with non-dependent verbs but not significant with dependent verbs, it seems that the usage with non-dependent verbs is older. If we note also that the form involved is -li, which is the reflexive-reciprocal marker in a number of Pama-Nyungan languages, and if we consider that the anti-passive marker is the same as the reflexive-reciprocal in a number of Australian languages, then there is reason to believe that here we are dealing with an anti-passive marker that has been generalised. As we observed above in the case of Kalkatungu a syntactically motivated anti-passive is in the nature of things likely to be used in an overwhelmingly large number of subordinate clause tokens. It would be subject to considerable pressure from each new generation of language learners to extend it at least to all transitive verb tokens in dependent clauses.

The anti-passive marker in Yalarnnga, the language immediately to the north of Pitta-Pitta, is -li. The present reflexive-reciprocal
marker in Pitta-Pitta is *mall, doubtless from *ma+ll, ma being a common 'verb morpheme' in Australian languages, appearing as a transitiveviser in some languages and as an intransitiveviser in others. The -ll of Pitta-Pitta, the -ll of Yalarnnga, the -yl (< -ll) of Kalkatungu and the reflexive-reciprocal -ll of a number of other Pama-Nyungan languages undoubtedly reflect a proto-form *-ll, though that does not rule out the possibility of its being borrowed from language to language in one function or another. It is likely that the reflexive and/or reciprocal function antedates the anti-passive function. It is interesting to compare the development of passives in Europe from reflexive constructions, in Latin for example, and independently in Romance and Scandinavian.

4. GENERAL SUMMARY

If one accepts the series of suggestions put forward in this paper, and it must be remembered that some of them are rather speculative and intuitive and not based on rigorous reconstruction, then the following picture emerges.

First of all we have a language in which nouns operate in an ergative paradigm and pronouns in an accusative paradigm. Then cross-referencing bound pronouns are introduced and finally the case marking for the major syntactic functions is lost in favour of the bound pronouns.

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Nouns</th>
<th>Pronouns</th>
<th>Bound Pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ergative</td>
<td>accusative</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>ergative</td>
<td>accusative</td>
<td>accusative</td>
</tr>
<tr>
<td>Stage 3</td>
<td></td>
<td></td>
<td>accusative</td>
</tr>
</tbody>
</table>

A fourth stage could be added in which the bound pronouns become unanalyzable.

The first stage is represented by languages in a swath running from the Bight to the Gulf and probably embracing the area from the Bight to Perth (see map). The next stage is represented by the eastern Pama-Nyungan languages that have bound pronouns. A slightly more advanced stage is represented by the western Pama-Nyungan languages that have bound pronouns. The most advanced stage is represented by the non-Pama-Nyungan languages, most of which have lost their case marking.

The fact that the cross-referencing pronouns operate in an accusative paradigm is taken to be simply a reflection of the fact that the bound pronouns are derived from free pronouns which operated
in an accusative paradigm. The free pronouns that operate in an ergative paradigm are interpreted as having developed an ergative paradigm after the bound pronouns were derived.

Anti-passive constructions, which signify a type of ergative syntactic system, i.e. one that is ergative in the sense that English is accusative, are concentrated among the languages lacking bound pronouns. This may be because languages with co-referencing bound pronouns would place a smaller functional load on the ergative/anti-passive distinction and render the anti-passive more liable to succumb to the pressures described with reference to Kalkatungu and Pitta-Pitta (3.6.1, 3.6.2).

It is interesting to note that Pama-Nyungan, the family that covers most of the continent, appears to be the most conservative family. Naturally since this family covers such a vast area compared to the other families in the north, it represents the area of lowest diversification. This means that the area of lowest diversity is typologically the most conservative. It has been suggested that Pama-Nyungan spread over its present area comparatively recently. Glottochronology, for what it is worth, yields a time depth of 5,000 years (Wurm 1970:18). A comparison of morpho-syntactic diversification in Pama-Nyungan and Indo-European suggests that if Indo-European provides any kind of measuring stick, then a figure of 5,000 or a little less is about right for Pama-Nyungan. One way or another Pama-Nyungan must be of an age considerably less than the period of time Man has been in Australia (+40,000 years) and certainly less than proto-non-Pama-Nyungan. Thus we are left with a mystery. If Pama-Nyungan was part of a language pattern showing the diversity of present day non-Pama-Nyungan less the effects of 5,000 years, how is it that this relatively conservative member happened to be the one that was spread? Or did it undergo some kind of pidginisation in the course of its spreading, which presumably must have been at the expense of other languages? Or again, is this line of thought quite wrong? Does Pama-Nyungan represent the pattern that was once ubiquitous, and is it that the non-Pama-Nyungan languages for reasons unknown have been subject to relatively accelerated typological change?
NOTES

1. I represent the ergative as being basically -lu on the suggested reconstruction of Hale's (1976d:414). See also 2.1.1.

2. I represent the accusative as deriving from -Ny a on the suggestion of Dixon's (1970) that n and ny derive from a single proto-laminal.

3. I describe verbs which require only $S_1$ as 'intransitive' and any actant that occurs optionally as in English He waits for her is described as an adjunct. Some verbs take two actants but differ from transitive verbs in that they take the same case marking as an intransitive verb with $S_1$ and an adjunct. I describe these as 'semi-transitive with $S_1$ and a complement'.

4. The functions listed here are categorised semantically. In writing a general paper it is not possible to determine which distinctions are made syntactically. Where the term DATIVE is used it refers broadly to these functions lumped together.

5. Examples from Kalkatungu, Yalarnnga, Wangka-Manha or Pitta-Pitta, unless otherwise ascribed, are from my field notes.

6. The extra -i which appears unglossed on puni and on nti in examples 16, 17 and 18 appears on virtually all independent transitive verbs in Kalkatungu. It is discussed in 3.6.1. It appears to be an original anti-passive marker that has been generalised. In dependent clauses, it functions as an anti-passive and hence may appear or not in accordance with the conditions described in 3.3.

7. An example of the -wa - pa alternation can be observed in examples 73 and 74 where the Pitta-Pitta forms for he and she occur

he  pun-wa-ka
she  pan-pa-ka

-ka is the unmarked member of a set of three deictic suffixes. These forms are left unanalysed in the glosses of Pitta-Pitta sentences for the sake of simplicity.

8. Hale labels his hypothesis as 'highly speculative' and indeed there are a number of points that still require explanation. In commenting
on this section of the draft, Hale drew my attention to the fact that in Nyangumarda (W.A.), -t\text{n}u is used with consonant stems. The same is true of Yulbaridja (W.A.). In Kalkatungu (Q.), -\text{\text{\textnu}} is used after vowel stems. The origin of these variants is one matter still requiring explanation.

9. -kur etc. derive historically from -*kuru (Hale p.c.).

10. The 'surface intransitive' pattern is used in Baagandji (N.S.W., Luise Hercus p.c.) and in Pitjantjatjara (S.A., W.A., Platt 1976).

11. Yanyula (N.T.) has ergative forms that reflect -*\text{l}u (Hale p.c. See also Kirton 1977).

12. Heath (forthcoming b:3.3) suggests that in Mara an old masculine noun-class prefix -\text{\text{\texteta}} has been specialised as an ergative-instrumental. Mara is a non-Pama-Nyungan language of the Northern Territory (see map).

13. The third person pronouns in Pitta-Pitta obligatorily incorporate a deictic marker. Third person pronouns incorporating the unmarked deictic -\text{\text{\textka}} are very commonly used with S\text{\texteta} and A and sometimes with P if P is definite.

14. A number of Queensland languages exhibit a masculine (strictly: non feminine) stem NYu- - NYi and a feminine stem NYan-. More commonly NYu- occurs for third person in general. The vowel alternation of ni-, nu- is difficult to explain. On the evidence here it looks like vowel harmony i > u /\text{\text{\textzeta}}, or assimilation to laminal consonants (u > i), perhaps dependent on the presence of two laminals, *NYiya, *NYiNYa.

However, over a range of languages we find forms such as nu, NYu, ni, NYi, ni, nu, ni, nu as third person pronoun roots, as class markers in classifying languages and as ergative markers. Some rigorous reconstruction is required to demonstrate if some or all of them are cognate. Vowel harmony involving the high vowels is common in Australia and independently of the forms under discussion there are cognates involving apical:laminal correspondences.

15. See Comrie 1976 from which some of the examples are taken.
16. -ku is probably the original form. There are some languages that have -ku with both C and V stems.

17. Dixon uses the voiced symbols: b, d, etc.

18. The pronoun paradigms for Warluwara and Yanyula respectively are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Warluwara (Breen 1971:182)</th>
<th>Yanyula (Kirton 1964:140)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>ṇaŋa</td>
<td>ṇaŋa</td>
</tr>
<tr>
<td>2</td>
<td>yiŋa</td>
<td>yenta</td>
</tr>
<tr>
<td>3</td>
<td>yiŋa</td>
<td>m. yiŋa, yiŋo, yiŋa</td>
</tr>
<tr>
<td></td>
<td>f. aŋa</td>
<td></td>
</tr>
<tr>
<td>Dual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 inc.</td>
<td>ṇali</td>
<td>ṇali</td>
</tr>
<tr>
<td>ex.</td>
<td>ṇayara</td>
<td>ṇaŋara</td>
</tr>
<tr>
<td>2</td>
<td>yiŋala</td>
<td>yIMPala</td>
</tr>
<tr>
<td>3</td>
<td>wula</td>
<td>wola</td>
</tr>
<tr>
<td>Pl.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 inc.</td>
<td>ṇapala</td>
<td>ṇAMPala</td>
</tr>
<tr>
<td>ex.</td>
<td>ṇanu</td>
<td>ṇANu</td>
</tr>
<tr>
<td>2</td>
<td>Wuru</td>
<td>yiru</td>
</tr>
<tr>
<td>3</td>
<td>yanu</td>
<td>aLO, alOWA</td>
</tr>
</tbody>
</table>

In both languages, ṇaŋa is dimorphemic:

<table>
<thead>
<tr>
<th></th>
<th>Warluwara</th>
<th>Yanyula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom.</td>
<td>ṇaŋa</td>
<td>ṇaŋa</td>
</tr>
<tr>
<td>Dat.</td>
<td>aŋa</td>
<td>ṇaŋa</td>
</tr>
<tr>
<td>Acc.</td>
<td>ṇaŋa</td>
<td></td>
</tr>
</tbody>
</table>

In Yanyula, -ŋa serves as the bound form for first person. The similarities between Warluwara and Yanyula extend to the pronoun inflections:

First Dual Inclusive

<table>
<thead>
<tr>
<th></th>
<th>Warluwara</th>
<th>Yanyula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom.</td>
<td>ṇali</td>
<td>ṇali</td>
</tr>
<tr>
<td>Dat.</td>
<td>ṇalŋa</td>
<td>ṇalŋa</td>
</tr>
<tr>
<td>All.</td>
<td>ṇalŋaŋa</td>
<td>ṇalŋaŋa</td>
</tr>
</tbody>
</table>
19. Hale (p.c.) points out that in Ngarluma, for instance, there certainly seems to have been a development from *ŋayku to ŋat'yu since the accusative/dative of the first singular is ŋat'yu while -ku is the accusative/dative suffix for polysyllabics and consonant-final stems.

20. Kalkatungu does not allow words of one syllable (or one mora). la, the root for hit or kill is monosyllabic. When it is not suffixed, it must be augmented to laa [la:]. However, when it follows a combination of complementiser and bound pronoun, it may be cliticised to the combination. a-ŋį la may be pronounced [aŋį la:] or [aŋį la]. The bracketed hyphen in the notation indicates optional cliticisation.

21. The anti-passive suffix can be written as -i or -yi according to one's views of phonology. Morphophonemically it is -yi however one writes it and I suggest that this -y- is a reflex of *1 rather than *y.

22. Since a does not function as a complementiser here, it needs to be glossed as auxiliary particle or something similar.

23. One exception would be interrogative sentences. In these -i is often omitted, e.g.

ŋaka-ti ŋin-ti laa
what-loc you-erg hit
What did you hit him for?
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DIFFUSIONAL LINGUISTICS IN AUSTRALIA:
PROBLEMS AND PROSPECTS

Jeffrey Heath

1. INTRODUCTION

There are several motives for doing research on diffusional linguistics. Firstly, there is the possibility of correlating the results of the research with archeological, historical, and ethnological studies bearing on past migrations and associations of tribal or linguistic groups. Secondly, diffusional linguistics can function as an occasional adjunct to historical linguistic research of the usual type based primarily on genetic reconstruction. Thirdly, diffusional linguistics can be taken as a subject worthy of theoretical study in its own right.

In Australia it would appear that the first line of research mentioned above has been unproductive, simply because of the rarity of contacts between Aboriginals and Melanesian or other peoples to the north. In Arnhem Land, Macassan (Indonesian) contact for several centuries prior to about 1920 has been well-documented, and Capell (1965) among others has mentioned the Macassan loanwords in some coastal Aboriginal languages. von Brandenstein (1970) has suspected Portuguese loanwords in the northwestern part of the continent.

Perhaps the greatest potential for such diffusional studies has been in Cape York peninsula and the Torres Straits. It is known that in the Torres Strait Islands are found two languages, one of Australian stock and the other of Papuan. Moreover, on the Cape York mainland itself many rather bizarre phonological developments have transformed ordinary Australian-type proto-languages into superficially un-Australian languages, and it has been suspected for some time that Papuan interference may have helped encourage these developments.
However, whereas a strong case can be made for Papuan influence on Mabiuag (in the Torres Strait Islands themselves), there is no persuasive evidence of specific Papuan influence on specific Cape York sound changes (Wurm 1972, Capell 1967:93).

Within Australia itself, diffusional studies have been far less important than standard genetic reconstruction in identifying past migrations. For example, conventional reconstruction shows that the Yuulngu languages of northeastern Arnhem Land, though surrounded to the south and west by languages which are only distantly related to them, are closely related to Pama-Nyungan languages spoken in the southern portion of the Northern Territory. Thus diffusional studies are only a minor adjunct in this respect; they are most useful in establishing the duration and closeness of contact among groups in very recent times, while the genetic studies are useful for time perspectives going back several thousand years.

The principal motivations for diffusional studies in Australia, then, are their potential in complementing genetic studies and as constituting an interesting subject matter in themselves. It has long been recognised that the complete classification of Australian languages involves recognition of areal as well as genetic groupings (Capell 1962), particularly when the focus is on vocabulary. However, instead of developing methodological tools for differentiating genetic from areal (diffusional) relationships, Australian linguists have until recently retreated into typological classifications which have left open the relative significance of the two explanations for cognates and morphological sharings.

In a sense, this was wise as a temporary expedient. In such wide-ranging and pioneering classificatory efforts as Capell (1962), by sticking to relatively straightforward typological classifications it was possible to avoid taking strong positions on the extent of genetic vs. diffusional responsibility for sharings - had strong positions been taken at that early stage they would now be highly vulnerable to assaults from regional specialists.

However, in the long run it will be necessary to shift from simplistic typological classification to detailed historical studies of particular subgroups, considering both diffusional interaction and the usual 'internal' analogical and other processes studied by the comparative (genetic) method. Because of the particular demographic factors characteristic of Aboriginal groups, diffusion has been much greater in Australia than in almost any other part of the world. Therefore diffusional studies will have to go beyond functioning as
mere occasional adjuncts to genetic historical studies, clearing up
the odd difficulty. Diffusional linguistics must develop as a full-
freighted component of a broadly-based historical framework, including
the traditional methods of comparative method as well. To some extent
this means that historical linguistics in Australia will be more
difficult than elsewhere, since virtually every change (phonological
or other) will have to be examined to see whether it has been
motivated by internal analogical or functional/structural considerations,
by diffusional forces, or by a complex mixture of the two. On the
other hand, if this challenge can be successfully met, Australian
linguistics will be in the enviable position of being able to provide
theoretical models of historical change quite different from (though
complementary to) those derived from such different language families
as Indo-European and Malayo-Polynesian.

2. DIFFUSIONAL vs. AREAL LINGUISTICS

It is desirable to make a distinction between diffusional and areal
linguistics, although these terms are often used as synonyms. The
first is the study of actual historical forces and processes brought
about by contact among language or dialect groups. It involves the
examination of the (reconstructed) structures of the source and target
languages, and describes the actual innovations in the latter in this
context. Ideally, the relevant aspects of the sociocultural and
demographic environment are also considered.

By areal linguistics I mean (in this particular paper) the study of
the synchronic distribution of shared features (isoglosses); it may
also lead to correlations with the distribution of various non-
linguistic shared features.

Consequently, areal linguistics is a static approach concerned
with distributional patterns rather than the discovery of the historical
dynamics responsible for them. Clearly, it is desirable that we move
from it to the more challenging but more fruitful approach of
diffusional linguistics as our general knowledge of the history of
Australian languages improves. The identification of areal patterns
is a useful first step which may suggest productive lines of diffusional
linguistic research at a later stage, but the latter must be clearly
recognised as the final goal.

It is appreciated that serious diffusional linguistic studies are
more feasible in certain regions and at certain levels of inclusion
than at others. It is unlikely that studies attempting to encompass
the whole sweep of Australian languages across the continent can lead
in the near future to satisfactory results. In order to gain a valid
appreciation of the nature of diffusional interaction, and also to
sharpen our methodological tools, it will be necessary to conduct
intensive comparative/diffusional investigations of small groups of
languages in particular regions.

Some of these areas are going to be more amenable to these projects
than others. It turns out that the area where I worked in south-
eastern Arnhem Land is an almost ideal site for such a study; for the
results see Heath (1978).

The advantage of this region is that, as noted earlier, we find the
Yuulngu group (a division of the vast Pama-Nyungan family) trapped in
the northeastern corner of the peninsula, and in contact over a broad
area with languages of the prefixing group (a loose collection of
several families, all ultimately related to each other genetically).
The Yuulngu and prefixing languages are genetically related, but only
at an extremely distant level, and at the time when they came into
contact they were apparently so different in structure and vocabulary
that they might as well have been genetically unrelated. See Map.

As the result of this, we find a number of pairs of languages which
have been in contact for a considerable period but which prior to the
initiation of this contact had little in common with each other.
Moreover, since there are at least ten Yuulngu languages, and even more
prefixing languages in the near vicinity, it is possible to do
conventional genetic reconstruction within close subgroups. We are
therefore in an excellent position to identify diffusional (as opposed
to internal analogical or structural/functional) developments in the
history of each relevant language over the last millennium or so.

For example, Ngandi is a prefixing language whose closest sister
language in genetic terms is Nunggubuyu. However, in recent times the
Ngandi have been interacting socially with the Ritharngu (a group
speaking a Yuulngu language) to the north to a greater extent than with
the Nunggubuyu. The latter have come to be closely intertwined socially
with the Warndarang, the most northerly of a rather different prefixing
group to the south.

Much of the proto-language underlying Ngandi and Nunggubuyu (Proto-
NgNu) can be reconstructed by conventional means, also taking into
account broader reconstructions for the whole prefixing group.
Similarly, much of Proto-Yuulngu and of the proto-language underlying
Warndarang, Mara, and Alawa (Proto-MaWaAl) can be reconstructed.

Having done this, it is not especially difficult to determine the
set of historical changes which convert Proto-NgNu into attested Ngandi
LANGUAGE SITUATION IN A PART OF NORTHERN AUSTRALIA

key:
1. Ritharngu (Yuungu group)
2. Ngandi (prefixing group)
3. Hunggubuyu (prefixing group)
4. Warndarang (prefixing group)
and Nunggubuyu, and so forth. We can then judge to what extent diffusional pressures (of Ritharngu on Ngandi, and of Warndarang on Nunggubuyu) are responsible for the historical changes. Similarly, we can evaluate the influence of Ngandi on the development of Ritharngu, and of Nunggubuyu on the development of Warndarang. In all of these cases, significant diffusional interaction can be demonstrated. Diffusional changes range from the outright borrowing of words and bound morphemes to more subtle (and often partial) structural realignments.

Having established that initial structural divergences have not proved to be a significant barrier to diffusion (even of large numbers of bound affixes and the like), we can legitimately infer that diffusion might have been even more substantial (or at least quicker) had the languages in question been more similar initially. The southeastern Arnhem Land area is atypical of Australia in that genetic distances (even, say, between Nunggubuyu and Ngandi) are much greater than is usually the case elsewhere in Australia. Thus a more typical situation would be one where several languages in contact are already closely related genetically and quite similar structurally. Assuming that diffusional forces are particularly intense in such areas, we may reach the situation where it is methodologically very difficult to disentangle the recent history of each language by distinguishing sharings due to common origin from those due to recent diffusion.

Perhaps a reasonable plan for action would be to undertake comparative/diffusional studies in four or five different parts of Australia, each study involving no more than about five languages to begin with. One such study might deal with Warlbiri, Warramunga, Djingili, and nearby Arandic languages. In this area (in largely arid regions of Central Australia) we find much larger language groups and much less intermarriage among them than in coastal southeastern Arnhem Land. Another study might involve several dialects in the Western Desert group, which extends over an enormous area in Western Australia and parts of the Northern Territory and South Australia. This group differs from the previous one (Warlbiri, etc.) in that it is a chain whereby each dialect is relatively close to the adjacent ones, yet again each dialect group is substantially endogamous. Because it should certainly be possible to reconstruct the proto-language, it should also be possible to determine to what extent the fringe dialects have been influenced by non-Western Desert dialects adjoining them. There should certainly also be a comparative/diffusional study somewhere in Cape York.
These specific suggestions can be modified or abandoned at the pleasure of the researchers involved; I have done no substantial reconnaissance or feasibility studies involving these regions, most of which I am not directly familiar with. What is important, though, is that at least a few serious comparative/diffusional studies are done in a representative set of areas with different demographic and socio-cultural characteristics.

3. DEMOGRAPHIC AND CULTURAL FACTORS

By 'demographic' factors we mean, in this context, the complex of environmental and social-structural phenomena which influence the frequency of direct contacts between persons belonging to different language groups. Quite obviously, there are going to be cases where two adjacent language groups have little contact, and others where contact is intimate and frequent. Environmental features such as mountain ranges, bodies of water, and (especially) areas without water or adequate food supplies can inhibit contact. A language group of a thousand individuals occupying a large and ecologically diverse territory is likely to be relatively self-contained; a language group of fifty occupying a small coastal area is likely to be predominantly exogamous for several reasons, including the need to maintain military alliances with neighboring groups and the usual vicissitudes in the relative number of men and women of a particular age available for marriage.

For the purposes of diffusional linguistic studies, it is not of crucial importance to analyse the factors affecting the extent of social contact (including intermarriage) among the relevant groups, but it is important to determine how extensive the contact was. Since we are usually interested in linguistic reconstruction going back at least a few centuries, this means reconstructing the basic demographic patterns of the immediate precontact period where this is feasible. It will normally be very difficult to do this in absolute quantitative fashion, but in discussing a particular region it should be possible to at least determine which groups were most closely in contact with which others. For example, in the area in which my fieldwork was conducted it was possible, by means of collecting texts from old men and so forth, to establish that the Ngandi were closely associated with the Ritharrngu, while the Nunggubuyu were closely involved with the Warndarang. Such associations do not follow automatically from locating the language groups on a map; indeed, on the map it appears that the Ngandi and Nunggubuyu (for example) were in very close contact whereas
in fact this would be an exaggeration.

Such a demographic investigation provides a rough background for the diffusional study. But there are also nondemographic cultural factors which, in at least some situations, can greatly affect the extent and type of linguistic diffusion observed. Although we cannot provide even a minimal account of these cultural processes here, we may observe simply that there is often an interesting dialectical (not dialectal!) relationship between the system of language/dialect divisions and the system of (nonlinguistic) social divisions such as moieties and clans in a particular area.

By establishing a particular demographic background we can get some idea of how frequently speakers of one language entered into communication with speakers of another. Obviously, substantial contact between the two groups is likely to lead to considerable linguistic diffusion by unconscious, relatively automatic interference. However, since in most Aboriginal societies there is also a nonlinguistic social grid involving moiety, clan, and possibly 'tribal' divisions, we have the possibility that these 'automatic' diffusional changes may have been artificially blocked, accelerated, or selectively channeled. In certain instances where two groups have sociocultural motives for overtly manifesting their solidarity or their structural equivalence, we might find strong assimilatory pressures which cause their languages/dialects to converge at an accelerated rate. Perhaps more often, we find dissimilatory pressures by which languages/dialects are not permitted to succumb to demographic factors favoring convergence, or by which the languages/dialects are forced to diverge further than they would normally have done.

This crude dichotomy of assimilatory vs. dissimilatory forces (both of which are diffusional, at least in a broad sense of this term) conceals a whole series of varieties. To begin with, given that there are such nondemographic diffusional pressures, we have to ask what aspects of linguistic structure are most greatly affected. That is, what are the precise linguistic features which the speakers manipulate as indices of their social identities, and what features are relatively inert in this respect? In one area pronunciation might be crucial, in another vocabulary might play the central role.

We must distinguish at least two levels of analysis. There is the etic level - the linguist records actual speech in the relevant languages/dialects and determines the nature and type of the linguistic differences among them. Then there is the meta-level of conscious native awareness of the relationship between linguistic/dialectal
divisions and social categories. In some cases we may find considerable etic correlation of the linguistic and social divisions, suggesting that speech differences indeed function as social indices in speech events; in this case there may or may not be an explicit native recognition of this at the conscious, ethnodialectological level. On the other hand, there may be a native theory that linguistic/dialectal divisions do (or ought to) correspond to social divisions, but the linguist may find that in actual speech events there are no systematic linguistic/dialectal divisions.

In this writer's fieldwork area there is considerable variation along these lines. Among the Nunggubuyu, Ngandi, and in general almost all of the prefixing languages investigated, there is no conscious theory that clan or moiety divisions are associated with speech differences of any sort. There is also no substantial evidence for actual dialectal differences within language groups, though those cover two moieties and five or six clan groups. Even at the language-group level there is no strong normative association between linguistic and social divisions; indeed, the language group is not corporate politically, ritually, or as a land-owning unit and thus is not really a nonlinguistic social group at all.

On the other hand, the fact that small language groups averaging little more than one hundred persons or so, and in very close geographical and social contact with each other, have maintained quite separate languages for many centuries suggests that there has been some dissimilatory pressure at the language-group level. If demographic factors alone were operative, we would think that such small and interrelated language groups would have merged into larger groups speaking a single language.

The situation among the Yuulngu languages is much different. This block contains somewhere between fifty and seventy 'clans' which are conceived of in large part as dialectal (as well as ritual-owning) units. That is, one inherits a dialect as an essential part of one's social identity (one also has secondary rights over the mother's clan's dialect and rituals). This situation is 'chartered' by myths which recount how ritual responsibilities, songs, dialects, etc. were distributed among the clans by the creator beings who shaped the social and topographic landscape.

This is the native theory. In practice, the 'dialects' can be grouped into about ten languages from the linguist's point of view; in most cases boundaries between languages are sharp but there is substantial and roughly continuous variation among dialects of a single
language. The Aborigines recognise this tenfold division at one level of their ethnodialectological theory, but assign it little social significance except when a language group (subsuming several clans) is entirely included within one of the patrimoieties. In part of the Yuulngu area we find that the language groups do tend to line up with moiety divisions; the Dhuwal language includes about five large clans in one moiety, and two or three other language groups belong predominantly to the other moiety.

At the level of clan-dialects, in parts of the Yuulngu area it appears that there are structural features (e.g., choice of future-tense particle) which correlate at least roughly with clan divisions. However, in the Ritharngu language group no systematic differences were found among the dialects, even those belonging to different moieties. These people adhere to the native theory that each clan has its dialect, but at the etic level this is not borne out.

When asked to provide concrete examples of dialectal differences, Ritharngu speakers are at a loss. The differences exist at the meta-level only, and clan identity is not actually indexed by linguistic variables. This does not perturb the speakers when pointed out to them by the linguist, since they do not claim that particular variables accomplish this indexical function. They simply claim that, at some vague level, there are speech differences of some sort among the clan groups.

Among the Ngalkbon-Dalabon (a prefixing group west of the Yuulngu), there is an explicit theory that speakers from one moiety speak 'fast', while the other moiety speaks 'slow'. Note that this unlikely theory is focussed on a subjective suprasegmental variable and thus has the advantage that it cannot be readily shown to be false. Cf. Dixon (1976:214-218).

This discussion has not mentioned the many other sociocultural factors affecting linguistic change, including differentiation among generations, between sexes, among individuals as part of personality expression, etc. However, the factors dealt with here - involving one's identity as part of a clan, moiety, or language group - are the most vital in the kinds of diffusional research which can be expected in Australia.

4. DIFFUSION OF VOCABULARY

It has long been recognised, for example in Indo-European linguistics, that at least certain kinds of vocabulary are relatively susceptible to being diffused from one language to another. Because
Overall diffusion in Australia has been greater than in Indo-European and most other well-known language families, we must expect that vocabulary diffusion has been extremely extensive here.

In the southeastern Arnhem Land study it was found that Ngandi and Ritharngu share nearly 50% of nominal and verbal stems. Only a handful of shared items can be attributed to independent retention of Proto-Australian items (e.g., *-bu- to hit, to kill). Consequently, Ngandi shares more vocabulary with Ritharngu than it does with its sister language, Nunggubuyu, despite its incomparably closer genetic relationship to the latter.

Diffused lexical items now shared by Ngandi and Ritharngu include such basic vocabulary as fingernail, scrotum, mouth, meat, skin, bone, saliva, be afraid, always, ashes, because, to blow, to break, dry country, charcoal, to chop, circumcised man, cloud, country, to cut (two items), to dig, to close off, dreaming (totem), to stand (something) up, bush fire, to operate fire-stick, firewood, to fly, to fly around, to follow, to cross, to bathe, to go past, to go up, honey, to hook up spear onto womera, to be hungry, to hunt (with dogs), to jump, jungle, later, leaf, to lick, to tell a lie, to light (fire), to look around, to make string, man, mud, to be dark, north (and the other compass points), old man, old woman, one, to be open, other, stone oven, paperbark, person, to feel sorry for, to pull along, rain, sand, to scorch, to scratch, to send, (sun) to set, shell, short, shortcut, to be sick, side, sore (wound), (water) spring, star, story (word), straight, string, sun, to pull out (take away), uncircumcised boy, to want, (water) well, wet, whirlwind, wind, woman, and so forth. In almost all of these cases the items are the basic words for these senses in both languages (not, e.g., infrequent synonyms). Other domains not mentioned here, such as kinship terminology and flora-fauna terminology, are also full of diffused terms.

It will be noticed that the above list contains many verbs as well as nouns. Moreover, there are a number of high-frequency verb roots (often monosyllabic) not mentioned above which occur in both languages. Examples: to hit, to kill, to see, to hear, to carry, to sit, to stand, to get. Some of these are probably survivals from the remote common proto-language, but one or two (e.g., to hear) are probably borrowings, and at any rate there is no evidence that such high-frequency verbs systematically resist diffusion. In cases where the sharing is retentionist rather than diffusional, we can simply point out that no diffusion was necessary or possible since the items were already identical (or nearly so).
It should be clear that Australia is not going to be a glotto-chronologist's paradise, and that genetic classifications based primarily on quantification of lexical (or other) synchronic sharings are unlikely to bear fruit.

However, even in the Ngandi-Ritharngu case lexical diffusion has not been totally unconstrained. Aside from the fact that some key items (e.g., stone) have not been diffused, we find that there are some structural considerations which have channeled diffusion into some areas and away from others. However, these considerations are not primarily semantic, so it is not a question of particular, semantically-definable domains being especially susceptible or resistant to diffusion.

Whereas noun stems (aside from kin terms) share a substantially similar morphology in both languages, and can occur in 'naked' form without affixes in some instances, for verbs we have to distinguish several different inflectional classes. Moreover, the largest and most productive class in both languages has, in addition to thematised inflectable forms, a naked 'root form' used as a kind of abbreviation for a fuller verb form (or clause), hence Ritharngu thematised stem bangu!?-yu- to return (e.g., past bangu!?-yu-na) and root form bangu!?. The majority of the verb stems which have been diffused between the two languages belong to this class, and we strongly suspect that the occurrence of such roots in an unencumbered root form has facilitated diffusion. The rate of diffusion in the other classes (where the morphological boundary between root and suffix is less clear-cut) has been significantly lower, though some verbs in these classes have been diffused.

If we look at the Nunggubuyu-Warndarang pair a bit further south and east, we find that lexical diffusion has been quite a bit less substantial, and has been almost nonexistent for verbs in particular. This is because the two languages have totally different verbal systems; Nunggubuyu directly inflects its verb roots with pronominal prefixes and tense-aspect suffixes, while Warndarang has an auxiliary structure with a verb-particle (often a CVC syllable) followed by one of a small number of specialised auxiliaries (which have prefixes and suffixes like ordinary Nunggubuyu verbs). Thus the set of verbs in Warndarang which corresponds structurally to ordinary Nunggubuyu verbs, namely the auxiliaries, constitute an essentially unproductive and closed set which does not easily receive new members, and Nunggubuyu has no parallel at all to the Warndarang verb-particles. The structural inhibitions on borrowing noun stems in these languages are
less severe and a fair amount of nominal diffusion has occurred.

In the southeastern Arnhem Land case, then, structural factors rather than semantic ones seem to have been the most effective barriers to lexical diffusion.

There are also a variety of sociocultural factors to consider, however. These include the possibility of artificial exaggeration or diminution of lexical divergence for the purpose of indexing the mutual identification or differentiation of social groups, and also the role played by lexical taboos in encouraging lexical turnover (hence vocabulary borrowings to replace tabooed items).

In the Arnhem Land case, it is difficult to find evidence that social-group indexing has played a particularly significant role in determining the rate of lexical diffusion. As we have seen, speakers of most prefixing languages (e.g., Ngandi) have no elaborated native theory by which language/dialect differences are correlated with non-linguistic social divisions. Among the Ritharngu (and other Yuulongu groups) such a theory exists, but at least in the southern area the theory is not confirmed by etic analysis and there is no evidence that individual lexical items play much role in indexing. Ngandi and Ritharngu are so different from each other in morphology and so forth that it is simply unnecessary to code differences between them by lexical distinctions; the latter might be more significant in a dialect chain where the basic morphological structures were almost identical. In other words, social indexing is more likely to be significant in cases where dialects/languages are splitting away from each other than in cases where two dissimilar languages are in contact and converging to some extent.

The existence of 'special' languages can play an important role in lexical diffusion under certain conditions. The best examples of this are cases where a group has, in addition to the ordinary language, a special avoidance (respect) language used in the presence of certain affines. In the most dramatic cases the avoidance language has a completely different lexical stock from that found in the ordinary language.

As Dixon (1972) has shown, in the Dyirbal group of languages (each of which has ordinary and avoidance languages), it is often the case that an avoidance word in one language is identical to an ordinary word in an adjacent language, and presumably has been borrowed from this source. Hence the situation shown in Figure 1.
Since the avoidance language is used only in restricted social environments, and is generally much poorer in lexical stock than the ordinary language, it is likely that its lexical items are subject to much fluctuation over time. As certain of its terms go out of use or are forgotten, it requires replenishment, and the obvious source for a substitute term is the common term in some nearby language. Hence what is originally an ordinary term in $L_1$ is borrowed into $L_2$ as the avoidance term in the diagram. (Speakers of $L_2$ will often have only poor fluency in the avoidance version of the neighboring language $L_1$, so the latter's ordinary rather than avoidance form will be the usual source for replenishing the avoidance vocabulary of $L_2$.)

However, because the lexical stocks of ordinary and avoidance versions of $L_2$ must be kept totally distinct (to maximise the social-indexing value of the avoidance language), we have the ironic result that the borrowing of $X$ from ordinary $L_1$ into avoidance $L_2$ actually inhibits the borrowing of $X$ from ordinary $L_1$ into ordinary $L_2$. In the figure, it is now essential to maintain the opposition between $Z$ and $X$, and consequently $Z$ cannot be replaced by $X$ (borrowed from $L_1$). Since $L_2$ is unlikely to borrow $Y$ from avoidance $L_1$, diffusion between $L_1$ and ordinary $L_2$ may be held to a relatively low rate because of such factors. To my knowledge, a quantitative study of these phenomena has not been undertaken.

It is worth stressing that only a few areas in Australia have fully developed avoidance languages, though there are many languages with a small number of avoidance terms. Most languages, however, do have analogous phenomena in the relationship between ordinary and song (or more generally ritual) languages. It would be interesting to explore this matter further, but I will content myself here with observing that song languages seem to have played only a small role in lexical diffusion among the ordinary languages in the Arnhem Land case. The song languages themselves have, as might be expected, borrowed extensively from neighboring ordinary and song languages in replenishing their own lexical stock, but this has not greatly interfered with diffusion among the ordinary languages themselves. Song languages have
not been the principal media through which Ngandi and Ritharngu ordinary languages have borrowed from each other, nor have they deterred such borrowing in the manner suggested above for the avoidance languages.

Before leaving the subject of lexical diffusion, it is necessary to deal briefly with the role of taboos. It has been noted from time to time that upon the death of a person, people in his kindred or some larger group may refrain from pronouncing his name for a number of years. If the name happens to be identical with a word used in the ordinary language, this word may become taboo, possibly for a period of years. Moreover, a word which has the misfortune of being phonologically similar to the deceased's name may also be tabooed. It has been suggested that the high rate of lexical diffusion in Australia is largely due to the operation of the taboo, since it creates a need for lexical replenishment and since the vocabulary stock of a nearby language is the logical place to look for a replacement for the tabooed word.

It is unlikely, however, that the taboo has played a crucial role in influencing rates of diffusion, except perhaps in certain regions in Australia. In the Ngandi-Ritharngu situation, for example, we have documented a remarkably high rate of lexical diffusion, yet among the Ngandi (who have done most of the borrowing) the death taboo is not especially strong or long-lasting. Most personal names are obscure song epithets and the like which are unlikely to affect ordinary vocabulary. If the death taboo were so important, we would expect lexical turnover to be far greater in such semantic domains as flora-fauna, with which many of the personal names are associated - yet we find very high rates of diffusion in other areas as well, such as compass-point adverbs and kin terms (not to mention verbs, logical conjunctions, etc.). On top of this, diffusion between Ngandi and Ritharngu has also affected many semi-frozen, bound affixes such as case suffixes and the like, and no-one would seriously suggest that an ablative suffix or a comitative prefix is likely to become too hot to handle because of taboos.

This is not to deny that there might be regions in Australia where the death taboo is stronger and has indeed played a moderately important role in stimulating diffusion. Probably the best symptom for such a situation would be that each language in the area has a supply of apparently superfluous synonyms for many common nouns and verbs. In Arnhem Land, for example, the Yuulngu languages (particularly those north of the ones I worked on) are noted for their extravagant
stock of synonyms. I have elicited body-part terms for one such language (Dhay?yī), and often got five or six synonyms whereas a language like Nunggubuyu only infrequently had more than one. I understand that the death taboo is fairly strong among the northern Yuunngu, and we can infer that the large supply of synonyms is a response to this situation.

What has not been established, however, is how frequently a word which becomes tabooed after a death is permanently exorcised from the language. In many cases it appears that the word is avoided for a decent period, ranging from two to perhaps ten years (less for more distant relatives), and is then reintroduced as the common word in its former sense. Indeed, the personal names themselves are usually recycled (to descendants of the deceased two generations below him). Consequently, although we have well-documented cases where a short-term death taboo has operated, we have little information about the ultimate fate of the tabooed terms, and are thus in a poor position to estimate even crudely the quantitative role of the taboo in lexical turnover.

5. DIFFUSION OF PHONOLOGY

It has long been remarked that Australian languages share a substantially uniform phonological system, despite the large geographic distances involved and despite substantial time depth separating one region from another. Moreover, in cases where special phonological features occur, these often have spread throughout a particular region. That is, we find few cases where geographically contiguous languages have sharply different phonological systems.

In Arnhem Land, we find a clear boundary between a group of languages with two series of stops (fortis vs. lenis) and with a syllable-final glottal stop, and another group with only one stop series and without a phonemic glottal stop. This boundary does not correlate with genetic divisions. The first group includes the Yuunngu languages and a number of adjacent prefixing languages to the southwest and south, including Ngandi. The second group includes the prefixing languages further south, including Nunggubuyu (which is genetically closest to Ngandi) and Warndarang. It can be shown that Nunggubuyu, under the influence of Warndarang, has undergone a series of consonant shifts converting a Ngandi-like protosystem into the attested Warndarang-like system.

It is likely that diffusion at an earlier stage is responsible for the near-identity of the consonant systems of the Yuunngu languages.
with those of the adjacent prefixing languages like Ngandi. Certainly the diffusion of large quantities of stems and other morphemes has played a central role in this. However, both in the Yuulngu and prefixing languages we find fortis/lenis oppositions, and glottal stops, in inherited as well as borrowed morphemes. It must therefore be recognised that phonological diffusion in this case has been accomplished not only by direct lexical diffusion, but also by indirect processes whereby speakers of different languages developed regional pronunciation patterns and applied them to their own lexical material. Indeed, in the assimilation of Nunggubuyu phonology to that of Warndarang, direct lexical borrowing (which has been limited) has certainly not been the primary mechanism.

Unfortunately, it is not yet clear whether the Yuulngu or prefixing languages first developed the more complex system with two stop series and with the glottal stop. It is therefore not possible to reconstruct the actual historical developments responsible for the present affinities between the two groups.

This is also the case with another important regional feature of this area, the occurrence of interdental consonants (but only before vowels). Most Yuulngu languages (but not Djinang, at the northwestern extreme of the group) have \( \dot{g} \) and (fortis) \( \ddot{g} \) in a large number of stems and bound morphemes, and a small number of important affixes and pronominal or demonstrative stems with \( \dddot{n} \). In Djinang, the lamino-alveolars \( j, \dddot{z}, \text{and} \dddot{n} \) correspond to interdentals as well as to lamino-alveolars in the other Yuulngu languages. As for the prefixing languages, many to the west of the Yuulngu group lack interdentals, but \( \dot{g} \) and \( \ddot{g} \) are common in Ngandi, and \( \dot{g} (*g) \) and \( \ddot{g} (*d) \) are common in Nunggubuyu. One suspects that the interdentals originated in the Yuulngu group (having split off, perhaps, from lamino-alveolars), and that Ngandi and Nunggubuyu (or rather Proto-NgNu) borrowed them from this source, while one or two northwestern Yuulngu languages like Djinang have merged interdentals with lamino-alveolars under the influence of prefixing languages in that area. If so, the details must have been complex since the opposition between interdentals and lamino-alveolars in Ngandi and Nunggubuyu applies to inherited as well as borrowed vocabulary. The hypothesis presented here cannot be considered established until a more detailed investigation has been carried out.

One of the few studies of phonological diffusion in other parts of Australia (aside from the Torres Strait Islands case mentioned at the beginning of the paper) involves Cape York Peninsula. Alpher (1976) has demonstrated that the dropping of initial consonants in a number of
essentially contiguous languages has probably occurred subsequent to the splitting off of these languages from their immediate common ancestor. It is thus probable that diffusional interaction has played a significant role.

However, it is likely that the primary thrust of diffusional forces in Australian phonological systems has been conservative - impeding major sound changes rather than ensuring their wide distribution. Although the attested continent-wide similarities may go back to the proto-language, innate lethargy is not a satisfactory explanation for their perpetuation. It is likely that the rarity of major demographic shifts (i.e., migrations), and the near-absence of contact with Melanesian or other foreign languages, has contributed to a situation where most Australian languages have been surrounded by languages sharing the same basic phonological features. Consequently, the effect of diffusion has been mutual reinforcement, rather than inducement to radical alterations. We have noted some instances where diffusion has played a role in propagating local innovations, but this has been subordinated overall to the conservative effects of diffusional pressures.

6. DIFFUSION OF MORPHOLOGY AND SYNTAX

Undoubtedly the most striking result of the Arnhem Land study has been the recognition of large numbers of bound morphemes (mainly prefixes and suffixes) which have been directly diffused across well-established language boundaries, e.g., from Ritharrngu into Ngandi or vice versa. The examples include case suffixes, derivational verbalising suffixes, a system for thematising verbal root forms (mentioned above) including the actual suffixes involved, negative suffixes, comitative prefixes, and the like. Similarly, Warndarang has borrowed from Nunggubuyu (perhaps with some assistance from Ngandi) some case suffixes along with a system of nonhuman noun-class prefixes.

The sheer number of such examples which can be documented, even restricting ourselves to the four languages shown in the map (cf. above), has permitted at least a partial analysis of the factors favoring or impeding direct diffusion of bound morphemes; see Heath (1978). The question turned out to be what kinds of morphemes have not been diffused, rather than what kinds have been.

In addition to such blatantly direct diffusion, however, there are also strong indications of indirect morphosyntactic diffusion - the rearrangement or restructuring of inherited morphology and syntactic
patterns to conform to those of a nearby language. Such indirect diffusion has often resulted in partial assimilation only.

For example, the Yuulngu languages generally have fully independent personal pronouns which can occur anywhere in the sentence (as nouns can), and are generally omitted when a full noun-phrase is present. On the other hand, the prefixing languages in this area have bound pronominal prefixes specifying the category of subject (and, for transitives, object). Consequently, fully independent pronouns - though they exist - are generally not used in these case categories, and usually have emphatic or contrastive function when they are used. The prefixes are used whether or not independent noun-phrases for these cases are also present in the sentence. Thus The man hit the woman would have the following surface structures (with word-order free) in the Yuulngu and prefixing languages, respectively:

Yuulngu: \textit{man-Ergative hit-Past woman-Accusative}

prefixing: \textit{man-Ergative he/her-hit-Past woman-Accusative}

(Actually, most prefixing languages would use the zero Nominative case for direct object, and some would also use it for subject, but we disregard this problem here.)

The pronominalised versions would be these:

Yuulngu: \textit{he-Ergative hit-Past her-Accusative}

prefixing: \textit{he/her-hit-Past}

(Again, the case-marking in the Yuulngu example would actually have Nominative instead of Ergative, but we disregard this.)

Ritharngu, however, diverges from the pattern set by the other Yuulngu languages. It has developed a series of enclitic subject- and object-marking pronouns, which along with some other optional elements form an enclitic cluster which follows the first constituent in the sentence. If \textit{+} is the boundary just before an enclitic, the two Yuulngu sentences shown above become these in Ritharngu:

full form: \textit{man-Ergative + he + her hit-Past woman-Accusative}

pronominised: \textit{hit-Past + he + her}

The enclitic pronouns are simply reduced forms of the Yuulngu independent pronouns (e.g., 3Sg Accusative naï from \textit{*nì-naï}), and the full forms are sometimes used in Ritharngu as emphatic pronouns in sentence-initial position.

Note that in the full form of the Ritharngu sentence, the enclitics are used although the sentence includes full NP's specifying the
subject and object. Thus Ritharngu has assimilated partly to the system found in prefixing languages, since it has developed a system of obligatory bound pronominals for subject and object, and uses independent pronouns in these case categories as sentence-initial emphatic pronouns. However, the mechanical details of the Ritharngu system (enclitics following first constituent in the sentence) differ substantially from those of the prefixing systems (prefix-complex fused to verb).

In the northwestern portion of the Yuulngu group, Djinang appears to have gone even further and has developed a system of pronominal prefixes (or at least proclitics) marking the category of subject and object. The prefixes are, historically, reduced or otherwise thinly disguised forms of the old Yuulngu independent pronouns in most cases. However, the system of pronominal prefixes is not quite as well-established as it is in the prefixing languages themselves, and it appears from the limited data I have collected that the 1SG prefix er-*ŋara), for example, is omitted in some tenses (hence the independent pronoun *ŋara must be used).

Unfortunately, at present we know very little about Djinang and the immediately adjacent prefixing and Yuulngu languages. This is likely to be at least as interesting an area for diffusional linguistics as the area further south where I have worked extensively.

7. THE FUTURE

It is unfortunate that the southeastern Arnhem Land case study has been so salient in this report. It is to be hoped that within a few years we will have a number of diffusional studies by other Australianists who have specialised in different regions, so that we will be in a stronger position to generalise concerning the nature of linguistic diffusion (and of historical linguistic processes generally) in this continent. At that point the full significance of Australia for diffusion theory will become clear.

It is already apparent, however, that Australia will have much to say about the future of diffusion theory. The latter can only develop properly in the context of a broader historical theory which includes the traditional comparative method for genetic reconstruction. In Australia the comparative method holds great promise, for reconstruction within small subgroups and also (notwithstanding frequently-heard disclaimers) at the Proto-Australian level. This is also true of several other language families, but in addition to this Australia
is almost unique in the extent of diffusion it has permitted across well-established language boundaries. This is probably due to its nearly unique demographic patterns, but whatever the reason Australia will be an important laboratory for investigating historical dynamics.
NOTE

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1. INTRODUCTION

1.1. Preliminary Note

The situation regarding the origin and history of language in Australia is closely linked with the origin and history of the Aboriginal people themselves, and in any detail it is probably just as insoluble. It may indeed be more so, because language does not leave the same sort of tangible traces as cultural objects and skeletal remains. The purpose of this paper is to make suggestions as to what happened linguistically during the forty thousand or so years that the Aborigines have been in Australia. This period is much longer than the known history of human speech anywhere in the world. If linguistics as a historical science depends on documentation, then the situation for Australia is serious because there is no documentation prior to the arrival of white men, and much of what there is from the earlier stages of colonisation is very poor and quite useless for historical purposes.

A paragraph of O'Grady's contribution to this volume probably summarises truly the situation regarding the linguistic problem. There he says: 'The linguistic situation in Australia 15,000 years ago can presumably in no way ever be recovered. Whether there were fifty languages spoken at that time or five hundred, none of us living can ever know.' There may have been five hundred languages, more or less, spoken when Captain Cook first caught sight of the continent. Many have since disappeared, and hardly any of them was recorded before they disappeared, at least in a way that would satisfy the modern linguist. One thing, however, is certain: there was great variety among them. Do they represent one family or more? That is the question which this paper seeks to investigate, although only in mere
outline. The answer would appear to be 'No'. The question then remains: 'What are the relations between the languages?' That is the purpose of this paper: to give such an answer as the known facts indicate.

Quite early in European acquaintance with Australian languages it became clear that there was much diversity among them. Moorhouse in his study of Murundi, published in 1846, began to point out common structural elements among them, including ten common points: (1) suffixes or particles added to the terminal parts of words to express relations; (2) dual forms of substantives, adjectives and pronouns; (3) limited terms - only five - for time, distance and number; (4) no sibilant consonants; (5) no articles; (6) no auxiliary verb - by which he meant the verb 'to be'; (7) no relative pronouns; (8) no prepositions; (9) no distinctions of gender; (10) no distinct forms of the verb to express the passive voice. Subsequent study has disproved some of these points, such as the absence of gender, but the bulk of them are correct. The typological study of Australian languages thus began quite early after contact. Although wider study modified Moorhouse's list, for 1846 it was an unexpectedly good attempt to relate the languages then known - those from 'Swan River, Port Lincoln, Adelaide, Murray River, Encounter Bay, and New South Wales (Awaba)'.

During the remainder of the nineteenth century, a number of views were put forward as to the origin of the Australian languages, always on the assumption that, in spite of the obviously great variations between them, they did form a unity. These views were briefly but adequately summarised by S.H. Ray (Ray 1907a:512-16). There are four of them: (1) the African theory; (2) the Andaman theory; (3) the Dravidian theory; and (4) the Papuo-Dravidian-Malay theory. There is no longer any value in outlining these theories except for antiquarian purposes. Each quite unscientifically compared a few features, either of vocabulary, structure or typology, but produced no evidence of regular morphological correspondence. Typological resemblances between the prefixing languages of the Northern Territory and Northern Kimberley and those of the Bantu languages of Africa were pointed out by Capell (Capell 1951) but he did not suggest that there was any genetic connection. After all the discussions, the Australian languages still stand apart as a separate family, not connected, it would seem, with any other, unless New Guinea has anything to offer, and this has not been shown. There are extraordinarily close structural features and occasional morphemic agreements between the
Northern Kimberley languages and those of Burushaski of North-west India, but again, apparently nothing which can be built on.

Quite apart from the usual technical questions of what constitutes a relationship between languages, there is a problem peculiar to Australia, which was raised by Dixon (Dixon 1970a:653ff.) and elaborated by Wurm (Wurm 1970:9ff.). Both authors have shown why a special criterion of judgement needs to be raised for Australian languages. This criterion modifies the term 'language family' to 'family-like languages', and introduces the term 'phylum-like languages' in place of 'phylum'. Dixon discussed special difficulties in regard to tribal 'splits', and this must be taken as the background thinking in the present consideration. Suggestions made by Elkin (Elkin 1970) must also be taken into account.

Dixon's axioms are best summed up in the present setting. In general, the relationship between languages is to be sought along the established lines of historical comparative linguistics. However, where, as in Australia, there is no diachronic evidence, it seems necessary, in part at least, to follow other principles. What suggests the original unity of Australian languages is their remarkable agreement in phonology - of which more later - and a certain amount of agreement in structure and vocabulary. The last factor, however, varies immensely even over short distances, whereas words can be compared from one side of the continent to the other, almost like the remains from a lexical bomb explosion.

Vocabulary always supplies certain dangers, and in tracing its evolution there is always the danger of jumping to false conclusions because of 'obvious' resemblances. It is especially necessary to guard against this when material is insufficient, diachronic information is absent and time depths are great. By way of illustration, one comparison that first tempted the writer is worth mentioning. Certain linguistic groupings in north-eastern Arnhem Land are known as mada (R.M. and C.H. Berndt 1964/8:63 and passim). In south-western Australia two moieties existed, named Marntjaŋaŋ and Waŋaŋmaŋaŋ. The suffix -maŋ naturally tempted identification with mada. In north-eastern Arnhem Land (NEAL) mada is tongue both as organ and as language. This is one of the rare failures of CA *dalanj to penetrate, though it could, of course, have been lost in modern times through word taboo. But in south-western Australia, maŋ is leg, foot (in place of CA *dinaŋ), extended to way, path as a totemic mark. Hence the two names are different and, semantically, the south-western word corresponds better to NEAL mala, group, clan. Unless a correspondence could be
established between south-western \( \xi \) and NEAL 1, there could be no connection; the fact that this error was not made is due to timely enquiry and the guidance of Mr W.H. Douglas.

This is a type of danger that will always be particularly close at hand in the pursuit of the linguistic history of Australia. Of course, the ideal way to trace linguistic history is by pair-by-pair comparison of languages. Over the whole of Australia this method presents enormous difficulties, and either the whole effort to trace the history must be abandoned or risks must be taken.

There is another feature in Australia which also makes the application of the procedures of Indo-European linguistics difficult and, in some features, impossible. This is the fact that relationships among languages depend far more on structure than on vocabulary, for reasons which can best be set out in the words of Dixon and Crowley (1979):

'It if the speech of two tribes is so similar that it is most economic to write a single overall grammar, with notes on grammatical differences then we may say that the two tribes speak dialects of a single language. If, on the other hand, the grammars differ so much that it seems simpler to write two separate descriptions, then we say that there are two different languages involved.

'It has been shown that the methods of lexicostatistics (which assume a very low rate of borrowing in the case of 'core' vocabulary) do not apply in Australia; Australian languages appear to borrow all types of words with equal facility. If two rather different languages come into contiguity, they will borrow back and forth until the common vocabulary makes up about 50\% (in practice, say 40-60\%) of each other's total vocabulary. If one tribe splits into two new tribes, each will taboo and replace words independently of the other, and the percentage of common vocabulary will steadily drop, until it reaches the 50\% 'equilibrium' level. We assume that the considerations also apply to Tasmania....

'The only sure criterion for telling whether two tribal 'dialects' do belong to one language is morphological and syntactic similarity. It is, however, possible to draw some tentative inferences concerning language groupings from consideration of percentages of common vocabulary between two dialects: (1) If two contiguous dialects have more than 60\% vocabulary in common, they are likely to be genetically closely related. In these cases the grammars of the two dialects will
be very similar.\(^1\) (2) If two contiguous dialects have less than about 40% vocabulary in common, then it is probable that they are not closely related genetically, but are dialects that have recently come into contiguity and are currently building up their common vocabulary by mutual borrowing. We would in this case expect the grammars of the two dialects to be markedly different. (3) If two non-contiguous dialects have more than 40% vocabulary in common (a smaller figure would be significant if they were separated by a number of other dialects), then they are likely to be genetically closely related. Again, we should expect their grammars to be rather similar.

'It should be noted that, in all these cases, lexical comparison can only supply hypotheses of relationship, which must then be checked by detailed grammatical comparison. We cannot make any firm inference concerning dialect relationships from lexical data alone.'

1.2. Characteristics of the Languages

The modern Australian languages have the following characteristics:

1. A common phonemic basis. In passing it is only necessary to remark that this feature can hardly be explained from any idea except that of a common origin. There is just the possibility that it may result from a sort of common denominator reached by speakers of originally divergent languages, but this is unlikely. In the field of Amerindian linguistics, Mary Haas has demonstrated the possibilities of such a 'long term' derivation of languages (Haas 1969).

2. Structurally the morphologies are of two chief types: (1) suffixation only, and (ii) prefixation, with retention of suffixes for some features. This dichotomy is noticeable chiefly in the verbal systems. Prefixing languages mark subject and usually object pronouns by prefix, but tense, mood and voice by suffixes. In this group are included the noun classing languages and most of these use prefixes to mark the class of the noun; if number is marked at all, it may be done by prefix or suffixes according to the language.\(^2\) There is also another

\(^1\)In Australia itself this does not necessarily hold. There are several examples of neighbouring languages closely alike in vocabulary, but one of them has noun classes, with the concomitant grammatical markers, while the other does not. In Arnhem Land, Jiwadja-Mawng, Jilngali-Nungali, Ridarngu-Ngandi are three sets of such languages. A. Capell

\(^2\)Reference should be made to the paper on noun classification in Australia, in this volume.
kind of subgrouping possible - that between languages which use auxiliary verbs and those which mark all the features otherwise supplied through auxiliaries by means of the direct verbal stem inflection or the use of adjuncts to the verb. The classification of verbs in Australian languages is discussed in another paper in this volume. The two subgroupings cross each other, and each was presumably developed within the continent rather than brought in by different movements of peoples.

3. Syntactic arrangements are not critical for Australian language subgrouping. From a primitive freedom of arrangement the tendency has been towards fixation and, especially, to a Subject-Object-Verb (SOV) structure.

4. Vocabulary varies widely from language to language. There are certain words which appear to be continent-wide. One group of these has been classed as CA. Others are now appearing in various regions - regional vocabularies, such as those of Dampier Land - and some of these are found in far separated areas of the continent, such as Kimberley-Arnhem Land and western Victoria. These seem to belong to an EA stratum and to have been scattered by later movements of CA speakers: more will be said of this in the discussion of vocabulary later in this paper. Difficulties in tracing vocabulary in Australia were discussed in the previous sections; another arises from word taboo, by which words resembling names of the dead are avoided - at least one instance of avoidance of the pronoun for me has been discovered operating since the early 1950s (O'Grady and Voegelin 1966:142). The fact that there is no definite system for replacing such lost words makes linguistic development harder to trace. There are also kinship vocabularies, such as the commonly-called 'Mother-in-law' vocabulary; in the past also there were secret languages used during the initiation period, and there are still song languages which are far from fully known or analysed.

Within the feature of structure, two important items need to be contrasted. Some languages do not mark the subject of a transitive verb but they do mark the object, especially if it is a pronoun. Other languages leave the object unmarked, but mark the transitive subject by a suffix, producing what is usually called the 'ergative' case. These languages are called 'ergative languages', and they embrace the vast majority of Australian languages. The 'nominative' or 'non-ergative' languages occupy a region which stretches along the north coast of Western Australia, through the Northern Kimberley districts, over most of Arnhem Land, and the islands in the Gulf of
Carpentaria. It has usually been thought that ergativity is a mark of the CA languages, borrowed into the other type languages thus reducing their number greatly. This proposition now seems somewhat unsatisfactory, if only because ergativity is not a feature that is likely to tempt borrowing: it means the complete reconstruction of the verbal system of a language, including the abolition of a passive voice. The subject will be discussed below in 4.1.

Another type of classification used by the present writer (Capell 1965) is the one he has called 'A Typology of Concept Domination'. As applied to Australia, this has been outlined by Wurm (1971:746ff.). It is based on entire utterance pattern. Instead of breaking down the utterance into two sections under the names of subject and predicate, it is looked upon from the viewpoint of deep structure. Here it is possible to think of a linguistic entity as consisting of something spoken about - its condition or nature - and some state or activity in which it is involved. Thus:

Deep structure (DS) may ultimately be no more complicated than this, which is a functional sentence perspective (FSP). Expansion of each rectangle produces surface structures (SS) which vary from language to language according to the kind and nature of the expansion. It is at this stage that languages actualise DS in different ways, placing the emphasis on one rectangle or the other. The ways in which these different emphases are placed then determine the nature of the language. The following are the three obvious ways:

(a) Some languages develop the S/A rectangles, leaving E relatively undetermined. Such languages may be regarded as 'event-dominated' and the process is then 'event domination' (ED).

(b) Some languages develop the E rectangle and leave the S/A rectangle largely undeveloped. Such languages are 'object-dominated' and the process is called 'object domination' (OD).

(c) Some languages develop all or most of the implications of each rectangle more or less equally, and such languages are 'doubly dominated'. This process is called 'double domination' (DD).
In the (a) group, state/action becomes refined in terms of voice, aspect, mood, tense, etc. though no precise order of historical development can be laid down. In fact, languages may change group in the course of their history.

In the (b) group, the 'entity' becomes defined progressively in terms of distinctions such as animate-inanimate, masculine-feminine-neuter, noun classification. Again no logical or historical order of development can be laid down: languages differ.

The formal interaction of part with part, commonly known as 'concord', is an attempt to classify the role of each part of the utterance - what refers to what within it - and again, languages differ as to the demands they make on the formal distinction of such roles. Concord may have wide effects not only on the morphological level but also on the discourse level, and may reach any degree of complexity or explicitness on any one of these, using the phonological level as the instrument by which the end is brought about.

(d) Moreover, there are languages that make only the minimum differentiation necessary for clarity of expression on both the E and the S/A sides of the utterance: English is one such language, and here 'domination' is almost neutralised. Such a process can be called 'neutral domination' (ND) and it is evidenced in Chinese and other 'isolating' languages.

All four types of language are found in Australia, and all the evidence to date suggests that there has been a kind of ascending complication from ND to DD in this continent. The following Table summarises areas in which each type of domination obtains:

**A. NEUTRAL DOMINATION**

No elaboration of morphological features; no noun classes; no indication of person or number in verbs; on the level of syntax, seek development of subordinate clauses. Type languages: Gadhamp, Galgadungu, and the Wik- and Gugu- languages as a whole (with some individual modification of degree).

**B. EVENT DOMINATION**

The chief elaboration is in the verb, where tense forms may be numerous and pronominalisation begins to appear. There are numerous subtypes of this group which may be set out as follows:

**B. 1** Tense and number are indicated in the verb but person is not marked within the tense. Type language: Aranda.
B. ii  Person is marked in addition to tense and number. Type languages: Ngunawal (NSW), Woywurung (Victoria).

B. iii  Person markers used with verbs are also used with other categories, chiefly as possessives with nouns. Type languages occur in Victoria, but there are also influences from B. v.

B. iv  Subject and object pronouns are incorporated into the verb complex. Type language: Wardaman.

B. v  Languages are rather heavily pronominalised; their chief characteristic is the transference of verb suffixes of person and number (subject and object) to the head word of the clause. Subdivisions within B. v are:

B. v (a) Pronoun subjects and objects are free forms but syntactically conjoined with each other. Type language: Narrinjeri (Yaralde).

B. v (b) Transfer of subject and object suffixes takes place regularly. Type language: Bidjandjadjara. There may also be sentence medial as well as sentence final forms within the verbs.

B. v (c) Transfer is made only if the tense is non-past, but sentence medial and sentence final forms occur. Type language: Waljbiri.

B. v (d) Catalytic particles are used to carry the markers instead of their being transferred to the end of the clause. Type language: Mudbura.

C. OBJECT DOMINATION

There is more elaboration of nouns than in Groups A or B. Noun classes may occur, leading finally to class forms within the verb as well as within the noun phrase. Subgroups are:

C. 1  Nominal systems are more highly developed than verbal systems; neither is morphologically complex. Type language: Diyari (Dieri).
C. ii Further object domination is exhibited in nouns and pronouns. Type language: Gubabwiynju.

C. iii Noun classes are usually two only, with object incorporation (pronoun) in the verb. Type language: Gidja.

D. DOUBLE DOMINATION

Noun classes are present in most of these languages, and they are marked also within the verb complex. They are mostly prefixing languages. The subgroups are:

D. i Noun classes are present, marked by suffixes, and there is concord with all words in the NP, but not yet in the verbal object. Type language: Wagaya.

D. ii Noun classes are marked by prefixes; although concord is present, noun class affects object but not subject of verb. Type language: Ngarinjin.

D. iii The prefixes of noun classes, with concord, reappear in both subject and object of the transitive verb (as in Bantu languages). Type language: Mawng.

D. iv Similar to D. iii, but crossed by a system in which sex of the actor or goal is additionally indicated as a suffix to the verb complex. Type language: Gagadju.

D. v No noun classes but the tense of the verb (past vs. non-past) exercises control over noun and pronoun subject, and in one case, object also. Type language: Bidabida (Pittapitta).

In the present issue, the treatment of the languages will not be based on this analysis for practical reasons regarding historical research, but it is hoped that in a subsequent work this approach may be developed in greater detail.

As a rule, Australian languages do not mark gender. A few have developed pronouns of the third person singular in which masculine and feminine are distinguished. The suffixing languages as a whole, however, pay little or no attention to gender, but the prefixing languages distinguish noun classes, usually between two and six of them; these are 'grammatical' rather than 'natural'. They would seem to have begun by grouping nouns under certain class headings, and
marking the class by a free morpheme. This happens in some of the present-day Cape York (CY) languages, in a form rather like the classifications made by modern naturalists for plants and animals, and it shows that the principle of classification was developed within Australia, however much it may resemble those of Burushaski or the Bantu languages. Details of this aspect of Australian languages are given in 'Grammatical Classification in Australia' in this volume.

True prefixing languages are illustrated most fully in those of the Northern Kimberley Division of West Australia, where (i) a noun belongs to one class and (ii) a system of concord is involved throughout the clause and any dependent clauses. The elaboration may vary to almost any degree. One example from Ngarinjin in this subgroup will illustrate the principle:

\[
\text{ma-rolale m-inda m-} \text{amer wo: m-} \text{uwan-e:ri-narl mRa}
\]

\[
\text{river this big flowing it-do-CONT-which seeing}
\]

\[
\text{mu-} \text{o:-ni}
\]

\[
\text{it-I-do-PAST}
\]

The class marker is \( m(a) \)- and the whole sentence means \( I \; saw \; this \; big \; river \; which \; is \; flowing \). They are geographically scattered and numerically a minority, so that it can hardly be claimed that they represent a genetically related group within Australia.

Yet the principle of noun classification is not limited to these and the CY languages. A few such languages are found about the Atherton Tablelands in North Queensland, and others on the Barkly Tablelands in the Northern Territory and Western Queensland — in fact that it is noticeable that they tend to occur in high areas, though this may or may not mean anything historically.

The majority of the languages are suffixing, and occur throughout the Continent. They fall into a number of subgroups and a great variety of types. The types which occur in some parts of Australia are set out in Table 1. This table is based on a formula for the sentence, as defined by Hockett: 'A sentence is a grammatical form which is not in construction with any other grammatical form' (Hockett 1958:199). As there is no theoretical need here for any particular analysis, the common shape is taken for granted, i.e. a sentence may be pictured as

\[
\pm \; \text{subject} \; + \; \text{predicate} \; \pm \; \text{object}.
\]

In the intransitive sentence the object is not present; in many Australian languages also there may not be a separately expressed subject, so that \( + \; P \) becomes the only necessary element of a sentence.
### Table 1: Types of Sentence Structure in Australian Languages

<table>
<thead>
<tr>
<th>(Subj.) Noun Phrase (S)</th>
<th>Case</th>
<th>Number - Singular dual, (- trial) plural</th>
<th>Class</th>
<th>Possession</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Nominative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ergative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No system</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dual system</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multiple classes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Separate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suffixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prefixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Pred.) Verb Phrase</td>
<td></td>
<td>No link with S or O</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attention to S only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Link between subject and object within verb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Obj.) Noun Phrase (O)</td>
<td></td>
<td>Noun separate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Noun incorporated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pronoun separate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pronoun incorporated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Ext.) Extensions</td>
<td></td>
<td>Adverbial phrases located according to rules of individual language</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1Note: This does not imply SVO order. Such may occur, but SOV appears to be basic to these languages.
1.3. Structural Development of Australian Languages

Detailed analysis of the modern Australian languages, such as that which lies behind the present study, makes it possible to suggest certain stages of morphological and syntactic development through the millennia, though the order in which it is suggested that these took place may need adjustment.

Everything points to a structurally simple proto-language, and this may be said without deciding the question already raised about the unity or plurality of the language or languages classed here as EA. EA is a sort of legal fiction, in view of the historical situation which confronts the investigator. In fact, more than one 'original' language may have reached Australia at approximately the same time. There is no contradiction in such a suggestion, seeing how little is known of human speech as far back in time as the view of Australian archaeology requires. The view that language was originally holophrastic and has been simplified into analytical types has no historical facts to back it. It is here assumed that language began in a simple form, gradually grew more complicated, in different areas and at different times, and that within historical times there have been tendencies to structural simplification in languages, such as Indo-European. In Australia there is no positive evidence (see Taulli 1958, passim).

Assuming, then, that at the stage represented by 'proto-Australian' structure was simple, it may well follow that there was considerable freedom in syntax. In fact, in quite a number of languages such is still the case. A sentence of six words can be arranged in six ways. There would be difference in emphasis, no doubt, in each case. There could be difference in meaning also: a subject might well be taken as object, and in this situation a means of distinguishing the two would be developed. Syntactic clarity might well need morphological complication. Once this set in, there could be development in any direction at all, and this would seem to be roughly what happened. How far it can be traced at present remains to be investigated. First, however, must come an investigation of the processes of sound change, as far as these can be traced.

2. HISTORICAL PHONOLOGY

2.1. Preliminaries

This paper will deal as briefly as possible with the nature of Australian consonant and vowel sounds. The present study is not a
Map 1: Phonological Traits, Occurrence of Less Common Phonemes (after Dixon, 1972)
'practical introduction to Australian phonetics', but a theoretical study of the origins and development of the languages as a whole. It is not necessary to say much about the phonetic level at all. The normal subdivision of sounds into consonant, semivowel and vowel obtains here as in other forms of human speech. So far as the historical study is concerned, a warning is needed: in tracing the history of language in Australia it is not possible to follow the strict method of demonstration that has been possible in reconstructing proto-Indo-European (PIE), nor even the degree of strictness that has been possible in some reconstructions of proto-Amerindian languages. In America, as in Australia, there are no earlier stages of language available for comparison as stepping stones, but in Australia there is the added difficulty of the time depth. Since demonstration as clearly as in PIE is impossible, impression or intuition must at times be allowed a voice, even if this is not strictly scientific.

Even so there are difficulties. 'The Neogrammarian's absolute regularity of sound change is untenable, and this has always been recognised in practice by most investigators. The French phoneticians and the Finno-Ugrian linguists have, in fact, suggested that the notion of the sound 'law' has to be downgraded to a 'tendency' only. In any case, it is the regular aspect of sound change that gives backbone to general linguistics, no matter how much the slipped discs of sporadic change may annoy the linguists' (Anttila 1972:85).

Not only is there difficulty in determining the primal sounds at this length of time, but semantic problems arise also as regards identification of words. In PIE reconstruction, some elasticity of semantic identification is accepted. In the original lexicostatistics of Swadesh, identity of meaning as well as comparability of form was insisted on. English dog and German Hund are obviously not cognates, yet the existence of English hound and German Dogge, 'mastiff' was not allowed for comparison: hound--→ Hund and dog--→ Dogge were rejected and the percentage of cognition was to that extent falsified.

In classical philology this principle of identity of meaning was not accepted as a criterion of cognition. If it had been, such counts would often have been substantially lowered. Of course, meaning is more static than form, but allowance must be made for meaning changes where origins can be traced and the processes of semantic change understood. In Australia many words exist that are obviously related while their meanings diverge greatly from language to language. Alternatively, a large number of homonyms must be accepted, but this
is to be avoided as far as possible. Thus, what is clearly the same root - *gadja - appears not only as elder brother but as mother (*ga:dja in proto-Paman [Hale]) and as father (gadja in Gugu-Badhun [Sutton]). The relation between this and *gaga, mother's brother in Garadjari and other languages, also requires some untangling. Again, Ngayarda *balgara, clear space (O'Grady) may link with balgara, smooth, bald and/or palara, clear space in Gugu-Badhun. How far semantic difference is to be accepted without invalidating an identification is sometimes a difficult question to answer.

The allowable limits of phonetic change also require consideration in languages which, like the Australian, have no diachronic documentation. Thus *wali, bad (O'Grady) appears in Cape York areas as walwa (Gugu-Badhun) and *waru (Hale, proto-Paman). Changes of final vowel between EA and the modern languages often seem considerable - in fact, it has been said for Australian: 'take care of the consonants and the vowels will take care of themselves' - but the insertion of -w- raises difficulty. Yet in the Northern Kimberley, Ngarinyin has -alwa, bad, to which noun class prefixes may be added and the result is w-alwa for the Class IV form in that language!^1

These few considerations light up the nature of the general problem of sound correspondences. The nature of the sounds themselves in these languages must now be considered.

2.2. The Australian Sound Systems
2.2.1. The Consonants

Australian languages share almost identical sound systems everywhere on the continent, both in the sounds present and those that are lacking. Sibilants are lacking, fricatives are few, and often only allophones of plosives. The first problem is found in the nature of the plosives themselves, no matter what their position along the line of formations within the mouth.

As stated by Dixon, it is probably enough to say that 'voicing is not normally phonologically significant' (Dixon 1972:2). The plosive sounds belong, that is to say, to the group that has earlier been called 'devoiced' and later 'voiced lenis'. It is this that led the present author to use the symbols b, d, and g for the three chief members of the series; others have preferred to use p, t, and k. The latter set is satisfactory in languages where there is no distinct

^1There is a chance that this stands for *wa-wali-wa, as some of these languages have class marking by simultaneous prefix and suffix.
voiceless set, but the former have been retained here; these seem to allow for a more simple transition to voiced sounds in such combinations as nasal + plosive: \( mb \) rather than \( m+p > mb \). In a number of languages there seem to be two sets of plosives, but there is, as yet, no agreement as to whether or not it is really a contrast between voiceless and voiced, nor does it seem to have importance for historical research. It would seem that Australian plosives were originally voiceless, or perhaps they were actually of that acoustically intermediate type that was noticed even by the untrained first settlers at Sydney in the 1790s.

The places of articulation of plosives also vary in different languages. O'Grady set out as the maximum series six places of articulation for plosives, with nasals corresponding to each.

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Lamino- dental</th>
<th>Lamino-palatal/ alveolar</th>
<th>Apico- alveolar</th>
<th>Apico- (retro- flex)</th>
<th>Dorso- velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>b</td>
<td>d</td>
<td>d'</td>
<td>d</td>
<td>d'</td>
<td>g</td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td>n'</td>
<td>n</td>
<td>η</td>
<td>η'</td>
</tr>
</tbody>
</table>

The series is often labelled bilabial, interdental, alveolar, palatal; retroflex, velar (in the order \( b,d,d',d,d,g \)). For \( d \) the digraph \( dj \) is frequently used for ease of printing (and this is done here). No argument as to the exact phonetic realities of the plosive series is needed; the question is unsettled, and for historical purposes it does not have to be solved. It will appear that there has been a process of amplification in the series of sounds; that EA probably had only bilabial, alveolar, palatal and velar sets. Modern languages have 4, 5, or 6 places of articulations, and in some areas a series with nasal release (e.g. Aranda \( βmRa \), \( camp \) or \( pmaRa \) if the other orthography is preferred. These releases are sometimes written as capitals \( (BaRa) \). The modern Western Desert languages show considerable interchange between interdental, alveolar and palatal within the same word - not confusion: it is local variation - and similar uncertainty in other areas suggests that these distinctions were not originally phonemic and probably not made.¹

¹A detailed study of Australian laminal consonants is to be found in Dixon 1970b, and this highlights the difficulties surrounding the study of these non-peripheral sounds. Perhaps the fact that they are non-peripheral helps to account for their
The orders of consonants in Australian languages generally are plosives, nasals, liquids (\(l\) and \(r\) sounds, sometimes referred to as laterals and vibrants or rhotics) and semi-vowels. The latter are reductions of the vowels /\(u/ and /\(i/.

The suggestion for a PA consonant table (presumably EA: CA seems to have set the complications going) would then be:

<table>
<thead>
<tr>
<th>Plosive</th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal</td>
<td>b</td>
<td>d</td>
<td>g</td>
</tr>
<tr>
<td>Lateral</td>
<td>m</td>
<td>n</td>
<td>q</td>
</tr>
<tr>
<td>Semivowel</td>
<td>w</td>
<td>l, r</td>
<td>(w)</td>
</tr>
</tbody>
</table>

The double inclusion of \(w\) reports the phonetic fact that it involves lip-rounding as well as similar back of tongue raising. The symbol /\(j/ answers to English 'y'; the capital /\(R/ is the untrilled continuant 'r' of southern English run, somewhat retroflexed. This sound is so common - and phonemic - in Australian languages as to justify reckoning among primitive sounds.

If a general alveolar series is accepted as PA, the question of the development of the present more complicated sets of sounds has to be faced. The laminal series is the most complicated. Of these, Dixon (1970b:92) decided that the original phonological system contained a single set of laminals: 'although allophones may have been redistributed....Modern double laminal languages have generalised on the proto-Australian patterns'. Lamino-palatal sounds have been introduced before \(i\) and lamino-dentals before \(a\) or \(u\), in his opinion. There is, however, a more natural tendency to introduce laminals into palatal sounds before a high front vowel, as happens, for instance, in most Slavonic languages. At what stage retroflexion took place it is difficult to say. O'Grady (1966) shows in the Ngayardic languages a contrast of /\(pant\)/, sit with /\(paŋt\)/, smell something. The former would seem to be limited to that group (PA root is *\(njin\)-, sit); the latter is found also in Dampier Land, Yugulda and Ngamini, the first being near Broome, Western Australia, the second near the Gulf of Carpentaria in Queensland, and the third in east Central Australia. O'Grady has also *\(paŋa\)-l-, shine, of moon, Warmman and Julbaridja

historical instability. Dixon's map of distribution (p. 81 of article) is valuable in this connection.
banjal, as against *baña, head, Njangumarda bananj, reef — though the semantic change makes some difficulty here. There is the possibility that the complication of the series may be ascribed to the CA stage but at present no assertion is being made about it. The question of /nj/ as a member of the original pattern has also to be considered. The stage then might be:

<table>
<thead>
<tr>
<th></th>
<th>d</th>
<th>d</th>
<th>nj</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.</td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.</td>
<td>.</td>
<td></td>
</tr>
</tbody>
</table>

with change of class of /nj/ as other palatais developed; a series of retroflexes developed pari passu, but in which stage remains uncertain.

The possibility cannot be dismissed that retroflexes do represent a development of an RC and RC cluster. This has been argued (e.g. Oates 1967) and Osborne (1974:10) is able to show cases in Tiwi where R + V becomes ɨ when the vowel is replaced inflectionally by a consonant, e.g. mwarina, daughter / mwaqı, son. To make these instances into a general historical law would require more study than has been done.

For the purposes of the present study it is easier to use an arrangement of the phonemes differing from that used in the previous Table, viz. that originally suggested by Jakobson and Halle, according to which consonants are divided into peripheral and non-peripheral categories, or 'central' as the non-peripheral will be called here. Sufficiently detailed arrangement can be gained without using the acute/grave distinctions. The resulting Table of sounds will then look as in Table 2, which I owe to conversation with Dr C.L. Yallop of Macquarie University, New South Wales, Australia. It was applied by him to Aljawara of the Arandic Group: see also Harms (1968:31,37).

Table 2: Australian Consonants as Peripherals and Centrals

<table>
<thead>
<tr>
<th>PERIPHERAL</th>
<th>CENTRAL</th>
<th>PERIPHERAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plosive</td>
<td>Bilabial</td>
<td>Dental</td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
</tr>
<tr>
<td>Lateral</td>
<td>r</td>
<td>ɾ</td>
</tr>
<tr>
<td>Rhotic</td>
<td>w</td>
<td>R</td>
</tr>
<tr>
<td>Continuant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Alveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>d</td>
<td>ɹ</td>
<td>ɹ (dj)</td>
<td>g</td>
</tr>
<tr>
<td></td>
<td>η</td>
<td>η (nj)</td>
<td></td>
<td>η</td>
</tr>
<tr>
<td></td>
<td>!</td>
<td>! (l̥)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>y (j)</td>
<td></td>
<td></td>
<td>η</td>
</tr>
</tbody>
</table>
Table 2 allows for the full development of the laminal series as discussed above. So far as PA is concerned, the nasally released series can be overlooked: it is more circumscribed than the laminal expansions. Table 3 shows a three-dimensional arrangement of Australian sounds.

The particular advantage of this arrangement is that it allows the rather peculiar historical series of sound changes (to be discussed later) to be easily tabulated. These three methods then supply a likely historical commentary in diagram form on the complication of sound systems within Australia, applying to all groups of languages. For further discussion see Capell 1956/1962:6-7.

Table 3: Three Dimensional Table of Relationship between Members of the Australian Consonant System

2.2.2. The Vowels

The matter of Australian vowels is more complex than the consonants, chiefly by reason of the distribution of two kinds of vowel systems in the present-day languages - one working on a basis of four or five phonemic vowels, the other on a basis of three; in each case there are a number of allophones involved. The two types of consonant system may be schematised as follows:

1.  

2.  

The distribution of the allophones differs in each case, partly from language to language, partly from system to system. In addition, it is sometimes difficult to decide whether a given vowel is phonemic or not. Occurrence of schwa (ə) and (ə) are particularly hard to place. Fortunately, the present study does not involve decisions concerning the allophonic types to any great degree.

The question that is important here is: which of the two systems is the earlier? This is perhaps ambiguous as a method of framing the question. It could also be framed in the form: does the three-vowel system derive from the five-vowel system, or vice versa, or is each historically independent of the other? It is a specially important question because there is no corresponding dichotomy of languages on the basis of consonants. The consonant system is practically the same everywhere, but the vowel system is not so. The consonant system seems to have expanded over the millennia: might not the vowel system have done the same? In which case, the five-vowel system would be the result of an expansion of the three-vowel system. There are languages in which /ɔ/ does not occur, at least as a phoneme, i.e. there are phonemically four-vowel languages. This is so in parts of Victoria, and in Dampier Land, Bard seems to show /ɔ/. In Central Australia, Aranda has /ɛ/ as a phoneme and /ɔ/ is subphonemic, but in these languages there may be limitations on the occurrence of the vowels. In Aljawara, /ɛ/ appears between a palatal consonant and a following /r/ or before /r/, while /ɔ/ precedes the labialised velar /gw/.

The distribution of the five-vowel languages is as follows:

1. Extreme south-west: Njunghar, about Perth.
2. South: in South Australia from Banggala eastwards including Adelaide and the Murray Basin.
3. In Victoria: very generally, both east and west, including Gippsland, though /ɔ/ is sometimes not present as more than an allophone of /u/.
4. New South Wales right to the Queensland border: coastally and inland, including practically all the languages east of the Darling River.
5. North Queensland (Cape York): Thayorre, Mungkan, and some other languages.
6. Throughout Arnhem Land and the Northern Kimberley: only the north-eastern 'Yulngu' group has three vowels.
7. The Torres Straits languages, both Australian (west) and Papuan (east).
8. Central Australia: the Aranda languages.
When these areas are plotted against certain grammatical and vocabulary features, the whole appears to agree quite well with the archaeological chart of the oldest finds in Australia (Jones 1973:278). They present a somewhat marginal appearance in the sense of the Bartoli School of Areal Linguistics. The bulk of the languages will be shown to present archaic features and the total impression is that the five-vowel languages belong to the EA rather than the CA groups. The considerable range of allophones in the modern languages could have resulted from the adaptation of three-vowel languages to a five-vowel system which preceded them in a given area. In a language such as Aljawara, this type of incompatibility is especially noticeable. Certain features in syllable structure, to be mentioned below, seem to belong in this setting as well.

Allophonic variations of the five vowel systems may be set out in general terms in the following diagram. The conditions under which an allophone occurs vary somewhat among the languages, and do not concern the present account.

Details may be seen in such works as those of Strehlow (1944) for Aranda and Hercus (1969:32-40) for Wembawemba of Victoria, or Oates (1964:12-13) for Gunwinjgu in Arnhem Land. Consonant combinations are dealt with also in each of these works.

The allophonic variations in three-vowel languages are extracted from Capell (1967b:95ff.), where another type of diagram was used:

For the study of other phonological traits of Australian languages, general reference may be made to the same article and the attached bibliography. The diagram here differs from that of 1967, when it had not yet been recognised that the occurrence of /ɛ/ and /ɔ/ had historical importance and those varieties of /e/ and /o/ were not included in the printed diagram.
Questions of stress and intonation are outside the present study, but a word should be said about vowel harmony, which plays a considerable part in some of the three-vowel languages, particularly in the Western Desert and neighbouring parts of the Northern Territory. This follows in 2.2.3.

2.2.3. Other Phonological Features

Most of the other phonological features of importance in the description of a single language are language-bound and do not enter into the present study. Two, however, are germane to it; these are (a) initial vowel, and (b) vowel harmony.

(a) Some languages do not permit initial vowels, others do. In some cases, initial vowels arise from loss of original initial consonants. This is especially so in some of the Cape York languages and in the Aranda group. Thus, *ŋali, you and I, may become ali. It may be that in some cases where initial vowels are found, such a loss has produced them, but the fact remains that in Australia only a minority of languages permit initial vowels, and it would seem that the earlier Australian did not. Reference may be made to the detailed study of Olgolo by Dixon (1970c).

The question is of importance in the case of /i/ and /u/ as initials. In most instances, the phonetic structure of these vowels when word-initial is ji and wu respectively. In the three-vowel languages, this could suggest that initial /a/ might have arisen through loss of a consonant such as /ʔ/, but no opinion can be expressed on the subject at this point. In many vocabularies i- and u- are found written initially, but the on-glide must be taken for granted. In a few instances it is definitely not there. In the present work, ji- and wu- are written where such an on-glide is intended. The writer's feeling is that, in the early stages, initial vowel was not acceptable, as in Semitic, and some other languages. This is another feature that supports the idea of one original Australian - as indeed the whole phonological structure of the languages does, even while the divergences in vocabulary fight against it.

(b) Certain languages possess the phenomenon of vowel harmony. This is a mark of the Altaic and Ugrarian languages in Asia, but the Australian system is different, as was pointed out in an earlier paper (Capell 1967:99ff.). In the Asian instances, vowels are divided into two groups occurring together in certain sets. In Australia, vowel harmony applies to suffixes, as it does in Asia, though not to the vocalisation of the stem, as in some Altaic and Finno-Ugrian languages.
In Waramunga, gambadju-guna, of the father, but ɲamini-gina, of the cousin, and mina-gana, at evening. It is the final vowel of the base that determines the first vowel of the suffix. In Waljbiri there is ja-ni-lgi, and then goes, but ja-nu-lgu, and then went (Capell 1962:19). A most exceptional system is that of Djingili, where the vowel of the suffix determines that of the root, as in ɲadja-na-dju, I see her, but ɲidji-ɲinj-i-dju, we two see her, and ɲidji-ɲi-ɾi-dju, we see her (Chadwick 1968:227).

The languages that exhibit vowel harmony are nearly all spoken in the Northern Territory, and they are all three-vowel languages. The phenomenon is not found in five-vowel languages as so far recorded, and seems to belong to the heredity of the three-vowel systems.

In regard to the consonant structure of roots, there are certain other phonological matters that need to be considered. Briefly, these are as follows:

(a) The final consonants in Australian languages depend on laws proper to each language, not to the family as a whole. Some languages do not permit final consonants, others delimit which finals are permissible. Consonant clustering is not permitted initially, and in some languages also not finally, but in practically all they can occur internally. The most complicated final clusters are found in the languages of Arnhem Land and Victoria, and the general impression they raise is one of antiquity. Both these groups also are five-vowel languages. These languages appear to be archaic in other features also, and are classed here as EA. Most of the CA languages are phonologically simpler. Some languages which, on the evidence of vocabulary, appear to be basically EA are phonologically simpler and would seem to have been influenced by CA languages to the west of them. These facts will come out in the treatment of the word-store. Schmidt in his Gliederung (1919) paid considerable attention to the phonological patterns of words and, in each subdivision, set out what patterns occur in the languages concerned. Like his subgroupings themselves, however, these are only partially successful. Thus initial vowels do not appear in his South Central group, and only rarely along the Murray River. Final vowels are allowed in the South Central group except for Badjiri. Actually, if the subgroups are historically valuable at all, there is a broad division into

(1) languages allowing only -V, and

(2) languages allowing -C, but these can again be subdivided into
(2a) almost any consonant is permitted as final: this includes Arnhem Land and Northern Kimberley, Yaralde, Victoria in general and the Yuwin group in New South Wales, and

(2b) those that allow central consonants only - nasal, lateral and rhotic.

Here, however, some tend to lose -V, so that stops are allowed to be finals, as in the Perth area for example, and some others have -M by loss of final vowel. It therefore remains doubtful whether word structure has any real historical value in this sense, and the matter will not be expanded here.

(b) The five- and three-vowel systems, however, do seem to be of historical importance. In this matter, Australian languages present a neat contrast to the Semitic, in which scholars posit an original three-vowel system, later expanded to four, five or six vowels in different areas. In Australia, the dichotomy is clearly between the two types, and vocabulary distinction seems to correspond.

It is in the five-vowel languages that the more complex phonologies are found, together with the free use of initial vowels and final clusters of the types -rb, -lg, etc. These are quite impossible in the WD and other CA influenced areas. It seems, therefore, that the occurrence of these complex phonologies serves to mark off the EA languages in the continent. This does not, of course, mean that there is no CA influence in other areas of the west; in fact there usually is. To demarcate the two is one of the present problems.

2.3. Processes of Sound Change

If the phonology postulated as original to Australia is anywhere near correct, a process of elaboration has gone on during the earlier periods, and indeed is still in progress in certain areas such as the south WD. This is contrary to the general idea that languages tend to simplify. The idea is true indeed as regards structure, but not necessarily so as regards phonologies, and in Australia elaboration seems to have been the process. This needs to be looked at on the basis of reconstructed forms: what sounds are required to reconstruct forms that could easily have developed into those that are found today? Of course, this inductive establishment of a sound system must be worked out in reverse, given the fact that no diachronic information is to hand - a fact that obtrudes itself endlessly in Australia.

In these languages, transformations of consonants are easier to deal with than those of vowels - and more important as it happens - because
they are regular; even today there is considerable vowel variation at the phonetic level, especially where vowel harmony has come to play a part.

Consonants seem to interchange from language to language on the basis of their position in the scheme as peripheral or central. Peripherals tend to interchange with peripherals but not with centrals: /b/ will interchange with /g/ but not, for example, with /d/. Centrals tend to interchange with centrals, but not with peripherals. A glance at the wordlists given in other parts of this study will show many cases where such series of changes have taken place.

These may be regarded as the most common and regular sound changes. There are others, however, which are more restricted, in fact really determined. Such changes are not only interesting in themselves, but seem to have historical connections useful for the present purpose. Some have been studied by present-day linguists, and these need only be summarised here.

The most outstanding areas of the less common sound changes appear in the languages of Cape York Peninsula, and the Aranda Group. Some linguists, in fact, have suggested a closer relationship between these two areas, though it could, of course, be a case of parallel development.

One of the developments found in certain non-contiguous regions is the apparent development of two sets of stops. This could be of historical importance in Australia, but unfortunately there has been much argument as to the nature of the second set of sounds. It is not certain that the sounds in question exhibit the voiceless-voiced contrast. It has been suggested that the difference is one of tenseness rather than of voicing. Thus Sommer (1969:60) proposes a set p, t, k and another tenser set P, T, K to indicate the difference. This may well be right. The present author's experience in regard to Gubabwiynugu inclines him to this feeling. In this case, comparison of two sets of words in Gubabwiynugu and the closely related Gumadj of Yirrkala, showed that while one type of /g/ became /w/ in Gumadj, the other remained /g/. As remarked already, a change of peripherals /b > g/ is not uncommon in Australia, and /g > w/ is also common; exceptions appear to point to the second type of plosive. These two sets have been recorded in parts of Arnhem Land, including Djinang, but not only in the north-east, South Australia (Adnjamadhana) and Cape York (Gundjen and others). In each case they would seem to be local developments, as there is no contiguity factor present.
2.3.1. The Cape York Languages

Scholars have long regarded CY languages as standing well apart from those to the south of the Peninsula. At first sight, they look indeed, hardly Australia. It has been shown by K.L. Hale (1966), however, that given certain decidedly drastic sound changes, these languages can be fitted into the general picture. This section will summarise his findings and suggestions, and seek to fit them into the general historical pattern. Hale spoke first of a northern and southern subgrouping which he called the 'Paman' languages - a name based on *pama (bama), man as a common root. Elsewhere in the present work it will be shown that the root here is *baŋ, reduplicated as *baŋbaŋ and then becoming *bamba(ŋ) which appears not only as bama in this part of Australia, but also as wamba, wamb, amba, amb in the Dampier Land region of the Northern Kimberley Division. It is thus much more widespread than appears at first sight. It should be noted in passing that Aranda does not belong to this group, but shares a form adua, *baduŋ which may or may not ultimately link with *baŋ.

2.3.1.1. Northern CY Languages (Northern Paman or NP)

According to Hale (1966), these languages belong to the three-vowel group, and the theoretical word pattern is usually *CV(:)CV(C), with severe limitations on the structure of each segment. Initial C is not limited; the vowel following it may be long or short, the final consonant is, as a rule, resonant if it occurs at all, but in many cases it has been lost. The first great change was a shift of stress to the second syllable, whereby the first syllable was usually lost, but it has left traces of itself in the nature of the second syllable (Hale 1966:168ff.).

These changes point back to times when a root already had a fixed pattern, but the patterns are those which have already been recognised as PA in some form or other (i.e. before any distinction between EA and CA can be recognised). In Yinwum njdji, see, for instance, it is possible to recognise *nadjį, the nasal leaving its effect in the initial compound njdj-. But the commonest EA form is *na- or *nja-, without a second syllable. Yinwum njdji therefore has been developed from a later bi-syllabic root, in which an ending has been added to *na. That is to say, these NP languages would seem to be quite 'late' in their development: the second syllable of the root for see has already a history. As Hale puts it: 'it is clear from this example that the technical exposition of NP historical phonology must allow
for relative ordering of events' (Hale 1966:169).

In dealing with these languages, Hale has introduced the term 'lenition' for a process by which long V: has affected the initial stops (*S) and clusters of nasal and stop (*NS) immediately following, usually producing voiced fricatives. To this extent the usage is sufficiently like the better known usage of 'lenition' in Celtic languages for it to be retained. So */b + mb/* > /β/; */dj + njdj/* > /β/ and */g + ŋ/* > /γ/.

2.3.1.2. The Southern CY Languages

The gugu- languages do not share the reductions evident in the north, west and south-west CY languages. This appears in an unpublished list of Gugu-Badhun words compiled by P.J. Sutton, but -C loss is found at times in the Flinders Island language: olbu, old man answers to Gugu-Ya'o djilbu, but durgal, straight is the same in both Flinders Island and Ngayarda. However, another paper by Sutton (1976) on Mbara (Midjamba) on the Woolgar and Stawell Rivers, in the extreme south of the CY area, does show the initial syllable losses (e.g. *ŋali, we two > li) and most of the other characteristics. This whole area is poorly recorded (almost lost) but it shows great linguistic complication.

If phonemic innovations count towards classification, the CY languages are definitely a separate group: that they should be called Paman is not so certain, in view of the Dampier Land and Victorian languages sharing with them the very word after which they have been named. This root is discussed in the final section of this paper; but it is of use to reproduce the diagram here that will be used there. This rests on a root *baŋ, which appears in southern Australia un compounded as person, or father, largely in Victoria and coastal New South Wales. The root may be reduplicated and, if the final velar nasal is replaced by an undefined nasal N, it takes the form *baNbaN, and shows the following distributions in its phonetic variations:
It is, of course, possible that *baŋ may represent *baduŋ but positive evidence is lacking.

At this point the exact locations need not be specified. There is some change of meaning, but not beyond an acceptable degree, especially in view of the wide semantic changes in the application of kinship terms in Australian languages. On this basis, however, if CY languages are to be labelled 'Paman', so should those of Dampier Land and Victoria—New South Wales. This will be discussed in 3.3.3. below.

2.3.2. Central Australian Languages

The relationship of CY to the Aranda group has been suggested as something closer than might be expected because of their sharing a number of sound changes between them, such as the loss of initial consonants or syllables. The languages involved are Aranda itself (in a number of dialects) Aljawara, Andegerebina, Yarowinga and Gajdidj.

Comparison of the Arandic group with CA and other widespread words shows changes often as drastic as those of CY. They are outlined for Aranda itself in NAAL 2, p. 100ff. Aljawara has similar but often still more drastic changes, e.g. w- is usually kept in Aranda but lost in Aljawara. Gajdidj is very similarly patterned. The first demonstration of the facts for this group was made by K.L. Hale (1962: 171ff.), though he did not tabulate the sound correlations.

Some of the transformations, especially of CA forms in the Arandic group can be summarised here from the material in NAAL, with additions from Aljawara and Andegerebina:

1. C- kept: this applies clearly to semi-vowels in Aranda roots such as WD wan-, blow, of wind > Aranda wana-; bo-, blow with mouth > Aranda bo-; ya(n)-, go > Aranda yana-, send. But in these cases Aljawara mostly loses the consonant əŋ-, speak (< *wəŋa), Gajdidj akŋa.

2. C- lost: ə in Aranda, Aljawara uRa, fire < *ŋuRa (but Gajdidj warra); Aranda and Aljawara aŋa, nose (Gajdidj ila) < *muən; Aranda and Aljawara aŋa, I (erg) (Gajdidj ajŋ) < *ŋa(dja); Aranda and Aljawara ənda, you (erg) < *nundu; g- in Aranda, Yarowinga and Gajdidj ama (Aljawara, Andegerebina adna) excrement < *gunaŋ and some WD roots such as gunga, raw > Aranda anga; wildja, shade > ildja, hut.
3. Initial syllable lost: ra, you, pl. < *njura;
  Aranda linja, Gajdidj alinji, Alyawara alinja,
tongue < *dalaŋ; WD gudjara, two > Aranda dara,
  Gajdidj, Alyawara agira; WD nju-mbala, you two
  > Aranda mbala, Alyawara ambula; Aranda bulja,

There has clearly been quite early borrowing from WD, while the
phonetic changes were still active. The example of njumbala, you two
> mbala is instructive, for it is njundu, you (sing.) + bala, he in
Aranda but njundu + bula, two (EA *buladj) in Alyawara. Each root,
*buladj (EA) and *gudjara (CA) has its area of occurrence in WD
languages (Capell 1955:285ff.). Aranda ilina, Alyawara ayilina, we
(excl.) is *qali, you and I with -na (exclusive suffix) as also in
Aranda anuna, Alyawara anungira, we (excl.). In some cases Alyawara
seems to reject more than one syllable, if Ra, he is to be paralleled
with WD balaRa.

Thus the Central Australian languages of the Arandic Group share a
set of rather similar phonetic innovations, but this does not make
them Paman, because their corresponding word for mam is a form of
*baduŋ with a set of phonetic changes peculiar to themselves: *adua.
The nearest to this is, in fact, the *aru of Northern Kimberley and
bilw-va of Laragia. The CY forms, from a reduplicated *baN, are quite
distinct, though it is possible to regard them as based on an
abbreviation of *ba(du)ŋ.

Each set of tantalisingly similar innovations is best regarded as
developing in loco. The resulting language will then have developed
further into a set of related languages within its present territory.

In spite of the agreement between CY languages and the Aranda group
as regards types of phonetic change, the general evidence points to the
development of the CY changes locally and at a comparatively recent
date. As far as words are concerned, the proportion of CA in the CYPen
languages is fairly high, but at the same time the CA words seem to
have come into the languages in an already changed form. The evidence
for this statement rests in part at least on some unpublished work by
L.F. Oates in Murawari. In the languages of the 'Kana'-group of which
this one is typical, the CA forms are broken down to the extent that
many of them have lost the final consonants, but the initial losses
and other characteristics of CYPen are not present. Compare the
following list:
Here it should be noted that the CY list is starred, to represent forms which came into that region and were modified locally. On the other hand, the last word shows that Murawari carried the memory at least of a final consonant even though that was changed before being lost in the more northerly languages.

From examples such as these it is natural to conclude that there has been a south to north movement of the vocabulary cited, with subsequent isolation in Cape York and further drastic modification there. These words are all CA; where they occur with equally drastic modification in the Aranda group the latter must be independent parallel changes.

Changes once made cannot be unmade later. It is therefore a more economic conclusion to link the words with CY languages and with the Aranda by the idea of two separate departures from the original, rather than a move backwards from CY. Mrs Oates also points to some optional losses of C- in Murawari, such as (d)anga, to fly, for which there seems to be no CA root. Moreover, Murawari does admit final consonants, as in milindj, mud. Final consonants are therefore not rejected, and any such loss must have occurred before the CA words in question reached Murawari, much less CY. Some of the Murawari vocabulary is certainly EA, such as da:m(b) 'subsection', which offers itself for comparison with Ngarinjin (NK) dambu(n), country, camp, tribal country - also found in Juwinbara djambu - and in Ngarinjin this word changes noun class according as it is used generally or specifically.

In south eastern Australia it is not so much a matter of sound changes which determine groupings. Sound systems are almost monotonously uniform in Victoria and New South Wales. It is a matter of complete lexical differences and, to a degree, also morphological differences.
between languages. This fact is puzzling when the types of sound innovations within obviously isolated sets of languages such as those of Central Australia and CY are considered. What is the difference in the history behind each? Do the facts imply that the south-eastern languages are not ultimately one at all? This seems to have been so in the Asian Middle East, and there it was no doubt a matter of numerous crossing invasions.

2.3.3. The Western Desert (WD) Languages

In phonological structure these are rather like the Romance as compared with the Germanic languages: their structures are generally much simpler and they sound – as they are – less heavily consonantal than the languages of Victoria and the south-east in general, on the one side, and the Aranda group on the other. They are three-vowel languages, although of course the normal range of allophones are present, governed by their environments. In most of them it is allowed to commence a word with a vowel, and /a.i.u/ may therefore all be initial. Syllable structure is VC, CV or CVC, but they are not monosyllabic, these structures will combine within the one word. However, the rules of consonant combination within the body of a word – the nature of the phonological word – may be rather strictly governed by a number of rules which cannot be given in detail here. One feature that is peculiar to these languages is that only certain consonants may be word-final; any consonant which is not permitted in final position is strengthened by a final syllable -ba. Thus in Bindubi, mangur, three is not permitted, and so becomes mangurba. The CA root dalaŋ, tongue, here becomes djaŋiŋba; thigh is yangaŋba. It is tempting to regard this -ba as not a meaningless syllable, designed simply to make an acceptable word-form, but as the third singular ba, he, she, it, in which case the sentence structure would be like that of Pidgin English, man i kam, the man comes. The difficulty about the explanation is that it is not limited to third singular subject position. Hansen and Hansen (1969) quote gandjilj-baŋma ɲarinu, he put the ribs down; wadi mangur-ba-la galbagadi-qu, we three men climbed; if the explanation is to hold then the pronoun suffix must be regarded as devoid of meaning in the modern language and therefore also in its use. This is possible, but cannot at the moment be put forward as more than a suggestion. The position remains, then, that in WD languages some finals are permitted and others are not. It must also be added that some WD languages do not permit finals at all, or only a final -n, -l or -r. The whole system remains as something historically late and highly developed in its details.
Another suggestion that these languages represent a late stage of evolution is the fact that the laminal series (2.4.1. below) is fully developed in them: Dixon's map (1970b:81) shows this fact. They are at once developed and simplified, and this suggests a long period of evolution for the languages. This development will have taken place within the area occupied by the languages at present. Following sections will show that the outliers of the group in north-eastern Arnhem Land have developed again their own peculiarities, and that both differ greatly from the more archaic type of the five-vowel languages of Victoria and the south-east in general. In spite of the vocabulary agreements that will appear between these latter and the Arnhem Land and Northern Kimberley languages (also five-vowel and quite clearly connected with those of the south-east). Even here, too, the Northern Kimberley languages present a somewhat simpler phonetic type than those of the south-east.

The WD languages present a phonetic type *sui generis*, which could never be confused with those of other areas, whether Cape York, Victoria, Arnhem Land or Central Australia. There is a clear division on this level between Aranda and Waljbiri: Aljawara is a little closer to Waljbiri perhaps, but still noticeably Arandic.

Mention may be made here of the so-called Murngin and Yulngu languages of north-east Arnhem Land. In many points of structure they seem to be an intrusion from Central Australia, and hence can be treated for the present purposes as part of the WD languages. Yet their phonemic structure is peculiar to themselves. They are five-vowel languages, but allow consonant clusters that are difficult to think of in WD languages. Moreover, they have a variety of final consonant clusters which are not part of WD structure. In all this they seem to rest on a non-WD basis, presumably that of Arnhem Land languages which they have displaced or with which they have combined during centuries of coexistence. Moreover, they have developed a second set of plosives, which have already been mentioned.

For general notes on WD phonologies reference may be made to Hansen and Hansen, James Marsh, and Joyce Hudson and Eirlys Richards, all in the same issue of *Oceanic Linguistics* (8/2, 1969), and for a typical Yulngu language, to Ray Wood (1977). In each case other references will be found in addition.

In a sentence, the WD languages present a type of phonology as different from those of the other languages as are their structures, while the languages of north-east Arnhem Land look quite clearly like
developments of west Arnhem Land languages under WD influence, their basic structures being archaic, but overlaid by more modern forms of speech.

2.3.4. The Archaic Languages of the South-East and Extreme North

The title of this subsection in its wording seems rather to beg the entire question, and this is admitted; but it is hoped to show later that the languages here treated are what the title claims and that vocabulary study will strengthen the connection in due course.

In actual fact, the languages of the Murray Basin, Victoria and coastal New South Wales, which form the group here under investigation, differ quite a deal in vocabulary from other parts of Australia, and the CA element has every appearance of being introduced. Some of the words are found in Arnhem Land and the Northern Kimberley, often in varied meanings.

While, of course, all the languages are not provided with identical sound systems, yet they do fit the general Australian pattern; the real difference lies in the syllable structure rather than in the individual sounds: the northern and southern languages are quite different from the others already mentioned. In what follows, the north is represented by Mawng, of Goulburn Islands, and material from Capell and Hinch (1970) is used to illustrate the languages.

The consonant system of Mawng is exhibited below:

Table 4: Vowels and Consonants of Mawng, Arnhem Land
(From A. Capell and H.E. Hinch, Maung Grammar, Texts and Vocabulary.)

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Retroflex</th>
<th>Palatodental</th>
<th>Velar</th>
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<tbody>
<tr>
<td>Stops</td>
<td>b</td>
<td>d</td>
<td>q</td>
<td>dj</td>
<td>g</td>
</tr>
<tr>
<td>Nasals</td>
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<td>n</td>
<td>η</td>
<td>nj</td>
<td>η</td>
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<td>Laterals</td>
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<td>Rhotics</td>
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<td>Fricatives</td>
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<td>Front</td>
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<td>Low</td>
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</table>
Details of the vowel system of the same language follow in the next diagram, from the same source:

Table 5: Vowels of Mawng on the Phonic Level

Their sounds are those of normal Australian languages in most parts of the continent, plus or minus one or two, principally consonants. It is in the consonant clusters, however, that the northern and extreme southern languages differ markedly. The following Table, taken again from the same source, sets out the consonant clusters of Mawng, first the CC and then the CCC clusters. There are considerable morphophonemic changes when consonants meet in the processes of inflection, and these are to be seen in Capell and Hinch (1970:36). For the present purposes they are irrelevant. The possible Mawng clusters are as follows:
Table 6: Consonant Clusters in Mawng

Word-Medial Consonant Clusters (CC)

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<thead>
<tr>
<th>First C</th>
<th>b</th>
<th>dj</th>
<th>d</th>
<th>Ɂ</th>
<th>g</th>
<th>m</th>
<th>nj</th>
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<th>j</th>
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<td>b</td>
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<tr>
<td>o</td>
<td></td>
<td>ob</td>
<td>οdj</td>
<td></td>
<td>οg</td>
<td>οm</td>
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<tr>
<td>w</td>
<td></td>
<td>wb</td>
<td>wdj</td>
<td>wd</td>
<td>wg</td>
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<td>r</td>
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<td>rb</td>
<td>rdj</td>
<td>rd</td>
<td>rg</td>
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<tr>
<td>ñ</td>
<td></td>
<td>ñb</td>
<td>ñdj</td>
<td>ñd</td>
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<tr>
<td>!</td>
<td></td>
<td>!b</td>
<td>![d</td>
<td>![d</td>
<td>![g</td>
<td>![m</td>
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</tr>
</tbody>
</table>

A. CARELL
### Word-Medial Consonant Clusters (CCC)

<table>
<thead>
<tr>
<th></th>
<th>!gdj</th>
<th>!gb</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>!gb</td>
<td>!gdj</td>
<td>!gb</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>rgb</td>
<td>rgdj</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>rgb</td>
<td>rgdj</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>jgb</td>
<td>-</td>
<td>-</td>
<td>jndj</td>
<td>jng</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>wgb</td>
<td>-</td>
<td>-</td>
<td>wndj</td>
<td>wng</td>
<td>wndj</td>
<td>-</td>
</tr>
</tbody>
</table>
These clusters differ in complexity and sometimes also in actual shape and content from those allowable in the central parts of the continent, and of course the complex historical changes which mark the CY languages have not taken place in these other areas of the continent. Comparison with Victoria and New South Wales can now be instructive, but unfortunately the fact that most of these languages are extinct or almost extinct makes morphophonemic comparison less satisfactory.

The remaining Victorian languages have been studied by Hercus (1969, 2 vols), and her very careful study of sound systems as they are heard in the surviving languages produces effects highly comparable to those of the far north. Her outline of Wembawemba phonetics reads almost like that of Mawng, except for the less complicated morphophonemic changes. Of the interdentals only \( \ddot{\jmath} \) is recorded, not \( \eta \) or \( \iota \): this may be modern degradation of richer system. The following are the internal consonant clusters: it will be noted that \( br- \) is admitted, but this may be \( ber- \) (as in Gwini of Forrest River, Northern Kimberley): \( gw- \) seems to have been a PA combination, e.g. EA \( *gwija\), \textit{fish}. It is probably to be regarded as a \( g \) with lip-rounding rather than as a combination. Hercus' Table (p. 15) appears as follows and recalls Mawng very clearly:
Table 7: Combinations of Consonants in Wembawemba

<table>
<thead>
<tr>
<th>Medial</th>
<th>-mb-</th>
<th>-nb-</th>
<th>-mbr-</th>
<th>-nd-</th>
<th>-ŋd-</th>
<th>-ndj-</th>
<th>-ŋdj-</th>
<th>-ŋg-</th>
<th>-nm-</th>
<th>-ŋ-</th>
<th>-ŋw-</th>
</tr>
</thead>
</table>

| Final  | -1b  | -rb  | -rãb- | -1m  | -rm  | -rãm- | -rmb- | -rãmb- | -1g  | -rg  | -rãg- | -rn  | -rãn- | -rqg- | -rãqg- | -rw- |

As will appear later, there is a clear line of demarcation between the languages of Gippsland and the rest of Victoria, in spite of which Hercus (p. 197) can write: 'Nevertheless, there seem to be some definite links between the Jaralde group of languages, Jodajoda and Gañai. In grammar Jaralde stands to some extent apart, though there are some resemblances with Jodajoda, such as for instance the use of a special injunctive or prohibitive particle'. She remarks on the absence of fricatives from Garnay and a special pronunciation of $g$.

In eastern New South Wales the phonetic evidence is largely lacking on account of extinction of languages. Eades in her grammar of Dharawal and Dhurga (Eades 1976:40) after much discussion, produces
what she regards as likely consonant clusters in the following Table:

Table 8: Consonant Combinations in Dharawal and Dhurga

<table>
<thead>
<tr>
<th>CC</th>
<th>C(V)C or (C)C</th>
</tr>
</thead>
<tbody>
<tr>
<td>homorganic nasal + stop</td>
<td></td>
</tr>
<tr>
<td>mb, bnd, ng, ng</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>n + peripheral stop</td>
<td></td>
</tr>
<tr>
<td>nb</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>l, r + stop, nasal</td>
<td></td>
</tr>
<tr>
<td>lm, rn</td>
<td>ln, rm, rmj</td>
</tr>
<tr>
<td>lb, ld, lg</td>
<td>rb, rd, ld, rd</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>stop, nasal + l, r</td>
<td></td>
</tr>
<tr>
<td>nl, nl</td>
<td>mr</td>
</tr>
<tr>
<td>bl, d1, g1, gr</td>
<td>djr</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>l, r + w, j</td>
<td></td>
</tr>
<tr>
<td>lw</td>
<td>rw</td>
</tr>
<tr>
<td></td>
<td>lj, rj</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td>nw, lr, jd</td>
<td>wd, wr, j1, r1</td>
</tr>
</tbody>
</table>

There is much in this work that to the present writer it seems necessary to reject as incorrect, but the above Table seems to present a possibility for the languages of the south-eastern coast of New South Wales, and here again there is definite resemblance to the more complicated languages of north Australia. If it can be thought that peoples originally related to each other separated at some distant point of time, and whereas some remained in the north while others finally moved right across the continent, such variation — especially simplification — seems very natural in the linguistic history of the tribes.¹

¹Eades rules out CCC on grounds that seem — like much of her book — to the present writer quite uncertain and unsatisfactory. The general style of these languages suggests that CCC may have occurred.
One consonant exists in Australian languages which has not been included in the tables nor mentioned hitherto and that is the glottal stop. There are two types of areas of occurrence of this and two different functions. It does not seem to occur initially anywhere except perhaps (if O'Grady is right - see O'Grady 1976:61) in Umpila but it does occur finally in the Yulngu languages and others in Arnhem Land. In the latter group, however, it does not occur initially at all, but only in the final position, and most often as syllable final before another consonant. In Ranjbarngu, for instance, the future tense of a verb is formed by means of a repetition of final consonant with a glottal stop interposed, e.g. ɲawar?ra, *I shall throw it away* (Capell 1942:37). The two types of occurrence are obviously different. In the one case the glottal stop is a phoneme, and occurs as such between vowels in Gandju of Lockhardt River: guʔa:ɡa, *dog,* or after a consonant: ɡaɪ?a, *fish.* In Arnhem Land there has been much discussion of the function of the glottal stop. It is held to be not a true phoneme, and not to be included in the list of phonemes. In Gandju it seems to replace an earlier *R,* as in ma?a, *hand* < *maRan* but in Arnhem Land (Buwan, Dalabon, Ranjbarngu and the Yulngu languages, as well as Gunwinjgu) there is as yet no final decision as to its function and place in the languages. Schebeck (1972 and elsewhere) interprets it as a syllable 'accent' involving a 'glottal rhythm': McKay in an unpublished thesis (1975) treats it as a syllablic feature having certain resemblances to the Danish stød and the glottal ending in Finnish. It will not be further discussed here.

2.4. Historical Phonological Change in Detail

This section will summarise chiefly consonantal changes indicated by vocabulary comparisons of present-day languages: how far such changes can be read into the past cannot be defined. The greater time depth makes anything like the assurance that accompanies Proto-Indo-European studies unattainable in Australia. In the morphological field it is impossible to restore a feature that has disappeared in all the daughter languages of a family - the well-known loss of the inflected Latin future in all the Romance languages is a case in point, for if Latin were unknown such a formation could never be guessed. So there may well have been both morphological and phonological changes in Australia that can never be rediscovered. What is offered here is therefore controvertible and no defence can be made.

Three positions of a consonant must be accounted for: initial, medial and final. The occurrence of -C and its nature is at present
language-limited and may always have been so. Hence there will be only incidental discussion of this position. The most important example is the occurrence of final -ŋ which is generally retained where at least one language shows it, and in some cases where none do. In many instances it has been lost because most modern languages reject all final consonants or allow only a limited set. Final -dj is rare, but is still found in some areas: *buladj, two, is a clear EA example occurring only in south eastern Australia - elsewhere it is always bula, and such a root would have been restored except for the south eastern languages. But there is no reason to suggest that *buladj is a later form in south eastern Australia, for it would be unmotivated. Similarly, the pronoun individualising suffix -wa appears as -wadj in Nuggubuyu, but *-badj is taken to be the original form of it. The fact that it is added to an ergative form (ŋa-ju-) only indicates that in the given language the pronoun *ŋaju, I, was received 'ready made' in an ergative form, without ergative meaning necessarily following. It may even be desirable to write this -wa as a separate enclitic word. See further in 3.3.3.

Few examples of the changes postulated here will be presented in the text: they belong to the vocabulary. As for vowel changes, it would seem that Australia is a place where one may indeed look after the consonants and leave the vowels largely to look after themselves: in short, the history of vowel change in Australia remains much less complete than that of consonants and does not seem to be so regular.

2.4.1. Consonants

From what has been said already, the Australian consonantal system is to be traced chiefly from EA: what differences there are to be accounted from CA must still be worked out. The consonantal alphabet assigned to EA here lacks the subdivisions of the laminal series and a number of other later developments as already indicated.

In the following pages, just a few of the more obvious consonant changes between languages in Australia are dealt with: it is impossible to do more within the limits available. Where a large number of languages are involved and a considerable time-depth which is undocumented, only general indications can be given. A fuller study would belong to the lexicon of an Australian Historical Dictionary, which is beyond the possibility of compilation at this stage.

All this being granted, a brief survey of a few outstanding facts is all that can be given - and even then consonant change is easier to deal with than vowel change. Not all consonants are illustrated here.
CONSONANTS
(a) Plosives:

/b/. Examples occur of b- kept; or changed to w or g or m or lost entirely. Final -b can also become -m in Victoria, as W. Bungandidj gedubgedub, boomerang; N.W. gadimgadim.\(^1\)

Medial -b- may have another origin. The NK has a root *malara, forehead; Laragiya madarma = *ma+m(a)l=ar(a)+ma, the same root with the Cl.V marker ma prefixed and suffixed simultaneously. Reduction of l+r has then produced d+b, a not uncommon combination in this area.

(b) Laminals:

Sounds classed as laminals may be either stops or nasals. In Australia the sets usually found are:

<table>
<thead>
<tr>
<th>dental</th>
<th>alveolar</th>
</tr>
</thead>
<tbody>
<tr>
<td>d</td>
<td>dj</td>
</tr>
<tr>
<td>n</td>
<td>nj</td>
</tr>
</tbody>
</table>

In Australian languages these interact very largely with the apical series:

<table>
<thead>
<tr>
<th>dental</th>
<th>domal</th>
</tr>
</thead>
<tbody>
<tr>
<td>d</td>
<td>ṣ</td>
</tr>
</tbody>
</table>

This may then produce four series of stops and nasals:

| lamino- |  | apico- |
|---------|  |--------|
| dental | alveolar | dental | domal |
| d       | dj       | d      | ṣ     |
| n       | nj       | n      | ṟ      |

\(^1\)Apart from the fact that this is a reduplication and that nothing is known of *gedub or *gadim as a simple root, it is difficult to say which was the earlier; but occurrences in other parts of Australia suggest that plosive to nasal is the commoner change.
Interchanges within these sets have been studied in detail by Dixon (1970b). There is usually laminal contrast within a language, and Dixon's summary is as follows: (i) domal (retroflexed) consonants are missing over a considerable area of the north-east; (ii) some languages have only one laminal series, and in this case the major allophone is usually palatal. Phonetic detail given by Dixon is irrelevant from the viewpoint of historical linguistics, as there is no intention here of trying to trace out details of possible development in the languages. He then concludes that four types of stop-nasal system are found in Australia:

1. With retroflexes and two laminal series
   \[
   b \quad d \quad dj \quad d \quad g \\
   m \quad \eta \quad nj \quad n \quad \eta 
   \]

2. With two laminal series but no retroflex
   \[
   b \quad d \quad dj \quad d \quad g \\
   m \quad \eta \quad nj \quad n \quad \eta 
   \]

3. With retroflexes but only one laminal series
   \[
   b \quad d \quad d \quad dj \quad g \\
   m \quad \eta \quad \eta \quad nj \quad \eta 
   \]

4. Without retroflexes but with only one laminal series
   \[
   b \quad dj \quad d \quad g \\
   m \quad nj \quad n \quad \eta 
   \]

The distribution of these types is shown in Dixon's map (1970b:81) and it is so irregular that there can be no doubt that all the variations from the (4) system have been developed locally and presumably at different stages. For the local histories of language groups the historical order of these developments may well be important, in fact crucial, but for the establishment of original Australian series there can be no question: early Australian languages did not have either the lamino-dental (interdental) nor the laminopalatal/alveolar (palatal) series of either stops or nasals. Dixon's conclusion about the reasons for the developments and the processes of them have been mentioned earlier.

In dealing with sound changes within this series, therefore, it will be taken that there is one denti-alveolar set to be considered, and
The changes found in the modern languages are the following, taking as examples the root *baduŋ, man, for those languages in which the root occurs:

-kept: Luridja (badu); WD generally (wadi). This is independently of the phonetic realisation as advanced to interdental or backed to palatal. The retroflex realisation is found in Bidjara (maɖi), Ungguml (aɖi), Aranda group (aɖya < baduŋ + a).

- > /r/ flapped: Central Queensland (marl). It should be noted that in Arnhem Land there is also a true retroflexed flap (r) as in the clan name Maɖarpa in the N.E. AL dialects. In NK there is aɭu, man in Ngarinjin, which is to be distinguished from the flapped r in aru, anake.

- > -w- seems possible in the same root *baduŋ allowing the acceptance of Ngarimawuru (Yodayoda) bawu, Bangeranj bawa. That the realisation is acceptable is suggested by languages of the Upper Murray region which show bawarŋ < *baduŋ.

(c) Velars:

g- raises some problems in certain languages. As a rule it seems to be very stable. Roots *gamba, burn, cook, and *gumbu, urine are found widely over Australia and almost always with the initial consonant kept. Initial g- is lost only in the Aranda group and Cape York. In the former, Andegerebina mbwa = (u)mb-u, urine < *gumbu, with the additional final -a that is found also in Aranda group aɖya, man < *baduŋ, and the mutation of the first vowel is found also in some CY languages. Similarly, from *gunaŋ, excrement, Bularnu gudna, Bidabida guna. The root *gamba is very tenacious, yet again Aranda mba-. In the case of the root *guyaŋ, fish, g- never disappears, but it is doubtful whether the root itself is *guyaŋ or gwiyaŋ. In terms of distribution either seems possible.

(d) Nasals:

The nasals also are generally preserved, especially as initials. As internals they are not quite so invariable, and as finals, often rejected: it depends on whether the language allows final consonants, and if so, whether these include nasals. In general some languages that keep final nasals do not allow non-nasal terminals. It is characteristic of the WD languages that they allow final /-ŋ/ but not /-ŋ/. Where final /-ŋ/ is found, this may replace original /-ŋ/. Individual nasals call for specific definition.
/m/ appears to be extremely stable. Such roots as *ŋamaŋ, breast, or *matanŋ, hand, and the probably related *ma-, take, retain initial m- even in CY and Aranda languages.

2.4.2. The Puzzle of Root Establishment

In many instances such rules for sound development as are given in the preceding sections do not seem to work, and this means either that there are mistakes in the formulation or cross-influences in the application. There is frequently much difficulty in establishing a consistent original form for a word. Of course the length of time involved and the lack of historical information may help to account for these difficulties. In Australian languages in particular there are many cases in which either the initial or the final consonant seems to be doubtful. In Sommer's list, based on Hale (Sommer 1969) the device of indicating a doubtful consonant by the use of C-, meaning some undefined consonant, is used and gives recognition to the difficulty. In such a case it can be taken that the true original consonant is elusive. The given material presents variants that do not seem to suit any regular pattern of sound change that might be expected. One is sometimes constrained not to accept an instance because it does not fit expectation.

The expectation that underlies restoration is that EA is older than CA, and that the former is chiefly eastern, while the latter is basically a western form of an original language. This subject is discussed principally in section 6, but cannot be avoided at certain earlier stages. Judging by the general fact that final consonants, especially -ŋ need to be posited in EA but apparently did not occur in the CA stage, CA appears to be a later form of the same basic language as EA, but combined with elements of other origins. This statement rests not only on the study of Kroeber's maps (Kroeber 1923) but also on the mapping out of parts of Curr, volume IV, kindly done for the present writer by Mr Peter Newton, an honours student at Macquarie University, New South Wales. In some cases there is little or no common material at all to be picked out of Curr's lists, which consist of 63 words in 196 languages available at the time of his writing: allowance has to be made for inadequate phonology, but that can be done.

One such example is provided by a word for mouth, which is presumably da- often plus a second syllable which varies from area to area. It is found in Queensland and parts of Victoria, and in the south-west of the continent (which often has these prevailingly
eastern words; even such a word as *bura, kangaroo, which appears largely in Queensland, has cognates in the south-west).

An instance of what is being discussed is provided by the word for eye, which was established by Capell as EA *miriŋ. It could be *miliŋ, but at the moment it is the initial, not the medial consonant which is critical. In Queensland the word is widely dili. A change of m- to d- is unacceptable, because as a rule a peripheral consonant does not interchange with a central consonant. But it is hard to say more than 'as a rule' at the present stage. Moreover, there are instances found which point to *mijiliŋ as a possible original, but this is a different question. The change of *baduŋ, man to mari in Queensland is acceptable because it is only nasalisation of a peripheral consonant, but *dili(ŋ) involves a different principle of change. At the same time the occurrence of two such similar forms with the same meaning is not impossible: this is what is meant by the heading 'The Puzzle of Root Establishment'.

Words for egg present a similar and more complicated problem. Capell restored it for CA as *gambu(ŋ). The following, however, all appear to be forms of the same root: Walmadjari gambunj, Baljgu djambu, Mandjildjara ŋambu (all WD and therefore presumably CA forms) found in CY as *gambu (Sommer 1969, after Hale). But the following also would seem to be forms of it: baːm (Gabigabi), bambu (Jandruwanda), babu (Arabana), gabu (Waljwan), gabu-ga (northern Wiradjuri), bambu (Djirbal and Bidabida), Murawari gabun preserving the final consonant, so that although *gambuŋ, the initial consonant remains completely uncertain and one is constrained to posit *cambuŋ, the c- indicating an uncertain consonant. There are quite a number of these in Hale's restorations for Cape York, but they are not satisfactory. Even then there is a remainder including maga (Gaurna, Narangga) which does not seem to belong, and in western coast areas of Western Australia wala which seems even less suitable as a derivative. What then is the final establishment in such a case? Local endings also may be added: Wiradjuri gaba-ŋa contains the same suffix found frequently in Ngunawal as -ŋaŋ, as in Ngunawal miri-ŋaŋ, dog (*miri widely in this region), and even found in pronouns such as Dharawal ŋa-ja-ŋaŋ, I, where it is superadded to the ergative ending -ja.

Roots for water present even greater variety, and it is interesting that Kroeb er thought the following might all finally represent one root, water being such a universal necessity, especially to early man, that a single root for it is conceivable. Kroeb er gives the following list:
1. gada, gala, gana, kun, goŋ, galan, gadinl, gadja, gwadja - found in the north and centre, western Victoria, inland New South Wales and south coastal Queensland.

2. gama, gamu, gomo, gam, gumum, mostly in central and western Queensland.

3. gaba, gabi, gawi, gawara - WD, south-western Australia, Adelaide area.

4. naba, naba, nogo, nogo, mugu - western New South Wales, south-western Queensland and north-eastern South Australia.

5. nadjuŋ - New South Wales south-east coast.

6. baba north-west Western Australia, including Ngayarda areas.

7. baro, bari - southern Victoria, southern Cape York.

8. wara - Gippsland.

These seem to be too varied to be covered by any processes of change, yet almost any two of them can be pictured as arising from each other, given time and lack of communication. Nevertheless, no one theoretical original seems to be constructable, to cover all the presumed developments. The case must rest at present undecided.

A further point may be mentioned here: most established roots are bisyllabic, but a few such as *ma, take, seem everywhere to be monosyllabic. This could belong to *maran, hand, but there is no noun corresponding to *ga, hold, so again no decision can as yet be made. A few other roots can perhaps be trisyllabic: *mir/1/iŋ, eye appears in some areas in a form that would presuppose *mijiliŋ: for CY languages *mijil is suggested. This, too, must be 'held over' pending further study, and there are no doubt more than one other 'puzzle' of establishment.

3. STRUCTURE OF AUSTRALIAN LANGUAGES
3.1. Establishing Historical Stages

In this study, the unusual step has been taken of beginning an inquiry into Australian linguistic history with the pronoun and the pronominal system in general. The reason for this lies in the fact that pronominal roots as a rule belong to the oldest stratum in a
language. For Australia - as quite generally - this statement applies to the first and second person and, for special reasons, to the singular number and, apparently, the first person dual inclusive.

In Australia, as in many other areas, the third person markers are not true pronouns but demonstratives and, in many cases, they express the relative position of the person or object referred to in regard to the position of the speaker. At the same time, there is often the difficulty that the pronoun, being so frequently in use, changes historically more than the noun and is therefore harder to use as historical evidence. It becomes abraded and more subject to irregularity, like the verb 'to be' in Indo-European languages. In the present instance, these factors are not so weighty, for the emphasis will be on the differences in principle between the pronominal systems rather than difference in morphological forms. Syntactic differences will enter only in regard to the part played by ergativity in Australian languages, and that is something which is more general than particular.

The importance of a study of the pronouns was realised especially by W. Schmidt when he wrote *Die Personalpronomina* (Schmidt 1919b); but detailed as that study was, it lacked important elements because the languages were not as well known in 1919 as they are today - some of the most important facts had yet to be discovered. One of these - and the beginning of the present study - is the fact that not all Australian languages contain true pronouns. In a few languages, 'pronouns' are basically nouns and are treated as such in the grammar. Person is marked by the addition of a personal suffix, plus or minus a case marker, to a noun stem whose original meaning is not usually now to be discovered. It was probably *self, body* or some such more concrete meaning. It is sometimes difficult to recognise such an origin. An instance is found in south-eastern Papua, where certain of the languages have pronouns based on an Austronesian root *awak, body* (Capell 1943:210ff.). Moreover, it is at least doubtful whether EA distinguished number in pronouns, and the distinction between inclusion and exclusion of the person spoken to is not universal in Australia even now. The facts that are to be demonstrated in this section of the work are that

(a) the earliest pronouns were derivatives of noun roots;
(b) number was not part of the early pronominal system; and
(c) the inclusive-exclusive distinction was not original.

These facts are all of importance in the linguistic history of Australia.
Map 2: Distribution of Pronoun Forms in Australia
LEGEND TO MAP 2:
DISTRIBUTION OF PRONOUN FORMS IN AUSTRALIA

Main distinction: LI Language isolates
N Nominal basis of pronoun root
NG Common series ŋa-/ŋjin-

The NG sets are borrowed into LI languages, and numbers placed inside LI areas therefore refer to the same facts as they would in NG areas. The NG sets are subdivisible as follows:

1. Simple forms.
2. Incomplete sets: 2a No dual forms.
   2b 1st dual inclusive ŋall = you and I but no other dual persons.
   2c No inclusive-exclusive distinction in dual or plural.
3. Suffix *-badj added to nominative or ergative base (not distinguished here).
4. Third person singular based on *ba: in some languages other numbers are also so based or instead of singular.
5. Third person singular based on *nu.
6. Third person plural based on *dana.
7. A trial number is present.
8. Tense is marked in pronoun as well as in verb.
9. Syntactic combination of subject and object.
A similar development, or perhaps combination of originally disparate sources of the languages, is to be seen in the verbal system of EA languages: if there was no inclusive-exclusive distinction in the pronoun, neither was there (nor is there yet in some cases) any such distinction in the verb. Moreover, the verb did not originally mark person, and some still do not. It would seem also that number marking came before person marking. This is in keeping with the general fact that in Australia there has been continual complication rather than simplification in both phonology and grammar, unlike developments in some other parts of the world (see Tauli 1958).

This complication of verbal structure in Australia can be seen in remarks made by Capell (1972:8-10) on the three types of verb, although there is no parallel mention of pronouns in that paper. Moreover, these different formations are geographically scattered at the present day: verb uninflected for person and number is found in coastal New South Wales (Gadhang), the Lakes districts of South Australia (Diyari) and numerous other areas. Number without person indication is found in Central Australia (Aranda) and may be a local development; number and person differentiation is the commonest type in modern times. The special feature of the WD and some other languages that has been called 'Affix Transference' (AT), must also be studied and that too has historical significance.

3.2. Languages Lacking True Pronouns

The phrase 'true pronouns' is used in the sense of words that serve no other lexical purpose than to indicate speaker or person addressed. They are formed from a common base by the addition of suffixes marking person; these sometimes, but not necessarily, are used also to mark possession with nouns and person with verbs. Such roots can rightly be regarded as nouns, even though their original meaning is not known.

The first example is that of Ngunawal, New South Wales, a language spoken in the district now occupied by the city of Goulburn, and its northern neighbour Gandangara. These are listed amongst Schmidt's Yuin languages, specifically northern Yuin, and Kuri respectively. In this language, I is gula-nga, you is gula-ndji. The root *gulaŋ, skin, has already been given in section 2 as an EA word for skin; it has considerable spread, from Arnhem Land across Central Australia and into Victoria and New South Wales, as well as to parts of Cape York Peninsula. It seems to be a typical word of the 'central stream'. In some languages it is also the bark of a tree, and in Yidinj
the human body. The root varies between *gulaŋ and *julaŋ. In Ngunawal and Gandangara it has been narrowed down to become the index of personality, i.e. a noun stem carrying possessive markers to indicate the referent. Schmidt (1919a:101) also points out that in northern Kuri languages the differentiation of inclusive and exclusive in dual and plural is not found, and suggests that R.H. Mathews included it by induction without evidence in Darginjung – this may or may not be true.

The full set of pronouns in Ngunawal stands as follows:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>gula-na</td>
<td>gula-n-banjji</td>
</tr>
<tr>
<td>1. excl.</td>
<td>gula-ŋga</td>
<td>gula-ŋalu</td>
<td>gula-m-banjji-li</td>
</tr>
<tr>
<td>2. excl.</td>
<td>gula-n-dji</td>
<td>gula-m-bu</td>
<td>gula-ŋu</td>
</tr>
<tr>
<td>3. excl.</td>
<td>ŏana</td>
<td>ŏana-djula</td>
<td>ŏana-djimalinj</td>
</tr>
</tbody>
</table>

It will be seen that this set includes both dual and plural number and the inclusive-exclusive distinction. This development will only have taken place in eastern Australia, for the CA languages occurring in the central and western parts of Australia will show cases in which inclusive-exclusive distinction is lacking, and in which we two is I-two, using for two not the EA root *buladj but the CA *gudara. It was method, not form, which the CA languages copied at a later date. The bulk of the development must therefore be sought in eastern Australia and in those parts of the west in which CA influence is least.

The Ngunawal pronouns of the third person are also of interest. As is so common in Australia, only the first and second persons rest on a truly pronominal base – and even these do not always do so, as is apparent in the Warnman and Ngunawal examples – whereas the third persons are mostly demonstratives, usable with or in place of nouns. The special point of interest is that the root *dana is an EA root meaning they, which is usually limited to third person plural. Here it has been used as a third person without reference to number; it becomes a singular, to which dual or plural indicators are attached. This again points to an earlier lack of discrimination of number.

The above type of construction is found also in western Victoria as well as in New South Wales. In a considerable area of western Victoria
such pronounless languages are found, including Djadjala, Djabwaru, Dagwuru and some others. Here the systems are similar: a noun base with a possessive suffix is presumed; however, the noun is not a common noun such as *gulan, skin but varies from language to language, and the whole system is more involved. The following set shows the pronominal forms of Djadjala:

<table>
<thead>
<tr>
<th>Person</th>
<th>Verb Markers</th>
<th>Non-verb Markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing. 1. incl.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1. excl.</td>
<td>-n</td>
<td>-eg</td>
</tr>
<tr>
<td>2. excl.</td>
<td>-r</td>
<td>-in</td>
</tr>
<tr>
<td>3. excl.</td>
<td>-g</td>
<td>-ag</td>
</tr>
<tr>
<td>Dual 1. incl.</td>
<td>-(ŋ)al</td>
<td>-(ŋ)al</td>
</tr>
<tr>
<td>1. excl.</td>
<td>-nalŋ</td>
<td>-(ŋ)alŋ</td>
</tr>
<tr>
<td>2. excl.</td>
<td>-wul</td>
<td>-wula</td>
</tr>
<tr>
<td>3. excl.</td>
<td>-bulan</td>
<td>-bulan</td>
</tr>
</tbody>
</table>

At this stage in the development of Australian languages therefore we find a lack of true pronominal forms. They are replaced by noun roots which have person reference added as suffixes. These references are made to first and second person only. The question of an inclusive-exclusive distinction is not discussed at this point for, in all the instances given here, such a distinction is either secondary or lacking. This would seem to be the remains of a very early stage of the languages. The variety of the forms given suggests that a pattern was present but not such common roots as would suggest a common protolanguage. It is therefore likely that Australia will provide, not a proto-language, but rather a series of coeval but unconnected series of EA languages.

Moreover, even a dual number is not universal: Tiwi and Dampier Land present only first dual inclusive, you and I, though in Dampier Land later forms completing the dual have been involved. With these thoughts

There are certain irregularities between verb and noun endings that cannot be reconciled: they may be due to Mathews' examples, as in final -ag and -ag in the dual, and -wul, -wula, -bulan and possibly -bulan in the third dual. These are left unaltered: there is no call for final definition here. See Mathews 1902:71ff.
in mind, therefore, it is possible to consider some of the other identified non-CA groups of languages. As O'Grady suggests in this volume, it is almost certainly the fact that many early forms of language in Australia have perished without a trace except perhaps in odd words which it is no longer possible to identify as such inheritances. To these are added another set of suffixes covering trial and plural numbers (Mathews 1902:79ff.). Such markers are added directly to the verb, whereas the non-verbs to which they apply are nouns, possessives and object pronouns. The pronominal root is jurw- > jurw-eg, I, jur-win, you etc.; the possessive jurw-aŋ-eg, mine; jurw-aŋ-in, yours, and the objects njan-eg, me, njan-in, you. In all these, the independent pronoun based on jurw- is something quite different from the normal Australian pronoun, but parallel to Warnman bara-.

An example of a language in which a similar system is used but with another root is Djabwuru baŋ-eg, I, and Dagwuru wa-n, I, probably belongs here also: the EA root *baN, person has already been discussed in the preceding section. In Djabwuru baŋ- takes the noun person suffixes baŋ-eg, baŋ-in, baŋ-ug, etc., but in Dagwuru wa-, which could be the same root, takes the verbal set, and the third person is given by another root munji. In none of the languages is gender involved in the third person. The set of forms in Dagwuru is as follows:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>waŋ-al</td>
<td>wa-ŋanjanin</td>
</tr>
<tr>
<td>1. excl.</td>
<td>wa-n</td>
<td>wa-ŋan</td>
<td>wa-ŋanjanju</td>
</tr>
<tr>
<td>2. excl.</td>
<td>wa-r</td>
<td>wa-buːl</td>
<td>wa-dgurabil</td>
</tr>
<tr>
<td>3. excl.</td>
<td>munji</td>
<td>munjibulabil</td>
<td>munji-gaːdan</td>
</tr>
</tbody>
</table>

It should be added that there is also a trial number, formed by the addition of *-galig of which there is discussion elsewhere (3.4). Such a trial is almost limited to western Victoria although there are a few examples in the far north and north-west of the continent, in the regions that usually show kinship to this south-eastern part of Australia. The trial marker is usually the final element of the compound: Djadjala jurwe-ŋura-galig and Djabwuru ba-ngadu-galig, we (incl) three; the corresponding plurals are Djadjala jurwe-ŋur-ag and Djabwuru ba-ngadu-ag. The trial is thus not really a pronominal
formation, and \*galiq is simply 'a related group, small in number'.

The absence of pronouns (in the above sense) is not limited to eastern Australia; this is a fact that suggests the existence of an early stage of Australian language (perhaps EA\(_1\)). The example to be called is Warman, a language geographically on the northern fringe of the Western Desert. Here the noun root is bara-, which serves in the first person singular for I, but carries suffixes for other persons and numbers:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>bara</td>
<td>bara gudjara</td>
<td>bara wa(\text{(\ddot{a})})</td>
</tr>
<tr>
<td>2.</td>
<td>bara-(\text{(\ddot{\text{n}})})</td>
<td>bara-(\text{(\ddot{\text{n}})}) gudjara</td>
<td>bara-(\text{(\ddot{\text{n}})}) wa(\text{(\ddot{a})})</td>
</tr>
</tbody>
</table>

There is no third person - a demonstrative balawanin is used, with dual balawanin gudjara, and plural balawanin wa\(\text{\(\ddot{a}\)}\). Although, in the present state of knowledge, it is impossible to assign a meaning to bara, the construction by means of number markers, available also for other uses, is quite clear.

The bulk of Warnman grammar, however, has been 'taken over' completely by W.D. forms and grammatical elements - in fact it has been swamped by them. On the other hand, Warnman vocabulary stands quite apart from WD vocabulary except for a limited number of loanwords, examples can be seen in O'Grady 1956. This is clearly an example of an 'early' language which has almost given way before more influential later comers, as British gave way before Anglo-Saxon, and the western Celtic Manx has done and Gaelic is doing before English. So in Warman we see the process of domination by a language of another type. In passing, the absence of a bara- third person corresponds to absence of a third person in the other early Australian languages. More will be said of this when the na-/njin (EA\(_2\)) base language is treated infra.

3.3. Other Non-CA Groups of Languages

Until a language-by-language analysis is made, it is impossible to say just what Australian languages are EA, or to identify any level of EA - which is ultimately a matter of lexicon - but some pronoun systems can probably be diagnostic, especially those in Arnhem Land. Mention must be made of certain groups which obviously do not fit the patterns of EA or CA; these include the languages of the Daly River (DR) region,
those of Bathurst and Melville Islands (BM), and probably others which can only be worked out later, but certainly not in the present space.

3.3.1. Languages of the Daly River Area

The standard study of these at present is that of D.T. Tryon (1974), from which the material and some of the general remarks here are taken. Certain features may be listed which serve to establish the DR languages as a group in their own right.

Pronoun systems are quite different from those of the EA languages just discussed. For instance, those of Maridhiel can be shown as follows:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td></td>
<td>nangi</td>
<td>nanginim</td>
</tr>
<tr>
<td>1. excl.</td>
<td>jigin</td>
<td></td>
<td>gadi</td>
</tr>
<tr>
<td>2. excl.</td>
<td>nanj</td>
<td>plural</td>
<td>nadi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ bini</td>
<td></td>
</tr>
<tr>
<td>3. excl. masc./fem.</td>
<td>nang</td>
<td></td>
<td>wadi</td>
</tr>
</tbody>
</table>

Here there are certainly strange forms, compared with those hitherto quoted, and quite distinct again from the set quoted as EA1. The existence of a set of plural pronouns is noticeable, as is the fact that there is a first person dual inclusive but, if other duals are required, they are built from the plural - making this earlier in time - by the addition of a dualiser (bini) which is quite different from the numeral two (djidjiguni). Although the language has noun classification, there is only one third person pronoun, and the plural non-first person carries a marker -di. Tryon (1974:296) remarks: 'There are exceptions, notably in the Tyemeri group, where separate plural and dual forms exist in all persons. In this case also, it does appear that the dual series is derivable from the plural. Marengar is the only language within the Daly family which has truly separate dual and plural forms for all persons'.

At least, therefore, the 'Brinken' group is something apart from the others, even within this limited region. It would appear also that the occurrence of only one dual pronoun - first inclusive - marks the BM group also, and seems at least a likely situation in the
Dampier Land languages (3.3.3.). Yet in spite of all this, there appear to be EA forms in the direct object pronoun suffixes (Tryon 1974). These, however, are phrase-final suffixes in VP, where the plural ɲaŋginim can be broken up into ɲaŋgi-nim, and the dualiser -bini superadded, as in Maridhiel:

\[\text{kiriŋki-} -\text{g-tim-} \text{pini-ya tyuwungenan} \]
\[\text{we/excl/hand-} \text{him-bury-dual-past yesterday} \]
\[\text{We two buried him yesterday.} \]

(Tryon 1974:77). This is in some ways comparable with Tiwi usages, but not with that of the rest of Australia.

Amongst the pronominals, there are five different dualisers, having no agreement among themselves or with EA or CA. Verbal systems in these languages have very little in common with the rest of Australia, but seem to be sui generis. See the paper in this volume on verb classification in Australia. As remarked above, these languages are also noun-classifying, but again their systems differ widely from those of other north Australian languages: see the corresponding paper on this subject, and Tryon (1970).

On the level of vocabulary also there is wide divergence from the rest of Australia, to a degree that still awaits analysis.

In the summing up, structural features unite to make these languages a distinct group. Tryon (1974:286) says of them: 'While the DR languages may appear to constitute a fairly loose-knit unit when viewed in terms of percentages of shared cognates, a comparison of phonological and morphosyntactic features reveals many important characteristics common to all of the member languages of the Family. Several of these characteristics, especially those involving verb morphology, appear to be restricted to the Daly Family, within the north Australian area'.

### 3.3.2. The Tiwi Language of Bathurst and Melville Islands

Tiwi very obviously stands apart from the majority of Australian languages, whether geographically close or not. In vocabulary the proportion of CA is very low — about 8%. Non-CA vocabulary makes no better showing amongst the other languages of northern Australia, in which CA is still very small, but in excess of the Tiwi percentage. There are also Malay components such as kumis, beard, Tiwi kumut. The general impression was pointed out by Capell (1940 and 1941) and also by Osborne (1974) in his fuller study. In this he speaks of the extraordinary complication of the morphosyntactic level, and writes:
'The Tiwi verb is a sentence in miniature', and 'nothing quite like it is found anywhere else in the Continent or on the Australian islands' (Osborne 1974:2-3). Apart from the remarkable agglutinating processes, 'most striking of all (for an Australian language) is the capacity which Tiwi has for incorporating noun-like forms into the structure of the verb, principally as direct object'. These structures may indeed be 'sentences in miniature', and they follow an SOV pattern, but still remain unique for the continent. If they represent a straight development from a primitive Australian pattern, it is still something local, not common. Osborne then goes on to make it clear that Tiwi is still an Australian language, however unique, but he is unable to 'place' it among others; it is also clear that lexical comparison is unable to establish Tiwi's genetic relationship (see Osborne 1974:3), especially the rapid replacement of vocabulary for sociological reasons. It remains to be seen whether his pessimism that 'Tiwi's genetic relationships will never be established through lexical comparison but only through structural comparisons' yet to be undertaken, is justified. On Tiwi vocabulary see 6.3.1. below.

Nevertheless, certain things do stand out. First is the fact that the dual number is marked only in the first person: muwa, you and I. Secondly, there are plural pronouns, and a third person with masculine and feminine distinction. This recalls Daly River and Dampier Land (except for gender distinction which is absent from the latter).

The Tiwi pronouns are:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>muwa</td>
<td>naya</td>
</tr>
<tr>
<td>1. excl.</td>
<td>ηija</td>
<td></td>
<td>ηawa</td>
</tr>
<tr>
<td>2. excl.</td>
<td>ηinda</td>
<td></td>
<td>nuwa</td>
</tr>
<tr>
<td>3. excl. masc.</td>
<td>ηara</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. excl. fem.</td>
<td>ηira</td>
<td></td>
<td>wuta</td>
</tr>
</tbody>
</table>

The crucial first and second person singular are obviously EA forms, and the second person plural also may be fitted into the scheme, but the remainder cannot; moreover, the prefixed person markers, which may be older than the cardinal pronouns, are different, except for first person singular η-, and these vary for tense (Osborne 1974:38ff.).
They therefore have a non-Australian background, or at least one that differs from the dominating EA.

Without therefore expanding the treatment at this stage, it is probable that this represents still another type of EA, of limited local occurrence. That any further delineation is possible, granted that the amount of vocabulary change has been as Osborne suggests, seems unlikely - although, of course, further vocabulary study may change the outlook.

3.3.3. Dampier Land Languages

It has long ago been shown that Dampier Land (DL) languages stand apart from their neighbour (Capell 1956/1962) in having a regional vocabulary and considerable grammatical peculiarity. For Njigina and Warwa, more details are given in Capell 1953. In Warwa, there is considerable influence from the NK languages. Structurally, these languages are largely prefixing: the person of the verb is marked by short pronouns prefixed to the verb stem and varying for tense.

Although the pronouns themselves (see Capell 1953:453) are partly EA, based on *ŋa- series, they have the peculiarity that the dual contains only the first person inclusive you and I - thereby agreeing with Tiwi and some other languages. Such a characteristic may be classed as EA - the earliest forms, treated above, though primitive in being noun stems, are later in adding suffixes for all dual persons. This development has been plain in Victoria, where even a trial number developed.

The following set shows DL pronoun roots, as theoretically reconstructed from Njulnjul and the other Peninsular languages, Bard, Djawi, Njigina, Warwa and Yawur.

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ŋaju</td>
<td>jawu, jaju</td>
<td>jadiri, jarada</td>
</tr>
<tr>
<td>2</td>
<td>djuwa</td>
<td></td>
<td>gurer, gura</td>
</tr>
<tr>
<td>3</td>
<td>ginjing(a)</td>
<td></td>
<td>jir(ga)</td>
</tr>
</tbody>
</table>

These forms are idiosyncratic, except for the first person singular, which belongs to the *ŋa- series of EA pronouns, to be treated below (3.4.). Unexpectedly enough, it is the third person singular that is of interest here: ginjing(a) has been linked by Dixon (1972:258) with
a root *ginja, found not only in Djirbal and Wembawemba (western Victoria) but also in Njigina. He has pointed out a few other east-west resemblances also, e.g. DL -ŋaru, *like, *gi, *near, linking with Lardil *gin and Mbararam *gini, *there.

It may be remarked in passing that the vocabulary contains much that is peculiar, whereas a CA content is difficult to recognise as anything more than a 'contact borrowing'. From the 100-word list used to calculate such content only a half-dozen words were accepted, and some of these only in some of the languages. Aspects of this vocabulary are discussed below in 6.3.3.

3.3.4. Other Areas

Not only such areas as Dampier Land but all over Australia there are more or less divergent types which cannot be dealt with here in detail. Their present-day forms suggest that they began as forms of EA and had received material from surrounding languages or, in some cases, even distant languages. Such a statement suggests that there have been widespread movements within the continent of which there is no evidence at the present time. Indeed, such events are very likely seeing that the Aborigines of Australia were mobile until white immigration stopped them. It cannot be known when language areas or tribal territories became fixed. In some cases such changes of location are probably very modern. One clear example of this sort of replacement of language in a given area is that of western Arnhem Land, where J.K. Harris was able to produce maps showing earlier and present linguistic situations (Harris 1969:maps I and II). Another is the Pilbara region of Western Australia, for which von Brandenstein (1967: 20aff.) produced seven maps of tribal movements - all of them modern enough to be still known, yet indicative of movements that must have gone on in more ancient times on a larger scale. The present-day linguist is at a disadvantage in regard to all this, and can only try to restore such movements by comparison of the existing languages with each other.

Nor are all the languages pronounless, like those discussed earlier. In addition to the language mentioned above, there are some which have taken over, at least as subjects and sometimes with suffixes in the oblique cases - pronouns of the EA series (ŋa-, njin-), retain strange vocabulary and strange forms of suffixed pronouns, and seem to retain old grammatical structures, especially in their verbal systems. The latter are extremely divergent from the languages used
Map 3: The Yugulda Language - Gulf of Carpentaria - in relation to its neighbours
(after Sandra Keen, 1972)
in other parts of Australia, not only in the morphemes used for the grammatical features, but also in the underlying principles. Examples of these will be found in Yugulda, Garawa and Galgadungu of the Gulf district of Queensland.

3.3.4.1. Yugulda, Garawa and Galgadungu

In each case, the pronouns can be fitted into the more widespread Australian, even though they have strange components:

1. Yugulda

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>ñagura</td>
<td>ñagulda</td>
</tr>
<tr>
<td>1. excl.</td>
<td>ñada</td>
<td>ñara</td>
<td>ñalda</td>
</tr>
<tr>
<td>2. excl.</td>
<td>njinga</td>
<td>gira</td>
<td>gilda</td>
</tr>
<tr>
<td>3. excl.</td>
<td>niya</td>
<td>bira</td>
<td>bilda</td>
</tr>
</tbody>
</table>

Here it is obvious enough that the singular pronouns are of EA origin; the other numbers are built with dual ending -ra and plural ending -lda on other roots: and the third person links with the Northern Kimberleys, e.g. as seen in Ngarinjin bi-ra, bi-ri, they, whereas the second person gi-root recalls the Ngarinjin prefix form gur-.

2. Garawa

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>nungala</td>
<td>ñambala</td>
</tr>
<tr>
<td>1. excl.</td>
<td>ñayu</td>
<td>ñali</td>
<td>nuru</td>
</tr>
<tr>
<td>2. excl.</td>
<td>ñindji</td>
<td>nimbala</td>
<td>nari</td>
</tr>
<tr>
<td>3. excl.</td>
<td>njulu</td>
<td>bula</td>
<td>yalu</td>
</tr>
</tbody>
</table>

Here the combinations are more elaborate: ñayu is the normal ergative but, in this case, is not necessarily ergative at all; ñindji is also ergative in form; njulu is found, for example, in South Australia (Diyari); bula is EA *buladj, two; nimbala recalls (but not certainly)
the WD njun-bala, you-he; nuru is usually second person plural and
ñambala seems to be I-they or perhaps I-he, whereas nari and yalu
remain opaque.

3. Galgadungu

<table>
<thead>
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<td>3. excl.</td>
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This set is very difficult to analyse. There is no inclusive-
exclusive distinction in the first person dual and plural; first and
second person singular are recognisably EA; second plural recalls
Gunwinjgu ñiga which is both singular and plural, and has cognates in
Victoria (Wembawemba etc.) and ñina seems to be a form of EA *dana.
The other forms remain quite strange.

It should be added that the vocabularies of all three languages
differ radically from each other, and their percentage of CA and
even EA words seems to be almost negligible. The 100-word list has
been provided here to show that from the view-point of vocabulary
there are three language isolates. The existence of such isolates is
part of the argument that there is no one proto-language 'Australian'
or even EA or CA that is basic to the whole continent. Words at
present recognised as CA or EA are added in a final column for com-
parison, showing that there are extremely few of these present in the
languages under discussion.
<table>
<thead>
<tr>
<th>English</th>
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<th>Galgadungu</th>
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Linguistic structures are present in each of these languages which set them apart from the normal Australian types of EA and CA. Comparison may be made here with the EA and CA forms by anticipation, details of which will be filled in later.

Word order is still rather free: SVO and SOV are much interchanged; what gives the impression of strangeness in these languages is the application of morphological particles within the sentence rather than the syntactic patterns. Each of the languages combines morphological markers in an unusual manner, which it is hard to take as a local variant of such markers, even when they have cognates in CA or EA - and in many cases they do not!

Yugulda, unlike some of the neighbouring languages, is ergative, but its nouns have a set of nominative endings which appear even when nouns are given in isolation. Yet these are not noun classes in the sense in which the term is generally found in Australia (see the paper on noun classification in this volume). The endings are phonologically not semantically determined, and there are eight of them. Case endings either replace these suffixes or change their form to allow for them. There is also a set of case endings which is partly influenced by the stem final of the noun; the genitive case is itself capable of taking further inflection under certain circumstances.

It is differentiation such as this plus an almost complete difference in vocabulary from CA that suggests that here we have one of the layers of EA that underlie the modern situation.

In Garawa the structures differ somewhat, but do point to a similar conclusion. References to this language are based on Christine E. Furby's paper (1972). She summarised the marks of this language, stating that 'eleven distinctions of person and number are marked in personal and possessive pronouns....' Unusual features of Garawa pronouns are the ability of personal pronouns to be marked for aspect, mood and tense, and the ability of demonstrative and interrogative pronoun stems to take further suffixation and their function as different parts of speech. This language is also ergative, indicating that the phenomenon reached it at some date after settlement into its present situation, for it is an area bordering on the accusative language and there is every evidence that it was once such itself. Word order also seems relatively free - another marker of early linguistic date. It is noticeable that the verb in Garawa is frequently unmarked, as in Yugulda and Galgadungu, owing to the tense marker appearing in some other part of the utterance, usually in the head complex, whether noun or adverb, as illustrated in the examples of
Yugulda. In Garawa, the tense marker tends to remain on the verb, but the verb appears first in the sentence, e.g.

\[
\text{wilgu-yi wajga nanama} \quad \text{naninji} \\
\text{run-past down that (nonspecificed) man-nom.} \\
\text{That man ran down the hill.}
\]
as against

\[
\text{wanji-\text{\text{-}njuli} \quad \text{baDadjba}} \\
\text{interr-subj:benef he:subj-past come} \\
\text{Why did he come?}
\]

The third language, Galgadungu, is also to be grouped with this early stage of Australian, as some part of EA, and certainly earlier than CA. Vocabulary alone would suggest this. The information for this rests on Blake (1969).

Part from the marking of tense in the NP as well as in the VP, it is the verbal pattern which chiefly differentiates these languages from other Australian languages, not only in method but in the actual morphemes. Tense markers depend on four factors: transitivity, aspect, and reals and irrealis forms of the verb. Moreover, the transitive is marked within the body of the verbal complex, not by an ending or set of person markers, but by a marker which indicates transitivity as such and forms one item within the verbal complex.

The tense markers given in the grammar (Keen 1972:199) are as follows:

\[
\text{Table 9: Verb Markers in Yugulda}
\]

<table>
<thead>
<tr>
<th>Transitive</th>
<th>Intransitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>Future</td>
</tr>
<tr>
<td>Realis</td>
<td>-\text{\text{-}ri}</td>
</tr>
<tr>
<td>Irrealis</td>
<td>-(\text{\text{-}ti})</td>
</tr>
</tbody>
</table>

The problem then to be solved is the order of such suffixes in the total verb complex, and this is a point at which not only Yugulda but other languages part from normal Australian usage. A few examples from Keen (1972:200ff.) show this effect: Keen's spelling has been retained for these examples:
tiyatja- qa- ri wulanta
\textit{eat-Vtr-I (tr)-pres-food (nom)}
I'm eating food.

(and the noun endings -tja and -ta come into play)
walira-qa-ya kapatja qum-anijnja miyalinjja
\textit{neg-I (intr) find-fut-Vtr your-benefit spear-benefit}
I will not find your spear.

There is a full study of these peculiarities in McConvell 1976 which will repay detailed study, and they show that here is a question of a variant linguistic type, rather than modification of a general Australian type. Some of the many variations which appear include

\[
\text{Sentence} = \left\{ \begin{array}{l}
[N\text{-erg}] + [\text{Tr-pres}] + N \ (\text{nom}) + V \\
[neg\text{-intr-pres}] + N \ (\text{nom}) + N \ (\text{dat}) + V \\
[\text{dem} \ (\text{nom})] + [N \ (\text{nom}) + p_1 + p_2 + \text{ta}] + [\text{pron} \ (\text{obj}) + V_b]
\end{array} \right.
\]

What is more unexpected is the use of ergative and nominative: objective does not always mean 'accusative': some other case may be required in some instances, as reference to McConvell's analysis will show. This language can definitely be set down as a different type, not as a variation on EA or CA models. At the same time, it is an AT language, but the AT processes are by no means the same as those of the WD languages or other CA languages.

The radical separation of certain groups of languages in Australia is stressed by O'Grady (1966:120) in his setting out of a density matrix between twentyseven Western Australian languages. The result is a very low density display. He remarks in the discussion of these languages that 'The results of the comparison of Nyulnyul, a non-Pama-Nyungan language spoken in the Kimberley District of Western Australia, are included by way of pointing up the extreme dearth of cognates (or rather, putative cognates) shared between languages of different phylic families of the postulated Australian Macro-phylum. In fact, almost the only convincing cognate in many such comparisons turns out to be the first person singular pronoun, with initial syllable /qa-/ in the vast majority of Australian languages'. This complexity of origin is largely increased when the scope of comparisons is increased. For the moment, it is time to pass on to consider the qa- set of pronouns. Before this is done, however, three other rather exceptional languages need to be passed under review, all of which use the root qa- for \textit{I}. These languages are Lardil, Bidabida and Gurnu (Guñu).
3.3.4.2. Lardil, Bidabida and Gurnu

Outside the immediate sphere of these three languages there are three others in which tense is shown in the pronoun and noun object, but in which the syntax is not as elaborate as in the other languages. These three are Lardil of Mornington Island, Bidabida (Pittapitta) of Boulia district and Gurnu (Gunu) west of the Darling River in New South Wales and, to some lesser extent, Murawari not far from Gurnu. The principle of indicating tense in non-verbal categories is common to all these languages (Wurm 1972:133,146) and is not found in other parts of Australia. As the shared vocabulary both between the languages shown above and these others is small, and their CA/EA content is also very small, these look strongly like an early language group (EA) later flooded by eastward moving peoples. It is of course possible that each occurrence of this phenomenon was independent of the others, yet hardly likely, especially as the future marker is the EA *-gu, indicating purpose - 'for' with nouns and 'intention' with verbs (see Blake et al., in Dixon, ed. 1976:421-82) in two out of the three languages. These languages will be reviewed briefly:

1. Lardil is the language of Mornington Island, to the north of and clearly related to Yugulda and Gayardild. Here object NP is marked for the future as against the non-future. The examples below are from Hale 1970; others may be found in Capell 1942:47-50. In the citations from Hale his spelling is kept:

\[
\text{\v{t}\'a\v{n}ka ka\text{-}q\text{\c u}r \text{pi\v{r}e\n-k\text{\c u}r} \\
man \text{ speak-fut woman-fut}
\]

The man will speak to the woman.

Here the future marker *-q\text{\c u}r is added not only to the verb but also to the following noun. There is no ergative, and it is possible to turn the sentence into the passive voice in ways that are not relevant here. Further examples from Hale (1967:63ff.) will make the correspondences clearer:

\[
\begin{align*}
\eta\text{\text{n}ta kupa\text{\r i}-kun ma\text{-}\text{n}i & \quad \eta\text{\text{n}ta kupa\text{\r i}-\text{\c u} ma\text{-}\text{n} -\text{\c u} \\
I \text{ made a spear} & \quad I \text{ will-make a spear}
\end{align*}
\]

Word order in such sentences is not fixed; all possible orders are acceptable provided the requisite endings are in their places: Hale has shown the variations that are possible (p. 67). The pronouns then take on the following forms in the singular (Capell 1942):
The pronouns themselves belong to the EA set ηa(n)-njin, but the point of interest is that the objective second and third singular seem to involve the forms suffixed by *badj (here becoming -we-) which will be discussed in 3.4.

2. Bidabida - information is gathered from Blake and Breen (1971), the authors' spelling again being retained. The situation is a little more complicated as there are dialect variations within the region. Moreover, the language is ergative, so that three forms of each pronoun appear: nominative, ergative (operative) and future. In the singular number these forms are

<table>
<thead>
<tr>
<th>Person</th>
<th>Nominative</th>
<th>Ergative</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ηanjtja</td>
<td>ηaju</td>
<td>ηanju</td>
</tr>
<tr>
<td>2</td>
<td>inpa</td>
<td>intu</td>
<td>inŋu</td>
</tr>
</tbody>
</table>

It will be seen that the -*badj ending appears in inpa, the nominative, not in the objective, as in Lardil. The ergative in each case belongs to the -*lu series. A series of case endings adds to the difficulties in Bidabida, e.g. the objective is

<table>
<thead>
<tr>
<th>Person</th>
<th>Non-future</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing. 1.</td>
<td>ηanja</td>
<td>ηanjtju-ku</td>
</tr>
<tr>
<td>2.</td>
<td>ina</td>
<td>inku</td>
</tr>
</tbody>
</table>

whereas the dative does not distinguish tense, but has ηanjaři or ηanjai for me; inkaři or inkai for you. All these forms are in radical
agreement with Lardil, but it would appear that Gurnu is radically different. A few sentences will show the system at work:

\[
\begin{align*}
tjuarrri-lu & \enspace \text{piawaal} \text{na} \\
\text{tall-erg} & \enspace \text{kick-pres} \enspace \text{dog-obj}
\end{align*}
\]

The tall one is kicking the dog.

\[
\begin{align*}
\text{ka}na-lu & \enspace \text{pi} \text{t}i \text{ka} \enspace \text{matjum} \text{pa-na} \enspace \text{tji} \text{ra} \text{tji} \text{ra} \text{lu} \\
\text{man-erg} & \enspace \text{kill-past} \enspace \text{kangaroo-obj} \enspace \text{boomerang-instr}
\end{align*}
\]

The man killed the kangaroo with a boomerang.

\[
\begin{align*}
\text{maRa-} & \enspace \text{\textepsilon}u \enspace \text{n} \text{an}u \enspace \text{pi} \text{t}a \text{li} \text{na} \\
\text{hand-fut} & \enspace \text{I-fut} \enspace \text{hit-ting-for}
\end{align*}
\]

I'm going to hit him with my hand.

It is possible to have more than one simultaneous case-ending:

\[
\begin{align*}
\text{tinta-} & \enspace \text{ma-} \text{\textepsilon}u \enspace \text{kanta-} \text{n} \text{ja} \\
\text{yam-for-obj} & \enspace \text{<she> went}
\end{align*}
\]

3. Gurnu was recorded by R.H. Mathews as being spoken on the west bank of the Darling River, near Bourke in New South Wales, and links with Murawari just to the north of it. Neither has been fully studied since, but some work has been done on Gurnu by Wurm (1976), and Oates has done unpublished work on Murawari. The present writer, going through Oates' field notes, had observed the non-verbal tense marking phenomenon there also. It appears also further west in Ba:undj\text{\textepsilon}i (Wurm and Hercus 1976). The great difference here is that the tense is indicated by a variation in the initial consonant of the pronoun, not by a suffix to it. A few sentences may be quoted from Wurm (1976):

\[
\begin{align*}
\text{mu:ya} & \enspace \text{wa} \text{\textepsilon}u \enspace \text{winbar-} \enspace \text{ayi-na} \\
\text{scold past-}I \enspace \text{daughter mine-loc (and I said to her)} \\
\text{windu} & \enspace \text{gaba-nja} \enspace \text{ma} \text{\textepsilon}i-uma \enspace \ldots \\
\text{past-thou} & \enspace \text{follow-cont} \enspace \text{man-yours} \enspace \ldots \\
\text{ga} \text{\textepsilon}u & \enspace \text{dayi} \enspace \text{wanga} \\
\text{future-}I \enspace \text{eat} \enspace \text{meat} \\
\text{I will eat the meat.} \\
\text{ma} \text{\textepsilon}d \text{i-na} & \enspace \text{ga:ndara bami gindu} \\
\text{ground-loc} \enspace \text{blood} \enspace \text{see fut-thou-ag} \enspace \ldots \\
\text{You will see the blood on the pavement.}
\end{align*}
\]

Wurm adds: 'In the Barundj\text{\textepsilon}i dialect of the Darling Group, the subject markers are suffixal and undergo morphophonemic changes. Nevertheless,
the changing of pronouns for tense is present in that dialect as well as will be shown by the following examples:

dulaga giṣi:ga (< giщу-iga) wimbus-dja-Ru
   bad             fut-this-pl man agent
  balga-nda:-di:ga (< balga-nda-jadi-iga) ṇal-i-ŋa
       hit, kill-?-fut-they-pl we two-obj

Those bad men will kill us two.

In these languages the tense marking is prefixal throughout: the normal *ŋan/ŋin sets with their nasal opening being replaced by a w- set for the past and a g- set for the future tense. Here also it is a full declension substitute, e.g. Murawari wunda, him past, with suffixal form -(m)ba, he.

In these areas too, some of the older Australian words are found, e.g. Murawari wi:, fire < *wiyin, a south-eastern root chiefly, of EA origin; g(w)ija, fish < EA *gwijan; ma-ra, hold, take < EA *ma-.

3.4. The EA ŋa- Series of Pronouns

Next comes the set of pronouns resting on the bases *ŋa(n/j), I and ŋun- - njin-, you. The third person varies, mostly *ba or *dana, with originally undefined difference, but *ba finally settling down to singular and *dana mostly to plural. These are by far the most widespread in Australia, and in the author's earlier writings (1956 onwards) they have been treated as CA. Present evidence makes it doubtful whether they can be more than a type of EA, and in this case, the nominal roots used as pronouns in the ways just discussed would be an older stratum, so far conjoined in EA. It must be remembered that EA need not be regarded as a single stratum, so that the noun-pronoun roots could be EA₁ and the ŋa- series EA₂.

The ŋa- series is fuller than the EA₁ series (in the sense just defined), and may be tentatively restored as follows:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ŋa(n/j)-</td>
<td>ṇal-i</td>
<td>ŋa-nan</td>
</tr>
<tr>
<td>2</td>
<td>ŋun- - njin-</td>
<td></td>
<td>ŋura</td>
</tr>
<tr>
<td>3</td>
<td>(ba)</td>
<td></td>
<td>(dana)</td>
</tr>
</tbody>
</table>
That this series may historically have overlapped with its predecessor is clearly suggested by the Gadhang, New South Wales, set, as delineated in Holmer (1966:61–3): in first person alongside nom. ηαδυα is found obj. baRaŋαŋ, poss. baRaβα, dative baRaγ(i) and, for that matter, second person sing. biyαγ(i), parallel obj. binaŋ and poss. bi:nba, while ηνυα is third sing. and baRa third plural—a type of confusion not present in the neighbouring Dhanggadi. In the languages of the Yaralde Group along the lower Murray, ηυν-, ηυρα has become second singular.

In general, however, throughout large parts of Australia, the -r- has been a marker of plurality in the pronouns, as in Awaba nu-ra, you and ba-ra, they; the dual number is first person bali, second bula, third bul-warα. Again, these peculiarities of the extreme south reappear in the Northern Kimberleys and some languages of Arnhem Land. In Gunwinjgu ηυα is you in all numbers, and fourteen other languages of the area have a similar -r- formation in the second person plural pronouns. Nor is it confined to these groups; Diagram I shows the distribution of -r- as a pluraliser throughout the continent and, in fact, it occupies all the strategic points of the country. More is said of this at the end of the present section.

The majority of Australian languages use pronouns which are based on these roots. In ergative languages the first two pronouns—the only original pronouns—take the form of ηαju - ηαdju and jindu - njundu respectively and one of two roots—ba- or either nulu - njulu or nu-wa - njua for third person singular. The ba- root is western, the other nu- root mostly eastern. This in the form nuwa/ njua is *nu-badj and belongs to the *badj root yet to be discussed. The forms in -du/dju suggest that the root ended in a consonant, either palatalised or not, a CVC base.

The phonological shape of *ηα-ju as an ergative raises some difficulties, for -ju is not a normal form of *-lu. If the base is *ηαnj the formation would be ηαnj+lu - ηαnjjlu - ηαn-lju - ηαju. Yet such a base as *ηαnj would be expected to produce *ηαnjdjju and actually often does so. Perhaps it is needful to postulate *ηαj as well as *ηαnj, and such forms as Djirbal ηαjba support this double form of the root. It may then be taken that there were at an early stage two forms of the first and second person pronouns: *ηαj and *ηαnj, and similarly *η(n)jιn and *ηιn for the second. Both are widely found and it is difficult to separate them either geographically or historically. A change of any one into another is possible, but only if there was such early variation between *ηαj and *ηαnj, and also *ηαn. This is possible
Diagram I: The Distribution of -r- as a pluraliser in Australian Pronouns

Northern Kimberley Languages

Arnhem Land Languages

AUSTRALIA

AT-Languages (Western Desert)

'Kana' Languages

Gogay

Diyari

Murawari

Yaralde

Gadhang

Awaba

South Coast Languages
if there was the development of the laminal series that Dixon (1970b) has postulated, and this would seem right. Alternatives for the second person singular are *njin- *njin- *njun- *nun, which on laminal variation is also likely.

The WD languages have a set *nj-a-ju-lu, *njun-du-lu which show that the variants mentioned above were once current in the west also. These are, however, formally double ergatives. In practice they may not be ergatives at all, being used often as the only form of the pronouns in use, with either transitive or intransitive verbs. Archaeological evidence (see Capell 1972:32-35) suggests that WD types moved eastwards about 6000 B.P. and westwards at some earlier date for which there is no evidence.

In the West before that date, it can be suggested only approximately what the situation was. It is to be presumed that the roots mentioned above were current there as EA forms, replaced in CA languages later by double ergatives. Earlier in non-EA times there had been languages of the Warnman type lacking true pronouns and using instead noun bases with possessive suffixes. However, the languages of the north-west (O'Grady's Ngayarda) and west coast present forms of the EA roots without double ergative, but with different forms such as *nda, I ergative or not, and these need further explanation which will be ventured below. These languages also have decidedly lower frequency of CA vocabulary than the WD, and support the theory suggested by Thorpe that early migration proceeded along the coast, from north Australia round towards the modern Perth, and eastwards via Torres Strait down the eastern coast, along the south to the mouth of the Murray and then inland towards the great river basins of Victoria and New South Wales. These will be discussed in section 6.

Thus the study of pronouns, especially the first two, will provide such answers as can be given to the historical question. Warnman, geographically excluded, must be regarded as an island of earlier speech by reason of the smallness of its CA content. It is perhaps the sole survivor of the interior western languages of earlier date. In all the languages there are usually ergative forms of the pronouns of first and second singular, but not as a rule of dual and plural - especially *nali, you and I. It is strange that this does not seem to be included in the ergative series but it is generally true. It has already been pointed out above that the ergative form *naju is difficult to explain, but there are other ergatives of this root that do not fit into the general pattern of noun ergatives at all. These are such as *naja, *nda which can be seen in many of the lists. Such
ergatives do not occur with nouns as a rule, except in the Arandic languages. This fact may give the clue: in these languages a final -u frequently becomes -a. It would seem therefore that at some early stage this -u -a was commoner, so that possibly ŋaja *ŋan-ju which at an intermediate stage became *ŋajju may give the explanation. In some cases there is the suffix *-badj, to be explained below, which either took the place of the ergative (as in Yaralde ŋab(i), Niwadj ŋabi, and others in Table 12) or survived in a different usage. Where *-badj is used with an ergative in northern Australia and Cape York Peninsula, it follows the ergative stem, as in Anindilyawgwa ŋa-ju-wa, Nunggubuyu ŋa-ju-wadj) and in New South Wales in Awaba ŋa-du-wa, ŋjin-du-wa, where these are the only pronouns. These do raise some historical problems, but the explanation seems to be that here offered. The addition of *-badj to an ergative suggests that it ought to be written as a separate particle after the pronoun, and not as part of it: ŋaju wa, ŋadu wa, etc. This also brings out the real meaning of *badj, as set out below.

There results therefore a Table like the following, adumbrated by Schmidt but not fully worked out:

<table>
<thead>
<tr>
<th>Area</th>
<th>Erg. Suff.</th>
<th>Root</th>
<th>Erg. Form</th>
<th>Root</th>
<th>Erg. Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern</td>
<td>-ja/-dja</td>
<td>ŋanj, ŋin</td>
<td>ŋaja/ŋadja; ninda/ŋinda</td>
<td>ŋanj</td>
<td>ŋaju/ŋadju; nindo/nundu</td>
</tr>
<tr>
<td>Western</td>
<td>-ju/-dju</td>
<td>ŋanj</td>
<td>ŋaju/ŋadju; nindo/nundu</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are two other endings to pronouns other than those which mark the ergative. These are *-badj (which usually by loss of final consonant appears as -ba, -wa, and in Cape York -va), and *-galig, which appears as such in Victoria, but elsewhere -gari, -gal. The second is less common and phonemically more regular, so that it is convenient to take it first.

The suffix -galig in Victorian languages forms a trial number or a pausal plural with pronouns. It may be illustrated from Djadjala of north-western Victoria, as given in Mathews (1902):

<table>
<thead>
<tr>
<th></th>
<th>jurwe-g</th>
</tr>
</thead>
<tbody>
<tr>
<td>we (plur.)</td>
<td>jurwe-ŋarag</td>
</tr>
<tr>
<td>we three</td>
<td>jurwe-ŋara(g)-galig</td>
</tr>
</tbody>
</table>

Possessive suffixes may be superadded:
<table>
<thead>
<tr>
<th>Phrase</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>gadimgadim-eg</td>
<td>my boomerang</td>
</tr>
<tr>
<td>gadimgadim-arag</td>
<td>our (excl.) boomerangs</td>
</tr>
<tr>
<td>gadimgadim-ara(g)-galig</td>
<td>our-three boomerangs</td>
</tr>
</tbody>
</table>

In this usage, this suffix is limited to western Victoria. In some other areas of Victoria there are substitutes for it, so that the idea is retained elsewhere, but trial indication in Australia is rare, even though not limited to the south-east. There is, however, another use which is very widespread, 'group of people', which occurs in languages in which the suffix does not occur with pronouns at all. Hercus (1966) has shown that it appears as -gari in Arabana, meaning 'a group of connected people'. A third usage is as the ending of a tribal name in the form of -gal, and a glance at any tribal map of Australia will show how common it is as -gal, -wal, -bal; the most distant from Victoria being Wunambal of the northern Kimberley. To be so widespread as this, *-galig must be a very early element in Australian language, even though now so limited in its original meaning.

The suffix *-badj has also quite a wide range of occurrence, though it is chiefly in north Australia and in the central New South Wales coast. It may occur along with the ergative as *ŋa-ju-wa in Anindilyawgwa; the full form *-badj is established on the basis of Nunggubuyu only: ŋajuwadj. In Djirbal it occurs as ŋajba, I (nom.). Here Dixon first put forward the opinion that it was a phonological element only: '-ba has been added to roots in a number of languages for PURELY PHONOLOGICAL REASONS, e.g. so that every word should be at least disyllabic' (Dixon 1972:245). This would not be true for all languages, even in the same part of Queensland as Djirbal, to which it really refers. It seems doubtful whether such meaningless syllables ever occur in Australia. The explanation of -ba added to WD words which otherwise would end in a non-permissible consonant, as just such a 'nonsense syllable' is quite needless: it would be ba the third person pronoun intransitive in these languages, used redundantly like i in New Guinea Pidgin man i kam, the man came. However, in the later A Grammar of Yidin Dixon himself has a better explanation: -ba indicates 'one of a group of people' (Dixon 1977:145). Surely this is precisely what it does mean as added to a pronoun, and even in non-singualars, such as Nunggubuyu nuguuruwadj, you pl., it is most natural to take it as 'you as individual members of a total group'.

The distribution of *-badj (Map 2) is interesting: it is found in Arnhem Land east, Cape York north, along parts of the Queensland coast
(in these frequently with the bilabial v, -va peculiar to them),
central New South Wales coast (Awaba, etc.) and once in Victoria in
Bungandidj ɲaɭuwaɭj. It is thus a predominantly northern element;
centred about Rose River and reaching westward in the form -bi, -b
(see Table 12), and north-eastward in the form *-ba. This supports
the idea of a move from north Australia along the eastern coast south-
wards already suggested earlier in this section. The fact that it is
added to an ergative in so many languages – in fact all the languages
that have ergatives, points to its being an emphatic or discriminatory
particle, not part of the pronoun. It should be written separately
from the pronoun. In Nunggubuyu it is omitted in certain instances.
On the other hand, where both intransitive and transitive pronouns
exist, *-badj is often added to the ergative only: in Djirbal first
singular ɲaɭaba (intr.), ɲaɭadja (trs.); and second singular niɭ-adja
and niɭ-ba correspondingly. This is not the normal ergative ending: in
nouns that is *-lu > ɲgu. Here again are problems that lie outside
the range of the present research. Moreover, there are languages in
which *-badj functions, and which are ergative, but do not use *-lu
in the pronouns, e.g. Yaralde ɲa-bi, I. So there would seem to have
been historical difficulties as between this suffix and the ergative,
and they were resolved differently in different areas. The WD
languages with the ɲa-ju-1u type of pronoun (see 3.5.) are doubly
ergative in form though perhaps not ergative at all in function. The
suffix is essentially, it would seem, a property of the non-ergative
languages. It needs also to be mentioned that there is no occurrence
of *-badj on the west coast of Western Australia. It is a purely
eastern and northern phenomenon.

It is not the intention of this study to work in detail the position
actually held by the writer, which would require much greater space.
For the non-singular numbers of the ɲa- series of pronouns, a few
leading points only will be made. They comprise the following:

1. As stated earlier, only the first and second person
   singular pronouns are claimed as being in any way
   original Australian. Third person, though patterning
   fairly well, is a demonstrative, not a true pronoun.
   Two roots are common, ba, erg. ba-1u in the west,
   and nu- ~ nju- ~ ɲu- in the east.

2. Second person plural is of special interest. It also
   has a root that appears to be nu-, but is probably the
   singular nju-, nji- with an added -r- pluraliser giving
Table 10: Enclitic Pronoun Subject Markers in Western Desert Languages

<table>
<thead>
<tr>
<th>Language</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3</td>
<td>1. incl. 1. excl. 2 3</td>
<td>1. incl. 1. excl. 2 3</td>
</tr>
<tr>
<td>Baljgu</td>
<td>-ŋa -nba /ə/</td>
<td>-li -lija -nbula -bula</td>
<td>-la -guda -nju -ja</td>
</tr>
<tr>
<td>Inggarda</td>
<td>-ŋa -nba -Ø</td>
<td>-li Ø Ø Ø</td>
<td>-la Ø Ø Ø</td>
</tr>
<tr>
<td>Garadjari</td>
<td>-ŋa -n -Ø</td>
<td>-li -la -nbula -bula</td>
<td>-nja -jaŋa -juru -ja</td>
</tr>
<tr>
<td>Njangumarda</td>
<td>-ŋu -n -rŋ</td>
<td>-li -laji -nbula -bula</td>
<td>-nj i -jini -njuru ji</td>
</tr>
<tr>
<td>Warmman</td>
<td>(not used)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Julbaridja</td>
<td>-ŋa -n -Ø</td>
<td>-li -lidj u -lunbula -bula</td>
<td>-la -ladju -njura -ja</td>
</tr>
<tr>
<td>Bidjandjadjara</td>
<td>-ŋa -na -Ø</td>
<td>-li -lidj u -bula -bula</td>
<td>-la -ladju -la -la</td>
</tr>
<tr>
<td>Waljbari</td>
<td>-ŋa -nba -Ø</td>
<td>-li -lidj u -mbula -bula</td>
<td>-labu -nalu -ŋulu -lu -l</td>
</tr>
<tr>
<td>Mangala</td>
<td>-ŋa -n -na</td>
<td>-la -yara -mbula -bala</td>
<td>-la -ŋani -njuru -niyli</td>
</tr>
<tr>
<td>Walmadjari</td>
<td>-ŋa -n -Ø</td>
<td>-li -dj u -n -bila</td>
<td>-libu -ŋa -n -Ø</td>
</tr>
<tr>
<td>Djaru</td>
<td>-ŋa -n -Ø</td>
<td>-li -dj u -nbula -bula</td>
<td>-liwa -nali -ndalu -lu</td>
</tr>
<tr>
<td>Malngin</td>
<td>-ŋa -n -Ø</td>
<td>-li -ndj a -nbula -wula</td>
<td>-la -nda? -nda -lu</td>
</tr>
<tr>
<td>Mudbura</td>
<td>-ŋa -n -Ø</td>
<td>-liwula ? -nbula -wula</td>
<td>-la -nalu -nda -lu</td>
</tr>
<tr>
<td>Ngandi</td>
<td>-ŋa -n -Ø</td>
<td>-li -nbula -bala</td>
<td>-libu -nalu -nda -lu</td>
</tr>
<tr>
<td>Language</td>
<td>Singular</td>
<td>Dual</td>
<td>Plural</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Table 11</strong> : Free Pronouns of Western Desert and West Coast Languages of Western Australia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Baljgu</strong></td>
<td>ŋaŋa njinda ŋuŋa</td>
<td>ŋali ŋaliŋa ŋubalu ŋunjugua</td>
<td>ŋanula ŋanaga ŋuwalu ŋunjadjirra</td>
</tr>
<tr>
<td><strong>Inggarda</strong></td>
<td>ŋaŋana njinda banja</td>
<td>ŋallili ŋubala bula</td>
<td>ŋanula gura dana</td>
</tr>
<tr>
<td><strong>Garadjari</strong></td>
<td>ŋadju njundu bala</td>
<td>ŋali ŋalja njumbula nangudjara</td>
<td>ŋandjuru ŋanja njura nanguru</td>
</tr>
<tr>
<td><strong>Njargumarda</strong></td>
<td>ŋardu njundu balinja</td>
<td>ŋali ŋalajji njumbala bulanja</td>
<td>ŋandjuru ŋanja njura djana</td>
</tr>
<tr>
<td><strong>Warnman</strong></td>
<td>(noun stem series)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Julbaridja</strong></td>
<td>ŋaju njundu njara</td>
<td>ŋajugudjara njundu gudjara njaragudjara</td>
<td>ŋahuqil njunduqil njaraqil</td>
</tr>
<tr>
<td><strong>Bidjandadjara</strong></td>
<td>ŋaju njundu baluŋa</td>
<td>ŋali njubali</td>
<td></td>
</tr>
<tr>
<td><strong>Wajbiri</strong></td>
<td>ŋadju njundu jali</td>
<td>ŋali ŋaljara njumbala jadidjara</td>
<td>ŋaliba ŋanunba njura jaliŋjara</td>
</tr>
<tr>
<td><strong>Mangala</strong></td>
<td>ŋaju njundu bani</td>
<td>ŋaljara ŋaljara njumbala banjara</td>
<td>ŋandjura ŋanana njura banjiraŋj</td>
</tr>
<tr>
<td><strong>Walmadjari</strong></td>
<td>ŋadju njundu njandu</td>
<td>ŋalldjara ŋalldjara njuradjara nanadjara</td>
<td>ŋalumba ŋanamba njura njandwuanđi</td>
</tr>
<tr>
<td><strong>Djaru</strong></td>
<td>ŋaŋa njundu njila</td>
<td>ŋali ŋalldjara njumbala njilawila</td>
<td>ŋallwa ŋanlimba njura njilandi</td>
</tr>
<tr>
<td><strong>Malngin</strong></td>
<td>ŋaju njundu nja:wa</td>
<td>ŋali ŋajira njumbula njandawila</td>
<td>ŋandibila ŋalimba njurulu njanda</td>
</tr>
<tr>
<td><strong>Ngarlinman</strong></td>
<td>ŋaju njundu njawa</td>
<td>ŋajira njumbula njagudjara</td>
<td>ŋallwa ŋandibila njurulu nja:wara</td>
</tr>
<tr>
<td><strong>Mudbura</strong></td>
<td>ŋaju njundu jali</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gurindji</strong></td>
<td>ŋaju</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ngandi</strong></td>
<td>ŋadju njundu jala</td>
<td>ŋali ŋaljara njumbula minjanbula</td>
<td>ŋaliba ŋanimba njurula minja</td>
</tr>
<tr>
<td><strong>Ngarla</strong></td>
<td>ŋaja njinda ŋuŋa</td>
<td>ŋali ŋalija njumbalu ŋunjibijalu</td>
<td>ŋandjara ŋanana njura ɲunjibajalu</td>
</tr>
<tr>
<td><strong>Njamal</strong></td>
<td>ŋadja njundu njuna</td>
<td>ŋallilija njumbula ɲunjabijalu</td>
<td>ɲanjdjula ɲanana njuralu djanalu</td>
</tr>
<tr>
<td><strong>Bandjima</strong></td>
<td>ŋaŋa njinda ŋuna</td>
<td>ɲadubaja ɲalija njumbula ɲunjabijalu</td>
<td>ɲandjduļa ɲaljaguru ɲubaluguRu ɲuŋadjiŋj</td>
</tr>
<tr>
<td><strong>Jindjibandji</strong></td>
<td>ŋaji njinda</td>
<td>ɲali ɲajuwaga ɲilingwu ɲunjwudja</td>
<td>ɲaijigari ɲalijamburu ɲjindawu ɲunjungiri</td>
</tr>
<tr>
<td><strong>Gariera</strong></td>
<td>ŋaji njindu ɲuŋu</td>
<td>ɲali ɲalijara njindubula baluguda</td>
<td>ɲalluqiru ɲanjaŋa njingajaguru balugula</td>
</tr>
<tr>
<td><strong>Dalandji</strong></td>
<td>ŋaŋa njinda ɲuŋa</td>
<td>ɲali ɲalila njumbula balugula</td>
<td>ɲanugu gura dana</td>
</tr>
<tr>
<td><strong>Buduna</strong></td>
<td>ɲaŋa njinda ɲuŋa</td>
<td>ɲali njubula balugula</td>
<td>ɲanuru guralu ɲunjungiri</td>
</tr>
<tr>
<td><strong>Bayungu</strong></td>
<td>ɲaŋa njinda ɲuŋa</td>
<td>ɲali ɲubula ɲagagarada</td>
<td>ɲanura gura</td>
</tr>
<tr>
<td><strong>Dargari</strong></td>
<td>ɲaŋa gura ɲuŋa</td>
<td>ɲali gubalu ɲagagarada</td>
<td>ɲagagura ɲragara ɲunjungari</td>
</tr>
<tr>
<td><strong>Nanda</strong></td>
<td>ɲaji njinda inja:ala</td>
<td>ɲalldjara gubalu adaŋara</td>
<td>ɲana gura gaŋi</td>
</tr>
<tr>
<td><strong>Wadjug</strong></td>
<td>ɲanja njinda bal</td>
<td>ɲali ɲubala bulama</td>
<td>ɲalaŋa njuraŋa balugun</td>
</tr>
<tr>
<td><strong>East Mining</strong></td>
<td>ɲadu njundu baŋaŋu</td>
<td>ɲandaŋa njunduguda banagudjara</td>
<td>ɲanqadami ɲunjungari gaŋiŋj</td>
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</table>
Table 12: Pronoun Sets in Languages of Arnhem Land and Barkly Tablelands

<table>
<thead>
<tr>
<th>Language</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
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<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Multiple Classifying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Laragiya</td>
<td>ɲa:nanga</td>
<td>Ɂdana</td>
</tr>
<tr>
<td>2. Gagadjju²</td>
<td>ɲanjma</td>
<td>ɲinjama</td>
</tr>
<tr>
<td>3. Gunwinjgu</td>
<td>ɲaje</td>
<td>ɲuda</td>
</tr>
<tr>
<td>4. Mangeri</td>
<td>ɲa:j</td>
<td>ɲoil</td>
</tr>
<tr>
<td>5. Uringangg</td>
<td>no:g</td>
<td>no:wu</td>
</tr>
<tr>
<td>6. Burera</td>
<td>ɲaje</td>
<td>ɲiŋibe</td>
</tr>
<tr>
<td>7. Mawng</td>
<td>ɲabi</td>
<td>ɲuji</td>
</tr>
<tr>
<td>9. Wendarang</td>
<td>ɲiŋa</td>
<td>ɲinju</td>
</tr>
<tr>
<td>10. Ngandi</td>
<td>ɲaja</td>
<td>numaan</td>
</tr>
<tr>
<td>11. Ngalagan⁴</td>
<td>ɲa:jga</td>
<td>ɲindja</td>
</tr>
<tr>
<td>12. Anindilyawgu</td>
<td>ɲajuwa</td>
<td>nunguwa</td>
</tr>
<tr>
<td>13. Anjula</td>
<td>ɲana</td>
<td>jinda</td>
</tr>
<tr>
<td>Dual Classifying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Wogadj</td>
<td>ɲadjana</td>
<td>ɲanja</td>
</tr>
<tr>
<td>15. Nagar</td>
<td>ɲairaba</td>
<td>ɲe:jaba</td>
</tr>
<tr>
<td>17. Marra</td>
<td>ɲina</td>
<td>ɲija</td>
</tr>
<tr>
<td>18. Djawan</td>
<td>ɲarq</td>
<td>ɲin</td>
</tr>
<tr>
<td>19. Alawa</td>
<td>ɲina</td>
<td>ɲjangana</td>
</tr>
<tr>
<td>Non-Classifying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Jiwa:da⁶</td>
<td>ɲabi</td>
<td>ɲuji</td>
</tr>
<tr>
<td>21. Margu</td>
<td>ɲa:ga</td>
<td>ɲi:gi</td>
</tr>
<tr>
<td>22. Amarak</td>
<td>ɲauwa</td>
<td>wamba</td>
</tr>
<tr>
<td>23. Ranbarngu</td>
<td>ɲinda</td>
<td>danda</td>
</tr>
<tr>
<td>24. Buwan</td>
<td>ɲeji</td>
<td>ɲiŋ</td>
</tr>
<tr>
<td>Suffixing Languages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Gubawiyngu</td>
<td>ɲara</td>
<td>ɲi</td>
</tr>
<tr>
<td>26. Wanyu:ngu</td>
<td>ɲaja</td>
<td>nunu</td>
</tr>
<tr>
<td>Barkly Tablelands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Djingili</td>
<td>ɲaja</td>
<td>n(j)ama</td>
</tr>
</tbody>
</table>

1. Only masculine forms are given here.
2. Gagadjju has feminine forms for all but first singular.
3. These add -wadj when independent.
4. The plurals suffix gabbu⁵l = 'three'.
5. Feminine ɲa:jra.
6. See Mawng forms also.
*nura commonly, but probably more anciently *nu-run. Forms of this *nurun are found in the northern Kimberley and Arnhem Land on one side, and in Awaba of New South Wales central coast on the other. In Ngarinjin, for example, the plural pronouns are:

1. incl. ηa-run
2. excl. nja-run
3. excl. nu-run
4. excl. bfn-dun < bfn-run

In Awaba there is no inclusive-exclusive distinction, but the pronouns are (1) plural ηeen (probably for ηaj-un < ηa-run; (2) plural nu-r-a < nu-r-un (genitive case nu-run-ba). The wide occurrences of this form in Australian are set out on Diagrams I and II, and they are instructive. It might be added that the -r-plurals have still other occurrences in addition to these with *nurun. These forms also will probably enable the pronoun for thou to be set down as *nu rather than *nun, nin or any of the forms that have been used hitherto.

3. Plural forms did not originally, even when established, distinguish between inclusive and exclusive, and it is possible to trace the methods by which they were produced, although outside the scope of the present writing. Some of these can be worked out by study of Tables 10 and 11, which refer to the WD languages.

These outline remarks must suffice for the present moment. They establish the main features of the ηa-set of pronouns, of EA period, which are not only basic to the languages involved, but are basic to Australian language in general. The languages which do not share them are not to be reckoned within either EA or CA.

3.5. Pronouns of the Western Desert Languages

The third series of pronouns is that of the WD languages, and these are to be regarded as CA: judging from Wurnman, they will be replacements for an earlier - now lost - set of pronouns formed by adding a possessive suffix to a noun. The present sets are not only later than those of EA (of any kind at all), but are built on EA2 roots, and their constitution as constructed forms is obvious as soon as they are
analysed. Capell offered an analysis of these as early as 1955 (Capell 1955). So far this has not been controverted, and it is here taken as correct in outline, with a little more detail added. It would seem that the WD languages originally lacked pronouns as a category, but the situation here was not the same as elsewhere. The word order in these languages was at least a preferred VSO, and the pronoun subject or object, was added to the initial verb. Certain languages began to depart from this usage and evolved a 'catalyst' which carried the pronouns - but this is another story and will be dealt with in 3.6. The chief thing about it was that pronouns did not begin an utterance. It was only at a later stage, when SVO order came to be accepted, that the problem of a sentence initial that was not a verb arose and a way was found to deal with it. Whereas the EA pronouns (whether EA₁ or EA₂) could begin a sentence and the verb might not bear any marker of person at all, the earliest CA utterance with initial verb carried a person marker as a suffix to the verb and was therefore second in order in the sentence. Tables 9 and 10 show the fully developed systems of CA pronouns as found in the modern WD languages. It remains to discuss and explain the tables, and to show the history of the AT system that characterises these languages. The origin of the AT system and its real meaning belongs to the study of CA syntax and is not dealt with at this point.

It will be seen immediately that Table 10 contains only suffixed pronouns, i.e. there are no free forms. This is the basis of the claim that WD pronouns were originally only suffixes to verbs and, by reason of the syntactic rules of these languages, were affixed at times also to non-verbs. The main rule is that a pronoun must stand second in the sentence if it is a subject and, if it is an object, must follow immediately on this subject pronoun: \( V + P_{\text{sub}} + P_{\text{obj}} \). This holds good whether a language has catalysts or not. The development of independent pronouns came about with the adoption of SVO or SOV order, and this happened under the influence of the earlier language type. A set of independent pronouns was then developed; and it may be called a set because its membership was so much alike in all the languages that it can hardly be regarded as arising at more than one point of time or place. Moreover, the developed forms are mostly ergatives, whether the verb is transitive or not, and some are even double ergatives. This would suggest that the original CA languages (whatever they were; they can be judged only by Warmman nowadays) did not have an ergative: this came later, but its origin was then so well forgotten that another ergative ending could be added to it.
This theory is directly opposite the one propounded by K.L. Hale who says he does not regard the Warnman pronouns (as added to verb stems) as re-creations. One example (G.N. O'Grady and C.F. and F.M. Voegelin 1966) shows uses of -ŋa in more than one part of a single utterance, as in the following case (in which O'Grady's spelling is retained, but the elements of the utterance are isolated):

\[ \text{para-lu-ŋa-ŋku \quad para-lyi \quad týinka-ŋa \quad para-ŋku-ku} \]
\[ I- \text{erg.}-I-\text{for-you} \quad \text{boomerang make-I} \quad \text{you-for} \]

There are other ways given by O'Grady for expressing the same idea but this one is enough for the illustration. Here there is a typical WD repetition of bound pronouns, which are added to the noun (para-), the verb (týinka-) and subjected to AT treatment. The language has been as definitely transformed by the WD element as English structure by certain features of French, as in the case of Old English 'me was given a book' which gave way to 'I was given a book' because French demanded that the subject begin a sentence. Old English could allow initial dative + verb; French demanded subject + verb.

What Hale says (referring to Waljbiri but held to be general) is: 'I think it is reasonable to propose that the source of pronominal clitics in Waljbiri is in fact independent pronouns which, at some stage in the prehistory of the language, became unstressed and were attracted into clitic position (that is, second position) in accordance with a principle of clitic placement which is extremely widespread among the languages of the world' (Hale 1973:340). If the probability of the theory depends at all on its simplicity, that offered here seems simpler than Hale's and is therefore more likely.

If the present explanation is accepted, the Warnman ergative para-lu, I, would be a comparatively modern use. If the writer's theory (Capell 1972:32-5) is right, then the CA languages began to spread eastwards about 6000 B.P. This proposition is advanced on archaeological grounds; the tribes probably spread westwards at an earlier date, and has a more profound effect, as Warnman structure, compared with vocabulary, suggests.

Ultimately, a full set of independent pronouns developed, which could be sentence-initial, and take case endings in oblique cases just like nouns. These independent forms are shown in Table 11. They seem to be based on those of the north-west and west coast languages, which are finally EA in origin. From this point of view also, CA appears to be the latest level of Australian development. The disagreement between Hale and the present writer is concerned with the
actual process of formation. Hale regards the free pronouns as basic and the clitic forms as secondary; Capell takes the opposite point of view as regards development. In regard to final result there is no difference.

Whatever their origin, within the set of CA pronouns there are some differences that suggest stages of development, along the following lines:

1. First and second person singular are practically universal, and they are in ergative form but not restricted to ergative meaning. The various ergative endings are all present (-da, -ju, -lu etc.) and their distributions are probably not haphazard. The distribution of singular forms also is not haphazard. Glass and Hackett (1970:49) point out an interesting fact in Bidjandjadjara when they say: 'There are only two personal pronoun stems in Ngaanjatjara (sc. dialect): the first person stems /ŋayu/ and /ŋanku/ and the second person stem /ŋuntu/'. There is no third person pronoun, and non-singulare are built on these two stems which were originally without specific dual and plural forms. This was earlier noted as a feature of early Australian language, and it means that although the WD languages are 'late' in many regards they are still quite ancient in terms of absolute history.

2. In the plural there is common use of *nura for second person. In some languages it serves also as a singular. What has been said about EA pronouns therefore holds good in these WD pronouns also as regards the marking of a plural by -r-, and the Arnhem Land sets agree in this apparently basic Australian feature also. In the third person there is a regional separation between ba and nu- or ṣu- forms which is found likewise in the eastern EA languages. Inclusive-exclusive distinction occurs on a regional basis and something more will be said about this. Where both are present, formation and patterning can be mapped.

3. The construction of the dual can be analysed in an instructive way, when it is noticed that in some of the WD languages one says I two, not we two, e.g.
Julbaridja ŋaju gudjara, I two; njundu gudjara, you two; njara gudjara, he two. In this language there is also the suffix -ɖi, which shows plurality in nouns and also in pronouns (the pronoun is still apparently a noun subcategory): ŋa-ju-ɖi, I-erg.-plur.; njundu-ɖi, you-erg.-plur., ŋara-ɖi, he-erg.-plur. This makes it perfectly clear that the original pronouns, even in WD were only first and second person singular – and in Bidjandjadjara they are still such. This phenomenon is even older in WD languages, it would seem, than in the Altaic languages. In these latter, although they do have a set of plural pronouns, the older Chagatay Turkish may superadd the plural -lär to biz, we, and make a double plural bizlär. A careful survey of Table 11 will make these varied processes of 'filling in the gaps' clear; also it will bring out two further important points:

1. Some languages build a dual with *buladʒ, the EA word for two, while others use the CA equivalent, *gudara.

2. Some languages have no distinction of inclusive and exclusive in the first persons non-singular, but others have it. Those that do not have the distinction, use *ŋali for you and I and also he and I, and *ŋa-na for we as a plural. Where the distinction has been developed, it rests on some alteration in the use of the base words; *ŋali becomes only inclusive, and *ŋali-ja provides for he and I; in the plural *ŋana-na becomes he and I, using the older -ŋa for I. It is the inclusive that is the innovation, although the Table gives very little indication as to the method of its formation. This appears more clearly in the EA lists already discussed. There are several instances involving the nominal pluraliser, showing clearly that the pronoun throughout of WD remains a subcategory of the noun, as mentioned above.

It is not necessary to discuss these forms further; reference to Capell 1955 will show the possibilities from the historical viewpoint.
The lack of inclusive-exclusive distinction may not be a measure of age: such distinctions may be linguistic rather than historical, as Hollenbach (1970) has shown: such a feature may be of psychological origin.

The elaborate process of development undergone by the original two pronoun roots—first and second person singular—of the Australian languages stands out clearly in the central area of the Western Desert, a point that has been recognised and emphasised by Glass and Hackett (1970: 49-50) in their grammar of Bidjandjadjara, in which they remark:

'There are only two personal pronoun stems in Ngaanyatjara: the 1st person stem /ngayu/ and /nganku/ and the 2nd person stem nyuntu. These occur with slot-markers as shown below following an accusative system.

<table>
<thead>
<tr>
<th>Person</th>
<th>Subject</th>
<th>Ablative</th>
<th>Object</th>
<th>Possessive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>ngayu-lu</td>
<td>ngayu-la</td>
<td>ngayu-nya</td>
<td>ngayu-ku</td>
</tr>
<tr>
<td>2.</td>
<td>njuntu-lu</td>
<td>njuntu-la</td>
<td>nyuntu-nya</td>
<td>njuntu-ku</td>
</tr>
</tbody>
</table>

These pronouns do not distinguish number. However, number distinctions can be made by the use of the enclitics which occur after the slot-marker. Forms without enclitics may be assumed to be singular. However, singular enclitics do also co-occur with the pronouns, when they may be regarded as having an emphatic sense.'

Glass and Hackett then list the whole series of dual and plural forms. The inclusive-exclusive distinction is accounted for also. These are produced by adding the suffixed pronouns to the stem:

<table>
<thead>
<tr>
<th>Person</th>
<th>Subject</th>
<th>Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. sing.</td>
<td>ŋaju- lu-ŋa</td>
<td>ŋaju- lu-ŋi</td>
</tr>
<tr>
<td>1. dual incl.</td>
<td>ŋaju- lu-li</td>
<td>ŋaju-nja-li-nja</td>
</tr>
<tr>
<td>excl.</td>
<td>ŋaju- lu-lin</td>
<td>ŋa-ju-nja-li-nja-dju</td>
</tr>
<tr>
<td>1. plur. incl.</td>
<td>ŋa- ju- lu-la</td>
<td>ŋa-ju-nja-la-nja</td>
</tr>
<tr>
<td>excl.</td>
<td>ŋa-ju- lu-lan</td>
<td>ŋa-ju-nja-la-nja-dju</td>
</tr>
</tbody>
</table>
The second person is treated similarly, and the process of agglutinative expansion becomes clear, including the fact that the object is indicated by -nja- twice over in the dual and plural forms. It is perfectly clear that these languages have adopted a system entirely different from that of their own nature and have done it so clumsily that the steps are all perfectly clear. The writers of the Ngaanyatjara Grammar have not hyphenated the forms as is done above: had they done so, the diagram would have been so much the clearer.

That this was not only the basic process of pronoun expansion is clear; comparison with other languages shows that each has proceeded in its own way. The dual number is especially interesting in this connection, for in some WD languages there is for you two njunbula and in others njun-balala; the distinction is not a mishearing or careless spelling, but a pointer to a different interpretation: njun-bula is you-two, whereas njun-balala is you (and) he - a different concept of duality, a kind of inclusive-exclusive second person distinction.

In studying these forms, it is impossible to miss the fact that something has gone wrong: the ergative is present throughout whether the pronoun is subject of a transitive or an intransitive verb - the distinction is levelled out altogether. Not only so, but the pronoun is a double ergative form: (nŋa + ju) + lu. The verbal person marker is then superadded: {[(nŋa + ju) + lu] + nŋa}. It is, therefore, necessary to study this extraordinary phenomenon, and this will be done below. A few phrases in Bidjandjadjara will show how the system functions in general; reference should be made to Capell (1972) for details of the various languages. There are in fact several ways of saying the same thing - with some change of emphasis, but not of meaning. Examples will be used from Waljbiri:

*I will hit you:* (a) bu-ŋugu-nŋa-nda
hit-will-I-you

(b) nŋulu-nŋa-nda bu-ŋugu
I-I-you hit-will

In the second case the emphasis is on I as actor: for non-emphatic actor the (a) example is valid. If there is an actor indicator it comes immediately after the first word of the sentence

djila nŋa-ŋgu ba-ru
kangaroo-I-for-you shoot-will

This type of sentence involves the head word as the base to which the actor is added: if it is a full pronoun, the actor is added to it but,
Victorian Languages:
1. Djadjula
2. Madimadi
3. Wembawamba
4. Gundidj

Map 4: Tentative Map Showing Distribution of Affix-Transferring Languages in Australia (based on information from Catell's map, linguistics 87, 1973, p.7)
in this case, there is extra emphasis on it. Certain other types or classes of word take the suffixed pronoun when they are headwords - amongst them negatives and interrogatives:

Bidjandjadjara nja:gu -ŋgu -n bu-ŋanjji?
why-yourself-you hit-present
Why are you hitting yourself?
ŋana-lu-ŋi bambu-ŋu
who-erg.-me touch-past
Who touched me?

This comprises the phenomenon known as 'affix transference' (abbreviated as AT), in which an affix is apparently transferred to a word to which it does not grammatically belong. The phenomenon, although characteristic of the WD languages, is not confined to them but occurs in other areas of Australia as indicated on Map 4. Is it possible to explain this phenomenon and learn anything of its history?

3.6. Possible History of Affix Transference

Some suggestions by Anttila (1972) are of use in accounting for AT phenomena, for it appears that a construction somewhat similar to the Australian AT was part of the ancient Hittite language, and that in both cases this has to do originally with syntax:

'But it is Hittite that turns this suspicion into probability. Hittite does not have such an anaphoric pronoun at all [as he has mentioned regarding certain constructions in Sanskrit, Greek and Germanic]. It has sentence connectives su, and (unchanged subject), ta, then (change of subject) and nu, and now. Practically every sentence in a given discourse, except for the first, begins with one of these. Then there are enclitic pronouns for the third person, -as, he, -an, him, -at, it and -us, them, which can be attached to particles other than the sentence connectives, for example, -wa(r)-, 'direct quotation': nu-war-as, and now he said: "....", or nu-smas-an, and now you him. But when no other particles intervene we get the following conglomerates of the sentence connective plus the enclitic pronoun:

<table>
<thead>
<tr>
<th>nas</th>
<th>tas</th>
<th>sas</th>
<th>and he (nom. masc. sing.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>nan</td>
<td>tan</td>
<td>san</td>
<td>and him (acc. masc. sing.)</td>
</tr>
<tr>
<td>nat</td>
<td>tat</td>
<td>-</td>
<td>and it (neut. sing.)</td>
</tr>
<tr>
<td>ne</td>
<td>-</td>
<td>se</td>
<td>and they (nom. masc. plur.)</td>
</tr>
</tbody>
</table>
The formal similarity of the last two columns to the pronoun *so/*to is obvious. There must be a historical connection. The best inference is that the Indo-European pronoun is a fusion of the earlier sentence connective plus the enclitic pronoun' (Anttila 1972:359).

Something very similar will have happened in the Australian languages, where enclitic pronouns occur in the WD-CA group, entirely different in form (at least as regards the singular number) from the other Australian pronouns, at any rate when used as suffixes. It is not a case of a sentence connective leading to a base to which the person markers are added, though the 'catalysts' of some WD languages may well be such (see 3.8.). In the WD languages, the tendency to place subject and object pronouns before the verb has led to the markers being attached to the headword by a process which is ultimately one of loss of stress. Even if the cardinal pronoun happens to begin the sentence, WD languages will add the pronoun suffixes to this, e.g. Bidjandjadjar:

\[
\text{Bidjandjadjar} \quad \eta\text{julu-}q\text{-nda bamber-}q
\]

\[\begin{align*}
\text{I-I-you} & \quad \text{touch-did} \\
\text{I touched you.}
\end{align*}\]

In such a case the subject is strongly emphasised.

A detailed study of AT phenomena, together with an attempt to reconstruct an outline of their probable history will be found in Capell 1972. Since then, however, he has had further thoughts on the matter, and it seems that another explanation arises from the comparison with Hittite, namely, that the 'transfer' is more a matter of pronunciation than of grammatical change; the following paragraphs will show what is meant by this.

Generally in Bidjandjadjar the order S + O + V holds good:

\[
\text{Frank lu} \quad \text{linyatju} \quad \text{yalti-ranjtu}^1
\]

\[\begin{align*}
\text{Frank} & \quad \text{us} \quad \text{called}
\end{align*}\]

If third person singular is zero, the pattern can still be considered to hold good:

\[
\text{he} \quad \text{came} \quad \text{he} \quad \text{them} \quad \text{saw}
\]

---

\[^1\text{Extract from Glass and Hackett 1970:37–42.}\]
Conjunctions call for an extra person marker:

ka-lanyatju Howard-u lanyatju makatli-ŋu
and us Howard us took
And Howard took us.

There may have been a feeling that someone was needed to be talked about, and the indicator was given along with the conjunction.

Interrogatives can be thought of as not requiring any change of position if the pronoun, even though only a single consonant, is regarded as preceding the verb:

wanyatjatja -n tuju-nu
where you put (it)?

A seeming double transposition is to be explained along the same lines:

wanyatjatja-ŋa-nta nja-ŋu?
where I you saw?

In this case the AT phenomenon is more apparent than real; but it has carried over into many other languages, in addition to the original WD group where it originates. But - and this is the important point which sets these languages apart - the actual forms of the enclitic pronouns are different from those in other areas of Australia. They would be:
<table>
<thead>
<tr>
<th></th>
<th>Subject</th>
<th>Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singular</td>
<td>1. incl.</td>
<td>1. excl.</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>n</td>
</tr>
<tr>
<td>Dual</td>
<td>li(n)</td>
<td>litju</td>
</tr>
<tr>
<td>Plural</td>
<td>la(n)</td>
<td>latju</td>
</tr>
</tbody>
</table>

If this set of suffixes is broken down into its primal forms, the result is:

|        | Subject: Sing. 1. |  | Object: Sing. 1. |  |
|--------|------------------| |-----------------|  |
|        | 2. n |  | 2. n-da |  |
|        | 3. Ø |  | 3. lu |  |
| Plur.  | 1. incl. la | 1. excl. la-dju | 2. ja-n | 3. ja | 1. incl. la-nja | 1. excl. la-nja-dju | 2. djana-nja-nda | 3. djana-nja-nda |
These sets show a composite history which is rather complicated. Firstly, *bula-n is two-thou, as in the non-WD *buladj, two with suffixation of -n, 'second person singular'. Yet this *buladj is not a numeral in these languages, and the original final palatal plosive has already been lost before the numeral came into use in the eastern WD languages. The true CA numeral for two is *gudara; *buladj appears in some WD languages but not as a free numeral, only in suffix form with dual number. The plural object non-first person is djana, also taken to be a CA form, but possibly, from its eastern occurrences, also EA. Each set points back to a time when there was as yet no division into three persons: it was an inclusive-exclusive person, as it still is in the Kiwai area of New Guinea. There are, then, three steps to be reconstructed: (i) inclusive-exclusive person system, (ii) second person -n developed along with -ŋa first person, and (iii) distinction of three persons. The 'objective' -ŋa is then taken over from the declension of nouns—which pronouns historically are—and another exclusive person marker, -du, -dju, and this, basically meaning me and so is by itself the first person singular possessive marker in most WD languages.

If there is any truth in this analysis, the example first given will simply be

ŋa-ju-lu-ŋa-nda bambu-ŋu
I-erg/-erg-I-you touch-past

In this, ŋajulu is an emphatic subject, not necessary, and not disturbing the SOV order. However, such an utterance as

ŋja-ŋu- ŋa-nda
see-past-I-you

may seem to upset the scheme, but does not really do so, if it is remembered that the pronouns are enclitics, and as such they must have a support. They obtain this through change of position if there is nothing preceding them. This prefixing—suffixing interchange is apparently of old standing in Australia dating from times of free order. If the verb stands first they must follow it just because they cannot stand alone: neither can they be proclitics. There are therefore the two patterns:

1. njáŋuŋanda
2. ŋájuluŋanda njaju

which are equivalent. The main stress in each case is found at the beginning of the utterance.
Abolition of a special AT phenomenon does not remove the need to explain the peculiarity hitherto discussed under that name. The explanation now required is: where did the set of pronouns come from? For the singular person markers are different from those generally used in other Australian languages. This will be demonstrated below. How did *bula two come to be involved in them when in WD languages *gudara is two? Why did this group begin from an inclusive-exclusive person type when apparently *EA distinguished three persons?

The last question is further complicated in that in the independent pronouns these WD languages (= CA languages) do have three persons. It is only in the verb that the distinction is lacking, and this has been overcome more or less 'artificially'. In the Kiwai languages of New Guinea the same thing occurs. There are two separate persons in the verb but three pronouns. In the WD languages the pronouns are composite and far from 'primitive'. In a paper by Capell (1955:288), they have been studied and certain findings made. These findings are briefly:

1. Australian languages did not originally have a dual number. The earliest developed are found in some of the language isolates and then there is only an inclusive dual of first person: Tiwi *muwa; EA developed *gali which is now almost universal.

2. Inclusive-exclusive distinction is also absent from the earliest stratum of languages. Where it is found, there is more than one type. In some WD languages, Walmadjari, Djaru, Malngin, Ngarinman, Ngardi and Wanayaga form one group; Garadjari and Mangala form another, and both are geographical blocs. Bidjandjadjara stands in fairly close relationship to the second set. In Mudbura the bulk of the cardinal pronouns are not used as subjects at all.

3. Two types of dual second and third person are found, one of which means *you and he (*nju-bala), and the other *you-two (*nju-bula), and in the third person a term which means *they two, where the numeral is expressed by either *bula or *gudara, and these numerals represent EA *buladj and CA *gudara respectively. The two systems cross each other geographically, showing that both are relatively early within WD even though the whole idea of a dual is late.
3.7. Cape York Pronominal Systems

A study of these languages shows that they are relatively late, for in them \text{*buladj} often ceases to be a numeral at all, and the derivative \text{bula} may be a plural, \text{they}. Table 13 shows a selection of these languages. In the extreme north the suffix \text{*-badj} appears as a suffix \text {-va} (one of the few areas where the bilabial \text{v} appears), and this has been studied in 3.4. above. Another mark of the lateness of the CY languages is the heavy loss of initial consonants in some of them. For these see Hale (1976a) and Sutton (1976a).

The search for forms corresponding to the WD 'short pronouns', however, may well begin from CY also, for there the Wik-Mungkan language presents a set of suffixed pronouns which are rather like them. They are subject markers to verbs, and are set out as follows:

<table>
<thead>
<tr>
<th>Person</th>
<th>1. incl.</th>
<th>1. excl.</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>singular</td>
<td>-</td>
<td>-\text{-\text{n}\text{a}}</td>
<td>-\text{na}</td>
<td>-\text{wa}</td>
</tr>
<tr>
<td>dual</td>
<td>-\text{li}</td>
<td>-\text{na}</td>
<td>-\text{wa}</td>
<td>-\text{bula}</td>
</tr>
<tr>
<td>plural</td>
<td>-\text{mbu}</td>
<td>-\text{na}</td>
<td>-\text{wa}</td>
<td></td>
</tr>
</tbody>
</table>

These forms look strange at first, but if they are regarded as originally enclitics, something of the strangeness disappears. The -\text{\-\text{n}\text{a}} form then shows \text{*\text{n}\text{a}} as a suffix: the -\text{na} suggests the original syllabic form of WD -\text{n}, while -\text{wa} may quite well answer to EA \text{ba}, third singular, ergative -\text{ba-\text{l}\text{u}} found in parts of Western Australia; -\text{bula} retains its original value as a dual marker (\text{\text{two}} being most easily applied to the third person), and the only unexplained part is -\text{mbu}, \text{we}, showing no distinction of inclusive-exclusive.

There is much resemblance to the WD forms, and the absence of an inclusive-exclusive form occurs also in the languages of the extreme south-west, in the Narrinjeri group, Banggala, Meyu Gaurna and in the east coast languages such as Bandjalang and Durubul. In North Queensland it is lacking also in the Gugu- languages as a whole.

3.8. The 'Catalyst' Systems
3.8.1. The Western Desert Languages

In most WD languages there are person markers almost identical in form (and in the singular entirely so: the singular seems to be the basic set, dual and plural being later developments, as elsewhere in
### Table 13: Some Cape York Peninsula Pronouns

<table>
<thead>
<tr>
<th></th>
<th>Uradhi</th>
<th>Kantju</th>
<th>Lamalama</th>
<th>Yalandji</th>
<th>Oykangand</th>
<th>Thayorre</th>
<th>Mungkan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing. 1.</td>
<td>aj uva</td>
<td>ŋaja</td>
<td>ya</td>
<td>ŋaju</td>
<td>aj</td>
<td>ŋaj</td>
<td>ŋaj</td>
</tr>
<tr>
<td>2.</td>
<td>anduva</td>
<td>ŋuno</td>
<td>tuy</td>
<td>jundu</td>
<td>ɨnəq̣</td>
<td>ʊnənt</td>
<td>nint</td>
</tr>
<tr>
<td>3.</td>
<td>olovo</td>
<td>ŋula</td>
<td>luy</td>
<td>njulu</td>
<td>ɨḷ</td>
<td>ʊnəḷ</td>
<td>nniḷ</td>
</tr>
<tr>
<td>Dual 1. incl.</td>
<td>aliva</td>
<td>ŋall</td>
<td>lata</td>
<td>ŋall</td>
<td>alij</td>
<td>ʊnəl</td>
<td>ʊnəl</td>
</tr>
<tr>
<td>1. excl.</td>
<td>-</td>
<td>ŋana pa'amu</td>
<td>lala</td>
<td>ŋall</td>
<td>alinj</td>
<td>ʊnəl</td>
<td>ʊnən</td>
</tr>
<tr>
<td>2.</td>
<td>anava</td>
<td>ŋu'ul pa'amu</td>
<td>pol</td>
<td>jubaj</td>
<td>upal</td>
<td>ʊlp</td>
<td>nip</td>
</tr>
<tr>
<td>3.</td>
<td>eburə</td>
<td>pulə pa'amu</td>
<td>lo</td>
<td>bula</td>
<td>ul</td>
<td>pul</td>
<td>pul</td>
</tr>
<tr>
<td>Plur. 1. incl.</td>
<td>ambo</td>
<td>ŋampula</td>
<td>lapal</td>
<td>ɨndjın</td>
<td>ɨmpəl</td>
<td>ʊmp</td>
<td>ʊmp</td>
</tr>
<tr>
<td>1. excl.</td>
<td>-</td>
<td>ɨnəna</td>
<td>lada</td>
<td>ɨnəna</td>
<td>ɨnəntan</td>
<td>ʊnənən</td>
<td>ʊnən</td>
</tr>
<tr>
<td>2.</td>
<td>anava</td>
<td>ŋu'ula</td>
<td>ro</td>
<td>jurə</td>
<td>uər</td>
<td>ʊrə</td>
<td>nilj</td>
</tr>
<tr>
<td>3.</td>
<td>eburə</td>
<td>pulə</td>
<td>dey</td>
<td>djana</td>
<td>etn</td>
<td>peln</td>
<td>tan</td>
</tr>
</tbody>
</table>

References: Uradhi: Bandjità dialect, A. Capell field notes; S.H. Ray (1907b:272-3), with some differences and apparent contamination with Yaraikana.
Kantju: Capell field notes.
Oykangand (Kunjen): B.A. Sommer and E.G. Sommer (1967).
Australia). These are set out in Table 10. In the languages north and south of these, no markers appear: the verb is invariable for person. In Njamal, only the first singular is found: -ŋa. The other known languages, Bandjima, Jindjibidji, Ngarluma-Garlera, Dalandji, Buduna, Dharagi, Bayungu, Njunjar, and the Mirning group, have none. In Nanda, the person suffixes occur in two forms, but they mark goal and benefactive, not subject.

Full sets of pronominal subject affixes occur in Baljgu, Inggarda, Warnman, Julbaridja, Bidjandjadjara and the closely related dialects, as shown in the Table. In the WD groups occurring in the Northern Territory, person markers are present, e.g. Waljbiiri, but in certain of these they are added not to the verbal stem (which takes on tense/mood indicators) but to certain particles which serve only as carriers and have been called 'catalysts'. These languages are found on the northern edge of the WD group (see Map 5).

Catalysts are bases which carry no lexical meaning but serve to support the markers of person both subject and object. Thus in Mudbura, let C = catalyst,

\[
gula\space ba-ŋa-ngu\space ŋarga\space ma-nini
\]

not C-I-you understanding take-pres

_I don't understand you._

Here the auxiliary verb ma-, take, is marked for tense, and subject and object are carried by the catalyst ba-. Note also that the pronouns are not shifted to the headword of the sentence but only to the catalyst. The sentence could then be arranged as:

\[
\text{Neg. Cat. Sub. I.obj. Dir.obj. Verb-pres.}\\
gula\ space ba-\space ŋa-\space ŋu\ space ŋarga\ space ma-nini
\]

not - I you understanding take

keeping the same relative arrangement of parts, as in the WD languages, and the S-O-V word order.

Catalysts are found in the northern WD languages. In Waljbiiri, the southernmost of them, both direct suffixation and catalysts are present (and not interchangeably); north of Waljbiiri catalysts only are found in Djaru, Malngin, Mudbura, Gurindji and Ngarinman.

A quotation from NAAL may be helpful at this point:

'Thus an original freedom of arrangement came to be gradually limited in various ways in different areas. At scattered points outside the WD area a similar elasticity of order is still found in languages which have developed a fixed morphological system.
Map 5: Australian Verbal Systems
### LEGEND TO MAP 5:
AUSTRALIAN VERBAL SYSTEMS

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Aspect stressed rather than tense.</td>
</tr>
<tr>
<td>Aux</td>
<td>Auxiliary verbs carry main markers.</td>
</tr>
<tr>
<td>C</td>
<td>Catalysts carry main markers.</td>
</tr>
<tr>
<td>FT</td>
<td>Few tenses, normally present, past, future and imperative.</td>
</tr>
<tr>
<td>IO</td>
<td>Incorporated pronoun object as well as subject.</td>
</tr>
<tr>
<td>LI</td>
<td>Language isolate(s).</td>
</tr>
<tr>
<td>MC</td>
<td>Multiple conjugation types (more than two).</td>
</tr>
<tr>
<td>MNN</td>
<td>Morning-noon-night subdivisions of tenses.</td>
</tr>
<tr>
<td>MT</td>
<td>Multiple tense marking, subdivision of the three main tenses.</td>
</tr>
<tr>
<td>NF</td>
<td>No formal future (past and non-past only).</td>
</tr>
<tr>
<td>N</td>
<td>Number marking only, not person.</td>
</tr>
<tr>
<td>NP</td>
<td>No person marking within a tense.</td>
</tr>
<tr>
<td>P</td>
<td>Person marking for each person and number (may go with suffixation or prefixation).</td>
</tr>
<tr>
<td>PAS</td>
<td>Passive voice marked (subject not in ergative).</td>
</tr>
<tr>
<td>PR</td>
<td>Prefixation of person markers.</td>
</tr>
<tr>
<td>R</td>
<td>Realis-irrealis distinction made in moods.</td>
</tr>
<tr>
<td>SM</td>
<td>Sentence medial or participial forms found.</td>
</tr>
<tr>
<td>TC</td>
<td>Two conjugation types, transitive and intransitive.</td>
</tr>
<tr>
<td>TP</td>
<td>Tense marking in pronoun as well as verbs.</td>
</tr>
</tbody>
</table>
so far as the regular suffixes are concerned. In the middle of South Australia Arabana can express I am hot by anda ñardanda or by ñardanda anda; bad girl by gwija madlandi or madlandi gwija; my house may be wali andena, and my ear andæn jirari.

'In this connection a useful concept is provided by Zipf (Zipf 1936:154) in his phrase "degree of ... configuration". He says: "the degree of ... configuration implies little more than this: the more firmly agglutinated, that is, the more immutable in arrangement, the constituent morphemes are in a word, the greater is the degree of crystallization. The differing degrees of crystallization of configurations can perhaps be best apprehended by comparing the crystallization of phonemes in a morpheme-configuration, of morphemes in a word-configuration, and of words in a sentence-configuration; phonemes are normally far more crystallized in their configuration in a morpheme, than morphemes in a word, and morphemes in a word more crystallized than words in a sentence. In the decreasing order of crystallization from phoneme through sentence, there is increasing degree of choice in arrangement. We shall find that these differences of the degree of crystallization are closely associated with other phenomena of language." What appears in the Australian languages is a gradually increasing "degree of crystallization".' (Capell 1962:11-12.)

The catalysts found in the relevant languages of WD and Northern Territory are set out in the following table; for the present purposes there is no need to specify their exact usages in each language. Sometimes ba and qa distinguish tense. Only Mudbura has a series of special forms which need a note. The catalysts, then, are usually:

<table>
<thead>
<tr>
<th></th>
<th>Julbaridja, Mangala, Walmadjari, Mudbura, Ngarinman</th>
</tr>
</thead>
<tbody>
<tr>
<td>ba</td>
<td>Mangala, Walmadjiri, Djaru, Warnman</td>
</tr>
<tr>
<td>qa</td>
<td>Malngin, Ngarinman, Ngardi, Gugadjja</td>
</tr>
</tbody>
</table>

The two forms qa and qw are identical in origin and do not meet in the same language. There is also a qa in Bidjandjadjara and Waljabiri. In the latter language and in Wanayaga, the catalysts share the field with suffixation of the pronouns directly to verbal stems. In this use the time is always past. The form ba is also past, and there seems
to be no difference between \textit{ba-ŋa jani} and \textit{jani-ŋa}, \textit{I went}; but \textit{ga-ŋa jani} is non-past; whether it is present or future depends on the ending of the verb, \textit{jani-\textit{l} past} or \textit{jani-\textit{gu} future}. In the neighbouring Gugadjia, the catalyst alone is used

\begin{center}
djaljgu gula ŋu-na-la nja-ŋgu
\textit{today not C- I-him see shall}
\end{center}

Two Arnhem Land languages also have this system: Djinba and Djinang. Of these it was written (Capell 1942, Part 2, p. 46):

'In Djinba, the verb is conjugated in the present tense by means of the particle \textit{ba}, which takes the shortened pronouns of the subject, and to them may be added those of the object in the transitive verb. Comparison with Mudbura may be made as follows: \textit{I shall go, I am going}:

\begin{center}
\begin{tabular}{|c|c|c|}
\hline
Person & Djinba & Mudbura \\
\hline
Sing. 1. & ba-nar garme & ba-ŋa janduru \\
2. & ba-n garme & ba-n janduru \\
3. & ba-n garme & ba janduru \\
Plur. 1. incl. & ba-lim garme & ba-la janduru \\
1. excl. & ba-nanj garme & ba-nali janduru \\
2. & ba-nnej garme & ba-nda janduru \\
3. & ba-ndjan garme & ba-li janduru \\
\hline
\end{tabular}
\end{center}

The object forms differ somewhat in that Djinba then drops \textit{ba}: Mudbura ba-ŋa-ŋulu \textit{I see you}, but Djinba njur njane, \textit{(I) you see}.'

In Mudbura, the most elaborated of these languages, combinations provide for more exact semantics.

'It has (1) ba, aorist; (2) bi, hypothetical; (3) nj, futurity; (4) nja...ba, with infixed pronouns, conditional; (5) ba...ba, contingency. Thus, ba-n ŋana-ni maŋarima?

\textit{Have you eaten food? wandjuga ba? where is he? bi:ɗja njaŋana, he might see me (-dja = me); bi-ŋalŋalu laŋanara, they would like to kill us; nja-na juŋguru, I'm going to give it to him; nja-ŋa-ba ginguja jall garu, ba-ŋa baru-ru, if I catch that boy I'll beat him; ba-ŋa-ba wandula, nja-ŋa-ba njąŋala, I would catch him if I saw him (Capell 1940:426).}
3.8.2. Catalysts other than Western Desert

Another fact, however, is important. Catalysts are not confined to the WD set of languages. In NAAL, similar phenomena occurring in other parts of Australia were not classified as catalytic in nature, but it is better that they should be. They appear in western Victoria, and in eastern and central New South Wales - both areas strongly affected by CA influence (as will be shown later). They were found in Awaba by L.E. Threlkeld although he did not designate them by this term. They appear also in the Guringgay material compiled but not published by him (Capell 1970). The area of their occurrence is thus prolonged to south and east of the WD. In Awaba and Guringgay there are catalysts ba-, ga-, ma- and qa-. Threlkeld sought to analyse these (Threlkeld 1950). Such usages, to him, suggested certain basic ideas:

'ba, actuality of verbal being; the verb is in a verbal sense only; ga-, actuality of being personal, in any state, is; ma-, actuality of causation, done; qa-, actuality of personality. The person is the actual.'

Capell suggested (NAAL:70): 'action as such, being as such, making, causing, and personal action' respectively. The WD qa- and qu- forms are the same as New South Wales qa-, purely vowel variants such as are very common in the Australian scene.

In Iyora (Sydney, New South Wales), ba-, ma- and da- are present, but here they serve as tense markers, and to the south and west of Sydney ma- is frequent but not the others. From their spread they seem to be CA forms only, though borrowed into other languages.

When ma- is considered, however, a transition is being made to auxiliary verbs and compound conjugations, which are found in Queensland, Arnhem Land, and Northern Kimberley languages on a large scale. The phenomena are not quite the same but historically they may well be connected. The CA root for take is ma- and ga- is the root for bring, hold; these are used either independently or as auxiliaries/catalysts in a wide scatter of languages. The important difference is that in these eastern languages, the WD (= CA) person markers do not accompany them, but other sets of suffixed markers yet to be discussed are found.

3.8.3. Auxiliary Verbs

When ma as catalyst is considered, a transition to auxiliary verbs is being made, for this is the CA root ma-, take, as well as appearing as a catalyst in the WD languages and others. The two uses are not quite the same. When ma- is being used as a catalyst, there is no semantic factor involved; when it is being used as an auxiliary, the
lexical meaning retains its force to a noticeable degree. For example, in Iyora ba- marks a present tense, and ma a future tense; the lexical meaning of either does not appear. Where it is used as an auxiliary, its meaning appears as 'action by carrying' or some such meaning. Moreover, it can in many languages appear as an independent verb, in some as an auxiliary, and in others as only a catalyst: the independent status would seem to be prior, as was probably the case of the other catalysts if they could be recognised. In the eastern languages where such forms occur, the WD person markers do not accompany the catalysts (ba-ŋa, ma-ŋa, etc.) but other sets of suffixes, yet to be discussed, take their places.

3.9. Summary Survey

There are thus three sets of languages on a geographical basis which do not possess true pronouns, one in Western Australia and two in eastern Australia. Warnman, in the WD area, stands quite by itself as might be expected: its noun-root is not the same as those in the east and could hardly be expected to be so if it is truly primitive or early Australia. In the east, western and central Victoria share two roots, *baŋ and *jurw- respectively. The former is a recognisable EA root which the preceding section has shown to be very widespread, in fact almost continent-wide; the latter seems to be local and isolated. Eastern New South Wales has been shown to have another EA root, *gulan, skin, as the basis of its pronouns, and these languages are not coastal but some distance inland - just far enough inland to be forced away from the coast by later comers - and this suggestion is going to have its value later, for the actual coastal languages will appear to possess the *ŋa-, I and *njin, you roots which are the true EA and first developed pronouns in Australia. The two sets of Victorian noun bases for pronouns are clearly separate and therefore represent the oldest forms found within the continent. If Warnman bara- is looked at in the light of EA bara, they, it might seem that here we have evidence to link it with the New South Wales central coast; but there is not enough definite evidence to support the suggestion and Warnman must be left to stand alone at least for the present.

The present theory is therefore that these three isolated regions represent the oldest Australian method of constructing pronouns, and that they were followed by the *ŋa-, *njin languages. Seeing that in the O'Grady-Voegelin maps, Arnhem Land contains all but one of the phyla projected for Australia, it might look as though Arnhem Land ought to contain many sets of aberrant pronouns. In actual fact,
however, it does not and this is one of the strange points about that classification. Even languages like Margu and some of the Daly River languages seem to agree with EA in their pronoun systems. The pronouns given by Tryon (1974:294-5) are in all conscience aberrant enough, like the bulk of Daly River linguistics, but at least they should be EA sharing: more will have to be said about them later.

3.10. Evolution of the Pronouns in Australia

There has been a general process of evolution of non-singular pronouns in Australia. The third person has always been indicated by a deictic and some languages have distance marking forms (Aranda, Bidabida, Northern Kimberley, etc.). It is only for the first and second person that pronominal roots appear, and these are fairly frequently *ŋa, *ŋaj, I and *ŋin, *ŋîn, you. To these may be added *ŋali, you and I. In some areas the first inclusive is the only dual form (Tiwi, Dampier Land). The others show clear marks of later manufacture. Similarly, plurals are of later production. In some areas inclusive-exclusive distinction has never been made. Even where it is found, dialects may lack it; in the WD languages it is absent from certain of the dialects but present in others.

For the process of evolution of number, certain evidence may be produced. In Aranda and Bidabida, suffixes to the verb indicate dual and plural not person, although there is a full set of pronouns. In Ngiyamba and other languages of the northern interior of New South Wales the patterning is fairly clear. The verbal suffixes are:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>-lĭ</td>
<td>ŋa-jani</td>
</tr>
<tr>
<td>1. excl.</td>
<td>-du</td>
<td>-lĭ-na</td>
<td>ŋa-jani-na</td>
</tr>
<tr>
<td>2.</td>
<td>-ndu</td>
<td>-ndu-bula</td>
<td>ndu-gal</td>
</tr>
<tr>
<td>3.</td>
<td>-lŭ</td>
<td>-lŭ-bula</td>
<td>-lŭ-gal</td>
</tr>
</tbody>
</table>

This language belongs to the group that adds the ergative case ending of the pronoun to the verb. The singular is, therefore, clear; dual is based on ŋali for the first person, and the plural on ŋa-jani, i.e. first singular root with an unidentified suffix; the second and third person dual and plural are simply the singular (isolated ergative case ending) with a number suffix - bula < *buladj, two for the dual and -gal < *galîg, group of people for the plural.
This is actually a very peculiar type of formation. The use of the ergative case ending in the singular only marks the late development of a conjugation system; but the two suffixes used to form the second and third persons are both *EA.

In the far north, Wik-Mungkan (Cape York) has a different set of suffixes to the verb, but a rather similar process seems to lie behind them:

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>-li</td>
<td>-mbu</td>
</tr>
<tr>
<td>1. excl.</td>
<td>-ŋa</td>
<td>-na</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>-na</td>
<td>-wa</td>
<td>-na</td>
</tr>
<tr>
<td>3.</td>
<td>-wa/-na/Ø</td>
<td>-bula</td>
<td>-wa</td>
</tr>
</tbody>
</table>

i.e., there is no plural exclusive pronoun but there is one for dual, and bula is used to mark (they) two. The suffix -wa seems to be 'exclusive person', used in singular to mark he, she, in the dual to mark you (not we), and in the plural to mark they (neither you nor we). The -na would perhaps be the exclusive marker in the Ngiyamba set (ŋa-jani-na), here used as exclusive singular -na, not I, therefore you; dual not you with me but he and I, while the first plural is to be sought elsewhere.

In the Northern Kimberley languages there is a regular but different system of building up, in which the singular-plural contrast is basic, and the dual and trial are marked by suffixes to the plural. To take Worora as an example:

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
<th>Dual</th>
<th>Trial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. incl.</td>
<td>-</td>
<td>ŋari</td>
<td>ŋari-ndu</td>
</tr>
<tr>
<td>1. excl.</td>
<td>ŋaju</td>
<td>ari</td>
<td>ari-ndu</td>
</tr>
<tr>
<td>2.</td>
<td>ŋundju</td>
<td>njiri</td>
<td>njiri-ndu</td>
</tr>
<tr>
<td>3.1.</td>
<td>in-dja,awa</td>
<td>ar-ga</td>
<td>iŋ-g-ndu</td>
</tr>
<tr>
<td>3.11.</td>
<td>in-ja,njungga</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.111.</td>
<td>g-awa</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There is also *awa-ndu*, *they two*; class of noun complicates the situation, but the basic indication for dual (−ndu) and trial (−uri) is clear. These numbers are indicated by suffixes in a predominantly prefixing language. In the Victorian languages in which dual and trial are indicated, suffixes also are used, but these are entirely suffixing languages. The first two pronouns in Worora are of CA (or probably WD) origin. Other NK languages are constructed similarly to Worora, though there are significant variations.

4. MORPHOSYNTACTIC HISTORY IN AUSTRALIAN LANGUAGES

4.1. Basic Concepts

One of the outstanding weaknesses in the study of Australian languages lies in the field of syntax. This fact was brought out by Dixon (1976b:413-14). The frequent absence of text material in a given language is undoubtedly one of the reasons for this weakness. With the recognition of such a weakness the present author is in complete agreement, for it has long seemed to him that such a study can provide much understanding of the present structures of the languages, as well as their present-day syntax. It seems clear that a process of crystallisation has operated on an originally free word order in the utterance. Such a process would not only result in a stricter syntax, as found in many of the modern languages, but would also account for the peculiar morphological complexities of some verbal systems, especially in the prefixing languages as against the suffixing, and the incorporation of pronoun subjects and objects into the verb complex. Even the occasional incorporation of noun objects can be explained on such a hypothesis. For the idea in general see Capell (1956:11-20) and Wurm (1969).

At the present time some languages still allow very great flexibility of arrangement within the clause, although there is normally a variation of emphasis accompanying variant arrangement, as might be expected. In others, there is a tendency for pronouns of subject and object to keep together until they are finally blended into compound affixes to the verb. Where they have both come to precede the verb, they have formed the 'prefixing' group, elsewhere they have formed a sometimes quite complex set of suffixes.

It would seem that originally the Australian verb carried no person markers, and there is a broad stretch of languages in which still the actor (whether noun or pronoun) comes before the verb, which carries as
markers only tense and mood or voice. In some few languages the actor follows the verb and this practice would seem to have been more general at an early stage. It is the placing of the actor after the verb that leads to the abbreviation of the pronoun as a suffix to the verb, thus marking person. The process would have been gradual. In Banggala, for instance, Schürmann (1844:22) mentions that this language still allows of both methods of conjugation.

If such was the process, one would expect to find verbs in which the transitive and intransitive nature would appear in the pronominal endings, if the language is ergative. This appears to have been the case in Garnay (Kurnai) of eastern Gippsland. In the notebooks of R.H. Mathews one finds forms such as wǝŋga-nadj, I hear and jǝŋga-nadj, I go, as against jǝŋga-ǝndǝ, I give (and incidentally these are all CA roots). In Darginjung also the distinction is made, but only in the singular. If early Australian had only singular pronouns, this may be correct. On the other hand, there came a period in some areas where the fact that ǝŋa-ðu could only be an ergative form of the pronoun I was forgotten, and the ending -du became the first person marker of a verb, as in Wangaybuwan (northern New South Wales) ǝŋerǝgǝ, I speak, which is really ǝŋe-ra-ðu, speak-present-I. At the same time it is possible here to have ǝŋa-ðu yanǝna, I go - but this is still an intransitive verb with an 'ergative' subject.

In the Australian case at least, this independence of syntax is of tremendous importance, because syntactic rules developing at different times and in different languages seem to have exercised a great influence over morphological developments, and in turn modified subsequent syntactic patterns.

Perlmutter (1971:87) has set up a proposition that seems to be justified, when he says that (a) phonological properties of formatives have no relevance for syntax, and (b) as a corollary, the syntactic component of grammars does not refer to phonological information. He might perhaps have expected morphophonemic changes across word boundaries, which usually have syntactic origins. However, those two propositions being accepted, it is possible to study Australian syntax before the details of morphology and lexicon. The examples given immediately above, however, make the propositions themselves doubtful, at least for Australia.

The subjects of this section are arranged in the following sequence:

1. Free arrangement controlled only by semantic emphases.
2. Development of a preferred order, either OS or SO being
the controlling facts: the position of V is irrelevant to them. If both S and O are pronouns, the situation is less fluid, for a hierarchical pattern is developed, based on phonology, and S and O develop a fairly close coherence between themselves, without relevance to V.

3. Modified markers are still free forms, but governed as stated at the end of the preceding paragraph. Yaralde and Wiradjuri show two shapes of this stage. Yaralde provides a pattern on which seemingly Yanjuwa and some languages in Arnhem Land and Northern Kimberley built. Waramunga provides a special case of the same development. In Yaralde in particular, ergativity and affix transference have combined to produce, through freedom of word order, a considerable flexibility, e.g.

\[\text{lag-in adi go:je}\]

\[\text{make-P I basket = ɲadi lag-in go:je}\]
\[= \text{go:j' adi lagin}\]
\[= \text{lag-in-ab go:j-il}\]
\[= ɲabi lagin go:jil\]
\[= \text{go:jil-ab lagin}\]

This list shows sufficiently the possibilities of word order change without more than change of emphasis in a language which is ergative in method and agglutinative in structure.

4. Bound markers develop, showing varying patterns, such as

1. \(V + S + O > V(S) + O\)
11. \(V + (S + O) > V(SO)\)

i.e. bound suffixes formed of abbreviated pronouns, either subject only attached to verb, with object free, or both subject and object bound. There is a third development with use of catalysts (3.8.), combined suffixes hierarchically arranged: \(C((SO)S) + V(t)\), where \(t\) means not only tense but also mood, and the doubly bracketed pronouns show that either order may eventuate - but of course, not both in one language.

5. From this stage arises rigid suffixation as a derivative or shape. There are also examples of incomplete development, e.g. Djingilli and Guwamu.
Map 6: Occurrence of the Ergative Construction
The questions that arise from this scheme are concerned chiefly
with knowing what determined which type would prevail in an area.
Undoubtedly the processes were controlled by the preference for SOV
or SVO type of utterance, or any of the other possibilities, some
permutation of the elements of each, especially the practice of putting
the VP first. It needs to be realised also that a distinction between
noun subject and pronoun subject seems to have begun fairly early,
and this is rather surprising when it is also realised that pronouns
developed non-singular forms at some period quite late after the
settlement of Proto-Australian speakers, and in some areas nouns have
not developed such distinctions to the present day.

This line of thought leads to another development which is of
paramount importance in Australia: the formation of an ergative case
and with it ergatively orientated languages. Some believe that
ergative languages historically preceded nominative languages, but
reasons will appear that make this concept more difficult than the
thought that the earliest Australian was nominative, and developed
into ergativity at a later period. The problem needs to be discussed
next.

4.2. Ergativity

The last general statement ended with the assertion that modern
Australian languages are either nominative-accusative or ergative in
type. The term 'ergative' is derived from Greek erg ein, to work, to
bring about a result: it is a process therefore limited to transitive
verbs. Some languages in Australia carry a case-ending marking a
given word as actor of a transitive action: these usually do not mark
the goal of the action. They are at present in the vast majority in
Australia. There are others which do not distinguish an intransitive
subject from a transitive, and in some cases these also mark the goal
of the action of a transitive verb by a case ending (accusative) and
are hence referred to as nominative-accusative languages. These are
a minority in Australia, but this does not necessarily mean that they
always were a minority or that they have developed from an earlier
ergative type. An example of each type follows:

1. Accusative language: Ngarinjin (Northern Kimberley)

   aru maRa anon v. aru maRa nanbun
   snake seeing I-do-to-it    snake seeing it-does-to me

   The noun aru, snake remains the same whether as object
   or as subject.
2. Ergative language: Waljbiri (Northern Territory)

wana -ŋa ŋa-ŋu v. wana -ŋu-dju jałgu-ŋu
snake-I see-past snake-ERG-me bite-past

Here snake as actor takes a marker (ERG) -ŋu, as goal it takes none.

The second example is typical of an ergative language. It happens to be chosen from a language in which affix transference takes place, so that the subject (-ŋa) is transferred from the verb (jałgu-ŋu-ŋa) to the head word of the sentence (see 3.5.). This does not affect the principle of ergativity.

In Australia the ergative marker is usually shared with either the instrumental or the locative case, and there may be history involved in this choice. It does not call for examination at this point, but because of it, it is sometimes argued that the verb in an ergative sentence is passive, e.g. by me the snake is seen. This is possible in Indian languages but wrong in Australia, and at least in some cases demonstrably wrong for Caucasian languages also. In Australia ergative languages do not have a passive formation - some accusative languages at least do. The Russian linguist Bokarev (1959:60-2) was very emphatic that ergatives are not passives. In his grammar of Gunzib, a northern Caucasian language, he says: 'Ergative construction is not passive...in Gunzib, the ergative case does not coincide with the instrumental: the ergative ends in -I and the instrumental in -d; the ergative serves exclusively to express the subject of a transitive verb', and he proceeds to give examples that seem quite conclusive.

One warning must be given: some languages such as Mullul-Mulluk on the Daly River, have a suffix that marks the agent (in this instance -waŋ) whether the verb is transitive or intransitive, e.g. alalk yikpi-waŋ kaptararma, child little-agent plays around; and alwar-waŋ akana mul nuntano, woman-agent does/did not ask him. Such a language is not ergative. It is taken in this present work for granted that an ergative is not passive: the author prefers to follow Bokarev in calling it 'neutral' as regards voice.

The limitation of an ergative to past time occurs in some languages although in Australia this is rare. Blake (1976b) has pointed to Alawa (eastern Arnhem Land), Galgadungu (central Queensland, where the non-past has the agent in the nominative and the patient in the dative), Bandjalong (north-east New South Wales), while in Yugulda (Gulf country, Queensland) the ergative is not used 'where the goal has not been achieved'. Even in Western Desert languages such as Waljbiri and
Bidjandjadjara, some verbs such as *speak* are used with the same limitation. Blake then adds: 'Logically, the patient of a verb in the future, conditional, etc. is not affected by the activity described in the verb'. Yet at the same time, the absence of an ergative construction does not automatically mean that the language has a passive voice. In some Northern Kimberley languages one would say, e.g. *the canoe made itself at me* as equivalent for *the canoe was made by me*, the agent going into the locative and the verb into the reflexive.

On the Daly River the Murinbadja language is a true ergative in that there are no signs of a passive marker. This means that many of the Australian languages are what has been called by K.L. Hale 'pseudo-ergative', as the verb in an ergative sentence usually carries an -1- transitiviser (see 4.5.4.) that looks like having been earlier a medio-passive marker. Thus, Hale would hold, it is possible to demarcate three language-types in regard to this feature - (1) non-ergative languages, (2) true ergative languages and (3) pseudo-ergative languages. It has recently been argued by Dixon (Dixon, ed. 1976:9-12) that it is not quite a question of ergative-or-not: there are gradations of ergativity to be found in different parts of Australia. Reviewing the papers on ergativity collected in the volume, Dixon says: 'There is surely too much attempt to force each language into a straight-jacket of "strictly ergative" or "strictly accusative" deep syntax. Silverstein's pioneering work on hierarchies (paper 6 [in this volume]) was unfortunately not available for precirculation to contributors; he shows that surface "ergativity" proceeds on a sliding scale, rather than in terms of absolute pigeonholing, and it may well be that Silverstein's ideas could be extended to provide a more fluid and appropriate typology of deep syntaxes'.

In form, there are quite a number of ergative markers in Australia but the commonest is *-*lu which apparently started from one area and spread. There is a locative ending also which is very similar, *-*la, seen, for example, in the non-ergative Ngaringin (western) mandja-ra, *on a stone*. The two suffixes have a number of allomorphs in common:

- Ergative: -lu -olu -mbu -njdu
- Locative: -la -oga -mba -njda

(Hale 1976b). In the article referred to here, Hale seeks to lay down phonetic rules for the occurrence of these allomorphs, and no doubt these are correct, but actually they are more than phonetic rules, for they point back to ancient final consonants of the stems to which they are attached, and these forms have led the present writer to posit
final consonants for Proto-Australian roots: he has generally been led by the form of these suffixes to posit a final -ŋ for a root which in modern languages takes -ŋgu/-ŋga, etc., e.g. *mulə-ŋ, nose. In many languages, especially in Victoria and other parts of eastern Australia, such finals are still present, but there are cases in which the consonants are lost but the ergative forms of the roots take one or another shape that a final vowel would not imply, i.e. a root may take -lu where there seems no justification for it. It is easier in such cases to presume that the original root ended in a certain consonant than to work on the basis of the elaborate phonological rules Hale suggests. These may be perfectly right as concerns the historical processes, but they point back finally to certain earlier shapes of the words concerned.

In some cases results are interesting. A language may show variant forms not expected, e.g. in Dharawal, on the south-east coast of New South Wales, -lu is not found but -djə is present after a final palatal consonant preceded by a low vowel; in addition there is -ji after a final vowel instead of *-lu, -ŋga after a velar nasal, -la after final lateral (Capell 1969:51). In the historical setting, such variations can be of interest: the CA root *baduŋ, məm has an ergative wadi-lu in a few WD languages, but wadi-ŋgu in others: the one ending is secondary, the other primary; the final velar nasal will have been lost before the word came into a given language, where only final vowel was permitted.

In the Arandic group of languages a final -u becomes -a as an allomorph, so that -lu appears as -la in Aranda, while Aljawara uses -ila. Apart from such allomorphs, however, there are other ergative endings that are not cognate with *-lu. Blake lists certain of these, e.g. Murinbada -te/-Re, Njungar -ag, Ba:gundji -wa, Wik-Mungkan -aŋ. It would thus seem that ergativity was present in Australia apart from the EA and CA languages as a whole, and took on various means of expression. Examination of each in its setting would be necessary to produce a final decision and this is not possible here. The areas in which ergatives are limited to perfective verbs would also need study from a comparative point of view, but this also must be overlooked here. There is finally an ergative ending -ja which is practically limited to pronouns, and of this a few words will be said in the following section. The only language in which -ja functions as ergative with nouns seems to be Yugulda.

The writer has argued previously that Australian languages were originally not ergative, but that the process of history has led to development of ergativity. Hale and others, on the other hand, have
held that ergativity was primitive and has been lost from some of the languages. The question is of historical importance, and a further study has led the writer to change his view to the extent of saying that they may have been ergative, although, of course, this is a view that cannot be historically proved in the absence of documentation. Experience elsewhere, however, suggests that there is more than one type of ergativity. There is the type in which the ergative is used with all transitive verbs, but another type in which it is limited to past tenses. Gilbert Ryle (1949:149ff.) has spoken of 'verbs of achievement' and these are the types of verb that require an ergative in such languages. If the action is completed, the subject goes into the ergative. If it is in process or future, the ergative is not required. This type of construction is found in parts of Australia and in other areas of the world as well. It seems appropriate to a language in which the construction is either not developed or is going out of use - the latter more likely. If Australian languages may be regarded as originally ergative, but in some regions losing the quality, this could well be a stage in the process of loss, and it seems more likely than a gradual development of it. The author is therefore inclined to feel that the Australian languages as a whole may have been ergative, but have lost the construction.

It is noticeable that the oldest recorded languages were ergative. This is so in the Middle East, in the case of Sumerian and Hurrian. It is still so in Basque, Eskimo and the Caucasus. In America the languages do not show any trace of original ergativity. In PIE also there is no such tradition, but the Indo-Iranian languages have a construction with the passive participle which points rather in that direction. In Sanskrit it is possible to say माया कण्या दिष्टाः, by-me (was) the girl seen for I saw the girl - and here the construction is rather emphatic (Pirejko 1968:61 et passim). Australian could well have developed rather similarly, but one cannot definitely claim that this is what happened.

4.3. Case Formation in General

Case marking in Australian languages is not universal. In the NK languages it is possible to regard at least some of the case markers (in their functional sense) as independent words, and in Worora and Unggumi amongst these languages such markers can be subject to being marked for class. In Gunwinjgu there are a few prepositions, such as ɡuRe, at, and jiman, as: ɡuRe gunRed, at the camp and jiman gunwaDe,
like a stone. In the case of Worora and Unggumi, the fact that such
a postposition as naŋga, of is really a noun governing the preceding
noun, stands out clearly. Two examples in Worora will show this:
(1) if a noun is involved in a possessive expression, such as

\[
\text{djuwalja a-naŋga-ja} \\
\text{paths he-poss-plural}
\]

His paths.

then naŋga is preceded by a Cl. I prefix, and takes the plural indica-
tion of possession, referring to the plural noun path-s as a suffix -ja.
(2) If the possessed and the possessor are of different classes, the
former is marked on -naŋga- by a prefix, and the latter by a suffix
(as -m for Cl. V) while the number of possessors is marked by a suffix
preceding that of the class, as -ndu, 'dual', thus:

\[
\text{ma-jaru-m inala-ndu a-naŋga-nda-m} \\
\text{Cl.V.-house pupil-two Cl.I.-poss-dual-V.}
\]

The house of the two pupils.

Diagrammatically, something like the following might represent the
scheme:

[Diagram]

which serves to make clear that originally -naŋga- had complete inde-
pendence of status, whether as noun or (more likely) adjective.

It is not hard to think of later case endings in other parts of
Australia as being postpositions, at first free, and only later bound.
In many cases no doubt morphophonemic changes have taken place, as
indeed they still do – e.g. East Ngarinjin mandjan da, on the stone:
West Ngarinjin mandja ra, where there is no final consonant to
influence the form. The other Northern Kimberley languages sometimes
show similar forms without influence from the classes: Ngarinjin,
aRu naŋga, man's, Cl. I. but woŋay naŋga, woman's, Cl. II. The latter
would be in Worora woŋay njananγanja, still variable for class. Very
occasionally one finds both preposition and a case ending together,
as in Madimadi (Victoria) gunda gaŋa-ba, under stone-oblique (Hercus
1969:182). It seems thus possible that morphemes that subsequently
became postpositions or case endings earlier had some form of freedom.

In general the case system as such in Australian languages is fairly
consistent throughout. In most of the languages there are possessive
and dative cases, ablative and locative. If the language is ergative there will be an ergative case ending. A nominative marker is very rare, but there is a set of such in Yugulda, and this is one of the features that set that language apart in the way that is discussed in an earlier section (3.3.4.1.). Blake (1976b) states that the suffixing languages have from about four to eight cases, occurring with nouns, pronouns, adjectives and demonstrative pronouns and adjectives, and illustrates from Galgadungu in western Queensland:

```
madjumba-aŋa jabadjara-aŋa tjaadigaja-aŋa
kangaroo-to   lively-to these-dual-to
```

It will appear later that there is not always the use of the ending on each member of a phrase, but that customs differ in this regard (see following section). Blake's count includes nominative and ergative, apart from which there may be an accusative, frequently limited to animate or even personal nouns and pronouns, a genitive, dative, locative, allative and ablative. Von Brandenstein has also written about an abessive in Proto-Australian (Von Brandenstein 1965:647-62), and later mention will be made of this.

It is needful to distinguish between form and coverage of cases, and this is not always easy. In seeking the history of developments in Australia it is especially difficult to do this, because there is no evidence to trace the history of a usage or of a case form. Blake's tables do not suggest that any set of case markers is either EA or CA, much less goes back farther in history, and it is wiser not to try to establish more than the principle of case marking as part of Proto-Australian speech. Even this is not easy, and it has already been shown that a time can be visualised when free forms had not become bound forms at all. In fact, some morphemes that are fairly commonly fixed at present do not seem to have been so in the past. The bivalent suffix -gu is such (Capell [1956]/1962:77-79; Blake et al. 1976). The bivalency concerns the type of root with which the ending -gu is used. This is either nominal or verbal. In the former case the basic meaning is for, or to; in the latter it marks a decision for action or to act and thus it becomes either a purpose or futurity marker in the verb.

It is desirable to make some mention of indicators of having and not having or with and without, since these are present in almost every language of Australia. Sutton (1976b:299ff.) remarks about the 'proprietary affixes' that they 'show reasonably high cognition, while privative affixes do not'. This may imply that the former were evolved...
at an early stage of language in Australia, while the negatives of them were not evolved so soon. He proceeds to give lists of fifty languages and their forms of possessive affixes, and summarises them by the following list of proto-forms:

*ji - əi (alternations probably morphophonemic)
*ri
*(m)(b)a interpreted as ma- ~ ba- ~ mba-
*wa
*ga
*ra (flap or trill)
*əa

The list might conceivably be shortened by bringing some members together: ra and *əa, ji, əi and ri, əi could coalesce at an earlier period. Dixon as rapporteur in the pages following makes some suggestions and further analysis (Dixon 1976a).

Von Brandenstein's paper on the abessive, already mentioned, makes a good case for such a form as common Australian. The most detailed evidence he gives is concerned with Meyu (Gaurna), on the Middle Murray River, but he cites quite a number of other areas in other parts of Australia, viz. Ranjbarngu, Dalabon, Ga'angulu (Queensland), Waga (Queensland), Bandjalang, Wiradjuri and Dharawal (New South Wales), Ngarluma, Njangumarda, Mangala, Djaru, Jangman (Western Australia), and southern Victoria. If the claims can all be accepted, there seems to be a real case for an abessive. The form, however, leaves something to be desired: it is *dji, in von Brandenstein's spelling -t'i. This immediately becomes ambiguous with the commonest form of the possessive! So something further needs to be said about the presumed abessive. After all, the possessive with a negative verb would produce the effect of an abessive.

The marking of possession, including genitive case forms, needs separate attention. The bivalent suffix -gu is not only a marker of dative, but is widely found as a possessor marker also. 'Quite a number of Australian languages use the dative to mark their possessor in a possessive construction. For example, in Bidjandjadjara we find wadi-gu baba (man-DATIVE dog), the man's dog. In other languages a separate genitive suffix is used to mark the possessor' (Blake 1976a: 422). On the following page, Blake has a diagram setting out a presumable scheme of development of the uses of -gu:
to which he adds a final comment: 'The fact that gu appears in different morpho-syntactic slots in different languages...may well reflect an earlier stage when gu was a free (probably adverb-like) form'. This is undoubtedly correct, and case endings in general may be of a similar origin.

The possessive construction as a whole is much more complex. It is dealt with in Capell ([1956]/1962:66). In many languages pronominal possession is marked by suffixed pronouns, abbreviations of the cardinal pronouns. Sometimes these are subdivided into classes: in the NK languages and some others, body parts take prefixes, which are almost the same as the subject markers to verbs; kinship terms take suffixes which are equivalent to indirect object markers to verbs and all other nouns use the marker -naŋa, added to a pronominal base: Ngarinjin ɲi-oru, my ear; yid-naŋa, his or her father, jindaŋi-naŋa, my spear. In other areas, such as Victoria, pronominal suffixes are added to nouns in general: Madimadi galg-eg, my spear; Djadjala gadigadim-ara-galig, spear (belonging to) us three (excl.). Where nouns alone are concerned, it is frequently a case of A's B, or B A-of; but occasionally there is a double possession: man-of boomerang-his, Djadjala wudju-ga gadigadim-ug, Dharawal juwinj-guli waraŋgan-gaŋ. The order may be reversed, but the correct endings must occur on the correct word. It is doubtful whether any one form of genitive is universal: it is again a matter of historical stages, which cannot be worked out in full here.

In summary now it may be suggested as a historical view, that (1) the earliest Australian languages probably did not have case systems at all. They sometimes used prepositions, it would seem, but the evidence is far too meagre for any positive assertion. The occurrence of such forms in Arnhem Land and Victoria (Gunwinjgu and Madimadi) suggest this, and form another link between extreme north and extreme south, which is to be investigated in a later section.
The EA languages seem to have used postpositions which originally had independent meanings, but later became simple case endings, with significance in a syntactic setting rather than meaning in a lexical setting.

These case endings, as they finally became, show considerable variation from area to area and may help in later research to identify grades of EA, some of the steps between EA₁ and EAₜ which can only be suggested at this stage. They can be defined only by a detailed study of lexicon, which lies outside the present scope.

The problem of the priority of nominative-accusative languages over ergative languages also requires more study. While it seems to be in Australia a case of spread of ergative case systems, probably from one central point – as suggested by the prevalence of *-lu forms – this is far from certain, because other endings are found in some parts of the continent. The author's feeling is that *-lu is a WD legacy, which replaced other endings as the WD languages (CA languages to be exact) advanced eastwards: yet the ergative as such is prior to this spread.

4.4. Number in Nouns and Adjectives

Number seems to have developed first in pronouns, although even there it is not an element of the earliest EA groups. It has already become fairly clear that number developed in pronouns in different ways in different languages, and that it came latest in the CA languages in the western WD languages. To the present day, however, there are no formal plurals in quite a number of the languages, so that it can safely be said that number indication in NP is comparatively late. Moreover, there is very little agreement in the shapes of formatives, so that it cannot be said that any one method of indication is 'primitive'. What is more regular is to find a dual number as well as a plural: this nearly always involved suffixing *buladj, *tu in EA languages and *gudara in CA languages. Number indication as such, however, is very early in some parts: Victoria has not only dual and plural indication, but also a trial form which has been discussed under Pronouns (3.4.). Yet the languages in north Australia that link best with Victoria, although they do indicate trial as well as dual, do not use the same indicators as those in the south. The latter – so far as they have this system – indicate dual by *buladj and trial by *galig, but this is not the case in Arnhem Land or Northern Kimberley. In the latter, the forms are suffixal as in Victoria, but vary in
shape: Worora dual -ndu, trial -(ŋ)gurl, apparently also in Unggumi, in Umida and Unggarangi, -du and -gerl, but in Ngarinjin -diri and -(ni)na, Wunambal -mija and -na, as also in Gwini. These are involved with local forms of the numerals, which cannot be discussed here. But the Eastern Kimberley languages differ in their forms. There is no trial, but nouns fall into two classes, Cl. I ending in -in and Cl. II in -I, but both forming a plural in -m. In place of this the dual of both has -warin. In Arnhem Land methods of indicating plurals vary immensely, and though duals are usually present (often forms of the cardinal numerals), trials are not. Specimens of these formations can be seen in Capell (1942) passim. The use of *galig as ending for tribal names has been already discussed (3.4.): it is found in the -bal of 'Wunambal' apparently in complete isolation, a remainder of whose history nothing can be said.

In brief, number indication is by no means universal in Australia. It is absent from such areas as the Daly River - so far, that is, as nouns and adjectives are concerned, and these generally show themselves to be early in the EA list. It would seem to have developed first in pronouns. In many languages, number indication in NP is done by means of affixed pronouns in VP, and this is probably a later development to clarify references within the utterance as a whole. Trial number can also be a paucal plural in Victoria, but does not seem to have this extension in the NK area, although it may sometimes have it in Arnhem Land. A summary of forms, together with some local detail, is given in Capell (1955/62:61-3).

4.5. Case in the NP

In phrases, as against single words, two types of concord are found: one in which only the last word of the phrase takes case markers: this will be called group declension, and one in which each word in the NP takes a case ending in parallel with the others. This will be called parallel declension.

4.5.1. Group Declension

Group declension is the term used to indicate a phenomenon in which any marker is used only once in a phrase, usually on the final element, as against its recurrence on each unit of the phrase. In English, *in a good house* is a phrase; in Latin *in bon-a dom-u* contains an ablative case marker required after *in* on both noun (-u) and adjective (-a), and the two markers in this case are actually not morphemically identical.
In some languages such a case marker would be required only on the final unit: in (a-good-house)-loc. Some Australian languages exhibit this feature. In Waljibir and other WD languages (of CA type), ñarga njambu, man-this, as nominative with an intransitive verb, ergative ñarga njambu-ìu, man this, with a transitive verb. In the neighbouring Bidjandjadjara,

\[
\text{baba ñanjiri bulga-ŋaDara}
\]

\[
dog \text{ wild large-for-fear-of}
\]

In each example the case marker appears only once although referring to both units. The tree diagram which sets this out would be of this nature:

```
NP
   /\  k
  /  N
 /   A
-ŋaDara [baba ñanjiri bulga]
```

which would need a transposition of \( k \) to the final position and a means of indicating that it refers to each unit of the phrase though used only once. If the word order is changed, and the unity broken for any reason, group declension ceases and the case marker must be repeated. A Waljibir example will make this clear:

\[
\text{ñarga njambu-ìu gabí wawiri bandí-nì}
\]

\[
\text{man this -ERG FUT kangaroo spear-NON-PAST}
\]

\[
\text{This man will spear a kangaroo.}
\]

This can be stylistically varied to become

\[
\text{ñarga-ngu gabí wawiri bandí-nì njambu-ìu}
\]

\[
\text{man -ERG FUT kangaroo spear-NP this -ERG}
\]

where -\( \text{ngu} \) is an allomorph of the ergative suffix. The whole has the same general meaning but with a different emphasis (Hale 1973).

4.5.2. Parallel Declension

In parallel declension, each element of an NP takes the case sign. Thus in Murawari

\[
guNunj-dja bidala-ńga
\]

\[
\text{coaí-on good-on,}
\]

for example,

\[
\text{[The fish is cooked] on good coaí(s).}
\]
me:nu-gu durda-gu maIl
man-of big-of boomerang
The big man's boomerang.

Once again there are areas in which each type of declension is predominant. It is particularly noticeable that sometimes an embedded clause may take an adjectival case marker in a way that is not possible in English, as in Murawari

minjan (dadira-ji-ju)-gu
what (drink -can-I) for
What is there for me to drink?

The embedded verb is to all intents and purposes a noun: it can syntactically be treated as one and take a case ending.

It also occasionally happens that case endings, in retaining individuality, can be combined with each other in certain specified groups, e.g. in Murawari

danj deri-mi-ya diyawi-mi-na (mayi-nga)-gu
hither back-it-comes turns -round (ground-on)-to
wara-numbu mugu-nga bi:bun-gu buñgi-la
falls-it inside-at cotton-bush-of flower-in

i.e. on to the ground and in to the flower of the cotton bush.

This combination of case endings is very rare. It occurs in Bilua, of the western Solomon Islands, and it occurs - like group declension - in Sumerian, one of the oldest recorded languages of man.

4.5.3. Cumulative Declension

Cumulative declension is a name that may be given to a special type of declension found in comparatively few yet widely scattered languages of Australia. In this type, some case serves as a base on which other cases are constructed by an additional suffix. In Gubabwiynugu of north-east Arnhem Land, for instance, while to me is ṇara-gu (which also serves as my, as in bala? ṇaragu, my house), if my is used with a noun in an oblique case, the stem for my is not ṇaragu, but the dative ṇara-gala, to me to which first -ŋu- and then the appropriate case ending is superadded, e.g. ṇara-gala-ŋu-bili, at my..., e.g. bala?bili ṇaragalŋubili, at my house.

In Gubabwiynugu this type of declension is limited to possessives used with nouns in oblique cases. Thus, my father is baba ṇaragu, but of my father is ṇara-gala-ŋu-wa baba-wa. Here ṇara-gala is to me:
when the possessive is used as an adjective in an oblique case the
dative ŋara-gala serves as the base, to which a set of suffixes is
added, to a lengthened base ŋara-gala-ŋu-. In the dative to my... the
case suffix is actually doubled but in a phonetically somewhat
different form: ŋara-gala-ŋu-wala; other final case endings are un-
changed. The ergative is ŋara-gala-ŋu-ji, as in ŋaragalanŋuje babaji,
my father (did so and so). Sentence examples are seen in the follow-
ing: ŋaji dja:! waŋa-narawa baba-wa ŋaragalanũ-wa, he wants to speak
to my father; but waŋanarawa ŋara-gu, to speak to me; ŋara naŋala
nanu-galanũ-na bala'na, I saw his (her) house; dunaba-ŋuRa ŋaragalanũ-ŋuRa mirĩnũ-ŋuRa, in the presence of my enemies; ŋaragala-ŋu-ŋuRa
bala'ŋuRa, from my house. No suggestion can be offered as to why this
cumulative declension of possessives has arisen, but the facts are as
stated.

A somewhat more complicated kind of cumulative declension was
present in Awaba, Lake Macquarie district, Newcastle, New South Wales.
Here nouns are divided into two main groups: common and proper, the
pronouns forming parts of the proper noun section. The language has
a system of classification of nouns (for which see the paper on the
classification of nouns in Australia, later in this volume). In Awaba,
declension by simple suffix covers only the ergative and dative cases
(which may often be formally one) and the ablative, common -din,
proper -gay, from, on account of; all the rest carry double suffixes
whose true nature is often difficult to identify. There seems to be
some sort of vowel harmony at work. Thus ergative -du, and locative
-duwa, but personal locative (with a person, near a person), -ga-ba
and not -gu-ba. The two sets of suffixes are shown in the following
table, in which the case names are those introduced by Müller (Müller
1882, II, I:5ff.).
The pronouns in this system are suppletive: nominatives work on stems different from those of other cases - which means that they probably have entirely different linguistic histories. Most of them have two stems in the singular, but one with phonemic variation in dual and plural thus pointing to a later development of non-singualr

The historical implications of these forms, especially their obvious connection with Ngarinjin in the Northern Kimberleys, has been discussed earlier and will need to be referred to in the next section, so that no discussion of them will be given here. It is to the second forms that other case endings - those of the Personal Nouns series - are added, e.g. emowunginbiruŋ, from me. The inflected forms of the plural pronouns are obviously derivatives from the nominatives, whereas
those of the singular pronouns are not, and this strengthens the idea already put forward that plural pronouns in Australia are late historically. Full historical analysis cannot be entered into here: it needs a separate paper.

Apart from these examples of cumulative declension, the syntactic pattern in Awaba is that of parallel declension: noun and adjective take the same case endings when they are semantically connected. An example is * dira-gu njiguwumba-gu*, with *his teeth*; here *his* is already compounded as shown above. Again, Threlkeld's (1892:133) translation of Luke 2:32, *kúri ko Ítháræl ñíroûmba ko (= guRigú Ídiræl ñírowumbagu)*, for *his people Israel*. This usage contrasts with Wiradjuri *ïrangun duradu, with his teeth*, where only the final word of the phrase takes the instrumental ending -*du*.

A full historical grammar of Australian languages would be necessary to show how far these three types of declension are spread, and this cannot yet be written. The connection, however, between north and south that has appeared in this brief study, is quite important and can no doubt be filled in, in a wider study.

4.5.4. Transitivity

The distinction between transitive and intransitive verbs is of considerable importance in Australian languages. It is at the base of the distinction between nominative and ergative cases. Most of the distinctions rest on semantics, but there are some morphological indicators of transitivity. In general these indicators are language bound, but there is one at least which is widespread. This is -1-, which is added to the final phoneme of the verb stem, and is followed by a vowel. Some discussion of this -1- suffix is called for. It was mentioned and developed to some extent in Capell (1956/1962), and there is a discussion in Breen (1974:28ff.). Capell regarded it as a gerund, a verbal noun, used as a means to extending the action of the verb.

Evidence from Donaldson (1976) is also to be added. All these studies suggest that the original treatment by Capell and Breen was basically correct, with one limitation: -1- by itself is not a noun formative but is used only in combination with (1) an auxiliary verb and (2) another case ending to the gerund. Of the two uses -1 ma- is common in many languages of eastern Australia in the role of causative verb formation, while -1-gu marks future time not only in eastern but also in western Australia. Actually this is one of the cases in which we seem to get a 'look behind the scenes' in the history of the
formation of language in Australia. The present section of this study is therefore essential both to explain the usage of the -l- and to take the history of these languages back one stage further.

There is a third usage which is commoner in the western regions, and that is that -l forms the base of a transitive against an intransitive verb. In these cases it is added directly to a verb stem, not to a stem which is to be compounded with an auxiliary to form a derived verb. The evidence suggests that as this usage is commoner in WD languages, which are mostly CA in status, it would seem to be later than the other uses, and so again serves as a time indicator tending to mark the comparative lateness of the WD languages as a whole and hence of the CA stratum.

The starting point is the proposition that -l is a gerund marker or formative. The instances given in NAAL seem to make this clear. They can be reviewed briefly.

On the Functions of -l-

NAAL, 67: (-l- as gerund formative)

In Dharawal the -l- is added to link a root with an auxiliary; in central New South Wales it is added to the auxiliary to link the tense and other suffixes to the latter. These are the New South Wales uses:

Dharawal  bu-l ma-i-a, hitting he-brought-him

Wiradjuri  bu ma-l-awan-尼, strike causing-present strike
causing-immediacy-past, I was striking just now.

bu ma-l-нari-n, strike cause-this-morning-I.

It is used along the coast only in Dharawal, i.e. it is inland Yuwin but it does occur in Awaba and has special uses there. It is found also in Gogay.

In WA -l- appears as one of the verbal affixes:

i. -l-bа, far or historic past
ii. -l-gu, intention

Garadjari  djingа-l-gu-li, killing-for-we-two, let us two kill him, we two are for killing him, we two kill him.

Glass and Hackett (1970), 'punctiliar !'.

-л- with gidja, imminent -gидja

gidja-munu-du, negative future

djara, cessative -djara-
bayl, habitual
-djalg-
djagu, purpose
-dja-gu
djagu-munu, inability
-dja-gu
-djara-du, least
djiradja, unfulfilled desire
-djir-a-dja

Even here it is only 1st conj. and purpose requires -dja-gu, not -gu.
In Waljbiri the -l- forms are consecutives.
Kabi, J. Mathew's 'verbal noun' yeli:nba, calling looks like yell-l-ba with dissimilation.

*-li- marking a middle voice, realised usually as reflexive but sometimes as passive.

Djiringanj present -li-ma; past -li-ba; (future ya-bala) reflexive.
Lardil: -yl- passive.
Gogay: -llana, reflexive
Awaba: gi-l-
Murawari: -rl-
Dharawal: -il(l, ya, a)

There is, then, a distinction between languages in which -l- is a simple formative added to a stem, and languages in which it is still a formative, but conjoining two stems, such as a verb and a noun.
There is also a third type of case, that instanced by Wangaybuwan, in which the formative is added not to the basic root but to the auxiliary. This is similar to the usage in Dharawal, of the type of bu-l ma-.
In Wangaybuwan, a similar formation would take the shape of *bu ma-l-.

It would seem that the more ancient usage is the simpler one, i.e. the gerundial. Yet the same formative can be added to a simple stem to form, e.g. -l-gu, a future marker to a simple verb. It thus joins the ranks of bivalent formatives, and this is the point of Breen (1974).
In the process, it raises the question whether there may not be other such bivalent formatives, and such would carry the history of the formation of Australian languages back a stage further.

There is a noticeable phonetic feature in all these cases: *-l- seems to remain as l, not undergoing phonemic transformation; the ergative marker *-lu can be modified into -ni, -yu, etc., but the gerundial -l- does not do this.

Breen (1974:22-59) suggests the possibility of reaching behind existing Australian languages to an earlier stage in which grammatical organisation was still incomplete. Later formatives, case and other endings may have begun life as independent particles which were not limited to one category of word, but could be bivalent or even
multivalent. This could not, of course, be proved categorically but only within the range of likelihood.

Breen, then, enlarges the definition of bivalent affix to be 'stem forming or inflectional affix which combines with noun stems and with verb stems and/or abstract nominalised verb stems (e.g. participles)' (p. 50). The whole of Breen's paper is really only an expansion and elucidation of this proposition, but it seems to be substantially true, although the examples are all taken from living usages in modern languages. They do, however, point to a time when the existing fixed usages were still in the course of formation, and thus seem to conceal or partially reveal historical processes which are difficult to state with any degree of security at present. Yet similar processes can be seen in some of the ancient languages of the Middle East and elsewhere.

4.6. Historical Development of the Noun Phrase

The points to which attention should be given in regard to the noun phrase (NP) are five:

1. Absence of number marking and the stages of development. The historical aspect of a numeral system in Australia would be included here.

2. The absence or presence of an ergative system - and perhaps also its nature - combined with the presence or absence of a passive in the VP, are matters of some importance historically.

3. The loss of a passive (if such was the case) along with the development of the ergative system needs to be examined.

4. The case systems in Australia (starting from absence of a formal case system, or its virtual absence, as in the NK languages) need to be considered, together with the fields of group declension and parallel declension.

5. Classification in nouns: this is the subject of a separate paper in the present work.

These are all developments within the NP that may be expected to have historical importance. However, the parallel development of the VP is interconnected (especially in regard to ergativity) with that of NP. While each must be studied separately, both must finally be woven into one in the tracing of history.
5. THE VERB PHRASE
5.1. Theoretical Development of the Verb Phrase

The standard study to date on the construction of the Australian verb phrase — both syntactically and morphologically — is that of Wurm (1969). The historical aspect of this study, as well as of the present one, is the assumption that grammatical structure in Australia has advanced from simpler to more complex. This seems to hold good in both the noun phrase and the verb phrase.

Verb formations — in the sense of the syntactic order of stem, person of subject and/or object, and other features present actually or by implication in the VP — may be traceable to an underlying syntactic arrangement of S, V and O in the sentence in which the VP plays its part. The VP complex, that is to say, may well be a microcosm to which the sentence as a whole is the corresponding macrocosm.

To illustrate this proposition, let three elements be considered: the source of the event, the event itself, and the goal of it. The symbols S, E and G will indicate these phenomena — the different use of S in this connection needs to be noted. Various syntactic patternings of these elements are possible, of which a language usually chooses one as basic but allows others as stylistic or semantic variations: witness the difference between statement and question in English, and the same with the addition of order in Romance pronouns. But in the verb complex itself the basic sentence pattern of the language usually obtains, the variations are not permitted free interchange with each other. The following table shows the possibilities of arrangement of a three element statement in which each element is morphemically independent. The event (E) is seeing, the source (S) is I, and the goal (G) is you. This brings about:

<table>
<thead>
<tr>
<th>S</th>
<th>E</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>you</td>
<td>saw</td>
<td>you</td>
</tr>
<tr>
<td>G</td>
<td>S</td>
<td>E</td>
</tr>
<tr>
<td>saw</td>
<td>you</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>S</td>
<td>G</td>
</tr>
<tr>
<td>I</td>
<td>you</td>
<td>saw</td>
</tr>
<tr>
<td>S</td>
<td>G</td>
<td>E</td>
</tr>
</tbody>
</table>

as the usual types in Australia. A pronominal S and G were deliberately chosen in the above examples because complex verbal systems are usually
inflectional, and the elements of S and G are in this case pronominal. Even in such a sentence as *the man saw a dog*, the verb in many languages incorporates within itself an S and a G element, such as *he-saw-it* in *the man he-saw-it dog*, which is a typical Austronesian order. A nominal S is not subject to abbreviation – it may even have an ergative case or other indicator.

Many languages are not limited to a VP in a simple sentence but allow for compound and complex sentences in which a subordinate clause may have a special verb shape such as sentence-medial (SM) or a participle (which in principle is the same thing), or an inversion as in German.

The question is now: where in Australia do such variant patterns occur and with what modifications? Can they be connected with a corresponding sentence pattern in the given language or languages?

For the purposes of the present outline, Wurm's paper of 1969 seems to give the clearest summary. He divided the pronouns S and G into two main groups: free forms and bound forms, crossing in regard to their position *vis-à-vis* the verb itself. They are summarised by Wurm (1969:68-9) thus:

I. Free forms: (a) Free in syntactic position. Type language: Dungidjaw.
   (b) Free still but in a preferred order whether before or after the verb. Types: Juwinbara (and most -bara languages); Gungari.
   (c) Abbreviated or modified person markers still functioning as free form. Type: Narrinjeri.

II. Bound forms: (a) Short or modified person markers functioning as free forms still retaining possibilities of interaction. Type: Wiradjuri.
   (b) Fused units which are themselves free forms before or after the verb itself. Type: Waramunga. In this instance S + G is basic.
   (c) Bound morphemes without abbreviation, added to the final of the verb stem or to catalysts, with a strong tendency to observe an order of 1st before 2nd or
3rd person. These are characteristic of the CA languages of the Western Desert and regions to the east of it. The AT languages are part of this group — and this gives perhaps a historical key.

(d) Subject markers only are bound and suffixal; objects are free and generally follow the verb. Type: Guwamu.

(e) The verb forms a complex of bound forms of either \((S + G) + E\) or \((G + S) + E\) type. This is true of the multiple classifying languages and of some others such as Wardaman.

(f) A rather unusual type where bound forms which are \(E + (S + G)\) as in Dharawal or of similar but more flexible type as in Awaba.

To produce order in this rather complicated array of possibilities a map is needed: for this see Map 5. Even this map does not clarify entirely the historical sequences. It would seem that many local influences have been at work.

Working on the presumption that the historical basis of increasing complication is right, the items on the map are arranged in a manner somewhat different from Wurm's. Moreover, what has been said above crosses with another feature of Australian verbs: simple or compound conjugation. The idea may be illustrated from English where it is possible to say \(I\) killed him or \(I\) did kill him — this is stylistic only: in an Australian language a verb is either a simple stem conjugated by the method the language chooses, or a compound verb which consists of an invariable verbal stem and an auxiliary which is specified for given classes of verbs. This feature has been studied separately in another paper in this volume (see 'Classification of Verbs in Australian Languages'). This feature does not determine which type a verb will follow in regard to the S-E-G situation; either type may belong to any subgroup.

What type of syntax is implied in each case? What is the underlying structure? Taking \(S\) as always pronominal, it would seem that the
following patterns might follow: the symbols S and G are now replaced for the sake of convenience by the more usual symbols p₁ for subject pronoun and p₂ for object pronoun, and t for tense:

<table>
<thead>
<tr>
<th>Verb Phrase Structure</th>
<th>Syntax Underlying</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. V + p₁</td>
<td>VS (0) + t</td>
</tr>
<tr>
<td>VS O</td>
<td></td>
</tr>
<tr>
<td>2. V + t + p₁</td>
<td>VS (0)</td>
</tr>
<tr>
<td>3. V + t + p₁p₂</td>
<td>VS (0)</td>
</tr>
<tr>
<td>SVO</td>
<td></td>
</tr>
<tr>
<td>4. p₁ + V + t</td>
<td>SV (0), SOV</td>
</tr>
<tr>
<td>OSV, SOV</td>
<td></td>
</tr>
<tr>
<td>5. p₂p₁ V + t</td>
<td>OSV</td>
</tr>
</tbody>
</table>

The only pattern not covered here is that of some Daly River languages:

\[ \pm VSx \pm VS + S \pm O + VS + t \pm VS \]

in which, according to Tryon, 'the kernel of the sentence, the verb unit, which is made up of the actor (S), and optional object (O), the bound form of the verb stem, plus the tense marking suffix' (Tryon 1971:9). VSx stands for the free verb stem.

When these schemes are applied to the languages themselves, several tendencies are observable in the conjugation types. Taking as material for examples, marked with asterisks because they are purely theoretical, some proto-AN roots, the patterns may be set out as follows, using R = root and p = pronoun:

\[ p + R: *\eta a + *jan, I \text{ go} \]
\[ R + p: *jan + *\eta a, go I \]

and similarly for other persons, e.g. *njin, you: *njin jan and *jan njin. The addition of t, tense marker, using *na as a past tense sign, gives

\[ *\eta a \text{ jan na} \]
\[ *\text{jan na} \eta a \]

for I went, the time marker clinging to R.

If the VP is transitive and the language ergative, then a form such as *\eta a-ja, for example, might be called for, and using the root *ma,
take, the result would be *ŋajama > *ŋajama ma na or *ma na ŋaja, I took. A next possible step would be *mana (ŋa)ja, and this seems actually to be the case in northern New South Wales, where the root forms of the pronoun were apparently *ŋan+lu > *ŋadju and the verb became *ma-na-(ŋa)dju > *manadju, of the pattern R + t + p. A transitive, however, presupposes an object. So long as the object is a noun there are no complications, and it comes either before or after the verb. But if it is a pronoun further coalescence can occur in more than one way, as set out in the diagram above.

The relative infrequency of V + *ŋa(ja) points to a prevailing historical pattern of initial verb in Australian languages and this is borne out for existing languages also. It can be illustrated for many, but it is perhaps rather noticeable that these include languages such as Garawa, already used in this study as an example of aberrant languages (2.2.). On the other hand, the pattern *ŋa(ja) + V points to a prefixing type language such as those found in the Northern Kimberley and Arnhem Land, and these again prove to be aberrant in vocabulary. They include the Victorian languages, however, which have lexical connections with those of the far north (5.2.).

While the final patterning has remained fairly simple in most cases, there has been development to polysynthesis in some areas, and all this would not seem to have been a straight historical path. The most complicated polysynthesis in Australia is found in Tiwi, which is a language isolate, but the Daly River languages are all quite elaborate. A study of Tiwi polysynthesis will be found in Capell (1967a), where it is shown that the processes involved are exactly the opposite in order to those of Eskimo. In Australia quite a number of languages can form extremely elaborate verbal phrases of this type and the gradation to polysynthesis as the term is used in Amerindian languages is capable of being studied almost step by step. It remains to be investigated whether there is historical order in these gradations, or whether they have sprung from local causes in different areas.

In point of fact, complicated processes of combination are by no means limited to such isolates as Tiwi; among the WD languages, for instance, it is possible to produce a compound such as the Bidjandjadjara

\[ \text{nindi- bu- ŋula- nj- -dja- maal- du} \]

\[ \text{know-causative-continuity-connective-infinitive-negative-noun} \]

*teaching*, involving only a verb stem and a number of suffixes; in
Gunwinjgu and many other languages it is possible to involve an object noun in the complex, as in

\[ \text{ŋari- bene- mane- djal- djarg- gole- manbo-ji} \]

We them for continually together spears-make-habit

We used always to get together and make spears for them.

In the far east of the continent Wiradjuri can produce:

\[ \text{ŋu- l- qidjillinja-ngari- awa- -giri- -li} \]

give-link each other morning tomorrow future we two

We two will exchange it tomorrow morning.

5.2. Historical Development of the Verb Phrase

The historical development of the verb phrase in Australia is therefore partly linked with the development of morphology - interlocked with it perhaps, rather than causally connected, for the syntax apparently played its part.

It may be thought of as development from simple verbal systems, without person marking (for noun subject) or only number marking (as in Aranda), with subsequent development of person marking from sentences with pronoun subject and/or object. The best starting point here is the paper by S.A. Wurm (1969), combined with that of Capell (1972). The processes of development of systems as a whole will then need to be correlated with the actual morphemes involved in them, whereby the relationships within groups of languages may be discerned. Modal and other distinctions are involved in this process. Here again involvement with NP must be taken into account in determining subgroupings of languages.

Map 5 shows how these various types are located in the continent. The indications given on the map are to be read as follows:

1. Verb invariable for person and number unmarked

2. Verb variable for person and number:
   1. Suffixes for number only. NN
   2. Variation for person and number. PN
   3. Markers transferable to head word of clause. PM
   4. Personal suffixes added to catalysts. PC
   5. Incorporation of object pronouns. IN
   6. Tense indicated in the pronouns. TP
2. vi. is really a subgroup of (1), in which the verb itself does not mark person, but pronouns vary for future v. non-future according to the tenses of the verb. In Gurnu this affects only the subject marker; in Bidabida and Lardil, however, it affects also the object pronoun (not an object noun), and in Bidabida some other cases of the pronoun share the variability also.

Although there is both simple and compound conjugation, the types listed above are not confined to simple or compound conjugation: each may occur in each kind, but it is most usual for invariable verb forms to be found where there is no compounding. The simple verb type may be best illustrated from a language such as Gadhang, on the central coast of New South Wales. Reference may be made to Holmer's account (Holmer 1966:73-86).

Coming now to details of specification, the following features of a verbal system call for mention:

- voice
- mood and aspect
- tense

These will occupy the next subsection of this paper. All these features depend chiefly on the agglutinative character of the Australian languages, with morphophonemic principles frequently complicating the actual processes. The degrees of intricacy in the various languages differ greatly, and in some cases independent morphemes do duty instead of inflection.

5.2.1. Voice in Verbs

It is not entirely easy to define how the term 'voice' should be used in Australian languages. It is usual, for instance, to speak of an 'active voice', yet as in most instances there is no contrast with a passive voice, the term loses part of its force. It is only in certain of the non-ergative languages that a formal 'passive' voice is found, so that it is perhaps better to speak of a 'neutral' voice in the case of ergative languages. Moreover, there is sometimes, though not often, a formal contrast between 'active' and 'stative' verbs.

On the whole, it seems better to speak of a natural voice where there is no formal contrast with active and passive expressions. A normal power of the Australian verb is to express reciprocity and reflexivity by means of formal modifications in the verb, and where these can cover more than one 'mood' it is perhaps desirable to refer to these as voices, otherwise they are 'moods'. In general, voice is concerned
with the relationship between actor and goal. When an actor receives the action upon himself, the fact is said to be expressed by the passive voice; when he performs the action upon or for himself, the verb is said to be in the reflexive or middle voice. When the action is performed by more than one upon each other for each other, it is said to be in the reciprocal voice.

This 'neutral' voice will be taken here as basic and not discussed as such: moods and tenses and aspects will be considered as expressions of the 'neutral' voice unless otherwise stated.

A formal passive voice has been found in Lardil, of Mornington Island, which is not an ergative language. Here the marker is a first position suffix to the verbal stem, -ji- followed by the marker of future or non-future as required: e.g. be-guR, bites > be-ji-guR, will be bitten; be-da-gun, bit > be-ji-gun, was bitten. The formal arrangements are simple, the uses have given rise to much discussion (Hale 1970, Klokeid 1976).

The other area in which a formal passive is found is on the northwestern coastal area of Western Australia (see O'Grady, Voegelin and Voegelin 1966, von Brandenstein 1967). The former mention it as present in Gariera-Ngarluma and Gurama-Jindjibandji: the latter gives a contrastive list of languages in which passives are found as against ergative languages. One of Von Brandenstein's examples from Njamal is

ηadja wia -n -na njuna-ŋu
I see-it-past you-object
I have seen you.

another:

ηadja-lu wia -n-na -na njuna-na
me -by see-it-past-me you
I have seen you.

Von Brandenstein, however, has a different interpretation of the phenomenon, for he writes: 'If I call the two opposed terms relating to "transitive action" of verbs PVC and AVC, which stand for "Passive Verbal Concept" and "Active Verbal Concept", to name the older one first, it should be emphasised that the two well worn classical terms "passive" and "active" have been retained mainly so that they may not lose their polarity potential in any comparative study'. Others, however, have not agreed entirely with the author in this attitude, but see in the contrast something that is as real for the west and for Mornington Island. The method expressing the agent of the passive
is different in the two instances also, and it can well be accepted that the distinction does exist.

In languages in which there is no ergative, there is also no passive formation, but what may be called a passive substitute, a construction which enables the passive idea to be expressed. In the NK languages, for instance, the house was built by John would be expressed by the house built itself at John: here the action is expressed as affecting the house, and John is referred to not as the actor but as the 'location', so to speak, where the action took place. Parallel to this, and no doubt historically related, is the use, in some ergative languages, of an ergative suffix identical with the locative, though it is more commonly identical with the instrument, as might be more naturally expected. It does not seem possible from purely synchronic evidence, to trace the historical processes involved, but there are undoubtedly some such processes at the back of these usages.

Reflexive and reciprocal will here be treated as voices because it is possible to include moods as well as tenses within their ambit.

5.2.2. Reflexive and Reciprocal

It is normal in Australian languages for the reflexive to be marked by a first rank suffix, though there are occasionally other ways of doing it. Tense and person markers will be then second and third rank suffixes after the reflexive marker. Thus in Jindjibbandji (north-western Australia), marker -djangu- is a separate particle in

\[ \eta \text{aji manguna djangu } \text{walu} \eta \text{a:ndu} \]
\[ I \text{ grabbed to-myself my thigh} \]
\[ I \text{ grabbed my thigh.} \]

This is the less common usage. The commoner usage is exemplified in several sets of markers used in New South Wales and Victoria. In the Wiradjuri-Gamilaray areas of New South Wales (languages between the Dividing Range and the Darling River) the common marker is -aŋa- for reflexive and -(ŋl)djiliŋa- for reciprocal, in the Victorian Djadjawurua -aŋa- and djeraŋu-. The use of -aŋa is found almost as far north in Queensland as Bidabida, which replaces it by -malj-. A problem arises whether the marker should be written as -l-aŋa-, -l-aŋa-, for it is usually preceded by an -l-. This -l- however seems better taken as the nominaliser -l of which something was said above, for it plays a wider part in the languages and is at least CA if not EA. If that is so and the suffix is really *-laŋa-, *-lana- then probably Aranda -la- is to be reckoned with it.
The WD languages stand apart from the eastern groups, having a form of *-njanu(n)* as reflexive marker. There is also the use of a particle, as illustrated above for Jindjibandji, and this is present also in the far north-east, e.g. Gandju (Kantju) -dja which is verb final, or perhaps to be regarded as a particle immediately following the verb: *galga nadangu naju ma?obi-dja*, *spear my I make-for-myself*. In the Dampier Land languages both infix in the verb pattern and suffix to the verb are employed simultaneously, e.g. Njulnjul -ma-...indj, with which -mi...indj as a reciprocal marker is parallel. It has already been shown that these languages stand apart in pattern from those outside their region, as they do in lexicon.

There is close overlap between reflexive and reciprocal, and in some languages the two are marked in the same way: Bidabida -mali- is both reciprocal and reflexive. In other languages the same marker may be reciprocal in one and reflexive in a neighbouring language. This is so, for instance in Dhurga in southern coastal New South Wales.

Outside the normal EA-CA groups, other methods appear. In the NK languages, for instance, there is a reflexive conjugation with endings different from those of the neutral voice - here perhaps the term 'active' voice is in place. For Ngarinjin the forms are set out in full in Coate and Oates (1970:48, and appendices). In Mawng there is a similar system: the verb is marked by a special set of pronoun prefixes, although the tenses are marked in the same way as for the neutral or active verb: *ŋejan, I see him* (with open /ɛ/), *ŋajan, I see myself* (Capell and Hinch 1970:80-2). Further east in Arnhem Land, in Ranjbarngu, where reflexive and reciprocal combine, McKay states that they both 'may be derived from Rembarnga differential verb (and from some mono-differential verbs) by means of the reflexive-reciprocal suffix -tt, with variants for conjugation class'. In the Roper River area, Mara presents -lana as a final suffix: from ṭan+ŋang-anjįl, *he hit me*, there is ṭaŋ+ŋ-anjį-lana, *he hit himself* (Heath 1978:362), and the eastern EA(?) pattern is restored but in an unexpected syntactic position. In NE Arnhem Land, Gubabwiyingu has -miri as a suffix, which is sufficiently close to -mali for possible relationship. In Diyari however, -mali is reciprocal, showing the continual interchange of the two concepts.

It may be said briefly that although the concepts of reflexive and reciprocal are both found in Australian languages as a whole, there seems to be no really common root that can be assigned to any stratum, though some are fairly widely spread.
5.2.3. Tense

Australian languages indicate as a rule time present, past and future: variations on the theme are presented by languages in which the distinction is one of present against non-present, and this sometimes takes the form of a tense which indicates non-future as against another that indicates the future. This is the case in Lardil, where there are two tense distinctions, the first of which marks future and the other present + past. From such a basis as this, other languages develop more detail: some languages divide time into smaller segments, such as morning, noon and night (Tiwi), while others subdivide the day even more subtly - Wiradjuri and the inland languages of eastern New South Wales mark morning, and a number of other subdivisions of the day, for each of the three standard tenses. It is possible to outline on a map the locations of these various time schemes (see Map 5).

In still other languages, there is a distinction of aspect intertwined with tense: a Realis and an Irrealis aspect may both have a series of tenses, usually not as elaborate in the Irrealis as in the Realis. This is the case in north Australia - the Kimberleys and Arnhem Land, for instance. In some cases there is not a strict division into tenses, but aspect seems to have the controlling influence. The Yulngu languages (otherwise called Murngin) in north-east Arnhem Land exemplify these.

It is therefore not possible to set out the tense schemes of modern Australia in any short and clear form. Moreover, the morphemes differ so much that it would seem that there is no common pattern - at least in early Australian (EA). In CA there is a more clearly cut formation. It is interesting to observe that even in prefixing languages as a whole most tense indicators - like those of voice, mood and aspect - are suffixes. It would seem that throughout the languages, the actor was first thought of, then the action and last of all the time. There are indeed exceptions to this generalisation, for VOS is a not uncommon sentence type in Australia.

A distinction of imperfective-perfective is found in some parts of the continent as well. It is not, however, as normal in Australia as in other parts of the world, though implied, of course, in the expression of a formal difference only between past and non-past (as in Lardil and elsewhere).

In the formation of tenses, as in most other features of conjugation, the WD languages stand as a group. Two sets of examples drawn from Capell ([1956]/1962:73) are typical: Djaru and Mudbura:
1. Djaru: _ju- give_ and _ma- take, say_

<table>
<thead>
<tr>
<th>Present</th>
<th>Near Past</th>
<th>Far Past</th>
<th>Near Future</th>
<th>Far Future</th>
<th>Imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ju-ña</em></td>
<td><em>ji-nja</em></td>
<td><em>ju-ña-ni</em></td>
<td><em>ju-ńgu</em></td>
<td><em>ju-ña-ńgu</em></td>
<td><em>ju-ńga</em></td>
</tr>
<tr>
<td><em>ma-ña</em></td>
<td><em>ma-ni</em></td>
<td><em>ma-ña-ni</em></td>
<td><em>ma-ńgu</em></td>
<td><em>ma-ña-ńgu</em></td>
<td><em>ma-ńda</em></td>
</tr>
</tbody>
</table>

2. Mudbura: _ju- give, ńa- eat_

<table>
<thead>
<tr>
<th>Present</th>
<th>Near Past</th>
<th>Far Past</th>
<th>Near Future</th>
<th>Far Future</th>
<th>Imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ju-ña</em></td>
<td><em>ju-ńana</em></td>
<td><em>ju-ńana-ni</em></td>
<td><em>ju-ńgu</em></td>
<td><em>ju-ńa-ńda</em></td>
<td></td>
</tr>
<tr>
<td>ńa-ña_</td>
<td>ńa-ńanl</td>
<td>ńa-ńana-ni</td>
<td>ńa-ńgu</td>
<td>ńa-lu</td>
<td>ńa-ńga</td>
</tr>
</tbody>
</table>

In the WD languages the verb either takes the suffixed pronoun as suffixes or it is transferred to a forward position through an AT process, leaving the verb itself indicating tense but not person. In the catalyst subgroup the person marker will naturally be carried by the catalyst, not by the verb. Mudbura and Djaru are both catalyst languages.

These languages frequently have up to four verb classes (as in, for example, Bidjandjadjara) and often also sets of participial endings which are characteristic of the group.

Another characteristic group is that of Wiradjuri languages of New South Wales in which there is a proliferation of tenses, chiefly in the indicative positive mood. In Wiradjuri itself the following are found, and are illustrated with the EA verb root _bu, hit:_ in Wiradjuri this is conjugated by means of the auxiliary verb _ma, take_ (as though to say _I take him a blow_).

**General Present:** _bu m-ara, hit him._

**Specific Present:** _bu m-alə:wana, I am even now hitting him._

**Aorist:** _bu me: I did hit him (some time)._

**General Perfect:** _bu m-ala:wna, I have hit him._

**Hodiernal Perfect:** _bu m-alą:rin, I have hit him today._

**Yesterday Perfect:** _bu m-algura:ni, I hit him yesterday._

**Far Perfect:** _bu m-algunan: I hit him long ago._

**Pluperfect:** _bu m-alejni, I had hit him._

**General Future:** _bu m-algiri, I shall hit him._

**Near Future:** _bu m-al-awa-girl, I shall soon hit him._

**Hodiernal General Future:** _bu m-al-ńari-girl, I shall hit him sometime today._
Hodiernal Definite: bu m-al-nari-awa-girl, I shall certainly hit him today.

Exact Future: bu m-e:girl, I shall certainly be hitting him.

The names used here are Müller's. There is no space to discuss them in detail. In addition, the language has also an optative, an imperative and an infinitive. Other languages using a similar system are Gamilaray, and other northern languages.

Some of the modern languages have a number of verb classes or conjugations, and this arrangement is not limited to any one part of the continent. These arise partly from phonological accommodations and so for purely phonetic reasons, but this does not account for all the variations. Verbs may take certain tense markers and it is just as impossible to say why they should do so, as it is in IE languages such as Germanic, Greek, Latin or other. This kind of division among verbs is therefore fairly ancient and its origin probably now out of reach to the historical linguist. In the isolated Tiwi language this phenomenon is not found and moreover, in this language tense markers are largely prefixes, not suffixes as in most other languages.

While their existence needs to be noted, their nature lies beyond the scope of the present study. Their comparative antiquity needs also to be noticed, along with the fact that they appear to be absent from such regions as the New South Wales coastal and anterior coastal languages such as Ngunawal, Dharug, Dhanggadi, and in Queensland Durubul and its neighbours.

5.2.4. Non-Finite Forms of the Verbs

Some of the northern languages of Arnhem Land have points of structure which recall features of the Papuan languages of New Guinea. One of these is the use of sentence-medial forms of the verb as against sentence-final forms. In such a sentence as I saw him and then called out to him, the typical Papuan structure of the Central Highlands and parts of Irian Jaya is Having seen him I called out to him. Similarly, When I saw him he called out to me becomes he having seen me called out to me. In the first instance the sentence medial verb I saw him does not change for person: in the second instance it does change, for the actor could not be indicated otherwise. The first clause in each case becomes a participle, which the present writer long ago called SM I, where no change of actor is concerned, and SM II where the actor changes between the clauses. The terms have been very generally adopted in Papuan grammatical description.
There are a few languages in Australia where SM I and SM II forms occur: these are mostly WD languages, and this feature helps to set off the WD languages from those of other parts of the continent. While there is no cause to analyse these in detail here, they may be briefly illustrated. Reference can be made to Capell 1962:31-2 for Walbiri, where the constructions are treated as participial, and to the similar treatment of Bidjandjadjarra by Trudinger (1943:215-17). Summary examples in each of the languages are given here.

Bidjandjadjarra examples:

\[
\begin{align*}
\text{angula-ŋa} & \quad \text{nja-gugu} \\
& \text{having-gone-I see-shall} \\
& \text{I shall go and see.}
\end{align*}
\]

\[
\begin{align*}
\text{njundu angu-njanga, njajulu nja-gugu} \\
& \text{you having-gone I see-shall} \\
& \text{When you go, I shall see.}
\end{align*}
\]

\[
\begin{align*}
\text{udulu-ra} & \quad \text{njaŋanba} & \quad \text{ŋajulu ma gadi-ndja-gu} \\
& \text{having-gathered these (SM II)} & \text{I can take-them-away} \\
& \text{Gather these up and I can take} & \text{Gather these up so that I can} \\
& \text{them away.} & \text{take them away.}
\end{align*}
\]

\[
\begin{align*}
\text{udulu-manji-ŋa} & \quad \text{njaŋanba ma gadi-djigi-dja-ŋu} \\
& \text{gather-process-I (SM I)} & \text{these so-that I-may-take-them-away} \\
\end{align*}
\]

\[
\begin{align*}
\text{ŋaRanji-ŋa} & \quad \text{njaŋanba ma gadi-ndjigi-dja} \\
& \text{I-am-staying these so-that taking-them-away} \\
& \text{I am staying so that I may take these away (SM I).}
\end{align*}
\]

Various time sequences are dealt with in different ways in these languages, which can be illustrated here only in outline and therefore not with the degree of clarity really desirable: what is sought here is not the formation of the structure but really its syntactic use. Thus for I shall go and see, Bidjandjadjarra has:

\[
\begin{align*}
\text{aŋ-gula-ŋa} & \quad \text{nja-gugu} \\
& \text{go-ing-I see-shall} \\
\end{align*}
\]

by contrast with when you go I shall see (SM II);

\[
\begin{align*}
\text{njundu an-gunjanga njajulu nja-gugu} \\
& \text{you go-having I see-shall}
\end{align*}
\]
Purpose constructions are treated similarly, in a way which is difficult to reproduce word for word in English. Taking again the previous example *I am staying so as to take these things away*, Bidjandjadjara shows

\[ \etaa-Ranjij\etaa\ \etaja\etaanja\etaama\ \etaa-dindjig\etaidja \]

*stay-pres.-I these away take-for the purpose-of*

The same type of SM constructions are used as in the time clauses, but with different suffixes. The pronoun subjects are suffixes to the verb, as these are WD languages of the type previously discussed. Similar examples can be produced in other languages such as Waljbiri.

It is noticeable that these non-finite constructions do not include infinitives, which have no exact correspondence in Australia. They differ from the New Guinea types in including purpose clauses rather than only temporal clauses, and there is no reason to doubt that they developed in Australia itself.

6. THE AUSTRALIAN LEIXICON

6.1. Introduction

It has been mentioned at the beginning of this study that quite a number of indications that Australian languages are not independent of each other came to light during the last century. Some such are found in various places in Curr's *Australian Race*. The examination seen in Schmidt's two works (Schmidt 1919a and b) represent further work in this field, and this work is important, in spite of its leaning on the anthropological Culture Circle Theory, because it is the first to give full place to the study of sound laws as enunciated in the theory of Indo-European philology. Kroeber (1923) also added to the work, setting out maps of the occurrences of various words for the same thing in different parts of Australia. The same task now falls to this study.

Australian vocabulary is regarded here as consisting of four main strands, or five if 'Common Australian' is subdivided. Regional vocabularies which are apparently language isolates or family isolates are placed first; then EA groups and finally CA groups. The plan may be set out as follows:
Language and family isolates.
Words shared in extreme north and extreme south.
Words widely shared but not WD.
Words predominantly WD but also found in some eastern regions, especially South Queensland.
Words that are practically limited to Western Desert.

When all is said and done, the number of words either EA or CA is not large. This is probably due to the time depth, which makes possible cognates often hard to recognise. O'Grady has shown this clearly in his essay in the present volume. Great time depths are not actually documented and are difficult even to guess at. What speech was like 30,000 years ago is completely unknown for any part of the world.

It seems desirable to take the isolates - whether individual languages or families - first, not that much can be said about them historically but that something must be said. Mention was made earlier (3.3.2.) regarding Tiwi, and very little more can be said about it here, except that it is obviously such a language isolate. Yet at the same time its phonology and many of its grammatical methods are Australian, however aberrant they may seem. Something also was said about some languages of the Gulf country in Queensland (3.3.1.) and Dampier Land (3.3.3.) where at least some EA elements are present in the construction but very little in the vocabulary. Some enlargement of discussion about these isolates is now possible. They are in some cases rather 'regional' languages than isolates, and connection with EA is obviously present, though hard to define in detail.

It is desirable to say something about the phonetic structure of the Australian word. This has generally been taken to have been bisyllabic, of the type CVCV(C). In some instances it has seemed there might have been a monosyllabic language type in some areas, especially in Arnhem Land, but comparison, where such is possible, suggests that this was not so. Gunwinjgu presents a considerable number of monosyllabic roots, when the noun-class or other prefixes are removed, e.g. gun-dan, mouth; gun-djen, tongue; gun-gom, neck; gun-mim, eye; gun-geb, nose, face; man-me, food. One is at first tempted to record such forms as perhaps earlier or original but in point of fact it can be shown that they seem to have developed in isolation from longer forms which are found in other parts of Australia.
In Gunwinjgu stress falls on the initial syllable, and when class markers came to be prefixed, this stress will have drawn the original stress back, leaving a tendency to shorten the complete word by loss of a final syllable. Bisyllables in Gunwinjgu tend not to take the class prefix: duRug, *dog; dalug, woman; dunin, man. They do not always do this, however, as in ʅal-duRug, *bitch, ʅal-dalug, woman, and in related languages this is regular, e.g. Djawan ʅalmugo, woman. Other nouns which take the possessive prefixes do not take the class marker, as -ʿnejo, *name: ga-ʿnejo, your name, etc.

The suggestion of loss of a final vowel is borne out by Gunwinjgu gun-danja, mouth as compared with Badjiri ɗaŋa, mouth, gun-mim, eye with CA*miriŋ. More complicated changes also seem to have occurred, if Gunwinjgu gun-RuRg, country, camp, is to be taken as a form of EA *ŋura.

In classifying languages, noun class developed later. This is shown in the paper in this volume on noun classification in Australian languages, and the development was later than the separation of the languages from EA or CA originals: man-mi, food represents EA *maj(i), food, and gun-mim, eye is paralleled by a Cl. V form man-mim, seed of plant, also in Gunwinjgu.

Gunwinjgu may help to build up EA or CA vocabulary if examples like -daŋ, parallel to Badjiri ɗaŋa are allowed for. However, it remains possible that the Badjiri word may show an added vowel and in fact the CA root is generally *da.

Other types of difficulty arise also: e.g. Wagaya jiŋdal, tongue, which seems to answer to Northern Kimberley mindjal, mouth, and both to EA *dalaŋ, tongue (and *da, mouth). This last example also raises the question of a possible relation between *da and *dalaŋ. It is here also that Gunwinjgu gun-djen belongs - but to which root?

Some points raised in the opening section of this essay need to be recalled at this juncture. One of the many difficulties connected with tracing vocabulary in Australia is that not only are the small number of shared words chiefly basic vocabulary, such as would appear on any lexicostatistical list, but these words tend to be found in widely scattered areas throughout the continent, including languages which actually show a very small common content. If the lexicostatistical argument is accepted - that basic vocabulary tends to remain in use the longest - why should such words as mouth, tooth, etc. appear thus among those that on any ordinary theory of linguistic development would appear to be native in the given language? It is not to be presumed that speakers of language A or B had not words for such concepts until the EA or CA vocabulary came to them. Why, then,
should such words be found among the common borrowings? It is possible to point to word replacement by taboo, but this argument should not be invoked indiscriminately. The author is not prepared to answer the question, but it must be raised and an answer sought. Either for some special reasons, lexicostatistical processes are not valid in Australia, or some better reason must be found.

One or two thoughts may be put forward. It is not just the total number of words of several languages compared that counts. Of the basic vocabulary, words used in the normal business of daily life are presumed to be surest for retention. If there is any high degree of disagreement in these between two languages, it seems hardly likely that the less used vocabulary, where there is generally most difference, will agree to any large extent.

Certain historical circumstances may alter the picture. Invasion or conquest may affect the vocabulary of daily life. English provides a historically attested case of such a happening. The cow or the ox become beef on the nobleman's table, and the sheep becomes mutton, as Sir Walter Scott pointed out long ago in Ivanhoe. Changing legal and social orders were reflected in English language as in history, and the imported religion showed its external origin in the vocabulary.

Here a difficulty arises from the angle of general historical linguistics. In this sphere the term 'internal reconstruction' has long been in use, but does not mean just what is intended here. Internal reconstruction aims at explaining changes in terms of regular sound changes and other processes traceable within a number of languages, not by the movement of words from region to region on a geographical basis under social or religious impulses. Thus Anttila (1972:264) says: 'internal reconstruction...is exactly the same as morphophonemic analysis'. This is something that cannot be demonstrated under Australian conditions. The words in question are not traceable along a regular trail from a (probable) point of origin to a destination; they are sporadic and word A is not usually found in the same set of languages right across the continent as words B, C or D. The time depth in Australia, once again, is so much greater than that involved in Proto-Indo-European reconstructions, and there is absolutely no historical documentation such as is usually available in PIE. Hence the situation is not entirely unexpected. At the same time, the inferences must always fall short of actual demonstration, but they are sufficiently likely to be probable, and conclusively form a strong argument.
There are areas in which certain common words are not found at all. One such was listed by Schmidt (1919a:222), of words which miss out the eastern languages, and the southern (Narrinjeri) group: *mouth, *da; *tooth, *lirn; *breast, *ŋamaŋ; *blood, *gudugu (form doubtful but approximate); *egg, *gambu. On the other hand, quite a number of words not recognised yet as EA or CA are found scattered over Australia, such as *gagara, *gagari, *moon, which occurs in the NK, Narrinjeri, Upper Murray, north-central group languages, and near Cape York. Schmidt (1919a:224) draws attention to this word but has no explanation for it—and there are many such. It is words of this sort that led Elkin to postulate his channels of movement or 'corridors', which are discussed in the following subsection of this essay (6.2.).

In the case of words such as *gagara, which seem to occur in certain 'corridors', it is possible to suggest (a) that they are the remains of ancient Australian words that have been mostly replaced, or (b) that they have spread along such 'corridors' from a central region. In either case, they are not CA words but EA, if it is true that CA speakers were the group that spread over eastern and southern Australia about 6000-5000 B.P.

This group seems to have spread from about the modern Wave Hill and Victoria River and perhaps Ord River area, where archaeological sites such as Stonewall Creek and Miriwun (Mulvaney 1975:133, 135, 194) are found, dating from about 18,000 B.P. Quite a number of such sites in Arnhem Land go back to similar periods, and these would seem to be connected with EA speakers.

The CA groups, on the other hand, are more unified: the languages are more closely related to each other, and could well be results of the movements of one set of people, mixing with earlier peoples in different parts of the continent. Its movement can well be correlated with the outward spread of a new hafting technique (Mulvaney 1975:125ff.) that spread out towards Queensland and is found at the Keniff Cave in the centre of Queensland, about 6,000 B.P., overlaying an older c.18,000 culture (Mulvaney 1975:288-9). The linguistic evidence suggests that at one period this movement, which is apparently CA, moved south-east through central Australia and western Victoria, into coastal New South Wales and thence north again. Its vocabulary and, still more, its grammatical type are quite different from those of the EA groups which do not agree among themselves. There may well be one CA (differentiated by outward migrations at different periods), but not one EA foundation group. The whole argument being set out here suggests small early migrations into Australia from 'Sundaland' of
bands of Australoids physically similar but not necessarily akin to each other.

As far as the migration routes are concerned, there has been a tendency to recognise a general north to south movement, to which Aboriginal traditions point. Curr says of these '...the late Edward Stone Parker,...formerly Assistant Protector of Aborigines in Victoria, in a lecture delivered in Melbourne in 1854, speaking of the tribes of Victoria..., remarked that they all claim a northern origin. The late Rev George Taplin also mentions in one of the several accounts he published of the Narrinjeri tribe...that they have a tradition that they originally came down the Darling, which river and the lower Murray they descended to the sea'. He mentions as verbal evidence words for 'dog, opossum, Blackfellow, water, laughing jackass (kookaburra) and heat' (Curr I:198). This, of course, is the reverse of Thorne's theory, according to which they would, indeed, have migrated along the coast from north to south, but finally entered the interior of the continent through the Murray mouth and so proceeded northwards up the Darling. Curr quotes Ridley in the *Kdmilarbi, and Other Australian Languages* as saying on p. 118: 'On the other hand, the Aborigines in various parts of the continent point to the north-west as the quarter from which their tribes came'. Dixon, however, (private communication) states that 'the Djirbal have stories about the first man, Girugar, who was the first man to travel over the country', and who gave names to all the places - having come from the south. This may be quite true for the Djirbal tribe - and probably is - without being necessarily true for others, and still less, all.

6.2. Corridors - the Paths of Peoples and Languages through Australia

During the periods in which they came to occupy Australia, the peoples moved about freely, later settling each in a certain area which later became the tribal country, sanctified by myths which grew up. Professor Elkin has suggested that some of these movements can be at least partially recognised. He speaks of 'corridors of communication' (Elkin 1970:707ff.). This seems to be the place in which to investigate these suggestions and make them more detailed and precise (if possible), especially as the present writer has discussed with him these suggestions and had the benefits of notes drawn up by him in preparation for the paper.

Before this, however, another suggestion put forward by Dr Ian Thorpe is also worth mentioning because it deals with how the people may have
spread round before spreading inwards across the continent. According to his ideas, they would have avoided plunging directly into a cross walk through to the interior of the continent. As they had come by sea, it might be easier to travel round the coast first, settling where they would rather than toiling across an interior completely strange to them, not very friendly in its terrain, producing foods to which they were not yet accustomed. So he thought of them as passing from North Australia (or the north-west - the actual place of the first landing can never be identified, of course) around the coast as far as Cape York, then following a southerly direction down the eastern coast in the direction opposite to that taken in 1770 by Captain Cook - until they reached the southern limit, then following westwards along the southern coast, as far as the one great water opening into the interior - now called the Murray River. Some of them might still have continued westwards, but others might have turned and followed upstream along the Murray, leading to the populating of the western interior of New South Wales. The discoveries at Lake Mungo, in the Menindee district, which date to about 28-30,000 B.P., do not in this way imply an earlier crossing through the interior from the present north-west or Arnhem Land, though of course they are not inconsistent with such a process. This idea of a settlement of the fringes before the interior is quite possible, and the distribution of EA₂ pronoun systems along the coast of west Australia as far south as modern Perth and Cape Leeuwin seems to support it.

Later would have come the interior spread suggested by Professor Elkin and there is much linguistic evidence to support this. Whilst the various tribes became settled each in its own region of the continent, and developed myths of origin, etc., concerning such areas, they often met their neighbours for ceremonial and trading purposes. The trade relationships and paths of interchange were studied much earlier by McCarthy (1939); the ritual paths have not been worked out in such detail. However, in the article mentioned, Elkin has shown that certain words tend to follow broad paths of transmission - not only ritual and kinship terms, which do not imply the migration of a tribe with its language, but words of common and daily speech that do just this.

In more than one place Elkin mentions the spread of ritual practices within his own experience, and the writer has seen similar movements taking place. That they took place also in earlier periods seems perfectly logical: in many cases words have spread at the same time.
Elkin suggests three corridors of communication - a western, a central and an eastern route. He adduces words that seem to occur around arcs of circles from north to south-west and north to east, as well as one that can be traced directly southwards from the north. Such a word as *qandi, mother, for instance, can be found in the middle reaches of the Murray River as well as in Arnhem Land, and in parts of South Australia between the two. So an attempt is made here to enlarge on this pattern of thought in an endeavour to trace the internal history of Australian languages. It is not the normal method of comparative philology at all - this is admitted, but in this continent with its vast time depths normal methods just break down and must be replaced by others if any results are to be obtained.

Even so, more than one stratum must be allowed for, even apart from EA and CA. There is clear evidence that these EA and CA strata have met in the formation of the dual pronouns in the WD languages. In the western branch of these, *gudara, two has been the formant and in the eastern section it has been replaced by *buladj. Yet both subdivisions of WD are still WD languages.

1. A start will be made with the Central corridor, which seems in some ways to be the most prolific of the three. This is the corridor which represents the north-south movement, and the southern cognates tend to be found chiefly in Victoria and New South Wales, and to have their northern relationships in Arnhem Land and in the Northern Kimberley. The point of immediate interest is that the Kimberley and Arnhem Land sections do not correspond well to each other: roots shared between NK and Victoria and usually not also Arnhem Land, while those of Arnhem Land (Gunwinjgu is the chief area of comparison) found in Victoria are not usually NK also. Why this is so is impossible now to state.

This statement can be easily illustrated: Schmidt called certain languages of west and central Victoria 'kulin', after the word guln, man, or Kuri for a corresponding group in coastal New South Wales. The word corresponds to Ngarinjin of NK guln, lay an egg, hatch, produce, which answers to it phonologically and apparently also etymologically. It is also found in the Perth area as adjin, with the same meaning as verb. Yet this root seems to have no place in the Arnhem Land languages.

Another example may be taken from Elkin's ga:giri, moon. This is fairly widely spread in the Kimberley languages, and the root, allowing for weakening of final vowels, may be taken as *ga:gara or at least *gagara. Various forms of it are found in south-west Queensland
in Wagabara and Bundjil (using Schmidt's term for one of the languages inland from Cooktown), and Gaurna (Adelaide) and Murundi (gaigiri). It may also be Wadjiginj and Badjamal (Daly River) gare, Amarag and Jiwadja (western Arnhem Land) guRan, and Dangbon guRuña, Mawng guRana, and even Margu rana may be related. In NK there is Gamberra guRan, Wuljamidi gaigiri. This word does not penetrate as far south-east as Victoria. Such a word may be (a) the remains of ancient Australian words that have been mostly replaced, or (b) spread along the corridor from a central region, marked here probably by *guRana. In either case, they are not CA words but EA of some type or stratum.

Alongside but in contrast with this root there are others occurring in other parts of Australia. Two of these can be used by way of illustration:

(1) *giban, central New South Wales: Wiradjuri-Gamilaray, parallel but apparently not the same as Yuwinj *gubandun, though it could be derived from it. The Gamilaray here has another root *balu(ŋ) also.

(2) *bira, 'Luridja' including Bindubi, South Australian Lakes language: Mirning, wila-ra. This exemplifies the set of suffixes listed by O'Grady (1966:97-8) whose status is undecided.

(3) and (4) two different words found at each side of the continent, Yungar miga on the west and western Victoria maŋji(ŋ) on the east.

There is a larger set of comparatives possible between Gunwinjgu and western Victoria, though at this stage some of them are doubtful because of the distance between them and unavailability of vocabularies of languages in between. They are used here simply for the sake of suggestive comparisons between them, some of which may be proved, others rejected. They include:

1. *gabun, nose: Gunwinjgu gun-geb, cf. Yaralde gobi, Yodayoda gowo, Djawuru gabun, eastern Victoria, Garnay Na, Ngarigu guŋ. Here there is also in north-eastern Queensland Djirbal guwu, Gundjen owe, Gugubera gau, and others.

11. *bereb, a bird name of varying significance, occurring in Gunwinjgu as berebbereb, plover, and one closely related, *bered in the same language as berebered, kingfisher, Bungandidj as birubir, redbill, Wembawemba
as beregrered, plover and in Yulngu languages as birgbirg, plover. These all seem to be related.

iii. 
werq, quick, in Gunwinjgu wregrweRg, quick
Wembawemba werqa, to hurry, possibly in WD Bindubî
war-bu, hurry (where -bu is the verbalising
auxiliary bu, hit, cause).

iv. 
*widä, whistle, Gunwinjgu wid-me (with intransitive
auxiliary: see *balʊ below): Wembawemba, Madimadi
wiđa, cf. Yulngu warl'jun.

v. 
*jaRga, search for: Gunwinjgu jawa-, Djadjala jaRga,
Madimadi jaga.

vi. 
*dara, stand, Gunwinjgu -di (past tense da-nj),
Yulngu dara, Djadjadjala and Wembawemba djari-ga.

vii. 
*balʊ, turn, in Victoria often wi1-ŋa, Gunwinjgu
balʊ-me with auxiliary as in (iv) above, Yulngu
bil-, turn.

viii. 
nali (or nari), what?: Narinari narl, what?, who?
Bungandidj nau, what?, ŋanu, who?

It is noticeable how many words of this group contain apparent
cognates within the Murngin or Yulngu languages: this requires further
research, especially in view of the fact that these languages of north-
eastern Arnhem Land are clearly from the angle of structure closely
related to the WD languages and therefore should contain a CA ingredient.
There is also a set of compounded verbs, seen in (iv) and (vii). In
Gunwinjgu me answers to EA -ma, take, have, perhaps the most widely
distributed auxiliary in Australia: it has already been mentioned a
number of times.

It would thus appear that this corridor is not a simple group in
itself, but consists of two parts which have coalesced somewhat on the
way south. One group of words is Kimberley-Central Australia-Victoria;
the other is Arnhem Land - Victoria. Cognates between extremes still
have to be sought, but that there is such a corridor seems clear. In
Elkin's paper there are several traits included with the linguistic
also. In regard to the words of this corridor, he notes that 'of 18
Kimberley words 12 are also in the south-east, that is, east and south
of a line joining Port Augusta in South Australia, and Maryborough in
Queensland, and two of these are also in west-central Queensland; two
others are in Central Australia and seven in the south-west of
Western Australia. Likewise, eight Arnhem Land words are in the same 'south-east' region, and one of them in west-central Queensland. Further, nine of the fifty words appear in both the south-west corner of the continent and in the 'south-east', two of these being also in the Kimberley Division' (Elkin 1970:707).

2. The western corridor - mapped rather differently from Elkin's - has been studied in some detail by O'Grady (1966) and called by him the Ngayarda family. His word-list of proto-Ngayarda stems, from page 99 to page 103, consists of 'reconstructions without known cognates in non-Ngayarda Australian languages'. This list of 137 words, then, does not occur elsewhere, at least so far as present investigation has gone. They are peculiar to the north-western area of Western Australia. It may be that in the future some cognates may be found for some of these, but at present they stand as a group, stretching from a point a little east of Port Hedland, round North-West Cape and inland, taking in Baljgu in the east and Dalandji in the west - quite a respectable area. Moreover, similar groups extend along the west coast towards Perth. These have all been heavily influenced by EA overlays and in the east by CA also, and in some of them constructions proper to these later strata are found. The vocabulary is not only peculiar to this area, but in so being has nothing to do with similar isolated groups to the east. This area, then, forms another major subdivision of Australia. It gives evidence of spread from east to south-west. O'Grady's remaining subgroups show words of other strata, which makes clear the degree of mixture to be regarded in the subsequent work. It will not be further discussed in this study.

3. The eastern corridor remains for discussion. This is probably not to be regarded as a unity. Elkin illustrates it with two different words for boomerang, to which a third may be added, gali, which is a WD word. The other two are *bar(a)gan and *waŋal, and both have quite a number of phonetic variations. The word *waŋal is found in north Queensland and central Queensland, through New South Wales in the direction of Bourke and Swan Hill on the River Murray, also on the Goulburn River and in eastern Victoria - Garnay. Elkin notes that it is paralleled by a very similar distribution of *gwijaŋ, fish, and in the field of ritual life, by the practice of mumification and a belief in sky heroes. These words and some at least of the usages, go as far west as Flinders Range in South Australia. The other word for boomerang, *bar(a)gan, is chiefly south-east Queensland and the New South Wales coast north of Newcastle, but also inland with change
of meaning: in Wiradjuri, for instance, the root is applied to the sickle moon and to a tendril; in Biribay of Port Macquarie it is applied to hair cord and in Dharug to the stringy bark. The point of interest in this case is that the same root is found in the Northern Territory, in languages round about Katherine: Mangaray, Djawan and Yangman, as balgan.

Apart from these words for boomerang, there is great variety and no agreement at all. This is usually the case in Australia: similar words are usually nested amongst great variety, which suggests that the original peoples, while racially similar, spoke a great variety of unrelated languages. This may be expected in terms of anything except monogenetic theory of language origin. It must be remembered here again - even if it seems the reminder is ad nauseam - that research into Australian languages carries the student back beyond the period of record of human language altogether. While there is no evidence anywhere that language had a monogenetic origin, Australia seems to show positive reasons for suspecting that it did not.

The present study is only suggestive, not exhaustive. It is not possible in the available space, nor within the present degree of analysis to answer fully the question concerning the development of Australian languages. A brief list of words will be offered here, which it is hoped will bear out the ideas put forth in the present essay. They are arranged alphabetically in each group - western, central eastern, EA and CA. They are meant merely to illustrate. Much more work is needed yet to produce a fully analysed Australian dictionary.

6.3. Regional Vocabularies

Two types of subdivision within this section may be made: the present concern is with vocabulary, as against structure which has been considered in the earlier part of the study. Many of the structural differences have developed in the continent itself, but vocabulary differences of the present kinds can be regarded as already existent when the speakers of the languages arrived in Australia.

It must not be presumed that the divisions here discussed represent all the apparently non-EA/CA groups. Some may be language or family isolates, as has already been mentioned, and Tiwi is one of the former types - language-isolates. The Queensland Gulf group (3.3.4.1.) is an example of the family isolates. Moreover, there has frequently been cross influence from EA/CA on originally non-local groups. Again, EA has already been defined as itself a conglomerate, not a single
ancestor. The diagram in O'Grady's article in this volume represents this state of affairs. Most of his languages on the lines dated earlier than 10,000 B.P. are types of EA, and perhaps some of those between that date and 5,000 B.P. also are. The problem, which cannot be faced in this present work is to determine what is $EA_1$, $EA_2$, etc., as far as subgrouping may be required. Only certain of the regional vocabularies will be discussed at present. The full working out would result in an Australian comparative dictionary, for which the time is not yet ripe.

The list used here is a short list in which the words of the various subgroups are tested against a certain number of EA/CA roots whose existence has been shown by the author in other writings. They will serve to show how far the various tested languages (representative of their subgroups) deviate from EA/CA standards. No attempt is here made to distinguish between EA and CA - this remains for a later study to do with any degree of certainty. They simply serve to show what recognised Australian standing the various words tested may have.

6.3.1. Tiwi

Osborne's finding as to the 'Australian' nature of Tiwi (Osborne 1974) has been already mentioned in 3.3.2. The vocabulary appended here shows that while in general he is right, there is a slightly higher occurrence than this would indicate. At the same time, it cannot, of course, be proved that other EA/CA words are not loans from mainland languages. For instance, his kukuni, water, could well be a loan from Jiwadja: -ni is the masculine ending. Hence no historical conclusion is presented at this stage.

<table>
<thead>
<tr>
<th>English</th>
<th>EA/CA</th>
<th>Tiwi</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>beard</td>
<td>ŋarga(r)</td>
<td>kumutí</td>
<td>taken by Osborne as Malay kumis</td>
</tr>
<tr>
<td>big</td>
<td>bulğa,bunda</td>
<td>arikula-ni</td>
<td>-ni is a masculine ending</td>
</tr>
<tr>
<td>black</td>
<td>malu</td>
<td>tunuwiní-ní</td>
<td></td>
</tr>
<tr>
<td>bone</td>
<td>çargu</td>
<td>pwaça</td>
<td></td>
</tr>
<tr>
<td>breast (female)</td>
<td>ŋamañ, bibi</td>
<td>pula-ți</td>
<td>-ti/ -tı is a masculine ending</td>
</tr>
<tr>
<td>burn (intr.)</td>
<td>gamba</td>
<td>ʧurumumí</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ŋurañ</td>
<td>ʧapaça, tañaRíma</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>EA/CA</td>
<td>Tiwi</td>
<td>Comment</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>--------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>crow (n.)</td>
<td>wagan</td>
<td>wakwaki-nl</td>
<td>Australian root</td>
</tr>
<tr>
<td>ear</td>
<td>binaŋ,kuru</td>
<td>mikantan-ŋa</td>
<td>-ŋa is a feminine ending</td>
</tr>
<tr>
<td>earth</td>
<td>ŋuruŋ</td>
<td>kaluwaŋi</td>
<td></td>
</tr>
<tr>
<td>eat</td>
<td>ŋa-,da-</td>
<td>-apa-</td>
<td></td>
</tr>
<tr>
<td>egg</td>
<td>gambu</td>
<td>'karaka</td>
<td>turtle egg</td>
</tr>
<tr>
<td>emu</td>
<td>ŋunin</td>
<td></td>
<td>not found</td>
</tr>
<tr>
<td>excrement</td>
<td>gunaŋ</td>
<td>kĩŋi-RI</td>
<td>possible Australian</td>
</tr>
<tr>
<td>eye</td>
<td>miriŋ</td>
<td>piŋaRa</td>
<td></td>
</tr>
<tr>
<td>father</td>
<td>BahNuŋ</td>
<td>-riŋa-ni</td>
<td></td>
</tr>
<tr>
<td>fire</td>
<td>waru,ŋuraŋ</td>
<td>jikwa-ni</td>
<td></td>
</tr>
<tr>
<td>fish</td>
<td>gwijun</td>
<td>minu-ti</td>
<td></td>
</tr>
<tr>
<td>food (veg.)</td>
<td>maji</td>
<td>jĩŋi-ti</td>
<td></td>
</tr>
<tr>
<td>give</td>
<td>ju-,wu-</td>
<td>akœRaI</td>
<td></td>
</tr>
<tr>
<td>go, walk</td>
<td>ja(n)-</td>
<td>-uRI</td>
<td></td>
</tr>
<tr>
<td>hand</td>
<td>maRaŋ</td>
<td>jikaRa</td>
<td></td>
</tr>
<tr>
<td>head</td>
<td>gada,walu</td>
<td>punițaka</td>
<td></td>
</tr>
<tr>
<td>hear</td>
<td>wina-,wuna-</td>
<td>-muŋuma</td>
<td></td>
</tr>
<tr>
<td>hit</td>
<td>bu-</td>
<td>piŋi-</td>
<td>possible cognate</td>
</tr>
<tr>
<td>man</td>
<td>baduŋ</td>
<td>awuri-ni</td>
<td>possible cognate</td>
</tr>
<tr>
<td>meat</td>
<td>minja</td>
<td>puniŋkapa</td>
<td></td>
</tr>
<tr>
<td>moon</td>
<td>gagara</td>
<td>ţapara</td>
<td></td>
</tr>
<tr>
<td>mouth</td>
<td>dagaŋ</td>
<td>j r puntaRa</td>
<td></td>
</tr>
<tr>
<td>nose</td>
<td>mura(ŋ)</td>
<td>j R ŋ'tamura</td>
<td></td>
</tr>
<tr>
<td>one</td>
<td>? gudju</td>
<td>jati</td>
<td></td>
</tr>
<tr>
<td>see</td>
<td>na-</td>
<td>-mani</td>
<td></td>
</tr>
<tr>
<td>shin</td>
<td>daraŋ</td>
<td>jiŋuwana</td>
<td></td>
</tr>
<tr>
<td>sit, seated</td>
<td>ni(n)-</td>
<td>-mu</td>
<td></td>
</tr>
<tr>
<td>skin</td>
<td>gulaŋ</td>
<td>mipura</td>
<td></td>
</tr>
<tr>
<td>small</td>
<td>ñugu</td>
<td>kiriŋi-ni</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>EA/CA</td>
<td>Tiwi</td>
<td>Comment</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>smoke (n.)</td>
<td>buriŋ</td>
<td>kumiriŋi-ni</td>
<td></td>
</tr>
<tr>
<td>speak</td>
<td>waŋga</td>
<td>anŋ raka</td>
<td></td>
</tr>
<tr>
<td>spear</td>
<td>guridada</td>
<td>arawunikiri</td>
<td></td>
</tr>
<tr>
<td>standing</td>
<td>ŋaRa</td>
<td>-inti</td>
<td></td>
</tr>
<tr>
<td>star</td>
<td>biŋiri</td>
<td>ṭapali-ŋa</td>
<td></td>
</tr>
<tr>
<td>stone</td>
<td>buli</td>
<td>wala-ŋa</td>
<td>possible but with drastic vowel change</td>
</tr>
<tr>
<td>sun</td>
<td>dindu</td>
<td>Jimi-ŋa</td>
<td></td>
</tr>
<tr>
<td>take, grasp</td>
<td>ma-</td>
<td>maru'Ri</td>
<td></td>
</tr>
<tr>
<td>they</td>
<td>dana</td>
<td>wuta</td>
<td></td>
</tr>
<tr>
<td>tongue</td>
<td>dalanŋ</td>
<td>jimitaŋa</td>
<td></td>
</tr>
<tr>
<td>tooth</td>
<td>liranŋ</td>
<td>ğiŋkana</td>
<td></td>
</tr>
<tr>
<td>tree</td>
<td>? yiwara</td>
<td>purint řiŋa</td>
<td></td>
</tr>
<tr>
<td>two</td>
<td>buladj, gudara</td>
<td>ḫuraRa</td>
<td></td>
</tr>
<tr>
<td>urine</td>
<td>gumbu</td>
<td>pwaṭi-ni</td>
<td></td>
</tr>
<tr>
<td>water</td>
<td>gugu,gabi; űba</td>
<td>kuku-ni</td>
<td>Australian</td>
</tr>
<tr>
<td>we two</td>
<td>ŋali</td>
<td>mu-wa</td>
<td></td>
</tr>
<tr>
<td>what?</td>
<td>minaŋ</td>
<td>kami-ni; auŋwa-ŋa</td>
<td></td>
</tr>
<tr>
<td>who?</td>
<td>ŋana</td>
<td>kuwa-ni</td>
<td></td>
</tr>
<tr>
<td>you (sing.)</td>
<td>njin</td>
<td>ŋŋ-ṭa</td>
<td>probably Australian</td>
</tr>
<tr>
<td>you (plur.)</td>
<td>nura</td>
<td>nu-wa</td>
<td>probably Australian</td>
</tr>
</tbody>
</table>

The words marked 'probably Australian' are of interest, especially the pronouns, for it has already been suggested that the word for water may be a loanword. The pronouns, however, are less likely to be so, for these are amongst the basic words of a language. The point of especial interest is the ending -wa, which is found in mu-wa, we two, nu-wa, you (plural), and also in ŋa-wa, we. If the plural pronouns of 1st and 2nd plural are compounded of Australian roots with the addition of -wa, this would seem to be the -*badj already mentioned as characteristic of certain areas of Australia and presumably EA.
It may seem that basically this language is not Australian, especially when its greatly divergent grammar is considered, but it must be remembered that the same impression was made earlier by the northern languages of Cape York Peninsula until K.L. Hale was able to demonstrate that they had merely undergone a particular set of sound changes – then they could be shown to be Australian. The same may be true for Tiwi also. It is as yet too early to make a final judgment.

6.3.2. Arnhem Land Languages

In the original classification in terms of lexicostatistics by O'Grady and F.M. and C.M. Voegelin in 1966, the Australian languages were divided into 29 phylic families, of which 28 were found in Arnhem Land. This implies extreme variation in this part of the continent. Although the present study may lead to some modification of this scheme, there can be little basic disagreement with it. According to Dyen's principles of relationship (Dyen 1956) the original 'homeland' should be sought here. It is not within the scope of the present study to do this but only to point out (a) that there is more interrelationship between the languages of Arnhem Land than was at first thought, and (b) that the eastern languages fit in fairly well with the great mass of Australian languages, although with a basis that is strange and local. Some languages which are now almost extinct, such as Amarag and Gagadju, still stand apart: they may be regarded as the first stratum of Arnhem Land languages; others, such as Gunwinjgu, which has practically supplanted them in the west, as a second, and one with more EA content than the older ones. This will not be illustrated here. The next vocabulary to be used here will represent the element that is common to the eastern languages, the so-called Murngin or Yulngu Group. This has many features of the WD languages, and looks like an enclave of these languages in Arnhem Land.

A similar comparative vocabulary of the same set of words as was used for Tiwi now follows.

<table>
<thead>
<tr>
<th>English</th>
<th>EA/CA</th>
<th>Yulngu</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>beard</td>
<td>ɲaŋga(r)</td>
<td>ɗa-warag</td>
<td>ɗa is a common root for mouth, eat (probably EA)</td>
</tr>
<tr>
<td>big</td>
<td>bulga, bunda</td>
<td>jindi</td>
<td></td>
</tr>
<tr>
<td>black</td>
<td>ɭaŋu</td>
<td>ɡuŋan, mo:l</td>
<td></td>
</tr>
<tr>
<td>blow with mouth</td>
<td>bu-</td>
<td>ɗaŋɡur?jun</td>
<td></td>
</tr>
<tr>
<td>bone</td>
<td>ɗarga</td>
<td>ɲaRɡa</td>
<td>not related: d &gt; ɲ unlikely</td>
</tr>
<tr>
<td>English</td>
<td>EA/CA</td>
<td>Yulngu</td>
<td>Comment</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>boomerang</td>
<td>ga'li</td>
<td>ga'li ga'li</td>
<td>this is a specifically WD root</td>
</tr>
<tr>
<td>breast</td>
<td>ɲamaŋ, bɪbi</td>
<td>gumur</td>
<td></td>
</tr>
<tr>
<td>burn (intr.)</td>
<td>gamba</td>
<td>đaŋalguma</td>
<td>transitive form</td>
</tr>
<tr>
<td>camp</td>
<td>ɲuraŋ</td>
<td>wa:ŋa</td>
<td></td>
</tr>
<tr>
<td>crow (n.)</td>
<td>wagaŋ</td>
<td>wa:g</td>
<td>Australian, but also *wagura possible relative</td>
</tr>
<tr>
<td>ear</td>
<td>binaŋ, guRu</td>
<td>buḍuru</td>
<td></td>
</tr>
<tr>
<td>earth</td>
<td>ɲuraŋ</td>
<td>munada, djula</td>
<td></td>
</tr>
<tr>
<td>eat</td>
<td>da-ŋa-</td>
<td>luga</td>
<td></td>
</tr>
<tr>
<td>egg</td>
<td>gambu</td>
<td>mabu</td>
<td></td>
</tr>
<tr>
<td>emu</td>
<td>ɲunin</td>
<td>wurban</td>
<td></td>
</tr>
<tr>
<td>eye</td>
<td>miriŋ</td>
<td>mil</td>
<td>EA, but there is also maŋudji</td>
</tr>
<tr>
<td>father</td>
<td>banaN</td>
<td>baba</td>
<td>EA?</td>
</tr>
<tr>
<td>fire</td>
<td>waru</td>
<td>guRda, ɲurdja</td>
<td>the second may relate to ɲuraŋ</td>
</tr>
<tr>
<td>fish</td>
<td>gwijaŋ</td>
<td>gwija</td>
<td>EA</td>
</tr>
<tr>
<td>food (veb.)</td>
<td>majl</td>
<td>ɲada</td>
<td>seems to link with *ŋa, eat</td>
</tr>
<tr>
<td>foot</td>
<td>dinan</td>
<td>nugu</td>
<td></td>
</tr>
<tr>
<td>give</td>
<td>ju-, wu-</td>
<td>guruban</td>
<td></td>
</tr>
<tr>
<td>go, walk</td>
<td>jan-</td>
<td>mardji</td>
<td></td>
</tr>
<tr>
<td>hand</td>
<td>maRan</td>
<td>goŋ</td>
<td></td>
</tr>
<tr>
<td>head</td>
<td>gada, waŋu</td>
<td>ɭiya, gongu</td>
<td></td>
</tr>
<tr>
<td>hear</td>
<td>wlna-, wuna-</td>
<td>ɲa-ma</td>
<td></td>
</tr>
<tr>
<td>hit with hand</td>
<td>bu-</td>
<td>wudgun</td>
<td></td>
</tr>
<tr>
<td>man</td>
<td>baduŋ</td>
<td>juluŋu</td>
<td></td>
</tr>
<tr>
<td>meat</td>
<td>minja</td>
<td>ɲanaŋ</td>
<td></td>
</tr>
<tr>
<td>moon</td>
<td>gagara</td>
<td>ɲaliŋdl</td>
<td></td>
</tr>
<tr>
<td>mouth</td>
<td>dagan</td>
<td>da</td>
<td>shorter form da in some languages.</td>
</tr>
<tr>
<td>English</td>
<td>EA/CA</td>
<td>Yulngu</td>
<td>Comment</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>---------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>nose</td>
<td>mura(ŋ)</td>
<td>ɲuru</td>
<td>in contrast with ɲuru, from</td>
</tr>
<tr>
<td>one</td>
<td>? gudju</td>
<td>wəŋɡanj</td>
<td></td>
</tr>
<tr>
<td>see</td>
<td>na-</td>
<td>na-ma</td>
<td>agreement with EA</td>
</tr>
<tr>
<td>shin</td>
<td>daraŋ</td>
<td>wombal, balwag</td>
<td></td>
</tr>
<tr>
<td>sit</td>
<td>nin-</td>
<td>nina</td>
<td>agreement with EA</td>
</tr>
<tr>
<td>skin</td>
<td>gula(ŋ)</td>
<td>galŋa</td>
<td>possible agreement</td>
</tr>
<tr>
<td>small</td>
<td>djugu</td>
<td></td>
<td>no common root</td>
</tr>
<tr>
<td>smoke (n.)</td>
<td>burin</td>
<td>dliwur</td>
<td></td>
</tr>
<tr>
<td>speak</td>
<td>waŋga</td>
<td>waŋŋa</td>
<td>apparently cognate in spite of ŋŋ - ŋ</td>
</tr>
<tr>
<td>spear</td>
<td>gurldada</td>
<td>gaŋa</td>
<td></td>
</tr>
<tr>
<td>stand</td>
<td>ɲRa-</td>
<td>dara,daja</td>
<td></td>
</tr>
<tr>
<td>star</td>
<td>bĩŋdiri</td>
<td>gaŋju</td>
<td></td>
</tr>
<tr>
<td>stone</td>
<td>bull</td>
<td>gunđa,banda</td>
<td></td>
</tr>
<tr>
<td>sun</td>
<td>dundu</td>
<td>wa.lu,wallr</td>
<td></td>
</tr>
<tr>
<td>take</td>
<td>ma-</td>
<td>mara-ma</td>
<td>cf. EA marŋ, hand</td>
</tr>
<tr>
<td>they</td>
<td>dana</td>
<td>walala, dana(1)</td>
<td>forms in northern subgroup</td>
</tr>
<tr>
<td>tongue</td>
<td>dalaŋ</td>
<td>mada,ŋanar</td>
<td></td>
</tr>
<tr>
<td>tooth</td>
<td>liraŋ</td>
<td>lira</td>
<td>EA</td>
</tr>
<tr>
<td>tree</td>
<td>? ylwara</td>
<td>darba</td>
<td></td>
</tr>
<tr>
<td>two</td>
<td>buladj, gudara</td>
<td>marma,bulal</td>
<td>bulal in north</td>
</tr>
<tr>
<td>water</td>
<td>gabl</td>
<td>gabl,gabu</td>
<td></td>
</tr>
<tr>
<td>we two</td>
<td>ɲali</td>
<td>ɲali</td>
<td>in all the languages</td>
</tr>
<tr>
<td>what?</td>
<td>minaŋ</td>
<td>na</td>
<td></td>
</tr>
<tr>
<td>who?</td>
<td>ɲana</td>
<td>jol</td>
<td></td>
</tr>
<tr>
<td>you (sing.)</td>
<td>njin</td>
<td>nɪ:nunu</td>
<td></td>
</tr>
<tr>
<td>you (plur.)</td>
<td>nura</td>
<td>numa</td>
<td></td>
</tr>
</tbody>
</table>
6.3.3. Other Areas

A longer vocabulary of Gulf languages has already been given: its message of lexical diversity is the same as the two immediately preceding this section: varying degrees of common vocabulary, from eighty-eight or so percentage for WD down to a practically negligible amount. All this has surely the historical message that there is no one common ancestor for Australian languages. Structurally, too, the same message is received: there is a certain amount of structural similarity, a certain amount of structural development, but not one hundred percent. The division into prefixing and suffixing languages may be explicable historically in ways previously suggested, and there is enough common material in the languages of the two types to justify a feeling that once there was ultimate unity of type, and that syntactic change can account for the dichotomy. Even so, this accounting is incomplete when it comes to the level of lexicon, and the conclusion is nevertheless almost inevitable - that Australian languages fall into strata defined by different periods of entry into the continent. All are old, and perhaps O'Grady's diagram to which reference has already been made offers the best picture of the process at present available. In the absence of written history, and in view of the antiquity of the languages, perhaps nothing further can be concluded, and it is wise to accept the limitations.

However, one further set of words is given in comparison with EA/CA - from the extreme south of the continent: Yaralde, in the extreme south-east of South Australia. The aim is to show that the great divergences from a possible common ancestor are found not only in the north and east but also in the south. The languages of Victoria eastward from Yaralde almost as far as Gippsland are similarly divergent, but each in its own way. No study has yet been done on a language-to-language basis, as the lexicostatistic method demands, but the inter-resemblances are not great and the resemblance to EA/CA standards no greater than in the north. The great interrelationships between the EA/CA languages occupy the centre rather than the circumference of the continent. Yaralde is given here without a 'comments' column. An asterisk before a Yaralde word does not mean in this instance that it is a reconstruction, but that it is or seems to be in the EA/CA sequence.
<table>
<thead>
<tr>
<th>English</th>
<th>EA/CA</th>
<th>Yaralde</th>
<th>English</th>
<th>EA/CA</th>
<th>Yaralde</th>
</tr>
</thead>
<tbody>
<tr>
<td>beard</td>
<td>ñanga(r)</td>
<td>meragl</td>
<td>mouth</td>
<td>dagan</td>
<td>dori</td>
</tr>
<tr>
<td>big</td>
<td>bulga,</td>
<td>gra:wl</td>
<td>nose</td>
<td>mura(ŋ)</td>
<td>gobl</td>
</tr>
<tr>
<td>black</td>
<td>malu</td>
<td>gineman</td>
<td>one</td>
<td>? gudju</td>
<td>jamall</td>
</tr>
<tr>
<td>blow with</td>
<td>bu-</td>
<td>gemb-</td>
<td>see</td>
<td>na-</td>
<td>*nag-</td>
</tr>
<tr>
<td>mouth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bone</td>
<td>darga</td>
<td>badbadl</td>
<td>shin</td>
<td>daraŋ</td>
<td>gurl</td>
</tr>
<tr>
<td>boomerang</td>
<td>gaŋi</td>
<td>bangadjļ</td>
<td>sit</td>
<td>nln-</td>
<td>lεw-</td>
</tr>
<tr>
<td>breast</td>
<td>ņamaŋ,blbl</td>
<td>ņumbura</td>
<td>skin</td>
<td>gula(ŋ)</td>
<td>waŋandļ</td>
</tr>
<tr>
<td>burn</td>
<td>gambá</td>
<td>guld-</td>
<td>small</td>
<td>djugu</td>
<td>muralagl</td>
</tr>
<tr>
<td>crow</td>
<td>wagura</td>
<td>waranani</td>
<td>smoke</td>
<td>buriŋ</td>
<td>gari,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>nawuuldi</td>
<td></td>
</tr>
<tr>
<td>ear</td>
<td>binaŋ</td>
<td>blombi</td>
<td>speak</td>
<td>waŋa</td>
<td>jɑŋ-</td>
</tr>
<tr>
<td>earth</td>
<td>ņuraŋ</td>
<td>belebi</td>
<td>spear</td>
<td>gurldada</td>
<td>jɑŋdi</td>
</tr>
<tr>
<td>eat</td>
<td>da-,ŋa-,</td>
<td>yay-,dag-</td>
<td>stand</td>
<td>ņaRa</td>
<td>dajul-</td>
</tr>
<tr>
<td>egg</td>
<td>gambu</td>
<td>beladi</td>
<td>star</td>
<td>bĩŋirl</td>
<td>duldhar</td>
</tr>
<tr>
<td>emu</td>
<td>ŋunin</td>
<td>binjali</td>
<td>stone</td>
<td>bull</td>
<td>meği</td>
</tr>
<tr>
<td>father</td>
<td>baŋbaŋ</td>
<td>naŋay</td>
<td>sun</td>
<td>dundu</td>
<td>nungļ</td>
</tr>
<tr>
<td>fire</td>
<td>waru</td>
<td>genl</td>
<td>take</td>
<td>ma-</td>
<td>bĩndamel-</td>
</tr>
<tr>
<td>fish</td>
<td>gwljan</td>
<td>maml</td>
<td>they</td>
<td>dana</td>
<td>gar</td>
</tr>
<tr>
<td>food (veg.)</td>
<td>majl</td>
<td>ŋunl</td>
<td>tongue</td>
<td>dalaŋ</td>
<td>*dalaŋl</td>
</tr>
<tr>
<td>foot</td>
<td>dlnaŋ</td>
<td>dunl</td>
<td>tooth</td>
<td>liraŋ</td>
<td>*durl</td>
</tr>
<tr>
<td>give</td>
<td>wu-,ju-</td>
<td>bemb-</td>
<td>tree</td>
<td>? Jiwara</td>
<td>jabl</td>
</tr>
<tr>
<td>go,walk</td>
<td>jan-</td>
<td>go-</td>
<td>two</td>
<td>buladj</td>
<td>*buladjļ</td>
</tr>
<tr>
<td>hand</td>
<td>maRaŋ</td>
<td>dunl</td>
<td>water</td>
<td>gabl,gugu</td>
<td>*ŋugl</td>
</tr>
<tr>
<td>head</td>
<td>gada,walu</td>
<td>guļi</td>
<td>we two</td>
<td>ņali</td>
<td>*ŋel</td>
</tr>
<tr>
<td>hear</td>
<td>wina-,wuna-</td>
<td>guŋ-</td>
<td>what?</td>
<td>ņaŋa</td>
<td>*minji</td>
</tr>
<tr>
<td>hit</td>
<td>bu-</td>
<td>memb-</td>
<td>who?</td>
<td>ņana</td>
<td>*ŋaŋl</td>
</tr>
<tr>
<td>man</td>
<td>baduŋ</td>
<td>go:ŋi</td>
<td>you (sing.)</td>
<td>njin</td>
<td>*ŋindi</td>
</tr>
<tr>
<td>meat</td>
<td>minja</td>
<td>ŋald</td>
<td>you (plur.)</td>
<td>nura</td>
<td>*ŋu!</td>
</tr>
<tr>
<td>moon</td>
<td>gagara</td>
<td>margeri</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The vocabulary of the Dampier Land languages differs from dialect to dialect, although they form a single group, but the proportion of EA/CA material is not large. The 100 wordlist gave an average of some 30%. Moreover the occurrences vary from dialect to dialect. Thus, *gambu, egg appears only in Njigina, but there is a parallel gambin elsewhere: this word has been discussed as a multiform root in 2.4.2. Another of the words there discussed is *mijil(Iŋ), which appears in Yawur as -min but Njigina as -milgar, with an unexplained addition; *mai, vegetable food is in Njulnjul maj. *Banban, man appears in all the languages as a form of wamba, as already discussed, and has close parallels in Cape York; see again 2.4.2; *bibl, mother in Yawur is a local variant for breast, but Bard has ñamara, which seems to be a form of CA *ñamaŋ. Bard bala, here looks like a form of the EA ba (ergative ba-1(u), he, she). There are occasional direct links with CA as na, wa, mi, give (wa is also CY), and in other parts of Australia there are wu, ju (including Victorian Wembawemba and Djadjala) wu, a presumably EA root to which CA answers with *ju: -mala, -malj, hand is EA *maŋaŋ: Yawur and Njulnjul in this case, cf. CY maŋa, CA *maŋaŋ and perhaps Njulnjul ari(ŋaŋ), no, not, may answer to CY kari.

In other cases, disagreement among DL languages is radical: good is in Yawur maŋu (found also in Garadjari); Njulnjul laib. Yet the common auxiliary *bu, hit is entirely absent, even from the heavily NK-influenced Warwa. Conjugation by auxiliary is well developed (Capell 1953) though with a totally different series of auxiliaries from those generally in use in Australia, and with prefix conjugation but without object incorporation.

The CA words found include the following: *bibl, mother (Yawur) *1irəŋ, tooth here mouth, *ñamaŋ, breast, *dalaŋ, tongue, here djalanj or djanaŋalanj, a southern word for which Njigina has angal.

Within the 100 wordlist, aside from CA cognates such as the above there is much disagreement: Yawur, Njulnjul and Njigina share 56 words, some of which are CA but the majority are not. Some typically WD words are found, such as dj可以看出u, fire, cf. Bidjandjadjara djun-ba, ašepa, gular, west, cf. WD wuluRara.

Other words are CA but with change of meaning; not only is this so, but two different CA roots may occur in DL languages with the same meaning, e.g. mouth: (1) -lir, -lir, in Yawur, Njulnjul, Njigina and Warwa = CA *lirəŋ, tooth; (2) Yawur djawa = CA *da(wa), mouth, but immediately to the south Bunara has djalanj, tongue = CA *dalaŋ, and in Yawur and Warwa, djalan = tongue. Where the languages agree, there often seem to be no links with other parts of Australia, as is the case
for fall and fish. Yet there are often agreements with regions far distant, e.g. Bard buRu, mainland DL bur(u), earth, camp, which occur in Murawari (New South Wales) as well.

Of the numerals wandjari, one, of which Bard aRlndjI seems to be an inversion, seems to be independent, but gudjara, two is CA = WD.

In the field of general vocabulary there is an interesting word guln, sleep, which may connect with NK guln, lay egg, which recurs in Perth district as adJlnj and Wembawemba (Victoria) as guln, man (Schmidt's 'Kulin languages') as well as Ngarinjin (NK) guln, lay an egg.

6.4. The EA/CA Element: Corridors Revisited

Schmidt (1919a) sets out for each of his subgroups a set of words to be traced as characteristic for that subgroup. These words - or in some instances variable shapes of shared words - are usually EA/CA, although some do not seem to belong to either group. Such words, of course, may represent a stage of language earlier than most of our EA: this question cannot be looked at here but needs to be studied at some stage of investigation. They may help to untangle the stages represented by the symbol EAa...n.

Such being the case, the only possible further work is to deal with lexicon that can be called either Early Australian or Common Australian. As to whether languages of the types just considered owe any characteristics to external origins or external influences, no clear conclusions seem attainable. For discussion of possibilities in this field, see Wurm 1975:915ff.).

Therefore leaving the 'substrata', if the term is right, it is best to consider the various strata that can rightly be called Early Australian first of all, and then proceed to consider the real nature of Common Australian. It is true that the author when he proposed this term had wider ideas for it than he has now, but the term itself need not be discarded. The next step therefore is to take these two subdivisions of the Australian language totality and deal with them separately.

Before passing on to individual items, it is worth noting that in Australia there has been a considerable tendency to change meanings of a root, just as in New Guinea and other places. Indeed, it is sometimes difficult to determine which was the earliest meaning of a root, e.g. breast, mother (*bibi, *ŋamaŋ); which was earliest? And the former - *bibi - can even mean father occasionally, and other kinship terms can change gender in a similar puzzling manner. A single root
may mean head in some languages and eye in others; mouth, tongue and tooth seem to interchange meanings indefinitely. In less frequent cases, even wider changes of meanings can occur. According to O'Grady (1966, word 628) the root meaning of *ŋarga is beard, in some of his Ngayarda languages, but in Walbiri ŋarga is man. Amongst adult aborigines, the man is marked by his beard. This is not an isolated instance and others will be recalled. O'Grady, in his contribution to this volume, also develops the idea of antonyms, as one of the causes of change of meaning, and this raises still more difficulties, even if also the possibilities of more common words.

To illustrate the interaction of phonological rules, it is convenient to look at the widespread word *baduŋ for aboriginal adult male (without reference to social status) in its local occurrences. It is a CA root occurring widely in the Western Desert areas, where one of the groups has been called by O'Grady 'the Wati Group'. Looking first at the changes of the initial consonant, we see:

\[
\begin{array}{c}
\text{lost} & \text{kept} & b- > g- & b- > m- \\
adu \text{ (Wailbi)} & \text{badu} ('Luridja') & \text{gađu} \text{ (NW Group)} & \text{madu} \text{ (NW)} \\
adua \text{ (Aranda)} & \text{bawu} \text{ (Ngarinman)} & & \text{meru} \text{ (Murundi)} \\
aRu \text{ (Ngarinjin)} & \text{bawa} \text{ (Bangeranj)} & & \text{marl} \text{ (CQ)} \\
ilja \text{ (Worora)} & \text{bawuŋ} \text{ (Upper Murray)} & & \text{mal} \\
llu \text{ (Laragia)} & & & \text{meyu} \text{ (Lower Murray)}
\end{array}
\]

Other incidental changes (in the middle consonant) can be seen here as well as occasional changes in the vowels. Still other minor variations are noticeable elsewhere, such as Marrawa marl, S.E. Bungandidj mara, Inland Yuwinj marin (where, as usual in this area, the final consonant is preserved but in the unusual form n < ᶁ), Gamilaray marl, where it contrasts with gibir, initiated man which has relatives elsewhere, including apparently, Tasmanian wibar (Plomley 1976:317), but this could be a loanword after settlement in Australia of the whites. There is also a group of Daly River languages showing marl (Tryon 1974:271).
As against this, there are other quite widely spread forms for man, e.g. *bama, which has been used in the hypothetical 'Pama' languages in the Pama-Nyungan Family. In Dampier languages, as in Cape York there are forms of wamba, wamb, amb, abm and some other variants. It is hard to connect these immediately with *baduŋ but they can be connected with *baN (in which N stands for any nasal consonant), reduplicated as banbaN. This baN could, indeed, represent *ba(du)ŋ but this cannot be proved. In Victoria there are forms of ben, ban, which seem to belong too, while in Iyora (Sydney) and some neighbouring languages bijanja = father, the senior 'male' of the family. Such further connections as these remain, of course, problematical but quite possible within the time depth.

In south-west Queensland there are forms of ganaj from which Schmidt named his Kana Group: ganaj is the usual form in these languages, but Gippsland ganay (in the 'Kurnai' language) may link with it.

The most notable word, however, is *gulin, already mentioned, and in the form Kulin used by Schmidt as a title of the western Victorian groups. This appears in the Central Corridor in Ngarinyin gulin, bear offspring, in the far south-west in Wadjug and Njungar adjin, hatch, as well as in western Victoria gulin, man, eastern New South Wales guri, man (here sometimes contrasting with guri, ear). It is just possible that Schmidt's yuwin form in these areas may link with it.

There are still quite a number of other words for this concept, which cannot be listed here: the whole set serves to illustrate the unity-in-diversity which is the Australian Group of languages. They must wait for further discussion until an Australian comparative dictionary can be worked out. The Victorian languages are of particular interest in such a scheme, for they seem to have three strata: local words, which show considerable differences, local plus Northern Kimberley vocabulary through the Central Corridor, and a CA element which appears in the structure of some of the languages, especially in the AT phenomenon.

6.4.1. Regional Studies of EA/CA

The preceding lists will have stressed the variety within EA/CA. This variety has been irregularly studied. The two fullest studies to date are O'Grady's (1966) on the north-west and the desert languages of central Western Australia and Kenneth Hale's on Cape York (Hale 1964, 1966). In the former some hundreds of words have been studied - a group of 137 which O'Grady has found only in the Ngayerdic languages:
these have been referred to earlier; further, some hundreds more
which can be traced in other parts of Australia. These latter are
of particular importance for deciding the scope of EA/CA. They link
up with Hale's study which begins from the other side of Australia,
so that between them the entire northern half of the continent
receives good initial covering. Sommer (1969) has compiled a vocab-
ulary of proto-Australian, 'proto-Paman' based on Hale's list which
makes interesting comparison with others compiled from other sources.
Only the briefest results can be set out here.

The lists from the two sides of the continent do not by any means
coincide. For example, Hale's *kuuku, speech, language, is limited
to Cape York, and the term 'proto-Australian' needs to be reinter-
preted if applied to such regional lists. It must be read merely as
'proto-Cape York' and there is no basis for treating such limited
words as proto-Australian. They may actually be so, but it cannot
be proved. To treat them as such gives a quite false idea of present
attainments in such studies, and if the present work accomplishes
anything at all, it is an attempt to introduce proper perspectives
into what must be at all times a difficult reconstruction of completely
lost languages - which almost by definition is in any case impossible.
Some of the lists of Hale and Sommer, if valid beyond Cape York,
point to at least dialectal differences at the proto-Australian level.
Sommer gives wa-, give: elsewhere the root is restored as *wu- or *ju-,
not *wa-, and this points to an as yet not understood variability of
vowels even in the three-vowel languages.

Schmidt in his *Gliederung* is ultimately the source from which the
present author first gained his idea of a 'Common Australian', now
subdivided into Early and Common Australian, so it is fitting to
return to his work, for by picking out regional variants, something
can be added to our present knowledge of common words including
pronouns. Schmidt in the second part of that work really indicated
possible local - or temporal - subgroups that may be of importance in
the further development of the historical linguistics of Australia.

6.4.2. Distribution of EA Material

Thorpe's suggestion has already been mentioned, viz., that early
migration may be presumed to have followed the coastline before break-
ing into the interior and crossing the continent. This had been
adumbrated already by A.L. Kroeber (1923). His distribution charts
showed that 'a general distribution of one stratum' (usually placed
first in his lists), with a 'tendency to spread nearly all round the coast and eastern interior, missing the north-west coast, north coast and Cape York'. This, of course, supported the idea of entrance via Cape York and the spread southwards and southeastwards through the immediate hinterland, and this seems natural inasmuch as these are well watered areas inviting habitation. Here, too, the languages are numerous and cover comparatively small areas. It is worth looking at a linguistic map of the area to see that this is actually true at the present time. He also suggested that the entrance point was later swamped by - possibly - Papuan immigrants. Though there may have been such a later entrance, the idea of its Papuan origin - in the modern sense of 'Papuan' - needs reweighing. He also suggested that the Kimberley peoples really came via the north-western sea route, but combined with an earlier branch of the common Australian race, who are still represented by the peoples of Forrest River region and others around them. This suggestion is more easily open to doubt.

A study of Kroeber's very useful maps of word occurrences is perhaps a help to test out Thorpe's later theory and at the same time to suggest relative ages of certain roots, although this must always be risky. To some early stages of EA movement some words may tentatively be attributed in terms of their occurrence along the coasts or inland. The weakness lies in the impossibility of deciding whether a coastal word represents an early movement and an inland word something later, or whether an inland word represents a group of people driven from coast to inland at some later stage. Here the frequency of occurrence is a possible guide. Thus the common *mili, *eye < *mili *i(j) is by far the commonest of the names for this part of the body; *gu̯ru is chiefly western with a predominance in WD languages, so that it would seem to be CA and later; *dili occurs chiefly in Cape York and inland Queensland. These cover most of Australia, but there are still other words of very limited occurrence, at whose origin it is at this stage hardly possible to guess.

With this introduction it is perhaps possible to set out some lists of words, not mapped, as done by Kroeber and ideally needed in the present instance but suggestive of historical reality in varying degrees. In some cases words appear over widely separated areas, and here it may be that lack of information prevents identification with any surety: there may be further agreements in intervening areas, e.g. seagull: Njangumarda dara, Gubabwyngu dara:ɡ, Umpila djara (O'Grady 1976:63); and in the same article Bandjima miri[i, Ngarluma miriːdji; Umpila miri, string; and Njangumarda njara,ointed njara,
Gumbainggar djaraŋ, Umpilaŋaŋaŋa, that, in the distance. In many cases further examination is needed, for examples such as these show presumable cognates from west to east coast, inland and in the northern part of New South Wales. None of this can be quite accidental. Similarly, Curr (1886, II:426) quotes from Halifax Bay (Njawagi?) mero, wommera, and adds 'which prevails so extensively on the west coast, two thousand miles off, is also found in this and in the languages of Hinchinbrook Island and Port Mackay'.

The original list of 'CA' words was worked out to the number of 48, and from those a map was constructed showing their local occurrences in a large number of languages. The same method is applicable to others. To date the figures for occurrence in each language have not been published. The map simply shows the percentage of 'CA' words to be found in different areas. These words are now recognised to be a mixture of EA and CA and at this stage are better referred to as 'EA/CA' as has been done above. We now proceed to set out the lists by the numbers of the words themselves. This enables a further subdivision to be made in terms of the local occurrence of each word, by which EA can better be distinguished from CA. In this way the work can be expanded by any number of subsequent additions, even to the full length of a dictionary.

One comment suggests itself immediately. It does not look as though CA is radically different from EA but rather that the former is a later stage of the latter, much as Middle English is a later stage of Old English. Much as many Old English words disappeared, whether from local disuses or through replacement by such as Norman French, so CA may function in the history of Australia. The loss of a final -ŋ in CA where it is documented in EA, simplification of phonological patterns in WD languages as compared with those farther east, fit quite easily into such a process. There will still remain the isolates, whether in northern Australia or in the south or anywhere else, and judgment on them will be made independently. It is even possible - at least theoretically - that Tasmanian languages may have occupied the mainland of the continent: no such proposition is put forward here, but neither is its possibility denied.

If CA is in the main a later stage of EA, then the grammar of the languages in which CA rules will have been radically changed. The formation of pronouns in the CA languages suggests strongly that the pre-languages were structurally different. They may well have resembled Warnman in having pronouns based on noun roots with possessive suffixes to distinguish person, a set of markers which were
Map 7: Distribution of Common Aust. Vocabulary Reflexes
deictic and numeral indicating, and perhaps also different syntax, leading some languages to develop AT constructions owing to a preference for SVO over an earlier SOV. These two types of syntax would simply have resulted from different crystallisations of an originally free order which is still attested in parts of Queensland.

There is one presumption in the preceding paragraph: that WD languages (which are the basis of CA) are later than EA. This can be justified especially if such maps as those supplied by Kroeber are studied. In these most of the agglomerations of words are in the eastern half of the continent, and this does not seem to be an accident. It also fits in with the other presumption, that the movement of languages came chiefly from west to east. If this movement occurred, as has been held throughout, round about 6000-5000 B.P., then both direction and lateness of date are justified.

Apart from the comparatively few words that have been set down as EA or CA there is in Australia only a set of regional vocabularies, held together by a remarkably common scheme of grammatical construction. Why this should be so is extremely hard to decide or even to suggest. It has been remarked on as in Amerindian languages, all of which exhibit the strong development of the polysynthetic type, however much they differ in vocabulary. Within a subgroup there may be much closer resemblance in vocabulary and grammar. In aboriginal America the various families fall into obviously related groups, although it is much more problematical whether there will ever be a proto-Amerindian established.

Some views put forward by the Polish linguist Milewski (Milewski 1965:158-9) have a bearing on the present discussion and are worthy of quotation. He speaks of Palaeo-Australian as the group of languages predominant in the south-east of the continent and describes them in the following terms, which are not an impossible solution of the problem. His views are based on a study of Schmidt's Gliederung analysed according to the Czakanowski method (Milewski 1948, English translation summary p. 389):

'Up to the middle of the nineteenth century the site of present-day Melbourne was occupied by languages of the Palaeo-Australian family (Kulin, Koliqon, Buandik) and on the River Murray dialects of the Narrinjeri family ruled. This was the southern edge of the continent. They had not yielded to the process of unification, which ate into the rest of the area and led to the rise of the great Central
Australian family. In the full process of time it occupied the whole of Australia except its southern limits. The proto-family crossed over from New Guinea through the islands of the Torres Strait and Cape York Peninsula. A second expansion in full strength of a completely different linguistic type, it imposed on the whole area of unity in grammatical principle. The unification of vocabulary did not spread so far, and led to the establishment of some peculiarities with regard to dialectal groups.

'Between the two great families of Central Australia in the south and Austronesian on the north there stretches a region of about 150 small language families, which we divide from geographical viewpoints into two sets: northern Australian and Papuan. To the Central Australian set we assign the Aranda family, which intruded from the north into the very centre of Australia, and in addition to that about 30 small families, which came from New Guinea into Arnhem Land, on the coast of the Gulf of Carpentaria and Cape York Peninsula. In all these regions they overlaid the dialects of the Central Australian family.'

Serious doubts may be cast on the last few sentences but at least in the absence of definite information to the contrary, they are at any rate worthy of thought.

Wurm (1975:290ff.) has already suggested connections between Cape York and south-western New Guinea - and indeed elsewhere in New Guinea - whether by borrowing from south to north or not, and some at least of the cases seem genuine. Capell also (Capell 1942:29) showed relationship likely between Gunavidji, on the central north coast of Arnhem Land, and the languages of the western Torres Strait. These are set out again here:

<table>
<thead>
<tr>
<th>English</th>
<th>Gunavidji</th>
<th>Torres Strait</th>
</tr>
</thead>
<tbody>
<tr>
<td>one</td>
<td>Rabana</td>
<td>warapone, urapone, etc.</td>
</tr>
<tr>
<td>tongue</td>
<td>daŋal</td>
<td>daŋ (tooth)</td>
</tr>
<tr>
<td>ear</td>
<td>gala-</td>
<td>goura</td>
</tr>
<tr>
<td>hand</td>
<td>gudjl-</td>
<td>geta</td>
</tr>
<tr>
<td>bone</td>
<td>lda-</td>
<td>rida</td>
</tr>
<tr>
<td>kangaroo</td>
<td>ridjbara</td>
<td>udjar (Mawng) gudjbayari</td>
</tr>
<tr>
<td>egg</td>
<td>jo:gara</td>
<td>gagura</td>
</tr>
<tr>
<td>ground, camp</td>
<td>wiba</td>
<td>aba</td>
</tr>
<tr>
<td>what</td>
<td>ńale</td>
<td>ńalu (Gumulgal)</td>
</tr>
</tbody>
</table>
He remarked on the distance between the languages as making the comparison less sure, as well as the uncertainty of any regular sound change; yet it is possible that further examination of southern New Guinea and North Australia may strengthen the possibility, and justify Milewski to that extent.

Amongst the examples cited by Wurm, however, a number seem to be exclusively Cape York regional language, for some of the words are neither EA nor CA, e.g. *jaŋan, for which *maRa seems to be EA, and O'Grady gives *kulku-Ra as proto-Pama-Nyungan; for *hear, CY *kul is WD, i.e. CA, but there is also CY *əŋami, and CY *kuman, *kulan, answers to EA daraŋ. There is therefore still much uncertainty, and Sommer (1967), based on work of Hale which is itself included in Hale (1974), shows a great deal of disagreement between Cape York and the languages to the south and west. This means that there is a Cape York regional language to be reckoned with also.

When Australia is examined as a whole - which cannot be done here - what appears is a mass of regional vocabularies, with a fairly common grammatical pattern in the languages, and an extraordinarily similar phonology throughout the continent. This is precisely what Schmidt had suggested in his two works, and Milewski's interpretation seems to make clearer.

6.5. Summary

The present paper is only a first approach to a vast subject, and this is more difficult in the field of vocabulary than in that of structure. It is now time to present a summary of the whole problem. Certain propositions are therefore put forward, all of them still awaiting proof or disproof. The propositions are:

1. The proto-Australian linguistic pattern consisted of a number of apparently unrelated languages. These would all have come in at various times from various directions, but all ultimately from the north-west, via the now lost Sundaland. Little resemblance can be traced now between them: all are classified as Early Australian (EA), and even if the terminology EAa...n is used, this does not mean anything in practice, as the component elements cannot be isolated into a series of languages belonging to different times. As shown in O'Grady's diagram, many languages probably died out without descendants at all, and cannot now be traced. Presumably they set the phonological pattern which developed later only in certain points:
the common basic Australian phonology goes back to such early languages, indeed may represent the pattern of phonologies in many parts of the early stages of human speech. This is where it is important to recall the fact that proto-Australian languages antedate any existing languages by many thousands of years. Such developments show in the absence of a voiceless-voiced contrast between plosives, such as still appears in some other parts of the world as well as Australia. The development of more than one set of laminals would also have begun in these unrecorded times, and in some, especially WD languages, distinctions of the laminal series is still uncertain, as for instance between Ooldea and parts of the Western Desert farther north. A late movement will have brought in the three vowel languages, but even in this there is considerable phonetic variation. During this stage, which could have included Tasmanian (unprovable but by no means impossible), distinction of number in nouns and pronouns was probably absent. The elements which are used to distinguish number in the modern languages all have a local appearance, and all seem to have developed locally. At a much later stage there is still confusion, as for instance in the use of *buladj to mark duality in most languages, but actually to produce also bula as they plural, in some languages of Cape York Peninsula, where the duality is no longer expressed by the word, but simply non-singularity. Syntax would have been relatively free and uncomplicated: different patterns crystallised out later in different areas.

2. One group of such languages spread, as again suggested in O'Grady's diagram, and this is the group here referred to specifically as Early Australian (EA). It was perhaps never simply a unity, or at least suffered very early dialectal modifications. The commonest vocabulary throughout the continent marks this group. This is the group to which the present author referred in his 1956/1962 work as 'Common Australian' or CA. It would now seem that this term is better kept for a language or for a group of languages which moved from west to east at a date later than the EA stage. Again, this was probably never a single language, but a group of related languages developing about the Ord River-Wave Hill region. It is relatively later than the others, and may be connected with the cultural development that Mulvaney has shown to have moved eastward about 6000 B.P. or earlier. If Dixon's figure of about 10,000 B.P. for the Rain Forest languages of north Queensland has any value, this would mark a stage of the EA spread before that of CA. In fact CA may be even older. The archaeological evidence for improved hafting techniques demonstrated
by Mulvaney and others would be part of this movement or an outcome of it, and the date of about 18,000 B.P. for the Miriwan findings in the Ord Valley would be part of the same picture.

An extension of movement from one or more centres in this region is noticeable in the spread of CA vocabulary (and perhaps certain structures also) in three directions: westwards along the north coast of Western Australia, along the Ninety Mile Beach and the interior of that region, southwards along the centre of the continent into north-western Victoria and thence into New South Wales, both coastal and interior and eastwards into the Cape York area. In the last mentioned there were already regional languages which could have entered via New Guinea, but belong to the EA period described in the preceding paragraph (1). These will be mentioned again below. This Cape York movement would be earlier than the 10,000 B.P. mentioned by Dixon.

3. The preceding paragraph suggests that the so-called proto-Paman is post-CA, i.e. very late. The Rain Forest is estimated to have come into being before 7600 B.P. (Dixon 1970a:351 et al.). The north-east route of CA would then have been covered during the period between these two dates, but Cape York Peninsula was by then already inhabited, and proto-Paman represented an amalgam of earlier and later peoples.

There has been earlier discussion about this word *pama, from which two points emerged. The first that it is shared by the Regional Isolates of the Dampier Land area with the Cape York languages (3.3.3.), and that its ancestry is not quite clear (2.3.1.). It seems a very unsatisfactory designation for a large language family, and especially for that of Cape York. It appears (see Sutton 1975 passim) that the Cape York languages have indeed a considerable element of CA, but also a large element that is not CA. Such a word as *dunga, weep appears in CY as *Runga, but it also appears in the north-west of Western Australia (O'Grady 1967), and along the eastern coast of Queensland and as far south as Sydney, where dunga is given by the early writers in the same sense. This looks like EA and quite clearly so. Some of the CY vocabulary can indeed be so classified, as EA rather than CA, while much is entirely different, e.g. *djamal, foot, as against EA/CA *dinaŋ. At the same time the final -ŋ of such EA words as this make the CY examples seem to have come through the later CA rather than EA, for a final consonant, including -ŋ, is not forbidden in this area.

The CY pronouns are diagnostic in a high degree. While the actual roots are EA, the forms they assume are frequently not so and are often not CA either. In CA (especially its WD forms – see 3.5.) there are
not common independent pronouns beyond the second person singular and the dual and plural substitutes are built on very definite and peculiar lines. Hale is certainly right in holding that the WD pronouns are late manufactures though it has been argued that they are from a factory different to that to which he assigns them. This assertion applies also to CY, and in this case it is clear from what follows. The CY pronoun roots are already in the ergative form, e.g. *ŋa-ju, *ŋun-dju etc. but these are usable with intransitive verbs as with transitives. In the northern languages they also carry a postfix -*badj, as for example, in Uradhi aju-va etc. (3.4.). It appeared there that this is a very specific suffix common to ergative and other languages, as far apart as Arnhem Land (Nunggubuyu, Mawng, etc.). South Australia (Yaralde, Meyu) and in Cape York and north Queensland (Djirbal). It is some form of EA and early at that, for it seems to have belonged to a language that spread widely in a way not characteristic of CA. The dual marker *buladj plays a special part in CY, as has been mentioned, and the implication of this part is that its nature as a dual marker had either been lost or was just not understood. It refers to locality - over there, not to two as a number, and frequently *bula is they plural. On the other hand interrogatives are built on a *ŋana root rather than the wa- form which characterises EA and is found in the Sydney area where wa is where? Yet in other parts of CY, *wanja/i/u is found as who? and *wanjdja as where? and even an ergative form *wanjджju as who? There has been much intercrossing and mixing in this region of Australia.

Apart from these pronouns, that show considerable admixture from various sources, much of CY seems to be early, earlier in fact than the development of four laminals; yet there are meaning changes in some EA words adopted, e.g. *liraŋ, tooth > tongue (Sutton 1975:107), suggesting the misunderstanding of a foreign language coming into the region.

Subgroups of Cape York languages have developed later, in situ; 'Central Paman' would seem to be the earliest form. There is a considerable amount of non-EA/CA vocabulary in the region as a whole.

In general, the nomenclature at present in use for Australian languages as a whole is not satisfactory. The Pama-Nyungan family is particularly badly named. The word *pama is not a CA word; the root for man is *baduŋ, and the suggestion made above that *pama may = *ba(ma)duŋ is insecure (see 2.3.1.). Rather *pama looks like a derivative of *baNbaN, reduplicating a root that appears in Victoria and New South Wales as bɛŋ, biaŋa, either as man or as father.
'Paman-Nyungan' is therefore quite an unsuitable word. 'Pama-Maric' is worse, as *mari is a Queensland form of *baduŋ itself! Not only are such terms uneven yoke-fellows, they are rather like yoking a horse with an ox to pull the plough! In fact, the whole classification on the present language maps, as used in Wurm (1970) is unsatisfactory, but it cannot be improved until vocabulary comparison is done on a much wider scale than at present. Australia is much more than a dichotomy of Pama-Nyungan v. the rest. But PP and western CA are key elements in the solution of the problem; the lock into which they fit is the non-EA/CA sector that has been partly studied here.

4. The extra-continental relationships of the Australian languages have never been worked out - most feel that there are none. For certain possible connections with New Guinea, reference should be made to Wurm (1975). The next stage is the full vocabulary comparison and the time is ripe for this task.
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IN THE MARGINS OF AN ARABANA-WAŋgajurU DICTIONARY:
THE LOSS OF INITIAL CONSONANTS

L.A. Hercus

0. ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Arabana</td>
</tr>
<tr>
<td>ANC</td>
<td>distant past</td>
</tr>
<tr>
<td>excl</td>
<td>exclusive</td>
</tr>
<tr>
<td>intrans</td>
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1. INTRODUCTION

In his work of 1956 (p. 84) A. Capell complained of the difficulty of 'establishing sound-laws for Australian languages' and of the 'lack of consistency that marks Australian languages' in their phonological development. Since those days important progress has been made in the study of historical phonology, initiated by O'Grady (1966): the advance made in these studies over certain relatively small areas is evident from the historical contributions to Sutton, ed. (1976) The Languages of Cape York. The general approach is now different: we have become more aware of regional diffusion and of Aboriginal multilingualism, and can see how much these have obscured the operation of strict sound-laws. Yet even in this context some of the inconsistencies still remain puzzling and unexpected: this can be illustrated by the Arabana-WaŋgajurU words beginning with a-.
MAP 1: GENETIC AFFILIATIONS OF LANGUAGES IN SOUTH-CENTRAL AUSTRALIA

Arandic
Arabana-Waŋgaŋuru
Diyaric
Yura languages
Yali languages
Nyura languages
Bagandji

partly based on Tindale 1974
MAP 2: INITIAL CONSONANTS

Extensive loss / lenition
- Aranda type
- Adnjaramaga type
- Limited loss of η-
- Limited loss / lenition of plosives
- Traces of lenition of g-
- Some pronominal forms beginning with yi-, ti-

Note that Arabana is shaded
both for [ ] and [ ]

Partly based on Tindale 1974
It is generally agreed that all Original Australian words began with a consonant (Capell 1956:100). There are areas where it is clear that certain initial consonants were dropped bringing vowels into the initial position. This situation is found, for instance, in Cape York and parts of Western Queensland, in Central Australia and in two languages of North-eastern New South Wales, Anewan and Yaygir as shown by Crowley (1976). In these areas initial dropping and the related phenomenon of initial softening or lenition are regional features that cut across genetic boundaries. This has been shown for Cape York by B. Alpher (1976). The following pages are a summary of the South-Central Australian situation.

Genetically, the languages in the South-Central area belong to two groups, Arandic and Karnic (the Arabana-Waŋaŋuru and the Yupa subgroup of Karnic); the languages on the periphery of this area also belong to Karnic, forming the Diyaric, Yaŋ, Ḏura and Bāgandji subgroups.

2. LANGUAGES ON THE PERIPHERY OF THE SOUTH CENTRAL AREA

2.1. Bāgandji

The Bāgandji or Darling River sub-group consists of a number of related dialects once spoken along the Darling River south of Bourke and in adjacent areas. There are some major differences between the northern and southern dialects (Wurm and Hercus 1976). The two northern dialects, Guŋu and Bārundji, survived until recently. Throughout the extensive vocabulary recalled by the last speakers there was only one single word that began with a vowel: ilāgū yesterday, apart from īgī this and īna that (present tense).

Ten years ago it was still possible to record two southern dialects, Bandjigali and Southern Bāgandji from Pooncarie. It is typical of the way that initial consonant dropping cuts across genetic boundaries that in Bandjigali and Southern Bāgandji, as opposed to the northern dialects, there is evidence of the occasional loss of the initial velar consonants g- and ŋ- before -i- in the free forms of pronouns: īmba, īmba you sg. intr. subject, īndu, īndu you sg. tr. subject, īgī, īgī this one; (g)īgū and (g)īnu that one and that one further away are in fact the preferred forms. The same loss of the velar consonant in this environment is found also in pronominal adverbs (g)īņara, (g)īĎana there and here and less frequently in (g)īla not. Apart from the adverb ilāgū yesterday (which probably shows loss of an initial g-) and the exclamation of surprise ilāgūal lit. my yesterday there is also a small group of verbs which show optional loss of initial ŋ-, (ŋ)īma- to lie down, (ŋ)ība- to put down and (ŋ)īnga- to sit.
Bāgandji illustrates the point that velars are particularly liable to be lost initially. But the situation is complicated by the fact that there is also a quite specific regional restraint against the occurrence of initial ƞ + i: this combination is totally absent from both the Yaği and the Diyarı subgroup (Austin MS and Hercus MSb). Bāgandji is in fact the westernmost language in this particular area to permit initial ƞ + i at all.

The most important feature illustrated by Bāgandji is that initial dropping does not necessarily affect the whole vocabulary uniformly: certain classes of words, particularly pronouns are more prone to this change than the rest of the vocabulary.

2.2. Yağ Languages

The comparison of cognates from neighbouring languages shows that in the two very closely related and both recently extinct Yağ languages Maljaqaba and Yağliyawara (Hercus MSc, Austin and Wurm MS) initial ƞ- and ƞ- have been lost before i in pronouns and pronominal adverbs, hence inliŋ this, ldnl, ini you sg., as in:

Yağliyawara: walji inliŋ-ŋa yawara dllgaŋ-ŋ -aŋu
not this -OBJ language know-PRES-1 sg. tr.
I don't know this language.

wanaŋaru ldnl
where you sg. Where are you?

Maljaqaba: inliŋ-ŋa yawara dllgaŋ-ŋ - anji -ri
this -OBJ language know-PRES-1 sg. sub. -EMPH
I know this language?

warŋa midji ini
what name you What's your name?

There are no words beginning with a- or wu-, u- in the Yağ languages, and there appear to be only a few words beginning with yi-, i- apart from the pronouns: the kinship term ibulju sister's daughter, mother's sister (see also Beckett, 1967), and ibi- to lift up.

The presence of initial yi-, i- in pronouns is widespread, far beyond the Yağ languages, as can be seen readily from the tables published long ago by Schmidt (1919) and from the recent investigations of Queensland languages by Breen (1971a and 1973) and by Blake and Breen (1971 and forthcoming). It is of significance, however, that initial yi-, i- is found only in the second and third person singular
pronouns and in adverbs derived from them and not to any extent in any other classes or words in the Yaŋi languages and in the Ñura sub-group (Waŋgumura, Bundamara and Gaŋgali). In Southern Bãgandji and in the Diyarı subgroup (Austin MS) not only pronouns, but also a few verbs begin with yi-, i-.

3. CENTRAL LANGUAGES

It is in the Central languages that initial dropping is most prominent.

3.1. Aranda

Comparative data show that in Southern Aranda as in the entire Arandic group initial g- and usually also initial ṣ-, w- and d- have been lost:

<table>
<thead>
<tr>
<th>S. Aranda</th>
<th>Arabana</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>abma</td>
<td>wabma</td>
<td>snake</td>
</tr>
<tr>
<td>ąda</td>
<td>āgu (Diyarì ēgadu)</td>
<td>I (tr. sub.)</td>
</tr>
<tr>
<td>alinja</td>
<td>daļinji</td>
<td>tongue</td>
</tr>
</tbody>
</table>

There are a number of exceptions and irregularities, as has been pointed out by A. Capell (1956:100). But there can be no question about the fact that Aranda has the most general loss of initial consonants of any of the languages in the area.

3.2. The Yuŋa Languages

The Yuŋa languages are:

Kaurna
Naraŋga
Ñadjuri
Nugunu
Baŋgaľa
Guyani
Adnjama’dana

They were once spoken over a vast area in South Australia, from Adelaide to Lake Eyre. They are all very closely related: they must in fact be regarded as dialects of one language. Adnjama’dana of the Flinders Ranges and Guyani from the plains to the west and north-west of the Flinders are especially close according to recent recordings (Hercus MSc). This is evident from both the morphology and the
vocabulary, which is over 80% cognate. There were close social links between all the Yuŋa group: they shared the same kinship system, which is reflected in the complex pronouns (Hercus and White 1973). They shared some major ceremonies, in particular the Wiljaru cicatrization rite, and they all had the same system of birth-order names. It is clear that Ɲadjuri can be included in this respect, as Tindale mentions (Tindale 1937:149) that his main informant was called Waria. This means in fact Second Son and corresponds to Bangala, Wari and Guyani, Nugunu, Adnjamaŋaŋa (and even Yaŋiyawara) wariya. Naturally there were some minor differences in social behaviour (Schebeck 1974:173) but Yuŋa people were conscious of their basic solidarity and they sensed a kind of continuity between the various Yuŋa 'tribes'. As an elderly Adnjamaŋaŋa man, Angus McKenzie once explained: 'There were really two kinds of Guyani, there were the Adnja-Guyani 'Hills-Guyani' - they were just like us Adnjamaŋaŋa 'Hills people' - and then there were the Vaŋ-Guyani 'the Plains Guyani'. The same way there were really two kinds of Vangaŋa (Bangala), the Adnja-Vangaŋa 'Hills Bangala' - they were nearly the same as the Nugunu - and there were also the Vaŋ-Vangaŋa ('the Plains Vangaŋa').' This shows how closely, in the eyes of a most knowledgeable man, the Guyani and Adnjamaŋaŋa were associated on the one hand, and the Bangala and Nugunu on the other (cf. Tindale 1974:213). Yet the changes involved in the dropping and lenition of initial consonants cut across those close links.

Guyani and Nugunu, and from older evidence, the extinct Kaurna and Naraŋa maintained all their initial stop consonants:

**but**

Adnjamaŋaŋa shows loss of initial g- and lenition of initial d- to y- and b- to v-.

Bangala (Schüermann 1844 and also Hercus MSc) is in an intermediate position: there is weakening of initial d- to y-. There are therefore words beginning with yi-, i-, but not wu-, u- or a-. We were able to record only the one isolated proper noun Ara-bangaŋa, the name of the northern group of Bangala (with n, not η) as opposed to the Bangala proper, from Eyre Peninsula. Tindale (1974:216) and Green (in Curr 1889) quote also the name Arkaba-ŋura which should be translated as the red ochre men from their proximity to the red ochre mine at Parachilna. The written records of the extinct Ɲadjuri (Berndt and Vogelsang, 1941) also show evidence, though sporadic, of weakening of initial d- and b-, and loss of g-.

The situation is summarised in the following table:
Because of the high proportions of cognates between the Yura languages, there is spectacular evidence for these changes. They took place throughout the vocabulary and in any kind of vocalic environment. Examples are:

<table>
<thead>
<tr>
<th></th>
<th>Guyani</th>
<th>Nugunu</th>
<th>Bangala</th>
<th>Nadjuri</th>
<th>Adnjamađaña</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>loss of initial g-</td>
<td>gadja</td>
<td>gadla</td>
<td>gadla</td>
<td>'gadla'</td>
<td>ađla</td>
<td>fire</td>
</tr>
<tr>
<td></td>
<td>gadu</td>
<td>gadu</td>
<td>gađu</td>
<td>'atuni'</td>
<td>ațuna</td>
<td>wife</td>
</tr>
<tr>
<td></td>
<td>gudnju</td>
<td>gudnju</td>
<td>gudnju</td>
<td>'winju'</td>
<td>udnju</td>
<td>white</td>
</tr>
<tr>
<td>loss of g-</td>
<td>gubmana</td>
<td>gubma</td>
<td>gubma</td>
<td>ubmana</td>
<td></td>
<td>man</td>
</tr>
<tr>
<td></td>
<td>gudlu</td>
<td>guđlu</td>
<td>guđlu</td>
<td>'wudlu'</td>
<td>uđlu</td>
<td>ghost</td>
</tr>
<tr>
<td>lenition of d-</td>
<td>dadna</td>
<td>yadna</td>
<td>yadna</td>
<td></td>
<td></td>
<td>one</td>
</tr>
<tr>
<td></td>
<td>daba-</td>
<td>dabadja-</td>
<td>yaba-</td>
<td>yaba-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>diga</td>
<td>digadja</td>
<td>yiga</td>
<td>'ikana'</td>
<td>yiga</td>
<td>to sit</td>
</tr>
<tr>
<td></td>
<td>dinda-</td>
<td>dindadjia</td>
<td>yinda</td>
<td>'indata'</td>
<td>inda-</td>
<td>to die</td>
</tr>
<tr>
<td>lenition of d-</td>
<td>duра</td>
<td>duра</td>
<td>yura</td>
<td>'juru'</td>
<td>yura</td>
<td>man</td>
</tr>
<tr>
<td></td>
<td>bađna</td>
<td>bađna</td>
<td>bađna</td>
<td>'budna'</td>
<td>vađna</td>
<td>goanna</td>
</tr>
<tr>
<td></td>
<td>babi</td>
<td><em>mama</em></td>
<td>babi</td>
<td>'vabi'</td>
<td>vabi</td>
<td>father</td>
</tr>
<tr>
<td></td>
<td>bađnaba</td>
<td>bađnaba</td>
<td>bađnaba</td>
<td>'vadnapa'</td>
<td>vađnaba</td>
<td>young</td>
</tr>
<tr>
<td>lenition of b-</td>
<td>bira</td>
<td>bira</td>
<td>bira</td>
<td>'bera'</td>
<td>vira</td>
<td>initiate</td>
</tr>
<tr>
<td></td>
<td>buđli</td>
<td>buđli</td>
<td>buđli</td>
<td>'budli'</td>
<td>vuđli</td>
<td>moon</td>
</tr>
<tr>
<td></td>
<td>bulga</td>
<td>bulga</td>
<td>bulga</td>
<td></td>
<td>vulga</td>
<td>star</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>old</td>
</tr>
</tbody>
</table>
It is clear that the loss of initial consonants must have occurred after the separation of the Guyan and Adnjamaŋa dialects, and there is every likelihood that it is a relatively recent development. The change was not felt to be very profound: Guyan people could still understand what the Adnjamaŋa were saying and vice versa.

3.3. Diyarî Sub-group

The languages of the Diyarî sub-group were once spoken throughout the far north-east of South Australia. They have been studied extensively over recent years by P. Austin and by J.O. Breen (see Austin MS, Breen MS). The sub-group comprises the following languages:

- Diyarî
- Dirari
- Namini
- Yaluynandi
- Yawarawarga
- Yandruwanda
- Biladaba

Apart from the pronominal forms quoted in 2.1. and a few isolated words beginning with yi, i- (mainly verbs) and wu, u- there is no general evidence of any loss of initial consonants in Diyarî, Dirari, Yaluynandi, Namini and Yawarawarga, but in the languages closest to Yawarawarga, namely Yandruwanda, there is evidence of weakening of initial dj- to y- (Breen 1971a).

<table>
<thead>
<tr>
<th>Yandruwanda</th>
<th>Yawarawarga</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ylwa</td>
<td>djiwaŋa</td>
<td>woman</td>
</tr>
<tr>
<td>yimba</td>
<td>djimba</td>
<td>black</td>
</tr>
<tr>
<td>yara</td>
<td>djara</td>
<td>boomerang</td>
</tr>
<tr>
<td>but</td>
<td>djuguŋu</td>
<td>kangaroo</td>
</tr>
</tbody>
</table>

From the limited evidence we have, it appears that this development was not shared by the neighbouring Biladaba (Hercus MSc). Again we find that the weakening of the initial is a feature that must be of relatively recent origin.
4. ARABANA-WANGAÑURU

4.1. Plosives

Arabana and Wangañuru were two dialects of one language once spoken west of Lake Eyre and in the Simpson Desert, i.e. immediately to the west of the Diyarí sub-group. In Arabana-Wangañuru the situation with initials is most complex, and there are differences in this regard even between these two very similar forms of speech. In Arabana there is incipient weakening of initial plosives, in Wangañuru there is not. In Arabana:

- d and dj are lost at the beginning of the second member of a reduplicating verb.
- b > w at the beginning of the second member of a reduplicating verb.

Examples are:

<table>
<thead>
<tr>
<th>Arabana</th>
<th>Wangañuru</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>darba-arba-</td>
<td>to trample</td>
<td>to step on something</td>
</tr>
<tr>
<td>danga-anga</td>
<td>to sit around</td>
<td>to sit</td>
</tr>
<tr>
<td>darga-arga</td>
<td>to stand around</td>
<td>to stand</td>
</tr>
<tr>
<td>djindja-indja-</td>
<td>to cut up, to</td>
<td>to operate on somebody</td>
</tr>
<tr>
<td></td>
<td>operate on</td>
<td></td>
</tr>
<tr>
<td></td>
<td>somebody</td>
<td></td>
</tr>
<tr>
<td>buda-wuda-</td>
<td>to hurt</td>
<td></td>
</tr>
</tbody>
</table>

This development has not spread to reduplicating adjectives and nouns, e.g.:

- baɾa-baɾa  long
- djaʃa-djaʃa  lizard species

-g- is lost in Arabana at the beginning of the word gaɗi seed (Austin, Ellis and Hercus 1976) when this is used as a compound formative and in the stem-forming transitory aspect marker -ga after verbs ending in -a. This leads to a long vowel in Arabana, a language where distinctive length is otherwise unknown.
but

daŋi - ga - bugaŋa

they used to eat as

eat - TR - ANC

they went

This weakening of initial consonants is very restricted, as can be seen by the fact that it is confined to reduplication, to stem-forming suffixes and to -gaŋi: the past tense marker -ga is never affected by the change.

4.2. Initial ŋ

Initial ŋ has not been dropped generally in Arabana-Wangã luru. There are numerous words beginning with ŋa-, ŋu- (ŋi- is absent as mentioned in 2.1.). In fact over 8% of the vocabulary begins with ŋ-: this includes rare and obscure words just as much as some of the commonest words in the language. At first sight there appears to be no system in the loss or retention of initial ŋ-, but on closer examination it would appear that ŋ- is retained except in particular categories of words.

4.3. Pronouns

In Arabana-Wangã luru there is loss of ŋ- (and rarely m- and nj-) initially in some circumstances as shown by cognates. As there is no phonemic distinction between yl and i-, and wu and u-, the clearest decisions with regard to consonant dropping can be made when this results in initial a. The present discussion will therefore centre on words beginning with a- in Arabana-Wangã luru.

ŋ has evidently been dropped in all pronominal forms as for instance:

<table>
<thead>
<tr>
<th>Arabana-Wangã luru</th>
<th>Guyani</th>
<th>Diyarî</th>
</tr>
</thead>
<tbody>
<tr>
<td>aðu</td>
<td>I 1 sg. tr. subj.</td>
<td>ŋaðu</td>
</tr>
<tr>
<td>anda</td>
<td>I 1 sg. intr. subj.</td>
<td>ŋayi</td>
</tr>
<tr>
<td>ari</td>
<td>we two excl.</td>
<td>ŋəlili</td>
</tr>
<tr>
<td>anãi</td>
<td>we pl. excl.</td>
<td>ŋəlbulə</td>
</tr>
</tbody>
</table>

and in the special kinship pronouns, e.g.:

alanda we two of the same moiety but different generation levels ŋəlilaga ŋalaŋəa

nj-, ŋ- was lost in the dual and plural forms of the second person
pronoun: urubula you two, urgarl you pl. as opposed to Guyani Ꙅuru you pl. This sound-change was absolute: there are no pronominal forms in Arabana-Wąganuru where initial Ꙅ- (and Ꙅj-, Ꙅ-) are retained.

4.4. Kinship Terms

The loss of initial Ꙅ- is absolute in both Arabana and Wąganuru in certain other categories of words apart from pronouns, notably in kinship terms.1 This is not surprising as kinship terms are closely associated with pronouns particularly in south-central Australia (Hercus and White 1973). As the whole of society is viewed in the light of kinship, these terms are used in Aboriginal languages where Europeans would simply use a pronoun. This is even carried over into Aboriginal English and sentences like the following can be heard frequently: My brother is no good, or Go and change your uncle’s nappy!, where Europeans would say: He’s no good, or Go and change the child’s nappy.

persona is lost in:

Wąganuru abīa \(\text{female cross cousin, Guyani Ꙅabāla}

Eastern

Wąganuru adabiyaga \(\text{son (man speaking)}\) Diyarį Ꙅāgāmuña

Wąganuru aļuwa \(\text{child}\) Guyani Ꙅālu (\text{father’s elder brother, like son, refers to a person of the opposite moiety and of the adjacent generation level})

Wąganuru aďada \(\text{mother’s father}\) Diyarį Ꙅāďada

Wąganuru anja \(\text{father}\)

Arabana abidjį \(\text{father}\) Diari Ꙅabidji

The word for mother is of interest: Arabana has a term Ꙅuva which does not appear to have cognates in neighbouring areas and which is the only ordinary Arabana word to begin with Ꙅ-. In Wąganuru there was originally a word Ꙅama which had two meanings: breast, as in Diyarį, Guyani and a number of other languages, and mother which corresponds to Ꙅami in Guyani, Adnjamaďa and neighbouring languages, and to Ꙅamaga in Bągandji. This Wąganuru word split in two according to its meaning: Ꙅama was retained in the sense of breast, whereas the kinship term lost the initial Ꙅ, hence ama mother. This is a clear indication of the fact that kinship terms occupied a distinctive position in Arabana-Wąganuru speech.2
4.5. Interjections and Adverbs

Interjections, and particularly the words meaning *yes* and *no* in Aboriginal languages are often 'irregular': they, like kinship terms may contain phonotactic and phonetic features that are not found elsewhere in the language. Thus in Maljaŋaba ɲaŋa [ɲaŋa] *yes* contains the sound [ɲ] otherwise unknown in Maljaŋaba. In Eastern Wangaŋuru [k5] *yes* contains the otherwise unknown [k]. It is therefore not surprising that interjections as opposed to the bulk of the vocabulary were affected by the loss of initial ɲ- in Arabana-Wangaŋuru.

Examples of such interjections are:

âŋa oh *yes, you don't say!* (Diyaŋi ɲaŋa oh *yes!* Guyani ɲaŋa ɲura lit. *yes people!*, you really mean *that!* Both the Arabana-Wangaŋuru and the Guyani interjections are used to encourage someone telling a story.

anagu I *don't know* (Diyaŋi ɲana guwu)

aŋu *hey there!* aŋu 'amba *hey you there, what about you?*

arayi *yes, certainly* (Arabana)

aradja right, *correct*. This word is also used as an adjective straight, *correct*.

alada ready! alada yugalugu ready to go!

agałi wrong!, *in contradiction* (adv.)

aḷa truly, *indeed*! This is also used adjectivally.

When musing to himself over a campfire, Mick McLean, the last Simpson Desert Wangaŋuru, sometimes said aḷa, aḷa, ɲala. This was surprising as aḷa is equivalent to Diyaŋi mala and represents one of the few cases where an initial m-, not ɲ-, has been dropped. He explained that he was saying this only in fun, playing with words: yet his fun indicates that the loss of initial consonants was recent enough for speakers to feel that a consonant really could be present and that this consonant normally should be ɲ-: ɲala is simply a back formation.

There are a number of words that are frequently used in single word utterances as if they were interjections, but they also have an adverbial function. A high proportion of these begin with a-, as for instance:

<table>
<thead>
<tr>
<th>Arabana</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>andi</td>
<td>soon, directly</td>
</tr>
<tr>
<td>andilimba</td>
<td>for the first time</td>
</tr>
<tr>
<td>aguru</td>
<td>over there</td>
</tr>
</tbody>
</table>
As a category, interjections and interjectional adverbs show total loss of initial η-. Just as there is no kinship term or pronoun beginning with η- in Arabana-Wangaŋuru, there are no interjections, or adverbs that may be used as interjections, which begin with η-.

4.6. Proper Nouns

As has been well known, particularly since the days of Dauzat (1926), place-names contain archaic features, and Arabana-Wangaŋuru is no exception to this. Archaisms are found in vocabulary: ɳaba-maŋa 'fresh water', the name of the lower Neales, contains the word ɳaba, a widespread word which has cognates in Diyari but is no longer found in Arabana-Wangaŋuru where the word for water is guŋa. Place-names also show archaisms in phonetics and in phonotactics: ḡandji-wanbaga Grandson-carrying the name of the most important Arabana rain-site stands for ḡandji-wanbaga and takes us back to the days of a single laminal phoneme, with allophones conditioned by the vocalic environment (Dixon 1970); Wudmaŋa, the Woodmurra Creek contains the cluster -dm- not found elsewhere in the language. Pre-stopping of nasals and laterals, which is a recent development, is sometimes absent from place-names (Hercus 1972). One would therefore not expect to see the loss of initial η- in place-names, and indeed there are only a few instances of place-names beginning with a-. Borrowing is not unheard of in place-names, particularly where the locality involved belongs to a history that traverses several tribal areas. This may be the explanation of the few place-names beginning with a-; none of these names is easily analysable: Arqariŋa (Arckaringa Ck.) actually has its source in Western Desert country and the name may come from there too, while Aldaguwana (in Peake country), Andirdja a plain near Mt. Robinson and Adabunaga (near Peake) are all northern Arabana sites that show the influence of Aranda, while Arildji-baŋa (Algebuckina) would appear to be half Aranda, half Arabana: this is not surprising as it is a site connected with the ancestral red-bellied black snake
and the green snake who travelled from Coolata Springs (NT) through southern Aranda to Arabana country.

There are a few names of people which are taken from part Aranda, part Arabana-Wangguru song-cycles, and not surprisingly some of these begin with a-: Arabalgga (from the grass-seed cycle), is the name of an Arabana woman; an old Arabana rain-maker was called Anindjola after the Aranda rain-man who travelled to Mt Kingston. There was obviously some give and take between Arabana-Wangguru and neighbouring languages, particularly Aranda, over place-names and personal names, and this would account for the few proper names beginning with a-. There are no indications of any loss of initial consonant in proper names within Arabana-Wangguru.

There is one important exception and that is the word Arabana. The neighbouring Guyani and Diyar say Naraaban. Tindale (1974:210) indicated that the older accepted pronunciation among the Arabana themselves was Naraaban, and this was hesitatingly affirmed in recent recordings. Tribal names in many parts of Australia resemble kinship terms with regard to 'irregular' phonological and phonotactic features (e.g., the presence of initial l-) and the name Arabana can therefore be classed with the kinship terms. It gives a particularly clear proof that the loss of initial η- was recent and was still in process at the time of European occupation.

4.7. Song Language

One of the stylistic features of the difficult and not always analysable song-language is the repetition of words and parts of words. Frequently this is accompanied by alternation between initial nasals and l- (not used as an initial in the ordinary language) or η-. The form without nasal always comes first; it is in the initial position. Thus in the songs that accompany the Wangguru myth Djaŋba Bargulu Two Trees:

badla ūmburu - ūmburu nayi (meaning uncertain)

and

wabaqabaqba la - niŋguru me

i.e. wabaŋga laŋguru he is searching like this

and

yalbara-ŋalbara thirsty (Goanna History)

This may simply be a game with words, such as English 'doggie-woggie', but the fact that it happens mainly with initial nasals and particularly with η- would seem to indicate that initial nasals were felt to be more dispensable than other consonants.
4.8. Special Words

This category comprises terms which have a ritual, mythological or trade significance. Some of these words are shared by people over a large area, and they do not necessarily conform to the phonotactic system of Arabana-Waŋaŋuru: for instance they frequently begin the third syllable with a plosive, which is unusual in Arabana-Waŋaŋuru. There are several such words which begin with a-. Examples are:

- **argaba** — red ochre
- **ambaga** — malicious mythological being
- **abaŋga** — dream
- **ajidjumba** — wild honey (connected with the Ajidjumba myth which ends in Southern Aranda Country near Finke)
- **aruguda** — bush boy (young initiate not yet allowed back into camp)
- **amira** — woomera (of the Aranda and Western Desert type, see Spencer and Gillen 1899:582)

As these are 'special' words, their vocalic initial is not immediately connected with the loss of initial η- in Arabana-Waŋaŋuru.

4.9. Other Words

Apart from the particular categories comprising pronouns, kinship terms and interjections there are very few words in which the loss of η- has brought about an initial a-. None of these are simple verbs. There are some secondary verbs based on adverbs such as **aradja-ma-** to straighten, **a]a-widji-** to come true and one single rare reduplicating verb **andji-andji-** to cajole, to try to organise an (illicit) meeting with a girl. There are only about a dozen other words beginning with a-. As they do not have reliable cognates it is difficult to prove that they originally had an initial η-: examples are Arabana **ambalda** cloud, Waŋaŋuru **abada** the eastern side of a sandhill, Arabana **alba** tepid, **alg** colour, appearance, **algdjira** dead finish tree. The word **abira** river gum is highly unlikely ever to have contained an initial η- as is shown by the cognate Guyani bira, Adnjamaŋaŋa wira. Outside the categories listed, therefore, words beginning with a- and showing loss of an original initial η- form an insignificant portion of the Arabana-Waŋaŋuru vocabulary.
5. CONCLUSIONS

The data connected with loss and weakening of initial consonants in south-central Australia show that these changes are relatively recent and regional, cutting across genetic boundaries. As in the case of several other conspicuous linguistic features, such as the pre-stopping of lateral and nasal consonants, and kinship pronouns, there appear to have been two areas of maximum development which were also the two main centres of diffusion: Arandic and Adnjamađaŋa. The changes involved differed in detail between the two centres. A simplified schematisation of the situation would be as follows:

![Diagram showing the relationship between Arandic, Arabana, Wąŋgajurū, and Adnjamađaŋa]

The rules regarding the loss of initial consonants in Adnjamađaŋa are invariant: they correspond to Labov's Type I rule where exceptions and violations do not normally occur (Labov 1972:111). But in Arabana-Wąŋgajurū the changes were still in progress.

The intricacies of the loss of initial plosives in Arabana reduplicated verbs and in certain bound morphemes make it likely that a Type III rule was operating, that is a rule subject to certain variations. As regards nasal consonants there was already an invariant rule:

\[
\text{initial } \eta > \varnothing \quad + \text{kinship term} \\
\text{initial } \eta > \varnothing \quad + \text{pronoun} \\
\text{initial } \eta > \varnothing \quad + \text{interjection or adverb}
\]

As shown by the term Arabana, by the back formation ηalα, and by the verb andji-andji- the rest of the vocabulary was governed by a variable Type III rule but the details of this are no longer evident.
The question that arises is: 'Why should pronouns, kinship terms, interjections (and adverbs that can be used in single word utterances) be affected by the loss of initial consonants ahead of every other class of words?' The following answer may be suggested. The feature that is shared by these three categories of words is that in Arabana-Waŋaŋuru they are precisely the words found most frequently at the beginning of an utterance. Their initial consonant was therefore in the initial position \textit{par excellence} and most liable to loss.

Labov's work shows the operation of sound-changes still in progress; it shows the fine gradients that are noticeable in the essential variability of these Type III rules. The situation in the remnants of modern Arabana-Waŋaŋuru is invariable; what we have here is an 'atrophied' Type III rule. The loss of initial $\eta$- was halted just as it was starting to spread to the rest of the vocabulary beyond those special categories of words that occur frequently at the beginning of an utterance.

The Arabana social system was totally disrupted in the period around the First World war; this was through European influence and through the great influx of Western Desert people and subsequent strife. The 1919 influenza epidemic killed most of the old people. Those who learnt the language then learnt it 'correctly' from their elders, there was no longer a sense of 'fashion' and none of the pressure for change that comes with a young peer group. There was nothing left of the vitality that makes a variable rule of Type III. The Arabana language was as it were halted in its tracks around 1915-1920, the Waŋaŋuru language even earlier, at the time of the migration from the Simpson Desert, around 1900, while the loss of initial $\eta$- was still in progress. It could be safely said that were these languages to be re-vitalised, the impulse for this particular change, loss of initial $\eta$-, would no longer be felt: quite different sound-changes might occur. The Arabana-Waŋaŋuru example shows that periods of total social disruption and atrophism of the impulses for change may well explain some of the partial sound-changes that are so bewildering in historical linguistics.
NOTES

1. Fieldwork was carried out under the auspices of the Australian Institute of Aboriginal Studies and the Australian Research Grants Commission. I am indebted to Mr P. Austin for advice and for information on Diyarri.

2. According to the list of kinship terms given by Elkin (1939:63) there was a similar development in Southern Yawarawarga, where, as opposed to Northern Yawarawarga, these terms lost an initial velar nasal: 'atatji' wife's mother's brother (Northern 'ngatatji') and 'alari' sister's child (Northern 'ngalarri'). Elkin's lists contain even a few examples from Yandruwanda, e.g. 'aparti' for  sobąi father. None of these forms have been confirmed in recent work by Breen and by S.A. Wurm (Breen MS, Wurm and Austin MS). Elkin's lists, if accurate in this respect, would therefore indicate the fact that even sub-dialects may differ from each other with regard to the loss of initial consonants; the lists would also confirm the special development of kinship terms.
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Murtee Johnny (dec. 1976) born at Murtee Station, in about 1880, the last speaker of Yandruwanda (Innamincka dialect), at Lyndhurst in 1972.
This is Murtee Johnny, the last Yandruwanda from Murtee Station, when working on Mt Hopeless Station.
IN THE MARGINS OF AN ARABANA-WANGANJURU DICTIONARY

Where Aranda and Wanganuru country meet: looking towards the desert (Wanganuru country) from the Idnjundura (Kingfisher) spring at Dalhousie, in Aranda country.
Gilbert Branfield (left) (dec. 1973), the last Nugunu, and Tim Strangways (dec. 1972), the Arabana fish-history man, at Andamooka opal field in August 1965.
Archie Allen, the only northern Arabana, at Finke in August 1974.
Angus MacKenzie (dec. 1975) and his wife Eileen in their garden at Port Augusta, August 1973.
LIST OF ABBREVIATIONS

A. Language Names

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Language Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>W.By</td>
<td>WEST BARKLY</td>
</tr>
<tr>
<td>E.Op.</td>
<td>EASTERN GROUP</td>
</tr>
<tr>
<td>Dj</td>
<td>DJINGILI</td>
</tr>
<tr>
<td>Ng</td>
<td>NGOARNGA, NGOARNDJI</td>
</tr>
<tr>
<td>Mc.Sb.</td>
<td>McARTHR SUBGROUP</td>
</tr>
<tr>
<td>W</td>
<td>WAMBAYA</td>
</tr>
<tr>
<td>G</td>
<td>GUDANDJI</td>
</tr>
<tr>
<td>B</td>
<td>BINBINGA</td>
</tr>
<tr>
<td>Djmn.</td>
<td>DJAMINDJUNGAN FAMILY</td>
</tr>
<tr>
<td>Dja.</td>
<td>DJAMINDJUNG</td>
</tr>
<tr>
<td>Nu</td>
<td>NUNGALI</td>
</tr>
<tr>
<td>Ngwu.</td>
<td>NGALIWURRU</td>
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</table>

B. Phonological Segments

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>any consonant</td>
</tr>
<tr>
<td>V</td>
<td>any vowel</td>
</tr>
<tr>
<td>C₁</td>
<td>initial consonant</td>
</tr>
<tr>
<td>V₁</td>
<td>first vowel</td>
</tr>
<tr>
<td>C₂</td>
<td>consonant following first vowel</td>
</tr>
<tr>
<td>V'</td>
<td>high vowel, either i or u</td>
</tr>
</tbody>
</table>

C. Terms and Categories

1. Sentence Elements

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>subject</td>
</tr>
<tr>
<td>V</td>
<td>verb</td>
</tr>
<tr>
<td>O</td>
<td>object</td>
</tr>
<tr>
<td>10</td>
<td>indirect object</td>
</tr>
<tr>
<td>S.i</td>
<td>subject intransitive</td>
</tr>
<tr>
<td>S.t</td>
<td>subject transitive</td>
</tr>
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</table>

2. Others

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1p</td>
<td>first person</td>
</tr>
<tr>
<td>2p</td>
<td>second person</td>
</tr>
<tr>
<td>MV</td>
<td>main verb</td>
</tr>
<tr>
<td>Nom</td>
<td>nominative</td>
</tr>
</tbody>
</table>

THE WEST BARKLY LANGUAGES

3p third person
bound s.i. bound subject
intransitive
obj object

1. INTRODUCTION

The West Barkly languages are located in the east-central part of the Northern Territory. Most of the communalects are located on the western half of the Barkly Tablelands, giving the original name Barkly Tablelands languages.

There are two main groups. In the west a single language DJINGILI (Dj) makes up one group whilst to the east of Dj there are four communalects named the EASTERN GROUP (E.Gp.). Three of these communalects, WAMBAYA (W), GUDANDJI (G) and BINBINGA (B), are sufficiently closely related to one another to be considered one subgroup. Since the territories of all three touch on the McArthur River, which flows into the south coast of the Gulf of Carpentaria, they have been named the McARTHUR SUBGROUP (Mc.Sp.).

Between the territories of Djingili and the McArthur Subgroup lies the territory of NGARNGA (Ng). Ng is sufficiently closely related to members of the McArthur subgroup to be included with them in the Eastern Group. It is, however, quite separate lexically from the surrounding languages.

The Western Barkly languages are not closely related to any other family of languages in Australia. The family showing the most consistent similarities with W.By. is the Djamindjungan family in an area around the Victoria River quite distant from the Barkly Tablelands and separated from the W.By. languages by other languages of the Ngumbin group of the Western Desert family.

1.1. Characteristics of the West Barkly Languages

Geographically the W.By. languages lie between prefixing languages, many of which are multiple-classifying, and languages related to
Western Desert and other Pama-Nyungan languages. Languages to the south and east are mainly of a suffixing type of morphology and are generally non-classifying (Wagaya to the immediate south-east is an exception, having two noun classes).

Many of the prefixing languages to the north are multiple-classifying, i.e. have more than two noun-classes. The distinctive characteristics of the W.By. languages were that they were multiple-classifying but non-prefixing adjacent to an area where all other multiple-classifying languages exhibited prefixes.

In the decade of the 1960's the fact that the four noun-classes of the W.By. languages were marked by suffix was considered unusual for the region.

All other multiple-classifying suffixing languages were found in areas on or near the east coast of Australia very distant from the W.By. languages and belonging to quite separate genetic sub-groupings.

DYIRBAL, north east Queensland, is more than 700 miles (1100 km.) from the W.By. region. Dyirbal also has four classes marked partly by suffix (Dixon 1972). The BANDJALANGIC languages, also with four noun classes, are situated more than 1200 miles (2000 km.) from the W.By. languages around the eastern border between Queensland and New South Wales (Geytenbeek and Geytenbeek 1971). Both DYIRBAL and BANDJALANGIC are clearly of the Pama-Nyungan family of languages.

2. THE PEOPLE

Over the last century the speakers of members of the W.By. languages have undergone drastic economic and social change. The region is one of rich and extensive cattle-raising development with some of the largest cattle properties in the world. Almost all of the fluent speakers have worked as stockmen on cattle stations. Early industrialisation of the region resulted in massive internal migration from one language territory to another and to a consequent mixing of different language groups in towns and on cattle stations. There is also much oral evidence that large numbers of some language groups were executed by early European settlers aided by Aboriginal policemen from other areas. These population losses were increased later by the effects of disease, migration, intermarriage, mixed population and change of economic life-style. These processes have resulted in the deterioration in the use of some languages. Two languages in particular are no longer spoken fluently by people under sixty. These are BINGINGA, which quite possibly has no fluent speakers left, and NOARNGA which
has only three or four old people still competent in the language. Most speakers of GUDANDJI, all to my knowledge, over fifty, can no longer recall the original form of the language but speak varieties mixed largely with WAMBAYA or with BINBINGA or NOARNGA. In turn WAMBAYA has, at most, only four or five speakers still competent in the original form of the language but has a number of younger speakers, all over forty, who have a good hearer's grammar of the language but cannot compose correct sentences unmixed with Pidgin English and other languages.

DJINGILI has survived best of all the five; but fluent speakers who can remember the old morphology are all over forty and would number probably less than twenty.

Younger people under forty years of age have gone through a process of gradual language shift during the industrialisation of the region. Patterns of employment according to European traditions have caused widespread migration of people of differing backgrounds into towns and cattle stations resulting in a multilingual situation in every centre. Languages and cultures, formerly separate, are now mixed together. All people over forty and under seventy are to some extent multilingual in two or more Aboriginal languages. Few people under fifty can remember how to speak the original distinct form of any Tablelands language. Most people under forty who can still speak an Aboriginal language mix lexical items and some grammatical items from other languages into their speech. Djingili discourse amongst younger people contains many items from neighbouring Mudburra. Gudandji discourse, amongst speakers of all ages, usually contains items from Wambaya, Waanyi and Ngarnga. There are, for the eastern group, only a few old men who can speak the original distinct form of the languages.

In addition, there has been a marked shift towards the use of Pidgin English in camp situations and the use of varieties of rural English in towns. Many of the younger people under twenty now use Pidgin or English in all domains of social life. The older people can all speak a variety of Pidgin known in the northern districts as 'heavy' Pidgin. This Pidgin English is largely incomprehensible to Europeans, has a grammar quite different from standard English and a phonology very similar to certain local Aboriginal languages. Since the time of early European settlement heavy Pidgin has been used amongst Aborigines as a contact vernacular between people of different language backgrounds. The type of Pidgin used by Aborigines when talking to Europeans is much closer to rural English in sound-system and grammar. This variety is usually termed 'light' Pidgin. There seems to be a continuum between light Pidgin and standard English.
The process of language shift which also reflects differences of age-group has been, and so far continues to be, from a distinct separate language to partially mixed Aboriginal language then to mixed Aboriginal language with Pidgin items to heavy Pidgin to light Pidgin. All these varieties are well within the repertoire of some older speakers. The further process of shift amongst some older speakers and most very young speakers is from light Pidgin to substandard rural English then to standard English. The result is that some of the younger people have a speaking repertoire which includes varieties of Pidgin and English but no Aboriginal language. Most of these young people do, however, have a hearer's grammar of at least one of the local languages. They can understand what is said to them in the language but cannot give a correct reply.

It is difficult to say what will become of the languages in the future. Much will depend on the economic self-sufficiency of the speakers. At present the demands of an industrialised society ensure the use of varieties of English and Pidgin at school and at work. Djingili may survive for another generation, possibly longer. Languages of the Eastern group are tending to become mixed with one another and with Pidgin. It is likely that this process will continue and that young people will shift to English and Pidgin, losing any competence in the local language.

3. GRAMMAR
3.1. Consonants, Vowels and Stress

Except for one characteristic of three of the languages, the phonemic inventory of the W.By. languages is not unusual for the North-central part of Australia. There is only one laminal series with the major allophone being palatalised. There are stops and nasals at the bilabial, alveolar, lamino-palatal, retroflex and velar places of articulation and laterals at three places of articulation.

| Bilabial | b, m |
| Apico-alveolar | d, n, l |
| Lamino-palatal | dj, ny, l y |
| Retroflex apical | ɟ, ŋ, l |
| Dorso-velar | ɡ, ɡ, |
| Glides and rhotics | w, y, r, r |


A three-way opposition in vowels:

\[ \begin{array}{c}
\text{a} \\
\text{u} \\
\text{i}
\end{array} \]

The unusual characteristic is a palatal stop which has an onset on the hard palate and the front part of the soft palate with a palatal off-glide release.

The sound, written \( gy \), is contrastive in Dj., cf. djadjami \textit{wait}, djagyami \textit{aak}.

It also occurs in Ng. (extensively) and in B. (rarely) but there are no examples of minimal pairs. A similar consonant sound is reported from Yanyula (Jean Kirton 1971a and 1971b) and Garruwa (Furby 1972).

Stress normally falls on the penultimate syllable of the word-unit. There are few exceptions. With the addition of suffixes to a stem, stress moves to the penultimate vowel of the series of suffixes, e.g.:

- Dj. \( \eta \acute{a}yul \) \textit{two women} (nom)
- \( \eta \acute{a}yu \acute{	ext{i}}l \) \textit{two women} (erg)
- \( \eta \acute{a}yu \acute{\text{il}}\acute{\text{a}} \) \textit{towards two women}

3.2. Noun Classification

3.2.1. General remarks

In all Western Barkly languages there are four noun classes marked on nouns and adjectives by suffixes.

In the semantic content of the noun classes there is a basic distinction between fauna/humans and non-fauna/non-human. The fauna/humans category is further divided into masculine and feminine and the non-fauna or neuter category into vegetable and miscellaneous, yielding four noun classes:

- A. Fauna/human
  1. Masculine
  2. Feminine
- B. Non-fauna
  3. Vegetable
  4. Miscellaneous or general neuter

3.2.2. Are the classes natural or arbitrary?

The classes are natural in the following sense:

All items denoting humans and fauna belong to the two classes of the fauna/human category. All items for male humans belong to the
masculine class and for female humans to the feminine class. Where there is both a masculine and a feminine form for an animal, each form is marked by the appropriate suffix.

All items for flora, with the exception of a tree name (lancewood) in Dj., belong to the two classes of the non-fauna category. All items for melons, fruit and root vegetables belong to the vegetable class. Most items for trees, grasses, leaves and inanimate objects belong to the general neuter class.

The classes are arbitrary in the following sense:

The classes of the fauna/human category both include items for celestial bodies and inanimate objects, e.g.:

<table>
<thead>
<tr>
<th>Item</th>
<th>Gender</th>
<th>(Language)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun</td>
<td>uli:djiŋi</td>
<td>fem. (Dj.)</td>
</tr>
<tr>
<td>gambada</td>
<td>fem.</td>
<td>(G.W.G.)</td>
</tr>
<tr>
<td>gaaraŋa</td>
<td>fem.</td>
<td>(Ng.)</td>
</tr>
<tr>
<td>moon</td>
<td>bađaŋara</td>
<td>masc. (Dj.)</td>
</tr>
<tr>
<td></td>
<td>aŋaŋari</td>
<td>masc. (Ng.)</td>
</tr>
<tr>
<td>hunting boomerang</td>
<td>gurubadu</td>
<td>masc. (Dj.)</td>
</tr>
<tr>
<td></td>
<td>djugułu</td>
<td>masc. (Ng.)</td>
</tr>
<tr>
<td>stone axe</td>
<td>giŋbiliŋi</td>
<td>fem. (Dj.)</td>
</tr>
<tr>
<td></td>
<td>ganybalinya</td>
<td>fem. (G.)</td>
</tr>
</tbody>
</table>

In addition most items for species of fauna are classified as either masculine or feminine regardless of the sex of the individual bird or animal, e.g.:

<table>
<thead>
<tr>
<th>Item</th>
<th>Gender</th>
<th>(Language)</th>
</tr>
</thead>
<tbody>
<tr>
<td>emu</td>
<td>giŋiŋiŋdjiŋi</td>
<td>fem. (Dj.)</td>
</tr>
<tr>
<td></td>
<td>gaŋaŋandjaŋa</td>
<td>fem. (W.Ng.G.)</td>
</tr>
<tr>
<td>yellow goanna</td>
<td>walandja</td>
<td>masc. (Dj.)</td>
</tr>
<tr>
<td></td>
<td>mainandji</td>
<td>masc. (W.)</td>
</tr>
</tbody>
</table>

The so-called 'vegetable' class includes, in addition to vegetable food, items for inanimate objects. Many of these objects could be regarded as 'rounded', e.g. string and others as full and rounded, perhaps resembling certain vegetables, e.g. shield, nose. But a few items such as thunder are hard to classify by physical extension.

Items for body parts can fall into any of the four classes. In Dj.:

<table>
<thead>
<tr>
<th>Part</th>
<th>Gender</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>shin</td>
<td>uŋiŋiłyi</td>
<td>masculine</td>
</tr>
<tr>
<td>elbow</td>
<td>mundjuŋi</td>
<td>feminine</td>
</tr>
<tr>
<td>knee</td>
<td>baŋŋirimi</td>
<td>vegetable</td>
</tr>
<tr>
<td>ear</td>
<td>ʃaŋa</td>
<td>general neuter</td>
</tr>
</tbody>
</table>
3.2.3. Divisions of case

In all W.By. languages nouns follow an ergative/absolutive pattern. This means that the form which functions as subject of a transitive sentence is distinguished from another form which functions both for the subject of an intransitive sentence and the direct object of a transitive sentence. The latter called the absolutive form can usually be analysed as unmarked. The former called the ergative form is marked by suffix.

Other case functions, all marked by suffix are:

- Indirect object
- Possessive
- Benefactive
- Purposive
- Locative
- Allative
- Ablative
- Comitative

Sometimes one suffix combines the marking of two, three or four functions.

3.2.4. Suffixes for Noun Class

3.2.4.1. Direct/oblique distinction

In all W.By. languages there is a clear formal distinction in the masculine and feminine between DIRECT and OBLIQUE class suffixes. Direct suffixes occur in the absolutive case as described above (often called nominative) and oblique suffixes occur in all other cases including ergative.

In Dj. the distinction between direct and oblique occurs also in the vegetable class.

3.2.4.2. The most commonly occurring masculine and feminine class suffixes

<table>
<thead>
<tr>
<th>Feminine</th>
<th>Direct</th>
<th>Oblique</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ŋi</td>
<td>-ŋa</td>
<td>-ŋa</td>
</tr>
</tbody>
</table>
Masculine

<table>
<thead>
<tr>
<th></th>
<th>Direct</th>
<th>Oblique</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>-a</td>
<td>-i</td>
</tr>
<tr>
<td>2.</td>
<td>-dji</td>
<td>-dji</td>
</tr>
</tbody>
</table>

The direct suffixes can occur as the last or only suffixes in a word. The Dj. oblique suffixes can occur also as the last or only suffixes in a word. But in the E.Gp. the feminine oblique suffix must always be followed by a case suffix and the masculine oblique suffix must usually be followed by a case suffix. Examples:

**Direct Feminine**

1. Dj.
   - ŋayuŋi  woman, direct, absolutive case
   - ŋayu-  stem
   -ŋi  direct feminine class suffix

2. E.Gp. (Gudandji)
   - naduŋa  girl, direct, absolutive case
   - nadu-  stem
   -ŋa  direct feminine class suffix

**Oblique Feminine**

1. Dj.
   - ŋayuŋa  woman, oblique, ergative/benefactive case
   - ŋayu-  stem
   -ŋa  oblique feminine class suffix

2. E.Gp. (Gudandji)
   - naduŋani  girl, ergative/locative
   - nadu-  stem
   -ŋani  suffix combination, feminine ergative
   -ŋa-  first-order oblique feminine class suffix
   -ni  second order case suffix, ergative/locative

**Direct Masculine**

1. Dj.
   - djuŋma  wallaby (*species*), direct, absolutive case
   - djuŋm-  stem
   -a  direct masculine suffix
2. E.Gp. (Gudandji, Binbinga)
   djugi  boy, direct, absolutive case
   djug-  stem
   -i  direct masculine class suffix

Oblique Masculine

1. Dj.
   djunmini  wallaby, oblique, ergative case
   djunj-  stem
   -ini  oblique masculine class suffix, ergative case

2. E.Gp. (Gudandji, Binbinga)
   djuginini  boy, oblique, ergative/locative case
   djug-  stem
   -inini  suffix combination, masculine ergative/locative
   -ini-  first order oblique masculine class suffix
   -ni  second order case suffix, ergative/locative

3.2.4.3. Lists of class suffixes (most commonly occurring)

1. Oblique suffixes

   Djingili vegetable class: -ma, -ba
   Others:

<table>
<thead>
<tr>
<th>Dj.</th>
<th>E.Gp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feminine:</td>
<td></td>
</tr>
<tr>
<td>-qa</td>
<td>-ŋa-</td>
</tr>
<tr>
<td>-ga</td>
<td>-nya-</td>
</tr>
<tr>
<td>-gya</td>
<td></td>
</tr>
<tr>
<td>Masculine:</td>
<td>-ŋi</td>
</tr>
<tr>
<td>-di</td>
<td>-ŋi</td>
</tr>
<tr>
<td>-di</td>
<td>-ni</td>
</tr>
<tr>
<td>-li</td>
<td>-ŋi</td>
</tr>
<tr>
<td>-ni</td>
<td>-di</td>
</tr>
<tr>
<td>-li</td>
<td>-nyi</td>
</tr>
</tbody>
</table>
2. Direct and general suffixes

<table>
<thead>
<tr>
<th></th>
<th>DJ.</th>
<th>E.Gp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculine:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common</td>
<td>-a</td>
<td>-i</td>
</tr>
<tr>
<td></td>
<td>-V-dji</td>
<td>-V-dji</td>
</tr>
<tr>
<td></td>
<td>-nydji</td>
<td>-nydji</td>
</tr>
<tr>
<td>Rare</td>
<td>-i</td>
<td>-a</td>
</tr>
<tr>
<td></td>
<td>-u</td>
<td>-u</td>
</tr>
<tr>
<td></td>
<td>-lyi</td>
<td>-lyi</td>
</tr>
<tr>
<td></td>
<td>-C</td>
<td>-n.dji</td>
</tr>
<tr>
<td>Feminine:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common</td>
<td>-ŋi</td>
<td>-ŋa</td>
</tr>
<tr>
<td></td>
<td>-di</td>
<td>-nya</td>
</tr>
<tr>
<td>Rare</td>
<td>-li</td>
<td>-na</td>
</tr>
<tr>
<td></td>
<td>-i</td>
<td>-da</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-dga</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-la</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-ŋa</td>
</tr>
<tr>
<td>Gen. Neuter:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common</td>
<td>-u</td>
<td>-a</td>
</tr>
<tr>
<td></td>
<td>-a</td>
<td></td>
</tr>
<tr>
<td>Rare</td>
<td>-i</td>
<td>-u</td>
</tr>
<tr>
<td>Vegetable:</td>
<td>-mi</td>
<td>-ma</td>
</tr>
<tr>
<td></td>
<td>-bi</td>
<td></td>
</tr>
</tbody>
</table>

Examples:

**Gudandji**

1. ŋaduŋa gubadjŋa
    - girl little
    - The little girl.

ŋadu -ŋa
- stem direct class suffix (feminine) absolutive case

gubadjŋa -ŋa
- stem direct class suffix as above
2. madjbl ɲiyɨŋama ɲaduŋani gubadjaŋani
   The little girl hit me.

madjbl ɲiyi -ŋa
hit (main verb) 3 p.f. transitive 1p. object
-ma ɲadu -ŋa
past tense  girl (stem) oblique class suffix (feminine)
-ni gubadj -ŋa ergative suffix little (stem) oblique class suffix
-ni ergative suffix

3. djugi
   boy, absolutive case
djug- i
   stem  direct class suffix (masculine)

4. madjbi glıŋama djuginini
   The boy hit me.

madjbi gini-
hit (main verb) 3p. m. transitive
-ŋa -ma
1p. obj. past tense
djug- ini
boy oblique class suffix (masculine)
-ni ergative suffix

3.2.5. Extent of concord for noun-class

In all W.By. languages, adjectives agree with the noun qualified for number, noun-class and case. There is also some concord in the verb-phrase.

This verb-phrase concord is most noticeable in Ngarnga and Binbinga. The B. third person singular verb-phrase shows different forms for all noun-classes in the present tense. The Ng. present tense shows feminine and vegetable forms distinct from a combined masculine/neuter form.
B.

djugi yangi badji
boy masc. grow
The boy is growing.

ŋaduŋa yana badji
girl fem.
The girl is growing.

ɗarāŋgu yango badji
tree g.neut.
The tree is growing.

maŋanyama yama badji
veg. food veg.
The vegetable food is growing.

Ng.
alagyi ngani badji
boy pres. grow
The boy is growing.

darāŋgu ngani badji
tree pres.
The tree is growing.

alaggu nani badji
girl pres.
The girl is growing.

djigama mani badji
yam species pres.
The yam (species) is growing.

Gudandji
djugi gama gulugbi
The boy is sleeping.

ŋaduŋa gaŋa gulugbi
The girl is sleeping.

3.3. Pronouns
3.3.1. General

All W.By. languages exhibit both free and bound forms of pronouns. Free forms do not occur for all persons in the nominative. Demonstratives often function for third person nominative pronouns. Demonstratives are the only third person nominative forms in Dj., and the only singular third person forms in the Eastern group.

There is similarity in form between free and bound pronouns. Normally the first syllable of the free nominative forms corresponds to the bound forms.

The pronoun systems are much the same in function across the W.By. languages. There are singular, dual, and plural forms for all persons
(first, second, third) and in the first person non-singular, a distinction between inclusive and exclusive.

The following charts set out and compare the forms of free nominative (free n.) pronouns with bound subject intransitive (bound s.i.) pronouns. Alternative forms of free pronouns are in free variation whilst alternative forms of bound pronouns are morphologically determined - usually by tense or mood variations.

The symbol V stands for any of the vowels a,i,u and the symbol V' stands for either i or u.

**CHART 1**

Djingili Free and Bound Pronouns

<table>
<thead>
<tr>
<th></th>
<th>Free n.</th>
<th>Bound s.i.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lp.</td>
<td>ŋaya</td>
<td>ŋa</td>
</tr>
<tr>
<td>2p.</td>
<td>nyama/nama</td>
<td>nya/na</td>
</tr>
<tr>
<td><strong>Dual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lp. inc.</td>
<td>mindi:la</td>
<td>mind</td>
</tr>
<tr>
<td>lp. ex.</td>
<td>ŋinyi:la</td>
<td>ŋiny</td>
</tr>
<tr>
<td>2p.</td>
<td>gunyi:la</td>
<td>guny</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lp. inc.</td>
<td>ŋuru:la</td>
<td>ŋur</td>
</tr>
<tr>
<td>lp. ex.</td>
<td>ŋir:wa:la</td>
<td>ŋir</td>
</tr>
<tr>
<td>2p.</td>
<td>ŋuru:la</td>
<td>ŋur</td>
</tr>
</tbody>
</table>

**Third person bound s.i. forms**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td>normally</td>
</tr>
<tr>
<td>ɨ</td>
<td>following certain verbs</td>
</tr>
<tr>
<td>ɨɲ</td>
<td>in isolation</td>
</tr>
<tr>
<td><strong>Dual</strong></td>
<td>uny</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td>ur</td>
</tr>
</tbody>
</table>
### Chart 2

**Ngarnga Free and Bound Pronouns**

<table>
<thead>
<tr>
<th></th>
<th>Free n.</th>
<th>Bound s.1.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p.</td>
<td>ᶥɐṽidja</td>
<td>ᶥV</td>
</tr>
<tr>
<td>2p.</td>
<td>nyama</td>
<td>ndjV/djV</td>
</tr>
<tr>
<td><strong>Dual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p. inc.</td>
<td>mĩndjanidja</td>
<td>mV'ⁿq</td>
</tr>
<tr>
<td>1p. ex.</td>
<td>ṭuṽianidja</td>
<td>ṭu!</td>
</tr>
<tr>
<td>2p.</td>
<td>guṽianidja</td>
<td>gu!</td>
</tr>
<tr>
<td>3p.</td>
<td>ṭuṽianidja</td>
<td>ṭu!</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p. inc.</td>
<td>ṭuɾianidja</td>
<td>ṭuɾ</td>
</tr>
<tr>
<td>1p. ex.</td>
<td>ṭiɾianidja</td>
<td>ṭiɾ</td>
</tr>
<tr>
<td>2p.</td>
<td>giɾianidja</td>
<td>giɾ</td>
</tr>
<tr>
<td>3p.</td>
<td>iɾianidja</td>
<td>iɾ</td>
</tr>
</tbody>
</table>

**Third person singular masculine bound forms**

- Intransitive subject:
  - ᶥgV present and past tenses
  - ᶥV future tense
# Chart 3

Wambaya and Gudandji Pronouns (free/bound)

<table>
<thead>
<tr>
<th></th>
<th>Free n.</th>
<th>Bound s.1.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p.</td>
<td>ŋauŋidji (W.) ŋau (G.)</td>
<td>ŋV (W.G.)</td>
</tr>
<tr>
<td>2p.</td>
<td>nyamiŋidji (W.) nyami (G.)</td>
<td>nyV/ndjV (W.G.)</td>
</tr>
<tr>
<td><strong>Dual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p. inc.</td>
<td>miŋdiŋi (W.) miŋdiwiki (G.)</td>
<td>mV'ŋ (W.G.)</td>
</tr>
<tr>
<td>1p. ex.</td>
<td>ŋuluani (W.G.)</td>
<td>ŋu! (W.G.)</td>
</tr>
<tr>
<td>2p.</td>
<td>guuluani (W.G.)</td>
<td>gu! (W.G.)</td>
</tr>
<tr>
<td>3p.</td>
<td>uuluani (W.G.)</td>
<td>u! (W.G.)</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p. inc.</td>
<td>ŋuruani (W.G.)</td>
<td>ŋur (W.G.)</td>
</tr>
<tr>
<td>1p. exc.</td>
<td>ŋiriani (W.) ŋiriwiki (G.)</td>
<td>ŋir (W.G.)</td>
</tr>
<tr>
<td>2p.</td>
<td>giriani (W.) giriwiki (G.)</td>
<td>gir (W.G.)</td>
</tr>
<tr>
<td>3p.</td>
<td>iriani (W.) iriwiki/wiriwiki (G.)</td>
<td>ir (W.G.)</td>
</tr>
</tbody>
</table>

Third person singular bound subject intransitive form

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G.</strong></td>
<td>gama (masc.)</td>
</tr>
<tr>
<td></td>
<td>gana (fem.)</td>
</tr>
<tr>
<td></td>
<td>} present tense</td>
</tr>
<tr>
<td></td>
<td>gV masc., fem. all other tenses</td>
</tr>
<tr>
<td><strong>W.</strong></td>
<td>gV all tenses</td>
</tr>
</tbody>
</table>
### Chart 4

**Binbinga Free and Bound Pronouns**

<table>
<thead>
<tr>
<th></th>
<th>Free n.</th>
<th>Bound s.1.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p.</td>
<td>ɲau</td>
<td>ɲV</td>
</tr>
<tr>
<td>2p.</td>
<td>nyami</td>
<td>nyV/ndjV</td>
</tr>
<tr>
<td><strong>Dual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p. inc.</td>
<td>mĩŋɗiwani</td>
<td>mV'ɲɗ</td>
</tr>
<tr>
<td>1p. ex.</td>
<td>yu.luani</td>
<td>yu!/ɲu!</td>
</tr>
<tr>
<td>2p.</td>
<td>gu.luani</td>
<td>gu!</td>
</tr>
<tr>
<td>3p.</td>
<td>wu.luani</td>
<td>wu!</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p. inc.</td>
<td>yuruani</td>
<td>yur/ɲur</td>
</tr>
<tr>
<td>1p. ex.</td>
<td>iriwani</td>
<td>ir/ɲir</td>
</tr>
<tr>
<td>2p.</td>
<td>giriwani</td>
<td>gir</td>
</tr>
<tr>
<td>3p.</td>
<td>wiriwani</td>
<td>wir</td>
</tr>
</tbody>
</table>

Third person singular intransitive bound subject form

- -ɲgi, masc. present tense
- -na, fem. present tense
- -ɲgu, neuter present tense
- -ma, vegetable present tense
- gV, other tenses, all classes

The third person singular B. forms -ɲgi, -na, -ɲgu, -ma occur only in the present tense and are prefixed by ya-.

The form gV- occurs in all other tenses.
3.3.2. Comments on the composition of pronouns

The following regular patterns of structure can be observed in the pronoun forms.

The structure of the bound pronouns and also the first two or three segments of the free pronouns can be analysed as

\[(C_1)V(C_2)\]

where

- \(C_1\) stands for first consonant, if any, \(V\) for the vowel and \(C_2\) for the consonant following the first vowel.

- \(C_1\) indicates person, sometimes person and number, \(C_2\) indicates number and \(V\) indicates person, number and sometimes inclusion.

  (1) in position \(C_1\):
  - \(\eta\) indicates first person all numbers.
  (1) in the singular forms:
  - \(\eta y\) indicates second person.
  - \(g\) indicates third person.
  (ii) in the non-singular forms:
  - \(g\) indicates second person.

  (2) in position \(C_2\):
  - \(r\) indicates plural number.

  (3) in position \(V\):
  - \(i\) or \(u\) indicate non-singular number.

First person dual inclusive \(m\)nd/\(m\)nd is excluded from this system.

Additional traits of Djingili pronouns:

(1) in position \(C_1\):
- \(n\) indicates second person.

(2) in position \(C_2\):
- \(ny\) indicates dual number.

(3) in position \(V\):
- \(-i\) indicates both non-singular number and exclusion of addressee.
- \(-u\) indicates non-singular number and following \(\eta\) indicates inclusion of addressee.
- \(-a\) indicates singular number.
Additional traits of all Eastern Group pronouns:

(1) in position $C_2$:

! indicates dual number and is always preceded by $u$.

(2) in position $V$:

$u$ before $r$ indicates inclusion of the addressee.

$i$ indicates plural number in the structure $(C_1)V C_2$

Additional traits of Binbinga pronouns:

in position $C_1$:

$w$ indicates third person in non-singular numbers.

$y$ indicates first person in non-singular numbers.

The first person dual inclusive form for inclusion of singular hearer

Dj. mind
E.Gp. $m\phi nq$

does not follow the regular patterns of the other pronouns.

3.3.3. Djamindjung pronouns

The forms of certain bound pronouns of the Djamindjung language originally spoken in the vicinity of Timber Creek, Northern Territory, are set out below in Chart 5.

It will be seen that the Djamindjung pronouns follow a system which is remarkably similar to that of Djingili and partially similar to that of the Eastern Group. The most noticeable similarities are:

(1) The irregular form mind for the first person dual inclusive.

(2) The number markers at place $C_2$,

i.e. $ny$ dual and $r$ plural.

Naturally, similarities such as $\eta$ first person, $ny$ second person and $ur$ third plural are not distinctive, being found in other Australian languages, but the regular patterning of the system as a whole with the regular relationship between sound and function is somewhat distinctive.
Chart 5

Djamindjung Bound Form Pronouns (from Cleverly 1968)

Singular

1p.   na
2p.   na
3p.   ga

Dual

1p. inc.  mind
1p. exc.  yin y
2p.     gun y
3p.     bun y

Plural

1p. inc.  yur
1p. exc.  yir
2p.      gur
3p.      bur

Other languages of the Djamindjungan group show similarities of this nature. Other similarities can be found in descriptions of Ngaliwurru and Nungali by Bolt, Hoddinott and Kofod 1971a,b.

3.3.4. Characteristics in common between Djamindjung and West Barkly forms

The most obvious characteristic in common is the form which does not follow the regular patterns of the other pronoun forms, i.e. the first person dual inclusive:

- Djamindjung   mind
- Djingilli      mind
- Eastern Group  minŋ/munŋ

Other characteristics:

1. In common with all W.By. languages.
   (1) in position C₁
      (i) in singular number:
          g for first person.
          g for third person.
      (ii) in non-singular numbers:
          g for second person.
(2) in position V
   i or u for non-singular number.
   in the first person plural
   u for inclusive
   i for exclusive

(3) in position C₂
   r for plural number.

2. In common with Djingili:

(1) in position C₂:
   ny for dual number.

(2) in position C₁:
   n for second person singular.

(3) in position V:
   i for both non-singular number
   and exclusion of the addressee.
   u for non-singular number and in
   the first person plural for
   inclusion of addressee.
   a for singular number.

3. In common with Binbinga:
   in position C₁ for first person
   non-singular.
   y indicates first person.

3.3.5. Bound subject and object transitive pronouns

Djingili exhibits certain fused subject/object bound pronoun forms
which occur as suffixes on the verb-stem as follows:

1. ṅandjana you (sg) subj/me obj
2. ṅaːŋa she subj/me obj
3. ṅaŋa he subj/me obj
4. ṅainyu she subj/you (sg) obj
5. ninu he subj/you (sg) obj
6. ninadja he subj/him obj
Historically it seems that subject preceded object. The subject forms were probably

- *ŋandj(a) you sg in 1.
- *ŋayV in 2. - she
- *ŋayI in 4. - she

possibly earlier **ŋayI for both *ŋayI and *ŋayV

- *nV in 3. - he
- *ni in 5. and 6. - he

possibly from earlier **ni for both *ni and *nV

Object forms were probably

- *(a)na in 1. - me
- *aŋa in 2. and 3. - me
- *nyu in 4. - you
- *nu in 5. - you (sg)

possibly from earlier **nyu

Throughout the W.By. languages the difference between transitive and intransitive subject shows in the third person singular bound forms.

3.3.5.1. Bound third person singular transitive subject pronouns

** DJ.**

- ni masculine
- ŋai feminine
  (occurring only with bound object pronouns)

** Ng.**

- nV masculine
- ŋV'γV feminine

** W.**

- γV'ŋV masculine
- ŋV'γV feminine
G.

\[ gVnV \] masculine

\[ \etaVyV/\etaadj \] feminine

B.

\[ gVnV/na \] masculine

\[ \etaVyV/ndjV \] feminine

(occurring as 3p.sg. subjects in all transitive sentences)

For first person singular and for dual and plural, there is no difference in form between bound transitive and bound intransitive subject pronouns.

For second person singular, Ng. exhibits some difference between transitive and intransitive subject when subject pronouns occur with object pronouns, i.e.

\[ nyV/djV \] second person singular

transitive pronouns.

3.3.6. Object pronouns

There are both bound form and free form object pronouns in all W.By. languages. In Dj. bound dual and plural object pronouns are the same in form as subject pronouns. In each of the communalects of the E.Gp. bound object pronouns distinguish first from second person but not third person and not number.

3.3.6.1. Bound forms

Dj. fused subject object forms have already been set out above. In addition there are two other bound object forms occurring with non-singular subjects:

1p. sg. \[ ana/\alphaa \]

2p. sg. \[ nyV' \]

All other bound object pronouns in Dj. are the same in form as intransitive subject pronouns. There is no bound object form for third person singular other than the limited fused form set out above.

The E.Gp. bound object forms

\[ \etaV \] first person all numbers

\[ nyV \] second person, all numbers

are cross-referenced in the dual and plural by free object pronouns.
Free Object Pronouns

Singular

Dj.  | Ng./B.  | W.G.  
--- | --- | ---
1p.  | ɳaru  | ɳarî  | ɳara  
2p.  | ɳangu  | ɳâni  | ɳâga  
3p. m. | ɳâgu  | ɳâni  | ɳâga  
3p. f. | ɳâî  | ɳâyanî  | ɳâyâga  

Non-singular

The non-singular free object pronouns can be formed by adding the following affixes to bound subject pronouns:

Dj.   -agu
Ng./G. -aga
W.    -a
B.    -a on miŋd and pl. forms,
     -inya on dual

Binbinga has a third person plural form with b-, bira, which compares with Djamindjung bur- bound form.

Dual Forms

Dj.  | Ng./G.  | W.  | B.  
--- | --- | --- | ---
1p. inc. | miŋdagu  | miŋda  | miŋda  
1p. exc. | ɳinyagu  | ɳula  | yuinya  
2p.     | guṇyagu  | guła  | guinya  
3p.     | unyagu  | ula  | ulinya  

Plural Forms

1p. inc. | ɳuragu  | ɳuraga  | ɳura  | yura  
1p. exc. | ɳîragu  | ɳîraga  | ɳîra  | ira  
2p.     | guɾagü  | guîrâga  | guîra  | guîra  
3p.     | uragü  | îrâga  | îra  | bira  


3.4. Possessive Adjectives and Demonstratives

Possessive adjectives agree with the noun qualified for class, case and number, e.g.

**Dj.**

\[ \text{ņarina biba} \]
\[ my \quad son \quad my \quad son \]

\[ \text{ņariniŋi bibiŋi} \]
\[ my \quad daughter \quad my \quad daughter/elder \quad sister \]

\[ \text{ņarunu ņau} \]
\[ my \quad home \quad my \quad home \]

\[ \text{ņarinimi djaŋumi} \]
\[ my \quad shield \quad my \quad shield \]

\[ \text{ņarunungā ņauŋa} \]
\[ my-allv. \quad home-allv. \quad to \quad my \quad home \]

\[ \text{ņarininbila guruɆaɆuila} \]
\[ my-du. \quad boomerang-du. \quad my \quad two \quad boomerangs \]

Possessive adjectives are similar in form to free object pronouns. With the exception of some forms in B., the nominative masculine singular can be formed by adding the following suffixes to the last consonant of the dual and plural forms of the free object pronoun in Dj., Ng. and G.:

**Dj.** -ina, e.g. mindagina our (du. inc.) masc. nom.

**Ng. G.** -andji, e.g. miŋagandji our (du. inc.) masc. nom.

and the suffix -gandji to the W. free object pronouns, e.g.

\[ \text{guŋagandji you} \quad (du.) \quad masc. \quad nom. \]

and also to the B. dual forms, e.g.

\[ \text{guŋinyagandji you} \quad (du.) \quad masc. \quad nom. \]

The B. plural forms follow a different system:

- **1p. inc.** yuragandji
- **1p. exc.** iranygi
- **2p.** girigandji
- **3p.** biranygi

(masc. nom.)
Singular Possessive Adjectives
(masc. nom.)

<table>
<thead>
<tr>
<th></th>
<th>Dj.</th>
<th>Ng./G./B.</th>
<th>W.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1p.</td>
<td>ᵇarina</td>
<td>ᵇari</td>
<td>ᵇari/ᵦaraði</td>
</tr>
<tr>
<td>2p.</td>
<td>ᵇangina</td>
<td>ᵇani</td>
<td>ᵇani/ᵦangaði</td>
</tr>
<tr>
<td>3p. m.</td>
<td>ni:na</td>
<td>ᵇani</td>
<td>ᵇani/ᵦangaði</td>
</tr>
<tr>
<td>3p. f.</td>
<td>ᵇadjina</td>
<td>ᵇayandji</td>
<td>ᵇayandji</td>
</tr>
</tbody>
</table>

Demonstratives:

Demonstratives vary for class, case and number. The most striking variations are in the human reference demonstratives in the Eastern Group, where the difference between ergative and nominative is almost completely suppletive.

Singular forms are given below:

1. Eastern Group
   Masculine
   that - remote

<table>
<thead>
<tr>
<th></th>
<th>Ng.</th>
<th>W.</th>
<th>G.</th>
<th>B.</th>
</tr>
</thead>
</table>
   Nom.       | 1. iṅa | 1. iniaga | inia | djiriga |
   alternatives | 2. ᵇia | 2. inama |
   Erg.       | 1. ᵇungu | ᵇingiaga | ᵇingia | ᵇungua |
   alternatives | 2. ᵇingiga |          |
   3. ᵇingiga |

   this - proximate

<table>
<thead>
<tr>
<th></th>
<th>Ng.</th>
<th>W.</th>
<th>G.</th>
<th>B.</th>
</tr>
</thead>
</table>
   Nom.       | 1. ᵇa | ini | ini | ini |
   alternatives | 2. ᵇa:lu |
   Erg.       | ᵇinga | ᵇingi | ᵇingi | ᵇingi |

   Feminine

   that - remote

<table>
<thead>
<tr>
<th></th>
<th>Ng.</th>
<th>G.</th>
<th>B.</th>
</tr>
</thead>
</table>
   Nom.       | 1. ᵇai | ᵇaniaga | ᵇaniga |
   alternatives | 2. ᵇayanga | ᵇanama |
   Erg.       | ᵇangiga | ᵇangiga | ᵇangia | ᵇangua |
**this - proximate**

<table>
<thead>
<tr>
<th></th>
<th>Ng.</th>
<th>W.</th>
<th>G.</th>
<th>B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom.</td>
<td>1. aŋa</td>
<td>璠</td>
<td>璐</td>
<td>璐</td>
</tr>
<tr>
<td>alternatives</td>
<td>2. aŋa:lu</td>
<td>璠</td>
<td>璐</td>
<td>璐</td>
</tr>
<tr>
<td></td>
<td>3. ñaya</td>
<td>璠</td>
<td>璐</td>
<td>璐</td>
</tr>
<tr>
<td>Erg.</td>
<td>ñanga:lu</td>
<td>ñangí</td>
<td>ñangí</td>
<td>ñangí</td>
</tr>
</tbody>
</table>

**Non-human classes**

**Nominative singular forms**

**that - remote**

<table>
<thead>
<tr>
<th></th>
<th>Ng.</th>
<th>W.</th>
<th>G.</th>
<th>B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen. neut.</td>
<td>nayɑŋɡa</td>
<td>1. aniaga</td>
<td>yania</td>
<td>gariga</td>
</tr>
<tr>
<td>alternatives</td>
<td>2. yanama</td>
<td>璠</td>
<td>璐</td>
<td>璐</td>
</tr>
<tr>
<td>veg.</td>
<td>mal</td>
<td>mamiaga</td>
<td>mamiaga</td>
<td>maniga</td>
</tr>
<tr>
<td>alternatives</td>
<td>璠</td>
<td>璐</td>
<td>璐</td>
<td>璐</td>
</tr>
</tbody>
</table>

**this - proximate**

<table>
<thead>
<tr>
<th></th>
<th>Ng.</th>
<th>W.</th>
<th>G.</th>
<th>B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen. neut.</td>
<td>1. aŋa:lu</td>
<td>yana</td>
<td>yana</td>
<td>yana</td>
</tr>
<tr>
<td>alternatives</td>
<td>2. ñaya</td>
<td>璠</td>
<td>璐</td>
<td>璐</td>
</tr>
<tr>
<td>veg.</td>
<td>1. ama</td>
<td>mama</td>
<td>mama</td>
<td>mama</td>
</tr>
<tr>
<td>alternatives</td>
<td>2. maya</td>
<td>璠</td>
<td>璐</td>
<td>璐</td>
</tr>
</tbody>
</table>

2. Djingili

**Masculine demonstratives**

<table>
<thead>
<tr>
<th></th>
<th>that</th>
<th>this</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom.</td>
<td>djama</td>
<td>nyinda</td>
</tr>
<tr>
<td>Erg.</td>
<td>djamiŋi</td>
<td>alternatives 1. nyiŋndiŋi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. nyiŋndiŋi</td>
</tr>
</tbody>
</table>

**that/this/he**

<table>
<thead>
<tr>
<th></th>
<th>that</th>
<th>this</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom.</td>
<td>dji:</td>
<td>璠</td>
</tr>
<tr>
<td>Erg.</td>
<td>dji:ŋi</td>
<td>璠</td>
</tr>
</tbody>
</table>
3.5. The Verb-complex
3.5.1. General structure

1. Eastern Group

The indication of person and time is contained almost completely in a combined unit (sometimes called elsewhere 'auxiliary') called here the 'person-tense unit' (ptu). This unit often also contains indication of aspect, number, mood and in Ng. and W. - direction.

The person-tense unit may occur alone as a complete verb-phrase, e.g.:

W. ɲuba I shall go

Otherwise it either precedes or follows a main verb (MV), e.g.:

W. ɲadjbi ɲuba
   MV        p.t.u.
   see       I go ft.
   I shall go and see

Following a sentence-initial word this order may be reversed, e.g.:

W. ɪda ɲuba ɲadjbi
   father
   I shall go and see (my) father
2. Djingili

A person-tense unit may occur alone as a verb phrase, e.g.:

ŋari: *I shall go*

Otherwise the verb-complex usually consists of a stem followed by a suffix or a combination of suffixes which may or may not correspond to separate person-tense units, e.g.:

ŋadjanu *he/she saw*
ŋadj a *nu*
st em su ff ix

*see* past-tense

ŋadjanjaŋi: *I shall go and see*

Ordering of suffixes follows the following patterns:

st em + (object) + (subject) + tense/mode/direction
st em + fused subject/object + tense/mode/direction
st em + third person singular + non-singular object +
tense/mode/direction subject

3.5.2. Inflection of the Main Verb in W. and Ng.

In W. and Ng. there are variations of the main verb for tense and mood.

In W. the future (motion neutral) and imperative main verb ends in *-a*, e.g.

ŋadj ba *see!*

Otherwise for all other tenses, modes, aspects the main verb ends in *-a*, *-i* or *-u*, e.g.

ŋadj bi *see*
djiau *give*
mira *sit*

In Ng. the imperative main verb ends in *-a*, e.g.

ŋadj ba *see!*

but the main verb in future and past tenses ends in *-ani*, e.g.

ŋadj bani *see*

Otherwise for all other tenses, the main verb ends in *-a*, *-i* or *-u*, e.g.:

ŋadj bi *see*
manu *have, keep*
mira *sit*
3.5.3. Structure of the E.Gp. Person-tense Units

The most usual structure of the person-tense unit is:

\[
\text{person + tense/mood/direction}
\]

e.g. \( \eta \text{nani} \)  
\( I \text{ present (Ng.)} \)  
\( I \text{ past (B.)} \)

\( \eta \)  
person  
first person  
singular subject  

\( \text{ani} \)  
tense  
present (Ng.)  
past (B.)

Subject precedes object, e.g.:

\( \eta \text{inyani} \)  
\( I/you \text{ present (Ng.)} \)  
\( I/you \text{ past (B.)} \)

\( \eta ! \)  
ny  
ani  

\( \text{person} \)  
\( \text{person} \)  
\( \text{tense} \)  

\( \text{subject} \)  
\( \text{object} \)  
\( \text{present (Ng.)} \)  

\( 1\text{st person} \)  
\( 2\text{nd} \)  
past (B.)  
singular  

The structure:

\[
\text{tense prefix + person + tense suffix}
\]

occurs in B., e.g.:

\( \eta \text{nu} \text{la} \)  
\( \text{we du. exc. pres.} \)

\( \eta \)  
\( \text{nu} ! \)  
\( a \)  

tense  
\( \text{person} \)  
\( \text{tense} \)  

\( \text{prefix} \)  
\( \text{subject} \)  
\( \text{suffix} \)  

\( \text{first person} \)  
dual exclusive

The structure:

\[
\text{person subject + tense + person object}
\]

occurs in the future tense in Ng. and B., e.g.:

\( \eta \text{uyula} \text{na} \)  
\( \text{she/me future (Ng. B.)} \)

\( \eta \text{uy (V)} \)  
\( \nu ! \text{a} \)  
\( \eta \)  

\( \text{person} \)  
\( \text{tense} \)  
\( \text{person} \)  

\( \text{subject} \)  
\( \text{future} \)  
\( \text{object} \)  

\( \text{third person} \)  
\( \text{first person} \)  
singular feminine
3.5.4. Imperative

Singular

Ng. and W.

There is an imperative stem which ends in -a, -ŋba, -djba, e.g.:

W. Ng. ŋadjba look!
W. ʈadjara light (it)!
W. djiaudjba give!
W. miraŋba sit!

G.: The suffix -nya is added to the main verb, e.g.:
madjbinya hit (it)

B.: The suffix -nyina or -l: is added to the main verb, e.g.:
 ya:rui: go!
ŋarabinyna drink!

Dj.: The suffix -mi is added to the stem of the main verb, e.g.:
ŋadjami look!

Dual and Plural Imperatives

Ng.: gułu dual and girı plural are placed after the singular imperative form, e.g.:
ŋadjba gułu look! dual
ŋadjba girı look! plural

W.: guļ dual and gir plural are placed next to the singular imperative form, e.g.:
ɡuļ miraŋba or miraŋba guļ sit! dual
gir miraŋba or miraŋba gir sit! plural

B. and G.: gaļa dual and garı plural are placed next to the unmarked main verb, e.g.:
ŋadjbi gaļa or gaļa ŋadjbi look! dual
ŋadjbi garı or garı ŋadjbi look! plural

Dj.: The suffixes -anyumi and -arumi are added to the stem, e.g.:
mandaanyumi sit dual
mandaarumi sit plural
3.5.5. Vowel Harmony in Dj.

The vowels of Dj. verb forms alternate between open and closed features, e.g.:

\[ \eta\text{adjanja\text{dju}} \quad \text{I see (present)} \]

\begin{align*}
\eta\text{adj} & \quad \eta\text{a} & \quad \text{dju} \\
\text{stem} & \quad \text{first person subject} & \quad \text{present} \\
\text{see} & \quad \text{singular} & \quad \text{tense} \\
\end{align*}

but \[ \eta\text{idjimindidju} \quad \text{we two (inc.) see (present)} \]

\begin{align*}
\eta\text{idji} & \quad \text{mindli} & \quad \text{dju} \\
\text{stem} & \quad \text{first person} \\
\text{see} & \quad \text{dual inclusive subject} \\
\end{align*}

Under normal conditions, the stem with open vowels is found in the singular and the stem with closed vowels occurs with dual and plural bound subject pronouns.

Except for a limited number of person and tense forms, the vowels of the singular person markers are open and the vowels of the non-singular markers are closed. Further details of vowel harmony can be found in Chadwick 1975.

3.5.6. Direction - Function and Suffixes

In Dj., W. and Ng. direction and motion are indicated by a set of tense and mood suffixes which are separate from other tense or mood suffixes unmarked for the indication of motion.

There are two sets of 'directive' tense/mood suffixes in each language. One translates the English verbs go or take - motion in a direction away from or around the source. The other translates to English verbs come or bring - motion in a direction towards the source.

Suffixes for go:

**Dj.**

\begin{align*}
\text{Past} & \quad \text{Present} & \quad \text{Future} & \quad \text{Imperative} \\
-r\text{ugu} & \quad -\text{a\text{dju}} & \quad -\text{ri}:/-\text{wa} & \quad -\text{i}:\text{ri} \\
\end{align*}

**W. and Ng.**

\begin{align*}
\text{Past} & \quad \text{Future/Present} & \quad \text{sg.} & \quad \text{du.} & \quad \text{pl.} \\
W. & \quad -\text{any} & \quad -\text{uba} & \quad -\text{gama} & \quad -\text{gu}\text{li} & \quad -\text{giri} \\
Ng. & \quad -\text{lar\text{a}} & \quad -\text{u\text{a}} & \quad \text{wai} & \quad \text{gu}\text{lal} & \quad \text{giral} \\
\end{align*}
Suffixes for *come*

Dj.

<table>
<thead>
<tr>
<th></th>
<th>Past</th>
<th>Present</th>
<th>Future/Imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-amig</td>
<td>-Vdj:mi</td>
<td>-Vngu</td>
</tr>
</tbody>
</table>

W. and Ng.

<table>
<thead>
<tr>
<th></th>
<th>Past</th>
<th>Future/Present</th>
<th>Imperative sg. du. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>W.</td>
<td>-aman</td>
<td>-ulamany</td>
<td>-ga gujama girama -a</td>
</tr>
<tr>
<td>Ng.</td>
<td>-agni</td>
<td>-ulagni</td>
<td>ama gujama girama -ima</td>
</tr>
</tbody>
</table>

3.5.7. Other Tense Affixes

In G. and B. separate directive affixes have not occurred so far in the corpus. In W., Dj. and Ng. the affixes given below are motion-neutral, i.e. if the verb phrase carries the meaning of coming, going, taking or bringing the directive affixes are used instead of the motion-neutral affixes.

<table>
<thead>
<tr>
<th></th>
<th>Past</th>
<th>Present</th>
<th>Future</th>
<th>Present habitual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dj.</td>
<td>-nu</td>
<td>-dju</td>
<td>-i</td>
<td>-adi</td>
</tr>
<tr>
<td>Ng.</td>
<td>-ina</td>
<td>-ani</td>
<td>-ulu/-ill</td>
<td>-ulia/-ilia</td>
</tr>
<tr>
<td>W.</td>
<td>-a</td>
<td>-i/-u</td>
<td>-u/-i</td>
<td>-ala</td>
</tr>
<tr>
<td>G.</td>
<td>-ima/</td>
<td>-i/-u</td>
<td>1. -u/-i</td>
<td>-ala</td>
</tr>
<tr>
<td></td>
<td>-uma</td>
<td>2. -ulu/-ili</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.</td>
<td>-ani</td>
<td>ya-1</td>
<td>-ula/-ila</td>
<td>-ala</td>
</tr>
</tbody>
</table>

3.6. Structure of the Noun-complex

3.6.1. General

The general structure of the noun-unit throughout the W.By. languages is:

stem + suffix(es)

1. and 2. are alternatives in free variation.
Suffixes follow the sequence:

1. (number) +
2.1. noun-class
2.2. case
3. noun-class/case

Giving five basic patterns for the Eastern Group and four for Dj.

1. Stem + noun/class/case, e.g.:

\[
\begin{align*}
\text{Dj. } & \text{ wiwiŋi } & \text{girl} \\
\text{wiwi} & \text{ŋi} & \text{noun-class and case combined} \\
\text{stem} & \text{suffix} & \text{feminine absolutive} \\
\text{G. } & \text{ŋaduŋa } & \text{girl} \\
\text{ŋadu} & \text{ŋa} & \text{noun-class and case combined} \\
\text{stem} & \text{suffix} & \text{feminine absolutive}
\end{align*}
\]

2. Stem + number + noun class/case, e.g.:

\[
\begin{align*}
\text{Dj. } & \text{ djuŋmaila } & \text{two wallabies (species)} \\
\text{djuŋma} & \text{i1} & \text{a} \\
\text{stem} & \text{number} & \text{combined noun-class and case} \\
& & \text{dual} & \text{masculine absolutive} \\
\text{G. } & \text{ŋaduuulu } & \text{two girls} \\
\text{ŋadu} & \text{ul} & \text{u} \\
\text{stem} & \text{number} & \text{noun-class and case combined} \\
& & \text{dual} & \text{feminine absolutive}
\end{align*}
\]

3. Stem + noun-class + case, e.g.:

\[
\begin{align*}
\text{Dj. } & \text{ wawaŋga } & \text{towards the boy} \\
\text{wawa} & \text{ŋi} & \text{ŋga} \\
\text{stem} & \text{noun-class} & \text{case} \\
& & \text{masculine oblique} & \text{allative}
\end{align*}
\]
4. Stem + number + noun-class + case, e.g.:

Dj. balinblin nga towards the two men
    balin  billi  ni  nga
    stem  number  noun-class  case
dual  masculine  oblique  allative

W. ala gmanq ni nga  for the boys
    alag  ma ngi  ni  nga
    stem  number  noun-class  case
plural  masculine  oblique  benefactive

5. Stem + number + case (this structure is found only in the Eastern Group), e.g.:

W. alagbulldj i  two boys/girls erg./locative
    alag  buli  dj i
    stem  number  case
    child  dual  ergative/locative

The suffixes -buli dual and -dj i case, ergative/locative do not distinguish noun-class.

3.6.2. Case Marking

Case functions marked by suffix:

Indirect object  Direct object
Possessive       Intransitive subject
Benefactive      Transitive subject.
Purposive        Locative
Locative         Allative
Allative         Ablative
Ablative         Comitative

The marking of two or more functions by one suffix is found in all groups.
McArthur Subgroup

One suffix morpheme for ergative, instrumental and locative. The label used is 'ergative/locative'.

One suffix morpheme for benefactive, indirect object, purposive and possessive. The label used is 'benefactive'.

Ngarnga

One suffix morpheme for ergative and locative labelled 'ergative/locative'.

One suffix morpheme for benefactive, indirect object, purposive and possessive labelled 'benefactive'.

Djingili

One suffix morpheme for ergative, indirect object, benefactive, purposive and possessive in the feminine class only. The label used is 'feminine ergative'.

Masculine and Non-human Classes

One suffix morpheme for benefactive, indirect object, purposive and possessive. The label used is 'benefactive'.

3.6.3. The most commonly occurring Case Suffixes

Benefactive


Ng. W. G. B.
-na/-nga/-ngga

2. Dj.

Feminine ergative (inc. benefactive function)
-ŋa/-ŋa/-ŋya

Masculine benefactive
-ŋa/-na/-da/-la

General neuter benefactive
-ŋa

Vegetable class benefactive
-ŋa
Locative

Dj.  
-mb1l1

Ng.  
-nl/-nbl/-mb1

Ergative/Locative (E.Gp. only)

Ng.  
-wl/-nl

W. G.  
-ηl/nV'

B.  
-ηl/-nl/nV'

Allative

Dj.  
-ηga

Ng. W.  
-nmandj1

G. B.  
-nma

Ablative

Dj.  
-ηgam1

E.Gp.  
-nηa

Instrumental

Dj.  
-(w)ang1

Ng.  
(w)angdu

Mc. Sb.  
same as Ergative/Locative

Comitative

Dj.  
same as locative or instrumental

Ng.  
-(w)angdu

Mc. Sb.  
-n1/l/-mbl

Ergative

Same as ergative/locative in the Eastern Group.

Same as the oblique masculine and feminine gender suffixes in Djingili.

3.6.4. Most commonly occurring Number Suffixes

Indication of plural number is optional in all W.By. languages. Each noun has a basic form which is usually singular but may be plural in reference.

For certain body parts, e.g. 'ears', 'eyes', 'hands', 'breasts', indication of dual number is optional. Otherwise indication of dual number is obligatory.

Dual Suffixes

Dj.

The forms ulV, wulV, bulV and llV, wllV, bl1V are very common.
E.Gp.

The most common suffixes are ulV, wulV, bulV but the form gulV also occurs in Ng. and B.

Plural Suffixes

Dj.

The most common suffixes are -ala, -lli, -alag-, -llig- but the forms -bala, badju and -wur- also occur.

Eastern Group

The most common suffix is -maŋdi but the form -gundji with class variations is also common.

3.7. Sentence Structure

Abbreviations:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>subject</td>
<td>MV</td>
</tr>
<tr>
<td>V</td>
<td>verb</td>
<td>ptu</td>
</tr>
<tr>
<td>O</td>
<td>object</td>
<td></td>
</tr>
<tr>
<td>I0</td>
<td>indirect object</td>
<td></td>
</tr>
<tr>
<td>S.i</td>
<td>subject intransitive</td>
<td></td>
</tr>
<tr>
<td>S.t</td>
<td>subject transitive</td>
<td></td>
</tr>
</tbody>
</table>

3.7.1. General sentence structure in all W.By. languages

This section deals only with the ordering and relationships of a simple sentence involving, at most, subject, verb, direct and indirect object. It does not deal with adverbial phrases, subordination and nominalisation.

3.7.1.1. General traits of W.By. languages

1. Equational sentences occur without a copula in the present tense.
2. The ordering of subject and verb is not fixed.
3. The ordering of noun subject relative to noun object is not fixed.
4. Free object pronouns must always follow the verb.
5. The preferred position for interrogative markers is sentence-initial.
6. The ordering of adjective and noun-qualified is not fixed, but adjectives normally follow the noun.
3.7.2. Sentence-structure in the Eastern Group

The most common structure of the verb complex when occurring alone is:

\[ \text{MV} + \text{ptu} \]

\[ \text{gulugbi gama he is sleeping} \]

\[ \text{gulugbi MV, sleep} \]

\[ \text{gama ptu, third person singular masculine present} \]

With a noun subject, the most common structure is:

\[ \text{S} + \text{ptu} + \text{MV} \]

\[ \text{djugi gama gulugbi The boy is sleeping} \]

\[ \text{djugi S, nominative case, boy} \]

\[ \text{gama as above, ptu} \]

\[ \text{gulugbi as above, MV, sleep} \]

The ordering \( \text{MV} + \text{ptu} + \text{S} \) is also very common. \( \text{S} \) never occurs between \( \text{MV} \) and \( \text{ptu} \). Other orderings are extremely rare.

In transitive sentences in which both subject and object are indicated by nouns, the two most common structures are:

\[ \text{S.t} + \text{ptu} + \text{MV} + \text{O} \]

\[ \text{O} + \text{ptu} + \text{MV} + \text{S.t} \]

\[ \text{djanyini gina dau mimari The dog bit the snake} \]

\[ \text{djanyini S.t, dog, ergative} \]

\[ \text{gina ptu, he past} \]

\[ \text{dau MV, bite} \]

\[ \text{mimari O, snake, absolutive} \]

However,

\[ \text{MV} + \text{ptu} + \text{O} + \text{S} \text{ also occurs} \]

\[ \text{dau gina mimari djanyini} \]

Other permutations are possible.

Where the pronoun object and subject are bound within the person-tense unit the preferred order is:

\[ \text{MV} + \text{ptu} \]

\[ \text{gudaibl ginajanl he bit me} \]

\[ \text{gudaibl main verb, bite} \]

\[ \text{ginajanl ptu, he/me past} \]
gina  he transitive
η(V)  me
ani  past tense

Where a noun occurs for transitive subject the preferred orders are:

either  S.t. + ptu + MV  
or  MV + ptu + S.t.

e.g. B. waŋamaŋini  ginanaŋl  gudalbl!  The dog bit me
     gudalbl!  ginanaŋl  waŋamaŋini

waŋamaŋini  S.t., dog, ergative

Indirect Object

Where a noun-phrase (free object pronoun and noun) occurs in the function of indirect object, the most common principle of ordering is that the indirect object follows the verb-complex (except where it is an interrogative). The subject noun, if any, usually occurs either before the verb-complex or between the verb complex and the indirect object.

In sentences without a noun subject:

MV + ptu + 10

e.g. W. ŋalwi ga ŋayaŋa alaŋanga  He/she spoke to the girl

ŋalwi  main verb, speak
g  ptu, third person singular, past
ŋayaŋa  free object pronoun third person singular feminine
alaŋanga  indirect object noun, 'benefactive' case, girl

In sentences with a noun subject:

either  MV + ptu + subject + 10  
or  subject + ptu + MV + 10

e.g. W. ŋalwi ga naida ŋayaŋa alaŋanga  The woman spoke to the girl.

naida  subject noun, absolutive case, woman
or  naida ga ŋalwi ŋayaŋa alaŋanga

3.7.2.1. Sentences with both direct and indirect object noun phrases

Testing is not complete in this area, but from the corpus obtained so far, it appears that the direct object noun can appear in any position in a sentence containing an indirect object noun, the only
3.7.3. Sentence structure in Djingili

The main difference in sentence structure between Djingili and the Eastern Group is that there is no need in Dj. to divide the verb complex into a main verb and a person-tense unit. Morphemes marking person, tense and other functions occur as suffixes on a stem. The verb complex, abbreviated as V, is therefore treated as one item.

Where a noun occurs for the function of subject, transitive or intransitive, the most common order is:

subject + verb

e.g. wawa yuriadju the boy is playing
     wawaŋi mayanu the boy hit (it)

wawa (absolutive), wawaŋi (ergative), subject noun, boy
yuriadju verb, third person singular present, is playing
mayanu verb, third person singular past, hit
no overt object

But the order

verb + subject

is possible, though rare, e.g.

yuriadju wawa the boy is playing
mayanu wawaŋi the boy hit (it)

In transitive sentences where nouns occur for both subject and object, the preferred order is S.t.OV but the order S.t.VO occurs frequently, e.g.

wawaŋi waлагu mayanu the boy hit the dog
wawaŋi boy, ergative
waлагu object noun, absolutive case, dog

However,

wawaŋi mayanu waлагu

also occurs and other permutations are possible.

Indirect Object

A noun phrase consisting of a free object pronoun may occur in the function of indirect object. The interrogative phrase occurs sentence-initially, e.g.
wadjiña ṓaŋu ambayanu  who did he speak to?
wadjiña ṓaŋu  interrogative phrase, indirect object, 
to whom, who to
wadjiña  interrogative pronoun
ṓaŋu  supporting pronoun
ambayanu  verb, third person singular past tense,  
he/she did speak.

Otherwise the declarative indirect object phrase must follow the 
verb, e.g.:

ambayanu baĩna ṓaŋu  he/she spoke to the man
ambayanu  as above, he/she spoke
baĩna ṓaŋu  indirect object phrase, to the man
baĩna  man (benefactive case)
ṓaŋu  supporting pronoun

The declarative indirect object phrase occurs with the noun preced­
ing or following the pronoun

baĩna ṓaŋu
or  ṓaŋu baĩna

Where a noun subject occurs with an indirect object, the noun 
appears in the absolutive case with the verbs for speak and wait, e.g.

ṑayuŋi ambayanu ṓaŋu  the woman spoke to him
ṑayuŋi  subject, absolutive case, woman
ambayanu  as above, spoke
ṓaŋu  indirect object pronoun, to him

It appears in the ergative case with the verb for give, e.g.

ṑayuŋa ũũnyanaiąanu mami  the woman gave me food
ṑayuŋa  subject, ergative case, woman
ũũnyanaiąanu  verb complex, she gave me
ũũnya-  stem, give
-ųaŋa-  subject/object form, she/me
-ңu  past tense suffix
mami  direct object, food

The preferred order where both subject and indirect object occur as 
noun phrases is

SV10
e.g. ɲayyŋi  ámbaynu  baiŋa  ɲaru   the woman spoke to the man

ɲayyŋi     as above, subject, woman
 ámbaynu     as above, verb, spoke
 baiŋa  ɲaru     as above, indirect object phrase, to the man

however, the orders VSIO and VIOS also occur.

The direct object appears in absolutive case, e.g.

mami ɲunyanu baiŋa ɲaru   he/she gave the man food

mami     as above, food
 ɲunyanu     as above, gave
 baiŋa ɲaru     as above, to the man

Where noun phrases occur for both direct and indirect object the preferred order is OV10 as above, but the orders VO10 and VI10 are also possible. Normally a noun phrase subject occurs sentence-initially but it may also occur sentence-finally or in any other position.

3.8. Characteristics of Vocabulary

3.8.1. Cognate densities within the W.By. languages based on a wordlist of 100 items

<table>
<thead>
<tr>
<th></th>
<th>Dj.</th>
<th>Ng.</th>
<th>G.</th>
<th>B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>W.</td>
<td>29%</td>
<td>60%</td>
<td>78%</td>
<td>69%</td>
</tr>
<tr>
<td>B.</td>
<td>21%</td>
<td>61%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>G.</td>
<td>21%</td>
<td>62%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ng.</td>
<td>28%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The cognate density between Dj. and all the Eastern Group communalects is very low, the highest count being with Wambaya (29%). The closest demonstratable relationship within the Eastern Group is between Gudandji and Binbinga (88%); Gudandji is also closely related to Wambaya (78%). If relationships can be demonstrated in morphology also, it may be possible to regard Wambaya, Gudandji and Binbinga as dialects of the same language.

Ngarma is clearly separate as a language from all the communalects of the McArthur subgroup but is much more closely related to them than it is to Djingili.
3.8.2. Comparison with surrounding languages

- to the west: Mudburra, Guurrindji;
- to the north of Djingili and Ngarnga: Alawa, Wardaman;
- to the north of Binbinga: Wilangarra, Yanyula;
- to the north and east of Gudandji: Garruwa, Waanyi;
- to the east of Wambaya: Wagaya, Indjilaidja;
- to the south of Wambaya and Djingili: Waramungu.

Depth studies are available on Alawa (Sharpe 1972) and Wagaya (Breen 1974 manuscript). Limited information is also available on Yanyula, Garruwa, Waramungu, Mudburra and Guurrindji.

None of this information has revealed much lexical similarity between any of the surrounding languages and either Djingili or the Eastern Group. New evidence on Mudburra has only recently become available. In spite of considerable lexical borrowing from and into Djingili the relationship is not close.

The closest relationship so far found has been between Djingili and languages of the Djamindjungan Family, a family separated from the West Barkly languages by other languages including Mudburra and Guurrindji not closely related to either Djingili or Djamindjungan.

3.8.3. Comparison of W.B.Y. vocabulary with CA vocabulary

Comparison with common Australian vocabulary items as published on pp. 86-88 of Wurm 1972, reveals the following similarities.

It is not certain that the following are actual reflexes of the proto-forms cited but they are listed for their similarities to those forms.

1. Similarities in both Dj. and the Eastern Group:

<table>
<thead>
<tr>
<th>English Form</th>
<th>Djingili</th>
<th>Eastern Group</th>
<th>CA Form Cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>hand</td>
<td>manţamańda</td>
<td>mańa (Mc.Sb.)</td>
<td>*maraną</td>
</tr>
<tr>
<td>tongue</td>
<td>djalanyä</td>
<td>ŋandjaľa (Mc.Sb.)</td>
<td>*dalaną</td>
</tr>
<tr>
<td>Crow</td>
<td>wangulayl</td>
<td>wagalamarî (Mc.Sb.)</td>
<td>*wagura/wagan</td>
</tr>
<tr>
<td>vegetable food</td>
<td>mamł</td>
<td>mańanyma (all)</td>
<td>*mayî</td>
</tr>
<tr>
<td>give</td>
<td>ŋunyä</td>
<td>wldjbl (G.B.)</td>
<td>*wu/*nu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>udjbl (Ng.)</td>
<td></td>
</tr>
<tr>
<td>noun</td>
<td>N. CHADWICK</td>
<td>E.Gp.</td>
<td>CA form cited</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>see</strong></td>
<td>ηadja-</td>
<td>ηadjbi (all)</td>
<td>*na/*nya</td>
</tr>
<tr>
<td><strong>two</strong></td>
<td>gudjara/</td>
<td>gudjara (all)</td>
<td>*gudjara</td>
</tr>
<tr>
<td><strong>dual affix</strong></td>
<td>-bila-/</td>
<td>-bulu-/</td>
<td>*bula(dj) (two)</td>
</tr>
<tr>
<td></td>
<td>-bili-/</td>
<td>-wulu-/</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-bulu-/</td>
<td>-ulu-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-wila-/</td>
<td>and other variations (all)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-wulu</td>
<td>and other variations</td>
<td></td>
</tr>
<tr>
<td><strong>where</strong></td>
<td>wadjua</td>
<td>windjani/indjani</td>
<td>*wanda</td>
</tr>
<tr>
<td><strong>I</strong></td>
<td>-ŋa-</td>
<td>ŋV- (all)</td>
<td>*ŋa-</td>
</tr>
<tr>
<td><strong>you</strong></td>
<td>-nya-/</td>
<td>ŋyV- (all)</td>
<td>*nyin-</td>
</tr>
<tr>
<td><strong>singular</strong></td>
<td>-na-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>foot</strong></td>
<td>yungu</td>
<td>djaŋa (Mc.Sb.)</td>
<td>*dinaŋ yaŋa (Ng.)</td>
</tr>
</tbody>
</table>

2. Similarities in the Eastern Group but not Djingilli

<table>
<thead>
<tr>
<th>noun</th>
<th>E.Gp.</th>
<th>CA form cited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>breast</strong></td>
<td>ŋabùlu (all)</td>
<td>*ŋamaŋ</td>
</tr>
<tr>
<td><strong>eye</strong></td>
<td>mułu (all)</td>
<td>*mirinŋ</td>
</tr>
<tr>
<td><strong>tooth</strong></td>
<td>liddja (G.B.)</td>
<td>*liraŋ</td>
</tr>
<tr>
<td><strong>urine</strong></td>
<td>gumbu (Mc.Sb.)</td>
<td>*gumbu</td>
</tr>
<tr>
<td><strong>water</strong></td>
<td>ŋui (all)</td>
<td>*gugu</td>
</tr>
<tr>
<td><strong>big/old</strong></td>
<td>buguwa (W.B.)</td>
<td>*bulga</td>
</tr>
<tr>
<td></td>
<td>bugmadji (Ng.) grey haired</td>
<td></td>
</tr>
<tr>
<td></td>
<td>buŋmadji (W.G.) old</td>
<td></td>
</tr>
</tbody>
</table>

3. Similarities in Dj. but not the Eastern Group

<table>
<thead>
<tr>
<th>noun</th>
<th>CA form cited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>shin</strong></td>
<td>udilyi (nom.) *danaŋ</td>
</tr>
<tr>
<td></td>
<td>udala (oblique)</td>
</tr>
<tr>
<td><strong>blow</strong></td>
<td>buya-</td>
</tr>
</tbody>
</table>
3.9. Similarities with the Djamindjungan Family of Languages
3.9.1. Morphology

Djingili and other West Barkly languages show little relationship, either lexical or otherwise, to any of the immediately surrounding languages. However, a number of similarities have appeared as a result of comparisons between the West Barkly languages and Djamindjungan (Djm.). Geographically the W.By. languages are separated from Djmn. by a distance of over two hundred miles (320 km.). The languages in between (Mudburra, Guurrindji, Malngin and others) show little structural relationship to either Djmn. or W.By.

Similarities in certain bound pronouns (subject intransitive) between Djamindjung (Dja.) and Djingili have already been set out in the section on pronouns (3.3.3. and 3.3.4.). These similarities are found to a slightly lesser extent in all types of pronoun and person markers, not only in Dja. but also in the related Ngaliwurru (Ngwu.) and Nungali (Nu.) languages of the Djamindjungan family.

The most distinctive similarity is in the pronoun for first person dual inclusive

\[
\begin{align*}
\text{Dj.} & \quad \text{CA form cited} \\
\text{eat} & \quad \text{dara-} & \quad \text{*da} \\
\text{get, pick up} & \quad \text{madja-} & \quad \text{*ma (take)}
\end{align*}
\]

which, in both the W.By. languages and Djmn., does not conform to the regular structural patterns of the other pronouns.

The pronoun forms of the Djamindjungan family are amply demonstrated in Bolt, Cleverly and Hoddinott (1970). Examination of this information reveals a number of striking similarities. The most salient of these are set out below.

The comparative information is not organised into a structured argument here. The similarities are merely listed in an unordered fashion for the purpose of display. A possible genetic relationship between Djamindjungan and Djingili, and between Djamindjungan and the Eastern Group of West Barkly is strongly suspected by the writer. But it is not the purpose of this section to offer proof for this suspicion.
A number of similarities have been deliberately discounted because similar forms are common throughout other regions of Australia.

Examples of similarities deliberately ignored:

1. First person singular
   (i) Abbreviated pronoun
   \( \eta \) Djmn.
   \( \eta \) Dj.
   \( \eta V \) E.Gp. of W.By.

   Similar forms are found throughout Australia.
   (ii) Cardinal free pronoun
   \( \eta ayug \) Djmn.
   \( \eta yaya \) Dj.
   \( \eta au \) G. B.
   \( \eta au u n g d j i \) W.

2. The first consonant of the second person singular abbreviated pronoun
   \( n- \) subject Djmn.
   \( n-/ny- \) subject Dj.
   \( ny- \) object Djmn.
   \( ny- \) object Dj. and E.Gp.
   \( ny- \) subject Dj. and Mc.Sb.

3. Third person plural bound pronoun and stem of cardinal pronoun and object pronoun
   \( b u r- \) Dja. Ngwu.
   \( w i r- \) Nu.
   \( w i r-/b i r- \) B.
   \( u r- \) Dj.
   \( i r- \) Ng. W.
   \( i r-/w i r- \) G.

Forms of the type \( b u r, b i r, w u r, w i r \) occur in many parts of Arnhem Land (Burarra, Nunggubuyu), the Daly River Region and the Kimberleys.

The most salient similarities in grammar:

1. In the second person singular free pronoun first syllable \( n a-/n y a- \), second syllable \( -m i/-m a \)
   \( n a m l \) Dja., Ngwu.
   \( n a m i n d j u \) Nu.
   \( n y a m l \) G. B.
2. Masculine third person singular cardinal pronoun in Djmn. and masculine singular demonstrative in W.By.

dji Dja. Ngwu. masculine third person singular pronoun

dji: Dj. masculine singular demonstrative (remote in B.)
djiriga

3. Benefactive and object pronouns and possessive adjectives

   (i) The base forms for first and second person singular

      lp. ŋar- ŋar-
      2p. ŋuŋ- ŋaŋ-

   (ii) The suffix added to pronoun bases to indicate benefactive function

      Djmn.   Dj.
      singular -gu (lp. and 2p.) -gu (2p.)
      -u (1p.)

Full forms for first and second person singular:

      Djmn.   Dj.
      lp. sing. ŋargu ŋaru
      2p. sing. ŋuŋgu ŋaŋgu

Dual and plural suffix:

      Djmn.   Dj.   Ng. G.
      -ag   -agu   -aga

Examples of full forms

First person dual inclusive:

mindag Djmn.
mindagu Dj.
miŋdaga Ng. G.
Second person plural:

- gurag  Dja. Ngwu.
- urag  Nu.
- guragu  DJ.
- giraga  Ng. G.

4. The suffix on possessive adjectives

First person singular:

- Djmn.  Dj.
- suffix  -gina
- full form  nargina  narin

Second person singular:

- Djmn.  Dj.
- suffix  -gina
- full form  nungina  nangina

Third person singular masculine:

- suffix  -wina
- full form  nuwina  niwina  niyina  ni:na (masc. sg.)

Dual and plural forms:

- suffix  -aydgina
- -adgina
- -agina (masc. sg.)

Example of full form

First person dual inclusive:

- mindaydgina  Dja.
- mindadgina  Ngwu.  Nu.
- mindagina  Dj. (masc. sg.)

5. Bound transitive subject pronouns

Third person singular masculine:

- gan-  Dja. Ngwu.
- gan-  Nu.
- gani-  G.  present tense
- gVnV  G.  several tenses
- gV'nV  W.  several tenses
- gVnV  B.  several tenses
6. Combined subject/object pronouns

Second person singular subject, first person singular object you/me

ηangin-       ηandjin-       ηadjan-      -ηandjana-

7. Other similarities:

An examination of several other monographs and articles on the Djamindjungan languages, (Cleverly 1968; Bolt, Hoddinott and Kofod 1971a, b; Hoddinott and Kofod 1976a, b and c) reveals several other similarities.

(i) Ergative suffixation

-ni is the most common suffix for ergative in the Eastern Group of West Barkly. It functions also as locative and instrumental in the McArthur Subgroup and as locative in Ngarga.

-ŋi is the most common masculine suffix for ergative in Djingili; this may not be significant.

-ŋi is a major allomorph for ergative, locative and instrumental in Ngaliwurru and Djamindjung, and this suffix occurs also in Nungali. Other allomorphs are -dĩ, -gi and -i.

(ii) Direct and oblique noun-class affixation

Nungali has noun-classes and a distinction between direct and oblique noun-class affixes.

The most striking similarity is between the oblique feminine prefixes of Nu. and the oblique feminine suffixes of the Eastern Group of West Barkly.

In Nungali there are four noun classes. The classes correspond approximately to those in the W.By. languages. Class I is masculine, Class II is feminine and there are two neuter classes III and IV, one of which, IV, includes vegetable food.

The classes are marked by prefixes.

Nungali class prefixes (from Bolt, Hoddinott and Kofod (B.H.K.) 1971a,b typescript on Nungali):

<table>
<thead>
<tr>
<th>Class</th>
<th>Direct ('object' (B.H.K.))</th>
<th>First order</th>
<th>Second order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>dĩ-</td>
<td>-ya-</td>
<td></td>
</tr>
<tr>
<td>Class II</td>
<td>nya-</td>
<td>--na-</td>
<td></td>
</tr>
<tr>
<td>Class III</td>
<td>nu-/nĩ-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class IV</td>
<td>ma-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Oblique (ergative/instrumental/locative)

Class I \( \text{nyi-} \)

Class II \( \eta \text{anyi-} \)

In the Eastern Group of West Barkly the most common combination of suffixes for feminine ergative is \( -\eta \text{ani} \).

If the Nungali ergative/locative feminine prefix combination \( \eta \text{anyi-} \) is divided into two syllables, i.e.

1. \( \eta \text{a-} \) feminine ergative/locative class marker
2. \( -\text{nyi-} \) ergative/locative case marker,

then the correspondence with the suffix combination in the Eastern Group

\( -\eta \text{ani} \)

for feminine ergative/locative looks quite close. For \( -\eta \text{ani} \) too, is easily analysed into two parts

1. \( -\eta \text{a-} \) feminine oblique class marker corresponding to \( -\eta \text{a} \) feminine oblique class suffix in Djingili
2. \( -\text{ni} \) ergative/locative case marker

3.9.2. Comparison of Vocabulary

A full comparison of vocabulary between Djamindjungan languages and languages in the West Barkly area has still to be carried out. But a preliminary survey of vocabularies shows that the high proportion of correspondences found in pronoun morphology is not reflected in vocabulary. There is much less similarity in this area.

Not all items in Djamindjungan languages are available for comparison on a lexicostatistical 100-item wordlist. Vocabularies are available to this writer only in Djamindjung and Nungali, not yet in Ngaliwurruru. Even in Dja. and Nu. many items needed for careful comparison are not listed in the available wordlists.

But a tentative preliminary investigation has revealed the following results:

Both Djingili and the Eastern Group reveal some shared cognates which are common to many areas of Australia. But there are other clear correspondences which to the writer's knowledge do not occur
in other parts of northern Australia and probably do not occur in any other region of Australia. These distinctive correspondences are still very low in number, no more than seven for any one language-to-language comparison, and the total corpus of items is very small, but further investigation may reveal additional correspondences.

In addition, there are a number of pairs of items, for each pair of languages compared, which are probably cognate but for which proof cannot be established without further investigation into sound changes.

1. List of Correspondences (n.kn. for 'not known')
Md.: Mudburra; Gur.: Guurrindji

<table>
<thead>
<tr>
<th>Correspondences</th>
<th>Non-corresponding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ear</strong></td>
<td>łaṇa (Dja.)</td>
</tr>
<tr>
<td></td>
<td>manga (Nu.)</td>
</tr>
<tr>
<td><strong>heart</strong></td>
<td>dulu (Dja.)</td>
</tr>
<tr>
<td></td>
<td>dulu (Nu.)</td>
</tr>
<tr>
<td><strong>snake</strong></td>
<td>bulany (Dja.)</td>
</tr>
<tr>
<td></td>
<td>dulany (Nu.)</td>
</tr>
<tr>
<td><strong>fat n.</strong></td>
<td>gurij (Dja.)</td>
</tr>
<tr>
<td></td>
<td>nurid (Nu.)</td>
</tr>
<tr>
<td><strong>south</strong></td>
<td>ṇanigu (Nu.)</td>
</tr>
<tr>
<td></td>
<td>Dja. n.kn.</td>
</tr>
<tr>
<td><strong>east</strong></td>
<td>ṇumugu (Nu.)</td>
</tr>
<tr>
<td></td>
<td>Dja. n.kn.</td>
</tr>
<tr>
<td><strong>sky/cloud</strong></td>
<td>guluma (Dja.)</td>
</tr>
<tr>
<td><strong>moon</strong></td>
<td>dabaranara (Nu.)</td>
</tr>
<tr>
<td></td>
<td>Dja. n.kn.</td>
</tr>
<tr>
<td></td>
<td>aďaŋari (W. Ng.)</td>
</tr>
<tr>
<td></td>
<td>waďaŋari (B.)</td>
</tr>
<tr>
<td><strong>meat</strong></td>
<td>yaṉara (Nu.)</td>
</tr>
<tr>
<td></td>
<td>-yug (Nu.)</td>
</tr>
<tr>
<td><strong>fire</strong></td>
<td>guyu (Dja.)</td>
</tr>
<tr>
<td></td>
<td>-yug (Nu.)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Correspondences</td>
<td>Non-corresponding</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>dog/ dingo</td>
<td></td>
</tr>
<tr>
<td>wala gu (DJa.)</td>
<td>wa lu gu (Dj.) (Md.Gur.)</td>
</tr>
<tr>
<td>dingo</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

The item wala gu is also found in Warlbiri for dog.
The item wa lu gu is also found in Mudburra for dog.

<table>
<thead>
<tr>
<th>today</th>
<th>djalaŋ (DJa.)</th>
<th>djalyaŋgu (Dj.)</th>
<th>mabaŋama (B.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>yala (Nu.)</td>
<td>djalanyi (W. G.)</td>
<td>yalan yi (Ng.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>djala (Gur.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>you (sg.)</td>
<td>nami (DJa.)</td>
<td>nyami (B. G.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>namindju (Nu.)</td>
<td>nyaminiŋdí (W.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>nyama (Ng.) (Dj.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>nama (Dj.)</td>
<td></td>
</tr>
<tr>
<td>fall</td>
<td>wada- (Nu.)</td>
<td>waŋga- (Dj.)</td>
<td>nyilaŋgudjbi (Ng.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>barlu (Mc.Sb.)</td>
<td></td>
</tr>
<tr>
<td>hit</td>
<td>-ma- (DJa.)</td>
<td>maya- (Dj.)</td>
<td>ñaguma (W.)</td>
</tr>
<tr>
<td></td>
<td>-ma(nu)- (Nu.)</td>
<td>madjbi (G. B.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ñadbi (Ng.)</td>
<td></td>
</tr>
</tbody>
</table>

2. Number of Correspondences on a 100-item Wordlist

I. Clearly corresponding items

(1) With Nungali Items

1. Total:
   B.  G.  W.  Ng.  Dj.
   15  15  14  13  12

ii. Number of common Australian items in the total:
   B.  G.  W.  Ng.  Dj.
   4   4   4   2   2

iii. Number of common regional items in the total:
   B.  G.  W.  Ng.  Dj.
   4   4   5   5   3

iv. Number of distinctive items remaining:
   B.  G.  W.  Ng.  Dj.
   7   7   5   6   7
(2) With Djamindjung items

1. Total:
   
   B. G. W. Ng. Dj.
   14 15 13 12  8

ii. Number of common Australian items in the total:
   
   B. G. W. Ng. Dj.
   4 4 4 3  2

iii. Number of common regional items in the total:
   
   B. G. W. Ng. Dj.
   4 4 4 4  5

iv. Number of distinct items remaining:
   
   B. G. W. Ng. Dj.
   6 7 5 5  1

II. Total of all similar items including both clearly corresponding items and items that are probably cognate

(1) Similar with Nungali Items:
   
   B. G. W. Ng. Dj.
   15 18 17 16 15

(2) Similar with Djamindjung Items:
   
   B. G. W. Ng. Dj.
   17 19 17 18 13

Other Similarities in Vocabulary

<table>
<thead>
<tr>
<th>Djamindjung</th>
<th>West Barkly</th>
</tr>
</thead>
<tbody>
<tr>
<td>string</td>
<td>munungu</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>lick v.</td>
<td>ɲalyag</td>
</tr>
<tr>
<td>eyebrow</td>
<td>yibidjibidj</td>
</tr>
<tr>
<td>flower</td>
<td>yuru</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>grass</td>
<td>wanda</td>
</tr>
<tr>
<td>elder sister</td>
<td>babiny</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>shield</td>
<td>guwarl</td>
</tr>
<tr>
<td>when</td>
<td>nanguan</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Ngumbin</td>
<td>Mudburra</td>
</tr>
<tr>
<td>---------------</td>
<td>----------</td>
</tr>
<tr>
<td>lick v.</td>
<td>n.kn.</td>
</tr>
<tr>
<td>eyebrow</td>
<td>milyjaŋariny</td>
</tr>
<tr>
<td>when</td>
<td>nyanula</td>
</tr>
</tbody>
</table>
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LINGUISTIC COMMUNITIES AND SOCIAL NETWORKS
ON CAPE YORK PENINSULA

Peter Sutton and Bruce Rigsby

Our major orientation in the study of linguistic communities and social networks in Cape York Peninsula is at present more ethnographic than theoretical. That is, given the paucity of relevant socio-linguistic theory and the problematic, empirical nature of its main issues, we are primarily concerned with obtaining an adequate database. Having said that, we nonetheless discuss below the kinds of data an adequate theory will need to account for, and the kinds of questions we expect such a theory to answer.

The immediate aim of our research is to elucidate the linguistic dimensions of a unique and disappearing type of human social and ecological adaptation, the Aboriginal hunter-gatherer societies of Australia, and in particular those of Cape York Peninsula (CYP).

Aboriginal people have lived on CYP (defined as mainland Queensland north of the 16th parallel) for at least 13,000 years (Rosenfeld 1975), and probably longer. For much of that time, what is now the Peninsula was merely the higher portion of a land-mass which was above sea level right across the present Gulf of Carpentaria to Arnhem Land and north across what are now the Torres Straits to New Guinea. The Torres Straits were formed by rising sea-levels about 6500-8000 BP (Jennings 1971). Linguistic and anthropological studies made in the area date from the late eighteenth century, but only in the last eighty years have they been made by specialists with extensive training and field experience. Most of what is known of the languages and cultures of CYP dates from field work between 1927 and 1935 - McConnel, Thomson and Sharp - and since 1969. Consequently, if we wish to understand the long-term dynamics of cultural and linguistic relationships and their development in the region, we have to rely on
archaeological reconstruction, historical reconstruction of linguistic divergence, convergence and parallel developments, plus what we can learn about traditional patterns of socioterritorial segmentation and communication networks (marriage and residence patterns, ritual alliances, totemic connections, warmaking groups, exchange cycles and so forth) from field ethnography with the traditionally-oriented Aborigines who live on the Peninsula. We are at present engaged with other workers (see below) in long-term studies of this type, concentrating on a transect across the middle Peninsula between Lockhart and Port Stewart on the east and Aurukun and Edward River on the west. We have also both worked in the Princess Charlotte Bay area.

CYP is characterised by high linguistic diversity in some areas (such as Princess Charlotte Bay, the far northern tip, and a narrow strip down the west coast), contrasting with low diversity in others (such as the Starcke River-Mossman area, or the even less diverse 250km stretch from Cape Grenville to Massey River, on the east coast). Cultural diversity is also higher in some areas than in others: the west coast between the Archer and Edward Rivers has prominent, discrete ritual groups, while much of the central Peninsula north of Laura appears to have lacked such segmentation.

Cultural and linguistic diversity are not always closely correlated. Princess Charlotte Bay and environs (between the Stewart and Starcke Rivers) was inhabited by speakers of perhaps ten languages, between some of which there are significant grammatical differences, and between all of which there are striking lexical and phonological differences. Yet at least the Flinders Islands and Barrow Point peoples regard all the people of that region as 'countrymen', among whom they traditionally found spouses, with whom they joined in ceremony, and with whom they shared distinctive cultural traits. By contrast, the western coastal region between the Archer and Edward Rivers exhibits less linguistic diversity (there are many dialects, which may be clustered into a handful of distinct languages), but far greater segmentation socially. It is generally known as 'the Wik-speaking area' by anthropologists and linguists. Like Princess Charlotte Bay, it could be described as a 'culture-area'. Such culture-areas, in spite of their diverse natures, clearly exist and will be treated by us as the widest meaningful social networks traditionally operating in CYP.

In the Wik-speaking area, regional segmentation is clear-cut along the coast, but becomes ill-defined 15-20km inland. The grossest segments are ritual groups, which are spoken of in English as 'tribes'. 
One such group, Apelech, includes members of lineages with countries clustered about three rivers, the Love, the Kirke and the Knox. The three river-groupings constitute smaller segments within Apelech, each with a core of lineages sharing a major cult-totem. Even smaller segments consist of clusters of two or three lineages with contiguous estates known by a single 'nickname'. The smallest meaningful segment is the lineage, which is the land-holding unit. All segments greater than the individual lineage may be, and usually are, polylingual. That is, they consist of clusters of lineages affiliated to different dialects/languages. The countries of those lineages which speak the same language tend to be separated from each other by countries of lineages with different linguistic affiliations. Both territorially and politically, languages are 'discontinuously distributed'.

There is no significant dialectal or dialect-group endogamy. Seventy-six percent of marriages (excluding those of recent date which would not have been possible in pre-European times) have been between individuals affiliated to different dialects. Sixty percent have been between those affiliated to dialects of mutually unintelligible languages. Marriage clusters are bounded by two main features: geographical proximity within the coastal floodplain area, and - to a less clear extent - membership within the named ritual group. Eighty-seven percent of marriages by those with country on the floodplain have been contracted within the long, narrow coastal strip. About three-fourths of the lineages in the Apelech ritual group have contracted three-fourths of their marriages within that group. All residence-groups normally include speakers of several dialects. All people over about thirty years of age have multilingual competence, and younger people are at least bilingual in the lingua franca Wik-Mungkan and English. Many people who are affiliated to the same dialect belong to separate regional groups and may have little contact.

In the light of such facts, the 'dialectal tribe' model used in some Australian demographic and linguistic studies has no support whatever from the Wik-speaking area. This model (see Birdsell 1953, 1968, 1976 and Dixon 1970, 1972:330ff) posits a dialectally homogeneous speech community, predominantly endogamous, which constitutes a primary domain of social structure. It is a population isolate, a territorial unit, and a relatively bounded communications network. In the Wik-speaking area, such entities are not characterised by dialectal homogeneity.
The same is true of other parts of Cape York Peninsula. The distribution of lineage-countries in the eastern Princess Charlotte Bay area is much closer to the stereotype, in that lineages with a single language have adjacent countries. However, such linguistic communities are not recognised as individual segments of political or demographic importance, and neither they nor the languages they speak have names. Most individuals, if asked to name their language, will give the name of their patriline or, sometimes, the name of a well-known place (such as Flinders Island) in the relevant region. And they can do this in any one of several languages, since all lineages and most important locales may be referred to by different forms in each of the languages of the area. Multilingual competence and linguistic exogamy were again the norm.

An adequate model of Aboriginal sociolinguistics will have to explain these apparent 'exceptions' to what has been assumed to be the norm. Although we are not yet able to produce such an explanation, we would stress that Aboriginal belief-systems play the crucial role in determining linguistic affiliation and the role of this affiliation in demography. Much more information on what Aboriginal people believe about language is needed.

It should be clear from the sketches just given that we are not attempting to treat CYP in toto as a single culture-area, but as a geographical slice that has an ecological, cultural and linguistic diversity suited to our purposes as linguistic anthropologists. It is an eminently suitable area for comparative and historical study, both because of the wide diversity now to be seen, laid over a common underlying heritage, and because in certain subareas we have the chance to integrate linguistic with non-linguistic data. In this way, we hope to elucidate the dynamics of linguistic affiliation, linguistic change and regional dialect patterns in relation to the pressures of traditional social structure, belief systems, politics, demographic patterns, and the environmental constraints of natural resources, seasonality and topography.

Much comparative linguistics has already been done in CYP, largely on lexical and phonological reconstruction, and genetic subgrouping (see Sutton, ed., 1976 for recent examples). We know, for example, that there has been extensive phonological diffusion across large areas, and that this may have been associated with sociocultural influences (Alpher 1976). Detailed work on other types of diffusion has yet to be done. From a study of linguistic diffusion in Arnhem Land, Heath (1978) concluded that traditional Indo-Europeanist historical
linguistic models of diffusion were inadequate to explain the data he gathered and interpreted. It is unlikely that CYP will be any more amenable to Indo-Europeanist interpretations than Arnhem Land. A sociolinguistic theory that will generate a powerful explanatory model will have to account for the patterns that emerge from studies of linguistic prehistory, and it cannot simply be synchronic.

Sociolinguistic patterns on CYP have great implications for diachronic linguistic theory. We already know enough to state that *social networks and linguistic groupings on CYP are not isomorphic.* In other words, although it is more than likely that dialect and language differences and similarities somehow reflect social networks, this reflection is by no means instantaneous or simple. An adequate sociolinguistic theory must account for this discontinuity. To borrow some terminology from Silverstein (1972), but omitting some of his distinctions, *speech communities* may stand in relatively simple relationships to social networks, but *language communities* certainly do not. For the moment, we may define a speech community as a group of people who interact regularly by means of speech, and therefore belong to a communication network. A language community is a set of people who share a common grammar, as characterised by a (near-) identical knowledge of syntactic, lexical and phonological rules. We recognise the problems of drawing boundaries around communities and of delimiting networks, and also the problem of distinguishing 'different grammars' using mutual intelligibility or quantitative measures as criteria. But we find the language/speech community distinction useful, one which has so frequently been ignored in the discussion of language in the Australian Aboriginal context.

A speech community is essentially the same as a social network, but we use the former term to emphasise its linguistic aspect. The character and history of languages is clearly more closely related to the structure of social networks than to the spatial distribution of people in on-the-ground aggregates. Different speakers of the one language may reside separately with speakers of other languages, but maintain contact with each other through frequent contact. We also find the converse, at least in Cape York: different speakers of the one language may belong to geographically and politically distinct social networks, and have little contact. We also find that the territories of those people who speak a single language are not always contiguous, and that we must speak of regional multilingual repertoires rather than 'dialect areas'. Indeed, one of the main reflections of the boundedness of a social network is the range of multilingual competence of its members.
Other defining features, which in CYP are typically (but perhaps not necessarily) comprosent, are: relatively bounded patterns of marriage; patterns of coming together to perform rituals; relative freedom of movement over each others' countries, at least during the dry season; and mutual aid in wider conflicts.

Thus, social networks are defined by patterns of countless small-scale interactions, rather than by the presence of single distributional traits such as 'sharing a common dialect' or 'possessing a common kinship system'. They may be named or un-named, but it is usually not too difficult to find a locution or two in local languages that recognise their existence; to find, for example, that they form the content of us/them-type pronominal references. Social networks are heavily political, hence labile and contractual, not fixed. 'Norms' of endogamy are constantly violated by families who seek political allies outside the network by 'marrying out' their girls. Lineages expand, contract, and die out. Our distinct impression is that 'countries' tend to be more stable entities than their personnel.

When lineages become technically extinct, it is not uncommon for those who assume custodianship of their countries to be the children of their last female members. Because of a tendency for women to marry men who speak different dialects or languages from their own, and because the majority of children take their fathers' language as their own, the linguistic affiliation of a country's custodians is liable to switch slightly or even dramatically over time. And because of a tendency towards social network endogamy, such a change in 'dialect geography' would more often than not involve a switching to one of only a subset of the dialects/languages of a region. In an area of linguistic homogeneity, these changes would not be readily apparent to an outsider, and we would expect the resulting irregular or discontinuous distribution of dialects to be subject to fairly rapid regularisation or uniformising over time. However, where relatively heterogeneous dialects and languages are spoken by very small populations, multilingualism may be the crucial element which allows such varied speech-forms to survive. This survival would be precarious were it not for the strength of Aboriginal belief in the maintenance of differences, and the view that one's own patrilineage-dialect is the optimum linguistic form.

On western CYP we find grammatical and semantic unity, some phonological variation, and considerable lexical diversity. This suggests that the same factors that may lead to the extinction of minor sub-dialectal differences and to near-total linguistic convergence in
a case of relative homogeneity, may lead only to partial convergence in cases where there is linguistic heterogeneity within the same social network. On western CYP this means that we suggest convergence and parallelism in syntax and semantics have developed because of multilingualism in an area of very small language-communities. In other areas, such as from around the southern Northern Territory to the Adelaide region, one can demonstrate phonological convergence due to diffusion of common features over a recognised culture-area. In this latter region, not only phonology but the distribution of 'kinship-pronouns', birth-order names and trade routes, for example, can be shown to support the hypothesis of a culture-area (Hercus and White, 1973; Schebeck, 1973).

But trait-distributions do not define social networks. Social networks have to be established by more precise means, such as examining the statistics of marriages and adoptions, the composition of ritual-sharing groups, residential groups, etc. Trait-distributions merely establish the extent of sharing or transmission, and not (directly) the extent of regular communication. Thus we find languages in CYP which were spoken at great distances from each other, yet which share the diffused feature of initial consonant- or syllable-dropping (see Alpher 1976, Sutton 1976). We do not suggest that their speakers were part of a single social network, or in some cases even of a single culture-area, except in the nebulous and trivial sense that they belonged to a great chain of connected Aboriginal populations across which traits flowed. Our interest, in any case, is at a finer-grained scale. We suggest that it is the structure and history of social networks of the limited type outlined, which crucially determine linguistic divergence, convergence and parallel development. However, our interest is in their ability to shed light on the relationships between culture, social organisation and human ecology, rather than in what they can explain about linguistic change. Language is only one of the many features of a social network, no one of which is necessarily diagnostic.

The anthropologist J.R. von Sturmer (1973:21), writing of Aboriginal people from the Kendall-Holroyd Rivers on western CYP, makes it clear that we would be unreasonable to assume neat isomorphism of these features even at a native conceptual level:

... the modes of determining individual identity and group identification are related to at least five basic factors: kinship and marriage, territory, totemism, language, and ritual. There has been a strong tendency in the writings
of McConnel, Sharp and Thomson, the chief ethnographers of the region, to see these principal factors as 'layers' which neatly overlap and project without any discontinuity into each other. In short, the principal factors have been seen as reflections of a single system.

Von Sturmer notes that this view is rejected by older Aborigines, and that 'organisational principles do not simply overlap'.

Our findings elsewhere in CYP support von Sturmer's earlier conclusions. In view of this, we suggest that anthropologists cannot afford simply to select single conventional features of group identification as the basis for determining their fieldwork domain. We believe that fieldwork should be selective among populations, rather than among categories of people, in order to avoid prejudicing the conclusions that will be made about the relative salience of the different categories and their roles in reflecting and structuring social networks. The relative importance that Aborigines place on group labels, linguistic differences, etc. are part of the essential data, but they cannot be taken to be automatically a close reflection of demographic, political or other realities, except at the native conceptual level. Thus while the Berndts (1970:2) found that 'taking the label Gunwinggu as referring to a recognised tribal unit has a certain utility', and that 'it provides a convenient starting point, a natural unit of study, in the sense that it is a conceptual reality with some basis in empirical reality' (our italics), they also found that the reference of the label depended both on who was using it and in what context it was used (p. 10), that the salience of such labels has increased greatly since missionisation and the attendant need for grosser distinctions (pp. 7, 11, 208), and that 'socially the category of "Gunwinggu" is, to an appreciable extent, heterogeneous' (p. 211).

Indeed, at least twelve of the twenty-seven land-holding patrilineal descent groups within the category 'Gunwinggu' also fall within the category of at least one other language, such as Maung or Gunbalang (pp. 237-9). This would lead us to question the usefulness of setting up 'Gunwinggu' or any other language-community label from this area as an empirically valid socioterritorial category, particularly one that defines the scope of an anthropological study of 'man, land and myth'.

Berndt (1959) presented the first well-documented counterargument against the use of the concept 'tribe' in Australia. In that paper he restricted his attack essentially to the Western Desert region, for which he provides a wealth of information of a sociolinguistic (albeit
mainly native conceptual-categorical) nature. This could have been the brilliant start to an ecologically-oriented study of language and territoriality in the Western Desert. Although Miller (1972) did some interesting work on isoglosses in the southwestern area, and ten Raa and Woenne (1974) have assembled a large amount of invaluable computerised cultural-linguistic data, we have yet to see the kind of detailed, thorough, on-the-ground mapping of the area that will make it possible to reconstruct pre-settlement demography. Combined with thorough dialect-survey, as Douglas (1972:82) says, 'such studies would reveal, if it is not too late, both the extent and also the restrictions in movement of specific dialect-forming bodies'. We would want to say, however, that such studies would first reveal the major demographic and environmental aspects of social networks; it would then have to be established empirically whether or not these networks were 'dialect-forming bodies', and to what extent they overlapped with them if they were not the same.

The notion that social networks and linguistic communities neatly overlap is a simplifying assumption that has strong appeal. Perhaps this explains why anthropologists have rejected the word 'tribe' in recent years, but have nevertheless continued in many cases to make use of its traditional meanings. Instead of saying 'the X tribe', they often now say 'the X', where 'X' is the name of a language. Even Berndt's own 'The Walmadjeri and Gugadja' (1972) speaks of 'the territorial range of a dialect unit' (182) and 'the dialectal territory' (137); and by stating that 'subsections categorise everyone within a given person's perspective, for example everyone within the "tribe" or language unit' (195) he suggests that a language unit is perhaps coextensive with a 'society' or social network. (Note that 'Walmadjeri' and 'Gugadja' are dialect names, the latter being one of the Western Desert dialects.) This suggestion is also explicit in expressions such as Stanner's 'Murinbata society' (1964:36), 'Murinbata opinion' (126), 'Murinbata tradition' (140), 'Murinbata history' (142), and we note that Stanner also talks of 'Murinbata territory' (82, 142). Similar examples can be easily drawn from the ethnographic literature. Hiatt (1965:1) likewise identifies named languages with social units, but acknowledges that his informants never referred to themselves as a social group by the name of their language: 'They referred to themselves collectively as "we" and never by any name. I shall call them the Gidjingali for the sake of convenience'. In an area where land-owning units may be of mixed linguistic affiliation, and where a third of a sample of people whose parents spoke different languages became
affiliated to their mothers' languages rather than to their fathers', we may ask just how often (outside discussions of language itself) the collective 'we' could indeed have referred to the Gidjingali-speaking language community as a social unit.

One of the 'conveniences' of abstracting single language communities from polylingual speech communities is that the linguist or anthropologist only has to study a selected sub-part of the linguistic competence of the society he works in. This means he or she can avoid the onerous task of trying to become multilingual, as are most of the people being studied. This simplifying device, used by virtually all field workers, is rarely made explicit in their writings.

Not only has the 'linguistic unit' (an ill-defined entity at best) been identified with 'society' or at least the 'unit of study', it has also been considered to be a territorial unit. This may be the result of Aboriginal practice in certain areas, where sites apparently are said to be affiliated to dialect units. Berndt (1972, 1976) states, for example, that in the Balgo region of the Western Desert, sites belong to dialectal units and some sites belong to two different dialectal units. 'Dual-dialectal areas ... could be taken as points at which a fair degree of intercommunication took place' (Berndt 1976:139). In CYP, however, although it is possible to elicit statements of linguistic affiliation of sites, such statements are rare in free discourse, and where made, it is clear that the affiliation is by no means of the same order as that between a site and the one or more descent groups that rightfully lay claim to it. The latter relationship is one of 'keeping' and 'looking after' (i.e., custodianship rather than ownership), and is often validated by the stories that connect members of descent groups with the history of the landscape in their countries. Most descent groups have well-defined country ('country' being the sum of named or recognised locales), and also well-defined linguistic affiliation, although some cases of possibly creole-like dialects, and of dual (primary and secondary) linguistic affiliation, are known. Since every descent group has both sites and a language, one can elicit a site/dialect relationship. But it is triadic, a by-product of the two elemental dyadic relationships of site/descent group and descent group/dialect, and so it is not primary.

We reject the notion of the primacy of linguistic groupings in structuring and ordering the Aboriginal social/geographical landscape. Tindale's 'tribal' map (1974) cannot therefore be a map of Aboriginal Australia at a fundamentally meaningful demographic or political-cultural level, even if it were accurate (which, at least in CYP, it is
not). We do not consider linguistic groupings (in the usual sense of populations that own and speak the same language, or believe they do) to be primary demographic or political units. Therefore they are not the units with which we are concerned in ecological or social-network studies. Nor are they prominent, in the CYP region, in the formation of alliances, whether as seen in the pattern of marriages, totemic links, ritual subgroupings or war-making groups. And although there is an indirect functional association between dialect, social network and seasonal range, we do not accept the view that dialect units (as language communities) are in any direct sense 'territorial'. Here we must keep separate the different 'ethnic' views and the 'scientific' view produced by an outsider's analysis of the evidence. (See Dixon (1976) for a clarifying discussion of this particular point.)

In the area of Aboriginal social organisation and behaviour, there has been a lack of close cooperation between linguists and social anthropologists. We believe that the role of language in Aboriginal society must be redefined on the basis of carefully integrated, substantial evidence from comparative-historical linguistics, statistics on marriage patterns, genealogies showing assignment of linguistic affiliations, precontact demography, precisely mapped estates and ranges and the politics and composition of alliances, named groupings, etc. The current field studies of Anderson, Chase, Rigsby, Sutton, Taylor and von Sturmer in CYP will hopefully provide quality information and allow us to develop fairly powerful explanatory sociolinguistic models for the area. Their studies are currently being made partly or wholly in conjunction with those of ecologists and biologists under the auspices of the Cape York Ecology Transect Project and the Australian Institute of Aboriginal Studies, although most of them have been active in CYP for some years. The ecological bent to our own sociolinguistic work arises from the probable high importance of environmental and economic factors in determining some of the characteristics of social networks and their territorial correlates. As we hope is by now clear, we believe that complex social networks form a level of Aboriginal social and spatial organisation that has been rather neglected in anthropological circles so far.

Discussion by social anthropologists has concentrated on two major levels, those of 'local organisation' and 'the tribe', with the intermediate category of 'community' receiving some attention (Meggitt 1962:51; Hiatt 1965:25; Peterson 1976:68; Berndt 1976:145; note that Berndt's sense of the term is different from that of the others), and wider groupings of quite diverse types have usually been lumped
together as 'ethnic blocs', 'nations', 'confederacies', 'alliances' and so on.

Ten years ago, local organisation was a major issue in Australian anthropology (see Hiatt 1962, 1966, 1968; Stanner 1965), and was concentrated on the distinction between residence groups ('hordes', 'bands', 'foraging units', 'ranging groups', etc., congeries of which may form 'seasonal ceremonial units' and the less ephemeral 'communities'), and descent groups (sometimes 'patrilineages', 'clans', and if landholding units, then 'estate groups'). The former are observable demographic aggregations, semi-nomadic within a definable range, while the latter are social categories defined by birthright and associated with a definable estate. There is an important difference between the levels of abstraction of the two classifications. The differences are not primarily those of membership, nor are the same personnel involved in both at any one time, since residence groups include only the living, while descent groups include all known members, living or dead, of a lineage. We say this, however, with the warning that when one steps beyond the simplest statements about Australian social/demographic structure, exceptions can usually be found for every generalisation.

Discussion of the wider construct of 'tribe' has recently been revived by the timely publication of Peterson's Tribes and Boundaries in Australia (Peterson, ed. 1976). Dixon was the only linguist to contribute a paper to this volume, in which he made a valuable distinction between the 'ethnic' or 'political' and the (scientific) 'linguistic' senses of the word language. At the same time, however, he did not make the necessary distinction between populations and social categories. His 'tribe', as defined for the rain forest area near Cairns, north Queensland, is a political structure with linguistic unity, and at the same time it is a population divided into local groups that come together in 'tribal gatherings for food procurement and recreation' (Dixon 1976:231). Dixon fails to distinguish between residence groups and descent groups, referring to an amalgam of both as 'local groups'. His 'tribe' is a highly endogamous ethnic-linguistic unit whose members can change 'local group' membership, and which only differs significantly from a European nation in the matter of population size. This description does not even faintly resemble what we know of the CYP region, for which we have detailed ethnographies to correlate with linguistic data.

To give one example well-known from the literature, viz. Sharp's work on 'the Yir Yoront' (1958, 1968). Sharp rejects the notions of
nation, tribe, horde, chief and gerontocratic council, established in the Australianist literature earlier this century, as being irrelevant to the political behaviour of the people he lived with. The only corporate identity among speakers of Yir Yoront is the named patrilineal totemic clan, which is the land-holding unit. There are thirty Yir Yoront-speaking clans. Each clan owns several separate tracts, and the tracts consist of from one to several score 'countries' (named locales). The Fresh Water Rainbow Serpent clan has, for example, over 150 countries in thirteen tracts, of which:

- 6 are amongst the 62 different clan tracts in the Yir Yoront 'speech zone',
- 4 are in the 'Koko Bera speech zone', and
- 3 are in the 'Kuk Taori speech zone'.

A man's countries may be widely separated and up to fifty or more miles apart. Clan membership, not speech affiliation, determines geographical associations. People never camped in localised patrilineal patrilocal hordes. The clan was not a residence unit. Through the kinship system one has access to more than one's own clan territory. Sharp found during many months in bush camps that 'Kuk Taori' speakers were always present in the residence groups of the northern Yir Yoront-speaking people.

Sharp (1968:159) also goes so far as to say:

> In studying the Aboriginal population on Cape York Peninsula, I simply could not find a society; I would have to describe it in terms of an ego-centered set of societies; no one individual was the center of a system of networks which overlapped isotypically with anyone else's.

This statement coincides to a considerable extent with our own observations during fieldwork with populations still functioning socially, if not economically, in a traditional way. The existence of social groupings is mainly a matter of context, and (especially in the event of a crisis) an individual will 'choose' the alliance suited to the occasion or indeed he may choose none. However, the set of available or potential alliances and their realisations form a rough pattern in regional terms: it is this which we have been referring to as the 'social network'.

We have also referred to wider entities called 'culture areas'. Peterson's (1976) attempt to define culture areas for the Australian
continent pursues a worthwhile end. There are obvious culture areas such as the so-called 'Murngin', 'Wulamba' or 'Yuulngu' block of north-east Arnhem Land (see Schebeck 1968 for a brilliant socio-linguistic analysis of this bloc), the 'Dieri nation' of south-central Australia, the Wik-speaking and Princess Charlotte Bay areas of CYP, and the spatially vast Western Desert bloc. In certain cases these blocs can be shown to belong to ecologically or topographically unified zones. But the existence of particular culture areas has to be demonstrated individually and empirically. It cannot be inferred from the pattern of linguistic subgroupings, with or without a further correlation with drainage basins. Peterson's proposed culture areas for Queensland (1976:66), the area on which we are qualified to comment, bear no relationship whatever to either the known culture areas or to the language families in the region, with the possible exception of the rainforest zone, which has some cultural and linguistic homogeneity, but whose basins drain outwards radially in all directions.

We have no doubt that Peterson is right in stressing the fact that Aboriginal bands clustered together into larger networks with strong political dimensions, around which some sort of spatial penumbra can be drawn, and we would agree that their zonation in most cases was not clinal, but regionalised. We further accept the fact that degrees of similarity and difference between languages and their 'spatial distribution' (the spatial demography of their speakers) have been critically, though not wholly, determined by cultural-historical processes that result ultimately from social networks of different scales, the latter being related to the natural environment in a complex way. Such networks have been long neglected as sociocultural and demographic entities, and the understanding of them is most important to hunter-gatherer studies (for a detailed discussion of hunter-gatherer territoriality, see Peterson 1975). However, we must reject the assumption that social networks are primarily characterised by coincidences of linguistic type.

The integrity of 'linguistic units' is so frequently violated by the shape of social networks that we question the existence of the 'dialectal tribe' in Australia, even if it could be shown that in some areas linguistic affiliations were ostensibly isomorphic with such networks. It seems strange that 'dialectal tribes' can be assumed to exist in areas such as Princess Charlotte Bay, where many people simply have no names for their languages or language-communities. And in many other parts of Australia there are names for languages but
not for their speakers as such. 'Dialectal tribes' do not seem to have been very universal, yet the much neglected *speech communities*, of varying composition, clearly existed everywhere.

There is good reason to pursue the study of linguistic communities and to attempt to place them in their environmental contexts in those parts of Australia where this is still possible. We know of several apparent topographical correlates of the seasonal ranges of speech communities that had contrasting linguistic compositions; take, for example, the contrast between inland linguistic unity and coastal heterogeneity in western CYP. However, to frame these relationships in terms of 'topographical barriers' (Peterson 1976) seems to us rather forced, unless 'barrier' refers to huge water-bodies such as gulfs or seasonally-flooded plains, sheer escarpments, snowfields, or areas virtually lacking in surface water like much of the Nullarbor Plain. These are either rare or impermanent, and while it is clear from our field work that ecological and topographical factors are important to both demography and socio-territorial structure at descent group, band and band-aggregate (etc.) levels, it seems absurd to suggest that either these or wider culture area structures are typically marked by 'topographical barriers' as obstacles to travel or communication. The bounding factors for major culture areas must be sought in the rationale for the shape and distribution of their component subparts along the culture area periphery. We suggest that the upper limits on the size of a culture area are basically determined by population distribution and density, given the existence of enough cultural unity and communication networks (i.e., you can marry, join a ritual or go trading, just so far). The shape of the smaller communication-networks in a culture area will be determined partly by the pattern of annual range of the residence groups. It is at this level of estate and range that environmental factors become crucial and determinant for the grosser structures in which populations participate. There are also strong conceptual factors linking peoples who share similar environments and distinguishing them from Ausländer.

The relative endogamy that characterises a social network in CYP is shaped by descent group exogamy, intergroup politics (ritual and other), previous marriages (i.e., alliances and 'payback') and the factor of physical distance. It is not, as Peterson suggests for culture areas (1976:67), the result of 'natural boundaries ... tending to restrict communication between them'. On western CYP, the smaller social networks and also the larger culture area arch across most of the 'natural barriers' of the area, such as rivers and salt plains. There
is a primary coastal vs. inland split, and only the lower reaches of rivers are included in the smaller coastal subgroupings. The people of the upper drainage basins have tenuous (or precious few) links with people lower down, but strong links among themselves. There are groups clustered about the lower reaches of rivers, but in this kind of country, where sand dunes run parallel to the coast, drainage basins are at a right angle to the courses of rivers.

We suggest, finally, that the size and shape of social networks, if defined as relatively bounded networks of interactions, will not necessarily coincide with those of culture areas that are defined by shared cultural traits or site-language affiliations. However, we cannot yet give detailed definitive accounts of such networks. We need to do further fine-grained work on both territoriality (detailed mapping of countries, reconstruction of band composition, etc.) and socio-linguistic phenomena (linguistic communities, linguistic affiliation and competence of individuals, social categories and groups, etc.). With better case studies at hand, we may then be able to raise the theoretical discussion of relationships between language, social networks and ecology above its present speculative level.
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1. INTRODUCTION

From February to August 1976 (five and a half months) I spent time in Alice Springs for study of the English of Aboriginal children there. The project was funded by the Australian Institute of Aboriginal Studies, in response to a request by the staff of Traeger Park Primary School and a good number of the parents of Aboriginal children attending the school. In that time I recorded children interacting informally with each other and with white adults, and analysed the data gained. Analysis was speeded up by the use of a computer concordance. Detailed descriptions of the recording techniques are given elsewhere (Sharpe 1978), and a report of initial results appeared in 1977 (Sharpe 1977a). Data from the sample was compared with extensive data obtained in Brisbane from eight and a half year-old white middle-class children by the Mt Gravatt C.A.E. Language Research Unit. Children in the Alice Springs sample ranged in age from four to thirteen, with a mean and median age of eight and a half. Two-thirds of the children were at least six years old and under eleven years old. For this study I defined children as Aboriginal if they had some Aboriginal ancestry and a noticeably Aboriginal voice quality (see Sharpe 1970). With a couple of exceptions, all these children would have identified themselves as Aboriginal, although they may not have used the term 'Aboriginal'. (Children tended to use the term 'Aboriginal' in the sense 'traditional Aboriginal' or 'native'. They would, for example, refer to Aboriginal paintings or Aboriginal dances.)

Although only minor differences exist between different forms of Aboriginal English in Alice Springs, at least two main sub-dialects can be isolated. The division is between camp children's English and town children's English, the former including camps in the town area.
and outside, and the latter including children from children's homes run by the Anglican and Lutheran churches. There is perhaps a very slight difference between town and children's homes' English, and children from the Lutheran compound appeared to have some forms which differed from those of children from the Anglican children's cottages. Most camp children I was able to record were from Aranda speaking camps and the children were bilingual; unfortunately I was not able to obtain data about English from camps using another Aboriginal language. Some town and children's home children also spoke an Aboriginal language, most commonly Aranda, less commonly Pitjantjarra or another language from the centre, or (for a couple of children) from elsewhere.

Although I refer to two dialects of Aboriginal English, there is no clear-cut line of demarcation between Aboriginal English and standard English in either dialect. Most children fluctuated between standard and non-standard forms, almost as though many non-standard forms behaved as additional optional contractions or variations on standard forms. This will be discussed further below. But some of the more complex standard English constructions are lacking by comparison with the eight and a half year-old white Brisbane sample, and sentences rarely had more than one subsidiary clause, although multi-clause sentences, usually with and as connector, were common.

In the following discussion and description, standard English (SE) is taken to mean the dialect(s) spoken by middle-class white Australians, including their informal styles (i.e., not just their 'correct written' style), and including, where indicated, immature or developmental forms used by children with white middle-class upbringing.

2. PHONOLOGICAL DIFFERENCES

Phonological differences between Aboriginal English (AbE) and SE are of the type common among Aborigines, although some features may be specifically Centralian. Children tend to fluctuate between 'AbE' and 'SE' phonology. For forms most different from SE, the following summary applies:

Distinction between voiced and voiceless stops can be lost, particularly word finally, where the voiceless forms are quite often used, and before nasals, where the voiced forms are used. As the stops in Aboriginal languages of the area are more commonly voiceless, voiceless stops are rather more common in AbE than in SE. Children at school apparently absorb a reasonable knowledge of phonics, because they often spell words
as they say them, e.g. bed, at had, etc. It does appear, however, on limited data, that words with voiced final stops in SE take the voiced plural and past tense allomorphs (-z, -d respectively), whereas words with voiceless word final stops in SE take the allomorphs -s and -t respectively.

Stops /b/, /p/ sometimes replace the fricatives /v/, /f/ respectively in isolated words (e.g., fibre, Beberly, wil' pig wild figs, Freezer Fraser). Other words have the fricatives as in SE. No substitution of fricatives for stops occurs.

An interdental stop is sometimes used where SE uses /s/, and a /t/ is used where SE uses /θ/, e.g. wig with, this that ting thing.

An intervocalic /t/ in SE is sometimes replaced by a flapped or trilled /ʃ/, e.g. got it put it, etc.

The Aboriginal language sound /tʃ/ sometimes replaces the affricates /tʃ/, /dʒ/, but most commonly English sounds are used. However, some children appear to substitute one fricative/affricate for another or to fluctuate, e.g. chuch/shuck chuck, shiraffe giraffe, secrets/cheer secrets.

/s/ is occasionally used where SE has /tʃ/, /θ/, or /s/, e.g. das one, nasing nothing, and once sree tree, and once conversely, twitch switch (with variant /w/ sound, see below). For some children, the sibilants /s/, /ʃ/, /z/, /ʒ/ are sometimes confused; these children may not recognize them as separate phonemes.

The aspirate /h/ is often dropped.

The lateral /l/ has a conspicuously different quality, which I find hard to define, particularly syllable finally after /u/. It is probably a lighter /l/ than English syllable final /l/.

/w/ at times sounds somewhat like /r/, in such phrases as all-a-way all the way, and twitch/switch/twitch switch (where w symbolises this r-like w).

Some children have only two short front vowels /i/ and /u/ where SE has three, /i/, /e/, /æ/, e.g. Windy Wendy, pin pin/pen (the word biro is used by some to avoid homonyms), pig pig/fig/peg (clothes pig is unambiguous, and wil' pig usually refers to a native fruit, there being a scarcity of pigs around Alice Springs), and men men/man
(number is usually clear from preceding articles, or the plural morpheme -s can be suffixed for men). Preceding /g/ a SE /e/ or /a/ can be pronounced /ey/, e.g. lyg/eyg egg and fleyg flag.

The /aw/ diphthong (as in down) is often pronounced as long /a/ vowel, with little or no final /w/ glide. This is only slightly different from broad Australian pronunciation, but differs markedly from average Australian, and can cause some comprehension difficulties at times, especially when combined with a variant stress and rhythm, e.g. /dɔ:n/ down, /ˈmʌntriyn/ Mt Doreen.

Some children insert a transition vowel between such clusters as /bl/, /kl/, /gl/ and /my/, particularly word initially, e.g. /pə'riya/ Frazer, /ˈimiyu/ emu, /piɡɔli wiga/ Piggly Wiggly (one of the town's supermarkets).

Initial vowels or syllables can be dropped from such words as about, around, because; and you/your is contracted to /ya/ at times, it/at/that to /at/, and them to /əm/.

Word final clusters /nd/, /nt/ are more often than not reduced to /n/, and /dnt/ to /dn/. Most children also use the full forms. I have examples of the dropped /d/ being inserted as though it belonged with the next word phonologically: roun dan roun dan roun round and round and round, and she putt in er hans dup she's putting her hands up.

The vowel of the is always phonetically [ə], never changing to [ɪ]/[ey] preceding vowels, which it does in mature SE. Similarly, a never has the allomorph an before vowels (with two exceptions in the data). The consonant in the can be assimilated to a preceding consonant in certain common prepositions, in, on, at, all. The definite article is still almost always phonologically distinct from a in such cases, as the assimilation lengthens the preceding consonant, and the vowel is neutral, whereas the vowel of /a/ is usually more open, cf. [ɪnə] in the, [iνə] in a.

Stress and rhythm of speech was slightly different from SE, so whites need a period of tuning in to the dialect for easy comprehension. But after tuning in, problems were usually confined to isolated words, e.g. [ˈmʌntriyn] Mt Doreen and confusion of 'probably' with 'properly' [probli] and [propli] respectively), etc. By this stage in
comprehension, the white person has also tuned in to many grammatical differences and does not notice these very much either.

3. GRAMMATICAL DIFFERENCES

As in phonology, so in grammar, AbE speakers show fluctuation between standard and non-standard forms. In some areas of grammar however, AbE has standardised on certain non-standard forms. In others, contractions are permitted. These contractions include ones used in informal and sometimes immature SE speech. But as most children used the full SE forms at times, we can conclude that they recognise these as the underlying forms.

3.1. Non-standard Forms used as Standard in AbE

The past tense was copula is used almost exclusively preceding plural as well as singular pronouns. Was is often contracted, see below.

Bin is used frequently by camp children and infrequently by town children to indicate past tense, e.g. we bin go. Some 'wrong' verb forms are also used: seen for saw, brang, branglm for brought, drownned, etc., but there are insufficient examples to draw firm conclusions on the use of these.

Some words used only as nouns in SE are used as verbs in AbE. AbE speakers used photo, typewriter and taperecorder as verbs, paralleling the SE use of photograph and tape:

You gonna photo us?
Miss Marg'ret, cin I typewriter?

Thing/ting is also used both as noun and verb, and is used as equivalent to the expressions what's-it, thingummy, thing-oh, etc.

'E's um thingin' 'is tali up (of man placing section of harness under horse's tail).
P'renti's different, p'renti's got things.
Miss Ting, Miss Wilkins, ....

Eh uttered with falling intonation is the standard AbE tag question marker, replacing SE isn't it, is it, wasn't she, etc.

Marg'ret, It good fun, eh.
You cin eat baby goanna eggs, eh Danny.
Your name Marg'ret, eh.
That's the blue one, eh.
You do really, eh.

It is safe to assume that the SE tag forms are hardly ever used by AbE speakers, although children may well respond correctly to them when used by whites, particularly if the intonation is falling, as it is on the eh tag in AbE.

Many mass nouns in SE occurred in the AbE sample as count nouns. Enough examples occur to be reasonably sure this is a general pattern for such nouns.

(white adult): What are they taking?
(reply): Woods, an' a gas tank.
They must be pickin' up wood, little woods.
Her wood is bigger than mine (her piece of wood).
I got two woods over there.
They got paints on their faces.
An' they made lots of dusts (from dancing).

-mob and -two are pluralisers, and as well as suffixed these to them, you, we, they can be suffixed to other words, including SE mass nouns, which must therefore function as count nouns in AbE.

Clean water-mob Marg'ret. 'S deep inside.
(followed by comment from another): Like quicksand-mob.

Compare also:

We like eatin' green ones (pieces of grass), really
dark greens.

3.2. Contractions

Aboriginal English in Alice Springs allows a broader spectrum of contractions of the standard forms than does standard English. The evidence suggests all children are familiar with SE uncontracted forms, SE contracted forms, and some further contractions. The most obvious example of this is in the use of the present continuous forms like I am going, I'm going. SE speakers use and recognise these. Some SE speakers will even intermittently omit the copula in casual speech, and produce forms I going or I goin' (and I gonna for I am going to with following verb), though most are unaware of their omission of the copula and would deny it.
AbE speakers use all forms I am goin(g), I'm goin(g), and I goin(g) (and their equivalents for other persons and numbers). They also use I'm gonna, I gonna and a further contraction I ng'na before another verb. The non-standard we was goin(g) can also be contracted by loss of /w/ and neutralisation of vowel to we'az goin(g). Enough of the children used the copula and forms in -ing to be reasonably confident all knew the standard forms. I have no figures on white children other than those I recorded in Alice Springs in interaction with Aboriginal children, but the Alice Springs evidence suggested town Aboriginal children and white children (including one recent arrival from Brisbane who would not have been heavily influenced by Alice Springs usage) used forms in -ing and -in' in equivalent proportions. Table 1 shows the proportions of usage. The data suggests, for Aboriginal speakers, a very slight preference for the use of the form in -in' when the copula is omitted, and for -ing when the copula is used.

Table 1: Proportions of -in' to -ing

<table>
<thead>
<tr>
<th>Town</th>
<th>White</th>
<th>Camp Aboriginal</th>
<th>Lutheran Homes</th>
<th>Anglican Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal</td>
<td>2:1</td>
<td>6:1</td>
<td>1½:1</td>
<td>5:1</td>
</tr>
<tr>
<td>White</td>
<td>2:1</td>
<td></td>
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</tbody>
</table>

Just as the copula can be omitted in continuous aspect verbs, so it can be omitted when it stands alone, and most children used forms with and without a copula. They also would use forms with or without third person singular verb agreement, as in:

Apple doesn't, apple don't.

(and in a game of school, successive questions from the one 'teacher'):
What's come after four?
What comes after five?
What comes after six?
What come after eight, I mean seven?
What comes after un, sev-, eight?
What come after nine?
What comes after ten?
What comes after eleven?
What comes after twelve?

(another girl): I know what comes after twelve.

('teacher'): What's come after twelve?
What come after thirteen?

There is no obvious triggering mechanism to cause presence of absence of copula or third person singular verb agreement (or of misplacement
of the latter), at least when children are at ease. There is, however, evidence in the data of the deliberate use of some formal uncontracted use of English in 'formal' situations from camp children, for example when deliberately recording on a taperecorder.

Just as third person singular verb agreement can be omitted, so can the homophonous morphemes for plural and possessive, other plural morphemes, and the past tense morpheme. Again there is no obvious triggering mechanism for presence or absence of these inflections, except that they sometimes are present or absent together, e.g.

That someone else house, an' this is someone else's house, an' this is my house.

In negative clauses using the copula in SE, there is a preference in AbE for copula omission and the use of the full negative form not rather than n't. This is shown in Table 2. But in negative clauses with other auxiliaries in AbE, with the one exception of did not occurring once, the negative is contracted to n't or n', e.g. can't, couldn't, don't, didn't, (h)aven't, won't, wouldn't.

Table 2: Use of negative with copula

<table>
<thead>
<tr>
<th></th>
<th>not</th>
<th>not</th>
<th>not</th>
<th>n't</th>
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</thead>
<tbody>
<tr>
<td>(copula</td>
<td>9</td>
<td>9</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>omitted)</td>
<td></td>
<td></td>
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<tr>
<td>(after</td>
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<td>contracted</td>
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<td>copula)</td>
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<td>(after</td>
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<tr>
<td>uncontracted</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>copula, is</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>not)</td>
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<td>uncontracted</td>
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<tr>
<td>copula, is</td>
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<tr>
<td>was)</td>
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</table>

('s not 6)
('re not 2)
('m not 1)

Brisbane white children and Alice Springs Aboriginal children all used the following forms for future tense: 's goin(g) to, 's gonna (and other persons and numbers, with omission of copula allowed in AbE), will and 'll, except that camp children never used the full form will. Shall, which occurred with low frequency in the white sample, only occurred in question inversion form in the AbE sample, and from camp children, who used shall rather than will for questions:

Shall I switch it on/off?

AbE speakers used gonna more frequently for future tense, while Brisbane white children used 'll more frequently. Gotta was also used for future tense in AbE.

Another phrase which can be contracted is want to. Most SE adult speakers are familiar with the contractions wanna and wants, and young SE speakers often contract want to to -na after the pronoun I. AbE
speakers in Alice Springs, just as did AbE speakers in Queensland, could and did contract want to to -na after any pronoun; want to was also contracted to ana after we, but no examples of ana occurred after other pronouns. After don't, only the contractions wanna and wanta occur.

3.3. Passives

Passives are comparatively rare in children's speech, or even in mature SE speech, as opposed to written and formal English. In passives used by younger white children (six and a half year-olds), according to the evidence collected by Mt Gravatt C.A.E. Language Research Unit, the being undergoing the action is always first person, e.g.

I was bitten by a bee.
I am being eaten by a lion.

Older children use the passive with other subjects, e.g. he.

The AbE sample contains a number of 'agentless passives', which it is unwise to classify as passives, as they parallel the structure of adjectival predicate constructions such as I'm hot, He's not dead, e.g.

I'm allowed to do that.
You're not allowed.
... so I get paid tomorrow.
I gettin' paid tomorrow 'cos I bin working.
I'm s'posed to go over there.

Only two examples of passives with stated agent occur in the Alice Springs sample, and got is used rather than be/was as the auxiliary verb. The same use of get/got occurred in the data collected at Palm Island in Queensland by the Van Leer Project team. The Alice Springs examples are:

'E got bitten by a snake.
'E got hit with a boomerang.

It is worth noting here that children with significant hearing losses rarely acquire understanding of the passive construction. Although only one of the children recorded in the Alice Springs sample had severe and current hearing loss, the undisputable fact that there is a higher proportion of children with hearing losses among Aboriginal children would lessen the possibility of the use of the passive by Aboriginal children even with normal hearing.
4. COMMENTS

Argument has waxed hot over recent years on whether the English of such groups as urban Negroes in the U.S. and urban and fringe dwelling Aborigines is an adequate language of itself. Bernstein (1972), at least as commonly interpreted, regarded the language of such groups as 'restricted'. Bereiter and Engelmann (1966) are often quoted as suggesting some children had virtually no language. As Labov convincingly showed ((1969)1972, 1973), evidence to support these ideas was often obtained by white investigators (and even coloured investigators) in situations which, as we see with more sociological insight now, put the child on the defensive. The child therefore was uncommunicative as a defensive action. When the children were at ease, they became most communicative. Similar responses have been noted in Australia with Aborigines. During research in the Van Leer Project in Queensland, teachers reported on children being shy and uncommunicative, though they were very talkative with Julia Koppe and myself. Koppe and myself used differing techniques which were equally effective in putting children at ease. In Alice Springs I found a most communicative camp child who was regarded as shy by a senior teacher. After implementation of the Van Leer Program in Queensland, teachers found children to be much more communicative and forward with them and with visiting V.I.P.'s. I attribute this to the change of attitude of the teachers to the children's English, from one of exasperation at what appeared to be a random bunch of errors, to one of acceptance of Aboriginal English as a language with its own rules.

When AbE is compared with SE, we see a number of differences. AbE probably has a more limited vocabulary (although it does have some words not used in SE), lacks some complex verb phrases present in SE, used subsidiary clauses less, and a more limited range of conjunctions. Based, no doubt, on these differences, and observations of researchers such as Bernstein, Bereiter and Engelmann on the communicativeness of lower class and coloured children, educators and the general public, as a recent writer pointed out (Fisher 1977:18), favour a deficit model for these dialects, whereas linguists lean heavily on the difference side. As the linguistic evidence for Alice Springs AbE at first glance favours the deficit model, it is up to the linguist to present a case against the deficit model. How the linguist is going to convince educators and the general public to accept this, or how society is to be changed so that linguistic difference is not a handicap to some groups is another matter.
Firstly let us consider the matter of vocabulary. I am sure other linguists have had, as I have, the experience of endeavouring to communicate an idea in a language they are just learning. Even with only the basic grammar, and a limited vocabulary, ideas can be conveyed and often conveyed quite well. A shortfall in vocabulary of the type existing in AbE when compared with that of the average SE speaker is no great handicap.

In verb phrases, Alice Springs Aboriginal children's English lacks some of the more complex phrases which at least some eight and a half year-old Brisbane white children use. Most phrases which are lacking from the AbE data involve the auxiliary have. Have is only used in the AbE data as an auxiliary with got and had, and reduced to -a in other cases, e.g.:

(She) might 'ave 'ad a fright.
I've got a little orange television.
I 'ave got a click stick.
Jenny's got a -.
... one girl has got her hand over 'er face.
Some of them a dropped out.
It must-a fell off.

AbE also uses the phrase have to:

It has to have water.
Y'after put at on 'ere.
You don' 'ave-to.
You after have real pointy stick to make fire.

In addition to all uses of verb phrases occurring in AbE, eight and a half year-old SE uses both have and had with verb participles, e.g.:

have been/gone/given (etc.)
haven't ...ed
haven't never used
I thought you'd gone
If she'd gone, ....

The eight and a half year-old SE data also has, in addition to these:

could (ha)ve had
might have been
should have
would have been terrible
would have been mucking up
will have (to be)
may
The SE sample also has the negative forms hasn't (AbE data includes 'aven'(t)), hadn't, mightn't and mustn't. Must only occurs once in the AbE data, in the combination must-a quoted above.

May and might differ little in most English usage today, so the absence of may is no loss. Regarding have, not all languages have a perfect tense, and we do not regard such languages as inadequate. There are other ways of indicating completed action if required.

Of twenty-four conjunctions, including relative conjunctions, used by children in the eight and a half year-old Brisbane white children's sample, the Alice Springs AbE sample lacks ten. Conjunctions used in both are: and, as, because, but, if, or, so, than, till/until, how, that, what, where, while/whilst. Conjunctions used only in the white sample are: except, instead, since, though, unless, whatever, whenever (not in Brisbane sample, but used by one white six year-old in Alice Springs, a Brisbane child), which, who.

Where SE uses which or who as conjunctions, AbE gets by with no overt conjunction, or with that, following patterns of relative clauses in some Aboriginal languages, and the meaning is quite clear. Circumlocations with what or when can cover whatever and whenever. Instead can be handled by a circumlocation. Since can be replaced by because or after depending on meaning. Though can be deleted from one clause and but prefixed to the associated clause, e.g.:

Though he came I didn't see him.

He came but I didn't see him.

Except and unless can be replaced by other conjunctions and a negative particle, e.g.:

You'll miss the bus unless you hurry.
You'll miss the bus if you don't hurry.

We saw everyone except Bill.

We didn't see Bill, but we did see all the others.

Hence I would suggest the absence of such conjunctions causes no great problems in communication. Problems can arise of course, when AbE speakers, unfamiliar with these alternative ways of expressing certain sentences in SE, come up against words they do not know.

Teachers, oddly to the linguist, are most prone to cite the absence of the copula in equational clauses (e.g., 'E big one.) or in the present continuous tense ('I goin' now) as the most compelling evidence of language deficit, whereas there is no shred of meaning difference between the SE and non-standard forms in such phrases, and therefore such forms are no evidence at all for a language deficit. In any case,
as I have shown above, these forms are optional contractions of standard forms for Aboriginal speakers, and are therefore no evidence of differing basic forms of English.

Further detail on Alice Springs Aboriginal English may be obtained from reports I prepared for Traeger Park Primary School, and are obtainable from the school.

My own impression in interaction with the children was that their language was a full and flexible one, well able to be a vehicle for complex thought and reasoning. I do not feel the differences between AbE and SE are of themselves handicapping to Aboriginal children. Any language handicap suffered by the children would be due to the interaction between AbE and SE and the relative values placed on these dialects by the dominant white society. Fortunately teachers at Traeger Park School had a generally accepting attitude towards the different dialect of the children, and a creative way of introducing children to the skills of reading and writing, which lessened potential problems faced by these children. However, they would be the first to admit they do not have the full answer, and perhaps that they were not asking the right question. The problem, if problem we must call it, that these children face, is more a sociological one than a linguistic one.
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SHARPE, M.C.


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Barry J. Blake graduated from the University of Melbourne in 1954 (Arts honours in Latin and English Language). He completed an M.A. at Monash in 1968, his thesis being entitled A Brief Description of the Kalkatungu Language, and a Ph.D. in 1975 with a thesis on The Case Systems of Australian Aboriginal Languages. At present he is a senior lecturer in the Department of Linguistics at Monash, giving classes in phonology, syntax and Australian languages. His research work has been in the field of Australian languages.

Arthur Capell was educated at North Sydney Boys' High School and took his first degree at Sydney University in 1922 and his M.A. in 1931. He had meanwhile taken up the study of Oceanic linguistics and received his Ph.D. in this subject in London in 1938. He then began fieldwork in Australia and in 1944 took up a position in the Department of Anthropology at the University of Sydney. He has carried out extensive fieldwork in Australia, New Guinea, the British Solomon Islands, the New Hebrides, and was the only non-American member of the Coordinated Investigation of Micronesian Anthropology expedition, working in Palau in 1947. He became the first Reader in Oceanic Linguistics at the University of Sydney in 1949. He retired from the University of Sydney in 1967 and worked as Visiting Fellow at the Australian National University in 1967 and 1973-4, and is now working privately in writing up the results of his research and fieldwork. He has produced a number of books and articles on various aspects of Pacific and general linguistics.

Lois Carrington was trained as a teacher of English as a foreign language and worked for some years for the Australian Commonwealth Office of Education in various aspects of teaching English to immigrants. Varied experience in the publishing field was acquired.
during this time and at others, while attached to various publishing houses. After a period of secondary teaching, she went to Papua New Guinea where she spent several years on the staff of the English Department of the Administrative College in Port Moresby. She is currently a Research Assistant in the Department of Linguistics, Australian National University.

Neil Chadwick received his Diploma in General Linguistics in Edinburgh, his M.A. in Linguistics at the University of New England, and at present is working towards a Doctorate of Philosophy at Monash University. He has held the following positions: Senior Teaching Fellow in Linguistics at Monash University, 1970-73; Lecturer in Linguistics, College of Advanced Education, Mount Lawley, Western Australia, 1974; Lecturer in General Linguistics, Darwin Community College, 1975; and currently (since 1976) Lecturer at the School of Australian Linguistics, Darwin Community College, Batchelor, Northern Territory. His research interests include: Description of Preliterate Languages; Comparative-Historical Linguistics; Sociolinguistics, Language Politics; Phonetics, Phonology; Dialectology. He has a particular interest in finding ways of distinguishing historical and diffusional linguistic groupings.

Jeffrey Heath was a linguistics research fellow at the Australian Institute of Aboriginal Studies between 1973 and 1977. While at the Institute he did fieldwork in southern Arnhem Land, and briefly at Tennant Creek. The Institute has recently published his Linguistic Diffusion in Arnhem Land and is publishing a grammar-text-dictionary volume on the Ngandi language; Pacific Linguistics will soon publish similar volumes on Ritharngu and Warndarang. Dr Heath has completed a similar volume on Mara, now pending with the publishers. He plans a volume of Dhuwal ethnographic texts, a major three-volume work on Nunggubuyu (the most difficult language in the world, he claims), and sketches of some other languages. He is currently organizing and editing a volume of papers by linguistic anthropologists on Aboriginal kinship terminologies. His theoretical interests include functional syntax, historical morphology, and sociolinguistics. He received his doctorate in linguistics from the University of Chicago in 1976 and in 1978 he took up his present appointment as Assistant Professor at Harvard University, where he teaches sociolinguistics.
Luise A. Hercus is Reader in Sanskrit, Department of South Asian and Buddhist Studies, Australian National University. She was educated in England and got her first degree in Modern Languages in Oxford and subsequently graduated also in Oriental Studies (Sanskrit and Prakrit) at the same university. She was University Lecturer and Fellow of St Anne's College, Oxford, specialising in Prakrit. Since coming to Australia she has become interested in Australian Aboriginal linguistics and began work on Victorian and far western New South Wales languages in 1963; she has since worked extensively also on the languages of the north east of South Australia.

Geoffrey N. O'Grady (1928-) came to the formal study of linguistics after an initial six-year period in northwestern Australia, where he studied Nyangumarda and other languages of the area. He obtained his B.A. at Sydney University in 1959 and went on to a Ph.D. in linguistics at Indiana University in 1963. Since then, he has been resident in Canada. He held positions at the University of Alberta (1963-65) and at the University of Victoria, where he has been Professor of Linguistics since 1973. His publications and research have continued to reflect his interest in the Australian languages. With the support of the Australian Institute of Aboriginal Studies and the National Science Foundation, he returned to the field in 1967, 1970 and 1974. Since 1967 he has been involved in a project, hopefully to be completed before the end of the century, in which the aim is the reconstruction of the Proto Pama-Nyungan lexicon. Present indications are that the number of recoverable etyma will be in excess of 1,400.

Bruce Rigsby is Professor of Anthropology at the University of Queensland. An American linguistic anthropologist, he moved to Australia in 1975 to pursue his research interests among the indigenous language varieties and English pidgin-creole varieties spoken by Aboriginal people on Cape York Peninsula. He is also a member of the Cape York Ecology Transect (CAYET) transdisciplinary research group that is studying man/land relations there. Earlier he worked among the Sahaptin and Nass-Gitskan peoples of North America, and he formerly taught anthropology and linguistics at the University of New Mexico.

Margaret Sharpe began her linguistic training with the Summer Institute of Linguistics in 1961, and studied the Ifugao language of the Philippines for a short time. In 1965 she accepted an Australian
Institute of Aboriginal Studies funded research fellowship at the University of Queensland, carried out some salvage work on Queensland Aboriginal languages, some study of the Roper Creole language of the Roper River–Katherine area, and a depth study of Alawa, spoken near Roper River, for which she gained her Ph.D. in 1970. As a field officer with the Van Leer Project in Queensland in 1969–70, she helped in research on Aboriginal children's English in Queensland, then, while rearing a young family, she held part time and temporary positions at the University of Queensland and Mt Gravatt College of Advanced Education. In 1976 she carried out the research reported here, and in 1977 was in the Northern Rivers area of New South Wales to co-ordinate a language-culture project requested by the Bundjalung Aboriginals of that area. In 1978 she took up a full time lecturing position in Multicultural Studies at Armidale College of Advanced Education. As time permits with her present duties, she is working on a grammar and dictionary in non-technical language for the Bundjalung people, and an Alawa-Roper Creole-English dictionary.

Peter Sutton is a graduate in Early English Literature and Language from the University of Sydney, and did an M.A. in Aboriginal linguistics at Macquarie University. After several years at the Australian Institute of Aboriginal Studies as linguistics research officer, he moved to the University of Queensland where he has recently completed a Ph.D. in linguistic anthropology in the Department of Anthropology and Sociology. His research interests began with a field study of the English dialect of Cape Barren Islanders in Tasmania in 1969, and for several years he worked in north-east Queensland with the remaining speakers of a number of near-extinct languages, including Kuku-Pathun and the Flinders Island language. Since 1975 his interests have mainly been sociolinguistic, and his fieldwork has concentrated on the polyglot Aboriginal community of Cape Keerweer, Cape York Peninsula. At present he is a post-doctoral research associate at the University of Queensland.

Michael Walsh received a B.A.(Hons) in Early English Literature and Language with a major in Greek from the University of Sydney in 1969. After carrying out fieldwork on Australian languages in the Port Keats, Northern Territory area he was awarded a Ph.D. in 1976 for a dissertation on Murinypata, from the Australian National University. Since 1975 he has served on the staff of the Australian Institute of
Aboriginal Studies, Canberra as Linguistic Research Officer. His chief interests lie in Australian linguistics, with particular interest in ethnographic semantics.

Stephen Wurm obtained his doctorate in Linguistics and Anthropology at Vienna University, and after holding university appointments in Altaic and Turkic linguistics at Vienna University and the Central Asian Research Centre (associated with St Antony's College, Oxford University), he joined Sydney University in 1954 and the Australian National University in 1957 where he is now Professor of Linguistics in the School of Pacific Studies and in charge of the University's extensive research program in Pacific Linguistics. His research interests have for many years been focussed on Papuan linguistics as well as on Austronesian, Australian and Pidgin linguistics, and he has published widely in these subjects and on interdisciplinary approaches involving them.