

Current Issues in Linguistic Theory

Australian Languages

Classification and the Comparative Method

EDITED BY
Claire Bower
Harold Koch

AUSTRALIAN LANGUAGES

AMSTERDAM STUDIES IN THE THEORY AND
HISTORY OF LINGUISTIC SCIENCE

General Editor

E. F. KONRAD KOERNER

(Zentrum für Allgemeine Sprachwissenschaft, Typologie
und Universalienforschung, Berlin)

Series IV – CURRENT ISSUES IN LINGUISTIC THEORY

Advisory Editorial Board

Lyle Campbell (Christchurch, N.Z.); Sheila Embleton (Toronto);
Brian D. Joseph (Columbus, Ohio); John E. Joseph (Edinburgh)
Manfred Krifka (Berlin); E. Wyn Roberts (Vancouver, B.C.);
Joseph C. Salmons (Madison, Wis.); Hans-Jürgen Sasse (Köln)

Volume 249

Edited by Claire Bower and Harold Koch

Australian Languages

Classification and the Comparative Method

AUSTRALIAN LANGUAGES

CLASSIFICATION AND THE COMPARATIVE METHOD

Edited by

CLAIRE BOWERN

Harvard University

HAROLD KOCH

Australian National University

JOHN BENJAMINS PUBLISHING COMPANY
AMSTERDAM/PHILADELPHIA



The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences — Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

with CD-ROM.

Library of Congress Cataloging-in-Publication Data

International Conference on Historical Linguistics (15th : 2001 : Melbourne)

Australian languages : classification and the comparative method / edited by Claire L. Bown,

Harold J. Koch

p. cm. -- (Amsterdam studies in the theory and history of linguistic science. Series IV, Current issues in linguistic theory, ISSN 0304-0763 ; v. 249)

Includes bibliographical references and index.

1. Australian languages--Classification--Congresses. 2. Historical linguistics--Congresses. I.

Bown, Claire, 1977-. II. Koch, Harold James. III. Title. IV. Series.

PL7001 .I58 2004

499' .15'012 -- dc22

2004041132

ISBN 90 272 4761 7 (Eur.) / 1 58811 512 7 (US) (Hb; alk. paper)

© 2004 – John Benjamins B.V.

No part of this book may be reproduced in any form, by print, photoprint, microfilm, or any other means, without written permission from the publisher.

John Benjamins Publishing Co. • P.O.Box 36224 • 1020 ME Amsterdam • The Netherlands

John Benjamins North America • P.O.Box 27519 • Philadelphia PA 19118-0519 • USA

CONTENTS

Acknowledgements	vii
Map	viii
Contributors' addresses	ix
Foreword	xi
<i>Lyle Campbell</i>	
1 Introduction: subgrouping methodology in historical linguistics	1
<i>Claire Bower and Harold Koch</i>	
2 A methodological history of Australian linguistic classification	17
<i>Harold Koch</i>	
3 Pama-Nyungan as a genetic entity	61
<i>Luisa Miceli</i>	
4 The coherence and distinctiveness of the Pama-Nyungan language family within the Australian linguistic phylum	69
<i>Geoff O'Grady and †Ken Hale</i>	
5 Pama-Nyungan: phonological reconstruction and status as a phylogenetic group	93
<i>Barry Alpher</i>	
6 The Arandic subgroup of Australian languages	127
<i>Harold Koch</i>	
7 The Ngumpin-Yapa subgroup	151
<i>Patrick McConvell and Mary Laughren</i>	
8 Thura-Yura as a subgroup	179
<i>Jane Simpson and Luise Hercus</i>	
9 The Yarli languages	207
<i>Luise Hercus and Peter Austin</i>	
10 Evolution of the verb conjugations in the Ngarna languages	223
<i>Gavan Breen</i>	
11 The failure of the evidence of shared innovations in Cape York Peninsula	241
<i>Paul Black</i>	

12 Diagnostic similarities and differences between Nyulnyulan and neighbouring languages	269
<i>Claire Bowern</i>	
13 Revisiting Proto-Mirndi	291
<i>Ian Green and Rachel Nordlinger</i>	
14 Stem forms and paradigm reshaping in Gunwinyguan	313
<i>Brett Baker</i>	
Combined references	341
Language index	365
Subject index	373
Appendices (on CD-ROM accompanying the volume)	
1. Guidelines from the subgrouping workshop, Melbourne 2001	379
4.1 Cognate density map	381
4.2 Proto-Pama-Nyungan initials and their putative reflexes	383
5.1 Pama-Nyungan etyma	387
5.2 Hypothesised phonological developments in some individual Pama-Nyungan languages of the Southeast	571
6. Proto-Arandic vocabulary	575
8.1 Thura-Yura birth-order names	581
8.2 Thura-Yura comparative vocabulary	583
9. Yarli comparative vocabulary	647
10.1 Comparative table of Ngarna nominals	655
10.2 Comparative table of Ngarna verbs	657
10.3 Comparative table of Ngarna pronouns	659
11. Map of Cape York languages	661
12.1 Residue comparative vocabulary	663
12.2 Nyulnyulan indirect object clitic data	665
12.3 Nyulnyulan case markers	667
14 Further relationships within Gunwinyguan	669
15 Sources consulted in the compilation of Appendices 5.1 and 5.2	681

in memoriam

Kenneth L. Hale
Stephen A. Wurm

linguis doctissimorum australiensibus

ob. an. MMI

ACKNOWLEDGMENTS

The impetus for this book was a workshop organised by the editors entitled ‘Workshop on Reconstruction and Subgrouping in Australian Languages’, which formed part of the program of the 15th International Conference on Historical Linguistics held in Melbourne, 13-17 August 2001. The editors thank the conference organisers, Professors Barry Blake and Kate Burridge, then of La Trobe University, for giving us a full day in their program. We also thank all those who attended and spoke at the workshop, including those who have not contributed to the resulting book. Special thanks are due to Lyle Campbell, the official discussant at the Workshop.

We thank all the contributors to the volume for writing up papers to our sometimes demanding requirements. We thank all our many colleagues who provided encouragement and support in the production of the volume and advice on particular papers, especially David Nash, Jay Jasanoff, Jane Simpson, Sally Thomason, and Darrell Tryon, plus those mentioned by individual contributors.

We gratefully acknowledge the assistance of The Australian National University for providing a publication subsidy through its Publications Committee and offered logistical support through its School of Language Studies, within the Faculty of Arts. Claire Bownen would like to thank the School of Language Studies for providing two visiting fellowships during the preparation of this volume.

We thank Konrad Koerner, series editor of Current Issues in Linguistic Theory, and Anke de Looper of John Benjamins Publishing Company for assistance and advice in seeing the book through publication.

MAP

CONTRIBUTORS' ADDRESSES

Barry Alpher
3218 Wisconsin Avenue NW, Apt. B2
Washington, DC 20016
USA
barryalpher@yahoo.com

Peter K. Austin
School of Oriental and African Studies
Thornhaugh Street, Russell Square
London, WC1H 0XG
United Kingdom
pa2@soas.ac.uk

Brett Baker
University of New England
Armidale, NSW 2351
Australia
bbaker2@metz.une.edu.au

Paul Black
Faculty of Education, Health and Science
Charles Darwin University
Darwin, NT 0909
Australia
paul.black@cdu.edu.au

Claire Bower
Department of Linguistics
Harvard University
305 Boylston Hall
Cambridge, MA 02138
USA
bowern@fas.harvard.edu

Gavan Breen
Institute for Aboriginal Development
P.O. Box 2531
Alice Springs, NT 0871
Australia
dictionaries@iad.edu.au

Lyle Campbell
University of Canterbury
Private Bag 4800
Christchurch
New Zealand
lyle.campbell@canterbury.ac.nz

Ian Green
University of Tasmania
Riawunna, Centre for Aboriginal Studies
Private Bag 6
Hobart, Tasmania 7001
Australia
ian.green@utas.edu.au

Luise Hercus
School of Language Studies
Australian National University
Canberra, ACT 0200
Australia
luise.hercus@anu.edu.au

Harold Koch
School of Language Studies
Australian National University
Canberra, ACT 0200
Australia
harold.koch@anu.edu.au

Mary Laughren
Department of English, Media Studies and
Art History
The University of Queensland
St Lucia, Queensland 4072
Australia
m.laughren@uq.edu.au

Patrick McConvell
AIATSIS
GPO Box 553
Canberra, ACT 2601
Australia
patrick.mcconvell@aiatsis.gov.au

Luisa Miceli
Department of Linguistics, University of
Western Australia, and
Centre for Research on Language Change
Australian National University
Canberra, ACT 0200
Australia
luisa.miceli@anu.edu.au

Rachel Nordlinger
Department of Linguistics and Applied
Linguistics
University of Melbourne
Victoria 3010
Australia
racheln@unimelb.edu.au

Geoffrey O'Grady
Department of Linguistics,
University of Victoria,
PO Box 3045,
Victoria BC, Canada V8W 3P4

Jane Simpson
Department of Linguistics
University of Sydney, NSW 2006
Australia
jhs@mail.usyd.edu.au

FOREWORD

Lyle Campbell
University of Canterbury

It has far too often been claimed that the Australian languages are somehow 'different' in ways that challenge fundamental assumptions of historical linguistics. The relationships among the languages have long been argued to display a 'special nature' which renders the application of standard methods of classification and reconstruction impossible or at least in need of modification. Because the historical linguistics of Australian languages is not widely known, such challenges have led non-specialists to regard the Australian linguistic situation as enigmatic. As the papers of this volume show, such a view is wrong and unjustified.

Here sixteen linguists (including the late Ken Hale) address genetic relations and how they are determined in ten groups of languages— including the controversial Pama-Nyungan family, six subgroups of Pama-Nyungan, and three groups of non-Pama-Nyungan languages. The cohesiveness and distinctiveness of some of these groupings are demonstrated by rigorous application of the comparative method. These studies demonstrate that historical linguistics is indeed alive and well among Australianists, and that the standard methods and procedures work here just as elsewhere. This was very evident at the 15th International Conference on Historical Linguistics (held in Melbourne, 13-17 August 2001), where most of the papers of this volume originated in a 'Workshop on Reconstruction and Subgrouping in Australian Languages', for which I had the privilege of being the official discussant.

This volume is significant both for the interpretation of Australian linguistic prehistory and for historical linguistics in general. Its primary importance is methodological. The studies in this book apply the traditional methodology, in particular the comparative method, to issues in the classification of Australian languages, and in so doing, they demonstrate the genetic relationship among languages and establish subgroups within families of languages.

I commend the editors and contributors for their important contributions and fully expect them and their Australianist colleagues to continue to push this work forward in future investigations. I recommend the book to students and practitioners of historical linguistics who are interested in language classification and its methodology. It is rewarding to read.

INTRODUCTION: SUBGROUPING METHODOLOGY IN HISTORICAL LINGUISTICS

Claire Bowern and Harold Koch
Harvard University and Australian National University

1. Introduction

Over the last few years, the discipline of historical linguistics has become increasingly concerned with the role of language contact in language change and with its implications for methodology and linguistic classification. This has been particularly the case in Australia, where several recent publications, including Dixon (1997, 2001) and Dench (2001), have raised doubts about the possibility of applying traditional techniques to the languages of this continent.

This book arose out of our desire to test, as rigorously as possible, the traditional ideas of subgrouping and the comparative method in the Australian context. We were interested in the feasibility of such a project and the applicability of traditional methods in areas such as Australia, where it has been claimed that methods developed for Indo-European languages do not produce reliable results. We decided to run a one-day workshop on subgrouping in Australia at the 15th International Conference on Historical Linguistics. Fifteen twenty-minute papers were presented on different (sub)groups of Australian languages; in addition, there was a panel discussion on the status of the ‘Pama-Nyungan’ family, the group of languages which covers approximately 80% of the geographical area of the continent. We gave the participants a set of guidelines as to the type of evidence we wished to see and asked them to present arguments in favour or against the treatment of their languages of expertise as a subgroup. The guidelines are summarised in Section 5 below.

The results of the workshop are presented in this volume. We offer these papers to the wider linguistic community so that they may judge for themselves the claim that traditional techniques of historical reconstruction do not apply on this continent. Furthermore, we wish to counter the idea that subgrouping is an ‘all or nothing’ endeavour. Despite Dixon’s (2001:97) characterisation of subgrouping (and linguistic change more broadly) as either ‘diffused’ or ‘genetic’, we wish to show for Australia, as Watkins (2001:63) has shown for ancient Anatolia and Ross (1988, 1998) has demonstrated for Western Melanesia, that inheritance and

diffusion occur side by side and can be modelled within the same framework. We also draw a distinction between the motivational mechanism of change and the ways we have of modelling genetic relationship. Note also that we draw an important distinction, for the purposes of reconstruction methodology, between reconstructing the parent language of a family and reconstructing an intermediate subgroup.

In this introductory paper we state our theoretical positions and methodology and give our working definitions of subgroups and subgrouping. We include the criteria for subgrouping circulated to participants in the workshop and the types of evidence useful for subgrouping. A history of Australian subgrouping and methods is given in Chapter 2. The theoretical introduction contains nothing very new or groundbreaking; rather we have summarised the issues and brought into focus areas of ambiguity in current thinking about classification.

The volume is dedicated to the memory of Kenneth Hale and Stephen Wurm, who died within a few weeks of each other in October 2001. They were two of the founders of the modern linguistic study of Australian languages, and made a tremendous contribution both to language documentation and to laying the basis of historical study.

2. What is a subgroup?

The notion of a subgroup in traditional linguistics is intuitively defined as a group of related languages that are more closely related to each other than they are to other genetically related languages in the same family. Usually this means that they have undergone a set of common innovations and can be reconstructed as descending from a single language, one of the daughters of the family's proto-language. Furthermore, this definition is associated in linguistics with the comparative method. Such a definition is equivalent to taxonomic classification employed in evolutionary biology, which gives primacy to common ancestry and common innovation.

It is worth being specific about the definition of subgrouping and the implications of various different definitions. These papers use only a strict taxonomic, genetic definition of subgroup. This is different from some authors, such as Dixon (2001:65-66), who use the term 'subgroup' to refer not only to subgroups in the genetic sense, but also to refer to 'small linguistic areas', that is, languages that form a linguistic area (through common development) but have undergone parallel changes through convergence rather than common innovation, and also for languages spoken in geographical proximity that are not necessarily closely related.

In terms of traditional taxonomic classifications, our definition is *cladistic* (or *phylogenetic*) in that it stresses genetic relationship and common inheritance over surface similarities; it is also *monophyletic* in that it assumes a single common ancestor for all the languages in the (sub)group.¹

This notion of subgrouping relies on genetic relatedness and common innovation; however, there are subgrouping models which are defined not by innovation but by the common presence or absence of certain features. Such a model is *phenetic*; that is, it relies on common features but not common inheritance. Lexicostatistics is one example of this type of subgrouping. Crucially, cladistic linguistic classification relies on reconstruction and the relative chronology of those reconstructed changes, whereas phenetic classification simply relies on relative difference or similarity.

The following sections further define the notion of different types of subgrouping and the consequences of our view of genetic relationship. Throughout this paper, we use the term ‘subgroup’ to refer to languages that are phylogenetically related within a larger phylogenetic family, and the term ‘group’ to refer to languages that share a phylogenetic relationship, which may or may not be closely related. See further Lass (1997:113, fn17).

2.1 *Cladistic or phylogenetic subgrouping*

The definition of phylogenetic subgrouping has been given above. Such subgrouping relies on the presence of common innovations among a group of individuals who are members of the same speech community (broadly, speakers of the same communilect, language or dialect; the term is used here after Ross 1988, L. Milroy 1987, J. Milroy 1992).

2.1.1 *The role of relative chronology*

Cladistic subgrouping thus relies on relative chronology to determine what changes are diagnostic for subgrouping and what changes are the result of convergence or parallel/independent development. This is the biological catch-phrase “phylogeny maps history” (compare Hey 2001 and others).

Theoretically, a single change is enough to divide speech communities in this model, and to produce a split in a family tree. However, in practice, a single change would not produce a pair of languages different enough for us to consider them

¹ This is not to deny, of course, that languages may have more than one ‘parent’ (using the definition of Thomason and Kaufman 1988) or that there will be cases where there has been so much language mixing that we cannot identify which (if either) should be designated the donor/recipient language and which is the donor language, but they are not covered by this definition.

separate languages or even dialects.² Following Thomason (2000) we consider a bundle of features necessary when defining subgroups, and we recognise that this will produce cases where subgrouping cannot be articulated with certainty.

In practice, we may need also to weight changes that are important for subgrouping; for instance, there might have been a trivial change in some languages, then an ‘important’ change that affects another subset of the languages. Koch (this volume, Chapter 6) discusses an example in Arandic, where glide + vowel sequences are treated differently in Aranda and Kaytetye, but the groups share further, later, *common* innovations. Which of the changes should count for subgrouping? Strictly, it should be the first change, for that is the change which produced a split in the subgroups. The second change would then have to be classed as convergence, parallel development or borrowing.

In such cases, we can treat chronology strictly (i.e. the first change serves to mark the split and subsequent changes are treated as inter-language diffusion or convergent development) or we can ignore the change for the purposes of subgrouping and treat the change as tantamount to reflecting a dialectal isogloss in the reconstructed parent language. The family tree model is, after all, a convenient summary of major splits and relationships and not an exhaustive representation of every change in a language’s history.

2.1.2 *Cladistic grouping and diffusion*

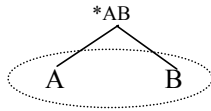
On the other hand, and perhaps in contradiction to the previous point, a truly cladistic definition of subgrouping implies that we should draw a distinction between changes that occur within a homogenous speech community and changes that are borrowed from one speech community into another. This may create problems where the speech communities in question speak genetically close languages. For example, consider the situation in Figure 1 below, where languages A and B are genetically related but have also undergone diffused changes after their split.

There will be cases where it is possible to tell by relative chronology that changes have diffused (or that they have been independently innovated) and sometimes it will not be possible to tell. See Black (this volume), for example, on the difficulty of subgrouping amongst the languages of the Cape York Peninsula.

Unlike Dixon (1997; see also Aikhenvald and Dixon 2001a:1-3), who sees this fact as a major drawback of the comparative method, we rather see it as a fact of life when dealing with prehistory. It is not a problem of the comparative method

² It is thus probably not useful to consider this situation except in the abstract, since in practice there will always be more idiolectal variation than the ‘single change’.

Figure 1: *Diffusion between related languages*



per se if we cannot reconstruct everything due to lack of evidence; it is a problem with dealing with prehistory. Dixon (1997) and others argue that later diffusion obscures genetic relationships and invalidates the comparative method and the family tree model; however, diffusion, just like other innovations, leaves its traces which can often be picked up by appropriate and detailed reconstruction.

There is another side to this problem. How do we make a distinction between mutual borrowings between A and B (in Figure 1 above) and common innovations in Proto-AB, given what we know of how linguistic changes tend to diffuse through communities?

The problem of later diffusions occurs often in highly multilingual societies. When everyone in a speech community is multilingual, one might ask whether it makes sense to make a qualitative distinction between changes occurring in a single language and those occurring in several (possibly genetically related) languages spoken in that community. In such situations, it is clear that the same processes are at work *across* languages as *within* languages. These questions are implied by several of the papers in this volume, but we do not pursue them here.

In summary, we have three responses to this issue: first, we can deny the possibility of doing anything much in the face of possible ambiguities; second, we can recognise the ambiguities when they occur and treat our subgrouping representations as ‘visual aids’ or ‘icons of hypotheses’ (Anttila 1972:307) rather than as definitive descriptions; finally, we can incorporate some of the ambiguity into the model itself (for which see below).

2.1.3 Uniformity problems

Another problem raised by opponents of this type of ‘biological’ classification is that languages themselves are not uniform, and moreover that individual speakers may change their grammars over the course of their linguistic lives. This is obviously different from the objects of biological taxonomic classifications; members of a species may change their appearance over the course of their lives, but they cannot change their genetic makeup. Mufwene (2001:222,n.5), for example, raises this objection. There are several reasons why this problem is not too worrying. Firstly, reconstruction seldom (if ever) reaches the level of detail where the ‘noise’ of individual speaker differences would have an effect. Secondly, a ‘language’ as it is reconstructed is an abstraction from the conventions of its

aggregated speakers; classification is based on these abstractions and not on each lect of each individual speaker. See also Lass (1997:143ff), discussed below under Section 4.

2.2 *Phenetic subgrouping*

Subgrouping procedures which rely on common features, or phenetic models, do not take relative chronology or shared innovation into account. In this model, just about anything can be used as a defining feature for subgrouping, since the important point is how many ‘sames’ or ‘not sames’ any given set of languages share, not whether they have a common historical origin.

Subgrouping in Indo-European has typically relied on the innovation-based model. Conversely, much subgrouping in other parts of the world, such as Turkic (Schönig 1997a,b, 1998) and Australian (O’Grady, Voegelin and Voegelin 1966, O’Grady, Wurm and Hale 1966³, and Dixon 2001⁴), makes primary use of the latter method, at least implicitly. One should note too that long-range comparison is typically of the phenetic type.

Perhaps the most widely known instantiation of a phenetic model is classification by lexicostatistics (see Dyen 1975 amongst others). In this model items on a wordlist of predetermined length are counted and scored as ‘sames’ or ‘not-sames’. The procedure requires strict semantic equivalence between the items compared; thus no allowances are made in the scoring for semantic change (so German *Tier* and English *animal* are compared rather than *Tier* and the English cognate *deer*). Practitioners differ on whether obvious borrowings would be set aside (thus English *animal* and French *animal* would score a point in this system, even though the English term is borrowed from French). Languages are then grouped together according to how highly they score and a pseudo ‘family tree’ is drawn.

It is easy to see how subgrouping which relies entirely on lexicostatistics may be flawed through under- or over-counting, and the criticisms need not be repeated here. Koch in Chapter 2 of this volume discusses the O’Grady, Wurm and Hale

³ Although O’Grady and Klokeid (1969:298) describe the O’Grady, Wurm and Hale (1966) classification (hereafter OWH) as *genetic* rather than *typological*, lexicostatistics does not produce *genetic* classifications according to our definition. O’Grady is contrasting OWH with Capell (1940) and Schmidt (1919), which relied largely on the presence or absence of certain typological features, such as noun classes and verbal prefixes, to classify Australian languages. However, the OWH classification is not a genetic one in our definition because they compared ‘sames’ and ‘not-sames’ (while controlling for obvious loan words) — they did not reconstruct proto-forms.

⁴ Actually, it is difficult to classify Dixon’s classification as phenetic or genetic, since he seems to have used a number of different criteria and he has not made his methodology explicit.

(1965) classification, on which much subsequent work has been based. For further discussion of lexicostatistics in the Australian context see also Alpher and Nash (1999) and Black (1997).

3. Problems of areal diffusion

We must now consider the role of areal diffusion and borrowing in relation to subgrouping. The problems are of two quite distinct types, involving data and methodology. The first problem is that our data may not permit us to recover the relevant changes and thereby make the relevant distinctions; the second is that our methodology may lead us to force our data into an inappropriate model (this is one of the important thrusts of Dixon 1997, 2001).

It is a well-known problem that areal diffusion (that is, in broad terms, the adoption of a feature of one speech community by a different speech community) can obscure correct cladistic grouping. It can be difficult to tell which changes are the result of a period of shared inheritance (and are thus useful for subgrouping) and which are the result of later diffusion through an area of related languages (see Figure 1 above) — the latter do not define a cladistic group. This technical problem, we argue, is a fact of dealing with data about the past; all models will be subject to this limitation and only painstaking research, reconstruction and educated guesswork will help.⁵

The second problem is theoretical and results from historical linguists' conception of the architecture of the theory and the model. For some, areal diffusion is a direct challenge to the family tree model because the model is conceived as being in principle incompatible with areal diffusion, especially when one considers the possibility that *all* differences between two languages may be the result of diffusion between neighbouring languages. For the last thirty years, Dixon in particular has privileged diffusion as the primary mechanism of change in Australian languages; language internal innovation is seldom mentioned (see, for example, Dixon 1972:331ff, 2001). Even changes attributable to an 'inner dynamic' (e.g. Dixon 2001:66) are said to be likely to diffuse through neighbouring languages: "[these languages] are simply borrowing something that they would have been likely, given time, to have developed for themselves".

⁵ For the sort of painstaking reconstruction which minimises the effect of diffusion clouding subgrouping, see the examination of the relationships between the subgroups of Germanic in Lass (1997:143-157); each isogloss is plotted on a schematic map of the languages. Others who have used this model include Dench (2001) and Bowerman (1998).

One might also point out that to a greater or lesser extent *all* changes can be seen as diffusions through speech communities, whether within the same speech community or as ‘diffusion’ from one speech community to another. A model such as Ross’ *Speech Community Model* (Ross 1997, 1998, 2001), which combines ideas of social networks with a ‘tree’, provides a mechanism for taking this into account.

4. The family tree

Of course, the family tree model, or Stammbaum, is closely bound to our ideas of subgrouping.

A linguistic family tree is several things. On the one hand it is a schema that specifies the relative closeness of relationships between languages within a clade. It also describes a *hypothesis* of which languages have undergone common innovations and thus share inherited features. Finally, it is a statement of the linguist’s hypothesis as to what different modern languages are continuations of the *same* earlier language.⁶

This last is the problem point. The family tree diagram presents the splits as neat and discrete. But as we saw in the biological models described above, splits are seldom neat: there is a period of ambiguity and the opportunity for ‘mixed histories’. How much should we worry about this in the family tree?

The short answer is: not a great deal — this situation is even to be expected. This may mean in some cases that we cannot draw neat trees, but there are ways of dealing with that too. Ross (1988, 1997, 1998), for example, has developed a model of ‘speech-community events’ for classification and historical linguistics, drawing on the work of L. Milroy (1987) and others. This model describes the difference between language fissure (that is, a clean split) and the gradual breaking up of languages into linkages or networks. Lass (1997:125ff) on the other hand speaks of taxa as the summation of a series of individual changes; that is, a family tree diagram presents a summary of the major splits within a group. These authors should be taken as representative of two of the solutions used to overcome the paradox of the representation of messy relationships in a neat tree. Lass treats a tree diagram as the representation of a set of aggregated changes (which appears to be, from Hey 2001 and Harvey and Pagel 1991, how a cladistic tree is generally treated

⁶ Compare Watkins’ (1997:9) view: ‘L’arbre généalogique n’a d’autre statut que de métaphore... L’arbre généalogique est un artefact et un modèle, susceptible d’altérations éventuelles requises par des données nouvelles’. [The family tree has no status other than that of metaphor ... The family tree is an artefact and a model, susceptible to possible changes required by [the incorporation of] new data.]

in biology), whereas Ross treats the family tree as modelling only one type of language break-up, and develops another representation for those cases which do not fit so easily.⁷

Our definitions of ‘subgroup’ rely, in turn, on our conception of genetic relatedness and linguistic transmission, and the metaphors we use to describe change. The metaphors used to describe linguistic relationships tend to be in terms of organisms; that is, in terms thinking of languages as members of a family, genus and a species. The parallels break down when we consider borrowing: speakers of a language can calque subordinators from their neighbours if they wish, but a biological species cannot ‘calque’ flippers from the ‘next-door’ species. Evolutionary taxonomists, however, do tend to talk in terms of parallel evolution, convergent evolution and identity by descent (Harvey and Pagel 1991:52).

Such difficulties of subgrouping are not confined to linguistic taxonomy. Very similar problems are the subject of discussion in evolutionary biology as well. Consider, for example, Hey’s (2001:140ff) discussion of the issues in biology. He discusses biological cases that do not fit taxonomic family trees, including ‘hybridization events between organisms of different species’ (in linguistic terms, language mixing of various types); and ‘genomes of organisms clearly have ancestry in quite different historical groups’ (in linguistic terms, the descendants of dialect areas). As he says, ‘speciation is often gradual and that real evolutionary units in nature may often not be distinct’.

So, in summary, what does the family tree do for us? It is a graphical summary of the main lineages of genetically related languages; it provides a schematic representation of which sets of languages are distinguished from others by common innovation. The model can be adapted to take into account diffusion areas (with dotted lines or circled nodes, cf. Anttila 1972:308) and it can represent messy breakages and old dialect areas. The model itself may overstate the closeness of genetic relatedness if many changes have diffused across an area of related languages, and in cases of extensive borrowing. The family tree diagram is not by any means a perfect model, but it is not the only model available to historical linguists (*pace* Dixon 1997:28-29). It was not originally designed for late and messy dialects areas, but it can nevertheless be adapted to take them into account.

⁷ For a textbook discussion of these issues, see Anttila (1972:307-309, with references to earlier literature).

5. On the methodological bases of this book

5.1 Preliminaries

In guidelines provided by the editors, workshop participants were asked to provide evidence from vocabulary and grammar to show whether or not a subgroup was a phylogenetic entity. In particular they were asked to pay attention to systematic similarities between the languages, regularity across the languages of the group, and relative chronology.⁸ For some (sub)groups, no reconstruction had ever been attempted, or historical study was at an early stage. Therefore fulfilling all the guidelines in a single paper was unrealistic and papers addressed only a few criteria as a preliminary investigation.

The guidelines are the same as those required for reconstruction generally, but they concentrated on the types of evidence useful for subgrouping or defining areas, and the implications of that evidence. In evaluating features that are shared between two or more languages, it must be borne in mind that the sharing of those features may have one of several different historical explanations. These sources are summarised below:

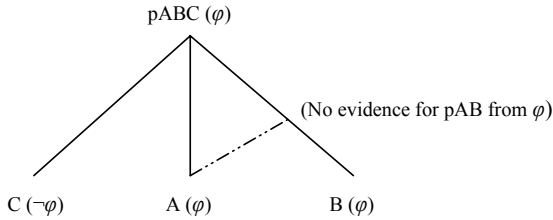
- The shared features may reflect a common innovation in a single language ancestral to both languages; thus they would be diagnostic of a subgroup.
- They may reflect a common inheritance shared with other languages of the same genetic group. As conservative features they would *not* be diagnostic of a subgroup, since they might have been independently inherited into each language.
- They may reflect independent parallel innovations in separate branches of the family. Such shared features would *not* be diagnostic of a period of unity.
- They may represent an innovation in one part of the family that subsequently diffused to a neighbouring language. This situation is also *not* diagnostic of a subgroup.
- They may represent an innovation diffused into both languages from a source external to both; this situation is also *not* of any use in establishing a subgroup.

Only evidence of the first type is of value in establishing genetic subgroups. The problem will be how to establish that shared features belong to the first category in contrast to the other four types of commonality. This of course can be achieved through the usual methods, working out relative chronology, analysability in the relevant language(s), general likelihood, areal patterning, and so on.

⁸ The guidelines provided to participants in the workshop are given in Appendix 1.

Note also, crucially, that in this method of subgrouping there is no place for common retentions of features from early stages of the language; common retentions are not diagnostic for subgrouping in this model. This may seem counterintuitive to some (such as those who use phenetic classifications as would-be summaries of linguistic prehistory), especially since the presence of shared features from a proto-language is required to classify languages genetically. The presence of a retained feature in two or more languages in a hypothesised subgroup is not diagnostic of a closer relationship within the clade, although it is diagnostic of genetic relationship *per se*. Thus the presence of a feature x in languages A and B which has been inherited from proto-ABC is not diagnostic of a subgroup (see Figure 2).

Figure 2: Family tree with feature φ retained in languages A and B but not language C



This point has been discussed elsewhere in more detail (see for example Fox 1995, Anttila 1972).

The workshop participants were asked to keep the following criteria in mind in compiling their evidence for or against subgrouping in their chosen area.

- Subgrouping must be phylogenetic (this is, based on common innovation) and must not rely simply on shared similarities. Evidence will ideally be taken from all areas of vocabulary and grammar.
- To be diagnostic of a genetic subgroup in the traditional sense this evidence must further be established to have been a feature of the proto-language ancestral to the languages of the group, and not a) the result of inheritance from a more distant ancestor, or b) the result of diffusion into the group after the dissolution of pSG (proto-Subgroup).
- In support of the claim that a given area is a *Sprachbund* it must be established that the feature(s) in question are not a) inherited from a common ancestor or b) innovated independently. This is another important point: drift, or independent parallel innovation, does not produce linguistic areas.

5.2 *Top-down and bottom-up reconstruction of intermediate subgroups*

In establishing a subgroup, there are two procedures that one can use. The first is ‘bottom-up’ reconstruction: i.e., one determines the reconstruction of proto-Subgroup solely on the basis of what is attested in the daughter languages, without considering evidence from outside the subgroup. In ‘top-down’ reconstruction, one determines the character of proto-Subgroup on the basis of the relationship between the attestations of the daughter languages and the higher level proto-language.

The contributors to this volume use both methods where they are applicable. Of course, top-down reconstruction is inapplicable in language groups such as Nyulnyulan (see Bowern this volume, Chapter 12), where no higher groups can be identified. Dixon (2001:93 *et passim*) argues against the validity of a reconstructed language Proto-Pama-Nyungan partly on the grounds that one can reconstruct no innovations from a higher proto-language that set it apart from other Australian groups. This is simply false: demonstrating genetic relatedness and demonstrating membership of a subgroup are different things. For example, one does not need to believe in and reconstruct Proto-Nostratic in order to define Proto-Indo-European! This goes back to our original intuitive definition of subgroup; they are a subset of languages which are *more closely related* to each other within a larger set of demonstrably related languages. It is true, of course, that to justify a view that Proto-Pama-Nyungan is a *subgroup* of ‘Proto-Australian’ one must first provide cognates supporting a Proto-Australian and then demonstrate innovations to Proto-Pama-Nyungan. It is not necessary to do this, however, to demonstrate the cohesiveness of a Pama-Nyungan *family* of itself. The issue of Proto-Australian and the issue of Pama-Nyungan are not the same and the latter can be addressed without a commitment to the former.

6. Summary of the papers

These papers are a collection of case studies in different areas of the Australian mainland. We did not aim for complete coverage of the continent; particularly lacking are studies of the southwestern and eastern regions of Australia.⁹ Moreover, not all the contributors agree with one another, and the views expressed are not necessarily those of the editors. There is divergence of opinion, for example, on the ultimate relationship of the Pama-Nyungan and all the Non-Pama-Nyungan

⁹ The large compilation of comparative studies on the non-Pama-Nyungan languages of northern Australia in Evans (in press) complements this collection of studies. There is furthermore enough knowledge already available to produce a sequel to this volume, describing subgroups such as Kulin (in Victoria) and Wakka-Kabi (cf. Laffan 2003).

families. Although the existence of a Proto-Australian linguistic ancestor is as yet undemonstrated and the question is not directly addressed by any of the papers in this volume, several authors, such as Baker, Green and Nordlinger, and O'Grady and Hale, assume the existence of such a language. On the other hand Bowern finds no evidence, in the Kimberley Non-Pama-Nyungan languages at least, for recoverable higher-level genetic relationships and argues that reconstructions for a Proto-Australian are unrecoverable from our data at present. Such questions are live topics for further research, and we have not attempted to present a consensus on these larger issues.

The papers in this volume fall into three categories, plus introductory matter, with appendices provided in the accompanying CD-ROM. This introduction discusses the methodology of subgrouping and presents the background to the workshop which occasioned most of the papers. Koch's Chapter 2 provides a historical background to what we are here trying to achieve. He discusses the principal classification schemes that have been offered to explain the historical relationships between Australian languages. These include: Wilhelm Schmidt's 1919 classification, Arthur Capell's typological and genetic classifications from the 1930s to the 1970s, the lexicostatistical classification by O'Grady, Hale, and Wurm developed in the 1960s, subsequent alterations to the OWH scheme from the 1960s to the present, and the proposals of R.M.W. Dixon from 1970 to 2002. He makes an effort to highlight the methodological assumptions and practices behind each of the classifications. The main finding is the extreme lack of agreement among Australianists regarding classificatory principles. This overview, in addition to providing necessary background to the readers, highlights the need for studies of the kind presented in this volume.

The first category of substantive papers deals with the 'Pama-Nyungan question': the status of the family, its reconstruction, and methodology. In the second category, several contributors wrote papers dealing with subgroups of Pama-Nyungan, reconstructing innovations between Proto-Pama-Nyungan and Proto-Subgroup and discussing the membership of the subgroup. Papers in the third category deal with issues in Non-Pama-Nyungan languages.

On Pama-Nyungan as a whole, Miceli's short paper (which originated as her contribution to a panel discussion at the Workshop) explores approaches to the study of the Pama-Nyungan question, highlighting the methodological differences between justifying it as a family vs. a subgroup. O'Grady and Hale discuss their original development of the 'Pama-Nyungan' concept (in the 1960s) and give arguments in favour of Pama-Nyungan as a genetic group. Alpher presents reconstructions justifying Proto-Pama-Nyungan as a genetic family. The data on which the reconstructions are based are also given. This collection of recon-

structions and supporting correspondences is the first study of such a kind for the family as a whole.

Six papers are devoted to subgroups of Pama-Nyungan. Koch examines the facts (from phonology, inflection, grammatical word classes, and general vocabulary) that support a distinctive Arandic subgroup. This subgroup, long accepted without explicit demonstration, has recently been questioned by Dixon, who proposes that its two main branches ('Aranda' and Kaytetye) may rather merely constitute an areal grouping. McConvell and Laughren, on the other hand, present arguments establishing that the Ngumpin and Yapa (formerly called 'Ngarrka') subgroups, recognised in the OWH classification, form a higher-level subgroup. Simpson and Hercus' contribution discusses the internal subgrouping of the Thura-Yura languages of South Australia and the possibility of including Wirangu in this subgroup, *contra* the earlier opinions of Schmidt, OWH, and Dixon. Hercus and Austin discuss the misgrouping of the poorly documented Yarli languages of southeastern Central Australia. They argue against the lexicostatistic classification that places Yarli as a subgroup of Karnic. They provide evidence that Yarli has not undergone several of the innovations that characterise Karnic languages and argue that Yarli should be viewed instead as an independent subgroup of Pama-Nyungan.

Breen uses evidence of the innovation of verb conjugations to provide evidence for the Ngarna (also called Warluwarric) subgroup of Pama-Nyungan (studies of lexical and morphological reconstruction in Ngarna have already been completed, but are unpublished). This set of languages constitutes the only geographically discontinuous subgroup of Pama-Nyungan languages that has been proposed. Black discusses some problems of relative chronology in the subgroups of the Cape York Peninsula. These languages, unlike Thura-Yura and Yarli, have long been the subject of debate over their status and internal grouping. Black finds that the evidence of innovations in phonology in particular is not decisive in determining an internal subgrouping. This and other papers show that there are cases where the genetic relationship of a set of languages is clear, but the internal subgrouping is not.

Three papers are devoted to the non-Pama-Nyungan languages. Bower discusses the languages of the Western Kimberley region of North Australia from the point of view of the Nyulnyulan family. She argues that there are no reliable indicators of genetic relationship between the Nyulnyulan languages and other families in the region. Green and Nordlinger's contribution revisits issues in the genetic relations of one of the three discontinuous groups in Australia, the Mirndi family. They examine both the status of Mirndi as a subgroup defined by top-down innovations and the internal structure of the group, in particular the relation of

Jingulu to the other languages. Mirndi pronouns, they argue, provide the strongest evidence for common innovation, but there are very few other systematic similarities in other areas of grammar. Their results throw some doubts on the Mirndi classification, making it less secure than generally accepted. Baker discusses evidence for the internal structure of the Gunwinyguan family of Arnhem Land, and presents arguments from verb inflectional morphology in favour of an internal subgroup including Ngalakgan and Rembarrnga, for which he creates the label 'Jala'.

This book is the first collection of studies to use the comparative method rigorously to establish Australian subgroups; moreover, it is one of very few systematic presentations of lexical reconstructions and the data on which they are based. Barry Alpher's contribution to this volume, for example, is the first presentation of Proto-Pama-Nyungan reconstructions with supporting data since Capell (1956). Some subgroups are reliably demonstrated for the first time (for example, Arandic, Yarli and Ngumpin-Yapa). The results here refine considerably the old lexicostatistical classifications and several changes are proposed on the basis of a detailed consideration of the data. We would claim that, as a result of these studies, no fewer than ten genetic groups (including Pama-Nyungan itself) now rest on more secure foundations. We hope that the discussions provided by the contributors will also provide useful exemplars for comparativists working with other language families.

A METHODOLOGICAL HISTORY OF AUSTRALIAN LINGUISTIC CLASSIFICATION

Harold Koch
Australian National University

1. Introduction

The aim of this chapter¹ is to give readers some historical background to the issues discussed in the other papers. It gives a historical overview of the classification of Australian languages. The time frame is basically the twentieth century, since it was not until around 1900 that professional linguists became involved in the historical study of the languages.

I discuss the kinds of classification that have been proposed and examine the methodological basis of each of them. My focus is on methods more than on the detail of the supposed results. Thus I will not present details of the various classification schemes nor mention all the linguistic groupings that have been proposed for the languages of the Australian mainland, which number between 200 and 300 in total. Nevertheless the classification of particular languages, especially where this has been the object of controversy, will be cited as illustrative of the methods used by proponents to establish or justify their groupings of languages.

I am also not concerned here with a full assessment of all the attempts at establishing genetic relations, reconstructing aspects of proto-languages, describing diachronic changes, etc. Only those aspects of the historical-comparative enterprise which are relevant to the establishment of genetic groupings within the Australian continent are at issue. For earlier accounts of language classification in Australia, readers may consult Capell (1971:700-712), O'Grady, Voegelin and Voegelin (1966), Wurm (1971), Voegelin and Voegelin (1977:31), Dixon (1980:ch. 1.3, 1.4), Evans (in press). For a brief account of the reconstruction methods and their results in Australia, see Koch (1997a). Most of the papers in this volume, furthermore, provide some historical background on the classification of the particular subgroups under discussion.

In what follows I first present three systems of classification which formed a foundation for later work — those of Schmidt, Capell, and O'Grady-Hale-Wurm (here abbreviated OWH). This is followed by discussion of revisions, extensions,

¹ I am grateful to Barry Alpher, Paul Black, and Claire Bown for comments on earlier drafts.

reactions, alternatives, etc. that have been proposed during the last three decades. Finally, R.M.W. Dixon's views on classification are considered. This overview should make clear to readers something of the current state of the field of Australian historical-comparative linguistics and reveal the relevance of the accompanying studies.

Before we examine scholarly attempts at linguistic classification, it should be noted, that before the era that concerns us here, there were a number of compilations of vocabulary made in the nineteenth century, from many sites around (especially the southern parts of) Australia. These include Grey (1841), Taplin (1879), Curr (1886-87). Some of the compilers of these comparative wordlists tried to use their data to draw inferences about the historical relations either among the Australian languages themselves or between these and languages of other parts of the world such as Africa or India. Although their amateurish conclusions are usually ignored by modern linguists, their lexical data has figured in modern comparisons.

2. Schmidt's classification

2.1 Overview

The first large-scale classification of Australian languages was undertaken by the Vienna-based scholar Pater Wilhelm Schmidt in the first decade of the twentieth century. His conclusions were published over several years from 1912 in the journal *Anthropos*, then separately as Schmidt (1919a). His aim was to establish, on the basis of an exhaustive compilation of available material, an internal classification of all the Australian languages, which he considered to be a necessary prerequisite for any claims about relationships with languages outside the continent. He considered the data available for his study to be very limited: only a few reliable grammars and dictionaries but for the most part merely wordlists represented in inadequate orthographies, typically without indications of the name of the language or the exact location where it was spoken. Schmidt also noted huge gaps in the coverage of languages in the northern part of the continent.

2.2 Procedure

Schmidt first amassed all the published sources that he could obtain, including the hundreds of amateur wordlists from Curr (1886-87), articles in scholarly journals, the few grammars and dictionaries, etc. He tried to determine which sources described the same language or group of closely related languages. For each such language he extracted the following data, where available:

- a wordlist of 44 items of vocabulary: nouns designating body parts (18), natural phenomena (9), fauna (10), human classification (2), plus the numerals 1-3 and interjections “yes” and “no”
- personal pronouns (Singular, Dual, Plural, Inclusive/Exclusive (within 1st Dual and Plural numbers), Masculine/Feminine (in 3rd Sg), Nominative, Ergative, and Possessive case forms; subject and possessor clitic forms
- interrogative pronouns “who” (in Nominative and Ergative cases); “what”
- numerals (other than “one”, “two”, “three” on the wordlist)
- noun phrase syntax: relative position of noun and ‘possessor’ in constructions such as “head hair”, “father’s sister”, “man’s boomerang”
- phonotactics: possible occurrence of initials (consonants only or vowels), finals (vowel, sonorants, plosives, or consonant clusters), certain medial consonant clusters (e.g. *-lt-*)

2.3 Findings

Schmidt’s classification involved grouping languages at a highest level, various intermediate levels, and a lowest level. Schmidt’s main conclusion for the highest level of classification was that

the Australian languages do not, as had always been believed, represent an essentially homogeneous group of languages. On the contrary, although by far the largest part of Australia is filled with languages which despite many differences are nonetheless connected by strong common elements, nevertheless the whole of the north of Australia contains languages which do not present any lexical relationship and only very few grammatical relationships with that larger group or even with each other. (Schmidt 1972:4)

Schmidt’s large genetic grouping was labelled the ‘South Australian languages’. (It is curious that Schmidt rarely used the word ‘family’.) It included all the languages of mainland Australia south of 20 degrees latitude, except for Aranda and a few adjacent languages in central Australia, plus an enclave of so-called Bundyil [now Mayi] languages at the head of the Gulf of Carpentaria and the languages of southeastern Cape York Peninsula. Of the latter, the northernmost, Koko-Yimidir [Guugu Yimidhirr] and ‘Bulponara’ [Gugu Yalanji], were added after the preparation of the map in Schmidt (1919a:209-213) and the revised map in Schmidt (1919b).

At an intermediate level he posited major groupings called the Southwest Group, South-Central Group, Narrinyeri Group, Victoria Group, Yuin-Kuri Group, Wiradjuri-Gamilaray Group, North-Central Group, and a large group of independent languages of the East Coast, plus four isolated languages of the Murray River area. Some of his large groups contained subgroups. Among the

northern languages, which he considered unrelated to the great southern family, he recognised: the King Sound Group [Nyulnyulan] and Ord River Group in the northern parts of Western Australia, a Cobourg Peninsula Group in the Top End, a Cape York Group in the western Torres Strait Islands and the tip of Cape York Peninsula, and an Aranda group or language in central Australia.

At the lowest level he recognised individual languages (sometimes with component dialects) posited on the basis of nearly identical data from his various sources.

Schmidt's naming practices deserve comment. For some languages and groups he gave a traditional language name such as Parnkalla, Dieri [Diyari], Aranda [Arrernte], Wiradjuri, Kamilaroi, Kumbainggeri, Goa [Guwa], Wakka, Kabi, Koko-Yimidir [Guugu Yimidhirr]. For others he assigned a geographical label such as Cook District Language, Darling languages, Halifax Bay languages. For many languages and groups he invented names based on a regional word for "man", "human being". Terms which have persisted in Australian scholarship are: Kuri, Yuin, and Yuin-Kuri in New South Wales; Kurnai (language) and Kulin (group) in Victoria; Tyura (language) in South Australia; Kana [Karna] and Murri [Mari] (groups) in Queensland; Mining [Mirniny] (language), Nyungar, Kanyara, and Ngaiarda [Ngayarta] (groups) in Western Australia. The last two were suggested to him by the anthropologist A. Radcliffe-Brown (Schmidt 1919a:213-17) and incorporated into the second edition of his map, produced in Schmidt (1919b).

2.4 *Assessment of results and methods*

I am here primarily interested in evaluating the methods Schmidt used to support his grouping of languages. In the first place, brief mention should be made of the not unproblematic task of deciding which of the fragmentary sources are to be assigned to the same language. Here Schmidt depended on near uniformity of the available lexical and grammatical data. Schmidt's methods differ very little from the preliminary steps taken by modern linguists trying to write a description of a particular language known only from historical sources (e.g. Breen 1990, Blake 1991, Terrill 1998).

2.4.1 *Establishing a subgroup*

As an example of the grouping of languages, consider Schmidt's justification for his Victorian Group. He cites 'three important points' (Schmidt 1919a:73). All are structural features which are shared by these languages but are absent in neighbouring languages. The first two are of a phonotactic nature: words may begin with *l* or end with plosive consonants and even consonant clusters. The third is syntactic: the possessor in noun phrases is postposed to the noun it modifies only in this linguist-

tic group. The sharing of lexical items is offered as supplementary evidence. Here we encounter the problem that not all of his eight characteristic lexemes are exclusive to this group. Cognates of *tyelany* “tongue” and *tyinna* “foot” recur in numerous other groups. Similarly, in support of the unity of the Wiradyuri-Gamilarray group (Schmidt 1919a:103), he cites 13 lexemes, of which *mil* “eye”, *(y)ira* “tooth”, *ngamma* “breast” are widely represented in other groups and *murū* “nose”, *yuleny* “skin”, *winy* “fire” recur in other eastern groups. He further cites shared phonotactic constraints against word-initial vowels and word-final plosives and *m*; these constraints, however, recur in other groups. From grammar he cites the fact that the Dual and Plural of 2nd and 3rd person pronouns are always derived from the singular by the addition of forms for “two” and “three”. Close examination reveals, however, that the number markers are not identical in form across all the languages in the group. A better diagnostic from the pronouns would be the unique 1st Plural form *ngeiane* shared by all these languages of what is now called the Central New South Wales group Austin (1997).

On rare occasions Schmidt invokes a phonological innovation as the basis for a group. Thus Thangatti-Yukumbul, two dialects of northern NSW, are united by characteristic vocabulary items but also by the shared replacement of internal *l* by *t* in *dsuttuny* “tongue”, *yuti* “skin”, *gittany* “moon” (Schmidt 1919a:124).

2.4.2 *Classifying a fringe language*

Schmidt’s classification of languages on the fringes of larger groups often causes him problems. Consider his treatment of Gundungurra, a language spoken to the southwest of Sydney. Schmidt (1919a:93-102) recognises, for southeastern New South Wales, a Yuin-Kuri group consisting of a northern subgroup Kuri and a southern subgroup Yuin, although he admits to some uncertainty about the internal organisation of the group. Gundungurra is classified as Kuri. Nevertheless he admits that Gundungurra is the only Kuri language which has nominal possessive suffixes, a trait shared with the Yuin languages. Schmidt says this is indicative of the ‘mixed character’ of the language (Schmidt 1919a:101). According to the lexical lists, Gundungurra sometimes agrees with Kuri languages and sometimes with Yuin languages.

Inspection of Schmidt’s comparative data on pronouns Schmidt (1919b:Table II) reveals that the singular forms of G(undungurra) are nearly identical to those of Northern Inland Yuin (Ngunawal): 1Sg *gula-ngga*, 2Sg *gulantyi*, 3Sg *dzanu* (Ng) and *dzanu-gulangu* (G). G free pronouns of the 1st and 2nd person are formed by affixing personal possessive suffixes (or clitics) to an invariant stem *gula*; the same is true for Ngunawal singular pronouns (the Dual and Plural forms are not given). This style of pronoun formation, widespread in Victorian languages, is found only

in these two Yuin-Kuri languages. The clitic subject pronouns of Gundungurra likewise show greater similarity to the Yuin languages than to the Darkinyun, the only one of Schmidt's Kuri languages for which such forms are given. See Table 1.

Table 1: *Enclitic subject forms in NSW languages*

	Darkinyun	Gundungurra	Ngunawal	Dyirringany	Thurawal
1Sg	-wa	-ngga	-ngga	-(ng)ga	-ngai
2Sg	-wi	-ndyi	-indyi	-ngi	-mbi, -ny
3Sg	-noa	-ng, -ny	-ny	—	-ng
1DuInc		-nga	-nga	-nga	-ngul
1DuExc		-ngalung	-ngalu	-ngalu	-ngulling
2Du		-bu	-nbu	-mbul	-mbul
3Du		-bula	-nbula	-mbula	-mbula
1PlInc		-nyun	-nyin	-nyan	-nyang
1PlExc		-nyulla	-nyilla	-nyilla	-nyilling
2Pl		-ntsu	-ntsu	-nyu	-ntsur
3Pl		-dyimalang	-ndyula	-ndya	-mba, -ntsa

Schmidt's treatment of Gundungurra indicates an absence of clear criteria for classifying languages whose comparative data point in different directions. In this case it appears that he has preferred the (weak) evidence of vocabulary over the grammatical evidence from pronouns.

Now consider Schmidt's treatment of the southwestern language he calls Nonga [now Wirangu]. Nonga is located along the Great Australian Bight with East Mining to its west and Parnkalla to its east. It is classified by Schmidt with a number of other languages into a Middle Group, which is one of three divisions of a major Southwestern Group, whose other members are the closely related Yungar [Nyungar] languages in the extreme southwest and East and West Luridya [Luritja, Western Desert] in the eastern part of the Western Desert. Nonga's eastern neighbour Parnkalla is classified as belonging to a Parnkalla-Tyura-Meyu [now called Thura-Yura] group of languages of South Australia, which in turn forms part of a major South Central Group. In comments on his comparative wordlist, Schmidt (1919a:37) observes that Nonga is often 'mixed' with its eastern neighbours Parnkalla and Tyura [= Kuyani and Adnyamathanha]. For no less than 28 words (of the 44 glosses) on his tables he compares the Nonga terms with a word in one or more languages of the Parnkalla-Tyura-Meyu group. 7 further comparisons could be made from his lexical data. Meanwhile he gives 7 terms as indicative of the cohesiveness and distinctiveness of the Thura-Yura group, mentioning that the majority of these show a special connection between this group and the Southwestern Group (Schmidt 1919a:40). What is this to mean? That some of the terms were borrowed in one direction or the other? Only *warri* "wind" is exclusive to Schmidt's Parnkalla-Tyura-Meyu group. However, *kuma* "one", *mina*

“eye”, and *kandi* “thigh” would also be exclusive to Parnkalla-Tyura-Meyu if Nonga were included in that group. One can only wonder on what basis Schmidt included Nonga in his Southwestern Group rather than in Parnkalla-Tyura-Meyu?

2.4.3 *Establishing a major group*

What is the evidence for a major grouping such as the Southwestern Group? For this group the only available evidence is from vocabulary, since little grammatical data was available. Here Schmidt (1919a:27) cites 12 characteristic words. He admits that five of these also occur in the southern languages of his major South-Central Group (primarily in the Thura-Yura group). A sixth word, “two” *gudera* [= *kutharra*] recurs in Guugu-Yimidhirr, in the Torres Strait (e.g. *kuasar*), and in various of his ‘northern’ languages including Aranda *utera* [*atherre*]. I consider the evidence of the remaining six to be weak: the comparisons of “yes” and “crow” involve too much phonological uncertainty; “dog” *turta* is too restricted in distribution within the group. Even the strongest diagnostics are problematic:

- “beard” *nganka* also occurs in many languages of his South-Central group
- “head” *gada* also occurs in several languages of his North-Central group
- “breast” *bibi* also occurs in Bulponara [= Kuku Yalanji] of north Queensland

We are left with the result that *none* of the characteristic lexemes are exclusive to the Southwestern Group. We can draw the broader conclusion that Schmidt’s major groups are not justified by any reliable criteria.

2.4.4 *Criteria for a language family*

Finally, we might ask what are Schmidt’s criteria for including a language in his maximal Southern Australian (SA) family? To answer this, let us consider on what basis the Aranda group of closely related languages or dialects is excluded. In Schmidt (1919a:188ff.) he indicates a number of items of general vocabulary which appear to be cognate with terms in languages of the SA family. The most persuasive of these are given in Table 2, along with the widespread SA counterparts. The phonological disparity is recognised to be due to the loss of initial consonants in Aranda.

Table 2: *Aranda vocabulary*

gloss	Aranda	SA
nose	<i>adla, ulla</i>	<i>mulya, mulla</i>
tongue	<i>alinya</i>	<i>talinya</i>
excrement	<i>udna, unna</i>	<i>kunna, kudna</i>

In Schmidt (1919b:49-50) the Aranda personal pronouns are discussed. Schmidt recognises that most of the pronouns that are not obviously constructed by language-internal means have formal resemblances to those of neighbouring Luritya and other SA pronouns of identical function, when the loss of initial Aranda consonants is taken into account. The most compelling examples are shown in Table 3.

Table 3: *Aranda and SA personal pronouns*

Function	Aranda	SA
1SgNom	<i>yinga, einga</i>	<i>ngai</i> + a suffix <i>-nga</i>
1SgErg	<i>(a)ta</i>	<i>ngatya, ngatyö</i> , etc.
2SgErg	<i>unta</i>	<i>yunda, inda</i> , etc.
1PlExc	<i>anuna</i>	<i>nganu</i> (Inc) + Excl <i>-na</i>
1DuExc	<i>ilina</i>	<i>ngili, ngali</i> (Inc) + Excl <i>-na</i>
2Du	<i>mbala</i>	Luridya <i>numbali</i>
3Pl	<i>etna</i>	<i>tana</i>

Schmidt concludes:

So in summary we can establish that in Aranda, which in its other vocabulary, in its phonology and in its total character is so sharply differentiated from the Southern Australian languages, almost the whole series of personal pronouns is identical in its roots with the West-Middle-East series of the Southern Australian languages, at least when the phonology in particular cases allows the strange appearance of these forms in Aranda to be sufficiently manifest. [my translation] (Schmidt 1919b:50)

Why, we might ask, is this not sufficient to include Aranda in the great SA family — especially given both the phonetic unreliability of his data and the acknowledged loss of initial consonants which obscure the evidence? It must be concluded that Schmidt’s primary criterion was lexical, with phonological structure perhaps playing a subsidiary role. As for the grammatical evidence of pronouns, it seems that he was quite prepared to believe that this could be borrowed.

2.5 *Schmidt’s accomplishment*

So what can we retain of Schmidt’s heroic work? The two books represent a useful compilation of comparable data from a large part of the Australian continent. This fact alone makes the books worthy of being consulted, especially for languages for which we lack modern fieldwork-based documentation. Many valid observations regarding structure and cross-linguistic comparison are made. Much of Schmidt’s terminology for the naming of languages and linguistic groups has been followed by other scholars. Furthermore, his work represents the first systematic attempt at establishing a large family of Australian languages. Many of his lower-level groups remain valid even in the light of superior modern data (although some border

languages may have to be re-assigned). On the other hand, Schmidt's higher-level groups are not at all reliable, since they are based on inadequate methods. His main criterion is vocabulary, drawn from a relatively restricted set of 44 glosses, supplemented by structural evidence from phonology and to a minor degree syntax, with the grammar of personal (and to some extent interrogative) pronouns playing a minor role. The application of his lexical method is inexplicit, in that he does not give any indication of relative quantities of comparisons used to classify languages into groups, and even defective, in that he does not require exclusive, non-overlapping sets of lexemes to establish a distinctive group. His classification is a bottom-up method, whereby languages are classed into progressively higher-level groups on the basis of shared data. There is no strict reconstruction of proto-forms, although notional 'Urformen' are given, especially for pronouns. (This is not the place to discuss the various processes of migration and contact that he proposes to account historically for the distribution of his linguistic groups.)

3. Arthur Capell's typological classification and 'Common Australian'

3.1 Overview

Arthur Capell of Sydney University was the leading figure in Australian linguistics from the 1930s to the 1960s. He discovered, documented, analysed and classified a great number of languages of the northwest (Kimberley) and north central (Top End) regions of Australia (Capell and Elkin 1937, Capell 1940, 1942). He wrote a number of generalising works on Australian languages, in which he described and illustrated both the features shared between Australian languages and those that set groups of languages apart from one another (Capell 1937, 1956, 1962). Capell pioneered the typological classification of Australian languages. At the same time he promoted the idea of a single Australian language family. Perhaps to reconcile these two concerns, he devoted considerable attention to proposals of diachronic scenarios by which the different types might be linked.

3.2 Typological classification

Already in his 1937 article, Capell attempted "to indicate a general grouping based on grammatical form" (Capell 1937:54). He distinguished five areal-typological groups, each based on combinations of morphosyntactic and to some extent phonological structural features: North Kimberley, South-east Australia, Central Australia, North and Central Queensland, New South Wales. A map shows the extent of each. Later (Capell 1956, 1962) he distinguished languages according to several morphosyntactic parameters:

- whether they used prefixes or just suffixes
- whether they used noun classes or not, and if so whether there were just two classes or many

This yielded language types which he labelled (Capell 1962:2):

- suffixing
- prefixing, non-classifying
- prefixing, dual-classifying
- prefixing, multiple-classifying

Suffixing types were further subdivided according to whether they used bound person-markers (for subjects and/or objects) or not, and if so, whether these were normally attached to:

- the verb
- a ‘catalyst’ (or auxiliary)
- the first word or constituent of the clause (called ‘nucleus’ by Capell)

The latter came to be called by the unfortunate term ‘affix-transferring languages’ in final versions of his scheme (Capell 1972).

A further typological parameter which Capell discussed later in life is classificatory verbs Capell (1979a).

3.3 *Diachrony of grammatical types*

Capell then tried to show that the different morphological types could be related historically. He assumed that early Australian languages marked tense by suffixes on verbs and had flexible word order. In addition, there was a tendency for markers of subject and object person-number to occur adjacent to each other and in phonologically bound rather than as independent words. Different languages preferred different placement of pronominals relative to verbs. Processes such as the ‘crystallisation’ or rigidification of preferred orders and the reduction of pronominal clitics and their fusion to the verb led to the prefixing systems attested in the languages of the north.

The basic claim made in the following pages is that the development of language in Australia has been a gradual process of fixing an originally elastic word-order in the utterances, so that certain elements have come more and more to fall into fixed positions in it. Morphological complication has resulted from the subsequent phonetic coalescence of several such elements, especially subject and object pronouns, which have tended to congregate together in the utterance. (Capell 1956:9-10)

This kind of argument on the diachronic linkages between structural types is discussed in detail in a number of articles by Capell (1967, 1972, 1979) and also by Wurm (1969, 1972:96-104). Of the first of these Capell later said that “an orderly arrangement in terms of increasing pronominalization has been presented, *without*

historical implications [emphasis added HK], though it may turn out to have these” (Capell 1971:708).

Noun class systems, Capell claimed, were added as a separate complication, mainly to prefixing languages, but also to some suffixing languages. Here Capell points to cognate classifying formatives that are prefixes in most languages but suffixes in the East Barkly languages such as Wambaya (Capell 1962:9). The diachronisation of noun class typology is discussed in Capell (1979b).

In Capell’s work, it appears that structural comparison constitutes a separate category of evidence for genetic relationship, beside the evidence of shared vocabulary. Of the two kinds of evidence, he gives priority to the structural comparison (Capell 1956:9).

3.4 *Common Australian*

Already by the time of his early survey article of 1937, Capell had concluded, in spite of structural differences between Australian languages and a considerable degree of grammatical similarity to Papuan languages:

There can, however, be no doubt that the languages of Australia, even including those of the Northern Kimberleys, belong to one family. What Professor Radcliffe-Brown said of Australian social organization may be said also of Australian languages also: “In spite of the diversity of the various systems a careful comparison reveals them as being variations of a single type.”. (Capell 1937:58)

The wording — parallel mention of ‘one family’ and ‘a single type’ — appears to suggest some confusion between genetic and structural/typological classifications. I suggest rather that it indicates that Capell used structure as a criterion for recognising genetic relationship. At the beginning of the article he says: “Australian languages exhibit considerable differences among themselves, yet the general structure of all is very much the same.” (Capell 1937:29). At the end he argues regarding the Western Torres Strait language Mabuiag, that its case system and verbal system are ‘typically Australian’ — in contrast to that of its Papuan neighbour Mer / Miriam from the eastern islands — and concludes: “Neither Mabuiag nor any other Australian language can be definitely called ‘Papuan’” (Capell 1937:59).

In his major work of 1956, Capell attempts to offer proof of the ultimate unity of the Australian languages.

They differ as widely, both in structure and in vocabulary, among themselves, as do their speakers in physical features, yet there remains a basic similarity in certain structural elements and a small but obstinate basic vocabulary... It is therefore safe to assert that the Australian languages are in the ultimate at least as much a unity as the Australian people... (Capell 1956:2-3)

Capell talks in terms of a somewhat confusing label ‘Common Australian’ (CA), distinguishing this from a hypothetical ‘Original Australian’ construct.

...it does not appear to be possible to restore an ‘Original Australian’ similar to the restored Indo-European or even Austronesian...There is not sufficient material preserved from the whole Australian continent for this and the material is all synchronic. The vocabulary, moreover, is not so homogeneous as that of Austronesian or Finno-Ugrian. Grammatical structure is in a better case, but it is in no sense possible to restore Original Australian morphology to a degree comparable to that of Indo-European. By ‘Common Australian’ (CA) is meant a certain group or [*sic*] words and constructions that are found throughout Australia, with varying frequency and clarity in different parts. They are ‘common’ to practically all areas (though not to all languages) but may or may not be ‘original’...All put together these common elements would not constitute a ‘language’ as a practical instrument of communication....All that can be gathered is a group of common elements, classifiable under the headings of phonetics, morphology, and vocabulary. Syntactic tendencies may be indicated but hardly a common syntax. (Capell 1956:3)

It seems clear to me that Capell meant by CA a proto-language, which can be reconstructed in broad outline but not in very great detail, which is ancestral to most of the Australian languages, but possibly not to some of those language groups around the periphery of the continent which exhibit what he called ‘regional vocabularies’. By ‘Original Australian’ he apparently meant the language “brought to Australia by the first immigrants” (Capell 1956:61).

In Chapter 4 Capell tried to define the core of a CA lexicon. He presented cognate sets supporting the reconstruction of terms for 35 meanings and grouped them into four classes as shown in Table 4. (For some concepts he reconstructed more than one lexeme.)

Table 4: *Capell’s Common Australian lexicon*

Body parts	beard, breast (2), ear, excrement, eye, foot, hand, head (2), mouth, nose, shin, tongue, tooth, urine
Natural objects	crow (3), fire, (vegetable) food, ground/camp, smoke, water (3)
Verbs	blow, give, eat (2), go, hear (2), hit, hold/take/bring/carry, see, sit, take, talk
Other	big/old, two, what, who

Capell considered the widespread attestation of shared verbs — ignored by Schmidt’s comparisons — to be of special “importance ... in establishing the idea of ‘Common Australian’ in regard to vocabulary”. (Capell 1956:81).

It should be noted, however, that Capell did not ‘reconstruct’ vocabulary by a strict application of the comparative method. Although he considered the establishment of sound laws as desirable, he admitted that it had not yet been done, and claimed that it was not necessary at the stage of establishing cognates.

Usually in the Australian field words are either fairly obviously cognate as between languages, or equally obviously non-cognate. There has not appeared the same necessity of establishing sound laws to prove connections...The establishment of sound laws in Australia is not so much to be used to determine relationships of words as to fit related words into sub-groups not to decide whether a word is CA or not. (Capell 1956:83)

The phonological shape of Capell's asterisked CA forms is based on the common denominator of attested forms, supplemented by assumptions about the phonological inventory and phonotactic structure of CA and the more plausible directions of phonological change (e.g. loss of phonemes is more likely than addition (see p. 85)).

When Capell discusses the phonology of CA (Capell 1956:ch. 2), this is not extracted from the proto-forms reconstructed by the comparative method. Rather, he begins with typological generalisations regarding the vowels and consonants of the Australian languages, then proceeds to "establish a probable CA vowel system" (Capell 1956:4), a probable consonant system, and probable phonotactics. He posits for CA what is common to most of the languages, and ends up with a system of just three consonant series (labial, alveolar, velar), "a system even simpler than the modern" (Capell 1956:6) — since all attested systems contain four to six series, as we now know.

The central and longest chapter of his major work (Capell 1956:ch. 3), on "The structural development of the Australian languages", is devoted primarily to morphosyntactic typology and posited diachronic links between types. Here, however, Capell does posit, on the basis of widespread attestation, CA personal pronouns and formatives marking: nominal number (Dual and a dubious Plural), case (Operative [= Ergative/Instrumental], Accusative, Dative, Locative), tense, reflexive/reciprocal.

By the 1970s Capell no longer believed in the genetic unity of all Australian languages, but rather talks of several 'Early Australian' languages and a later widespread Common Australian which is ancestral to many but not all Australian languages (Capell 1979c).

my present supposition is that there was not one Proto-Australian, but a series of 'Early Australian' languages, seemingly not related to each other, while the more widespread agreements represented by CA are actually the result of the spread of CA languages from the Western Desert region eastwards, southwards and to the North-east. (Capell 1975:2)

3.5 *Recognition of subgroups*

Capell recognised a number of lower-level groups of languages, to which he attributed genetic status. It is interesting to ask what criteria he used. For his 'Dampier Land' languages [Nyulnyulan] he notes distinctive grammatical and

lexical features and reconstructs a set of personal pronouns (Capell 1979c:478). The ‘North Kimberley languages’ are discussed in detail in Capell and Coate (1984), where it is suggested that they form a family “on the ground of structural resemblances” (Capell and Coate 1984:248), including shared pronominal verbal prefixes for which proto-forms are postulated; evidence from lexicon had already been invoked in Capell and Elkin (1937) and Capell (1940:261). Djamindjung and Nungali are said to be closely related on grounds of shared vocabulary and verbal prefixes in spite of differing with respect to noun classification (Capell 1940:264-65); Djamindjung [Jaminjung], Jingali [Jingulu], and Ngaliwurru are “practically dialects of one tongue” on the basis of nearly identical ‘structure’, including pronouns, verbal prefixes, and tense markers, in spite of some differences in vocabulary (Capell 1940:418-19). Maung and Iwaidja are related like Djamindjung and Nungali (Capell 1940:268, 419). The ‘Djerag group’ [Jarrakan] in the eastern Kimberley is recognised on the basis of shared vocabulary, grammatical morphemes, and a binary classification system (Capell 1940:404-06).

Of the non-prefixing languages of northern Western Australia, Capell, while recognising that all are genetically related, groups Western Walmajarri [now classed as Ngumpin] with Karajarri, Nyangumarta, and Mangarla [now classed as Marrngu] and likewise classifies Yurlparija [a Western Desert dialect] into the ‘Mudbura group’, consisting of the languages now classed in a Nyumpin-Yapa group, on the basis of the behaviour of pronominal clitics (Capell 1940:425-30). Similarly the languages in the modern Yolngu group of northeast Arnhem Land are split into a ‘Murngin group’ plus a residue of Djinang and Djinba, which on account of their pronominal clitic behaviour are typologically classed with the Mudbura group; all these Arnhem Land languages are recognised as belonging to the great southern suffixing family (Capell 1942:40-46).

Capell accepts each of the Arandic and Cape York (Paman) groups on the basis of sound changes (Capell 1979c:445-449), but notes that this criterion is of little use in some other parts of the continent:

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. (Capell 1979c:449-450)

4. The lexicostatistical classification

4.1 Overview

The next major classification (after those of Schmidt and Capell) resulted from an initiative of Carl Voegelin of Indiana University, survey work in the years 1959-

1961 by Kenneth Hale, Geoffrey O'Grady, and Stephen Wurm (see papers in Simpson, Nash, Laughren, Austin and Alpher (2001)), and collaboration into the mid-1960s by these three researchers plus Carl and Florence Voegelin.

4.2 Procedure

The classification was based primarily on the comparison of vocabulary:

Virtually all attention is focused on cognate densities derived from comparison of the hundred items of a Swadesh-type lexical list in pairs of named communalects. (O'Grady, Voegelin and Voegelin 1966:23)²

Wordlists used were derived from Curr (1886-87), published and unpublished dictionaries, and lexical material collected by Capell, Wurm, O'Grady, and Hale, plus a few other linguists. O'Grady (1960) discusses how the Swadesh wordlist was adapted to Australian conditions. O'Grady and Klokeid (1969) give the test list, present a comparative vocabulary of 12 communilects from southwestern Australia, and also show step by step how the classification proceeded in the case of Wirangu.

Wordlist comparison was largely restricted to adjacent language varieties (called 'communilects'). Cross-linguistic synonyms were judged to be cognate not just by the 'inspection method', but "using all of the comparative evidence that could be brought to bear" (O'Grady and Klokeid 1969:308). Identifiable loanwords were left out of consideration. Percentages of cognates were computed for pairs of languages. According to the percentage of cognate density, communilects were classified as indicated in Table 5.

Table 5: *Criteria for classification*

cognate density	classification
71+%	different dialects of the same language
51-70%	different languages of the same subgroup
26-50%	different subgroups of the same group
16-25%	different groups of the same family
under 15%	different families of the same phylum

For languages consisting of dialect chains, the 71+% criterion was applied only to adjacent dialects, with the result that non-adjacent dialects of the same language could have considerably lower cognate densities. It appears that similar flexibility applied to classification at higher levels. For instance, the three languages Mirniny, Wirangu, and Parnkalla, which are distributed from west to east along the south coast, are classified as belonging to the same group (Nyungic) on

² The work will be referred to hereafter as 'OVV'.

the basis of percentages 33 and 39 between the first two and the last two respectively, even though the 22% shared between the Mirniny and Parnkalla (at the ends of the chain) falls below the 26% normally required for members of the same group.

For most of the languages neither the actual words compared nor the cognate density figures were presented by the team of classifiers. Exceptions are: O'Grady and Klokeid (1969) for 12 southwestern languages; Hale (1962) for 10 Arandic communilects; Hale (1964) for 13 Paman languages; and O'Grady (1966) for 27 languages of Western Australia. Identifiable loanwords were left out of consideration for classification purposes (e.g. 'Mabuiag', the Western Torres Strait Island, and Miriam were not assigned to the same phylum in spite of their sharing 11 words of the 100 test list).

Non-lexical factors played a certain role in modulating the evidence of lexicostatistics.

Though the basis of their classification was admittedly lexicostatistical in nature, typological criteria had been taken into consideration in arriving at the results, and had been regarded as decisive in doubtful cases. (Wurm 1972:109)

It is likely that structural typology (as well as geographical location) motivated the classification of the prefixing Yanyuwa as non-Pama-Nyungan (see 5.5) and of the non-prefixing Tangkic languages as Pama-Nyungan (see 5.7).

4.3 *Results*

The conclusion was that all the indigenous languages of Australia were related in one macro-phylum (or super-family) — with the exception of: the languages formerly spoken in Tasmania, Miriam of the eastern Torres Strait Islands (known to be related to adjacent Papuan languages of the Kiwai family), 'Barbaram' [Mbabaram] of the Queensland rainforest and 'Aniwan' [Nganyaywana] of northeastern New South Wales (the last two were later proved by Dixon (1991 with earlier references) and Crowley (1976) respectively to be closely related to neighbouring languages, both having undergone radical sound changes which obscured cognates). The Australian Phylum included 502 named communilects classified into 228 discrete languages, which were assigned to 29 families. 28 of these families are located in the northwest (Kimberley District) and central north of the continent. The remaining family, for which Hale proposed the name 'Pama-Nyungan' after the terms for "man/person" in the Cape York Peninsula and southwest respectively, occupied the rest of the continent plus the western Torres Strait Islands. This far-flung family was divided into 33 groups, 67 subgroups, and 160 languages (OVV 1966:29).

Languages and sometimes subgroups were named after local words for “person” or “man”, following the practice of Schmidt. The suffix *-ic* was used for groups and *-an* for families.

The resulting classification was published: as a map O’Grady, Wurm and Hale (1966), and in list format in OVV (1966), Wurm (1971, 1972), Voegelin and Voegelin (1977). There are minor revisions in the various versions of the classification. A revised version of the map, with accompanying classification lists of languages, is included in Wurm and Hattori’s *Language Atlas of the Pacific area*, compiled by Michael Walsh (Walsh and Wurm 1981).

4.4 *Status of results*

This classification, which I shall call the OWH schema (after its originators Hale, O’Grady, and Wurm), was intended to be a genetic, not an areal or typological, classification. It was “to be regarded as only a very preliminary and highly tentative genetic classification” (Wurm 1972:109) and a basis for further exploration by more traditional historical methods. This is clear from the following representative statements.

We used the lexicostatistical approach for two reasons. The first is that we are seeking a genetic classification, not a typological one, as Schmidt and Capell have done. The second is the lack of published data, and the lack of time, to carry out a classification based, for example, on shared innovations in phonology. (O’Grady and Klokeid 1969:298)

[OVV] contains a preliminary classification of Australian languages based on cognate densities calculated by Hale, O’Grady and Wurm, in which the authors make a plea for the future consideration of types of evidence additional to that of lexicostatistics, in order that a balanced perspective of Australian historical linguistics might be achieved. (O’Grady 1966:71)

Nevertheless its terminology has been widely adopted, and sometimes it is forgotten that it is a provisional schema, each grouping of which requires confirmation or correction by traditional historical-comparative methods.

The schema has been institutionalised by frequent quotation. The schema is quoted, in whole or in part in works such as: Menning and Nash (1981), Yallop (1982), Ruhlen (1976), the SIL *Ethnologue* (Grimes 1988), Bright’s *Encyclopedia* (Bright 1992) — in the ‘language lists’, which were based largely on Grimes (1988) and/or Walsh and Wurm (1981).

5. Classification revisited

5.1 Overview

In this section I shall discuss briefly some particular languages and linguistic groups whose (re-)classification has been argued. Relevant situations include confirmation, amendment, revision, or rejection of elements of the OWH schema or proposals for different groupings. I am interested in what groupings are supported and, even more importantly, what kind of evidence is presented in support of each new proposal. Discussion is organised under the headings of: groupings within Pama-Nyungan (PN), classification of non-Pama-Nyungan (nPN) languages, and the status of Pama-Nyungan as a genetic entity. I will not follow the OWH schema in distinguishing terminologically between subgroups and groups or between families and phyla.

5.2 Pilbara region

5.2.1 Ngayarta

The OWH schema recognised in the western and southwestern parts of Australia a large ‘Southwest or Nyungic Group’ of the PN family, which was further subdivided into 12 subgroups. In the greater Pilbara region they recognised four subgroups, named: Ngayarta, Kanyara, Mantharta, and Kartu. The languages of these four subgroups have been the object of considerable further study.

Already in 1966 O’Grady published a study of the Ngayarta languages based on the application of the Comparative Method (O’Grady 1966)). Here he:

- gave cognate sets for several hundred terms, both within Ngayarta and further afield;
- described the phonological system of Proto-Ngayarta;
- described the phonological changes undergone by various Ngayarta languages, in particular the phonologically most aberrant language Yinjibarndi;
- proposed a set of (phonological, morphophonemic, and morphosyntactic) features which are claimed to be diagnostic of the subgroup and to support the lexicostatistical classification.

These diagnostic features were repeated in O’Grady and Laughren (1997). Nevertheless Dench in various places (Dench 1995a:5, 1998b, 2001) has pointed out the following.

1. Not all these features are independent of one another (loss of ergative case inflection, shift of dative to general object case-marker, creation of an

active/passive voice distinction all involve a change from ergative to accusative syntactic alignment)

2. Not all these features are found in all Ngayarta languages (e.g. shift of a verbal suffix **(l)ku* from future to present tense meaning; also the features in (1))
3. Some features which are found in all Ngayarta are also found in languages outside the group (e.g. the contrast between lamino-dental and lamino-alveolar articulations, and the lack of contrast between word-initial laminals and apicals, are shared with Kanyara languages, but not with adjacent languages of the Marrngu and Wati subgroups) (O'Grady 1966:74)
4. A case has not been argued that the shared features represent common innovations rather than common retentions or diffused innovations, except that: (a) merger of initial apicals and laminals to laminals is taken to be an innovation of the Ngayarta and Kanyara languages (O'Grady 1966:75); (b) dissimilatory loss of suffixal nasals from nasal-stop clusters after stems also containing a nasal-stop cluster is said by O'Grady (1966:75) to be unique to the Ngayarta languages, but has been found by McConvell (1988) in other subgroups of Pama-Nyungan; hence this shared feature is likely to be a retention rather than an innovation.

Dench (2001) especially considers a number of morphosyntactic features shared between various Ngayarta languages and concludes that it is not possible to determine whether they result from common inheritance from an intermediate proto-language rather than from diffused innovations (or even system-motivated parallel innovations). He claims that a Ngayarta subgroup has yet to be justified by the classical method of distinctive common innovations from a reconstructed higher-level proto-language.

5.2.2 *Kanyara and Mantharta*

Of the Kanyara and Mantharta languages, Tharrgari was already in 1967 reclassified by O'Grady and Klokeid from the Kanyara to the Mantharta group on the basis of further fieldwork by the latter (Klokeid 1969:iii). No supporting evidence is presented. Austin (1981) worked out the historical phonology of two aberrant languages, Burduna in the Kanyara group and Tharrgari in the Mantharta group, and described the phonological systems of Proto-Kanyara and Proto-Mantharta. He reconstructed 273 Proto-Kanyara forms, 112 Proto-Mantharta forms, and 90 proto-forms that have reflexes in both groups. He provided evidence from grammatical similarities to support the cohesiveness of each of the Kanyara and Mantharta groups (with Tharrgari in Mantharta) and their close, but not necessarily exclusive, genetic relationship with each other. In Austin (1988a) he adds to the Kanyara and Mantharta reconstructed vocabulary and presents further

lexicostatistical cognate scores and shared grammatical features in support of four separate genetic groups in the southern Pilbara, while admitting that this evidence falls short of the criterion of demonstrated common innovations from a reconstructed higher-level proto-language (Austin 1988a:4). In addition to the Kanyara and Mantharta groups, he presents evidence for the classification of Yingkarta with Wajarri in the Kartu group. He also discusses Jurruru, which O’Grady had tentatively classified as Ngayarta on the basis of a ‘minuscule sample’ (O’Grady 1966:n 10) and which Austin (1981) had included in Mantharta on the basis of fuller lexical data. In Austin (1988b) it is argued, on the basis of morphosyntactic features in sentence data elicited in 1982 by Dench, that

Jurruru is clearly not a Mantharta (or Kanyara) language, although it shares a degree of lexical similarity with its neighbours. Indications are that its genetic affiliations are with the Ngayarta languages to its north. (Austin 1988b:9)

Note that here grammatical criteria apparently override lexical criteria. Austin (1996) offers a number of morphological reconstructions for Proto-Kanyara-Mantharta, some of which are shared with Ngayarta languages.

5.2.3 *Nhanda and the Kartu languages*

The Kartu subgroup recognised by OWH included Yingkarta, Malgana, Patimaya, Wajarri, and Nhanda. A sketch description of Nhanda, based on fieldwork in 1960 by O’Grady, is included in OVV (1966:119-129). A fuller description has been made by Blevins, based on fieldwork in the 1990s with a speaker of a presumed different dialect from that of O’Grady’s source (Blevins 2001a). The historical phonology is presented in Blevins and Marmion (1994). It is argued in Blevins and Marmion (1996) and Blevins (1999) that Nhanda is separate from this subgroup and is a relative isolate in the area. Evidence for this conclusion is drawn from the low cognate percentage with Wajarri and Northern Yingkarta — 42% and 33% respectively according to the figures in O’Grady (1966:121) and distinctive innovations from a language ancestral to both Nhanda and Proto-Kartu (as reconstructed from the other languages of the group), these innovations being:

- several distinctive sound changes unique to Nhanda
- distinctions in free and bound personal pronouns
- distinctions in verb inflection
- distinctions in nominal derivational suffixes

5.2.4 *Summary of Pilbara*

It is worth mentioning that Brandenstein (1967), on the basis of grammatical typological characteristics — primarily ergative vs. accusative alignment — set up groupings he called Coastal Ngayarta and Inland Ngayarta and assigned Palyku to

the Wati (Western Desert plus Warnman) group. This classification was followed in Walsh and Wurm (1981), which is usually taken to represent an updating of the lexicostatistically-based OWH schema. The changing classification of Pilbara languages is displayed in Table 6.

Table 6: *Pilbara language classifications*

language	OVV 1966	Wurm 1972	Walsh & Wurm 1981	current
Palyku	Ngayarda	Ngayarda	Wati	Ngayarta
Panyjima	Ngayarda	Ngayarda	Inland Ngayarda	Ngayarta
Ngarla	Ngayarda	Ngayarda	Inland Ngayarda	Ngayarta
Nyamal	Ngayarda	Ngayarda	Inland Ngayarda	Ngayarta
Jurruru	Ngayarda	Ngayarda	Inland Ngayarda	Ngayarta
Yinhawangka			Inland Ngayarda	Ngayarta
Ngarluma- Kariyarra	Ngayarda	Ngayarda	Coastal Ngayarda	Ngayarta
Martuthunira	Ngayarda	Ngayarda	Coastal Ngayarda	Ngayarta
Nhuwala	Ngayarda	Ngayarda	Coastal Ngayarda	Ngayarta
Yinjabarndi-Kurrama	Ngayarda	Ngayarda	Coastal Ngayarda	Ngayarta
Warriyangka	Mantharta	Mantharta	Inland Ngayarda	Mantharta
Thiin	Mantharta	Mantharta	Coastal Ngayarda	Mantharta
Jiwarli	Mantharta	Mantharta	Coastal Ngayarda	Mantharta
Tharrgari	Kanyara	Mantharta	Kanyara	Mantharta
Pinikura	Ngayarda	Ngayarda	Coastal Ngayarda	Kanyara
Thalanyji	Kanyara	Kanyara	Kanyara	Kanyara
Payungu	Kanyara	Kanyara	Kanyara	Kanyara
Burduna	Kanyara	Kanyara	Kanyara	Kanyara
Wajarri	Kardu	Kardu	Wadjari	Kartu
Patimaya	Kardu	Kardu	Wadjari	Kartu
Yingkarta	Kardu	Kardu	Kardu	Kartu
Malgana	Kardu	Kardu	Kardu	Kartu
Nhanda	Kardu	Kardu	Kardu	(isolate)

5.3 Cape York Peninsula

The OWH schema included a Pama-Maric Group which included most of the languages of the Cape York Peninsula (CYP) of northern Queensland, plus languages extending further southward into interior Queensland (OVV 1966). Hale applied the term Paman (derived from *pama* “person”) to set of 30 linguistic corpora which he had obtained in 1960 from various areas in CYP (Hale 1964, 1966b). Within this Paman group he found a subset of 13 ‘Northern Paman’ samples — belonging to 8 separate languages — which “forms an unambiguous subgroup identifiable not only on the basis of shared innovations in phonological change³ but also on the basis of shared innovations in lexicon” (Hale 1966b:162). Hale reconstructed a Proto-Paman phonology — which is similar to systems widely

³ It has subsequently been pointed out, however, that most of the shared phonological changes are not common to all and only the Northern Paman languages (Alpher 1976:94, Black this volume).

attested around Australia. Hale's 100 Proto-Paman reconstructed items were published in an appendix of Sommer (1969). Hale also described the drastic sound changes that affected especially initial syllables in most of the Northern Paman languages (Hale 1964, 1966b, 1976b,c).

A considerable number of changes were made to the classification of these languages in Wurm (1972) on the basis of information from further field research results published by Dixon, Laycock, and Sommer. One language of the region, Mbabaram, was added to the PN family and assigned to its own group — Mbabaram, which had been classed as non-Australian in OVV.

Recent work by Dixon...has shown that it is Australian, and relatively closely related to the languages in the same area. Extensive phonological innovations have obscured this relationship. (Wurm 1972:144)

(See now Dixon (1991) for Mbabaram historical phonology.) Other 'groups' separated from Pama-Maric were Lamalamic, Dyirbalic (Dyirbal plus Girramay), Nyawigic (Nyawaygi), Yidinic (Yidiny, Jabugay), and Yalanjic (Gugu Yalanji plus Guugu Yimidhirr) — all on the eastern side of CYP. The specific information on which these reclassifications were made is not indicated. We cannot know whether Wurm: (a) made new calculations on the basis of improved 100-word lists, (b) used the lexicostatistical figures provided by the relevant field linguists, or (c) merely relied on these linguists' judgements of language relations. Many of the reclassified languages were discussed in Dixon (1970a). Dixon's lexical scores are based on a 221-word list, from which at least 180 items were used for each pair of languages (*ibid.* 657); the actual cognates are not given. Dixon actually puts more reliance on the relative amount of shared grammar (both categories and forms) in deciding relative degree of genetic relationship, and within vocabulary finds the percentage of cognate verbs to be a better indicator than cognate nouns.

In Walsh's revision (Walsh and Wurm 1981), the Pama-Maric Group is whittled away. The Mari subgroup is removed and joined with Breen's (1971a) Kapu subgroup and several other isolated languages of western Queensland — Guwa, Yanda, Yirandhali — into a new Maric Group. The remainder is called the Paman Group. A new Mayabic subgroup was added to Paman; these are the languages described in Breen (1981b), where they are called the Mayi languages. Dyirbalic, Nyawaygic, Yidinyic, Yalandyic (note altered spellings) are kept as separate groups. The Flinders Island and Barrow Point of eastern CYP are added as new group-level isolates. Newer studies such as Breen (1971a), Sutton (1976), Black (1980), Breen (1981b) are credited with forming the basis for the revisions. No specific indication of the nature of the evidence is given, however. The

compiler used “whatever information was available” (Michael Walsh, pers. comm., October 2001).

Meanwhile Alpher, applying the criterion of common innovation to a set of Paman languages, established a subgroup which he called ‘Southwest Pama’, which correlates roughly with OVV’s ‘Western Pama’ subgroup (Alpher 1972). His evidence was drawn from innovations in phonology, morphology, and lexicon. He provided an internal articulation of this subgroup into a ‘Coastal Southwest Pama’ branch consisting of Koko-Bera and a Yir language with dialects Yir-Yoront and Yir-Thangedl and an ‘Upper Southwest Pama’ branch consisting of Thayore and Uw Oy kangand. He now believes that the ‘Norman Pama’ subgroup established by Black (1980)) and consisting of Kurrjar and Kuthant belongs to the same Southwest Pama subgroup (pers. comm. 27.7.2002).

The frequent revisions to the classificatory scheme of CYP languages illustrate a problem in the classification of Australian languages. An original classification, made with the use of a single, consistent criterion — in many cases with inadequate data — is amended on the basis of partially different criteria — although often better data is used. To what extent can the revised versions still be considered a lexicostatistical classification? To what extent can different subgroups amended on the basis of differing criteria even be considered to be comparable to one another? Perhaps if the classification is intended to be an approximation of the true genetic family tree, it doesn’t matter whether they are constructed on the same basis. But are all the classifiers agreed on what criteria count as evidence for a genetic classification? There is still no agreed classification for all the languages of CYP. For further discussion of Northern Paman, see Black (this volume).

5.4 *Karnic*

These languages were spoken in western Queensland and adjacent parts of South Australia and New South Wales. They were classified by OWH into four ‘groups’ as shown in Table 7, of which the first two consisted of one language each, the third of two languages, and the Dieric Group of three subgroups consisting of four, three, and one languages respectively. Wurm’s 1972 system differs only in reducing the three Ngura languages to two. Breen reclassified the languages of western Queensland, using more complete data based on fieldwork undertaken since the OWH survey by Blake, Hercus, and himself. He used essentially the same lexicostatistical method as OWH. He did not restrict comparison, however, to the 100-item test list but used a 250-word list. The number of lexical items compared between pairs of languages ranged from 36 to 235 according to the size of the available corpus. The main differences between Breen’s results and those of OWH are given below and shown in Table 7.

- OWH's Mitakudic Group does not belong here, since it resulted from a confusion of the name Mithaka (a Karna language) with a language Maithakudi of the Mayi group some distance to the north.
- The languages of OWH's Yalyi Subgroup were omitted from consideration, since they were all spoken in N.S.W. rather than Queensland.
- Birria and Kungardutyi from OWH's Karna Subgroup of the Dieric Group were assigned to a new Kapu Subgroup of the Pama-Maric Group.
- The remaining languages of OWH's four groups were classified into a single group which Breen called Karnic.
- The Karnic languages were subdivided into four subgroups, Narla, Palku, Ngura, and Karna — each named after a common term for “man”.

Breen in places uses structural similarities from phonology or grammar to support his classification: e.g. the voicing contrast in stops and the use of auxiliary verbs to mark tense-aspect in the Karna subgroup, and tense-marking for future vs. non-future in nouns and pronouns in the Palku subgroup.

Breen's classification is followed in Walsh and Wurm (1981), where the subgroups are named Arabana-Wangganguru, Palku, Ngura, Diyari/Karna, and Yarli. The last-mentioned is identical to OWH's Yalyi Subgroup.

Table 7: *Karnic languages*

language	OWH	Breen 1971a	Bowern 1998/2001c
Arabana-Wanggangurru	Arabanic G	Karnic: Narla	SW Karnic
Wangkamadla	Arabanic G	[= Wangka-Yutjurru	
Wangka-Yutjurru	Pitttapittic G	Karnic: Palku	NW Karnic
Ulaolinya/Lhanima	Pitttapittic G	Karnic: Palku	NW Karnic
Pittta-Pitta	Pitttapittic G	Karnic: Palku	NW Karnic
Punthamara	Dieric G: Ngura SG	Karnic: Ngura	E Karnic
Garlali	Dieric G: Ngura SG	Karnic: Ngura	E Karnic
Wangkumara	Dieric G: Ngura SG	Karnic: Ngura	E Karnic
Badjiri	Dieric G: Ngura SG	Karnic: Ngura	(not Karnic)
Diyari	Dieric G: Karna SG	Karnic: Karna	Central Karnic
Ngamini	Dieric G: Karna SG	Karnic: Karna	Central Karnic
Yarluyandi	Dieric G: Karna SG	Karnic: Karna	Central Karnic
Yandruwandha	Dieric G: Karna SG	Karnic: Karna	Central Karnic
Yawarrawarrka	Dieric G: Karna SG	Karnic: Karna	Central Karnic
Mithaka	Mitakudic G	Karnic: Karna	Central Karnic
Birria	Dieric G: Karna SG	Pama-Maric: Kapu	(not Karnic)
Kungardutyi	Dieric G: Karna SG	Pama-Maric: Kapu	(not Karnic)
Malyangapa	Dieric G: Yalyi SG	(not discussed)	Yarli
Wadikali	Dieric G: Yalyi SG	(not discussed)	Yarli

Austin (1990a) reconstructs some 50 lexical items and works out the historical phonology of a subset of these languages that he calls ‘Central Karnic’. Bowern (1998) reconstructs the personal pronouns (including suppletive paradigms),

demonstratives, and case morphology of Proto-Karnic and argues for an internal structure of the group on the basis of the relative chronology of both common (genetic) innovations of the type that define subgroups and shared (diffused) innovations of the type that define areal isoglosses. Bower (2001c) presents arguments for a distinctive Karnic group based on innovations from Proto-Pama-Nyungan (pPN) in the domains of lexicon and morphology, such as certain personal pronouns and the shift of pPN Locative **-ngka* to Dative **-nga* in pronouns (for some examples, see Table 8). Bower (2001c) also argues, on the basis of common Karnic innovations, for the inclusion within the Karnic group of the languages Arabana-Wangkangurru and Garlali, *contra* Austin (1990a), and for the exclusion of Badjiri, *contra* Breen (1971a) and OWH, and of the Yarli languages, *contra* OWH. For arguments on the Yarli languages as a separate subgroup of PN, see Hercus and Austin (this volume).

Table 8: *Innovations between pPN and pKarnic*

gloss	urine	sit	2Du	1SgNom	1SgDat
pPN	* <i>kumpu</i>	* <i>nyiina-</i>	* <i>nhunpalV</i>	* <i>ngay</i>	* <i>ngatyu</i>
pK	* <i>purra</i>	* <i>ngama-</i>	* <i>nhula</i>	* <i>nganyi</i>	* <i>ngantya</i>

5.5 Warluwarric

In the Western Queensland — Northern Territory border area OWH identified two groups, a Wakayic Group and a Warluwarric Group, each consisting of a single language Wakaya and Warluwarra respectively (OVV 1966:41-42). In Wurm (1972) these were united into a single Wakaya-Warluwarric Group. Breen (1971a) calls it the Wakayic Group; he further adds a newly discovered language Bularnu-Indjilandji to the group, and classes it in the same subgroup as Warluwarra on the grounds of similar morphology, in spite of the fact that the shared vocabulary score of 48% is below the 50% cut-off for subgroups (Breen 1971a:37). Breen further reports that he has “noticed correspondences between the Wakayic languages and Janjula which suggest that these belong to the same family” (Breen 1971a:41). Yanyula (Yanyuwa) had been classed by OWH as the only member of a (non-PN) family. Walsh and Wurm (1981) basically follow Breen with respect to a bipartite Wakaya-Warluwarric Group but keeps Yanyuwa in a separate family.

Blake (1988) discusses the personal pronouns and nominal case suffixes of Warluwarra, Bularnu, Wakaya, and Yanyula, showing that the forms are largely similar and concluding that “Yanyuwa is genetically close” to the other three and that the comparison of pronouns and other functional morphemes “demonstrates conclusively that the four are closer to one another genetically than any one of them is to a language outside the quartet” (*ibid.* 22). Blake calls this group ‘Warluwaric’. These conclusions are re-affirmed in Blake (1990a,b), with emphasis

on the PN classification of the whole Warluwarric group which includes Yanyuwa. More detailed comparative work in this group is presented in Brammall (1991), which concentrates on pronouns and morphology, and in Carew (1993), which deals with phonological and lexical reconstruction and internal classification. Breen (this volume) discusses Warluwarric verb conjugations in detail.

5.6 *Mirndi*

In the southern part of the non-PN region of central north Australia the original OWH schema recognised three separate families, Wambayan, Tjingiluan, and Djamindjungan (OVV 1966). In Wurm (1972:119) the first two were combined into a Djingili-Wambayan Family, within which the Wambayic Group was subdivided into two languages, Wambaya-Gudandji-Binbinka and Ngarndji. The basis for joining these languages is not given, although it is noted that the languages share the rare feature of combining multiple noun classes with the exclusive use of suffixes. It was later argued by Chadwick (1984) — on the basis of cognate morphological indications in the systems of personal pronouns, gender markers, and case markers — that Jingulu and the Jaminjungan language family in the lower Victoria River area form a discontinuous genetic group. In Chadwick (1997) the evidence was broadened to include the Wambayan languages. This discontinuous family has come to be widely accepted and the label *Mirndi* or *Mindi* is used to describe it — after the form of the First person Dual pronoun (e.g. Dixon 2002:ch. 13). For further discussion see Green (1995) and Green and Nordlinger (this volume).

5.7 *Tangkic (and Minkin)*

The Tangkic group of languages, from the islands and adjacent mainland of the Gulf of Carpentaria, was classified by OWH as a ‘group’ of PN, with which it shares a heavily suffixing structure, even though its lexical sharing with PN languages was probably low enough to qualify it as an independent family by their criteria.

The first point to notice is the low level of cognacy with all languages: shared vocabulary never exceeds 9%, confirming the basic ‘isolation’ of the Tangkic group. By the criteria used in O’Grady et al 1966 and subsequent publications, this would place the Tangkic group in a different ‘family’. But it seems the criterion of structural similarity (Wurm 1972) was invoked to keep them in the Pama Nyungan family. (Evans 1985:7-8)

Its pronouns, however, are unmistakably cognate with those of the non-PN languages (and most closely match those of the Marran family of southeastern Arnhem Land). This fact, previously discussed by Evans (1985:10-12), was argued by Blake (1988, 1990a) and Evans (1995) to count as evidence for a genetic

relation with the non-PN languages. Blake (1990a:52-53) argues that one Tangkic language, Yukulta, may in fact preserve traces of prefixed verbs, if its ‘auxiliaries’ are interpreted as former verbs. The coherence of the Tangkic group is further demonstrated by the fact that Evans (1995) was able to reconstruct many of the morphosyntactic developments of the island languages Kayardild, Lardil, and Yangkaal from a Proto-Tangkic system that was fairly similar to that of Yukulta. A further language, the poorly documented Minkin, which was classified by OWH as the sole member of Minkinan family, was argued by Evans to be related, perhaps as a sister, to the Tangkic group, on the basis of cognate vocabulary, a few pronouns, and possibly a few bits of nominal morphology (Evans 1990).

5.8 *Gunwinyguan*

The OWH schema recognised in the interior of north-central Australia a large Gunwinyguan Family, consisting of 11 languages classified into 6 groups (OVV 1966:30-31). The revisions in Wurm (1972) and Walsh and Wurm (1981) each add a language to the southwestern Yangmanic Group: Wagiman and Dagoman respectively. Heath (1978a) argues, on the basis of verb inflectional morphology in particular, that Nunggubuyu, which in the OWH schema was considered a family-level isolate, is closely related to Ngandi, one of the original members of this family. He further suggests that Anindilyakwa, another isolate, may be more distantly related. Recent discussions of the Gunwinyguan family have left excluded the languages of the former Yangmanic Group (Wardaman, Yangman, Dagoman, Wagiman) but added northwestern neighbours Warray and Uwinymil, and considered the claims of the southern neighbour Mangarrayi (Harvey in press-a, Alpher, Evans and Harvey in press) although Merlan (in press) makes a case on the basis of nominal prefixes for relating Mangarrayi rather to the Marric family (Marra, Warndarrang, Alawa) of southeast Arnhem Land. Harvey (in press-a) reconstructs a Proto-Gunwinyguan phonology and presents 1315 supporting cognate sets, recognising that many of these may turn out on closer inspection to be have entered the languages at a later date.⁴ The other evidence proffered for Proto-Gunwinyguan is from TAM inflections verbs. Specific studies argue for close relations between groups of languages within Gunwinyguan (Harvey in press-d, Baker this volume). Meanwhile Peiros (2002) argues, on the basis of relative amounts of shared vocabulary, that the concept of a Gunwinyguan genetic unity is not solid in comparison to that of groupings of two or three ‘Gunwinyguan’

⁴ This is surely the case for terms such as “tobacco” — introduced by Indonesian traders — and **Nento/u* “horse” — probably introduced in the 1870s during the construction of the Overland Telegraph Line and ultimately from the Adelaide language’s term for “(white man’s) kangaroo”.

languages. The scope of the Gunwinyguan family is still to some extent an open question.

5.9 *Maningrida group*

Rebecca Green (in press) establishes a ‘Maningrida’ group consisting of Burarra and Gurr-goni (OWH’s Bureran family), Na-kara and Ndjébbana (Kunibidji) — the latter both family-level isolates in the OWH classification). She demonstrates their genetic relationship by reconstructing the Tense-Aspect-Mood (TAM) system of verbal suffixes for 40 Proto-Maningrida verb paradigms belonging to about a dozen different inflectional classes. This alone meets the criterion of ‘multidimensional paradigmaticity’ which is sufficient to prove genetic relationship according to Nichols (1996). She further reconstructs the inflectional paradigms of 28 verbs of a language ancestral to most of the languages of Arnhem Land, which she labels ‘Proto-Arnhem’ and shows that the four languages of the Maningrida group share morphological innovations which set them apart from the rest and define them as a proper subgroup by the criterion of common innovation.

5.10 *Southern Daly*

Ian Green (in press) compares Murrinh-patha, a family-level isolate in the OWH scheme, with Ngan.gityemer, which had been classed in a ‘Daly’ family in Tryon’s lexicostatistical scheme (Tryon 1974). Despite a low lexicostatistical score of at best 8% between Murrinh-patha and Ngan.gityemer (Ngan.giwumirri dialect), Green finds proof of a close genetic relation in a comparison of the Person-Number plus TAM inflectional paradigms of auxiliary verbs: “the correspondences that the two languages exhibit between paradigm after paradigm of verbal auxiliaries can only be explained genetically, as the shared legacy from Proto Southern Daly (pSC)” (*ibid.*: Introduction). He reconstructs proto-paradigms for 6 auxiliary verbs and explains the divergent developments.

The evidence from the auxiliaries...can leave us no doubt that Mp and Ngty are closely genetically related, the auxiliary systems of the two languages being systematically derivable by a series of plausible and, for the most part, relatively minor changes from their immediate common ancestor. Clearly, there can be no other credible account of the formal similarities of the two languages. (Green in press: Concluding remarks)

Although the close genetic relationship between the two languages has thus been established by the comparative method, Green concludes that the status of pSD as an exclusive subgroup remains to be established by innovations from higher-level proto-language.

5.11 *Non-Pama-Nyungan in general*

Several of OWH's non-PN groupings have received confirmation from more recent study. The family of Iwaidjan languages, on the Cobourge Peninsula and adjacent islands, has been supported and had its internal structure revised by the establishment of aspects of historical phonology and the reconstruction of the system of third-person prefixes for its Iwaidjic subgroup Evans (1997, 1998). Aspects of the inflectional morphology of the Marran group have been reconstructed by Heath (1978a, 1990) and Merlan (in press). For the Nyulnyulan family, see Bowern (this volume). The so-called Mirndi family, combining the Wambayan, Tjingiluan, and Djamindjungan families of OVV (1966), has already been mentioned above. The 28 families of OWH's original schema are being reduced to about a dozen, as linguists apply the comparative method to the non-PN languages.

At the same time, deeper relations are being discovered between the various nPN groups. For example, Blake (1988) has suggested plausible proto-forms that will account for most of the free pronouns in the non-PN languages. He calls this putative ancestral language 'Proto-Northern'. Harvey (in press-b) compares the person-marking prefixes (as well as the free pronouns) of the available nPN languages and proposes a 'proto-prefix paradigm' which plausibly accounts for them. Heath (1990) suggests that common verb inflections may be reconstructible for the majority of languages in the eastern part of the Top End. Rebecca Green (in press) makes a good start to such a system, which she calls 'Proto-Arnhem'. Meanwhile it is widely recognised that the presence of a number of verbal roots (but not necessarily their inflections) is indicative of a genetic relationship between practically all the languages of OWH's Australian phylum (Dixon 1980, Heath 1990).

5.12 *Status of Pama-Nyungan*

The concept of a large grouping of languages, named PN in the OWH schema, has remained elusive. It has been widely accepted by many scholars but is rejected or doubted by others. It has not been rigorously demonstrated by the reconstruction of a large volume of detailed proto-vocabulary, phonology, or morphology and the exact specification of its membership, nor have detailed high-level subgroupings been demonstrated by means of common innovations. (For further commentary on the history of PN, see papers in this volume by O'Grady and Hale, Alpher, and Miceli.)

The first prerequisite for a reconstruction of Proto-Pama-Nyungan (pPN), the assembling of large corpus of cognates, building on Capell's Common Australian vocabulary, has been done primarily by O'Grady and his students O'Grady (1966,

1979, 1990a-d; O'Grady and Fitzgerald 1997, Hendrie 1990, Fitzgerald 1997). Hale (1982) indicates some 80 lexemes shared between the Mayi languages (south of the Gulf of Carpentaria) and western PN languages such as Warlpiri, which can be included in a pPN lexicon. Koch (1997b) lists about 100 pPN forms that have reflexes in the Arandic languages, with references to sources for their reconstructions. Alpher has extensive unpublished files of cognates (cf. Alpher this volume), as do Austin and Peiros (pers. comm.).

Much of the lexical comparison in support of pPN is derived from languages of the northeastern Pama-Maric and western Nyungic groups of the OWH schema. Hence many claims about pPN apply to a language ancestral to at least these groupings of languages, and are to some extent indeterminate about the inclusion of various other languages, especially those of the southeastern mainland. The languages entering into the reconstruction tend to be primarily those with a conservative phonology; i.e., languages that have not undergone drastic sound changes which eliminate much of the first syllable and condition phonemic splits elsewhere in the word. Many of the reliable cognates are therefore nearly identical in phonological shape across a number of languages. Perhaps because of this, there has been little effort devoted to applying the comparative method strictly by establishing sets of corresponding phonemes (but see Alpher this volume). Given this relative absence of strict phonological correspondences and the latitude often allowed in the semantics of compared items, the etymological (comparative lexical) data-base of PN has not played as significant a role in PN studies as could be expected. Further factors disfavouring lexical comparison have been:

- the presumed low level of cognates (at least with identical meanings) found between Australian languages, which has been noted since Capell's early studies and by OVV
- the phonological near-identity of cognates, which makes etymological comparison seem unnecessary for phonological reconstruction
- the difficulty of identifying loanwords, due to phonological conservatism and the presumed high level of borrowing, which has been reinforced by studies such as Heath (1978a, 1981) and in particular Dixon's model of an 'equilibrium level', whereby it was claimed that languages sharing 40-60% vocabulary (according to any sized list) could have attained that situation by mutual borrowing (see 6.4.2).

Proto-Pama-Nyungan phonology has been more assumed than demonstrated. It is still not fully accepted whether pPN had a contrast between apico-alveolar and retroflex places of articulation, and between lamino-dentals and lamino-prepalatals. The conclusions of Dixon (1970b) and Dixon (1980) in favour of a single apical

place and a single laminal place of articulation need to be revisited in the light of a greater number of cognate sets.

A certain amount of grammatical vocabulary has been reconstructed, including personal pronouns, interrogatives, and demonstratives (see Dixon 1980, Blake 1990b, Koch in press, n.d.-b). Several case suffixes have been reconstructed, including the allomorphy of ergative and locative suffixes (Capell 1956, Dixon 1980, Blake 1988). The membership of verbs in particular inflectional classes as well as some of their characteristic inflections are known (Dixon 1980, Alpher 1990), but there is scope to make much more solid reconstructions using a broad data-base of inflected forms across a large number of languages.⁵ A few derivational morphemes, both verbal and nominal, have been reconstructed.

Apart from questions of how much has been reconstructed to pPN, and from which languages, there has not been agreement on what is required to demonstrate the existence of a PN genetic entity. What geographical spread of languages must data be drawn from to make ascription to pPN credible? Is there a quantitative requirement — a proto-lexicon of a certain size and a complete morphology, for example? Is it sufficient to prove that a set of languages uniquely share an assortment of data that is sufficiently arbitrary that it requires explanation in terms of inheritance from a common ancestor (cf. Nichols 1996)? Or must one prove that pPN is a proper subgroup definable by common innovations from a higher-level ancestor, say Proto-Australian or ‘Proto-Gunwinyguo-Pama-Nyungan’ — for which there will probably never be a sufficient amount of corresponding data to perform a proper reconstruction? (See Miceli this volume on the difference between justifying PN as language family vs. a subgroup.)

Several attempts have been made to identify innovations shared by PN languages within a wider Australian family. Evans (1988) discusses a phonological change whereby word-initial apical stops and nasals were replaced by laminals. The argument is supported by 11 etymologies that show a correspondence of PN laminal to nPN apical, which contrasts with a correspondence of PN laminal to nPN laminal. Blake (1988) argues that the allomorphy of the ergative and locative case suffixes are good candidates for PN innovations. He further reconstructs two separate sets of personal pronouns that account for most of the forms of PN vs. non-PN ‘Northern’ languages. There are some common elements in the pPN and Proto-Northern sets, both in the roots (**nga-* in 1st person, **n(h)u-* in 2nd non-singular) and, more importantly, in the increments to the roots. Thus pPN **nyurra* “2Pl” and **pula* “3Du” include second syllables which correspond to meaningful number suffixes *-rrV* and *-lV* in Proto-Northern; these forms are interpretable as descendants of forms that are more like the Proto-Northern system and which could

⁵ I have such a study in progress; cf. Koch n.d.-a.

be ancestral to both sets. The pPN pronouns set, then, can be interpreted as a set of forms that partly continue, partly alter, and partly replace (e.g. 3Pl **tyana* in place of **pu-rrV*) a set of forms that were more like those of Proto-Northern. Finally, Alpher, Evans and Harvey (in press) argue that the verb conjugation system of pPN can be understood as a further development of the kind of system found in the Arnhem languages. Evans (in press) envisions pPN as a branch of a northern subgroup that includes many of the Arnhem languages.

6. R.M.W. Dixon

6.1 General

R.M.W. Dixon has been a dominant figure in Australian linguistics since his appointment as the foundation professor of linguistics in the Arts Faculty of the Australian National University in 1970. He began field-based descriptive work on languages of the Rainforest area of southeastern Cape York Peninsula in 1963, and subsequently produced grammars of Dyirbal, Yidiny, Warrgamay, Nyawaygi, and Mbabaram. He has been active in promoting high-quality descriptive studies through his own research and publication, his training of students, his involvement with the (former) Australian Institute of Aboriginal Studies, and his joint editing (with Barry Blake) of five volumes of the *Handbook of Australian Languages*, published by the ANU Press (vols 1-3) and Oxford University Press (vols 4-5). He in effect “created the grammar-writing school of Australian linguistics” (Heath 2002:200).

Like Capell, Dixon has devoted considerable effort to describing the typological features of Australian languages in general — paying attention to phonology, morphology, syntax, and to some extent lexicon (Dixon 1972:Introduction, 1980, 2001, 2002, Dixon ed. 1976). He has also plotted the geographical distribution of many of these differential features onto maps (see Dixon 1970b, 1980, 2001, 2002).

From the early 1970s Dixon had published on the historical relations of Australian languages. Many of his views have been orthogonal to other views discussed above. He has not devoted much space to the detailed description of particular subgroups, but has offered his evaluations of the validity or otherwise of supposed genetic groupings and has proposed alternative explanations for some of these groupings. His views on genetic classification are summarised below.

6.2 *Proto-Australian*

During the 1970s and 1980s Dixon's comparative studies were described in the terms of 'Proto-Australian (pA)'. A 1970 paper, titled 'Proto-Australian laminals', described the typology and areal distribution of laminal and apical distinctions and attempted to reconstruct the pA situation, presenting evidence in support of a single laminal series (Dixon 1970b). His 1980 book aimed to be

a tentative survey of our present knowledge of Australian languages, together with some hypotheses concerning the structure of the putative ancestor language, proto-Australian, and the development of modern languages from this base. (Dixon 1980:xiii)

The main contribution of this book is, as I see it, to provide the beginnings of a proof that all the languages of Australia (except perhaps two or three northern tongues such as Tiwi and Djingili) are genetically related. (Dixon 1980:xiv)

This evidence came from: verb roots and their presumed inflection, some pronominal and interrogative roots, some nominal case suffixes, and some vocabulary — although there is little in the way of comparative wordlists in this work.

Dixon's reconstructed features, however, have widely been interpreted by other Australianists, as representing pPN rather than pA, on the grounds that the bulk of the comparative data on which they were based was from languages classified as PN in the OWH schema (see Dixon 1990).

Dixon does not accept Pama-Nyungan as a genetic construct. In Dixon (1980) he treats PN and nPN as typological, and to some extent areal, rather than genetic, labels. He regards the PN languages as sharing the pA type of structure and treats the nPN typological features (person-marking prefixes on the verb, noun classes) as the result of innovations diffused through a northern area.

...Pama-Nyungan...has not yet been shown to have any genetic significance...There is nothing that could be attributed to a putative proto-Pama-Nyungan which could not equally validly be assigned to proto-Australian. There is no evidence of any shared innovations which would justify a period of common development for languages of the PN type. (Dixon 1980:255-56)

Examples of reconstructed features assigned to pA but absent from nPN languages through presumed loss include: a vowel length contrast in initial syllables, certain case suffixes, and some pronominal forms (Dixon 1980:256-57).

He is dismissive of the value of lexicostatistical evidence for subgrouping, on the grounds that (a) vocabulary is only one factor that should be considered, and (b) reliance on basic vocabulary is faulted since, he claims, "there is no evidence that basic items are less liable to be borrowed than non-basic terms in Australian

languages” (Dixon 1980:254). (Nevertheless his own judgements of genetic groupings typically include evidence from vocabulary counts.)

Dixon (1980) recognises, on the basis of shared innovations, a number of low-level subgroups such as: Arandic, Maric, Gamilaraay-Ngiyambaa-Wiradhuri, Ngumpin-Yapa (Walmajarri, Warlpiri, and others), Kulin (Wemba-Wemba, Wathawurrung, Woiwurrung), Yidiny-Jabugay, Yolngu. (In Dixon 2001 Arandic has been reinterpreted as a ‘linguistic area’.) At the same time he comments on the absence of recognisable higher-level subgroups and the difficulty of distinguishing between similarities due to common innovation, areal diffusion, or parallel development (Dixon 1980:253-54).

6.3 *The Australian linguistic area*

Dixon’s recent views are expounded most fully in Dixon (2002); they are summarised in Dixon (2001); and the theoretical groundwork is laid down in Dixon (1997).

6.3.1 *The unity of Australian languages*

Dixon Mark II is agnostic regarding the genetic unity of all the Australian languages; hence there is no more talk of ‘Proto-Australian’. He entertains the idea that there may have been several early Australian languages or language families. The attested shared features may result from convergence (Dixon 2001:87-88).

It is not impossible that languages from several different families came into the Australian area and have merged their character through tens of millennia of equilibrium and diffusion. (Dixon 1997:92)

The question of whether all Australian languages go back to a single ancestor is not answerable, because of the great time-depth involved. (Dixon 2002:xix)

6.3.2 *Pama-Nyungan*

He remains firmly opposed to the idea of a Pama-Nyungan genetic entity.

The ‘Pama-Nyungan’ idea...is totally without foundation and must be discarded if any progress is to be made in studying the nature of the linguistic situation in Australia. (Dixon 2002:xx)

The putative division between ‘Pama-Nyungan’ and ‘non-Pama-Nyungan’ (either Mark I or Mark II) has had a deleterious effect on the study of Australian languages. (Dixon 2002:53)

In an appendix on “The ‘Pama-Nyungan’ idea” (Dixon 2001:89-98; a similar version appears in Dixon 2002:44-45) he argues against PN. He disputes the lexicostatistical basis of what he labels ‘Pama-Nyungan Mark I’ and the rest of the

Australian classification and further disputes the accuracy of cognacy figures which were cited in O'Grady (1966) and are implicit in other sources — which were based on an adapted Swadesh 100-wordlist — on the authority of his own figures, which (a) are based on “whatever was available” (with no clearly stated criterion), (b) make no attempt to eliminate obvious loans (unlike OWH), and (c) in a number of cases were applied to groups of languages (with no indication of how this was computed).

Dixon devotes some space to refuting features of what he labels ‘Pama-Nyungan Mark II’, which was the result of modification of the original PN by the addition of Yanyuwa and the subtraction of the Tangkic subgroup and which was further supported by the reconstruction of distinctive pronominal stems and case forms by Blake (1988) and the positing of an innovating sound change by Evans (1988). While admitting the strength of Evans’ initial laminalisation change, Dixon considers that an explanation by ‘areal diffusion’ is more likely. He also attempts to discredit Blake’s distinctive pPN 1Du pronoun **ngali* and Ergative allomorph **-ngku* by claiming that these forms are missing from some PN languages and that a diffusional explanation for their presence is simpler than independent loss as an explanation for their absence.

6.3.3 *Subgroups*

Dixon recognises over 30 “clearly defined low-level genetic subgroups”, to which about half of the continent’s 250 languages can be assigned, and of which only two, Ngarna/Warluwarric and Mirndi, are geographically discontinuous (Dixon 2001:85).

...there are a number of putative low-level genetic subgroups, pointing to minor punctuations in quite recent times...A number of these genetic groups have been established, by reconstruction of the proto-language and the systematic changes through which the modern languages have developed; for others this remains to be done. On the evidence available, it seems most unlikely that the low-level genetic groups will be relatable together in terms of higher-level genetic groups. The question of whether all Australian languages go back to a single ancestor is not answerable, because of the great time-depth involved. (Dixon 2002:xix)

These low-level genetic groups are more accurately described as small language families rather than subgroups, since they are justified by the (potential) reconstruction of proto-features rather than by the specification of common innovations from a higher-level proto-language. Nevertheless he uses the term ‘subgroup’, since this “leaves open the possibility that some of these subgroups may eventually be shown to be linked together in higher-level genetic groupings” (Dixon 2002:xxiv).

No attempt is made reconstruct higher-level genetic units or to show relations between groups of Australian languages by means of family tree diagrams. Indeed he claims that it is not appropriate to try to apply this model to the Australian language situation. The family tree idea is “by no means a sufficient model” for describing language relationships (Dixon 2002:22); it is “not ... an appropriate model for dealing with every kind of language situation (Dixon 2002:23); “[t]he established methods of historical and comparative linguistics, which can be applied so successfully elsewhere, have limited appropriateness in Australia” (Dixon 2002:699). He objects to the assumption “that all languages which are related must be related in family trees, and that there must be family trees of family trees” (Dixon 2002:23).

If Dixon means that in their *actual* (possibly unrecoverable) history, Australian languages are not related in this way, this is hard to reconcile with his explicit assumptions (a) that “each language has a single parent” (Dixon 2002:21) and (b) that even in cases of apparent merger of the languages of two interacting communities “[t]he new language can be said to have come from a single parent — that from which it received most of its grammar and lexicon” (Dixon 2002:42). It seems to me that such a situation should always be capable in principle of being modeled by a tree diagram and that historical linguists should be challenged to recover as much of the tree structure as possible.

Dixon may mean, on the other hand, that it is the *reconstructed history* of Australian languages that cannot be shown by a tree diagram because (a) tree diagrams cannot show convergent changes motivated by contact (as is well known) and (b) “[I]t is often hard — and sometimes impossible — to decide whether a particular piece of similarity between languages is due to borrowing, or to parallel development, or to shared retention ... [which] happens often within the Australian linguistic area” (Dixon 2002:23). In this case the ‘inappropriateness’ of the family tree model amounts to a practical limitation only and represents his judgement as to where research effort should be directed.

...there is no likelihood at all that every language will be placeable on an all-enveloping family tree, going back to some putative ‘proto-Australian’. (Dixon 2002:685)

Is it sensible to try to establish a family-tree diagram for the c.250 modern languages of Australia? I’d say ‘no’. (Dixon 1997:88)

There are indications that Dixon does consider that the inapplicability of family tree modelling follows from the special nature of the Australia language situation.

The language situation in Australia is simply unlike that of Austronesian; or of Indo-European or Uralic or Uto-Aztec. It is unique. (Dixon 2002:xx)

The Australian linguistic area poses problems of investigation and analysis unlike those found anywhere else in the world...The special nature of the Australian situation must be acknowledged for real progress to be made in describing the nature of this linguistic situation, and for an understanding to be attained concerning the nature of interrelations between its constituent languages. (Dixon 2002:699)

By the ‘special nature’ of this situation he is apparently referring to the relatively high degree of structural uniformity and the relative low degree of lexical cognacy across the continent as a whole, beside the much greater uniformity typically found between adjacent languages — which he thinks is better accounted for historically in terms of areal diffusion than common genetic origins plus diversification.

6.3.4 *Areal groups*

Besides genetic subgroups Dixon recognises a number of ‘small linguistic areas’ defined in terms of:

...the languages in a small region showing significant similarities to each other and considerable differences from languages outside the region. However, the similarities are not such as would permit the reconstruction of a common proto-language. That is, these languages do not comprise a low-level genetic subgroup. Rather, they make up a small linguistic area — the languages have probably been in their present locations, and in contact with each other, for a considerable period, so that a number of area-specific linguistic features have diffused across the region. (Dixon 2001:86)

Included in these small ‘areas’ are groupings that have been treated by other scholars as genetic subgroups — Dixon’s WL, ‘Arandic Areal Group’ (cf. Koch this volume, Chapter 6), and his WA ‘Lake Eyre Basin Areal Group’, comprising the Karnic of Bower (2001c) plus the Yarli of Hercus and Austin (this volume).

In Dixon’s later theory most shared features are accounted for in terms of areal diffusion, which becomes the default explanation. (A few features are attributed to parallel changes that follow the ‘inner dynamic’ of earlier stages of the languages.) The continent as a whole constitutes a linguistic area.

Australia constitutes a linguistic diffusion area, involving two hundred and fifty languages. (Dixon 2001:87)

...the Australian language situation is here viewed as a long-term equilibrium zone; it is certainly the longest-established linguistic area in the world. (Dixon 2002:55)

Within the continent, each linguistic variable feature has its own areal distribution, he claims. It should be noted, however, that no attempt is made to delineate sub-areas that are defined by the clustering of isoglosses.

6.4 *Methodological assumptions*

6.4.1 *Prevalence of borrowing/diffusion*

Dixon has always emphasised the prevalence of borrowing/diffusion and the problems this poses for genetic classification. Early writings attributed a major role to the tabooing of words sounding similar to the name of a deceased person. He has repeatedly claimed that Australian languages, unlike other languages of the world, borrow basic vocabulary as readily as non-basic vocabulary. The supposed evidence for this dramatic claim is that he has found similar cognate scores between pairs of languages regardless of size of the list compared. To my knowledge solid evidence for this has never been published, so the claim must be regarded as not having been demonstrated satisfactorily.

The major assumption underlying lexicostatistics is that there is a core vocabulary which is less likely to be replaced by borrowing than non-core vocabulary. This may well hold in some parts of the world but it most emphatically does not apply in Australia....similar figures (to within about 5 per cent) are obtained whether one compares two hundred or two thousand words between two contiguous Australian languages. (Dixon 2002:47)

6.4.2 *The 50% Equilibrium Level model*

Building on this assumption Dixon proposed his own lexicostatistical model of divergence and convergence. In this hypothetical model (basically just a thought experiment with statistics), adjacent *unrelated* languages may through borrowing *increase* their cognacy score to about 50%; at the same time adjacent *related* languages may through lexical replacement *decrease* their cognacy score to about 50%. This sharing of half of their vocabulary (in practice broadened to a 40-60% band) is called an 'equilibrium level'. Since this state could be the result of either divergence or convergence, such a lexical score cannot be used as indication of genetic relation. Rather one must look to grammar to find a better indication of the genetic situation; within vocabulary it is claimed that the cognate score for verbs also provides better evidence, verbs being less easily borrowed than nouns in particular. This equilibrium model was proposed in Dixon (1970a), and was repeated in: Dixon (1972:331-37, 1980:245-55, 1997:26-27, 2001:84, 2002:27-30). It has been influential in many subsequent discussions of Australian linguistic groupings, both by Dixon and by other scholars. It has now been demonstrated, however, by Alpher and Nash (1999), arguing from situations where loanwords can be identified, that any stable equilibrium situation attained by Dixon's processes involves at most a 25% cognacy score, since the proportion of replacement due to borrowing is considerably lower than required by Dixon's model.

6.4.3 *The Punctuated Equilibrium model*

In Dixon (1997, especially ch. 6) a new model of language change was proposed, called ‘Punctuated Equilibrium (PE)’ — this is summarised in Dixon (2002:31-35). According to this model, languages diverge primarily as a result of non-linguistic punctuations, or socially disruptive events, which entail expansion of the language’s territory; otherwise the norm is for languages to converge lexically and structurally with their neighbours.

In each area, linguistic features of all kinds would diffuse. The languages in the area, and in regions within the area, would become more like each other in phonological systems, grammatical categories, perhaps also in lexemes and, at a slower rate, in grammatical forms. They would converge towards a linguistic prototype for the area. (Dixon 1997:139)

Throughout most of human history the periods of equilibrium have been of much longer duration than periods of punctuation. Only punctuation-driven events lead to language relationships that can be modelled by family tree diagrams. In Australia, it is claimed, the original human settlement of the continent with its associated migrations was such a punctuating event which would have led to a branching family-tree. In the whole subsequent history of some 50,000 years there were no major punctuations; the ebb and flow of diffusion obliterated any traces of the earlier separate genetic groupings (language families and high-level subgroups) that resulted from the original punctuation or subsequent minor punctuations such as droughts and floods, except for the most recent minor punctuations which gave rise to the few small genetic groups which Dixon does recognise.

Like his earlier lexicostatistical model, PE is primarily a hypothetical model arrived at by thought experiments and not backed up by supporting historical or ethnographic evidence. The claim that the processes of divergence and convergence take place in different historical periods (vs. the possibility of both going on simultaneously) introduces an unnecessary and unverifiable complication to the theory of language change.⁶

6.4.4 *Requirements for recognising genetic subgroupings*

It appears that to accept a subgroup Dixon requires the possibility of reconstructing a fairly complete grammar of the proto-language. His ‘conservative criteria’ require “considerable correspondence of grammatical and lexical forms such that it should

⁶ Cf. Crowley (1999) and Bowern (forthcoming-a). For an Australian situation that clearly contradicts the notion of gradual convergence see McConvell (2002). For a critique of the ethnographic assumptions of the model see Campbell (2003a). For a critique of the model from an Indo-Europeanist perspective see Watkins (2001).

be possible to reconstruct a good deal of the proto-language” (Dixon 2001:85). One can argue, however, that a relatively small number of solid shared innovations across the domains of phonology, morphology, lexicon, and possibly semantics is sufficient to establish a subgroup, provided that reconstruction has been a previously made of a larger-scale family such as Pama-Nyungan.

As for the prerequisites for recognising a family, such as PN, it appears that the reconstruction of grammatical subsystems such as pronouns is not sufficient, but the subgrouping criterion of common innovation is demanded (at least in the 1980 book). This imposes the demand for the prior reconstruction of an even higher-level proto-Australian or Proto-Gunwinyguo-Pama-Nyungan (for instance) — which would be even less feasible if not virtually impossible.

There appears to be a further expectation that major genetic groupings should be apparent from the inspection of isoglosses.

There are many features of variation, almost all on an areal basis, but their isoglosses do not bunch, indicating that the languages cannot be arranged in a comprehensive family tree diagram. (Dixon 2002:690)

PN is argued against on the basis that diagnostic pPN features are not found in all and only the PN languages. This requirement does not appear to adequately allow for the differential retention and loss of proto-language features which is characteristic of language families.

It follows from Dixon’s distrust of shared vocabulary that he puts more reliance on shared grammar than shared lexicon in positing a genetic entity. Consequently there is very little lexical comparison in Dixon (1980). This has the disadvantage of unnecessarily limiting the range of evidence available for reconstruction. Without serious etymological comparison, we can hardly expect the comparative study of a language family to progress very far. For his ‘reconstructed’ lexemes, furthermore, Dixon (2002) only indicates the linguistic groups in which they are attested — but details of the forms and languages are not given. This unfortunately limits the usability of his findings by other scholars.

6.5 *Summary*

Dixon has rightly advised against glib reliance on unproven classifications. He has correctly pointed out in several places what is required to prove subgrouping. Nevertheless through his over-emphasis on borrowing and diffusion, his distrust of vocabulary, his search for new models of language change, the omission from publications of the full etymological data on which he has based his inferences, and his failure to provide any exemplar of a detailed reconstruction of low-level proto-languages, Dixon has not contributed as much to the systematic reconstruction of

Australian linguistic prehistory as might be expected from a scholar with his long-term involvement in the comparative enterprise.

Dixon's recent stance toward the Australian linguistic situation, if followed by other researchers, would have the effect of discouraging comparative reconstruction for all but low-level (and fairly obvious) subgroups. Although Dixon urges on colleagues the reconstruction of proto-languages for these low-level groupings, he seems to devote his own attention rather to the description of typological parameters, the geographical distributions of variable features and their explanation in terms of diffusion, and the (sometimes cyclical) diachronic developments between different patterns within given typological parameters (Dixon 2001, 2002). The thrust of his recent work is to direct the attention of linguists away from genealogical classification toward typological and areal classification — leaving important historical questions unexplored.

7. Summary and Conclusion

7.1 *Kinds of subgrouping methods*

A number of different methods have been employed in the grouping of Australian languages — both in the identification and justification of linguistic groups and the inclusion of groups into higher-level groups. The earliest and least sophisticated methods can be described as based on criteria of shared features.⁷ More sophisticated methods require not only the sharing of features, but the *exclusive* sharing of features (whether lexical, structural, or grammatical) between the languages concerned. Greater exactitude is introduced by the use of a quantitative measure of shared features — such as lexicostatistics or measures of grammatical similarity of the type invoked in Dixon (1970a). A criterion which involves the comparative method more explicitly is the possibility of reconstructing features exclusive to a set of languages. These features may be lexical or grammatical (forms plus patterns), rarely structural (patterns) alone.

The relative closeness of genetic relation has often been inferred from a comparative measure of shared features, whether or not these are explicitly quantified. A hierarchy of linguistic groups may be constructed from groups established by any of these criteria, by combining groups into more inclusive super-groups. This 'bottom-up' construction of a hierarchy of inclusiveness proceeds on the basis that groups with a relatively greater amount of the factor justifying the grouping (whether shared features, exclusively shared features, or reconstructed exclusive features) are placed lower in the tree diagram (i.e. closer to

⁷ This basis is characterised in Chapter 1 as 'phenetic'.

the terminal nodes) than groupings with a relatively smaller amount of the factor. Such a hierarchical classification is often displayed by a family tree diagram, described as ‘subgrouping’, and taken to represent the historical relations between the languages.

On the other hand the approach to subgrouping that has traditionally been associated with the Comparative Method, and the one that is being advocated in this volume, is the method of ‘common innovation’ (CI). (I prefer the terms ‘common’ to ‘shared’, since innovations may also be ‘shared’ which are independent or induced by contact; only those which reflect a ‘common’ origin are called ‘common innovations’.) This method is a ‘top-down’ approach and involves proper *sub*-grouping rather than bottom-up *super*-grouping. The method depends on a prior reconstruction of (at least some features of) a higher-level (i.e. more inclusive) group and the (potential) enumeration of the innovations undergone by each of the descendant languages. This is followed by the identification of a number of innovations which are shared between a set of languages, which can be ordered chronologically prior to other innovations which differentiate the same languages and hence can be interpretable as *common innovations* in a period of unity before this set of languages diverged from one another (by other, non-shared changes). Hence the resulting tree diagram is based on the *relative chronology of shared innovations*. Like the bottom-up procedure, this top-down method results in a hierarchy of groups representable by a family tree diagram. The conceptual basis of the lower-level groupings, however, is different in the two procedures. In innovation-basis subgrouping, they result from the *division* of a larger group, whereas in the bottom-up classificatory method they are the primary grouping from which the larger group is constructed by processes of cumulative joining of separate groups into super-groups.

7.2 Australian classification methods

The preceding historical survey has shown that Australianists have used a variety of methods for establishing linguistic groups.

Classifications following areal, historical-comparative, typological, and lexico-statistical lines have been worked out for parts or all of Australia, and have their merits. At the same time, really satisfactory all-round classificatory approaches to the Australian linguistic situation still need working out... (Wurm 1972:96)

Even if we restrict our attention to classifications which claim to represent the historical relations between the languages, we find that there have been differences of opinion among Australianists regarding the appropriate methodology. Such lack

of unanimity is not restricted to Australianists, but has been an endemic problem in historical linguistics in general.

Antinomies — i.e. conflicting opinions — can be found between classifications based on lexical comparisons done by informed intuitive inspection of the vocabulary or some part of it, by mass comparisons, by statistical comparison of fixed lexical lists (lexicostatistics), by the development of the sound systems of the languages from that of the parent language as reflected in cognates and by cognate reflection with syntactic comparison. (Voegelin and Voegelin 1977:3)

Australianists have used different criteria in pursuing the same goal of establishing a family tree which reflects the supposed prehistorical relations of the Australian languages. They have not always agreed on the following issues:

- Is it best to compare lexical or grammatical data?
- Of lexical data, what kind should be compared?
- Basic vocabulary (OWH) or any available vocabulary (Dixon)?
- Should one rely on nouns (Schmidt) or prefer verbs (Dixon, Breen)?
- Should the lexical data be quantified (OWH) or not (Schmidt)?
- How many words should the sample contain? (44 Schmidt, 100 OWH, 200+ Dixon, Breen)?
- Should grammatical words such as “you”, “this”, “what” be included (OWH) or excluded (Dixon) from the lexical test lists?
- Should one use any shared features or only *exclusively* shared features?
- Should an attempt be made to exclude loanwords from comparative wordlists or not?
- Are cognates recognised by inspection or by strict correspondence sets?
- Should one compare only strict semantic equivalents or include plausible cognates whose meanings don’t exactly match?
- Can proto-features be posited by averaging the compared forms, selecting the lowest common denominator or the simplest system, or only by a strict application of the comparative method, including citation of cognates, explicit correspondences, and postulation of specific changes?
- Can genetic groupings (families or subgroups) be posited on the basis of complex shared morphosyntactic features without a lot of reconstructed vocabulary?
- What is the role of bottom-up vs. top-down reconstruction?
- For subgrouping by common innovation, what relative weight should be given to evidence from innovations in: phonology, grammar, vocabulary?

There is an increasing volume of reconstruction being done within low-level subgroups, and among the non-PN languages also across several groups. There have not been many attempts at applying (CI) methodology even where its

desirability is supported. This can be attributed to some extent to absence of higher-level reconstructions to take as a point of departure. It is generally recognised that it is virtually impossible to have sufficiently ample reconstructions of a Proto-Australian or Proto-Northern to be helpful in establishing deep subgroups. Doubts about the validity of pPN and the sparseness of data reconstructed for it have also impeded the positing of CIs for presumed subgroups within PN. The main focus of research on subgroups of PN has been on reconstructing (especially phonological and lexical) features of intermediate proto-languages and explicating the (especially phonological) changes which result in its diversification.

7.3 Conclusion

It is important for comparativists of Australian languages to be aware of what methods have been used and are being used (by themselves included) in the construction of linguistic classifications. It is desirable to have consensus regarding procedures and criteria for classification. It is timely to attempt to practice CI methodology and to make serious efforts to reconstruct maximal groups such as pPN, Proto-Arnhem, etc. It is the purpose of this collection of papers to foster this movement. It is to be hoped that, taken as a whole, these case studies will serve to (a) advance our knowledge of Australian linguistic prehistory by the application of sound historical-comparative methodology, (b) inspire similar studies of other subgroups of Australian languages, and (c) provide of a model for similar work in other language families.

PAMA-NYUNGAN AS A GENETIC ENTITY¹

Luisa Miceli

*University of Western Australia and Centre for Research on Language Change,
Australian National University*

1. Introduction

This paper is based on my contribution to the Pama-Nyungan (PN) panel discussion at the *Workshop on Reconstruction and Subgrouping in Australian Languages* (ICHL 2001). As a member of the panel I was asked to summarise my thoughts on the following question:

Is such an entity [i.e. PN] (or something of similar scope) justifiable according to the methods of traditional historical linguistics, on the basis of current knowledge?

In my original response I argued that PN is not yet an *established* genetic entity because it has generally been treated as a subgroup of a higher order Australian family, rather than as a family to be determined independently of any conjectured distant genetic connections to other Australian languages. In my view, the validity of Pama-Nyungan as a genetic entity needs to be demonstrated using language family, rather than subgroup, criteria because there is no *known* larger entity of which these languages could form a branch.

In this paper, I re-present my argument with some background information. The structure is as follows: in section 2 I review traditional methods in historical linguistics; section 3 presents PN and the Australian classification; section 4 is my conclusion.

2. Methods of traditional historical linguistics

The discussion question refers specifically to traditional methods. In presenting my view on the issue of whether PN is an established genetic grouping, I therefore see as my first task describing what these methods are, and what their application involves. The first part is relatively easy. An inspection of historical linguistics textbooks reveals that the only method that everyone accepts as reliable in

¹ I would like to thank Alan Dench, Bethwyn Evans, Eva Lindström, Malcolm Ross and the editors for reading this paper. The usual disclaimers apply.

establishing genetic entities is quite clearly the ‘comparative method’ (CM). Everyone also agrees, I believe, that two types of genetic entity can be determined using this method:

1. one can determine a ‘family’ on the basis of similarities between languages that are interpreted as being ‘retentions’ from a common ancestor, because they are unlikely to be due to chance, nature² or borrowing/diffusion;³
2. one can determine a ‘subgroup of a family’ on the basis of similarities that are interpreted as ‘shared innovations’: they are found only in a particular subset of languages of the family, and they are unlikely to have occurred independently in several languages or to be the result of borrowing/diffusion.

Subgrouping therefore logically follows the establishment of a family and is determined on the basis of a special type of similarity.⁴

Although everyone accepts the CM, there are certain differences in opinion when it comes to its application. One of the most important disagreements, in my view, regards the point at which a family can be considered established, which is dependent on the type of similarities favoured as heuristic evidence.⁵ A full review of the literature on this topic is beyond the scope of this paper, but I will briefly summarise three views found in recent publications. In evaluating whether or not PN is an established genetic entity it is important to keep in mind that, although there is a single uncontroversially accepted method, controversy lies in what the method actually entails.

2.1 Paradigmatic, or other individual-identifying evidence, establishes genetic relatedness

Johanna Nichols (1996:41) argues that the classic application of the CM, as presented in Meillet (1965, 1967) for example, has two separate components, the first being the heuristic component and, the second, linguistic comparison, i.e. the work that establishes correspondences and produces reconstructions.

² By ‘nature’ I mean iconic or universal features of language. For a discussion of natural resemblance see Harrison (2003).

³ The similarities that we interpret as retentions are, of course, not just similarities but strict correspondences that hold between languages.

⁴ At the very low level, genetic relatedness may be ‘self-evident’. That is, there may still be a degree of mutual intelligibility between language varieties, and there may also be oral or written traditions that confirm this. In certain cases, a subgroup of a family may therefore be known as a genetic entity before it is established as a subgroup of that family (see e.g. Nichols 1996 on Slavic).

⁵ There are also disagreements about which types of similarities can be used for subgrouping arguments, but I will not go into this here (see e.g. Harrison 2003, Hetzron 1976, Nichols 1996, Fox 1995, Watkins 1966).

She describes the heuristic component as an assumption of relatedness based on evidence that identifies a unique individual proto-language, that is, features whose “probability of multiple independent occurrence among the world’s languages ... [are] so low that for practical purposes ... [they] can be regarded as unique and individual” (1996:48). She goes on to demonstrate that the type of evidence that reaches the individual-identifying threshold is usually paradigmatic (i.e. morphosyntactic), and ideally that there should be whole intersecting systems (multidimensional paradigmaticity).

The main aim of the comparative work that follows (the identification of sound correspondences and the subsequent reconstruction of lexical and grammatical elements), she argues, is that of producing the detailed family structure. However, it is quite clear that Nichols expects lexical comparison to provide further evidence of genetic relatedness in the form of cognates displaying regular sound correspondences. In a different publication she writes that observed (paradigmatic) similarities which do not yield systematic lexical confirmation are problematic because the evidence is, in a sense, conflicting. In discussing the proposed grouping of Altaic (Turkic, Mongolian and Tungusic), for which, in her opinion, there appears to be paradigmatic evidence but no lexical cognates, she concludes the following:

...either the ‘Altaic’ languages are genetically related (in which case they must be quite closely related, for the pronoun similarities are comparable to those that obtain within a single branch of Indo-European such as Germanic or Balto-Slavic; yet the lexical stock proves to offer very few potential cognates, much unlike the situation in Germanic or Balto-Slavic) or they are not (in which case the pronominal similarities are due to chance, which seems highly implausible). (Nichols 1992:4)

2.2 *Regular sound correspondences in lexical comparison establish genetic relatedness*

Harrison (2003) argues that, since to establish genetic relatedness it must be demonstrated that similarities are unlikely to be due to nature, the comparativist must concentrate on the most symbolic of linguistic signs: individual lexical items.⁶ The CM is therefore described by him as a tool designed to operate on lexical data alone, the ‘domain restriction’ being necessary for the exclusion of natural resemblances that are of no use for genetic arguments. The assumption that sound change is regular is then required by the CM to eliminate the possibility that the lexical resemblances (similar forms with similar meanings/interpretations⁷) are due

⁶ His lexical evidence includes grammatical morphemes and morphologically complex words.

⁷ Under Johanna Nichols’ interpretation of the CM, because genetic relatedness is established before the comparative work begins, the similarity condition (i.e. the requirement that potential cognates

to chance and, to a lesser extent, borrowing/diffusion. That is, the regularity assumption allows the comparativist to establish potential cognates as real cognates: chance resemblances will not produce a regular pattern of sound correspondence and, unless borrowing has occurred on a massive scale, patterns of correspondence will also help to identify loans.

Harrison (2003:229) briefly discusses grammatical oddities, or the type of paradigmatic evidence that linguists have sometimes put forward as evidence of genetic relatedness, and concludes that, although he understands the motivation of the linguists involved, “[t]he principal virtue of the comparative method is just that its logic doesn’t demand that we seek out oddities, but regularities”.

2.3 *Genetic relatedness is established when there is more than one type of evidence*

Thomason and Kaufman (1988) argue that genetic relatedness cannot be established on one type of evidence alone, whether lexical or paradigmatic, and Campbell (1997, 2003b) also suggests that it is preferable to have different types of evidence in support of a proposal of genetic relatedness.⁸

In his conclusions regarding which methodological principles and procedures are valid to determine family relationship, Campbell (1997:259) writes: “[p]rincipal among these are reliance on regular sound correspondences in basic vocabulary and patterned grammatical evidence involving submerged features or shared aberrancy...”. That he believes relatedness is best confirmed using a combination of these different types of evidence becomes clear from his careful illustration of the various ways in which even the most reliable features can sometimes have explanations other than genetic relatedness. Most interesting is, perhaps, his discussion of apparent shared aberrancies, or idiosyncratic grammatical correspondences of the type that appear to be individual-identifying, but which, in fact, have non-genetic explanations (Campbell 1997:219-221).

must be similar in meaning as well as in form) is not part of the operational procedure. Nichols writes, for example, “once relatedness is assumed, then the labour-intensive process of working out the correspondences and cognate sets begins. Since relatedness is assumed, this lexical work makes the further assumption that any vocabulary set displaying the regular sound correspondences is in fact cognate, however far-fetched the semantic correspondences” (1996:41).

⁸ Campbell prefers to approach questions of genetic relatedness in terms of “strength of hypothesis” and “level of confidence warranted in making judgements” rather than in terms of a strict dichotomy of established/unestablished. He explains: “A proposal may present evidence that is sufficient to attain a certain level of plausibility but not sufficient to eliminate all doubt” (Campbell 1997:261); therefore, “It is more accurate to view unconfirmed proposals of family relationship as falling somewhere along a continuum ranging from the highly probable to the very unlikely” (Campbell 1997:260-261).

Thomason and Kaufman's argument for why evidence from the various linguistic levels is needed stems from a different definition of genetic relatedness. They argue that genetic relatedness should be defined socially, rather than linguistically, as what results from 'normal linguistic transmission'. They describe this as the process by which a language is:

"...passed on from parent generation to child generation and/or via peer group from immediately older to immediately younger, **with relatively small degrees of change over the short run...**" (emphasis theirs, Thomason and Kaufman 1988:9-10)

Languages arising by means other than normal linguistic transmission, they claim, are not genetically related to *any* antecedent system.⁹ They argue that an interruption in normal linguistic transmission should give rise to "...a **lack** of correspondence among the various subsystems of the language, most probably between the lexicon as a whole and the grammar as a whole" (emphasis theirs) (Thomason and Kaufman 1988:11). In their view, the requirement of evidence from different subsystems is therefore necessary for the identification of languages that lie outside the dimension of genetic relatedness, and to distinguish them from those that have undergone contact-induced change over the course of several generations.

3. Pama-Nyungan and the Australian classification

In 1966, O'Grady, Voegelin and Voegelin (OVV) published a lexicostatistical classification of Australian languages (see Koch this volume, Chapter 2 for details) and it was here that the genetic unit of PN was first proposed, as one of the 29 phyletic families within the Australian macro-phylum.¹⁰ Lexicostatistics has been used as a starting point in the classification of other language families, such as Austronesian. However, since the method has been rejected by the vast majority of linguists because they consider it to be unreliable, any groupings identified this way are to be taken as hypothetical groupings only, to be confirmed by the CM.¹¹ The internal classification of Austronesian, for example, has changed dramatically from Dyen's (1965) lexicostatistical schema. On the contrary, although the OVV

⁹ For a rather different opinion see Croft (2000:chapter 8).

¹⁰ Much of the data collection and results were actually the work of Ken Hale, who is credited with the discovery of Pama-Nyungan and who coined the name for this genetic entity using the words for "person" in the languages found at the two extremes of the family's territory: *pama* in the north-east and *nyungar* in the south west. Stephen Wurm also collaborated on the project and provided much of the data for Eastern languages (see O'Grady and Hale, this volume).

¹¹ For a discussion of the problematic nature of all the assumptions at the basis of lexicostatistics, see Campbell (1998:177-186).

classification has been modified, the Australian lexicostatistical groupings have generally not been ‘re-established’ using the CM; this was of course the aim of the workshop on which this volume is based. Rather, some of OVV’s groupings have been ‘defended’ through the identification of phonological and morphosyntactic features, whose distribution more or less coincides with the lexicostatistical groupings, and certain languages have been included or excluded from original groupings, on the basis of such features.

3.1 *Defending Pama-Nyungan*

O’Grady, Voegelin and Voegelin write that the low cognate density present at their macro-phylum level is suggestive of only a very remote relationship and that it makes the reconstruction of all, or even most, of the phonemic contrasts of the parental phylum rather difficult.¹² They seem to be suggesting that it may not be possible to establish the Australian macro-phylum through application of traditional methods and, therefore, that their family level groupings are the highest level for which the CM may bring confirmation (OVV 1966:15-16). Following this, it might be expected that PN, one of their family level groupings, would have been treated as a family, and not a subgroup, in comparative work that followed; that its validity would be confirmed on the basis of ‘correspondences’, not ‘innovations’.

Dixon (1970b, 1980), who understandably rejected PN as an established genetic grouping because it was the product of lexicostatistics, nevertheless based his critiques on the idea of ‘PN as a branch of a higher-order Australian family’. He pointed out that, although there were many similarities, there appeared to be no innovations unique to this group of languages that established them as a subgroup (see also Dixon 1990). Perhaps in response to this criticism, researchers who believed PN to be justifiable have since dedicated themselves mainly to the task of demonstrating the existence of PN innovations.

Two 1988 publications present the features that are still regarded as crucial evidence for PN as a subgroup. Blake (1988) provides a survey and reconstruction of pronoun paradigms. He reconstructs two sets of pronouns, one for the northern languages (often referred to as non-PN), the other for PN languages.¹³ Although he does not explicitly state this, he implies that, since there are obvious similarities between the two, they must stem from a common source and that the differences between the two reconstructed sets constitute some of the innovations that justify

¹² The reconstructions in Dixon (1980), attributed to a proto-Australian, have been pointed out as being mostly based on data from Pama-Nyungan languages, and therefore not really ‘proto-Australian’ (see e.g. Blake 1988:6).

¹³ The set of pronouns reconstructed for Pama-Nyungan languages is, for the most part, in agreement with the Proto-Australian reconstructions in Dixon (1980).

each branch.¹⁴ For PN, the most important of these features was the reconstructed first person dual form *ngali*.¹⁵ Evans (1988) presents further evidence of innovations in the identification of a shared sound change, the laminalisation of word-initial apical consonants.¹⁶ Overall, he lists the following set of innovations in support of PN as a subgroup:

...(a) ergative *-ngku/-lu* and locative *-ngka/-la*, with their distinct allomorphy, (b) the nominalizer in *-NHDHA-*, (c) a new pronoun system, (d) certain verb inflections, and (e) with Gunwingguan, whatever system of verbal inflections gave rise to the conjugation markers. (Evans 1988:94)

Alpher (1990) gives further verbal evidence for PN in the form of reconstructed paradigms.

3.2 *The Australian macro-phylum or Australian family*

The problem with the interpretation of PN as a subgroup, as already suggested, is that the Australian family, of which it is supposedly a branch, is not established under any of the interpretations of the CM discussed above.

As mentioned in section 3.1, O'Grady, Voegelin and Voegelin themselves pointed out that there are not enough lexical similarities to arrive at regular sound correspondences and to reconstruct a proto-Australian phonological system. The Australian family is therefore not established (or, in my view, possible to establish) under the interpretation of the CM that requires lexical comparison and regular sound correspondences.

¹⁴ Heath (1997) explicitly refers to a proto Pama-Nyungan and a proto non-Pama-Nyungan (Northern).

¹⁵ On the basis of the reconstructed pronoun paradigms, certain changes were made to the composition of the Pama-Nyungan 'subgroup'. The Tangkic languages, that on lexical counts had been included in Pama-Nyungan, are now excluded due to the absence of *ngali* and the existence of distinctively Northern forms in their pronoun systems. Yanyuwa, on the contrary, originally left out of Pama-Nyungan, has been included on the basis of the pronominal evidence and identified as being most closely related to the Warluwarric languages. Karrwa and Waanyi, very closely related languages, not included in Pama-Nyungan by O'Grady, Voegelin and Voegelin, appear to have a 'mixed' pronoun system with some PN and some Northern forms. Evans clearly excludes them from Pama-Nyungan but sees them as the most closely related languages to the subgroup and, therefore, as sharing some of the innovations associated with Pama-Nyungan languages (see e.g. Evans 1995, Evans and Jones 1997). Dixon (2001) argues that *ngali* is better understood as a form that has diffused over a large contiguous area. This hypothesis is not discussed further here, this paper being largely based on the original panel presentation. Dixon (2001) appeared in print only after the ICHL conference.

¹⁶ See Alpher (this volume) for a critique of the laminalisation innovation.

Furthermore, although Blake (1988) discusses the similarities between the two pronoun systems reconstructed for Australian languages, he does not reconstruct a proto-Australian pronominal system. He also points out that the other idiosyncratic evidence given in support of PN, the case marking allomorphy, causes problems for comparison with non-PN languages because many northern languages lack these cases, being largely head-marking. There doesn't appear to be any paradigmatic evidence, or morphosyntactic evidence, that could establish an Australian family under Johanna Nichols' interpretation of the CM either, let alone the interpretation that requires evidence from different linguistic subsystems.

4. Conclusion

As stated at the beginning of this paper, I maintain that, at present, PN cannot be considered an *established* genetic entity because the evidence so far proposed in its favour relies too heavily on the assumption that all Australian languages are related.

There is sufficient evidence to suggest that we are highly likely to be dealing with a group of genetically related languages, for example, the recurring set of pronouns and the shared case allomorphy briefly discussed above: further investigation of these features may ultimately demonstrate that these reach Johanna Nichols' individual-identifying threshold. However, all of the approaches described in section 2 consider regular sound correspondences in the lexicon crucial in establishing/confirming genetic relatedness.¹⁷ Therefore, more detailed comparison and reconstruction, of both phonology and morphology, must be undertaken before PN can be considered to have been established in accordance with the methods of traditional linguistics.

¹⁷ Alpher (this volume) is the first presentation of sound correspondences in PN.

THE COHERENCE AND DISTINCTIVENESS OF THE PAMA-NYUNGAN LANGUAGE FAMILY WITHIN THE AUSTRALIAN LINGUISTIC PHYLUM¹

Geoff O’Grady and †Ken Hale
University of Victoria, BC and MIT

1. On the Comparative Method in Australia

1.1 Background

For decade after decade, Dixon (1970a, 1980, 1997, 2001, 2002) has persisted in the same wrong-headed assessment of the phylogenetic status of the large Pama-Nyungan group of Australian Aboriginal languages. His claim, which is extravagantly and spectacularly erroneous, is that it has no genetic significance in the wider Australian linguistic context. Moreover, he denies that the Comparative Method can be applied to Australian languages.

This approach is so bizarrely faulted, and such an insult to the eminently successful practitioners of Comparative Method Linguistics in Australia, that it positively demands a decisive riposte. So here we go!

Arthur Capell, in his 1956 publication, *A new approach to Australian linguistics*, brought to light a substantial portion of the grammatical apparatus — especially nominal case markers and pronouns — of what he termed ‘Common Australian’. He also uncovered 48 items of CA vocabulary. His criterion for designating an element as CA was that it occur in all mainland states (and the NT) of the present Commonwealth — i.e., that it have a continent-wide sweep.

On the basis of Capell’s work, O’Grady compiled the accompanying map of Australia in 1959 (see Appendix 4.1).² In it, he aimed to show the percentages of Capell’s Common Australian vocabulary retained in 106 communilects distributed throughout all parts of mainland Australia.

The percentages shown in the map for Cape York Peninsula are too low, due to our ignorance at that time of the catastrophic sound changes found in many languages of the region. Moreover, O’Grady’s judgments as to which were true reflexes of a given root were faulty in a few cases. Still, even a six-year-old child

¹ The authors had David Nash present this paper at ICHL; he also helped it through publication. We are grateful to the editors and participants in the Subgrouping Workshop for helpful comments.

² The map has been published by Capell (1962:12bis), Capell (1979c:597), and Wurm (1972:91).

could judge unerringly which of Gundangbon *langi* “hand” and Nukunu *marā* “hand”, for example, reflects Capell’s Common Australian **marang* “hand”.

Despite shortcomings, the map made immediately apparent the fact that the percentages were extremely low in the North Kimberley region and in much of Arnhem Land (excepting its northeast corner). The lowest figure of all, 5%, was that for Tiwi, spoken on Bathurst and Melville Islands.

In 1961, Hale used a simple — and less interesting — lexicostatistic method as a tool to obtain some idea of the linguistic subgroupings within Australia.³ On the basis of this, for better or for worse, he identified Pama-Nyungan and characterised it as possibly the largest coherent genetic linguistic construct in Australia.

At the same time, he posited 28 further coordinate language families and language isolates, such as Tiwi, in the north and northwest of the continent. Hale (1962) brought the internal relationships in Arandic into focus, and in his 1964/1966b and 1976b-d works documented the sweeping sound changes characteristic of Northern Paman languages. He showed that these sound changes were readily reducible to rules.

It should be mentioned, however, that a careful reading of Schmidt (1919a, b)⁴ reveals that he was to some extent aware of these developments, not only in

³ O’Grady has resisted an earlier impulse to ameliorate the wording of this paragraph, since he feels sure that Hale would want it to stand as is. Those of us who enjoyed the privilege of knowing this truly great man recognise in his wording his modest and self-effacing nature. O’Grady wishes to assure the reader of his conviction that Hale’s delineation and naming of Pama-Nyungan as the ‘largest coherent genetic linguistic construct’ in Australia was an epoch-making accomplishment.

⁴ As an example of Schmidt’s insight, we cite the following (emphasis added):

“Keine von den Quellen läßt es erkennen, ob der *Unterschied von transitiver und intransitiver Form* noch in lebendiger Function sei. Merkwürdig ist, daß überall diejenige Form, welche ihrem Lautbestand nach die Transitivform sein könnte, im Possessiv auftritt: Yaraikana *atu*, Otati *aton*, Nggerikudi *da*, Coen und Mapoon RR. *ta*; es müßte denn sein, dass auch *aid'u* bei Yaraikana auf eine Transitivform zurückgehe. In all diesen Fällen handelt es sich aber nur um 1. Sing., wo überall die Pronominalform (*ai*)*yu* nur auf die Intransitivform zurückgehen kann. Dagegen trägt in der 2. Sing. das Pronomen überall die Züge der Transitivform. Wir haben es hier also mit einem ähnlichen Wechsel zwischen Transitiv- und Intransitivformen zu tun, wie wir ihn bei einer Reihe von südaustralischen Sprachen kennen gelernt hatten.” (Schmidt 1919b:52-53, §168)

“None of the sources lets us know if the *distinction between transitive and intransitive form* is still in active use. It is strange that everywhere that form which according to its sound shape could be the transitive form occurs in the possessive: Yaraikana *atu*, Otati *aton*, Nggerikudi *da*, Coen and Mapoon RR. *ta*; it must then be that the *aid'u* of Yaraikana also goes back to a transitive form. In all these cases however we are dealing with only 1st Sing., where everywhere the pronominal form (*ai*)*yu* can only go back to the Intransitive form. On the other hand in the 2nd Sing the pronoun everywhere bears the

Arandic, but also in northern Cape York Peninsula — in contradiction to his explicit 1908 declaration that the languages of this area were Papuan and ‘unconnected with the [southern] languages’, which form a group “whose components are clearly related to each other.”

1.2 *The Comparative Method applied within subgroups*

O’Grady (1966) was able to formulate statements reflecting the regular descent, in the northwest Australian Ngayarda subgroup, of elements of the proto-Ngayarta sound system into its most innovative daughter language, Yinjibarndi. Thus the lateral **l*, for example, was found to undergo fortition regularly to *t* in Yinjibarndi when occurring word-finally or before **p*, as in pNG **pulpurr* “stone axe” > YIN *putpurr*.

Of the scholars engaged in further comparative work within subgroups of Pama-Nyungan since the 1960s, Austin has been the most prolific. His principal comparative studies were those of 1981 on proto-Kanyara and proto-Mantharta, 1990a on proto-Karnic and 1997b on proto Central New South Wales.

On the basis of Austin’s work on the Kanyara languages, Crowley (1987:294-295) was able to craft a classic exercise in formulating rules of historical changes at the phonological level, using Burduna data. The exercise contains over a dozen examples of the *regular* deletion of a nasal preceding the homorganic stop. Thus proto-Kanyara **kurntal* ‘daughter’ > Burduna *kurtal*, while **thurtungkayi* “honey” > BRD *jurdukayi*. In the process, a voicing contrast is set up.

Koch (1997c) produced a meticulous study, ‘Pama-Nyungan reflexes in the Arandic languages’. In it, he displayed, *inter alia*, six examples of the change **wa* > *wo* (> *u*), followed by four cases in which this innovation was inhibited when **wa*- was succeeded by a lamino-dental or a prepalatalised apical. He then gave two etymologies that are exceptions to rounding, speculating that the pre-Arandic form may have begun with another consonant, plausibly **k*.

Blevins (1999) makes a valuable contribution towards establishing the genetic affiliation of Nhanda using the Comparative Method, giving particular attention to the loss of initial consonants, especially of **p*, in this language.

This is the stuff of Comparative Method linguistics *par excellence*! Asserting that the Comparative Method doesn’t work in Australia would appear to be ridiculous in the extreme. Exceptions? Consider Indo-European:

— “Nest” in Lithuanian is *lizdàs* instead of the expected **nizdàs* (cf. Latvian *ligzda* (Brenkis, pers. comm.)).

traces of the Transitive form. We have therefore an alternation between transitive and intransitive forms similar to that which we have come to know from a series of southern Australian languages.” (translated from Schmidt 1919b:52-53, §168).

- Campbell (1998:188–191) describes the example of ‘dialect borrowing’ in which some words in Normandy dialects of French retain Latin *k* which otherwise became [j] (before *a*).
- pIE **re:d-* ‘scrape, scratch, gnaw’ descends in Latin in o-grade form *ro:d-* (cf. English *rodent*), which is fine, but also in ‘possibly variant form *ra:d-*’ (Morris 1969:1536). It turns out that there are many such ‘variant forms’ in Indo-European languages.

So don't try to throttle off or scuttle Comparative Method linguistics in Australia just when it is gaining real impetus!

1.3 *The Comparative Method applied at a higher level*

It might be thought that the Comparative Method works satisfactorily in close-knit, low-level subgroups like Kanyara or Thura-Yura, but not when the net is cast from one geographical extreme within Pama-Nyungan to another.

What, for example, would be the result if we were to test this hypothesis by imagining that the only Australian languages available for comparative study were the members of the Ngayarta grouping in Western Australia and Northern and Middle Pamic in far-off Cape York Peninsula?

We would then attempt to assemble potentially cognate material in the manner set out below.⁵ First we give Ngayarta forms, where possible citing proto-Ngayarta (pNG) forms, with supporting examples from Ngayarta languages. Then we present proto-Northern-and-Middle Pamic (pNMP) forms with supporting examples. Finally we give the appropriate reconstructions in an ancestral proto-Ngayarta — Northern and Middle Pamic (pNGP).⁶

⁵ Language name abbreviations: ARB Arabana, BGU Bidjara-Gungabula, BNJ Bandjalang, BRD Burduna, GRY Gariyara, GUP Gupapuynu, IOR Eora (Sydney language), JGY Djabugay, K Kayardild, KAB Kabi Kabi, KAL Karlamayi, KAU Kurna, KLY Kala Lagaw Ya, KUR Kurrama, L Lardil, LIN Linngithigh, MRT Martuthunira, MRN Mirniny, NGL Ngarla, NMA Ngarluma, NUW Nhuwala, NYA Nyangumarta, NYL Nyamal, NYU Nyungar, pA proto-Australian, PAA Paakantyi, PAN Panyjima, pAR Proto-Arandic, PAY Payungu, pCNS Proto-Central New South Wales, PIN Pintupi, pKM Proto-Kanyara-Mantharta, pKR Proto-Karnic, PLK Palyku, pMP proto-Middle Pamic, pNG proto-Ngayarta, pNGP proto-Ngayarta — Northern and Middle Pamic, PNK Pankarla, pNMP proto-Northern-and-Middle Pamic, pOC proto-Oceanic, pP Proto-Pamic, pPN Proto-Pama-Nyungan, spPN sub-proto-Pama-Nyungan, TAY Kuuk Thaayorre, UMP Umpila, URA Uradhi, URA-AT Atampaya dialect of Uradhi, WEM Wemba Wemba, WLM Walmajarri, WLP Warlpiri, WMK Wik Mungkan, WOI Woiwurrung, YAN Yanyuwa, YDN Yidiny, YGD Yingkarta, YIM Guugu-Yimidhirr, YIN Yinjibarndi, YNW Yinwum.

⁶ In reconstructed forms, J represents a laminal stop not specified as palatal or dental, U represents a vowel *u* of indeterminate length. In Uradhi *bh* represents a voiced bilabial fricative.

- (1) pNG *-ku “ACCUSATIVE case marker”
pNMP *-ku “DATIVE case marker”
pNGP *-ku “DATIVE”
- (2) pNG *-lu ~ *-ngku ~ “INSTRUMENTAL”
pNMP *-lu ~ *-ngku “ERGATIVE/INSTRUMENTAL”
pNGP *-lu ~ *-ngku “ERGATIVE/INSTRUMENTAL”

That such a phonologically disparate aggregation of allomorphs should occur *independently* in Ngayarta and Northern and Middle Pamic is inconceivable. It positively shouts ‘genetic relationship’ from the rooftops! English *good/better/best* and German *gut/besser/best-* (*am besten*) roar out the same message with equally overwhelming force.

- (3) pNG *ngayi “I” (> NMA, YIN *ngayi*)
pNMP *ngayu “I” (> UMP *ngayu*, W-MK *ngay*, LIN *ayo.ng*, YNW *ayu-*, URA-AT *ayu(.bha)*)
pNGP *ngayu “I”
- (4) pNG *ngali “we DUAL INCLUSIVE” (> NMA, YIN *ngali*)
pNMP *ngali “we DUAL INCLUSIVE” (> UMP *ngali*, W-MK *ngal*, LIN *li.nggay*, YNW *le-*, URA-AT *ali(.bha)*)
pNGP *ngali “we DUAL INCLUSIVE”
- (5) pNG *ngana.rna “we PL EXCLUSIVE” (> NMA *ngana.rna*)
pNMP *ngana “we EXCLUSIVE” (> UMP *ngana*, W-MK *ngan*, LIN *na.n*, YNW *na-*, URA-AT *ana(.bha)* is “we PL INCLUSIVE” (with Antonymic Change))
pNGP *ngana “we PL EXCLUSIVE”
- (6) pNG *nyinta “thou”
pNMP *nhunta “thou” (> Wik Muminh *nhinta*, W-MK *nhint*, TAY *nhunt*)
pNGP *NYunta “thou”
- (7) pNG *nhupalu “you two”
W-MK *nhip* “you two”
pNGP *nhupalu “you two”
- (8) Ngarla *nyurra* “you PL”
pNMP *nhurra “you PL” (> Wik Muminh *nhiya*, W-MK *nhiy*, TAY *nhurr*)
pNGP *NYurra “you PL”
- (9) NMA *pa.lu “he, she”
pMP *pa.lu “here” (> UMP *pa.lu* “hither,” W-MK *pa.l* “here”) (with semantic change). The Pamic forms are perhaps rather derived from the LOC *pa-la, perhaps with a vowel ablaut *a-* > *u* marking Allative.

- pNGP **pa.lu* “that one” (< earlier “that-ERGATIVE”)
- (10) pNG **ngani* “what” (> Kariyarra, YIN *ngani*)
 pNMP **ngaani* “what” (> UMP *ngaani*, W-MK *ngeen*)
 pNGP **ngaani* “what”
- (11) pNG **kutha.rra* “two” (> NMA *kutha.rra*, YIN *kuyha.rra*)
 pNMP **kuuja(.ma)* “two” (> W-MK *kuj.am*, LIN *odhi.thigh*, YNW *uci.m*,
 URA-AT *udhya.ma*)
 PNGP **kuuJa* “two”
- (12) pNG **mara* “hand” (> NMA, YIN *mara*)
 pNMP **mara* “hand” (> UMP *ma'a*, W-MK *ma'*, LIN *ã'ã*, YNW *ntra*, URA-
 AT *mata*)
 pNGP **mara* “hand”
- (13) pNG **marra* “wing” (> YIN *marra.rli*, PAN *marra*)
 pNMP **marra* “wing” (> TAY *marr* “wing”, Wik Ngathrr *marra* “wing
 feather”)
 pNGP **marra* “wing”
- (14) pNG **kuru* “eye, seed” (> NMA *kuru* “grass seeds”, *kuru.rr* “eyeball”, YIN
kuru- “round and fat object”)
 UMP *ku'un* “eye”
 pNGP **kurun* “eye”
 Source: Fitzgerald 1997:164
 Cf. also NYA *pani* “eye; drop of moisture, seed”
- (15) pNG **kumpu* “urine” (> NMA *kumpu*, YIN *kumpu* (bound form))
 pNMP **kumpu* “urine” (> UMP *kumpu*, W-MK *kump*, LIN *mbu*, YNW *mpu*,
 URA-AT *wumpu*)
 pNGP **kumpu* “urine”
- (16) pNG **kuna* “excrement” (> YIN *kuna*)
 pNMP **kuna* “excrement” (> UMP *kuna*, W-MK *kun*, YNW *nwa*, URA-AT
wuna)
 pNGP **kuna* “excrement”
- (17) pNG **kangku* “knee” (> NGL, PAN *kangku*)
 UMP *kangkul* “elbow”
 pNGP **kangkul* [a body extremity joint]
 Source: Fitzgerald 1997:82
- (18) pNG **pipa* “breast” (> NMA *pipi*, YIN *piwi*); note NUW *pipi* “mother,”
pipa.rn “breast”
 pNMP **piipa* “father” (with Antonymic Semantic Change) > UMP *piipi*, W-
 MK *piip*, URA-AT *ibhu.ny* (ERG: *ibhu-ngku*, with anticipatory

assimilation, followed by re-creation by pattern pressure of the ABS form from earlier **ibha.ny*); LIN *ibha.y* “father’s younger brother”.

pNGP **piipa* “mother”.

- (19) pNG **kampa-* “burn, cook” (> NMA, YIN *kampa-*)

pMP **kaampa-* “cook in earth oven” (> W-MK *kaamp-an*)

pNGP **kaampa-* “burn, cook”

- (20) pNG **mungka-* “eat” (> MRT *mungka-*)

pMP **mungka-* “eat, drink” (> W-MK *mungk-an* “eat ...”)

pNGP **mUngka-* “eat”.

- (21) KUR *ya.nki-* “go”

URA-AT *a.na* “go, come”

pNGP **yA-n-* “go”

Source: Crowley 1983:403

One could go further and reconstruct **yA-* with *n*-bearing conjugation-determined suffixes.

- (22) pNG **ngalha-* “copulate with” (> NMA *ngalha-* ~ *ngalya-*, YIN *ngatha-*)

UMP *ngatha-* “marry”. The change **lh > th* in UMP is supported by NYA *milyamilya* “wrist”, UMP *mija* “wrist, lower arm”, along with the *lh : ly* correspondence between NMA and NYA as in NMA *mulha*, NYA *milya* “nose”. Note also NYA *pilyu.rl* “splash!” alongside UMP *piju.rr* “splash!”, and Warriyangka *puulya-ru* “blow with mouth” alongside UMP *pujal* “lungs”

pNGP **ngalha-* “copulate with”

- (23) pNG **ngayi-* “throw” (> NMA, PAN *ngayi-*)

UMP *waayi-* “throw,” with Initial Softening, which seems to be a change in progress

pNGP **ngaayi-* “throw”

- (24) NMA *ngunthu.rru-ma-ku* “snore”. (NMA *-ma-* forms verbs from nouns, and *-ku* is the present tense marker.)

UMP *nguunjl* “snoring”

pNGP **nguuNYJVl* “snoring”

Source: Fitzgerald 1997:200

- (25) NMA *kampu* “short”

UMP *kampa.nhu* “big” (with Antonymic Change. The function of *-nhu* is unknown.)

pNGP **kampa* “small”

Source: Fitzgerald 1997:80

- (26) PLK *katha ~ kaja* “far”

pMP **kaji* “far” (> UMP *kaji*, W-MK *kej*)

- pNGP **kaja* “far”
Source: Fitzgerald 1997:69
- (27) pNG **kupi.ja* “small” (> NMA *kupi.ja-rrri* “bits,” YIN *kupi.ja* (with non-lenited reflexes of **p* and **j* — probably a loan) “small, little ...”)
pNMP **kupan* “short” (> UMP *kupan*, LIN *pan* — the latter “normally in compound with /ka/ “mouth”, “extremity”; thus /ka-pan/)” (Hale 1976a:23)
pNGP **kupan* “small”
Source: Fitzgerald 1997:141
- (28) pNG **kuta* “short” (> NMA, YIN *kuta*)
W-MK *ot.ang* “short”
pNGP **kUta* “short”
Source: Fitzgerald 1997:166
- (29) pNG **mungku* “termite mound, “anthill” “ (> NMA, YIN *mungku*)
pNMP **mungka* “anthill” (> UMP *mungka*; URA-AT *mungka* is “red antbed”)
pNGP **mungka* “anthill”.
- (30) pNG **kalu.ny.ja* “mouse sp” (> NMA *kalu.ny.ja*; YIN *kalu.ny.ja* is “house mouse”)
W-MK *kal* “rat”
pNGP **kAlu* [a rodent]
Source: Fitzgerald 1997:76⁷
- (31) pNG **kapi* “fish” (> YIN *kawi*)
W-MK *kep.ampang* “swamp fish”
pNGP **kApi* “fish”
(Cf. also WLM *kapi* “fish”.)
- (32) pNG **ku(r)nti.ri* “small black beetle that swims on top of the water” (> NMA *kunti.ri*, YIN *kurnti.i*)
UMP *kuuntu* “mosquito”
pNGP **kuu(r)ntu*
Source: Fitzgerald 1997:139
- (33) pNG **kurti* “red marsupial mouse” (> NMA, YIN *kurti*)
W-MK *kut* “bandicoot”
pNGP **kUrti*
Source: Fitzgerald 1997:163
- (34) pNG **nharnu* “earth, dirt, sand” (> NMA, PAN *nharnu*)
URA-AT *nani* “ground, dirt, sand, sugar”. Problem: vowel fronting in URA-AT

⁷ This equation was independently arrived at by Alpher (1991).

pNGP **nArnu* “ground, earth, dirt, sand”

Sources: Hale 1960, Crowley 1983:409

(Cf. also YAN *narnu-*, a *land*-related noun class marker.)

- (35) NGL *yanta.rra* “temporary “island” sandbar in a river”

UMP *yaalntal* “crown”

pNGP **yaalntal* “crown, summit”

Source: O’Grady and Fitzgerald 1995:463⁸

In summary, **-l*, **-r* and **-n* are regularly lost in Ngayarta.

- (36) pNG **Japi* “song” (> NMA *thapi*, YIN *jawi*)

pNMP **thaapir* “tongue” (> UMP *thaapi* “tongue, flame”, TAY *manoe-theepoer* “tongue”); *oe* = schwa. For the semantics, compare GRY *yirra.ru* “song,” ultimately from pA **rirrang* “tooth”.

pNGP **thaapir* “tongue”

- (37) pNG **paru* “spinifex” (> NMA, YIN, PAN *paru*)

UMP (*yampa*) *pa’u* “(ear) wax”

pNGP **paru* “wax”

- (38) pNG **kari* “1. salt, bitter, 2. liquor” (> NMA, PAN *kari*)

pNMP **kari* “NEG” (> W-MK *ke’*). (Salt or bitter-tasting products are conceivably thought of as having NEGATIVE economic value.)

pNGP **kari* “NEGATIVE, not”

- (39) NMA *yiraju* “north”

UMP *yi’aji* “middle”. The sun is in the north, especially at the winter solstice, in northern Australia, when at the mid-point of its transit across the sky. Cf. Italian *mezzogiorno* “midday, south” (from a Northern Hemisphere viewpoint).

pNGP **yiraju* “middle”

- (40) pNG **thara* “mouth” (> PAN *thara*, YIN *thaa*)

pNMP **thaara* “mouth” (> W-MK *thaa’* “mouth, opening, edge”)

pNGP **thaara* “mouth”.

- (41) NMA *para* “subincision” (loan?)

pNMP **paran* “head” (> UMP *pa’an*, LIN *aran*)

pNGP **paran* “head”

(The required semantic shift “head” > “principal (rite)” requires support.)

- (42) pNG **thalany* “tongue”

pNMP **jalan* “tongue” (> URA *lalan*, LIN *lan*)

pNGP **JalaN* “tongue”

⁸ The **-r* is regularly lost in Ngayarta.

- (43) pNG **yirra* “tooth” (> NMA, YIN, PAN *yirra*)
 UMP *irra* “snake” (< “fanged”?)
 pNGP **yirra* “tooth”
- (44) pNG **nhuku* “ankle” (> NMA *nhuku.rl.ka* (with two enlargements), YIN *nhuu.r.ka*, KUR *nhuu.rt.ka* ~ *nhuu*, PLK *nhuku*; GRY *nyuku.ru* (with one enlargement) “elbow”)
 pNMP **nhukal* “foot” (> URA-AT *nhukal*, Mpakwithi (dialect of Anguthimri) *kwe*)
 pNGP **nhukal* “ankle”
 cf. Alpher (this volume) pPaman **nukal*.
- (45) pNG **nyina-* “sit” (> NUW, NYL *nyina-*)
 pNMP **NYiina-* “sit” (> UMP *nhiina-*, W-MK *nyiin-an*)
 pNGP **nhiina-* “sit”
- (46) pNG **pungka-* “fall” (> NMA, YIN *pungka-*)
 UMP *pungka-* “fall”
 pNGP **pungka-* “fall”
- (47) pNG **puntha-* (> NYL *punya-* “drink”, NMA *puntha-* “get washed, swim”)
 UMP *puntha* “drink”
 pNGP **puntha-* “drink”.
- (48) YIN *paa-* “bite, sting” (with lenition and loss of laminal stop, **-th-* or **-j-*)
 pNMP **patha-* “bite” (> UMP *patha-*, W-MK *path-an* “bite”)
 pNGP **paJa-* “bite”
- (49) pNG **paja-* “eat” (> NMA, NYL *paja-*)
 pNMP **paatha-* “taste” (> W-MK *paath-an* “try, taste”, Wik Me’nh *paath-* “taste”, Yinwum *atha-* “eat, taste”)
 pNGP **paaJa-* “eat, taste”
- (50) NMA *marnpa* “flat, bent down — of nose”, W-MK *manp* “flat” (in Avoidance expression *kaa’ manp* “flat nose”, said as a bad nickname when teasing, Kilham et al 1986:94)
 pNGP **mArnpa* “flat nose”.
- (51) PAN *karrka.li-ku* (with *-li-* formative) “vomit”
 W-MK *kayk* (Avoidance usage) “vomit”
 pNGP **kArrka* “vomit”⁹
- (52) NMA *puyu.ngka-lku* (with *-ngka-* formative) “to blow it — as fire, to blow didgeridoo, to blow”
 UMP *puuya-* “blow with mouth”
 pNGP **puuya-* “blow with mouth”¹⁰

⁹ Note that ‘A’ denotes that neither language is considered to be diagnostic for proto-Pamic or proto-Pama-Nyungan vowel length.

The foregoing cognate sets presuppose the innovations shown on Tables 1-9 below.

Table 1: *Innovations from pNGP into proto-Ngayarta*

	Change	Example	Residue
a	Long vowels merge with short	10, 11, 18, 19, 23, 24, 32, 35, 36, 40, 45, 49, 52 (and, potentially, 20, 21, 28, 30, 31, 33, 34, 50, 51)	
b	Final *l deletes	17, 24, 35, 44	
c	Final *n deletes	14, 27, 41	
d	*a at V ₂ > u / [labial]—	25	19
e	[+syL, +bk] > [-bk] / [laminopalatal]	3, 27	26, 30
f	V ₂ assimilates to V ₁	29, 44, 52	
g	V ₂ assimilates to V ₃ of enlargement	32	
h	*n- > *nh	34	
i	*-lnt- > *nt	35	
j	Rightward enlargement added	11, 24, 27, 30, 32, 35, 51, 52	

Table 2: *Innovations from pNG into Yinjibarndi*

a	*-th- > yh	11
b	*-lh- > th	22
c	*-p- > w	18, 31, 36
d	*-r- > ø / i _ i	32
e	*-r- > ø / a _ a	40
f	*-k- > ø / u _ u	44
g	*-J- > ø / a _ a	48
h	V ₂ assimilates to V ₁	18

Table 3: *Innovations from pNG into Ngarluma*

a	Rightward contentless enlargement added	14, 44
b	V ₂ assimilates to V ₁	18

Table 4: *Innovations from pNGP into pNMP*

a	Rightward contentless enlargement added	11
b	*a at V ₂ > i / [laminopalatal] _	26
c	Retroflex consonants merge with alveolar	32, 33, 34, 50
d	Antonymic Semantic Change	18

¹⁰ It might be feared that this set would have low etymological value due to its onomatopoeic nature, but nowhere in non-Pama-Nyungan languages has O'Grady found a replication of *puuya.

Table 5: *Innovations from pNMP into Umpila*

a	Rightward contentless enlargement added	25
b	V ₂ assimilates to V ₁	18
c	*-r- > ?	12, 14, 37, 39, 41
d	Antonymic Semantic Change	9, 25
e	Syllable-final *r lost ¹¹	36

Table 6: *Innovations from pNMP into Wik Mungkan*

a	Rightward contentless enlargement added	28, 31
b	Long *V ₁ shortens	11 (and, potentially, in 20, 30, 31, 33)
c	*C ₁ aC ₂ i > C ₁ eC ₂ i	31, 38 4
d	*C ₁ uC ₂ a > C ₁ oC ₂ a ¹²	28 11, 16, 20
e	Final *V deletes	3, 4, 5, 9, 11, 12, 15, 16, 18, 19, 20, 28, 30, 31, 33, 38, 40, 45, 48, 49, 50, 51
f	Initial *k deletes before u	28 11, 15, 16
g	*-r- > ?	12, 38, 40
h	*rr > y ¹³	8, 51

Table 7: *Innovations from PNMP into Linngithigh*

a	Rightward contentless enlargement added	3, 4, 5, 11
b	C ₁ deletes	3, 4, 5, 11, 12, 15, 27, 41, 42
c	V ₁ deletes	4, 5, 15, 27, 42
d	*uu > o	11
e	*a > i /dh_th	11
f	*r > ?	12

¹¹ Compare UMP *ngaaji* “camp” with Wargamay *ngarji* “country”.

¹² For 28 and 31 perhaps umlaut takes place in compound words only—perhaps conditioned by stress patterns (H. Koch, pers. comm.)

¹³ The change *rr > y in W-MK recurs in (a) W-MK *way* “bad, wrong” < proto-Pamic *warra (cf. Guugu Yimidhirr *warra* “bad, useless”, Gumbaynggir *waarrawiny* “left hand”, and Alpher (this volume)); (b) W-MK *thayan* “hard” < proto-Pamic *tharran (cf. Nyungar DJARRYL, reconstitutable as *jarra.ly* “mahogany tree” (Moore 1884) > English *jarrah*, the well-known Australian hardwood; (c) W-MK *peey-an* “cry” < proto-Pamic *paarri-; (d) W-MK *mayp* “[used somewhat like “dear” as a form of address]”, Pintupi *marrpa.ny-pa* “a vocative term of address for mature men”; (e) W-MK *kuuy* “long-tailed ray ...”, Yidiny *kurran* “long”.

Table 8: *Innovations from pNMP into Yinwum*

a	*C ₁ deletes	3, 4, 5, 11, 12, 15, 16, 49
b	*aCi > Ce	4
c	*V ₁ deletes	4, 5, 12, 15
d	*uCa > Cwa	16
f	Long vowels are shortened	11
g	V ₃ deletes	11
h	*-r- > t	12
i	*-t- > ntr	12

Table 9: *Innovations from pNMP into Uradhi (Atampaya dialect)*

a	*k- > w	15, 16
b	*ng- deletes	3, 4, 5
c	*j > dh / [long V ₁]	11
d	ø > y /dh_a	11
e	Long V ₁ shortens	11
f	*-r- > t	12
g	*u at V ₂ > i	34
h	optional <i>-bha</i> added to pronouns	3, 4, 5
i	verb suffix reanalysed as part of root	21

1.4 Problems in the reconstruction of pNGP

Let us look at some of the ‘problems’ that have emerged in the above comparison of the Ngayarta languages with Northern and Middle Pamic.

The first ‘problem’, which we encountered in (34) in our Ngayarta-Pamic database, was the sporadic fronting of back vowels, discussed in O’Grady (1998:214). Yet ancestral **manu* ‘neck, throat’ descends in URA as *manu*, not **mani*! And — irony of ironies — the same **manu* is reflected in Gupapuyngu (GUP) as *mani* ‘neck, creek’!

Yet this ‘problem’ is not limited to Australia. Here is what Blust has to say about the matter in Austronesian:

... in Oceanic languages ... the irregular change **u > i* seems especially common ... pOC **tamanu* > Hawaiian *kamani* ‘a shore tree’ ... (Blust 1990:258)

It is evident from the burgeoning literature on comparative Austronesian that such sporadic occurrences come nowhere near to crippling this field of study. They can be appended as ‘residue’ to any presentation of cognates.

A second ‘problem’ in Pama-Nyungan is posed by the appearance of contentless rightward enlargements such as *-ri* (Wordick 1982:121–28). Thus ‘news of a death’ is *kuka* in Walmajarri, but *kukari* in Eastern Walmajarri. These elements may once have had a derivational function, as indeed *-ri* still appears to have in Nyangumarta *karrpiri* ‘string’, with which compare Alpher’s (this volume) **karrpi-* ‘to tie’.

It might be thought that the presence of root-enlargements, in which the added elements appear to be devoid of any recoverable meaning, is a problem unique to Pama-Nyungan. On the contrary! Indo-European is rife with it. On a randomly chosen page of the Appendix to the *American Heritage Dictionary* (Morris 1969:1533) we find PIE **pel-* “to thrust, strike, drive”, which descends in extended form **pel-d-* in English *fel.t* (fabric).

In Comparative Pama-Nyungan, in the matching of Warlpiri *mapa.rn.pa* “healing power” with Bandjalang *mapaang* “old man”, Kala Lagaw Ya *maba.yg* “man, male”,¹⁴ failure to identify the enlargements could result in the reconstruction of something other than the correct pPN **mapang* (or, in pre-proto-Pama-Nyungan, as pointed out by Hale in Canberra in May 1974, **mapa*, prior to application of ‘velar-posthesis’ (Hale 1976a:416).)

A third ‘problem’ in Comparative Pama-Nyungan is illustrated in the accompanying Chart of Proto-Pama-Nyungan Initial Consonants and their putative Reflexes in 28 Daughter proto-languages and languages (see Appendix 4.2). It will be seen that some consonants occur in paired or multiple reflexes in some reconstructed or modern languages.

In the aforementioned chart of reflexes of pPN initial consonants, Pintupi is shown as having four reflexes of pPN **k-*, though at least two are explicable by borrowing: *k, j, w* and *ø* (*> y*). These are exemplified in pPN **kunang* “excrement” *>* PIN *kuna*; spPN **kIrar* “soft skin” *>* PIN *jira* “animal fat”, showing a relatively common change **ki- > ji-*; pPN **kAwV* “kangaroo sp” *>* PIN *wawi.rri* (Fitzgerald 1997:113);¹⁵ proto Desert Nyungic **karlti-* “call, shout” *>* **arlti-* *>* PIN *yarlti-ngu*.

As far as Initial Softening and Initial Dropping are concerned, the chart shows the full gamut across Australia — from the merest beginnings in languages like Jiwarli, Warriyangka and Pintupi to all-out Initial Dropping in proto-Arandic. Languages such as Kala Lagaw Ya are at an intermediate stage, with four reflexes of pPN **k-* /*k, g, w, ø/*, of which the first two were discussed earlier. The /*w/* reflex occurs in just three of Fitzgerald’s (1997) etymologies, and the *ø* reflex in thirty. A convincing example of the latter is proto-Australian **kaa-ng* “carry, bring, take” (Dixon 1980:404) *>* Kala Lagaw Ya *a.nga-y* “hold, catch, carry,” in which the highly marked (in pPN) medial *ng*, as well as the absence of a velar nasal from the phoneme inventories of possible donor languages such as Meryam Mir (Miriam) plus the presence of *ng* in the inflection of this verb in PN languages, makes this an

¹⁴ A hypothetical possibility is that there is a relation also to metathesised proto-Pamic form **pama* “person”.

¹⁵ PIN *wawirri* however is most likely a loan from Arandic *aherre* (perhaps through Warlpiri), with prothetic *w-* (*y-* also occurs in Warlpiri) and adaptation of the unrounded velar glide to the rounded *w* (see Koch 1997a:34). Prothetic *y-* is probable also in PIN *yarlti-ngu*.

iron-clad cognate of the likes of Nyangumarta *ka-nginyi* “carry”. It must be evident by now that a large number of Pama-Nyungan languages take part in a recurrent tendency for initial consonants to weaken and disappear (Blevins 2001b), a tendency which manifests itself again and again in different times and places (something like the weakening and loss of final vowels in western European languages).

A fourth ‘problem’ in Comparative Pama-Nyungan has to do with diachronic semantics. Despite the herculean efforts of Evans, Wilkins and others, there are huge gaps in our knowledge of this field of study. A thorough understanding of Indo-European diachronic semantics would not prepare one for the widespread Pama-Nyungan association between “ear” and “ground”, for example (O’Grady and Fitzgerald 1997:346). (In cases of semantic trade-off between such pairs of meanings, multiplied many times over, cognates evincing this uniquely Australian type of semantic change, in addition to those involved in semantic narrowing, widening, metaphor, and so forth, can account for a considerable fraction of the downward drift of lexicostatistic counts).

Yet another semantic association that we have stumbled across in recent decades is that between “raw” and “one”. Before attempting to theorise about the thought processes lying behind this particular association, let us present the evidence, which stems from *five* different etyma:

- (53) pPN **kayal*
 YIM *kayal* “raw, unripe, uncooked”
 WLM-E, M *kaya.n* “one”
 WLM *kayan-ta-kuji-rnu* (-*ta-* “LOC”, -*kuji-* “CAUSE”) “make into a bundle; unite; make into one”
 MRN *kaya.nu*
 proto-Mantharta **kaya.nu* “one”
 Djadjala (dialect of Wergaya) *kaya.p* “one”
 YDN *kayal* “another of a different kind”¹⁶
- (54) pPN **kuma(n)*
 WEM *kuma* “raw meat”
 KAU *KUMA* “one”
 Wirangu *kuma* “one, alone”
 Saibai Island *KOMA.KOMA* “one by one”
 YDN *kuman* “one, another, alone”
 NMA *kuma* “together”

¹⁶ O’Grady takes the *-l* to be original, the *-n* and *-p* to be remnants of *-nu* and *-pa* enlargement added at a later stage.

- proto Central Karnic **kuma* “bundle”
 YIM *kuma* “doubled up, folded, coiled”¹⁷
- (55) pPN **kuurnum*
 Gumbaynggir *kuunu* “raw, alive”
 proto Central Karnic **kurnu* “one”
 NYA (Wallal) *kurnu* “curled up”
 NMA *kurni* “bent, doubled”
 Dharumbal *kunim* “sleep”
- (56) pPN **kUrri*
 JGY, YDN *kurri* “raw, unripe”
 PAY *kurri.ka* “one”
 possibly WEM *kurri* “cousin”
- (57) pPN **nguyal*
 UMP *nguy.* “*ul.u* “raw — of meat”
 W-MK *ngoyal* “raw”
 PAY *nguyu* “lightning; raw”
 ARB *nguyu* “one”

The above accumulation of evidence pointing to an association of “raw” with “one” in Pama-Nyungan is unassailable. Each new discovery of unexpected but incontrovertible semantic associations of concepts — and there will be scores of them — boosts the number of confidently reconstructible Pama-Nyungan roots. O’Grady stands by his earlier claims that the total number of such roots will eventually bottom out at several thousand.

We would like to make the point that the data of Pama-Nyungan comparative linguistics strongly support the Regularity Hypothesis — as we have attempted to demonstrate in the preceding pages. As Raimo Anttila (1972:85-86) asserts: ‘In any case, it is the regular aspect of sound change that gives backbone to genetic linguistics, no matter how much the slipped discs of sporadic change may annoy the linguist.’

2. Pama-Nyungan

2.1 Coherence of Pama-Nyungan

In order to adequately demonstrate the *coherence* of the Pama-Nyungan language family, we would have to add to the data of this paper the vast array of evidence

¹⁷ Observe how Pama-Nyungan languages are so *intimately* related genetically—a fact, strangely enough, not apparent to Dixon (1980).

that has been assembled by the various scholars who have pioneered this field. In particular, Blake (1977) has shown that a coherent web of cognate case markers is one of the hallmarks of Pama-Nyungan languages. Blake (1988) redefined Pama-Nyungan on the evidence of pronominal systems, showing that there is a set of pronouns that can be identified as Pama-Nyungan.

Hale (1982) used data from Breen's (1981b) study of the Mayi languages to demonstrate their essentially Pama-Nyungan character. Evans (1988) cited the evidence of shared initial laminalisation, unique to Pama-Nyungan languages, as an argument for Pama-Nyungan as a genetic subgroup. O'Grady and Tryon (1990) contained a number of papers — including one by Alpher on shared verbal inflectional suffixes — hammering the theme of the coherence of the Pama-Nyungan family.

Alpher and Nash (1999) showed that notwithstanding Dixon's (1980) violent attacks on the use of lexicostatistics in Australian linguistic classification, it remains 'a blunt but useful instrument'. As O'Grady (1966) noted, Panyjima and Nyulnyul share only 2% of the 100-item Test List as cognate. This fact bespeaks a profound genetic gulf between the two — never mind borrowing! (The Karajarri–Nyulnyul figure of 10% suggests strongly that about 8% of the basic vocabulary of the former language is borrowed from the north, since Panyjima and Karajarri are genetically close).

Fitzgerald (1997) contained copious evidence — even allowing for a discard rate, say, of 20% of her putative cognate sets — that the number of reconstructible Pama-Nyungan roots is very large — certainly in the thousands.

2.2 *Distinctiveness of Pama-Nyungan*

Earlier in this paper, we cited Ngayarta-Pamic cognate sets to demonstrate the *coherence* of Pama-Nyungan. We now take the first ten of those sets, i.e. the most stable ones, and carry out a brief pilot study of proto-Ngayarta-Northern and Middle Pamic's (pNGP's) degree of relationship to Tangkic languages, Maung and Tiwi. (In so doing, we recognise that ideally we should be comparing every single morph — grammatical and lexical — of pNGP and all daughter languages with every single morph of the Tangkic languages Kayardild (K) and Lardil (L), Maung and Tiwi).

The results of our pilot study are sufficiently sparse or non-existent that we can present possible cognates (underlined> in brief tabular form — see Table 10.

Kayardild *kumbu.ka* is a non-controversial cognate of pNGP **kumpu*. Lardil *kiya.n* may be derived from a precursor to pNGP **kuuJa* by way of Intervocalic Weakening and Fronting rules (the necessary back-up cognates remain out of

Table 10: *Cognates external to Pama-Nyungan*

ex no.	pNGP	Tangkic	Maung	Tiwi
1	* <i>kaampa</i> - 'burn, cook'	L <i>warnawu</i>	- <i>wunya</i> -	- <i>aumi</i>
2	* <i>kumpu</i> 'urine'	K <i>kumbu.ka</i>	<i>wuwu.j</i>	<i>pwathini</i>
3	* <i>kuna</i> 'excrement'	L <i>durlda</i>	<i>kurak</i>	<i>kinhirri</i>
4	* <i>kuuJa</i> 'two'	L <i>kiva.n</i>	<i>ngarrkarrk</i>	<i>yirrara</i>
5	* <i>mara</i> "hand"	L <i>marlda</i>	<i>yurnu</i>	<i>yikara</i>
6	* <i>mungka</i> 'anthill'	L <i>makarr</i>	<i>wok; wui</i>	<i>pwarti</i>
7	* <i>mUngka</i> - 'eat'	L <i>jitha</i>	<i>ngata</i>	- <i>apa</i>
8	* <i>ngali</i> 'you SG & I'	L <i>ngakurri</i> HAR L <i>ngakuni</i> DIS ¹⁸	<i>ngarri</i>	<i>mua</i>
9	* <i>ngana</i> 'we PL EXC'	L <i>nyali</i> HAR L <i>nyalmu</i> DIS	<i>ngarri</i>	<i>ngawa</i>
10	* <i>ngayu</i> 'I'	L <i>ngada</i>	<i>ngapi</i>	<i>ngia</i>

sight). Since Lardil *marlda* is /mar/ underlyingly, there is an excellent chance that it is cognate with pNGP **mara* (< pPN **marang* < pre-pPN **mara*), with which compare Nunggubuyu *marang* "hand".

As to Maung *wuwuj* "urine", we note that there are nine pages of entries in Capell and Hinch (1970) with initial *w* and only five pages with *g*- (= our *k*-). This suggests a massive amount of Initial Softening. What if 'urine' in pre-Maung were **kuwu.j*? This would put the Maung form tantalisingly close to Yinjibarndi and Kurrama *kuwa.rta* 'urine'. The shape **kumpu* (< **kumpa*) could then be a prenasalised counterpart of these forms which arose before the time when Tangkic and Pama-Nyungan broke apart, possibly 6,000 years ago. The presence of a reflex of **kumpu* in an Australian language could then be diagnostic for that language's being Pama-Nyungan or Tangkic.

All we can say about Tiwi *ngia* "I" is that it *might* be cognate with pNGP **ngayu*. In all probability, no one will ever know. Here the immensely powerful Comparative Method really does fall flat on its face, and equations such as Warlpiri *juwa* "spitting" and Tiwi *thuwarti* "saliva" are in all probability mere onomatopoeitic straws in the wind, never to be reinforced with the hundreds of cognate sets — grammatical and lexical — needed to establish the existence of a *language family*. Pama-Nyungan, in contrast, *is* such a family, and along with other smaller northern families finds its place within the Australian phylum.

We can define a language family, then, as a group of genetically related languages whose relationship one to the other is sufficiently close that the Comparative Method can fruitfully and successfully be brought to bear on them. Using the Method, one can cope with time depths of up to about 6000 years (as is the case with Uralic or the Pama-Nyungan-Tangkic assemblage), but not with 10,000 (Maung vs. Pama-Nyungan?) or with 15,000 (Tiwi vs. Pama-Nyungan?).

¹⁸ The Lardil pronominal categories are abbreviated HAR harmonic, DIS disharmonic.

3. Some final remarks on the Pama-Nyungan question

In this final section we proceed from a highly impoverished set of legitimate lexical comparisons, drawn from the Ngayarta-Pamic etyma, to speculate on the nature and implications of the Pama-Nyungan hypothesis (in the spirit of O'Grady 1990d).

Consider the following set of just three lexical comparisons, from languages taken from geographically separate locations in Australia:

	Northern Paman	Ngayarta	
(58)	<i>'ā</i>	<i>mara</i>	“hand”
(59)	<i>mpu</i>	<i>kumpu</i>	“urine”
(60)	<i>nwa</i>	<i>kuna</i>	“excrement”

The first question that we must ask about them is whether or not they are ‘historically relevant comparisons’ (henceforth, HRCs). These three items are chosen because they are known to all Australianists and it is generally agreed that they are indeed HRCs (cf. Dixon 2002: Chapter 4). Thus we can say something significant about these forms, with the hindsight granted to us by years of Australian comparative linguistics, using the comparative method. And the small number (three items) is chosen to help in discussing the issue of quantity versus quality in assessing evidence for historical relationships among languages. The small number is also forced on us, to some extent, because lexical comparisons like this, between Ngayarta and Northern Paman, are in general sparse.¹⁹

The other question, of course, is the nature of the ‘historical relevance’. Are these items cognate? That is to say, do they reflect a linguistic heritage in which Northern Paman and Ngayarta have a common ancestor (setting aside here any possible problems with this concept)? Or is this formal coincidence due instead, wholly or partially, to diffusion? We will assume for present purposes that accident is out of the question, retention and diffusion being then the viable alternative explanations.

Factors which are probably relevant to the second question are (i) the geographic separation involved — over two thousand kilometers — and (ii) the

¹⁹ Barry Alpher correctly points out that the three Northern Paman forms cited here are not all from the same language and suggests the following corresponding set of cognates from a single language, Yinwom: *n'ra*, *mbu*, and *nwa*. There is no particular logic behind the set used in the text, except that its members are equally Northern Paman and each has its own history; we were not sure it mattered that they were from different Northern Paman daughter languages, given the great time period separating Ngayarta and Northern Paman. Incidentally, one might also challenge Ngayarta **kuna*, possibly a “back borrowing”; Ngarluma has *marna* instead of *kuna*, for example.

fact that one of the languages (or language families) has experienced a complex system of sound changes in relation to the reconstructions that would most likely be posited under the hypothesis of common retention, i.e., essentially the same as the forms found in Ngayarta today: **mara*, **kumpu*, and **kuna*.

3.1 *The Dempwolff comparison*

When Hale first went to Australia in 1959, he was still smarting from a severe tongue-lashing given him by Morris Swadesh, much tempered, but nonetheless acute and painful in an article appearing in the first volume of the then new journal *Anthropological Linguistics*, published by Florence Voegelin at Indiana University (Swadesh 1959). This article calls to mind many aspects of Dixon's (1997, 2002) Punctuated Equilibrium model. And Hale felt that Swadesh was right, keeping Swadesh's warning constantly in mind in the course of his investigations of Australian languages (as reflected, for example, in Hale 1962).

Pama-Nyunganists are confronted with the seemingly embarrassing fact that Dempwolff (1934-38) was able to reconstruct over 2000 items for Austronesian. Such rewards have been much more difficult to obtain in Australia. Suppose it were true that Pama-Nyungan reconstructions barely exceeded 100. We don't admit this, of course, but suppose it were true. The Austronesian-Australian asymmetry would not be an embarrassment, but rather a triumph, given the vastly different patterns of social, geographic, and linguistic relationships distinguishing the two areas — provided, of course, that the Pama-Nyungan 100 were true cognates. We may not be able ever to know this, essentially because of the effects of the actual circumstances underlying Swadesh's Mesh Principle and Dixon's Punctuated Equilibrium Model, but what are the chances that the members of the above pairs of items are *not* cognate?

Consider again the three items in (58)–(60). We are quite certain that these are legitimate HRCs. The correspondences are absolutely perfect, and they are repeated in expected places in the larger body of data assembled by O'Grady and many others. We will assume, therefore, that we *know* these are HRCs. But suppose that these three items, and the knowledge that they are HRCs, were all that we had. What are the chances that they are cognate, or that they are not cognate and due to diffusion? Of course, each of the three items has its own separate history; they don't come as a block, so far as we know. So the two scenarios (cognate, non-cognate) must be considered separately for each of them.

If any one of the pairs we are considering is non-cognate, some kind of 'movement' has occurred in its history — e.g., borrowing in one direction or another involving a neighbouring language or language family which also has (or had) the item; borrowing back and forth multiple times among adjacent languages

or language families, and so on. All of these imaginable situations are of course possible and in some cases can be documented on a smaller cultural and geographic scale.

But, if a given pair is cognate — say, *’ā, mara* “hand” — then, by hypothesis, no ‘movement’ has occurred. The forms simply continue an antecedent state of affairs. An economy argument would probably favour cognation, and that is what we assume, bearing in mind the remote possibility that this could be wrong and that diffusion is in some way actually simpler. And this is where we must rest in this matter; we are condemned to rely on a ‘logic of likelihood’. There probably can be no ‘absolute proof’, in our opinion. There can be only ‘relative proof’, in the sense of greater approximation to explanatory elegance. Other things being equal, the cognation hypothesis surely achieves that standard in this case, and that is all we can hope for.

3.2 *Time depth*

We will assume without further discussion that the members of each of the comparisons cited above are cognate, and that they are therefore due to a common ‘genetic’ linguistic heritage, as it is often put.

As mentioned above, the three items were chosen in large part because of the geographic distance separating their source language families and in part because of the fact that one of them has undergone a complex system of sound changes. Each of these two factors contributes to the argument that there is some time depth inherent in the development of the picture as it now stands. Travel takes time and sound change takes time.

The Northern Paman sound changes, affecting primarily languages south of Uradhi, say, almost certainly took time. While it is sometimes possible to write a set of rules to convert Northern Paman forms into Middle Pamic forms, as in a language game, this is surely not the way it happened. For one thing, separate Northern Paman languages executed the changes in different ways, and for another, the development in individual languages typically involves more than one ‘operation’. The changes documented within Northern Paman, only a fraction of which are illustrated in our three forms, include stress shift, feature movement (vocalic umlaut and consonantal assimilation), denasalisation of homorganic nasal-stop clusters, dropping of the initial consonant, final vowel deletion in polysyllabics, consonantal extension of some disyllabics, and an array of changes in individual sound segments. Furthermore, the Northern Paman languages differ widely among themselves in the assemblage of sound changes each has undergone.

In short, the totality of the phonological development distinguishing, say, Northern Paman from Ngayarta has taken time. We don’t know exactly how much

time, of course, but it may have taken 500 to 1000 years, maybe more. Let's take the 1000-year figure for the sake of argument. This means that Northern Paman and Ngayarta are separated temporally by 1000 years at least.

Now consider the geographic distance separating the two language groups. Migration, whether of people or linguistic elements, takes time, particularly if already established tribal boundaries intervene (as in Birdsell's study of the movement of genetic materials in his 1950 paper). If Northern Paman and Ngayarta are in fact related, then their common ancestor must have separated (geographically) at some time after 1000 years ago. Otherwise, presumably, Ngayarta would show the effects of the sound changes characterising Northern Paman. Here again, a simplicity argument must be evoked to rule out the possibility that initial dropping was globally reversed in the western languages, through borrowing. We know that an initial consonant can be restored, sometimes retrieving the original, perhaps by borrowing, perhaps accidentally. Warlpiri *wawirri* 'kangaroo' may be an example of this.²⁰ But restoration is tricky. The initial *m* of Warlpiri *manirtirrpirtirrp* 'mulga bird', derived from an Arandic verse, is restored in another manner (cf. Hale 1984) and may well not coincide with the unknown initial consonant of the form continued now by the initial-dropping Arandic original *anerterrperterre*.

For the sake of argument, again, we assume that Ngayarta and Northern Paman are separated by at least 1000 years of time. But probably more, since it takes time, (i) for the geographic separation to be achieved and (ii) for the pattern of linguistic diversity which now fills the intervening territory to get established. We don't know how long exactly, but since we are all guessing more or less, let us say 2000 to 4000 years. Any more than this would almost certainly snuff out most of the cognate material or render it impossible to detect. We must also bear in mind that the three forms are identical, once the sound changes are undone by the comparative method — in fact, the putative reconstructions coincide with Ngayarta; there are no sound changes subsequent to the Northern Paman ones, however dramatic those may have been. This circumstance of similarity suggests one of two things, that (i) these are indeed (relatively recent) borrowings, borrowings being notorious for distinguishing themselves from common retentions by their greater similarity, or else (ii) the relationship between the two groups (on the cognation hypothesis) is a close one, incidentally strengthening the general Pama-Nyungan thesis. Given the known factors separating these two linguistic traditions, we opt for the second of these alternatives.

²⁰ On the assumption that Warlpiri has borrowed *wawirri* from Kaytetye *aherre* (Koch 1997a:34), and that *aherre* in turn descends from a *w*-initial form, reflected as e.g. Kurna *wawi* 'female grey kangaroo' (Simpson and Hercus, this volume).

3.3 *Non-Pama-Nyungan*

Let us say for present purposes that Pama-Nyungan, as represented by the forms we have been considering, has a time-depth comparable to that of Indo-European. What can we say about Non-Pama-Nyungan? Hale was almost certainly mistaken in his placement of Yanyula (Yanyuwa) and the Wellesley Island languages (Tangkic), falling into a sort of ‘typology trap’. And the dust has yet to settle on Non-Pama-Nyungan generally. Be this as it may, we remain convinced that there are languages which are Australian which are nonetheless not part of the Pama-Nyungan family. That is to say, there are *Australian* languages which can justly be called Non-Pama-Nyungan.

But that is the easy and less interesting path to take. A more interesting and difficult direction to pursue would be the idea that the languages now classified as Non-Pama-Nyungan are in fact part of a single relatively close-knit family, or phylum, including Pama-Nyungan. While we think this is unlikely, it is clearly an interesting idea and one that should be pursued. The story would be complex, and on simplicity grounds, hard to defend. But we strongly encourage its telling if that is possible. The monosyllabic verb and the morphology of verbal and nominal functional projections are good places to start — thorns in the side of anyone who denies that all Australian languages are related — and many Australianists have in fact begun to do comparative work in these domains.

3.4 *The real mystery*

If what we have proposed makes any sense, there is a real mystery before us (cf. discussion in Dixon 2002; and see also discussions in various parts of McConvell and Evans 1997). We are claiming, essentially, that there is a Pama-Nyungan family with a time depth of 5000 years or less. The Non-Pama-Nyungan languages may be included or excluded. Inclusion is unlikely, we think, but it is immaterial here.

Australia has been peopled, it is now reckoned, for some 50,000 to 60,000 years. Thus the pattern of language distribution in present-day Australia suggests a history much like that of the ‘first great extinction’ of local languages in other parts of the world, a concomitant of the development and growth of agriculture (cf. Renfrew 1994). That is to say, if Pama-Nyungan is real, then it must have spread and displaced local languages which were fully occupying Australia prior to the hypothetical 5000-year time period that we are assuming for Pama-Nyungan itself. Any other picture is hard to entertain (see Birdsell 1950, 1957, for realistic models of the population of and migration within Australia).

Let us assume this for the purposes of discussion. What could have been the force behind a hypothetical Pama-Nyungan expansion, displacing prior linguistic

traditions? Dixon lists four causes of Punctuation: (a) natural causes; (b) material innovations; (c) development of aggressive tendencies, and (d) territorial expansion (Dixon 2002: Chapter 2). The third and fourth factors are certainly implicated in the 'second great extinction of languages', the current and non-replenishing era of language loss resulting from the European invasion of the West and South during the past half millennium and beyond, up to and including the present and foreseeable future.

We would like to consider a fifth factor here, namely, the spread of intellectual wealth, including, for example: ever more complex kinship systems; intricate and demanding verse in song cycles; auxiliary languages (such as the Damin of Mornington Island, North Queensland; cf. Hale and Nash 1997, and McKnight 1999); together with an impressive battery of ritual law, iconography, itineraries and maps. Appropriately arrayed at some source, or some several sources — and perhaps abetted by material innovations and a succession of charismatic personalities — the promotion and movement of intellectual wealth could have had an enormous effect on the linguistic map of a land mass like Australia, even to the extent of enabling a single language family to diffuse and ultimately cover the territory now associated with Pama-Nyungan, despite the existence there of antecedent cultures and linguistic traditions. Hale was firmly convinced of this possibility after spending a week at Warrabri [now Alekarenge] in 1960, where Kaytetye young men, some of them already fully competent in Warlpiri, were being initiated and essentially recruited by Warlpiris armed with some of the most dramatic cultural and linguistic wealth known to the Centre. This general idea is developed more carefully, and in greater detail, in an excellent essay by Evans and Jones (1997).

In summary, taking all of these matters into account, we are not convinced that Pama-Nyungan is not a significant linguistic entity. And, in relation to the comparative method in Australia, would we be any more convinced about its applicability in Indo-European if the Indo-Euro-European hypothesis had been based upon a more 'realistic and comparable' data base including just the modern languages, sampling *all* of the languages in between the points in the more 'abstract' picture gained by looking just at Sanskrit, Greek, Latin, and Gothic, say? How 'neat', or how 'messy', would Indo-European be if Indo-European comparative linguistics had been based upon the entire network of relevant modern languages, dialects, and dialect chains?

PAMA-NYUNGAN: PHONOLOGICAL RECONSTRUCTION AND STATUS AS A PHYLOGENETIC GROUP

Barry Alpher

1. Introduction¹

The group of Australian Aboriginal languages termed ‘Pama-Nyungan’ includes all those of the southern three-quarters of the Australian mainland, together with those of the Northeast (Cape York Peninsula and the Western Torres Strait Islands) and those (the Yolngu languages and Yanyuwa) of two noncontiguous areas in the far North. The term ‘Pama-Nyungan’ was proposed by Kenneth Hale (Wurm 1963:136, note 2 — cited in Nash 2001:18) and has in been regular use in the literature since the publications of O’Grady and others in the mid-1960s (for example, O’Grady 1966; O’Grady, Voegelin, and Voegelin 1966:36ff). It is a compound coined from the terms for “person” found in many languages of Cape York Peninsula (*pama*) and in those of the far Southwest (*ñungar*²; see for example Douglas 1976). The resemblance of the Pama-Nyungan languages to each other, and their distinctness from those to their north and northwest (the ‘non-Pama-Nyungan’ languages, sometimes designated the ‘prefixing’ languages) has long been recognised (Capell 1956:31-45 sums up earlier work). It is widely agreed that

¹ This study owes much to the scholarship, ideas, and advice of Kenneth Hale, whose death in 2001 deprived this subfield like so many others of a prime mover, and whose friendship I sorely miss. For help in various aspects of this work—informational, critical, stylistic, material, editorial, and organisational—I thank Peter Austin, Diane Bell, Barry Blake, Juliette Blevins, Claire Bowern, Alan Dench, Nick Evans, Rebecca Green, Harold Koch, Mary Laughren, Pat McConnell, David Nash, Geoff O’Grady, Jane Simpson, and Peter Sutton.

² I have transcribed forms as given in the sources, including the use of ‘voiced’ versus ‘voiceless’ symbols (whether or not the language makes a contrast of this type, and including orthographic usages of the ‘bdjk’ and ‘ptjk’ types), with the following exceptions: I have replaced all symbols for lamino-alveopalatal consonants with *c* and *j* (stops), *ñ* (nasals), and *l* (laterals); I have written all long vowels with a following colon (*a:*, *i:*, *u:*); and where the description makes clear that clusters written, e.g., ‘ndj’ are in fact homorganic, I have replaced these with the corresponding explicit notation, in this example *ñj*. Lamino-dental consonants are written *th*, *dh*, *nh*, *lh*, and apico-postalveolars (retroflexes) *rt*, *rd*, *rn*, *rl*, in the usual Australianist fashion; the “r” is a diacritic for the retroflexion of the entire cluster in ‘mt’, ‘rlt’, etc. I use ‘7’ for glottal catch and ‘3’ and ‘v’ for mid to high central vowels, respectively stressed and unstressed (with ‘v’ [shwa] to be distinguished from ‘V’ [any vowel]). For the values of the symbols used in the reconstructions, see section 5.

the Pama-Nyungan languages are related to most, if not all, of the non-Pama-Nyungan languages. The claim that Pama-Nyungan is a phylogenetic as well as a typological group — that is, a subgroup of a larger Australian group — originated with Hale and O'Grady (see the publications mentioned above); O'Grady (1966) published the first lexical reconstructions specifically linked to proto-Pama-Nyungan (hereafter pPN).

The status of Pama-Nyungan as a genetic subgroup had not been demonstrated, however, and from 1970b (in "Proto-Australian Laminals"; for more recent statements see Dixon 1990, 1997, 2001, 2002) Dixon has claimed that the similarities among the languages of the collection called Pama-Nyungan are in fact typological (as implicit in Capell's term 'suffixing') and not the result of inheritance from a common ancestor. Partly in response to Dixon's claims, Blake (1988, on the distribution of pronoun etyma and case-suffixes) and Evans (1988, on phonological reconstruction) advanced specific arguments for the unity of Pama-Nyungan as a genetic group (most of Blake's and Evan's 1988 arguments are restated in Blake and Dixon 1991:23–25). Alpher (1990), with arguments based on verb paradigms, followed shortly. Dixon has since (1997, 2001, 2002) challenged the validity of the argument from distribution of pronouns and case suffixes, showing how it is possible that these items diffused or developed independently, and has claimed that the languages of northeast Arnhem Land do not belong genetically with any of the putative Pama-Nyungan languages in the rest of Australia.

In this paper, I present arguments that Pama-Nyungan is a genetic group, that it contains the languages (especially, those in the North) usually attributed to it (I follow Blake 1988 and Evans 1988 with regard to the composition of Pama-Nyungan: containing Yanyuwa and not containing the Tangkic subfamily),³ and that it is possible to reconstruct lexical items in its protolanguage by means of the classical comparative method. To do this properly involves, among other things, presenting as full as possible a set of etymologies, a reconstruction of the sound system and phonotactics of the protolanguage that is as extensive as the data permit, and a language-by-language account of phonological developments. Time and space prohibit this in the context of the current volume, and the task is in any event enormous, involving a great many languages (O'Grady, Voegelin and Voegelin 1966 list some 166). I therefore limit myself in this paper to an outline of the phonology, a short list of etyma (Appendix 5.1), some notes on the phonological history of some of the languages of the Southeast (Appendix 5.2), presentation of arguments for the inclusion of the Yolngu languages within Pama-

³ The genetically closest non-Pama-Nyungan languages are probably Karrwa and Waanyi; with regard to their degree of relatedness see Evans and Jones (1997:394–395 and references).

Nyungan, and presentation of arguments for the exclusion of certain groups of languages, like Gunwinyguan, from Pama-Nyungan.⁴

Among the many reasons for undertaking this work is the hollowness of certain pronouncements (e.g. mine) made earlier on certain ‘pPN’ etyma. For example, in Alpher (1990 and 1991) I published reconstructions of verb paradigms and of other forms without presenting the sound correspondences on which these are based. The homework just hasn’t been done — or hasn’t been published, or has been published in fragments only. Other reasons for presenting a hypothesis of pPN phonology are to answer attacks on the validity of the subgrouping from a position of extreme scepticism (see Dixon 1980:254, 1990, 1997, 2001, and 2002). Arguing that phonological conservatism, very great time depth, and great porosity of language boundaries have created a situation in which loanwords are indistinguishable from common retentions over huge areas of the continent and across much of the vocabulary, Dixon (especially 1997) holds that the classical comparative method is of little avail in the Pama-Nyungan case. I view these arguments as a useful warning against complacency and as such a stimulus to more rigorous research and analysis. Dixon’s current position (Dixon and Blake 2000b:xvi: “Dixon is firmly of the opinion that the Pama-Nyungan idea has no significant basis, and that it has in fact held back Australian studies”; see also Dixon 2001:97–98), however, is not a stimulus and in fact acts as a deterrent to Pama-Nyungan reconstruction: if it’s impossible, why spend time on it? I deal with certain aspects of the diffusion problem in sections 4 and 6 below, and I hope that the hypotheses presented in this paper will encourage others to make comparative Pama-Nyungan studies flourish.

2. An illustrative etymology

To begin, I will consider a single etymology, pPN *karrpi- (Table 1; see also the full documentation in Appendix 5.1), as a set of forms which on the one hand suggest *prima facie* that Pama-Nyungan is a subgroup and on the other illustrate a number of the kinds of problems involved in reconstruction.

⁴ Although I am convinced that the Western Torres Strait Islands languages and the languages of the far Southeast are Pama-Nyungan, I do not consider in this paper the problem of integrating them into the Pama-Nyungan reconstruction. Furthermore, I have not had the opportunity to study lexical material from the Warluwarric languages, especially Yanyuwa and Warluwarra, in any detail, and so they do not figure in the hypotheses presented here—with possible consequences mentioned below (§5.6.2).

Table 1: **karrpi-* “hold together” (for details and sources, see Appendix 5.1)Cape York Peninsula (Paman) languages:KThaayorre *katpi-* “catch (as fish in net), grasp (by hand); heal, restore”; Nonpast *katpvr*.Uw Oykgand *arr̥i-* “grab; touch, catch, hold, take”; Present *arr̥in*, Imperative *arr̥il*.KNarr *katpi-* “hold”; Purposive *katpilk*GYimithirr *garrba-* “hold, touch, grab”; Nonpast *garrbal*, Imperative *garrbala*.Centralian languages:Pintupi *karrpi-* “wrap, tie up, fold”; Past *karrpirnu*, Imperative *karrpila*.Walmajarri *karrpi* “tie up”; Past *karrpirn(i)*.Languages of the far west:Warriyanga *karrpi-* “to tie”; Future *karrpilka*.Tharrgari, I dialect *karrbi-* “to tie”; Future *karrbila*.pMantharta **karrpi-*Southern Yingkarta *karrpi-* “tie”; Future *karrpilku*.Nhanda *atpi-* “tie, tie up”; Past Imperfective *atpinu*.Northeast Arnhem Land (Yolngu) languages:Djapu *garppi-* “bind; block, block up”; Unmarked *garppin*, Potential *garppul*.Dhuwal *garppi-* “wrap; tie up; surround”; Present/Future *garppin*, Future/Imperative*garppul*, Past Remote *garppina(r)*Ritharrngu *garppi-* “coil up, make into a coil”; Present *garppirn*, Future *garppulu*.Djinang *garppi-* “tie, roll up, coil, wind”; Remote Past *garppin*Djinba (Ganalbingu) *garppa-* “tie, roll up, coil, wind”; Yesterday Past *garppan*, Today Past *garppan*.**pPN** **karrpi-* and **karrpa-*; Past **karrpin*, Imperative **karrpila*, Future (or Purposive) **karrpilku*.

All of the attesting languages are of the putative Pama-Nyungan (hereafter just ‘Pama-Nyungan’) group. As far as I know, no putatively non-Pama-Nyungan (hereafter just ‘non-Pama-Nyungan’) language attests a verb root of this form and a related meaning; the nearest I am aware of are Mayali (Evans 1990c; Gunwinyguan family) *karrme* “touch; have; grasp, hold onto; take on, hire” and proto-Tangkic **karrma-tha* “grasp, get”. Mayali *karrme* is probably to be analysed as *karr* + *me* (N. Evans, pers. comm.): its inflectional paradigm (Imperative *karrmen*, non-Past *karrme*, Past Perfective *karrmeng*, Past Imperfective *karrmi*, Irrealis *karrmeniñ*) is like that of other Mayali verbs consisting of a preverb followed by an inflecting root + *me* (proto-Gunwinyguan paradigms for roots of this type are listed in Table 2, in which the putative source of Mayali thematic + *me* is shown in the second row, thematic *+ *ma*).

Table 2: Proto-Gunwinyguan paradigms of possible relevance to pPN **karrpi-* (source: Alpher, Evans, and Harvey in press)

*Root	Meaning	*Past Perfective	*Past Imperfective	*Non-past
<i>ma-</i>	‘get’	<i>may</i>	<i>mangiñ</i>	<i>mang</i>
(<i>I_{pre}</i> -) <i>ma-</i>	‘thematic; do; say’	<i>-mañ</i>	<i>-marañ ~ -mariñ</i>	<i>-mar</i>
<i>I_{adj}</i> - <i>me-</i>	‘inchoative’	<i>-meñ ~ -miñ</i>	<i>-meniñ</i>	<i>-men</i>

Proto-Tangkic **karrma-tha* is reconstructed from Kayardild *karrma-tha* “grasp, grab, wrestle”, Yukulta *karrma-tha* “hold on to”, and Lardil *ketme* “grab, seize, catch” (Evans, n.d.); the inflectional paradigm of the Yukulta form is Indicative Realis *karrmatha*, Imperative Realis *karrmaka*, Imperative Irrealis *karrmaki*, Desiderative *karrmata* (Keen 1983:224–5); for the Kayardild and Mayali (Kunwinjku) paradigms see Evans (1995) and Alpher, Evans, and Harvey (in press), respectively. These paradigms show no useful resemblance to those postulated for pPN **karrpi-* (Table 1),⁵ and a postulated change **rrp > rrm* has no support in other data from either of these language families (nor does a postulated change **rrm > rrp* in Pama-Nyungan). The **karrpi-* set in and of itself strongly suggests that there is a genetic grouping containing these languages, spoken in Cape York Peninsula, North-East Arnhem Land, and the west coast of Western Australia.

Other grammatical evidence for the existence of Pama-Nyungan as a clade includes the distribution of pronoun etyma and case suffixes (originally tabulated by Blake 1988; dismissed as the products of diffusion and parallel development by Dixon 1997, 2001), which I will not consider in detail in this paper except to observe that they provide *prima facie* a very strong case. There is for example the attestation of case-ending alternants, one of which is Ergative **+lu*, as suffixed to reflexes of **wa:ri* “who” (Table 3).

Note the elision of the second vowel in the Diyari and Djinang Ergative forms. To be sure, this is quite possibly the effect of drift (though I know of no parallel elisions in other forms in these languages), and on the other hand it is possible that the protoform was a monosyllable, **wa:r*, and that the disyllabic ergative case-forms are a consequence of this; much remains to be explained. Such resemblances do not crop up between Pama-Nyungan and non-Pama-Nyungan languages, however.

3. Some methodological and stylistic remarks

3.1 Semantic similarity among putative cognates

Consider the glosses for the forms in Table 1: the Cape York Peninsula forms share a sense “catch” that is absent from the rest, and the rest share a sense “tie” that is absent from the Cape York Peninsula languages. Although I have tried to extract a

⁵ The Lardil Sequential Imperative form *kedmerr* does bear a resemblance to the Djinang Imperative (etc.) *garrpirri*, but the *rr* of the Lardil form is apparently a lenition product of **t*, which continues as a stop in the cognate Desiderative forms in Yukulta and Kayardild, respectively *karrmata* and *karrmada*; the resemblance to the Djinang form is hence a fortuitous one.

Table 3: **wa:ri* “who” (for details and sources see Appendix 5.1)

Uradhi	<i>a:rr-i-</i> “who”
Mpalitjan	<i>arri-</i> “who”
Luthigh	<i>7i-</i> “who”
Yinwum	<i>ate-</i> “who”
Linngithigh	<i>a7i-</i> “who”
Alngith	<i>7ay-</i> “who”
Awngthim	<i>7ay-</i> “who”
Ngkoth	<i>ati-</i> “who”
Mbiywom	<i>ati</i> “who”
WMungknh	<i>we:7</i> “who”
WMe’nh	<i>we:7</i> “who”
Umpila	<i>wa:7i</i> “who”
pPaman	*<i>wa:ri</i>(na)
Diyari	<i>wararna</i> “who NOM”; Ergative <i>warli</i>
Ngamini	<i>wara</i> “who”
Pitta-Pitta	<i>wara</i> “who”; Ergative <i>waralu</i>
Arabana	<i>wara</i> “who”
pKarnic	*<i>wara</i>
Djinang	<i>wari</i> “who”; Ergative <i>wirli</i>
Djinba (Dabi dialect)	<i>wari</i> “who”
Ritharrngu	<i>wara</i> “who”; Ergative <i>warali</i>
pPN	*<i>wa:ri</i> ~ *<i>wa:ra</i>, or possibly *<i>wa:r</i>. Ergative in *+lu.

common sense with the gloss “hold together” of the table heading, I am hesitant to claim that as the original meaning⁶; nonetheless the similarities in form (with the *rrp* cluster) and inflection argue strongly that all the forms in the set are cognate. In the matter of the amount of semantic similarity necessary for a cognate set to appear plausible (where the semantic unity of the putative cognates in two of the languages involves a nonobvious metaphoric or metonymic stretch), I agree with Evans (1992:476–477) and Wilkins (1996:269 and note 2) that it is desirable to find in a (third) language of the same cultural area a polysemous term whose senses include both of the disparate ones. In practice, however, I have accepted cognate sets for which this requirement is not met. An example is **pira* (see Appendix 5.1), whose reflexes in one or another language mean “eyeball”, “moon”, or “full

⁶ In general I leave inferences about the meanings of reconstructed lexical items for another study. In the cognate lists, I have repeated what the sources say about the meanings of the form in as much detail as is feasible. I have incorporated into my etymological database not only forms that I have extracted from dictionaries and fieldnotes but also sets of cognates from a number of comparative studies of subgroups of Pama-Nyungan. In some of these, the subgroup comparativist listed the meaning of the forms in the list only once (as for example attributed to the reconstructed form); in these cases I have, rightly or wrongly, read that meaning back into the compared forms in each daughter language. There are pitfalls in this, and where I have had time and access to the original sources I have checked back into these.

moon”, but for which there is to date no attestation with both the senses “moon” and “eyeball”. Consider also the set “antbed” and “bald-topped hill” (but no language has a single word with both senses) in the *tipa cognate set (Appendix 5.1). It is to be expected that readers will differ in how acceptable they find such etyma. In general, however, crucial phonological points do not depend on them. An exception is *wanci (“sick; alive”; attestation of a heterorganic cluster — see section 5.9), for which a single reflex with both senses has not to date been recorded.

3.2 *The label-word*

Table 1 begins with “*karrpi-”; this, and the first field of each of the etymological lists in Appendix 5.1 (where it is designated “Key”), I use as the label for the set (the basis for the sort in the database). The label-word is a choice from among the reconstructions listed in each set;⁷ the reconstructions themselves are attributed to a protolanguage (pPN in this set) and listed *after* the protolanguage name, in the same format as contemporary language names and words.

3.3 *Morphologically vs. phonologically conditioned variation*

Of the verb stems cited in Table 1, some end in *i*-, some in *a*-, and some (in certain inflectional categories in the Yolngu languages) in *u*-. Those in *u* are normal for their inflectional class (phonologically conditioned; see for example Heath 1980a:65 and 1980b:42). As for *i* vs. *a*, the difference has morphological value in other Pama-Nyungan languages. For example, in Paakantyi (in a few pairs of verbs) *a* is associated with intransitivity and *i* with transitivity, as in *iba* “to lie down”, *ibi* “to put down” (Hercus 1982:185); Arabana-Wangkangurru (Hercus 1994:132, 138) is somewhat similar. In Bidjara (Breen 1972:212) there is a single recorded example: *waja* ‘go, come, walk’ and *waji* ‘bring, take away’. Especially relevant in this regard is the contrastive use of *a* and *i* in Guugu-Yimithirr in the marking of reflexivity (most L-conjugation *i*-stem verbs change this to *a* with a following reflexive marker; Haviland 1979:95–98). Pairs of verbs showing this distinction are not, apparently, reconstructible to proto-Pama-Nyungan, and there are Pama-Nyungan languages (e.g., Kugu Uwanh, with intransitive *wañji* “to be hanging”, transitive *wañja* “to hang something up”; see Smith and Johnson 2000) in which the values are reversed from the usual: transitivity is associated with *a* and

⁷ The label-word is, in most cases, identical to the form given for pPN. However, where more than one alternant or variant is reconstructed for pPN, or there are regional variants with no basis to choose between them, *one* of these forms is arbitrarily chosen as the label-word (see *ka:lka-, *wa:ri, *tawa).

intransitivity with *i*. Nonetheless, I suspect that the fluctuation has a morphological basis, and I do not try to derive, say, the *a* stems in a set like *karrpi- by a phonological process like assimilation, at least not as a first hypothesis⁸; I leave these as residual phenomena for later analysis. I think that morphology has also been at work with final consonants and CV elements on some nouns (see Alpher 1997), as for example *tipa(n) ‘ant-bed’, *kuru(n) ‘eye’, *kaci(n/rra/Ø) ‘yamstick’ etc.,⁹ and with V₂ in some kinship terms (see *mukur and *ka:la, for example).

⁸ Other developments in verb paradigms that are best accounted for as matters of morphology rather than sound change include details of the Past and Imperative inflections. The paradigm of *karrpi- appears on the basis of the Past and Imperative forms to be like that of *pac^(y)a- (‘bite’; see Alpher 1990:156–8), i.e. to be an example of the L conjugation. Note however that in my 1990 paper I reconstructed the Past ending in this conjugation as having a final vowel (continued as *a* or *u* in one or another Western language in an unpredictable way). I now think that it had no vowel, for two reasons. First, the Paman languages generally have just +*n*, with no vowel, with the exception of Umpila (Harris and O’Grady 1976:193) and Mpakwithi (Crowley 1981:173–177). Because all tense-endings are vowel-final in Umpila, the Past is suspect of having acquired the *a* in +*na* analogically (moreover, the past tense-forms of verbs of this conjugation are recorded in texts [Thompson 1986:196–200] as fluctuating between +*na* and +*n*). In Mpakwithi, an echo-vowel was added after final consonants (Crowley 1981:160). The second reason for considering the **n* to be final in the original Past tense-ending is that in Walmajarri the final vowel *i* is morphologically separate (a suffix can intervene; Hudson 1978:37–43). A similar argument can be made for other Western languages (M. Laughren, pers. comm.). Reconstruction of the Past ending with no vowel relegates the fluctuation (from one language to the next in the Centre and West) in the final vowel of this tense-form to morphology, where it undoubtedly belongs, rather than phonology. As for the Imperative, explanations postulating non-phonetically conditioned sound changes have been advanced (see for example Dixon’s [2002:253] critique of my [1990] reconstruction of the proto-Pama-Nyungan Imperative) for changes that have rather to do with morphology. An example is the signalling of the Imperative with a bare verb stem, with no ending—a situation that recurs in many of the world’s languages without regard to genetic relationship. Such, for example, is the case in Yir-Yoront, in which all but two of the verb roots occur without inflectional ending in the Imperative. The development of the contemporary pattern entailed the loss of Imperative endings in *+la, *+rra, *+ya, *+ka, etc. (Alpher 1990). Of these, only *+ka (as in putative *ñi:naka, current *nhin* ‘sit!’) can have been lost through regular sound shifts. The loss of the others (or their vowelless regular reflexes) is apparently analogical, and is possibly facilitated by a universal pragmatic, semantic, or sound-symbolic appropriateness of use of a bare verb stem (as in ‘a curt command’) to tell somebody to do something. The process cannot have been one of morphologically conditioned ‘sound change’, and phenomena like these are not even apparent counterexamples to the regularity hypothesis.

⁹ I follow O’Grady (1966:81–82) in reconstructing a number of forms consisting of two open syllables whose attestation in many languages is followed by a consonant or a third syllable, though I do not follow his transcription practice of separating the constant disyllable from the rest with a written dot.

3.4 *Position in the syllabic structure of the word*

I take position in the word ($C_1V_1C_2V_2C_3V_3$; note that I use ‘ C_2 ’ and ‘ C_3 ’ to stand for any single consonant or consonant cluster occurring between the indicated vowels) as contextually critical (stemming in part from the first-syllable stress pattern — as seems probable — in the protolanguage). Because monomorphemic trisyllables reconstructible to Pama-Nyungan are rare (though not absent),¹⁰ there is little in that way to support the reconstruction of inflectional endings, which are typically added as a third syllable to a disyllabic stem. The dearth of stops in position $*C_3$, for example, bears on the reconstruction of case endings in $*+ngk$, and the dearth of nasals and liquids in this position bears on the reconstruction of the tense endings: $*C_2$ all too often must stand in for $*C_3$. In some parts of the Pama-Nyungan area, what has happened at $*C_3$ can be demonstrated from etyma with a distribution more local than pan-Pama-Nyungan. In Yir-Yoront, for example, stops originally following a long vowel or in position $*C_3$ (that is, after two morae, a not uncommon conditioning factor in Australian languages) are lenited, and $*k$ lenites to zero¹¹; lenition of stops in Uradhi (Hale 1976b:43) has taken place in exactly the same set of environments. But with regard to the Yolngu languages, in which the loss of a stop following a homorganic nasal in position $*C_2$ is regular (see section 7 below), the extrapolation of the $*ngk > ng$ change to the case endings in $+ng$, while quite probably correct, is a bit shaky. There are similar problems with the reconstruction of inflected verbs, as for $*karrpi-$ in Table 1.

3.5 *Use of reconstructions from subgroups of Pama-Nyungan*

I have used previously assembled cognate sets and subgroup-level reconstructions for subsets of the Pama-Nyungan family: Paman (Hale 1960, 1964, 1976c, d; see Appendix 5.1 for a note on these), Pama-Maric (my own files), Norman Pama (Black 1980), Northern NSW (Crowley 1976), Central NSW (Austin 1997b), Karnic (Austin 1990a), Ngayarta (O’Grady 1966), Kanyara (Austin 1981), and Mantharta (Austin 1981).¹² Whether or not these are true genetic subgroups is immaterial: Bloomfield (1925) reconstructed what he called ‘Proto-Central Algonquian’ from Fox, Cree, Menomini, and Ojibwe data; it turned out on further investigation (see Goddard 1979:95–102) that there was no such group as Central

¹⁰ As O’Grady pointed out long ago (1966:81).

¹¹ Lenition in Yir-Yoront also takes place in verbs and in the unstressed members of compound nouns; the phonological context common to all Yir-Yoront lenition is lack of stress relative to what precedes or follows.

¹² I have also, on a selective basis, listed (in Appendix 5.1) pPN etyma, reconstructions and forms from individual languages in etymological lists that others have published or otherwise circulated: O’Grady 1987, 1990a and c, 1998, and n.d.; and Hendrie 1990.

Algonquian and that what Bloomfield was reconstructing was really proto-Algonquian (on the basis of four languages from middle North America).¹³ What is important in the various Australian subgroup reconstructions is that some competent scholar did the homework and in a sense vouches that the correspondences noted are regular. In my own work I list all the forms in all the daughter languages individually and I work from these; I list the subgroup reconstructions as points of reference.

3.6 *Scope*

It is not my aim in this study to produce an enormous list of pPN etyma or to justify claims of odd sound or meaning correspondences. I omit from consideration here any number of tantalising sets of apparent cognates with no as-yet apparent regularity; most of the ones I include have been in print for a long time — from Capell's (1956) 'Common Australian' and before. What I wish to do here is to establish the basic correspondences on as noncontroversial a basis as possible. I hold to a strict version of the principle that sound change is regular under conditioning limited to phonetically defined contexts, with the usual proviso that it is by no means always demonstrable in practice. Although the sound correspondences I list are far from unproblematic in many cases (and in some sets of languages unstudied in detail), they represent at least a hypothesis for further testing. I have tried to use only etyma with a reasonably wide geographical spread — at a minimum, Cape York Peninsula to Centralian languages like Warlpiri and Western Desert. The restriction to a small number of (relatively) 'well-behaved' etyma has already proven to be productive of further leads and insights (as for

¹³ And minus a few wrinkles derivable only from consideration of the other Algonquian languages, including the Eastern ones, which do form a subgroup. Goddard (1979:95) attributed the resemblances among Central Algonquian languages that Bloomfield had mistaken for genetic-subgroup-defining innovations to "extensive lexical, phonological, and perhaps grammatical borrowing" (I would add that Bloomfield's error was, of course, a matter of the false starts, wrong turns, and inferences from incomplete data that are routine in any long and complicated investigation). Goddard's style in this account is strictly reportorial. It is of interest, since Dixon's view of the similarities among the putatively Pama-Nyungan languages is that they are largely diffusional (and the result of parallel developments), to contrast the tone of his history of scholarship (Dixon 1997, 2001:91–92, 2002:49), dismissing Blake's (1988) and Evans' (1988) revision of the list of Pama-Nyungan languages (Yanyuwa in, Tangkic out) as 'Pama-Nyungan Mark II', as opposed to O'Grady, Voegelin and Voegelin's (1966: Tangkic in, Yanyuwa out) 'Pama-Nyungan Mark I'—as if to hint that some sort of scholarly flimflam is being perpetrated. Since further revision of Pama-Nyungan is apt to become necessary, I will not be surprised if a perfectly respectable 'Mark III' (and beyond) is postulated.

example, during the writing of this paper, with regard to coronal consonants — see section 5.6).

4. Borrowing

4.1 *The problem of unidentified loanwords*

Phonological conservatism across much of the Australian continent makes conclusive identification of loanwords, in many languages, difficult or impossible. Consider the cognate set for *mara ‘hand’ in Table 4: all the forms cited apparently correspond regularly with all the others, and with the exception of the Paman languages, Yuwaalaraay and Yuwaaliyaay, and Nyungar, all attestations among Pama-Nyungan languages have the form *mara*. From data like these, the conclusion has been drawn (as, implicitly, in Dixon 1997, for example) that comparative reconstruction (at the level of putative Pama-Nyungan) is impossible in the Australian situation. Note however that the reconstruction of proto-Pama-Nyungan *m₁, *a₁, *r₂, *a₂ relies not just on this one set but on many, and the geographical distributions of many of these cognate sets are coterminous, or nearly so, with the borders of Pama-Nyungan. Furthermore, among the phonologically differentiated languages of the Paman set there has been no borrowing: Hale (1961), in his painstaking lexicostatistical compilation, noted all loanwords, and in this 100-word sample across thirty languages he identified just four (that is, 4 words in 3000¹⁴); there was none in the *mara set. Why should there be an enhanced frequency of borrowing only among the phonologically conservative languages? As a microcosm of the continent-wide situation, consider the form *7a* ‘hand’, which is the regular reflex of *mara in Thyanhngayth, Mamngayth, Ntrwa’angayth, and Alngith of Northern Cape York Peninsula. It could be argued that it might be a phonologically unidentifiable loanword in one or more of these four languages from one of the others. But of course one or more of them might have borrowed, but did not borrow, *a7a* from the contiguous Linngithigh or Luthigh, or *ta* from the contiguous Aritinngithigh or Mbiywom, or *tra* from the

¹⁴ The four words are Kaantju *mi:7i* ‘eye’ from Wik Mungknh or Wik Me’nh; Ngkoth *pay* ‘elbow’ from Mamngayth, Ntrwa’angayth, or Alngith *pa7y*; Wik Ngathrr *waya* ‘bad’ from Wik Mungknh or Wik Me’nh *way(a)*; and GYimithirr *wata* (~ *pu:rray*) ‘water’ from English. A related finding, reported in Alpher and Nash (1999:12 and note 9; this should be considered in the light of section 5.9 and its note in the present paper) is that for a given class of putative cognates between the neighbouring languages Yir-Yoront and Kuuk Thaayorre, only 1 in 32 can be clearly identified as a loan on grounds of violation of regular sound correspondence.

contiguous Ngkoth. There is no reason to suspect that the probability of borrowing rises in cases where the target happens to be phonologically unidentifiable.

As it happens, the *mara set as presently understood is probably *not* free of loans. The Yaraldi (“MM”, for Murray Mouth) form *mar* “hand” has an unexpected short vowel and is hence suspect as a loan (see Appendix 5.2), and in the Central New South Wales languages Wayilwan, Wangaaybuwan (Ngiyampaa), and Wiradjuri *marā* “hand” fails to show an expected final *ng* and is possibly a loan.¹⁵ And of course it is perfectly possible that in Wangkumarra *marā* “hand” is an undetectable loan from Yandruwantha, or in Burduna it is a loan from Tharrgari, or one or more of a great many other combinations. But what is important in the present context is that the correspondences of each segment of *mara across the continent are repeated in a goodly number of other lexical items (see section 5).

Consider by way of contrast a set in which borrowing is apparently widespread, *kurricala in Table 5. The Nyawaygi form, *gurrijala* “eaglehawk”, reveals itself as a loan from one of its neighbouring languages because between vowels the tap *rr regularly became the glide *r* in Nyawaygi (see Dixon 1983:450–1). But suppose that this gift of a sound change in an otherwise phonologically very conservative area had not occurred. Is there anything else about this set of words that might alert a researcher to its suspicious nature? Yes: the set of languages in which it is recorded are, from a genetic standpoint, a rather disparate group. Dyirbal and Girramay are not closely related to Nyawaygi, and none of them is close to Arrernte, Pitta-Pitta, the Mayi languages, or Gugu Badhun. This last, with *gurrijala*, is part of a dialect chain with Bidjara, Marrgany, and Gunya, which have the non-corresponding (or partially noncorresponding) *gudhala* (itself belonging with the *guyalā* of the not-closely-related Yidiny). Furthermore, the eaglehawk is an important totemic species across a wide area of Australia: one might surmise that its name has diffused through song. One might also suspect that *gurrijala* is a loan, an unidentifiable one, in one or more of the other languages of this set, whose geographical contiguity strengthens the impression that the source of this term is diffusional in most of them.

¹⁵ These three Central New South Wales languages constitute a subgroup, proto-Ngiyampaa-Wiradjuri. (Austin 1997b:22). Austin cites (as a sample) seven etyma whose reflexes in these languages lack final *ng*, as against some 26 which have it, as evidence that final *ng was present in pCNSW and contrasted with its absence (Austin 1997:24). Among the first seven are two listed here in Appendix 5.1 as pPN, *kuya and *mara; among the 26 for which Austin reconstructs *ng, eight are listed in Appendix 5.1: *carra (“thigh”), *cina, *kali, *kuna, *miña (“what”), *ngamu-, *ngulu, and *lirra. I suggest, tentatively, that the seven are loans and that their final *ng is an addition (a matter of regular phonological change; see Hale 1976a) and is not to be reconstructed in these etyma for pCNSW.

Table 4: *Reflexes of *mara “hand” (see Appendix 5.1 for details and sources)*

Cape York Peninsula (Paman) languages		New South Wales and South Australian languages	
Uradhi	<i>mata</i> “hand”	Wiradjuri	<i>mara</i> “hand”
Luthigh	<i>a7a</i> “hand”	Wangaaybuwan	<i>mara</i> “hand”
Linngithigh	<i>a7a</i> “hand”	Gamilaraay	<i>mara</i> “hand”
Thyanhngayth	<i>7a</i> “hand”	Yuwaalayaay	<i>ma</i> : “hand”
Mamngayth	<i>7a</i> “hand”	Yuwaalaraay	<i>ma</i> : “hand”
Ntrwa’angayth	<i>7a</i> “hand”	pCNSW	*mara
Alngith	<i>7a</i> “hand”	Paakantyi	<i>mara</i> “hand, fingers”
Awngthim	<i>7a</i> “hand”	Diyari	<i>mara</i> “hand”
Ntra’ngith	<i>a7a</i> “hand”	Pitta-Pitta	<i>mara</i> “hand”
Ngkoth	<i>tra</i> “hand”	pKarnic	*mara
Aritinnghigh	<i>ta</i> “hand”	Yaraldi (MM)	<i>mar-</i> & <i>mara</i> “hand”
Mbiywom	<i>ta</i> “hand”	Adnyamathanha	<i>mara</i> “hand”
WMungknh	<i>ma7</i> “hand”	Wirangu	<i>mara</i> “hand”
WMe7nh	<i>ma7</i> “hand”	Western languages	
WNgathan	<i>ma7</i> “hand”	Pintupi	<i>mara</i> “hand, finger; front paw; front wheels”
WMuminh	<i>ma7a</i> “hand”	Martuthunira	<i>mara</i> “hand”
Kaantju	<i>ma7a</i> “hand”	Ngarluma	<i>mara</i> “hand”
Koko-Bera	<i>mar</i> “hand”	pNgayarta	*mara
KNarr	<i>mar, marangk</i> “hand”	Thalanyji	<i>mara</i> “hand”
Aghu Tharrnggala	<i>ri</i> “hand”	Burduna	<i>mara</i> “hand”
ON	<i>ar3</i> “hand”	pKanyara	*mara
Djabugay	<i>mara</i> “hand”	Jiwarli	<i>mara</i> “hand”
pPaman	*mara	Jurruru	<i>mara</i> “hand”
GBadhun	<i>mara</i> “hand”	Warriyanga	<i>mara</i> “hand”
Bidjara	<i>marda</i> “hand”	Tharrgari, l-dialect	<i>mara</i> “hand”
Gunya	<i>marda</i> “hand”	pMantharta	*mara
ppM	*mara	Nhanda	<i>mara</i> “hand, fingers”
		Nyungar	<i>mar</i> “hand”.
ppN *mara			

It is correct to be sceptical in these cases; what is not correct is to let scepticism impede reconstruction *as if* unidentified loans were not a factor. It is only through consideration of the reconstructions that the loans will ever be winnowed out.

Table 5: *Languages exemplifying *kurricala “eaglehawk” [wedge-tailed eagle, Aquila audax]*

Dyirbal	<i>gurrijala</i> “eaglehawk”; source: RMWD, KLH.
Girramay	<i>gurrijala</i> “eaglehawk”; source: KLH.
pPaman	*kurricala ; source: KLH; with regard to Hale’s usage of the term “proto-Paman” see the note in Appendix 5.1.
Warrgamay	<i>gurrijala</i> “eaglehawk”; source: RMWD.
Nyawaygi	<i>gurrijala</i> “eaglehawk”; loan; *gurijala expected. Source: RMWD.
Mbabaram	<i>gùrridhál</i> “eaglehawk”; clearly a loan. Source: RMWD
GBadhun	<i>gurridhala</i> “eaglehawk”; source: PS.
Pitta-Pitta	<i>kurrihala</i> “eaglehawk”; source: BB.
Mayi-Kulan	<i>kurrihala</i> “eaglehawk”; *a > i?; source: GB.
Mayi-Yapi	<i>kurrihala</i> “eaglehawk”; source: GB.
Mayi-Thakurti	<i>kurrihala</i> “eaglehawk”; source: GB.
Mayi-Kutuna	<i>kurrihala</i> “eaglehawk”; source: GB.
Wunumara	<i>kurrihala</i> “eaglehawk”; source: GB.
E&C Arrernte	<i>irrece</i> “eaglehawk”; the expected reflex of *kurrica(la) is *(i)rrwece(le). Source: JH&VD.
?	*kurricala
Yidiny	<i>guyala</i> “wedge-tail eagle” Uninflected form <i>guya:l</i> . Tablelands & Coastal dialects. Source: RMWD F6.
Bidjara	<i>gudhala</i> “eaglehawk”; <i>gurijal(a)</i> means “peewee, mudlark” and would be regular from *kurricala; source: GB.
Marrgany	<i>gudhala</i> “eaglehawk”; source: GB.
Gunya	<i>gudhala</i> “eaglehawk”; source: GB.

4.2 Cognates in non-Pama-Nyungan languages

For a number of cognate sets with wide distributions in Pama-Nyungan, there are further apparent cognates, whose resemblance in form and meaning cannot be put down to coincidence, in one or more non-Pama-Nyungan languages. If such a form is an inheritance from the common ancestor of the Pama-Nyungan languages and the non-Pama-Nyungan language in question, then it is not an innovation diagnostic of Pama-Nyungan as a subgroup. If on the other hand it can be shown to be a loan in the non-Pama-Nyungan language, then the value of the Pama-Nyungan etymon as a diagnostic is unimpaired. What I show below (section 6), however, is that it is typically very difficult to evaluate the loan-vs.-inheritance status of these words in non-Pama-Nyungan languages. This difficulty is a consequence of the scarceness of recurrent sound correspondences — i.e. of the scarcity of cognates — and so constitutes an indirect argument for the genetic separateness of these languages from Pama-Nyungan.

5. Some features of proto-Pama-Nyungan phonology as revealed in the reconstruction of lexical items

In this section I summarise the attestation, which is keyed¹⁶ to the cognate lists in Appendix 5.1, of a number of the salient features of pPN phonology. The forms recorded are clearly those of a group of languages related closely enough to one another for the classical comparative method to be applicable. This property, as discussed in sections 4.2 above and 6 below, distinguishes these languages from ones which are known (on other grounds) to be non-Pama-Nyungan and which attest forms cognate with ones in the Pama-Nyungan list. What I have *not* done below, however, is to sort out those forms occurring exclusively in Pama-Nyungan languages, i.e., those which count as subgroup-particular innovations. That is another study.¹⁷

Among the items that I do take as criterial for Pama-Nyungan are the nominative pronouns (Blake 1988:6, repeated in Blake 1990b:437-438, and Appendix 5.1 to this volume) *ngay(u) ‘I’, *ñun(tu) ‘thou’, *ngali ‘thou and I’, *pula ‘they two’, *ngana ‘we PLural’, *ñurra ‘ye PLural’, and *cana ‘they PLural’; the first-person singular oblique pronouns (see Appendix 5.1) *ngacu, *ngaca+, and *ngañi (or *ngaña) and the second-person oblique *ñuna; the case-endings (Blake 1988:27) *+lu and *+ngku (ergative),¹⁸ *+la and *+ngka (locative), and *nguru (ablative; ending or postposition; see Blake 1988:27 and Appendix 5.1); the participial suffix *+ñca (Evans 1988:94 — the “nominaliser/infinitiviser” — and see section 7 below); and the imperative and past and other tense-forms of verbs like *pac^(y)a- ‘bite’, *wanti- and *ka:lka- both ‘fall’, and *ya- ‘go’ (also *ma- ‘get’, *cu- ‘put’; see Alpher 1990). Because the pronouns make up a large proportion of these items and because there is controversy as to their original forms, paradigmatic statuses, and developmental history, I discuss some of the relevant problems below (section 8).

The phonemic inventory I present is basically the same as that given and partially justified by O’Grady (1998:217): three vowels, long contrasting with short in first syllables; consonants with bilabial (*p, *m, *w), apico-alveolar (*t, *n, *l, *rr), apico-postalveolar (*rt, *rn, *rl, *r), laminal (*c, *ñ, *λ, *y),¹⁹ and dorso-velar

¹⁶ Keyed by their labels (see 3.2), which are not necessarily identical to the actual reconstructions, for which readers should consult the lists in Appendix 5.1.

¹⁷ For a beginning, in the area of technology, see Evans and Jones (1997:396–407).

¹⁸ Possibly not limited to Pama-Nyungan: the non-Pama-Nyungan language Bunuba (Kimberleys, Western Australia; Rumsey 2000:52) marks Ergative-Instrumental case with the ending *-ingga*.

¹⁹ The symbols *c and *ñ—I follow O’Grady’s (1966) and Hale’s (1982) usage with regard to these—are more-or-less equivalent to Dixon’s (1970b) DY, NY, his (1980) NH, DH, and his (2001:88) *dh*, *nh*, and to Evans’ (1988) DH and NH, respectively.

(*k, *ng) articulation. To these I add, as do O'Grady (this volume) and Koch (1997c) (whose hypotheses differ in detail from what I set out here), a second laminal set (*c^y, possibly also *ñ^y and λ^y); see section 5.6 below.

I consider below only certain selected details of phonological history in individual languages and language groups. For further detail on Paman languages, readers should consult Hale (1964 and 1976b,c,d), Alpher (1972, 1976, 1991, and 1997), and Black (1980); for Western Victoria, Blake and Reid (1998b) and Hercus (1986:111–112); for Northern NSW, Crowley (1976); for Central NSW, Austin (1997a); for Karnic, Austin (1990a) and Bower (2001a); for Arandic, Koch (1997, 2001b, and this volume); for languages of the Pilbara area, Dench (1994); for Ngayarta, O'Grady (1966); and for Kanyara and Mantharta, Austin (1981). With regard to the dropping of initial consonants in various Pama-Nyungan languages, a comprehensive survey and analysis is presented in Blevins (2001b); an earlier survey of these and of the lenition of initial stops in Cape York Peninsular languages is in Alpher (1976).²⁰ Dixon discusses the phonological history of Warrgamay (1981:24–27), Nyawaygi (1983:448–451), and Mbabaram (1991:361–366), as do Blake for Kalkatungu (1979a:131–150), Dench (1995b:47–50) for Martuthunira, Rigsby (1976) for Kuku Thaypan (Awu-Laya), Crowley (1981:157–162) for Mpakwithi, Hale (1976b) and Crowley (1983:330–332) for Uradhi, and Blevins (2001a:36–44) for Nhanda.

5.1 *The segments of *karrpi- “hold together” recurring in other etyma*

- *k₁ *kakara, *kali, *kalka, *kalmpa, *kalu, *kami, *kañc^yi, *kapi+, *kana, *kari, *ka:la, *ka:mpa-, *kiñca-, *kumpu, *kuna, *kuñc^ya-, *kuru
- *a₁ *caku, *cana, *cangkari-, *carra “thigh”, *c^yarra “seagull”, *kali, *kalka, *kalmpa, *kalu, *kami, *kapi+, *kana, *kañc^yi, *kari, *lañirri, *laparr, *ma-, *malu, *manu, *mangi, *mangka, *mara, *marra, *mayi, *mayi, *ña-, *ñaka, *ngaka, *ngali, *ngañcar, *paca-, *pac^ya-, *paka-, *ra-, *ramparra, *tawa, *wangarr, *wangka-, *yalka, *ya^ulu, *yarra
- *rr₂ *carra, *c^yarra, *kurri, *rirra, *marra, *ngurru, *purra-, *yarra
- *p₂ *kalmpa, *kapi+, *ka:mpa-, *kumpu; *lipa, *laparr, *tipa, *wapu, *wa:rlpa, *yapa, *yipi

²⁰ The list of ‘residual’ issues is considerable, including among other things lenition of initial laminal nasals in pronouns but not other forms in the Maric and other languages (see the attestations of *ñi:na- “sit” vs. the pronouns *ñun(tu) and *ñurra in Gugu Badhun, Bidjara, Marrgany, and Gunya; *ñu:ma- “smell it” vs. the same pronouns in Guugu-Yimithirr and Kuku Yalanji), initial apicals in Djinang and Djinba, vowel length in the Yolngu languages and in Bundjalang-Yugambeh (see Appendix 5.2) and Paakantyi, prenasalisation of medial stops (O'Grady 1998:213), and presence vs. absence of final *ng* in nouns in some of the Southeastern languages (see Appendix 5.2).

*i₂ *ci:rni, *kali, *kami, *kañc^yi, *kari, *kuli, *kurri, *mangi, *ma:ri, *mayi, *mayi, *ngaci, *ngurrci, *warrci, *wirti.

The scarcity of *k₁i possibly reflects a systematic absence (*kiñca- ‘wet it’ is inferred from forms in just two attesting languages) so also with *ng₁i (see sections 5.2, 5.3, and 5.5; possibly this restriction holds of these consonants in position *C₂ as well). There is hence a possibly to be investigated that these sequences continue with initial lamino-alveopalatals; see O’Grady and Hale (this volume) in this regard.²¹

Note that *rrp (in my data) continues only in *karrpi-.

5.2 *Attestation of the other short vowels in first syllables*

*i₁ *kiñca-, *lipa+, *rirra, *micara, *miña, *pilu, *pi̯la-, *pina, *pira, *cina
 *u₁ *curtu, *cuwa, *kuli, *kulu, *kumpu, *kunka, *kuñc^ya-, *kuru, *kurri, *muc^ya, *muku, *muku, *muku(r), *mulu, *mungka-, *mutu, *nuka, *nguku, *ngulcurr, *ngulu, *nguru, *ngurrci, *ngurru, *ngula, *ñurra, *puka, *pula, *purilka, *turnu, *wunpa-

5.3 *Attestation of the long vowels*

*a:₁ *ca:, *ka:–, *ka:la, *ka:lka–, *ka:mpa–, *ma:–, *ma:ri, *nga:ci–, *nga:ni, *ta:ku, *wa:rlpa
 *i:₁ *ci:rni, *mi:l, *ñi:na–, *pi:mur, *pi:rra, *wi:rrngka–, *wi:ci, *wi:ya
 *u:₁ *ku:wu, *ñu:ma–

Distinctive vowel length continues in some of the Paman languages (for example, Umpila, most of the Wik languages, and Guugu-Yimithirr), and its distinctive contextual effects continue in others (for example, Uradhi and other Northern Paman languages, Kugu Uwanh, Uw Oykangand and Uw Olgol, and Yir-Yoront). The Arandic languages, with tensing of some nasals after short vowels, are apparently like some of these latter.²² In Muruwari (north central New South Wales) there is a high degree of vowel-length correspondence with the Paman languages; see especially the monosyllabic verbs *ka:–, *ma:–, *nha– (Muruwari reflexes of *pu- and *ya-, which are not listed in Appendix 5.1, are *pu-* ‘hit’ and

²¹ In a number of the contemporary languages, *k* and *ng* before *i* are fronted to a palatal position.

²² Nasals in position *C₂ in Arandic continue tense (prestopped) if *V₁ was short (see the ECArremte and Kaytetye reflexes of *cana, *kami, *kana ‘yamstick’, *kuna) but lax (plain) if *V₁ was long (*pa:nga–, varying with *panga–). Tensing did not take place if *C₁ was a nasal (*ngama, possibly also *ngana; *ñi:na– has a long vowel as well as an initial nasal); for a possible exception see the Kaytetye entry under *miña. Also, it is possible that a preceding long vowel conditioned lenition of *k to a voiced spirant (see *ra:ku vs. *caku).

ya- “go”), and **nga:ni* “what” vs. numerous short-vowel forms like **kana* “yamstick”, **kuna*, **mara*, and **pina*; an exception is *pangkal* ‘shoulder (proto-Paman **pa:ngkal*, not listed in Appendix 5.1). Bandjalang and Yugambah apparently continue some length distinctions from pPN (see Appendix 5.2). There is a possible distinctive contextual effect of vowel length, lenition of following **c* to *y*, in Ngarluma and Panyjima in the far West (see **nga:ci-*).²³ It is problematic whether any length distinctions in the Yolngu languages continue from pPN times; however, old length distinctions seem to be mirrored consistently in monosyllables and in the reflex of **ñi:na* “sit” in Ritharrngu (but not the other Yolngu languages), and there is a hint of correspondence with Paakantyi (if not Paman): see the **carra-* “stand” set (**ca:rra-* variant) vs. the **ngali* and **ngama* sets. In most other Pama-Nyungan languages, it seems that the long vowels have merged with the corresponding short ones without leaving a trace. However, a great amount of detailed study remains to be done.

Note there is apparently no etymon with a Pama-Nyungan-wide distribution having a long vowel in a syllable after the first.

5.4 *The vowels in second syllables*

**a*₂ **calañ*, **ca:wa* (and **ca:ra*), **kakara*, **kalka*, **kalmpa*, **ka:la*, **kana*, **kunka*, **kuñcʷa-*, **lipa*, **micara*, **mucʷa*, **mungka-*, **ngaka*, **ngañcar*, **ngula*, **ñaka*, **ñi:na-*, **paka-*, **pala*, **paca-*, **pacʷa-*, **pila-*, **pina*, **pira*, **pi:rra*, **puka*, **pula*, **purlka*, **purra-*, **wangarr*, **wangka-*, **wi:rrngka-*, **wi:ya*, **yalka*, **yangkara*

**i*₂ [See 5.1]

**u*₂ **caku*, **kulu*, **kumpu*, **kuru*, **mukur*, **muku*, **mulu*, **malu*, **ngamun*, **ngayu*, **nguku*, **ngulcurr*, **nguru*, **ngurru*, **pilu*, **ta:ku*, **turnu*, **walu*, **yalu*

5.5 *Non-coronal consonants not covered in 5.1*

**k*₂ **caku*, **kakara*, **mukur*, **muku*, **ngaka*, **ñaka*, **ngaka*, **nguku*, **paka-*, **puka*, **ta:ku*

²³ See O’Grady’s discussion (1966:86–87) of lenition of intervocalic stops in the Ngayarta languages, which has not taken place in his Ngarluma and Panyjima examples (**watharri-* “look for”, #451, and **ngathi-* “to cry”, #629). My presumption that both of these continue a short **V*₁ could run afoul of other data, however. I know of no Northeastern cognates of proto-*Ngayarta* **ngathi-* (I discount proto-Paman **pa:ci-* “cry”) against which to evaluate its long-vowel cognates (for example Ritharrngu *nga:thi-* “cry, weep”) in the Yolngu languages. But with regard to **watharri-* (which O’Grady reconstructs with an archaic morpheme boundary before **rr*) there is Kuuk Thaayorre *wa:th-*, Past *wa:thi+rr* “search, seek”, Yir-Yoront *way* “follow”, and Warlmanpa *wayi-* “look for, seek”.

*p ₁	*pala, *paca-, *pac ^y a-, *pilu, *piɭa-, *pina, *pira, *pi:mur, *pi:rra, *puka, *pula, *purlka
*m ₁	*ma-, *manu, *mara, *marra, *mayi, *mayi, *ma:ri, *miña, *mi:l, *muc ^y a, *muku, *muku, *muku(r), *mulu
*w ₁	*walu, *wangka-, *wapu, *wa:ri, *wa:rlpa, *wirlu, *wirni, *wita-, *wirti, *wi:ci, *wunpa-
*ng ₁	*ngaci, *ngacu+, *ngaka, *ngali, *ngalñca, *ngama/un, *ngañcar, *ngayu, *nga:ci-, *nguku, *ngula, *ngulu, *nguru, *ngurrci, *ngurru
*m ₂	*camal, *kami, *la:ma-, *ngama/un, *ñu:ma-, *pi:mur
*w ₂	*ca:wa, *cuwa, *ku:wu, *tiwa
*ng ₂	*ca:nga, *mangi, *panga-, *wangarr

5.6 Coronal consonants

The number of manner contrasts among initial coronals is a matter of controversy and bears on the ‘laminalisation’ claim of Evans (1988): pre-pPN had an initial apical stop contrasting with a laminal one and, in an innovation limited to the subgroup, underwent a sound change converting these initial apicals to lamino-interdentals. I suspect, on the other hand, that pPN contrasted initial laminal stops and nasals with apicals of four manners (stop, nasal, lateral, and glide). There are a number of languages that distinguish all of these initials and which are located across the centre of the continent from north to south: the Yolngu languages, Nyangumarta, the Ngumpin-Yapa languages (such as Walmajarri and Warlpiri), and the Western Desert language.²⁴ Evidence presently available to me from these and other Pama-Nyungan languages (especially Uradhi, Pitta-Pitta, Wangkumarra, and

²⁴ Other groups of languages have apparently either conflated the initial apical non-nasals into a single apical consonant (a variety of sounds in most Cape York Peninsula languages) or merged the apicals with the laminals (Ngiyampaa, and the Ngayarta, Kanyara, and Mantharta languages, for example). With regard to the Cape York Peninsula reflexes, see Alpher 1976:91, including the footnote, in which I postulated that the initial glide of Uradhi (Atampaya) *rungka*- ‘cry’ (*yungka*- in Angkamuthi and Yadhaykenu) could have been the product of lenition from a stop, *t (whatever its phonetic nature was, on the assumption that the conflation of pPN *t, *l, and *r to a single non-nasal apical sound was a group innovation, I represented this sound as ‘*t’ in my Paman and Pama-Maric reconstructions). However, in view of the analysis of initial apicals at the pPN level given here (see section 5.6 and Table 6), it seems likely that the Paman predecessor of Uradhi *rungka*- ‘cry’ had *r originally—as Hale (1976b,c,d) reconstructed it and as I do here. Furthermore, The Uradhi dialects apparently distinguish reflexes of pPN *r (> r or y) and *t (> Ø; note however that initial dropping has occurred, apparently sporadically, in Uradhi), and Umpila continues *runka- as *7ungka*- ‘cry’ but *tukul, an etymon possibly restricted to the Paman languages, as *tukul(u)* ‘turtle’ (cf. Uradhi [all dialects] *ukurra* ‘leatherhead turtle’; Yadhayenu *yukul* ‘short-necked freshwater turtle’; Yarlaldi [MM] *tukup* or *thukub-i* ‘turtle’ might be cognate). Hence my (1976) claim that proto-Paman had only one initial apical non-nasal is probably false.

Bundjalung-Yugambah) indicates that there were three initial non-nasal apicals (alongside a nasal *n) contrasting with the laminals: a lateral (*l), a stop (*t), and a glide (*r). Discrimination, at the pPN level, between the apical stop and the apical glide in initial position hinges at present on a small number of *t etyma, of which two (*ta:ku “ground” and *tipa “ant-bed”) are widely attested (for details see section 5.6.1, Table 6, and the indicated etyma in Appendix 5.1).²⁵ If the *t (vs. *r and *l) etymologies hold up, then the laminalisation hypothesis is in difficulties. If the single etymon beginning with an apical nasal (*nuka) set out below is valid, then the laminalisation hypothesis is not sustainable with regard to nasals. Evans’ (1988:98-104) claim is that an apical vs. laminal distinction among initial consonants in the language ancestral to Pama-Nyungan, Tangkic, and Gunwinyguan was levelled (to laminal) in the first but retained in the latter two. This is asserted on the basis of certain Pama-Nyungan laminal-initial forms of which some apparently correspond to laminal-initial putative cognates in proto-Gunwinyguan and Proto-Tangkic and others to apical-initial ones. However, etymological material of better quality and quantity than that currently at hand, as discussed in section 6 (below), is required in order to make an argument for Pama-Nyungan laminalisation on the basis of comparison with languages external to Pama-Nyungan. If, nonetheless, crucial etyma among those given by Evans should hold up, then the only possible reconciliation of his claim with the Pama-Nyungan–internal findings given in this paper is a demonstration that of these etyma, at least one of the non-nasal categories (*l, *r, or *t) has no true cognates outside Pama-Nyungan — that is, they were innovations post-dating the split of Pama-Nyungan and its closest relatives. I suspect, however, that there are some in each category; see the relevant listings in Appendix 5.1. I do not think that the question can be definitively resolved at present.

As for position C₂, it seems likely that pPN had contrasting apicals at two points of articulation, non-retroflex and retroflex (*rt vs. *t, etc.), for which non-retroflex attestations show a strong numerical predominance over retroflex. Further detailed examination is required, and I do not try here to make a definitive determination on this distinction.

Laminal consonants contrasted with apicals at both C₁ and C₂. There is a small amount of evidence that at both of these positions in the word a point-of-articulation contrast obtained, at least for stops; I label these *c and *c^y. The nature of their original phonetic realisations is problematic. In contemporary Pama-Nyungan languages in which there is no point-of-articulation contrast for laminals,

²⁵ I am grateful to Harold Koch for helping me to sort out the initial apicals. Note that I have not postulated the one remaining apical consonant, *rr, on the grounds of the nonoccurrence of initial *rr* everywhere except eastern Arnhem Land—but it is nonetheless available.

systems of two kinds are common. In one (examples: Kuku Yalanji, Dyirbal), all laminals are alveopalatal. In the other, there are conspicuously differing allophones, dental and alveopalatal, in different contexts. An example is the Warburton Ranges ('WR') dialect of the Western Desert Language (Douglas 1964:14, O'Grady, Voegelin, and Voegelin 1966:140), in which the laminal consonants *c*, *ñ*, and *ɺ* are alveopalatal before *i* and after a heterorganic (non-laminal) consonant, and dental elsewhere.

In languages that distinguish laminals at two points of articulation (the positions that are allophonic in WR), those that apparently continue from pPN times are often distributed, with statistical predominance, in a manner reminiscent of the WR pattern. An example is Kalaw Kawaw Ya (Torres Strait), with an alveopalatal (*s*) before *i* (see *cipa, *ngurrci) and an interdental (*th*) before *a* (see *cana). The statistical predominance of alveopalatal laminals before *i* and after a non-laminal consonant recurs right across Pama-Nyungan territory and is strongly suggestive of a single-laminal origin (in relation to conditioning by a following vowel, see further Dixon 1970b and 1980:153–154). Other two-laminal systems, though differing in detail, also apparently suggest and for the most part accord with a single-laminal hypothesis. An example is Yir-Yoront, with a strong predominance of *th* (dental) initially and intervocally no matter what vowel followed, and also after *l, but *c* (alveopalatal) after *rr. These patterns have in common that words with laminals that violate them — i.e., that contrast with laminals at the other point of articulation — are often transparently loans or the result of the loss of a phonological conditioning factor (see below). However, there are a few nagging examples in some two-laminal languages (including Kalaw Kawaw Ya and Yir-Yoront) of alveopalatals that occur in contexts where dentals would otherwise be expected and for which borrowing or lost conditioning contexts do not appear to be plausible explanations. These I label *c^y.

It is natural to suppose that *c^y was realised as an alveopalatal, in contrast to an exclusively dental realisation for *c.²⁶ Under this interpretation, the alveopalatal reflexes of *c before *i can be seen as results of an often-repeated assimilatory

²⁶ As is implicit in the *DH (or *dh) notation of Evans (1988) and Dixon (2001) However, I have seen only one report of a Pama-Nyungan language, the Mt. Margaret and other western dialects of the Western Desert Language (O'Grady, Voegelin and Voegelin 1966:140), in which the realisation of the laminal consonants is exclusively interdental. Note as an aside that Douglas's formulation for the Warburton Ranges dialect (because it states that homorganic sequences are dental) does not give a definitive prediction for a sequence of the form /Vñci/, and neither source gives an example. In some of the two-laminal Paman languages, where proto-Paman *mu:ñci- is available as a test, the cluster behaves in the same manner as the single consonant, as in Wik Mungknh *mu:ñc-*, Wik Ngathan *mō:nhth-* 'to swim'; the Northern Paman languages do the same.

historical change, producing a merger with reflexes of *c^y.²⁷ Other hypotheses, such as three points of articulation (two for *c and one for *c^y) seem less attractive. However, in view of the strong predictive power of the WR pattern for distributions of reflexes right across the continent (see below),²⁸ the rarity of single-laminal languages with exclusively dental realisation of laminals vs. the commonness of those with exclusively alveopalatal realisation, and the scanty and equivocal nature of the evidence for *c^y (as well as the absence of convincing evidence for *ñ^y and *λ^y), I prefer to reserve judgement.

Furthermore, the explanatory value of the postulated distinction between *c and *c^y, with regard to that between interdental and alveopalatals in many of the modern languages, is limited. Although it apparently accounts for the contrasts in reflexes of *ca(:)rra- ‘stand’ and *c^yarra ‘seagull’ in various Northern languages and for those in Yir-Yoront (cited Absolutive first, Ergative-Instrumental second) *muc*, *muca* ‘cooked food’ (< *muc^ya) vs. *puth*, *putha* ‘arm’ (< p Paman *puñca [not in Appendix 5.1]) and *kacɪ*, *kicirr* ‘urine’ (< *kañc^yi) vs. *kathn*, *kithilh* ‘yamstick’ (< *kacin), there are laminal contrasts in numerous other languages for which on grounds of prior phonological conditioning it is unnecessary to postulate it. For example, in Guugu-Yimithirr the *ñj/nhdh* distinction in *ngañja* ‘initiation ceremony’ vs. *wanhdhja* ‘where’ is attributable to the presence of *l, a heterorganic consonant, in pPN *ngalñca but not in *wañca; the same distinction in Kuuk Thaayorre, in *wañc* ‘sick’ and *kuñcvn* ‘pandanus’ vs. *wanhtha-n* ‘where’, is attributable to the heterorganicity of the clusters in *wanci and *kunca versus the homorganicity of that in *wañca. Martuthunira seems to have developed its *ñc/nhth* contrast, as in *wanhtha(la)* ‘where’ (< *wañca) and *nganhthari* ‘tooth; sharp’ (if this is truly a reflex of *ngañcar(V) ‘tongue’) vs. *ngañcali* ‘proscribed object’ < *ngalñca, in the same way as did Guugu-Yimithirr; Yinjibarndi is similar. Moreover, the attestation of putative *c^y is equivocal in some cases; see the notes to *pac^ya, *paca-, and *kuc^yarra.

With regard to the unexpected occurrences of palatals in reflexes of *ngacu (‘I’; possibly *ngay+cu) see the note to that entry and section 8.²⁹ The postulation

²⁷ It is not obvious, however, that a change from dental to alveopalatal after a heterorganic consonant is assimilatory. There are, moreover, Australian languages, such as the non-Pama-Nyungan Anindilyakwa, that keep sequences of the form *nth* distinct from both *nhth* and *nt* (Gordon Baarra, pers. comm.).

²⁸ This generalisation is weakened—though not destroyed—if it was not the case that some variant of the WR pattern was present in the protolanguage.

²⁹ There is another etymon which is at present equivocally attested, which might support the *y+c hypothesis: ECArrente *aceneñe* ‘something that belongs to somebody else’, Yir-Yoront *maycel* ~ *macl* ~ *macn* ‘somebody else’s’, giving pPN *mac^yVn or possibly *maycVn.

of the interdental/palatal distinction for laminals in the protolanguage is for these reasons (among others) tentative.³⁰

5.6.1 Initial apical consonants

Although a few languages (like Gupapuyngu) contrast retroflex vs. non-retroflex consonants in initial position, there is no comparative evidence on a Pama-Nyungan-wide level for such a contrast. Contemporary attestation suggests that the realisation of these sounds was retroflex. Table 6 illustrates the correspondences.

*t	*tawa, *ta:ku, *ta:rrkal, *tipa, *tiwun, *turnu.
*r	*ra-, *raca-, *ramparra, *rirra, *runka-, *ruwa-.
*l	*lalka, *lañirri, *laparr, *la:ma- (?), *lipa+, *luku, *lulku, *lumpu.
*n	*nuka.

5.6.2 Initial laminal consonants³¹

*c	*caku, *calañ, *camal, *cana, *cangkar-, *carra “thigh”, *carra- “stand it up”, *ca: (and *ca:ra, *ca:wa), *cina, *ci:rni, *curlpi, *curtu, *cuwa
*c ^y	*c ^y arra “seagull”
*ñ	*ña-, *ñaka, *ñi:na-, *ñuna, *ñuntu, *ñurra, *ñu:ma-
*y	*ya-, *yaλu, *yangkara, *yapa, *yarra, *yipi

5.7 Intervocalic apical consonants

*t	*wita-, *mutu/a
*rt	*curtu, *wirti
*n	*kana, *kuna, *manu, *ngana, *nga:ni, *ñi:na-, *ñuna, *pina, *cana, *cina
*rn	*ci:rni, *turnu, *wirni
*l	*kali, *ka:la, *kuli, *kulu, *malu, *ngula, *ngulu (or *ngurlu), *pala, *pilu, *pula, *calañ, *walu

³⁰ Abbreviations for language names in Table 6 are: Dy, Dyirbal. Paman: A, Atampaya (Uradhi); Ya, Yadhaykenu (Uradhi); YY, Yir-Yoront; KY, Kuku Yalanji; GY, Guugu Yimidhirr, Yi, Yidiny. Maric: M, Marrgany; G, Gunya; B, Bidjara; GB, Gugu Badhun. B[andjalangic]: Y, Yugambeh. Karnic: D, Diyari; Y, Yandruwantha; W, Wangkumara; WG, Wangkumara (Garlali); P, Pitta-Pitta. Western Desert: W, Warburton Ranges; PY, Pitjantjatjarra-Yankunytjatjarra; P, Pintupi; M, Manjiljarra. Ngumpin-Yapa: Wp, Warlpiri; M, Mudburra; J, Jaru; Wm, Walmajarri. M[arrngu]: N, Nyangumarta. Pilbara area protolanguages: pM, proto-Mantharta; pN, proto-Ngayarta; pK, proto-Kanyara. Yolngu: Dhl, Dhuwal (Djapu, Dhuwal, Djambarrpuyngu); G, Gupapuyngu (Dhuwala); Dhn, Dhangu, R, Ritharrngu; Dg, Djinang; Db, Djinba.

³¹ O’Grady (this volume) reconstructs an initial laminal lateral (*λ) on the basis of Yanyuwa data; I have not had a chance to study Yanyuwa lexical material in depth and so do not evaluate this claim here.

Table 6: *continued*

Family/area	Western Desert				Ngumpin-Yapa					M	Pilbara protolanguages			Yolngu					
Language	W	PY	P	M	Wp	M	J	Wm	N	pM	pN	pK	Dhl	G	Dhn	R	Dg	Db	
*n											*nh				rn		rn	rn	
*nuka										+					+		+	+	
*l			l	l	l	l	l	l	l		*th, *y		rl	rl		rl	rl	rl	
*lalka					+				+										
*lañirri			+																
*laparr														+		+	+	+	
*la:ma-																			
*lipa+																	+		
*luka-													+	+			+		
*luku			+	+	+			+			+(y)		+	+			+		
*lulku																			
*lumpu											+(th)								
*r	r		r		l	l	l	l	r	*y	*y	*y	rl	r, rl	r		rl	r, rd?	
*ra-								+	+								+	+	
*raca-															+	+			
*ramparra					+	+	+	+	+										
*rirra	+		+		+	+		+	+(r ~y)	+	+	+	+		+	+	+(rd)		
*runka-								+	+	+					(rl)				
*ruwa-					+			+											
*t	t	t	t		rd, rt ³²	d							rd				rd		
*tawa													+						
*ta:ku	+	+	+				+	+											
*ta:rrkal			+																
*tipa			+	+															
*tiwa							+										+		
*turnu					+														

5.8 *Intervocalic laminal consonants*

*c *kaca-, *kacin, *kucarra, *micara, *ngaca+, *ngaci, *nga:ci-, *ngacu,

*paca- “hit”, *pacirrV, *cici, *wi:ci

*c^y *kuc^yarra, *muc^ya, *pac^ya- “bite”

*ñ *lañirri, *miña

*ñ^y [no convincing examples found, but might possibly account for lenition of
*ñ to y in reflexes of *ñun(tu), *ñurra in certain Queensland languages]

*λ *piła-, *yaλu

*y *kuya, *mayi, *mayi, *ngayu, *wi:ya

³² In Warlpiri, pPN *rt (orthographically “*t” when initial) continues as /rt/ (orthographic “t” when initial) if the next consonant is retroflex; elsewhere it continues as /rd/ (David Nash, pers. comm.).

5.9 Consonant clusters

For many categories of clusters, attestation is sparse or nonexistent, and it is still an open question what contrasts and what kinds of neutralisations (as of retroflex vs. non-retroflex nasals and laterals before stops) there were. Clusters occurring in Pama-Nyungan languages with wide phonotactic possibilities but not illustrated here include *rnt*, *rnp*, *rnc*, *lp*, *lt*, *rlt*, *rlc*, *rlk*, *rrmp*, *lnt* (proto-Paman **Int*), *lnp*, *lnk*, *rp*, *rk*, *yp*, *yc* (see section 8), and *yk*. The etyma worth enumerating here are these:

*mp	*ka:mpa-, *kumpu, *ramparra
*nt	*ñuntu (~), *wanta-, *wanti-
*ñc	*kiñca, *ngañcar, *wañca
*ñc ^y	*kañc ^y i, *kuñc ^y a-
*ngk	*cangkar-, *mangka, *mungka-, *ringka-, *cangkar-, *wangka-, *yangkara
*np	*wunpa-
*nc	*kunca, *wanci
*nk	*kunka
*rnk	*ngarnka
*rlp	*curlpi, *wa:rlpa
*rrp	*karrpi-
*rrc	*warrei
*rrk	*ta:rrkal
*rrngk	*wi:rrngka-
*lc	*ngulcurr
*k	*kalka, *yalka
*lmp	*kalmpa
*lñc	*ngalñca
*lngk	*walngka

Clusters of three consonants survive intact in some of the languages of the far Northeast. An example is Koko-Bera (see **kalmpa*, **walngka*). Guugu-Yimithirr continues the lateral before non-coronal consonants (see **kalmpa*, **walngka*) but not before a coronal (see **ngalñca*). In the western part of Pama-Nyungan territory the development of these tri-clusters seems to have been **lmp* > *mp* (see **kalmpa*, as continued for example in Warlpiri), **lñc* > *ñc* (see **ngalñca*, as in Martuthunira and Yinjibarndi), and **lngk* > *lk* (see **walngka*, as in the Ngayarta languages and as far south as Adnyamathanha, and also in the Yolngu languages, if *wa:lk* ‘umbilical cord, placenta, afterbirth’ continues **walngka*; for Yolngu cf. also **wi:rrngka*-).

Among the reliably attested clusters listed above are two, *ñc and *nc, that are of great interest and importance for the claim that the Pama-Nyungan languages are reasonably closely related. Two of the areas in which this homorganic vs. heterorganic contrast is maintained, inland western Cape York Peninsula and the Northern Territory–Western Australia boundary region, are separated by some 1400 kilometres by land and by no fewer than ten rather disparate Pama-Nyungan languages that do not maintain the distinction.³³ The third area, northeast Arnhem Land, is some 500 kilometres by land from the nearest Ngumpin language and 650 by sea (or 1200 by land) from the relevant part of Cape York Peninsula. Diffusion as an explanation for these intricate similarities is, I think, not an option.

6. pPN etyma with cognates outside Pama-Nyungan

Numerous Pama-Nyungan etyma are attested also in non-Pama-Nyungan languages. Some of these must be retentions from an earlier period of linguistic unity, and others are likely loans (presumably from a Pama-Nyungan language to a non-Pama-Nyungan neighbour). Some, like Nunggubuyu *marang* ‘hand’, are obviously related (as loans or retentions) on inspection; others, for example Dalabon *mañ* ‘meat, game animal’, require argumentation to demonstrate relatedness. The question I investigate below, using the Gunwinyguan group of languages as a test case, is whether the status of such words (both the obvious and the non-obvious) as loans or retentions is amenable to evaluation by the classical comparative method. Because, as it turns out, the number of recurrent correspondences in these cases is small (relative to the generally large number of recurrences among Pama-Nyungan languages), I argue that the relationship of Gunwinyguan to Pama-Nyungan is distant enough to be right on the edge of

³³ That this has come to notice is first of all a function of careful fieldwork on the Ngumpin languages Walmajarri (Hudson 1978) and Jaru (Tsunoda 1981:38, 75), in both of which the cluster in *wañcu* (~ *wañci*) ‘where’ (< a variant of pPN *wañca) is distinguished from that in *wanci* ‘alive’ (< pPN *wanci, I believe). Secondly, the Western Cape York Peninsula language Kugu-Uwanh (Smith and Johnson 2000) distinguishes two kinds of laminal nasal + laminal stop clusters, *nhc* and *ñc*; the former continue protoforms with a preceding vowel (as in *nganhca* ‘we Exclusive Plural’ < proto-Paman *ngañcan) and the latter continue protoforms with a preceding liquid (see *ngalñca; etyma local to western Cape York Peninsula include *wu:lñci- ‘come together, gather’ and *kulfñci ‘penis’ or ‘tail’). This study prompted me to listen with greater effort to cognates of these forms and to similar forms with a more local distribution in the inland Cape York Peninsula languages I was working on in 2000, Pakanh, Uw Oygangand, and Uw Olgol. These languages turned out to keep the laminals in cognates of Ngumpin *wañcu* ‘where’ and *wanci* ‘alive’ apart. Their linguistic neighbours on the Gulf of Carpentaria coast (Kugu-Uwanh, Kuuk Thaayorre, Yir-Yoront, Yirrk-Mel) have assimilated the position of the nasal in *nc to that of the following stop.

applicability of the comparative method, and by extension that Gunwinyguan is not a subgroup of Pama-Nyungan.³⁴ To wit: there is a genetic group that includes Linngithigh and Ngarluma (for example) but excludes Gunwinygu, Dalabon, etc.

6.1 *Dalabon mañ7 and pPN *miña*

Can Dalabon *mañ7* “meat; game animal” (also a constituent of *mañ7geniñ* “what”) be shown to belong to pPN **miña* (as Sands 1995:316 tentatively suggested)? In this and the following exercises, the proto-Gunwinyguan etyma listed (from Harvey, in press-b, and N. Evans, pers. comm.) are those which have an apparent cognate among etyma reconstructed for pPN.

- *m₁ pPN: 13 etyma (section 5.5); pGunwinyguan: **mañ7*, **me(y)* (2 etyma)
- *i₁ pPN: 11 etyma (section 5.2); pGunwinyguan: none
- *ñ₂ pPN: 2 etyma (see section 5.8); pGunwinyguan: **mañ7*
- *a₂ pPN: 36 etyma (section 5.4); pGunwinyguan: **cangarak* “throat”, **ciw*, **pala* “side”, **leppal*, **tappan* (4 etyma, but note that the item being evaluated is a monosyllable)

Conclusion: this relationship cannot be evaluated by the comparative method (note: here and below I use the expressions ‘cannot’ and ‘not possible’ with the implicit qualification ‘in the light of presently available data’; note also that the total number stated for each category includes the form under evaluation, even if there is no recurrence).

6.2 *pPN *calañ “tongue” and pGunwinyguan *cen and *celng (both “tongue”)*

- *c₁ pPN: 13 etyma (section 5.6.2); pGunwinyguan: **cakku* “left”, **ca-* (“mouth”, in **cangarak* “throat”, **ca-wa-* “ask”, and **cawurr(a)k* “beard”), **cen* and **celng* “tongue”, **catti* (“frog”; to Northeastern **cata*, not in Appendix 5.1), **ceñ* (“fish”; to Pama-Nyungan Dharrawal *jañ* “fish”, not in Appendix 5.1); **ciw* (“liver”; see **cipa* in Appendix) (6 etyma).
- *a₁ pPN: 40 etyma (section 5.1); pGunwinyguan: **cakku* “left”, **ca-* (“mouth”, in **cangarak* “throat”, **ca-wa-* “ask”, and **cawurr(a)k* “beard”), **gambe* “antbed”, **kak(k)-* (in kinship terms; Pama-Nyungan cognates not listed in Appendix 5.1), **pak-* “to break up”, **pala* “side”, **rak* “camp”, **tappan* “pigeon”, **yapok* “sister” (9 etyma).
- *l₂ & *rl₂ pPN: 11 tokens of intervocalic **l* and two tokens of intervocalic **rl* (section 5.7), 3 tokens of prenasal **l* and one token of prenasal

³⁴ Hale (1982:375) makes, in programmatic form, the same argument.

*rl (section 5.9); pGunwinyguan: intervocalic *kolototok (“dove”; sound-symbolic and/or a loan; pPN cognate not listed in Appendix 5.1), *molo “tail”, *pala “side”, *pirliwirli (“*Acacia* sp”; see *wirli in Appendix 5.1); syllable-final *ngol “cloud, sky”, *rulk (“scrub”; putative Pama-Nyungan cognates not listed in Appendix).

*a₂ pPN: 33 (section 5.4); pGunwinyguan: [See section 6.1].

*ñ₂ (& ñ₃) [See section 6.1]

Conclusion: nothing beyond *C₂ can be evaluated by the comparative method.

6.3 *Northeastern Pama-Nyungan *cipa “liver” and pGunwinyguan *ciw*

*c₁ [See section 6.2]

*i₁ [See section 6.1]

*p₂ pPN: 11 etyma (section 5.1); pGunwinyguan: *leppal “bream”; *tappan “pigeon”, *yapok “sister”; 3 etyma

*w₂ pPN: 4 etyma (section 5.5); pGunwinyguan: *ciw (1 etymon)

*a₂ [See section 6.1]

Conclusion: nothing beyond *C₂ can be evaluated by the comparative method, and it would seem that pGunwinyguan *w₂ does not correspond to pPN *p₂.

6.4 *pPN *caku “left” and pGunwinyguan *cakku “left”*

*c₁ [See section 6.2]

*a₁ [See section 6.2]

*k₂ pPN: 11 intervocalic (section 5.5); pGunwinyguan *kak(k)- (in kinship terms; Pama-Nyungan cognates not listed in Appendix 5.1), *pak- “to break up”, *rak “camp” (3 etyma)

*u₂ pPN: 16 etyma (section 5.4); pGunwinyguan: *molo “tail”; 1 etymon

Conclusion: evaluation beyond *C₂ not possible.

6.5 *pPN *ta:ku “place”, etc. and pGunwinyguan *rak “camp”*

*t₁ pPN: 5 etyma (section 5.6.1); pGunwinyguan: *rak; 1 etymon

*a:1 pPN: 10 etyma (section .3); pGunwinyguan: *gambe “antbed”,³⁵ *rak; 2 etyma

*k₂ [See section 6.4]

*u₂ [See section 6.4]

Conclusion: evaluation of V₁ and V₂ not possible; C₂ marginal.

³⁵ The semantic connection to pPN *ka:mpa- “be burning” (attested in the Northeast as “cook in earth oven”) is a plausible one, since pieces of antbed are put in an earth oven to retain heat. I suspect that the Gunwinyguan form is a loan, but set it out here for future evaluation.

6.6 Observations

Given a pair of etyma like pGunwinyguan/pPN *cakku/*caku and *rak/*ta:ku, it is tempting to begin hypothesising: perhaps the common ancestor of these languages distinguished long from short vowels (like pPN), and in pGunwinyguan the second vowel was lost if the first was long. However, the attestation (or absence) of anything corresponding to pPN *V₂ in the other pGunwinyguan etyma given above is somewhat chaotic, and a definitive evaluation of a claim like this is at present out of reach. Possibly a recasting of certain pPN reconstructions I give here as vowel-final (*ngayu, *ñuntu, *wañu, *wa:ri/a, *kuya/u, and others not listed in Appendix 5.1) as consonant-final monosyllables (as, for example, Dixon 1980 has done with the first three) will help resolve certain discrepancies, but, again, the relevant Gunwinyguan data are not yet available in sufficient quantity.

Of course, it is desirable to repeat this exercise with different non-Pama-Nyungan families for which comparative reconstructions are available (Tangkic and Nyulnyulan, for example) and for various pairs of individual languages (regular correspondences between one or more Paman, one or more Pilbara, one or more Yolngu, and one or more Gunwinyguan languages, for example — O’Grady 1990b is an early attempt at this). I am at present carrying on this exercise.

7. The Yolngu languages are Pama-Nyungan

Morphological evidence that Yolngu is a subgroup of Pama-Nyungan includes pronouns (Blake 1988), case suffixes (Blake 1988; note also the Ablative *+nguru in Appendix 5.1), verb inflection (Alpher 1990), the participial suffix +*nha* < pPN *+ñica (Evans 1988; for synchronic accounts of this suffix in Yolngu languages see for example Morphy 1983:77 and Heath 1980a:77–78), the derivational suffix *+mirri, and the transitive verb formative *puni-. It is now clear that loss of a stop after a homorganic nasal, as must have taken place if participial +*nha* does indeed continue *+ñica, was regular in Yolngu (see *kamiñcarr “grandchild”; under *kami, *wañica “where”, *wangka- “speak”, and *yangkara “shin” in Appendix 5.1).³⁶ This given, it is possible to see the ergative ending +*ngu*, used only with

³⁶ P. McConvell pointed out the regular loss of stops after homorganic nasals in Yolngu languages in his discussion of the kinship-term cognates Gurindji *kamiñjarr* ‘woman’s daughter’s child’ and Yolngu *gamiñarr* ‘man’s daughter’s child’ (1997:225); O’Grady (1990a:90) foreshadowed this finding in his discussion of Gupapuyngu *dharangan* “recognise, understand”, with *ng* < *ngk. Note that until Yolngu cognates of forms with heterorganic clusters in other Pama-Nyungan languages are found, a precise formulation of the conditioning for this change in Yolngu will not be possible. As a separate matter, note that the change *Ingk > lk (if it took place at all; see 5.9 above) must have preceded the loss of stops that followed homorganic nasals.

demonstratives and in only some of the Yolngu languages (for example Djapu; see Morphy 1983:57–59), as a reflex of pPN **+ngku*. The resemblance of Djapu (Dhuwal) demonstratives to those in some of the languages of the west of Western Australia is in fact quite striking: Djapu *dhiyang(u-)* ‘this (Ergative)’, Panyjima *ñiyangku* ‘[this] near me (Erg)’; compare also the Nominative of the ‘distant, yonder’ demonstrative in these two languages, respectively *ngunha* and *ngunha*, and their Ergative case-forms *ngurung(u-)* (with partially suppletive stem) and *ngunhangku*.³⁷ The (apparent) absence of the otherwise nearly ubiquitous Pama-Nyungan **+ngku* from Yolngu has been advanced as evidence that the Yolngu languages have no special relationship with the other putative Pama-Nyungan languages (Dixon 2001:93, 95–96), but it is apparent that **+ngku* continues in Yolngu too. The sometimes intuitively based claim (‘obvious on inspection’) that Yolngu is Pama-Nyungan appears to be confirmed on conservative comparativist grounds.

8. A note regarding pronouns

The pronoun etyma presented in Appendix 5.1 are **ngayu*, **ngacu*, and **ngaca* (all case-forms of ‘I’); **ñuntu* and **ñuna* (case-forms of ‘thou’); **ngali* ‘you and I’; **ngana* ‘we EXclusive’; **ñurra* ‘ye PLural’; **pula* ‘they DUal’; and **cana* ‘they PLural’. Others can be reconstructed but are somewhat more problematic. Those given here are not without problems, however: the nature and form of what belonged to the pPN stratum is a matter of divergent views at present.³⁸ There are first of all issues of their morphological composition. For example, at the time of

³⁷ O’Grady (1966) reconstructs **ñiya* (‘this’; #152; in view of Wangkumara and Wangkumara (Garlali) *ñiya* ‘3 Sg Nom Masculine’, **ñiya* is almost certainly pPN in age) and **ngunha(l) ~ *ngunhu* (‘that, distant’; #395) for proto-Ngayarta; Austin reconstructs **ngunha* (‘that’; #66) for proto-Kanyara and proto-Mantharta. There are echoes of the latter in Nhanda *anha* ‘yon’, Ergative *anhanggu*, in Adnyamathanha *anha* ‘that’, and in Djabugay *guñu* ‘yonder’. With further divergence in form are Paakantyi *ginhi ~ ginhu ~ ginha* ‘that (some distance away)’ and, with proximate sense, Adnyamathanha *inha* ‘this’, Wemba Wemba *giña* ‘this one right here’, Wergaia *giña* ‘immediate proximity’, Madhimadhi *ginhi* ‘this one right here’, Dyirbal *giyi* (masculine) and *giña(-)* (the other genders) ‘visible and here’ (Nominative), and Nhanda *iña* ‘this’, Ergative *iñanggu*. Complicating the problem of cross-continental reconstruction are the discrepancies in initial consonants and in the vowels, where sound symbolism (of both the ‘i small’ and ‘i big’ varieties; see Diffloth 1994) has evidently been at play, and analogy with other forms in both the demonstrative and the pronoun paradigms. There are other widespread demonstratives and other deictics resembling each other in form and sense, such as Warrgamay *yala* ‘here’ and Warlpiri *yali* ‘that’, which I do not deal with here.

³⁸ I thank M. Laughren, in her comments on this paper, for emphasising this to me.

linguistic unity of Pama-Nyungan were *ngayu (vs. *ngay), *ñuntu (vs. *ñun or *ñu) etc. synchronically monomorphemic; was the *na of *cana and *ngana a productive plural marker? Was the *na of *ñuna a productive Dative suffix (and the *ña of probable *ñuña a productive Accusative suffix)? Since what is of concern in this paper is the attestation of sounds, for example postvocalic *y, *n, and *ñ, whether or not preceded by a morpheme boundary, it is for the most part unnecessary to deal with these problems here. The single exception is the unexpected appearance of lamino-palatals where dentals might otherwise be expected in one or another case-form of the first person singular pronoun: ergatives and certain other obliques in some Maric languages, in Arrernte, and in the Ngayarta languages manifest lamino-palatals and perhaps are best explained as continuing *ngay+cu (in which *+cu is an old ergative suffix) as postulated by Dixon (1980:342) rather than *ngacu; see the note to *ngacu and *ngayu in Appendix 5.1 and compare reflexes of *ngaca, presumable a suppletive stem.

A question of a different type (asked, for example, by Dixon 2001:95) is that of the sense and paradigmatic status of items like the first-person nonsingular pronoun *ngali — was it originally a dual or simply a nonsingular; was it inclusive or exclusive or was the distinction not made? Again, what is of interest here is the attestation of the sounds. Its place in the paradigm is a separate issue (of relevance, to be sure, in the matter of paradigmatic pressure; see below).³⁹

There is however an aspect of Dixon's approach that requires attention here, because the value of these pronouns in the present context is not only as examples of subgroup-specific innovations but also as attestations of phonological characteristics. This is his practice of reconstructing without necessarily checking for recurrence of correspondences. An example (Dixon 1980:344, 2001:70, 2002:300) is his version of the 2nd-person singular pronoun, *ngin (with which compare forms in *ñun- presented in Appendix 5.1). The justification of *ngin is in an appeal to various assimilations: *ng > ñ before *i, *i > u (in the *ñuntu* and *nguntu* forms) by copying of the *u in the second syllable. It is not that such processes are unheard of in Australian Aboriginal languages; it is that by and large

³⁹ Dixon (2001:95–6) further questions the value of *ngali as an indicator of subgroup status because it is not universally distributed among the putative Pama-Nyungan languages. Here he is treating a question of subgrouping as if it were typological issue: the failure of a diagnostic feature (which of course can have been earlier present and later lost in any number of languages) to appear absents the language that fails to contain it from the typological group it defines and therefore vitiates the claim that it is a subgroup innovation. Although making a typology can be part of historical inference, they are activities of different kinds. Furthermore, that the distribution of reflexes of *ngali is not precisely the same as those of any of the other reconstructed pronouns, or for that matter as those of any other reconstructed lexical item or feature, is not in and of itself a counter-argument to the claim that it is an innovation made in the PPN period.

they are not duplicated, or not shown to be duplicated, in the individual languages in question.

Furthermore, although the main concern of the present paper is with phonology, it is not the case that reconstruction of the phonological histories of the pronouns in the individual Pama-Nyungan languages can proceed without close attention to analogical pressures from other pronouns in the paradigm. For example, of the Yir-Yoront nominative singular pronouns (respectively first, second, and third person) *ngoyo*, *nhorto* ~ *ngorto*, and *nholo* ~ *ngolo*, and the nominative nonsingulars *ngele* “you and I” and *pula* “they DU”, not one is the direct phonological reflex of (respectively) the protoforms *ngayu, *ñuntu, *ñulu (not given in Appendix 5.1), *ngali, and *pula. These cannot have continued into modern Yir-Yoront as disyllables without (in at least one of them and quite probably in all) a third syllable of the form *(ng)kV; the *ng*-initial alternants of the second- and third-person pronouns are in all probability the result of analogy with the first-person form. Furthermore, the mid-vowel vocalisms of the first-person singular and dual-inclusive forms are in all probability the result of an analogically motivated (with respect to the second- and third-person forms) application of a morphophonemic rule with an otherwise limited domain. Specifying the histories of the pronouns in many of the other Pama-Nyungan languages will no doubt require a similar degree of attention both to regularity of correspondences and to analogical factors.⁴⁰ Dixon’s approach, by contrast, is largely by appeal to sporadic assimilatory sound changes. There is no way to evaluate such claims.

9. Conclusion

I have reviewed (sections 2 and 5) arguments based on shared morphology (which is not shared with putatively non-Pama-Nyungan languages) that establish Pama-Nyungan as a genetic unity. I have proposed a hypothesis (in section 5) as to the sound system of the putative common ancestor of the languages of this group, demonstrating at a minimum that the basic phonological features of this proto-language can be reconstructed by the classical comparative method. I have then considered (section 6) questions of the inclusion within or exclusion from Pama-Nyungan of various languages and language groups that have struck observers as ‘Pama-Nyungan-like’, evaluating forms from the putative non-Pama-Nyungan group for cognacy with the likely hypothesised Pama-Nyungan protoforms, on the basis of the presence or absence of recurrent sound correspondences. My conclusion is that the putative cognate sets cannot be evaluated, or can be evaluated

⁴⁰ A thorough and careful study of this sort is Dench’s (1994).

only in part, by the comparative method and that the relationship of these languages to putative Pama-Nyungan languages is more distant than the relation of the putative Pama-Nyungan languages to each other. I consider arguments for the inclusion of the Yolngu (northeast Arnhem Land) languages in Pama-Nyungan, and conclude that they do indeed belong to this family, and I then give an assessment of some of the arguments concerning pronouns.

The weight of the lexical evidence emerging from these considerations strongly suggests the genetic unity of Pama-Nyungan. This conclusion, moreover, is *preliminary* to the listing of lexical items that are innovations presumably made during the period of separate unity of the Pama-Nyungan protolanguage, and retained in common in the daughter languages. Determination of these forms involves the evaluation, for common-retention vs. loanword status, of apparently cognate lexical items in the non-Pama-Nyungan languages. This is a task for future research, but the detailed outcomes of this research are, I think, unlikely to upset conclusions as to the unity of Pama-Nyungan made on other grounds.

THE ARANDIC SUBGROUP OF AUSTRALIAN LANGUAGES

Harold Koch

Australian National University

1. History of classification

The first of the Arandic¹ languages² to be recognised was the variety called Lower Arrernte that was spoken around the Overland Telegraph Line's station constructed in 1872 at Charlotte Waters, just north of the border between South Australia and the Northern Territory. Christopher Giles, in reply to a questionnaire, on 10.12.1875 gave a wordlist from the local 'Antakerrinya' tribe, whose language name is said to be 'Arrinda' (in Taplin 1879:91). Wordlists from languages spoken around both the Charlotte Waters and the Alice Springs telegraph stations were published in Curr (1886-87:vol. 1, 418-421, 412-415), and Curr recognised similarities between the two sets of data. The latter is now called Central Arrernte.

After the Finke River Mission was established at Hermannsburg in 1877 by German Lutheran missionaries, the variety now known as Western Arrarnta (or Arrernte) became known through publications such as Kempe (1891), Planert (1907), Mathews (1907), Carl Strehlow (1907-1920). Meanwhile W.E. Roth included vocabulary from two varieties from the Upper Georgina District of western Queensland, Yaroinga [Ayerereng] and Undekerebina [Antekerrepenh] in his comparative wordlist of approximately 100 words (Roth 1897:44-54).

The ethnographic researches of Spencer and Gillen, carried out in Alice Springs in the later 1890s with people that they called Arunta, yielded a 'glossary of native terms used' (Spencer and Gillen 1899/1969:645-657 and 1927:609-628). They also mention ethnolinguistic groups now known as the Anmatyerr, Alyawarr,

¹ Research on Arandic comparative linguistics was supported by grants no. A58932251 and A59230820 from the Australian Research Council. I am grateful to Barry Alpher, Gavan Breen, Claire Bownen, and Colin Yallop for helpful comments on the paper. Responsibility for the conclusions remains my own.

² Abbreviations used in this paper: Ar Aranda (subgroup including all except Kaytetye), Aly Alyawarr, Anm Anmatyerr, Ant Antekerrepenh, Ay Ayerreneng, CAr Central Arrernte, EAnm Eastern Anmatyerr, ECAr Eastern and Central Arrernte, Kay Kaytetye, LAr Lower Arrernte, NAly Northern Alyawarr, pAr proto-Aranda, pArc proto-Arandic, PN Pama-Nyungan, pPN proto-Pama-Nyungan, preArc pre-Arandic, pUAr proto-Upper Aranda, SAly Southern Alyawarr, SAR Southern Arrernte (= Pertame), UAr Upper Aranda (the subgroup including all except Lower Arrernte and Kaytetye), WAnm Western Anmatyerr, WAR Western Arrernte

and Kaytetye, all of whom they regarded as belonging to an ‘Arunta nation’, defined in terms of social organisation (Spencer and Gillen 1904: 75).

W. Schmidt’s comprehensive work on Australian languages compared wordlist data from the four or five varieties ‘Wychinga’ (Lower Arrernte), Macdonnell Ranges ‘Aranda’ (including modern WAr and CAr), ‘Yaroinga’ (Ayerereng) and ‘Undekerebina’ (Antekerrepenh), and concluded that they were closely related — even dialects of one language (Schmidt 1919a:187-189).

T.G.H. Strehlow’s monograph on ‘Aranda’, although devoted primarily to Western Arrernte, includes some comparative data on ‘dialects’ that he called Southern Aranda, Northern Aranda, Eastern Aranda, and the ‘Alitera dialect’ [from *Arletherre* “Hale River”] (Strehlow 1944).

Another Arandic language, Kaytetye, was added to the set by Arthur Capell, based on his fieldwork in the 1950s.

[Aranda] has its relatives in Yaroinga [Ayerereng] and Andeberegina [*sic*, = Antekerrepenh], and Gaididj [Kaytetye] is closer to Aranda than to any other language. Iliaura [Alyawarr], though not as yet recorded, is described by Gaididj informants as an Aranda dialect... (Capell 1956:101)

In 1959-60 Ken Hale surveyed ten localities within the Arandic-speaking area, and compiled comparative wordlists for ten linguistic varieties (Hale n.d.; see Koch 2001). In his published report Hale (1962) introduced the term ‘Arandic’ for the whole group, and on the basis of a lexicostatistical analysis proposed a classification into a subgroup called ‘Artuya’ (after the word for “man”, *artweye* in the modern orthography) with the sole member Kaytetye, and another subgroup called ‘Urtwa’, which further divides into Lower Aranda and an Upper Aranda dialect ‘mesh’ (or chain) which includes all the other varieties: Northern and Southern Alyawarr, Anmatyerr, Western Arrernte, Southern Arrernte, Alice Springs (Central) Arrernte, and [western] Plenty River Arrernte, and Akarr-Akityarre Arrernte from the eastern Plenty River. There is no mention of Antekerrepenh or Ayerrereng, although he did work on ‘Georgina River Antekerrpenh’, which is identical to Ayerrereng (Breen 2001:56).

Hale’s Arandic group and its internal classification have been followed by other scholars, including O’Grady, Wurm, and Hale (1966), O’Grady, Voegelin and Voegelin (1966:41f.), Wurm (1972:130), Walsh and Wurm (1981). The first of these explicitly includes Antekerrepenh and Ayerrereng within the Upper Aranda dialect mesh.

Arandic as a subgroup has been accepted in general works on Australian languages such as Dixon (1972:ch. 1), Dixon 1980: *passim*, Yallop (1982:38, 46, 49-50), as well as by researchers working on specific Arandic languages, such as Breen (1977, 1998ms, 1990:156, 2001), Green (1998), Green and Turpin (2001),

Henderson (1997:ch. 1), Koch (1997c, 2001), Turpin (2000:1), Wilkins (1989:ch. 1), Yallop (1977:1-2).

The close genetic relationship between all these varieties except Kaytetye has been obvious to most investigators. The similarity in phonology, morphology, and lexicon between Kaytetye and what I will call the 'Aranda' group has also for the most part been assumed to have a historical explanation. The first systematic attempt to describe the Arandic sound changes that transformed these languages from a more familiar Pama-Nyungan phonological system was presented in Koch 1997c. A certain amount of morphological reconstruction was given in Koch 1995 and 1996, including: certain case suffixes, singular personal pronouns, some demonstratives and interrogatives, and person inflection on kinship nouns. Further reconstruction of morphological change is presented in the unpublished papers Koch and Simpson (1995) and Koch (1997c). Lexical reconstruction of 50 basic vocabulary items is presented in Koch 2001. Further suggestions concerning historical developments within Arandic can be found in the works of Breen, Henderson, Wilkins, and Yallop.

The Arandic subgroup has never been rigorously justified. In recent years Arandic as a genetic construct has been questioned by Dixon (2001 and 2002) from the point of view of extreme diffusionism. Kaytetye and Aranda are included among his instances of 'small linguistic areas' defined as follows:³

...languages in a small region showing significant similarities to each other and considerable differences from languages outside the region. However, the similarities are not such as would permit the reconstruction of a common proto-language. That is, these languages do not comprise a low-level genetic subgroup. Rather, they make up a small linguistic area — the languages have probably been in their present locations, and in contact with each other, for a considerable period, so that a number of area-specific linguistic features have diffused across the region. (Dixon 2001:86)

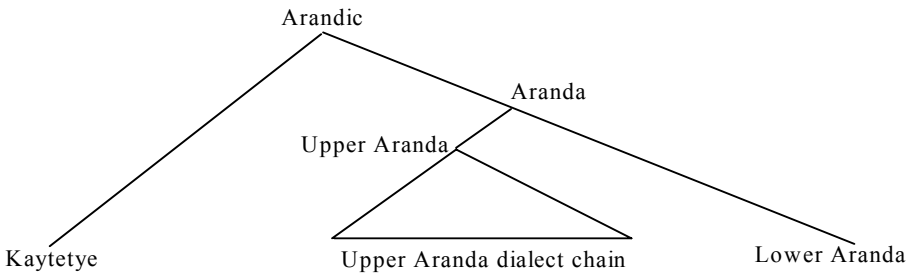
Breen has also expressed some scepticism on the inclusion of Kaytetye in a subgroup with Aranda, on the lexicostatistical grounds that there is a lesser proportion of shared verbal than nominal vocabulary (Breen, pers. comm., cf. Breen 1990:156). It is therefore timely to make a fuller study of the evidence that can be brought to bear on the question of whether an Arandic genetic entity can be established.

The main question needing justification is the association of Kaytetye with the Aranda group in a higher-level genetic subgroup. The lower-level subgroup (Hale's 'Urtwa', my 'Aranda') is uncontroversial but should still receive a proper

³ In Dixon 2002:680 such judgements regarding low-level genetic subgroups and small linguistic areas are qualified as being tentative.

justification in terms of shared innovations. That is, it is still useful to ask what features define a Proto-Aranda (pAr) as a unique subgroup whether of a higher-order Arandic group or of Pama-Nyungan (or whatever one chooses to call the higher-order linguistic group). (For the family tree implicit in this conceptualisation, see Figure 1.)

Figure 1: *Arandic linguistic relationships according to Hale (1962)*



Note that I will be using the term ‘Aranda’ (an old spelling of Arrernte) and ‘Proto-Aranda’ (pAr) to designate a subgroup of languages excluding Kaytetye and ‘Arandic’ and ‘Proto-Arandic’ (pArc) for the putative higher order subgroup consisting of Aranda plus Kaytetye. My attention in this paper will be on describing features that may be used to define the higher-level Arandic as a unique Australian subgroup (within Pama-Nyungan).

Note that, in evaluating features that are shared between Kaytetye (Kay) and Aranda (Ar), these shared features may result from several sources. In the first place, they may reflect a common inheritance shared with other Pama-Nyungan (PN) languages: as conservative features they would not be diagnostic of an Arandic subgroup, since they might have been independently inherited into Kay and Ar. Secondly, they may reflect a common innovation in a single language ancestral to both Kay and Ar: as such they **would** be diagnostic of an Arandic subgroup. Thirdly, they may reflect parallel but independent innovations — perhaps motivated by similar original conditions — in separate branches of Arandic: such shared features would not be diagnostic of a period of unity. Fourthly, they may represent innovations of one part of Arandic that subsequently diffused to the neighbouring parts: this situation is also not diagnostic of a subgroup. Fifthly, they may represent innovations diffused into both Kay and Ar from a source external to both: this situation is also of no use in establishing an Arandic subgroup. Only evidence of the **second** type will be of value for our

purposes. The problem will be how to establish that shared features belong to the second category vs. the other four types of commonality.

2. Vocabulary

For vocabulary items to be diagnostic of an Arandic subgroup we want words which are both (a) attested widely enough within Arandic to be reconstructible to pArc and (b) distinctive to the Arandic languages. I exclude words which are distinctive only because of the regular sound changes they have undergone but which in other respects are shared with other Australian languages, such as (*a*)ne-“sit” < **nyina*-. I also exclude are words that are widespread within Arandic as the result of recent spread; e.g.

- (1) *kwetengerle* “persons related to land through their mother” < Warlpiri
kurdungurlu nyurrpe “people in the opposite generational moiety” <
 Western Desert (y)*inyurpa*
Apenangeke, a (sub)section name < Warlpiri *Japanangka*
nantewe, nanthe, nanthwe “horse” < Kurna “kangaroo”, spread with
 European contact⁴
parrike, parreke “fence” < English *paddock*, spread with European contact
amerre “spear-thrower”, which cannot be derived by sound changes from
 either **wamirrV* or **mirru*, both of which are widespread in Australia

I **include** words which contain a recognisable Pama-Nyungan base but have been altered morphologically through compounding or the incorporation of incremental material of uncertain origin. Here the Arandic innovation consists of the additional elements; e.g. pan-Arandic:

- (2) “brain” **ak-urrnge* “head”+“mush” < **kaka* + *CurrngV*
 “egg” *kwarte* < **ukarte* < PN **muka* “egg”: **muka*+*artV*
 “female” *amarle* < **ngama* “breast/mother”: **ngama*+*arlV*
 “digging stick” *atneme* < **kana*+*m(p)V*
 “antbed” *ngkwepeye* < **ungkepeye* < **mungka*+*pVyV*
 “burrow” *alhwenge* < **ulhenge* < **ngulha*+*ngV*
 “thigh” **uylepere* < **warli*+*pVrV* (cf. Warumungu *warli*)
 “fly” **amenge* < **nyimu*+*ngV*

⁴ “Nanto, s. the male kangaroo...Pindi nanto, horse; pony” (Teichelmann and Schürmann 1840:27)

I also **include** Arandic words which have external cognates in cases where the Arandic word has undergone an unexplained sound change; thus **akngerre* “east” seems to be related to a widespread term *kakarra*, but its form presupposes an unexplained preArc variant **kangarra*. Also **included** are Arandic words that have external cognates provided that the Arc term manifests a change in meaning that is not replicated for the same term in other languages. Thus I include **iltye* “finger, hand”, for which the cognates (Western Desert *miltji* and Yapa-Ngumpin *milja(r)n*) have meanings “claw” or “fingernail”. Here the Arandic innovation is a semantic change, albeit one that is well-attested in the world’s languages for these meanings (cf. Wilkins 1996:283-285). On the other hand I have not included **arre* “mouth”, since a similar shift of Pama-Nyungan **Rirra* “teeth” to “mouth” has taken place in other languages. Finally, I **include** Arandic words which have external ‘cognates’ if the latter are recognisable as loanwords borrowed from Arandic; e.g. Arandic *aherre* “kangaroo”, which has been borrowed into Warlpiri as both *wawirri* and *yawirri* (Koch 1997a:34).

I give in Appendix 6 a list of words which I consider to be unique to the Arandic subgroup and therefore candidates for lexical innovations that help to define Arandic. Here ‘unique to Arandic’ means in practice that I have not yet found etymologies for these words. If cognates are eventually found for some of these terms, then the terms in question will have to be reclassified as inherited into pArc rather than as innovations of (pre-)pArc, and will consequently lose their value as common Arandic innovations.

The words are ordered alphabetically by their rough English gloss within broad semantic groups. The words are presented in terms of their pArc form, which differs from the actually attested form mainly by a change that shifts **uCV-* to **(a/i)CwV-*. I also give the expected pre-Arandic form, using cover symbols for unspecified segments. I welcome suggested cognates from colleagues with expertise in other Australian languages.

3. Phonology

3.1 *Distinctive segments*

The Arandic languages are characterised by several unusual features of phoneme inventory and arrangement. The ones which result from common innovations exclusive to the Arandic languages will contribute to the establishment of the Arandic subgroup. Distinctive **segments** are:

- a set of prestopped nasal consonants: *pm*, *tnh*, *tn*, *rtn*, *tny*, *kng*
- a set of rounded consonants: *pw*, *tw*, *mw*, etc.

- a set of prepalatalised apical consonants: *ytn yn, yl, ytn* (in certain varieties only)
- a velar-uvular approximant, spelled *h* in the orthographies
- a central mid-high vowel, spelled *e* in the orthographies

3.2 *Distinctive phonotactics*

Unusual patterns in the arrangement of phonemes include:

- words typically begin with vowels
- words obligatorily end with a non-contrastive vowel, which can be analysed as the non-low central vowel /e/, in my phonological analysis. (It is argued by Breen that words rather end in consonants underlyingly, the final vowel being added by a phonological rule (Breen 2001, Breen and Pensalfini 1999).)
- stress typically falls on the second syllable, or first syllable if the word begins with a consonant. (In an analysis with underlying VC syllables, stress is on the second syllable.)

The unusual phonology results from a series of diachronic phonological changes in the Arandic languages, as is the case in phonologically aberrant languages elsewhere in Australia (see Dixon 1980:ch. 7).

3.3 *Phonological changes*

3.3.1 *General*

Some Arandic sound changes have long been known. Capell (1956:100) noted the loss of initial consonants and changes to final vowels, and used these changes to support his claim that, contra Schmidt (1919a), Aranda belonged genetically with the majority of Australian languages. Dixon (1972:348) compared the sound changes of Mbabaram to those of ‘Arandic’, with a reference to Hale (pers. comm.). Dixon (1980:ch. 7) further comments on sound changes in the Arandic subgroup. Breen (1977) posits some Arandic sound changes. The fullest justification of Arandic historical phonology to date is Koch 1997c.

For subgrouping purposes, it is necessary to restrict our attention to those changes that are (a) common to all of the Arandic varieties and (b) unique to Arandic (within the general geographic area). Here I shall discuss the major phonological changes with respect to their value for defining an Arandic subgroup.

3.3.2 *Development of h consonant*

A distinctive Arandic uvular glide phoneme is found in all varieties, but tends to be lost recently in a number of varieties. It is found in some relatively basic vocabulary terms that can be reconstructed to pArc. Examples are:

- (3) *aherre* “kangaroo”
aherrke “sun”
aherne / *ahelhe* “earth”
ahe+ “anger”

I have argued in Koch (1997c) that *h* is most likely to have developed from *k* via a voiced fricative in the environment after a long vowel. With the loss of distinctive vowel length, this conditioned allophone would have become contrastive. Being structurally isolated as the only voiced fricative, it further progressed to an approximant, which fits in with the phoneme class of *y* and *w*. Clear etymologies to prove this are lacking, but the most plausible is a PN **taaku* or **Raaku* “earth” > *ahe*-. In the Central Australian region a similar sound, a voiced velar fricative *gh*, has developed in Warluwarra, a neighbour to Arandic in the northeast. It is therefore possible that the Arandic innovation of a velar fricative was shared over a wider region and cannot then be treated as diagnostic for an exclusive pArc innovation. The merger of erstwhile long and short vowels, which in Arandic would have caused the phonemicisation of the velar-uvular fricative, was also shared with other Centralian languages, in particular the Karnic subgroup.

3.3.3 *Nasal prestopping*

The development of prestopped nasal allophones in certain environments is a phenomenon shared by a number of languages of south-central Australia (Hercus 1972). The distribution and variable instantiation of prestopping in the Karnic languages suggests that the change was diffused (Bown 1998:42 and pers. comm.). These new nasals remained allophonic in Diyari but became contrastive when (some) initial consonants, which formed part of their conditioning environment, were lost, in Arabana-Wangkangurru (Karnic), Adnyamathanha (in the Thura-Yura subgroup), and in the Arandic languages as a whole (prestopping was later lost in Western Anmatyerr). This phonemicisation of prestopped nasals probably took place independently in the various Centralian languages, since the accompanying loss of initial consonants appears to have taken place at different times. The Arandic development of **phonetic** prestopping was thus shared with languages beyond Arandic; the **phonemicisation** of prestopped nasals was a

consequence of the common Arandic loss of initial consonants, and so should not count as a separate Arandic innovation.

3.3.4 Initial consonant deletion

The most prominent change is the loss of all initial consonants. Parallels are found in other Australian languages only in remote languages of Cape York Peninsula (Dixon 1980:ch. 7) and in Nganyaywana of New England (Crowley 1976). Nevertheless partial loss of initial consonants is attested in other languages of Central Australia (Hercus 1979). Examples include:

- Certain dialects of the Western Desert language have lost initial *y*; these include Papunya Luritja (Heffernan 1984:7-8) and Pitjantjatjara (Goddard 1985:13-14).
- Arabana-Wangkungurru has lost some instances of initial *k* and *ng*, in the fairly recent past (Hercus 1994)
- Adnyamathanha has lost initial *k*. (Hercus 1972)

The change (or rather sequence of changes) that resulted in the loss of **all** initial consonants in Arandic languages is a good candidate for an innovation that took place in a unified pArc.

However, there are a few correspondences that suggest that the final stages of the consonant loss were divergent in Kaytetye and Aranda. These involve words that began prehistorically with a sequence of palatal consonant followed by the round vowel *u*. Here the Kay reflexes involve no rounding, while rounding is preserved in Ar. Hence I posit that: (a) before totally disappearing the palatals first lenited to *y*, possibly in all of Arandic; then (b) the sequence *yuC* > *yiC* in Kay but remained *yuC* in Ar; and finally (c) *y* disappeared in both branches of Arandic. For example, the Ergative and Dative forms of “you(SG)”, **nyuntu* and **nyunku* respectively, developed into *nte* and *ngke-* in Kay but into *unte* (> *ntwe*) and *ungke-* (> *ngkwe-*) in Ar. The sequence *wiC*, on the other hand, assimilated to *wuC* in Ar but remained *wiC* in Kay, before reducing to *uC* vs. *iC* by the shared (or parallel) loss of the glide. Thus the verb root “whistle”, **wilpa-*, developed into *elpe-* and *ulpe-* in Kay and Ar respectively (initial *i* was phonemicised to *e* in Kay). I posit the following sequence of sound changes:

- | | | |
|-----|-------------------|--|
| (4) | lenition of C /#_ | all of Arandic, including: |
| | Cy > y /#_ | all of Arandic (lenition of <i>ty-</i> , <i>ny-</i> , <i>ly-</i>) |
| | yu > yi /#_ | pre-Kaytetye |
| | wi > wu /#_ | pre-Aranda |
| | w/y > Ø /#_ | all of Arandic |

(Other initial consonants (other than glides) may have lenited and totally disappeared before the changes affecting glides.) This sequence could be interpreted in different manners. One could argue that the differential developments of *yu-* and *wi-* signalled the bifurcation of an Arandic language into two separate languages and that the subsequent shared loss of *w* and *y* must be interpreted as being either a parallel but independent change or a change begun in one branch and diffused into the other. To me this seems unrealistic; a more plausible alternative is to regard the innovations of Kay and Ar as constituting merely the development of isoglosses in a dialect continuum, which acted as a whole with respect to the subsequent loss of initial glides.

Another minor sound change involving glides developing differentially has to do with the initial sequences consisting of a palatal consonant plus *a*. These result in initial *i* in Ar but *a* in Kay. I assume that the palatal consonant first lenited to *y*, then *ya-* > *yi-* in Ar only, and finally the glide disappeared in both branches. A good example is the inchoative bound verb root Kay *arre-*, Ar *irre-*, which probably reflects **tyarri-*. Another Ar example of the change is “enter” **tyarrpa-* > *irrpe-* (the root is not attested in Kay.) This sound change of Ar was first proposed by John Henderson (pers. comm. 1991).

The differential outcomes involving initial glides are shown on Table 1.

Table 1: *Glide-initial outcomes in Kaytetye and Aranda*

pArc	*yuC	*wiC	*yaC	*yuC	*wiC	*yaC	pArc
preKay	yiC	wiC	yaC	yuC	wuC	yiC	preAr
Kay	iC	iC	aC	uC	uC	iC	Ar

3.3.5 Unstressed vowel centralisation

In all the Arandic languages the vowels of non-initial syllables, which were presumably unstressed (stress being on the initial syllable), were centralised to shwa (spelled *e* in modern orthographies). This affected (a) the vowels of final syllables, (b) the vowels of medial syllables of trisyllabic words, (c) the vowels of penultimate syllables of quadrisyllabic words, e.g. **ngatatharri* > *atetherre* “budgerigar” (evidence supporting (a) and (b) is given in Koch 1997c).

There is a set of words in which medial *a* is found. For these I posit a long vowel (perhaps of bisyllabic origin) in pre-Arandic. Thus “yam, *Ipomea costata*” is *anatyē* everywhere in Arandic; this must be cognate with Warumungu *manaji* and Wakaya *menaji*. The Wakaya form in particular (where *e* and *a* represent short and long low vowels respectively) suggests a preArc **manaatyī*.

In many words of the modern Arandic languages medial vowels other than *e* result from compounding within Arandic, with elision of the first of two adjacent vowels; for example:

- (5) Kay “drink” *kwathe-* < **uke* + *athe-* “water+eat”
 Ar “brain” *akurrkngē* < **ake* + *urrkngē* “head+mush”
 Ar “toothpick” *arrinte* < **arre* + *inte* “mouth+stick”

3.3.6 Prepalatalisation of apicals \acute{V}_i

Closely connected to the foregoing is the prepalatalisation of apical consonants when they followed a stressed vowel and preceded an unstressed vowel *i*, which centralised to *e*. The change is better described as:

- (6) $\acute{V}Ti > \acute{V}^yTe$ (where T represents a non-rhotic apical consonant).

This change effectively prevented the total neutralisation of all final vowels to schwa, preserving the high front quality of the vowel *i* as a secondary articulation of the preceding consonant. The prepalatalised apical consonants subsequently merged with palatal consonants in many varieties of Aranda (but not in Alyawarr or Kaytetye). For example the widespread term for “grub”, **parti*, is found as the second element of compounds naming various grubs in the form *-ayte* in Kaytetye and Alyawarr, and *-atye* in other varieties of Aranda.

This change, as well as the previous centralisation, is distinctive of all and only Arandic languages, and hence is best understood as having taken place only once in the ancestor of all the Arandic languages.

3.3.7 Stress shift

The shift of stress to the erstwhile second syllable is another change common to all and only the Arandic languages. This change presumably followed at least the first stage of the reduction of initial syllables by initial consonant lenition and loss — judging from the fact that stress has not shifted from initial syllables of other languages that have lost just some of their initial consonants, such as Arabana-Wangkangurru, Adnyamathanha, and Nhanda (Blevins and Marmion 1994). On the other hand, the treatment of glide plus vowel sequences illustrated in Table 1 might be nicely explained if it is assumed that such initial syllables had already become unstressed.

3.3.8 Development of rounded consonants

In all varieties of Arandic a sequence of original word-initial *CuC* (or *waC* via *wuC*) resulted via *uC-* in $(V)Cw-$; i.e. the rounding was transferred from a word-initial (within Arandic) *u* to the following consonant, with the consequent introduction of a series of rounded consonant phonemes. Thus preArc “dark, night” **munga* > **unge* > *ingwe*, “snake” **wama* > *upme/apmwe*. Yet there are words in

varieties of Aranda that have initial *u*, at least in their spelling and pronunciation, if not in their abstract phonological structure, such as ECAr *ure* “fire” vs. Aly *erwe* (< **waru*), SAr/Pertame *urte* “man” vs. ECAr *artwe*. In Koch (1997c) I assumed that the *u*-initial forms were conservative and took this as evidence that the reanalysis of rounding as a feature of consonants occurred independently in the Arandic languages. Breen (2001:66) argues that the initial rounded vowels of Pertame at least are subsequent to the loss of initial *a*, and they show earlier transfer of rounding. Whether the *u*-initial forms of ECAr can also be explained as secondary developments is uncertain. Pending resolution of these issues it is safest to allow that the change that produced rounded consonants may have occurred independently in the Arandic languages, being thus too late to be diagnostic of a period of pArc unity.

3.3.9 *Summary of the phonological evidence*

Of the seven characteristic Arandic sound changes discussed, I conclude that (a) two changes, the development of prestopped nasals and that of *h*, were possibly shared with other languages of the region and hence not distinctively Arandic; (b) one, the development of rounded consonants was possibly a parallel change occurring after the period of genetic unity; (c) the remaining changes are distinctive to the Arandic languages, are reflected in all the languages, and precede changes that distinguish separate Arandic varieties (such as the merger of prepalatalised apicals with the palatals, *yC* > *Cy*). The most reasonable accounting for these facts is to posit that this set of phonological changes took place in a period of Arandic linguistic unity and hence are diagnostic of an Arandic subgroup. These changes are:

- the complete loss of all initial consonants
- the centralisation of vowels in unstressed syllables
- the prepalatalisation of apicals between a stressed vowel and a following *i*
- stress shift to the second syllable

4. Personal Pronouns

4.1 *Inherited forms*

Since personal pronouns are usually considered to be one of the most conservative aspects of grammar, it is worth looking carefully at the pronouns of Arandic for evidence of a subgroup. Because of their conservatism, however, most of the pronominal stems of Arandic are not only shared between the different varieties of Arandic but are also inherited from the Pama-Nyungan ancestor language, albeit in

drastically altered phonological shape. As shared archaisms, these pronouns are thus of no diagnostic value. I nevertheless list for reference the inherited pronouns, putting in parenthesis forms or partial forms which do not continue the earlier PN forms.

Table 2: *Arandic personal pronouns*

category	preArc	Ar	K
1SgErg	* <i>ngathu</i>	<i>athe</i> / <i>the</i>	(<i>atye</i>)
1SgNom	* <i>ngay</i>	<i>aye(nge)</i>	<i>aye(nge)</i>
1SgDat	* <i>ngatyu</i>	<i>atye(nge)</i>	<i>atye(nge)</i>
2SgErg	* <i>nyuntu</i>	<i>unte</i> / <i>ntwe</i>	<i>nte</i>
2SgDat	* <i>nyunku</i>	<i>ungke(nge)</i> / <i>ngkwe(nge)</i>	<i>ngke(nge)</i>
3SgDat	* <i>nguku</i>	<i>ukere</i> / <i>ikwere</i>	<i>kwere</i>
1DuIn	* <i>ngali</i>	<i>ile-</i> , <i>ayle-</i>	<i>ayle-</i>
1DuEx	* <i>ngalirna</i>	<i>ilerne</i>	<i>aylerne</i>
2Du	* <i>nhumpVIV</i>	<i>mpwele</i>	<i>mpwele</i>
3Du	* <i>pula</i>	<i>ale-</i>	<i>elwe-</i>
1PIIn	* <i>ngana</i>	<i>une-</i> / <i>anwe-</i>	(<i>ayne-</i>)
1PIEx	* <i>nganarna</i>	<i>unerne-</i> / <i>anwerne-</i>	(<i>aynerne-</i>)
2Pl	* <i>nhurra</i>	<i>arre-</i>	<i>errwe-</i>
3Pl	* <i>tyana</i>	<i>itne-</i>	(<i>ate-</i>)

Here a few comments are in order. Kay 1SgErg *atye* may represent a shift of the unaugmented Dative form to the Ergative. The Kay 1Pl stem *ayne-* may derive indirectly from **ngana* via an intermediate form **ngani*, having undergone the analogical influence of the 1Du **ngali* (> *ayle*). I have elsewhere argued that the Ar 1Pl stem **une-* may derive from **ngana* by an irregular sound change (Koch 1997c). If these provisos are accepted, we have thirteen forms that are shared between the Arandic languages and which also are attested elsewhere in Pama-Nyungan.

4.2 Innovations

4.2.1 Third Person Plural **ate-*

In Table 2, the Kay 3Pl stem *ate-* appears isolated. Since the Ar form *itne* may well represent a continuation of pPN **tyana* (this is possible but not absolutely certain, and would provide another instance of the Ar sound change **tya-* > *ya-* > *i-* mentioned in 3.3.4), it appears that Kay has here made a divergent innovation, replacing the inherited stem with a new stem **ate-* of uncertain origin. However, there does appear to be a cognate form in ECAR. In this variety there is a form *-te-* which marks Plural Subject. It is found in the middle of complex verb stems that derive historically from a combination of participle (ending in *-tye* or *-rle*) plus an auxiliary verb. It occurs at the end of the first part — the erstwhile participle — of

the conjoined form (Henderson 1997: 285f). One can therefore reconstruct it as an enclitic attached to the erstwhile participle. It is thus very likely that this **=te* is a reduced form of the stem *ate-* which occurs in Kay as the 3Pl pronominal stem. One can therefore reconstruct a pArc form **ate* with a meaning designating some kind of group, which became in Kay the 3Pl pronoun, perhaps replacing the reflex of **tyana*, and in ECAr a bound marker of Plural subject in certain complex verb structures. A plausible cognate is the Warlpiri noun pluraliser *patu*. If the ECAr and Kay forms are indeed cognate, we may here have a shared innovation of a quasi-pronominal form **ate*.

4.2.2 Non-Singular ‘Section’ forms

A more obvious Arandic innovation is the creation of a category of non-Singular inflections that I have called ‘Section’, with contrasting values of: “opposite (patri)moiety (OM)”, “same moiety, opposite generation (SMOG)”, “same moiety, same generation (SMSG)” (Koch 1982, 1990; cf. Hale 1966a). The Arandic innovation consisted in constructing phrases consisting of a nSg pronoun plus a separate word — **ake*, **anthe*, or **Vngkerre* — to mark the kinship relation between the persons denoted by the pronouns. The Arandic markers are given in Table 3.

Table 3: *Arandic ‘Section’ markers*

	Dual	Plural
OM	<i>anthe</i>	<i>anthe(rre)</i>
SMOG	<i>ake</i>	<i>ake(rre)</i>
SMSG	Ø	<i>a/ingke(rre)</i>

Similar forms are found in the adjacent Karnic language Arabana-Wangkangurru, and marginally in its sister language Diyari (Hercus 1994), where they may have been borrowed from the Arandic languages. It appears that the original focus of the **anthe* forms was on the mother-child relation and that of the **ake* forms on the father-child relationship. No etymologies have been found for these forms, however. The *a/ingke(rre)* form may be related to the ECAr *ingkerreke* ‘all, every’.

The evidence that these complex forms were originally phrases comes from the fact that the marker of Dative (and in Ar also the Accusative) case, and in Kay the marker of Reflexive, precedes the Section marker. Other case forms follow the Section marker. I assume that the univerbation of the pronouns with the Section marker took place separately in Kay and Ar. The schematic structure of these pronouns is given in Table 4, where the following abbreviations are used: PS

Pronoun Stem; Case₁= Ergative/Nominative (Ø), Dative (-*ke*), Accusative (Ar) (-*nhe*), Reflexive (Kay) (-DAT+*nhe*).

Table 4: *Schematic structure of Section-marking pronouns*

	SMSG	SMOG	OM
Dual	PS-Case ₁ -Ø-Case ₂	PS-Case ₁ -ake-Case ₂	PS-Case ₁ -anthe-Case ₂
Plural	PS-Case ₁ -ingkerre-Case ₂	PS-Case ₁ -akerre-Case ₂	PS-Case ₁ -antherre-Case ₂

Table 5 gives representative forms from Alyawarr. (For further details see Koch 1997b, Green 1998, Breen 1998.)

Table 5: *Alyawarr Section-marking pronouns (Nominative case forms)*

Number	Person	Neutral	SMSG (I)	SMOG (II)	OM (III)
Dual	1Inclusive		<i>ayle</i>	<i>ayl-ake</i>	<i>ayl-anthe</i>
	1Exclusive		<i>aylerne</i>	<i>aylern-ake</i>	<i>aylern-anthe</i>
	2		<i>mpwele</i>	<i>mpwel-ake</i>	<i>mpwel-anthe</i>
	3	<i>ratherre</i>	<i>(ratherre)</i> ⁵	<i>al-ake</i>	<i>al-anthe</i>
Plural	1Inclusive		<i>anw-ingkerre</i>	<i>anw-akerre</i>	<i>anw-antherre</i>
	1Exclusive		<i>anwern-ingkerre</i>	<i>anwern-akerre</i>	<i>anwern-antherre</i>
	2		<i>arr-ingkerre</i>	<i>arr-akerre</i>	<i>arr-antherre</i>
	3	<i>rername</i>	<i>aytn-ingkerre</i>	<i>aytn-akerre</i>	<i>aytn-antherre</i>

The shared innovation consists of the creation of a grammatical category manifested by pronominal phrases which express an identical set of meanings. These syntactic phrases subsequently became morphologised in the separate branches of Arandic. (The category of Section was subsequently lost in War and Car.)

4.2.3 Reinforcement of Singular pronouns

From the Table 2 above, it can be seen that the DatSg forms of the Sg pronouns all include an increment: *-nge* for 1/2SgDat and *-re* for 3SgDat. The corresponding unaugmented forms (except the 1SgDat in Kay) occur as nominal inflections on kin nouns denoting the person of possessor or ‘propositus’. These are suffixes in Ar and prefixes in Kay. We can easily reconstruct a situation for preArc whereby the short dative forms of the singular pronouns were used adjacent to kin nouns to signal the possessor (e.g. “uncle to him”) and posit that these came to be cliticised on opposite sides of the noun in Kay and Ar, and then were reanalysed as affixes. This morphologisation of syntactic constructions obviously occurred separately in the two branches of Arandic. (In War the person inflection on kin nouns was eventually lost, or perhaps never developed.)

⁵ *3Dual SMSG(I) expected form is **ale*.

At some time before the short forms of the Singular Dative pronouns were restricted to this adnominal function, lengthened forms were created by the attachment of an element *-nge*⁶ to the 1st and 2nd person forms and *-re*⁷ to the 3rd SgDat. The same elements can be assumed to have been attached to the old Nominative forms of the three singular pronouns. Thus it is obvious from Table 2 that *ayenge* contains the same *-nge* attached to an earlier form **ngayV*, presumably **ngayi*, an expansion of the pPN **ngay*. The 2SgNom reconstructs to **inge*. One would expect the pPN Nominative form **nyun* to develop through the addition of a final vowel and the regular sound changes into **une* in Ar and **(e)ne* in Kay (which loses rounding in this palatal-initial stem); **(e)ne* may in fact be preserved in the Kay Imperative suffix *-ne*. We would expect the augmentation of **nyun* by *-nge* to yield **unnge* in Ar and **innge* in Kay. The attested forms Ar *inge* and Kay *nge* presumably represent this form with its consonant cluster simplified and the round vowel lost (although I have no explanation for the loss of rounding in Ar nor can I cite a parallel simplification of the cluster *-nng-*). The corresponding Dative forms have similarly changed the expected consonant cluster *nk* to *ngk* (as in a number of other Pama-Nyungan languages, where the cognate form is actually **nyungku*). If my account of the 2SgNom is correct, the current forms consist only of what was historically the increment.

The 3SgNom forms, Ar *ire* and Kay *re*, also appear to include an increment, the same increment *-re* that is found in the 3SgDat. The stem to which increment was added must have had the phonological shape **CV*, although the specific phonemes cannot be recovered. The stem of the 3SgDat, **ngu-*, is unlikely since there is no evidence of rounding in the Nominative forms. The presumed prehistory of the Singular Nominative and Dative pronoun forms — through various stages of Pre-Arandic and both pre-Aranda and pre-Kaytetye — is given in Table 6.

What is there among these changes that can be used to support an Arandic subgroup? First of all, I mention the commonplace changes. The following changes are typologically common and therefore not diagnostic; i.e. they might be expected to occur independently in languages.

⁶ This *-nge* may be identical to the increment found in a number of nouns, such as “burrow”, “fly” cited in (2) above. I suggest that it may have had a contrastive function in pronouns and that both may be cognate with a widespread increment *-ngu* found in Central and Western Pama-Nyungan languages.

⁷ This could be cognate with an increment *-ru* which occurs in Pitjantjatjara in the Nominative form *paluru* of the 3Sg pronoun, whose stem otherwise has the form *palu-* (see Goddard ed. 1987:97).

Table 6: Prehistory of Arandic First and Second Person Singular pronouns

preArc I: a) 1Sg Nom <i>ngay</i> > <i>ngayV</i> (<i>ngayi</i> ?) b) 2Sg Dat <i>nyunku</i> > <i>nyungku</i> (assimilation of <i>n</i>)	
preArc II: Creation of long forms of NOM and DAT by addition of increment <i>-ngV</i> and <i>-rV</i>	
preArc III: 2Sg Nom <i>nyunngV</i> > <i>nyungV</i> (loss of <i>n</i>)	
preArc IV: a) Sound changes: <i>V</i> > <i>e</i> in non-initial syllable b) lenition/loss of initial C c) addition of final <i>e</i> after C (2SgNom <i>*yun</i> > <i>yune</i>)	
preAr I: <i>y</i> > Ø/#_	preK I: <i>yuC</i> > <i>iC</i> /#_ (Or: <i>yuC</i> > <i>yiC</i> /#_ , then <i>y</i> > Ø/#_)
preAr II: a) reduction of short pronouns to clitics b) postposing of 1/2/3 DAT short pronouns as kin noun modifiers c) loss of NOM short forms	preK II: a) reduction of short pronouns to clitics b) preposing of 2/3 DAT short pronouns as kin noun modifiers
	preK III: a) reanalysis of <i>=ne</i> 2Sg NOM as IMPV b) loss of 1/3 NOM short forms c) loss of 3SgDAT <i>atye</i> (or shift to ERG?)
	preK IV: <i>ukV</i> > <i>kwV</i> /#_

- (7) Reinforcement of personal pronouns, to mark contrast, emphasis, etc.
Replacement of older pronouns by emphatic forms
Cliticisation of pronouns to nouns or verbs
Reanalysis of clitics as affixes

What is remarkable, however, is the agreement in the following specific points.

- (8) The cases that were reinforced were just the Nominative and the Dative (not the Ergative; the Accusative is identical to the Dative in Kay and innovated forms in Ar).
The increments have the same form *-nge* and *-re*.
The distribution of *-nge* (for 1/2Sg) and *-re* (for 3Sg) across persons is identical.

Equally remarkable is the precise agreement in idiosyncratic phonological changes.

- (9) 1SgNom **ngay* > **ngayi* before the attachment of *-ngV* (then **ngayingV* > *ayenge*)

2SgNom extended form loses erstwhile root-final *n*: **nyunngV* > **nyunge* > *nge*
 SgDat nasal assimilation to following velar: **nyunku* > **nyungku* > **ungke(nge)*

It is inconceivable that all these changes could have taken place independently or that one language could have borrowed the system from the other. Hence the singular pronouns give powerful evidence for a period of genetic unity of the Arandic languages. For further discussion of morphological change among the Arandic singular pronouns, see Koch (1996: 252-259).

5. A grammatical word class: Interrogatives

One might expect that interrogatives-indefinites, as a class of grammatical words, would show a similar degree of relatedness to that of personal pronouns. This is not in fact the case. Indeed, on first inspection, these words seem to provide little evidence for a grouping above the level Proto-Aranda. The main forms are presented in Table 7. (Note that “how” and “how much” are usually derived from “where”; they will not figure in the discussion.)

Table 7: *Arandic interrogatives*

	who	what	when	where	how	how many
LAr	<i>ngwenhe</i>	<i>ileke</i>	<i>ilengere</i>	<i>thenhe</i>	<i>ikngake</i>	<i>ikngantyene</i>
Ant	<i>angwenhe</i>	<i>ileke</i>	<i>ilengere</i>	<i>thenhe</i>	<i>thakenhe</i>	<i>thaperte</i>
ECAr	<i>(a)ngwenhe</i>	<i>iwenhe</i>	<i>ilengare</i>	<i>nthenhe</i>	<i>nthakenhe</i>	<i>nthakentye</i>
Aly	<i>(a)ngwenhe</i>	<i>ileke</i>	<i>ilengere</i>	<i>nthenhe</i>	<i>nthakenhe</i>	<i>nthakentye</i>
EAnm	<i>ngwenhe</i>	<i>iwenhe</i>	<i>ilengere</i>	<i>nthenhe</i>	<i>nthakenhe</i>	<i>nthakentye</i>
WAnm	<i>(a)ngwenhe</i>	<i>(e)wenhe</i>	<i>lwengare</i>	<i>nthenhe</i>	<i>nthakenhe</i>	<i>nthakentye</i>
WAr	<i>ngwenhe</i>	<i>iwenhe</i>	<i>ilengare</i>	<i>nthanhe</i>	<i>nthakenhe</i>	<i>nthakentye</i>
Kay	<i>athhante</i>	<i>wante</i>	<i>elew(art)e</i>	<i>ntheke(art)e</i>	<i>nthakenhe</i>	<i>arrenentye</i>

It is clear that terms are shared across all Aranda languages for “who”, “when”, “where” (assuming that LAr has simplified the initial consonant cluster); LAr has distinctive forms for “how” and “how many”, which in UAr are built on the stem *nthe-* found in “where”. LAr, Ant, and Aly show a distinct form for “what”, which seems to be based on the root *ile-* seen in the words for “when”. This seems to be an innovation of an eastern area.

When the Kaytetye forms are compared to those of Aranda, it becomes clear that “where” is built on the same root *nthe-*; the *-ke* can presumably be explained as an interrogative increment seen also in the eastern form *ile.ke* “what”. Kay *ntheke-* is really a stem meaning “which”, and *-le* is its Locative case. Kay *-arte*

(seen in *nthekelarte* and *elewarte*) is a post-inflectional increment that occurs with most demonstratives and optionally on interrogatives. So it is possible to reconstruct to pArc a root **nthē-* “where”. This still lacks diagnostic value in defining an Arandic subgroup, since this form is inherited from a PN form **wantha*, which is an original Locative case of an interrogative stem **wany-* (see Dixon 1980:375).

The “when” forms likewise allow the reconstruction of a pArc stem of the form **ile*. Kay initial *e* is phonetically identical to the Aranda initial *i*. The *-we* increment of Kay may represent the Dative case-marker. The increment *-ngere/-ngare* of Aranda is a suffix that means “times” when it occurs with quantifiers. As noted above, the Aly and LAr words for “what” can be derived from the same stem **ile* by means of an increment *-ke*. This stem **ile* “when”, which can be reconstructed to pArc, lacks external cognates. As an Arandic innovation it is therefore diagnostic of an Arandic subgroup.

Table 8: *Reconstructed interrogatives — first pass*

	who	what	when	where
pAr	<i>*ngwenhe</i>	<i>*iwenhe</i>	<i>*ilengere</i>	<i>*nthenhe</i>
Kay	<i>atnhante</i>	<i>wante</i>	<i>elew(art)e</i>	<i>nthekel(art)e</i>
pArc	—	—	<i>*ile-</i>	<i>*nthē-</i>

The reconstructions attained so far are shown in Table 8. We have two reconstructed pArc stems, only one of which is an innovation diagnostic of the subgroup. We can go further, however, if we subject the extant Aranda forms to closer analysis, especially comparing long and short stems of interrogatives.

Table 9 presents some representative case forms of the stems given above in Table 7; i.e. *(n)thenhe* “where”, *iwenhe* “what”, *(a)ngwenhe* “who”.

There are, however, numerous attested examples of shorter stems. From Table 10 it can be seen that these short forms are built on stems *(n)the/a-* “where”, *iwe-* “what”, *(a)ngwe-* “who”.

Table 9: *Case paradigms: long stems of Aranda interrogatives*

	where/which (ECAr)	what	(attestation)	who	(attestation)
NOM		<i>iwenhe</i>	Anm, WAr, ECAr	<i>ngwenhe</i>	WAr
ACC	<i>nthenhe</i>	<i>iwenhe</i>	Anm, WAr, ECAr	<i>ngwenhe(nhe)</i>	WAr
ERG		<i>iwenhele</i>	WAr	<i>(a)ngwenhele</i>	Aly, WAr
LOC	<i>nthenhele</i>			<i>ngwenhenge</i>	WAr
DAT	<i>nthenheke</i>	<i>iwenheke</i>	WAr, ECAr	<i>ngwenheke</i>	WAr, LAr
ALL	<i>nthenhewerne</i>				
ABL	<i>nthenhenge</i>	<i>iwenhenge</i>	WAr, ECAr	<i>ngwenhenge</i>	LAr (LOC)

Table 10: *Case paradigms: short stems of Aranda interrogatives*

	where/which LAr	where/which WAr	what WAr	who	(attestation of “who”)
NOM	<i>thenhe</i>	<i>nthanhe</i>	<i>iwenhe</i>	<i>(a)ngwenhe</i>	Aly, ECAr, Anm, WAr, LAr
ACC			<i>iwenhe</i>	<i>(a)ngwenhe</i>	Aly, ECAr, Anm, WAr, LAr
ERG	<i>thele</i>	<i>nthale</i>	<i>iwēle</i>	<i>ngwele</i>	Aly, WAr, LAr
LOC	<i>thenge</i>			<i>ngwenge</i>	LAr
DAT			<i>iweke</i>	<i>ngweke</i>	WAr, LAr
ALL	<i>thekarle</i>	<i>nthawerne</i>			
ABL	<i>theketyele</i>				

The Nominative and sometimes Accusative case-forms of these paradigms are identical to those of the long paradigms. I have argued elsewhere (Koch 1995:39, Koch 1996:259-260) that the shorter stems must be taken to be earlier and the longer stems are to be interpreted as the reanalysis of the Nominative-Accusative forms as containing a zero suffix, with the pre-existing suffix *-nhe* then being absorbed into the stem. This *-nhe* is a ‘particularising suffix’ that occurs in the Nominative-Accusative forms (which are otherwise zero-marked) of demonstratives, interrogatives, and LAr personal names; it is cognate with a suffix **-nha* found in many PN languages, including the Arabana-Wangkungurru and Western Desert languages which border the Aranda languages on the east and west respectively. The paradigms of short and long stems of Aranda *iwe*- “what” are given in Table 11.

Table 11: *Short and long paradigms compared*

	what I	what II
stem	<i>iwe-</i>	<i>iwenhe</i>
NOM/ ACC	<i>iwe-nhe</i>	<i>iwenhe-Ø</i>
ERG	<i>iwe-le</i>	<i>iwenhe-le</i>
DAT	<i>iwe-ke</i>	<i>iwenhe-ke</i>
ABL	<i>*iwe-nge</i>	<i>iwenhe-nge</i>

Further support for considering the short stems to be the original Arandic stems comes from derivatives. On an earlier stem **nthe*- “where” are built: **nthakenhe* “how”, attested in all varieties except LAr: **nthakentye* “how much / many”, reconstructible to pUAr (see Table 7); “how many” *nthaperte* in Aly (Lake Nash dialect) (Green ed. 1992:206) and *thaperte* in Ant (Breen, pers. comm.); and Kay *nthekele* “where” (discussed above).

Returning to “what”, it has been established that the pAr form was **iwe*, to which an increment *-nhe* was added in the otherwise uninflected Nominative and Accusative cases. Could this Aranda form be cognate with Kay *wante*? Note that Kay lacks the *-nhe* increment except in *nthakenhe* “how”. Note also that in Kaytetye the stems of both “what” and “who” terminate in *-ante*. This allows the

suspicion that *-ante* may originally have been an increment that, like Aranda *-nhe*, came to be absorbed into the interrogative stem. Unambiguous cognates from outside of Arandic have not yet been found for *-ante*, however. It can be hypothesised that *-ante* was in origin an optional post-inflectional enclitic somewhat akin to the *-arte* that occurs in interrogatives and demonstratives. Its meaning could have been ignorative, perhaps marking a distinction from the indefinite meanings of the interrogative-indefinite stems. The motivation for the absorption of *-ante* may have been to optimise syntagmatic iconicity (see Matthews (1991:225) for the term); i.e., to get the two interrogative components of meaning next to one another rather than being separated by the case inflection (cf. Haspelmath 1993, and English *whose-ever* > *whoever*s). A possible historical scenario is illustrated in Table 12.

Table 12: *Kaytetye “what”: a historical scenario*

	what-CASE- <i>arte</i>	< what-CASE	< *what-CASE- <i>ante</i>	< *what-CASE
NOM/ACC	<i>wantarte</i>	<i>wante</i>	* <i>wante</i>	* <i>we</i>
ERG	<i>wantelarte</i>	<i>wantele</i>	* <i>welante</i>	* <i>wele</i>
DAT	<i>wantewarte</i>	<i>wantewe</i>	* <i>wewante</i>	* <i>weke</i>

Now if Kay *wante* is the result of absorbing *-ante*, the stem would have been **we-*, with *e* automatically being elided before the following vowel. A stem **we-* would continue a pre-Arandic form **CVwV*. Meanwhile pAr had a stem **iwe*, which similarly reconstructs to a pre-Arandic form **CiwV*. The vowel of the Kay form was probably *i*, as in Aranda. So the Kay and Ar forms could well have been cognate after all. No clear external cognate has been found for a pre-Arandic **CiwV* “what”. Hence this interrogative root appears to be another innovation (like **ile-* “when”) diagnostic of an Arandic subgroup.

The stems for “who” cannot be related. The Aranda forms (*a*)*ngwe-* reconstruct to **unge* reflecting a pre-Arandic **NungV*, which is unexplained. The Kay stem **atnhe* behind *atnhante* could possibly derive from a PN **wanhV* and be ultimately related to the stem **wantha* “where”. At any rate, the Aranda form is an innovation and helps define Aranda as a separate subgroup apart from Kaytetye. Our closer analysis of the interrogatives of the Arandic languages has yielded five cognate terms shown in Table 13.

Table 13: *Arandic cognate interrogative stems*

	who	who	what	when/what	where
pAr	<i>ngwe-</i> < * <i>unge-</i>		* <i>iwe-</i>	<i>ile.ngere</i> “when”	* <i>nthe-</i>
Kay		* <i>anhe-</i>	* <i>we-</i>	<i>ele.we</i> “when”	<i>ntheke-</i>
‘eastern’				<i>ile.ke</i> “what”	
pArc	–		* <i>iwe-</i>	* <i>ile-</i>	* <i>nthe-</i>
preArc					* <i>wantha</i>

Of the four meanings presented there, three have cognate forms in Aranda and Kaytetye. Of these only one has a clear etymology; but this shows it to be inherited from early Pama-Nyungan and hence lacking in diagnostic value as an Arandic innovation. That leaves two out of four — the **iwe-* “what” and the **ile-* “when/what” stems — that are innovations of the whole group and hence indicators of an Arandic subgroup.

6. Nominal morphology

6.1 *-nhenge* Dyadic

All Arandic languages have a kin Dyadic suffix *-nhenge*, which is therefore reconstructible to pArc as a suffix and which has no obvious external cognates. It therefore can be taken as an innovation of the Arandic subgroup.

6.2 *-ye* 1SG

In most varieties of Arandic, kin nouns inflect for the person of the possessor (or ‘propositus’ in the terminology of Heath et al 1982). In Kay the first person singular is marked by a suffix *-ye*. There are traces of this same suffix in many varieties of Aranda, although it is usually used without reference to first person. In WAr, which has lost the person inflection from kin nouns, *-ye* has been incorporated in the lexical stem of certain kin terms such as *kngeye* “father”, *meye* “mother” and *tyemeye* “mother’s father”. Most varieties of Aranda have innovated another marker of 1SG from the erstwhile clitic dative pronoun *-atye*. (Markers of second and third person possessor in the varieties that have retained person inflection have also developed out of clitic dative pronouns and have been independently attached as prefixes in Kay and as suffixes in Ar. Hence only the pronouns, and not their affixed reflexes, can be reconstructed to pArc.⁸)

6.3 *Case*

6.3.1 *Inherited case forms*

The case forms shown in (10) were inherited from pre-Arc and are reconstructible for pArc.

⁸ For a fuller discussion of person marking see Section 11.7 ‘Arandic Person Marking on Kinship Nouns’ of Koch (1996: 256-259), and Koch 2003

(10) Ergative allomorph **-lu* > *-le* (in all Arandic)
Ergative allomorph **-ngku* > *-nge* (Kay only, lost in Aranda)
Locative allomorph **-la* > *-le* (Kay, UAr, residual in LAr)
Locative allomorph **-ngka* > *-nge* (Kay, LAr, residual in UAr)
Ablative **-ngu* > *-nge* (UAr, residual in Kay, lost in LAr)
Dative **-ku* > *-ke* in most of Aranda
> *-he* in some Aly and Anm
> *-we* in Kay

Since these are inherited from pPN, they are not diagnostic of the Arandic group as a whole. Nevertheless changes within this system help to differentiate the internal varieties of Arandic. Thus the loss of the Ergative allomorph *-nge* characterises the Aranda branch; and the generalisation of the Locative allomorph *-nge* differentiates LAr from UAr.

6.3.2 Comitative and Allative

In Koch (2003: Section 4: *Arandic complex case markers*), I discuss the origin of Comitative (“with”) and Allative (“to”) case forms. The former involves the combination of an element *-arlenge* with a preceding Locative case form *-le* or *-nge*; the latter involves the combination of an element *-arle* with a preceding Dative case form *-ke* or *-we*. It is argued that *-arlenge* and *-arle* (as well as ECar *-arleke* “into” occurring after a Dative-inflected nominal, and LAR *-arlenhe* “Different Subject”, a verbal suffix which occurs after a tense inflection) all represent a pArc postposition (derived from an earlier nominal) **arle*, which occurred suffixless and with suffixes *-nge*, *-ke*, and *-nhe*. This form **arle*, whose original nominal meaning remains uncertain in the absence of external cognates, as well as the combination of **arle* with Dative nominals to form an Allative and of **arlenge* with Locative nominals to form a Comitative, can be taken as innovations that are diagnostic of the Arandic subgroup of languages.

6.3.3 Proprietary

The Propriative (“having”) case has the form *-(a)kerte* in Aranda, and can be so reconstructed to pAr. In Kaytetye the normal form is *-akake*, which appears to be a reduplication of **-ake* (cf. *-athathe* “until” beside *-atheke* “toward”). There are some words containing *-ake*, which may be relics of the unreduplicated form; however in the absence of clear etymologies for the remainder of these words, it cannot be certain that they include the “having” morpheme. Examples are given in (11).

-
- (11) *aleyake* “adolescent girl, incipient breasts”
 a^{pey}ake “nothing”
 atnake “long time ago”

The first example recurs in Aly and ECAr. If Aranda *-akerte* is likewise an extension of an earlier **-ake*, we may have here a pArc form **ake*, probably a postposition, which was introduced as an innovative marker of Propriative.

7. Summary and conclusion

I have not had the space to discuss demonstratives, postpositions (except those incorporated into case markers), or verb morphology. Nevertheless, I have found solid evidence from innovations in vocabulary, phonological change, personal pronouns, nominal inflection, and interrogatives to support the view, implicitly accepted during the last four decades by scholars of the languages, that there is a subgroup of languages consisting of Kaytetye plus the lower-level and much more easily recognisable Aranda subgroup. The evidence in favour of the higher-level Arandic group is much more sparse than the evidence for Aranda, and not so obvious; but, taken as a whole, this evidence is more plausibly interpreted as evidence for early shared innovations in a common ancestral language than as the result of contact or parallel independent developments.

THE NGUMPIN-YAPA SUBGROUP

Patrick McConvell and Mary Laughren

*Australian Institute of Aboriginal and Torres Strait Islander Studies and
The University of Queensland*

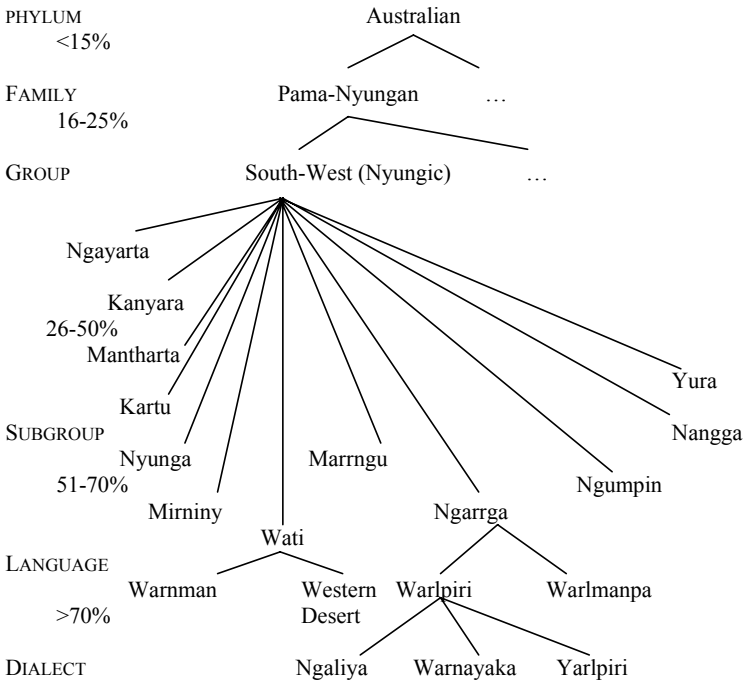
1. Background

Our aim in this paper is to provide evidence that the two subgroups, previously identified as the Ngumbin and Ngarga subgroups by O’Grady, Voegelin and Voegelin (1966) (henceforth OVV), spoken in the south Kimberley of Western Australia, southern Victoria River District and Tanami Desert in the Northern Territory, share a number of innovations. These common innovations qualify the languages of these two subgroups to be regarded as the descendants of a common ancestor, which we will refer to as proto-Ngumpin-Yapa (proto-NGY, or pNGY).

Based on a lexicostatistic analysis of percentages of shared vocabulary and consideration of shared structural features, OVV proposed a South-West group (SWG) as one of the groups within their Pama-Nyungan language family. Later this group was called ‘Nyungic’, a term which we shall use in this paper. Their SWG or Nyungic group was made up of twelve subgroups, of which Ngumbin and Ngarga were the most north-easterly. The speakers of the languages belonging to these twelve putatively related subgroups occupied a continuous area in the western half of Australia, south from latitude 20° (approximately). OVV did not propose any intermediate groupings of the twelve subgroups which made up the SWG, apart from their Wati subgroup which they divided into a Warnman and Western Desert branch.

OVV hypothesised that the Pama-Nyungan language family, along with the other language families they identified, belonged to an Australian phylum. Languages sharing more than 71% of cognates were defined as dialects of a common language, those sharing between 51 and 70% as members of a subgroup, those sharing between 26 and 50% as members of a group, between 16 and 25% as members of a family. Those sharing less than 15% were members of a phylum. This set of hypotheses is partially schematised in Figure 1, in which the OVV spelling of group and subgroup names is retained.

Figure 1: *South-West (Nyungic) Group* (O'Grady, Voegelin and Voegelin 1966)



As recognised by OVV, convincing evidence that their proposed SWG languages all descended from a common ancestor would have to await bottom up reconstruction of daughter proto-languages through rigorous application of the comparative method, crucially requiring an identification of the innovations that distinguish this group from other Pama-Nyungan groups. Since this task has not yet been accomplished, our references to a SWG or to Nyungic in this paper should not be interpreted as attributing a proven status to this aspect of the OVV hypothesis; rather we use the term ‘Nyungic’ as a convenient label for the set of languages that OVV identified as members of their SWG. Our use of OVV’s SWG subgroup terms should be interpreted in the same way.

Among the innovations shared by the Ngumpin and Yapa languages we distinguish those shared properties which NGY languages do not — to the best of our knowledge — share with any other language (our B set), from those they do not share with other Nyungic languages (our A set). Although our putative NGY group is made up of the same set of languages as OVV’s combined Ngumbin and Ngarga subgroups, there is good evidence that OVV’s subgroups do not correspond

exactly to our Ngumpin and Yapa subgroups. The Ngarti language, included by OVV in their Ngarga subgroup, should be grouped instead with the Ngumpin (Ngumbin) languages, leaving only Warlpiri and Warlmanpa in our Yapa group.

The aim of this paper is identify a set of innovations which are reflected across the NGY subgroup and to argue that these are inherited from a single ancestral language — our proto-NGY. We will examine each of the candidate innovations to determine its status, since shared features may also be due to shared retentions from a common ancestral language of which these are not the only known descendants, or they may be due to independent borrowing into each of the daughter languages or subsets of them.

The organisation of the rest of the paper will be as follows. In section 2 we present and discuss a number of the candidates for proto-NGY innovations. This is followed in section 3 by a discussion of the relationship between NGY languages and other Nyungic languages as well as a comparison with more geographically distant PN languages. We present our conclusions in section 4.

2. Innovations

It is possible to identify a set of innovations which are best accounted for as inherited from an ancestral language, proto-NGY. The set of innovations discussed here are merely representative and are not meant to be exhaustive. In the field of lexical innovation, for instance, only the small set of inflecting verbs has been investigated.

The shared innovations can be divided into two sets as shown in Table 1. Shared NGY features not found in other Nyungic languages are in **Set A** while those not found in any other Australian languages make up **Set B**.

While not found in other Nyungic languages, the Set A features are present in Warluwarric (another of OVV's Pama-Nyungan groups apparently quite different from Nyungic) and to a lesser extent in other neighbours of Warluwarric. This raises the question of whether there is a higher-level subgrouping of NGY and Warluwarric, or whether these innovations were borrowed into proto-NGY from Warluwarric or an earlier source.

The Ngumpin and Yapa languages are often cited in typological discussions of Australian languages as a prime example of languages which have pronominal enclitics attached to a special 'catalyst' or auxiliary rather than to the verb or in second position in the clause. It may come as a surprise that this characteristic does not feature in our list of shared innovations in this paper. Firstly, not all NGY

Table 1: *NGY innovations*

Set A: shared NGY innovations not found in other Nyungic languages	Set B: shared NGY features not found in other languages
apico-postalveolar lateral <i>*r/</i> reflex in NGY of Nyungic and PN apico-postalveolar glide <i>*r</i>	development of first (exclusive) and second plural subject clitic complexes by combining the first <i>-rna</i> and second <i>-n</i> person forms with the plural subject enclitic <i>-lu</i> (listed in Set A) which is not found in other Nyungic languages
negation marker <i>kula</i>	development of <i>-nyja</i> as the imperative inflection on mono-morphemic verbs of the ‘1’ conjugation, e.g. <i>nga-nyja</i> ‘eat-IMP’, <i>ma-nyja</i> ‘say-IMP’ (Koch 1981)
Use of <i>-lu</i> as the plural subject enclitic (<i>-ya</i> in other northern Nyungic languages in the Wati, Marrngu and Ngayarta subgroups)	reflexives formed with the enclitic <i>*=nyanu</i> , replacing earlier reflexive morphology
	oblique pronominal enclitic augment <i>=nyanta/nyinta/jinta</i>
	the inflecting verb root <i>yunpa-rn</i> (~ <i>yinpa-rn</i>) ‘sing’

languages have this characteristic — Ngarinyman, Birlinarra and southern dialects of Jaru and Walmajarri have second position clitic placement. Secondly, Mangarla, a language usually classified as Marrngu, has such catalysts, some of the same form as those appearing in Ngumpin (Agnew 1994). Thirdly, it is not clear which catalysts, if any, might be reconstructible to proto-NGY in which meanings. The functions tend to be different in each language, with the Yapa elements having a more aspectual role than the Ngumpin elements, which are more modal. There are several common forms (*pa*, *ka*, *nga*, *ngu*) but their history has not yet been fully analysed. It is possible that aspects of the catalyst/auxiliary system may turn out to merit the designation ‘shared innovation’, but this decision must await further research.

A further possible shared innovation in Ngumpin-Yapa is the development of finite subordinate clauses with complementisers based on demonstratives (see further McConvell, to appear). Another feature of the proposed subgroup is the additional fifth conjugation of verbs, as compared with other Nyungic languages such as Wati, and Marrngu with four. However this feature has developed somewhat differently in Warlpiri and the other languages. In order to claim it as a shared innovation in NGY one would have to work out if the additional conjugation represented the same innovation throughout the subgroup; if the innovation was present in proto-NGY and did not arise later; and also whether it was in fact a shared retention in (some) NGY languages, rather than an innovation. Work on these questions is ongoing.

2.1 Lateralisation : *r > rl

There are a number of core lexical items including body-part terms, spatial vocabulary and basic verbs, which show a regular sound correspondence between NGY lateral written *l* (in initial position) or *rl* (in non-initial position) and non-NGY, including Nyungic, *r*. In addition to being found in nominal and verbal vocabulary, this correspondence is also found in bound morphemes, which provides solid evidence for this being an innovation in the common ancestor of all languages in the NGY group. Table 2 shows the distribution of relevant forms in NGY languages. Tables 3 and 4 show the distribution of cognates where NGY *rl* corresponds to *r* in other Nyungic languages.¹

2.1.1 Exceptions to the *r > rl change

Apparent exceptions to the lateralisation change in the lexicon (including bound morphemes) are mainly to be accounted for by one of the following circumstances. In some cases the lexical item was borrowed into NGY after the proto-NGY stage when the change took place. An extended discussion of one case, the item *marang(u)* ‘muller, top grindstone’ is to be found in McConvell and Smith (2003). *Marangu* includes the root **mara* ‘hand’ in a form unaffected by lateralisation, whereas the word *marla* ‘hand’ resulting from the change **r* > *rl* is found in NGY. This indicates that the term *marangu* was borrowed into NGY after the sound change had stopped operating.

In other cases, the *r* in question did not occur in the word at the time when the change **r* > *rl* occurred, because the modern *r* results from a sound change operating after lateralisation. Such a sound change is Lenition, which operated in Eastern Ngumpin to alter several consonants including changing *rt* (retroflex *t*) to *r* between vowels. For instance, Gurindji *lungkura* ‘bluetongue’ < **lungkarta*, and the coverb *pura* ‘hear’ < **purta* do not undergo lateralisation. In these words and a number of others *rt* was present in proto-NGY and, not having lenited to *r* at that stage, this segment was not susceptible to lateralisation.

¹ See Hendrie (1990) for examples of word initial *l* in NGY languages corresponding with *r* in other languages. A period is used to indicate a non-synchronic etymological morpheme boundary, e.g., *-ku.rla.ngu*, and a plus (+) indicates the presence of following material.

Table 2: *Distribution of NGY language forms with rl <pre-NGY *r*

LANGUAGE	Warlpiri	Warlmanpa	Ngarti	Jaru	Walmajarri/ Jiwarlɲy	Gurindji/ Bilinarra	Ngarinyman	Mudburra
GLOSS								
hand	<i>marla</i>		<i>marla</i>	<i>marla</i>	<i>marla</i>		<i>marla-</i>	
pupil (eye)	<i>kurlu</i>	<i>kurlu</i>						
mouth/tooth	<i>lirra</i>	<i>lirra</i>		<i>lirra</i>	<i>lirra</i>		<i>lirra</i>	<i>lirra</i>
head					<i>jurlu</i>			
copulate	<i>murla-</i>	<i>murla-</i>				<i>kurla</i>		<i>kurla</i> (WM)
excrement; waste	<i>kurla</i>							
maternal kin	<i>lampa.nu</i>	<i>lampa.nu</i>						
up	<i>kanka/u.rla</i>	<i>kankarla</i>		<i>kanku-rla</i>	<i>kanka-</i>	<i>kanku.rla</i>	<i>kanku.rla</i>	<i>kankurlu</i>
south	<i>kurlu/kurla-</i>	<i>kurla-</i>	<i>kurlu-</i>	<i>kurlu/kurla-</i>	<i>kurlu/kurla</i>	<i>kurla-</i>	<i>kurla-</i>	<i>kurla(rra)</i>
west	<i>karla-</i>	<i>karla-</i>	<i>karla-</i>	<i>karla-</i>	<i>karla-</i>	<i>karla-</i>	<i>karla-</i>	<i>karla-</i>
fire	<i>warlu</i>	<i>warlu</i>	<i>warlu</i>	<i>warlu</i>	<i>warlu</i>	<i>warlu</i>		<i>warlu</i>
when	<i>nyangu.rla</i>	<i>nyangu.rla</i>	<i>nyangu.rla</i>	<i>nyangu.lala</i>	<i>nyangu.rla</i>	<i>nyangu.rla</i>	<i>nyangu.rla</i>	<i>nyangu.rla</i>
nothing	<i>lawa</i>					<i>lawara</i>		
other					<i>warlany</i>			
calm, steadfast	<i>purlu(lu)</i>				<i>purlu</i>			
pierce; strike			<i>la.n-</i>	<i>la.n-</i>	<i>la.n</i>			<i>la.ng-</i>
pelt; grind; spin	<i>luwa-</i>	<i>la-</i>		<i>luwa-</i>	<i>luwa-</i>			<i>luwa-</i>
loud call	<i>laarr-</i>							
ablative	<i>-ngurlu</i>	<i>-ngurlu</i>	<i>-ngurlu</i>	<i>-ngurlu</i>		<i>-ngurlu</i>	<i>-ngurlu</i>	<i>-ngurlu</i>
possessive	<i>-ku.rla ngu</i>	<i>-kurla</i>						
dyadic	<i>(ku)-rlangu</i>			<i>-rlangu</i>	<i>-rlangu</i>	<i>(ku)-rlang</i>	<i>-rlang</i>	<i>=rla</i>
dative clitic	<i>=rla</i>	<i>=rla</i>	<i>=rla</i>	<i>=rla</i>	<i>=rla</i>	<i>=rla</i>	<i>=rla</i>	<i>=rla</i>
dative augment	<i>-rla</i>	<i>-rla</i>	<i>-rla</i>	<i>-(ngku)rla</i>	<i>-rla</i>	<i>-rla</i>	<i>-rla</i>	<i>-rla</i>
irrealis	<i>-rla</i>	<i>-rla</i>	<i>-rla</i>		<i>-rla</i>	<i>-rla</i>	<i>-rla</i>	<i>-rla</i>

Table 3: *Distribution of non-NGY Nyungic cognates of NGY rl < *r reflexes*

Proto-NGY	Marrngu	Wati	Kartu	Ngayarta
*jurlu ‘head; hair’				<i>j/thuru</i> ‘head’
*kanka.rla ‘up’	<i>kanka.ra</i>	<i>kanka.ra</i>	<i>kanka.ra</i> +	<i>kanka.ra</i>
*karla ‘west’	<i>kara</i> ‘west’	<i>kara(-rra)</i> ‘west’	<i>kara</i> ‘sun; afternoon’	<i>kara</i> ‘south’
*kurla ‘waste, excrement’		<i>kura</i> ‘bad’		
*-ku.rla -(ngu) ‘possessive; etc’	<i>-ku.ra(ngu)</i>	<i>-ku.ra(ngu)</i>	<i>-k/wu.ra(ngu)</i>	<i>-ku.ra(ngu)</i>
*-(ku)rla.ngu ‘kin dyadic’ ‘kin sfx’ ‘kin possessive’	<i>-ku.ra.ngu</i>		<i>-ngka.ra.ngu</i>	
*kurli.la ‘south’	<i>kuri.la</i>			<i>kuri.la</i>
*kurlu ‘pupil (eye)’	<i>kuru.rr</i> ‘pupil’	<i>kuru</i> ‘eye’	<i>kuru</i> ‘eye’	<i>kuru</i> ‘seed’
*k/ngurrpurlu ‘Magpie’		<i>kurrparu</i>	<i>kurrparu</i>	<i>kurrparu</i>
*lawa ‘nothing’	<i>rawa</i>			
*lawu.rr ‘rib’	<i>rawu.rr</i> ‘thin’			
*la-n- ‘pierce’	<i>-ra-n</i> ‘strike’			
*lirra ‘mouth; tooth’	<i>rirra</i> ‘tooth’	<i>yirra</i> ‘mouth’	<i>yirra</i> ‘tooth’	<i>yirra</i>
*luwa- ‘pelt; grind; spin’	<i>ruwa-</i> ‘pelt’	<i>ruwa-</i> ‘rub to&fro’	<i>yuwa-</i> ‘pelt’	
*marla ‘hand’	<i>mara</i>	<i>mara</i>	<i>mara</i>	<i>mara</i>
*murla- ‘copulate’		<i>mura-</i>		
*nyangu.rla ‘when’	<i>nyanga.ra</i>			
*-ngu.rlu ‘ABL’	<i>-ngu.ru</i>	<i>-ngu.ru</i>	<i>-ngu.ru</i>	<i>-ngu.ru</i>
*purlu ‘calm, steady; unflinching’		<i>puru</i> ‘calm, fearless’		
*=rla ‘dative pronoun’	<i>=ra</i>			
*-rla ‘dative pron.sfx’	<i>-ra</i>	<i>-ra</i>		
*-rla ‘verbal sfx’	<i>-ra</i>	<i>-ra</i>	<i>-ra</i>	<i>-ra</i>
*warlany ‘other’	<i>warany</i>			
*warlu ‘fire; firewood; hot’	<i>waru</i> ‘heat’	<i>waru</i> ‘firewood; fire; hot’	<i>waru</i> ‘firelight’	<i>waru</i> + ‘flame’
*yurla ‘inside’		<i>yura</i> ‘inside’		

Table 4. *Distribution of non-NGY Nyungic cognates of NGY rl < *r reflexes²*

Proto-NGY	Mantharta	Kanyara	Nyungar	Miriny	Thura-Yura
* <i>kanka.rla</i> “up, above”		<i>kanka.ra</i> “above”			<i>kanka.ra</i> “above”
* <i>kurla</i> “excrement; waste”					KURO-KARRI “be ashamed”
*- <i>ku.rla</i> -(ngu) “possessive; etc”		- <i>ku.ra</i>	- <i>ku.ra</i>		
* <i>kurli.la</i> “south”				<i>kuri.la</i>	
* <i>kurlu</i> “pupil of eye”	<i>kuru</i> “eye”	<i>kuru</i> “eye”	KOORAH “eye”		
* <i>ngurrpu.rlu</i> “Maggie”	<i>kurrparu</i>				
* <i>la-n-</i> “pierce”				<i>ra-n</i>	
* <i>larr-</i> “buzz; shout”				<i>rarr-</i> “sing out; shout”	
* <i>lirra</i> “mouth; tooth”	<i>yirra</i> “tooth”	<i>yirra</i> “tooth”			
* <i>marla</i> “hand”	<i>mara</i>	<i>mara</i>	MARA	<i>mara</i>	<i>mara</i>
* <i>murla-</i> “copulate”	<i>mura</i> “son”	<i>mura</i> “son”	MU-YANG “copulate”		MUIYO MA-NGKO “love”
*- <i>ngu.rlu</i> “ABL”	- <i>ngu.ru</i>	- <i>ngu.ru</i>			
*- <i>rla</i> “verbal sfx”	- <i>ra</i>	- <i>ra</i>			

These classes, explicable in terms of relative chronology, do not account for all the cases where **r* fails to become *rl*. There are also systematic exceptions based on the phonological conditioning environment. We have found no form with NGY **rl* which corresponds with pre-NGY **r* in the environment following the front high vowel *i*; or preceding *i* when following *a*. This affinity of *r* with the vowel *i* and the relative resistance to lateralisation (whether synchronic or historical) in the environment of a high front vowel is a tendency remarked on in phonology and phonetics (Walsh-Dickie 1995).

The presence of morphemes with unaffected *r* in these vocalic environments in NGY languages themselves and in other PN languages can be most simply accounted for by their presumed presence in proto-NGY. For instance, *tari* “ankle” is found in Ngumpin and Yapa languages, and, given that the same root also appears for “ankle” or “heel” in Marrngu and Wati languages, it can be reconstructed to a higher level proto-language than proto-NGY. Being in the environment of the vowel sequence *a_i*, the *r* has not changed to *rl*.

² Small capitals indicate a word derived from purely orthographic source where actual phonetic form is uncertain.

2.1.2 *r > rl change in bound morphemes

It is the presence of suffixal and enclitic morphemes reflecting this change which provides the strongest evidence that the change was effected in proto-NGY. We will only discuss three of these here: the dative pronominal enclitic =*rla* < pre-NGY **-ra*, the non-subject pronominal clitic adjunct suffix *-rla* < pre-NGY **-ra*, and the adnominal genitive *-rla* < pre-NGY **-ra*.

A third person dative enclitic pronoun =*ra* is attested in the Kartu subgroup, on the basis of attestations in Wajarri (Douglas 1981), and in the Marrngu and Wati subgroups. It is also attested as both a VP- and NP-dependent non-plural dative bound pronoun in Nhanda (OVV:127) in a paradigm with first (= *tha*/= *thu*) and second person (= *nyku*/*ku*) forms and a third person plural form (= *thana*).³ The corresponding form attested in all NGY languages is =*rla*. Given the fact that there is no obvious external source from which this form could be borrowed into NGY languages and given its distribution — attested in all NGY languages — we conclude that this represents a reflex of the proto-NGY innovation whereby pre-NGY **r* > proto-NGY **rl*.

In Marrngu, Wati, and NGY languages, *-ra* (= *-rla* in all NGY languages) is found suffixed to non-subject bound pronouns; thus there is a contrast between what we will call the ‘simple non-subject’ series and the ‘augmented non-subject’ series illustrated in (1). There are several pieces of evidence which indicate that *-ra* suffixation on oblique pronouns pre-dates the separation of NGY from its ancestor and also pre-dates the establishment of Wati and Marrngu as distinct subgroups. The use of the different reflexes of the **-ra* element is quite analogous in both NGY and these other Nyungic languages. The evidence suggests that **-ra* suffixation is an inherited rather than a borrowed feature in these languages, and that the **r* > *rl* sound change had affected this morpheme before it was inherited into proto-NGY.

The contrast between ‘simple’ and ‘augmented’ non-subject clitic forms is exemplified by the Walmajarri (Ngumpin) examples in (1). Walmajarri presents a four-way contrast between non-subject clitic forms as illustrated in (1a-d): the accusative form associated with the direct object function in (1a), the dative form associated with a dative adjunct in (1b), the augmented dative with the suffix *-rla* in (1c) coreferential with a dative complement, and the augmented accusative form in (1d) coreferent with a locative case-marked adjunct.

³ While the Nhanda subject and direct object bound pronouns are not cognate with the bound pronouns of other northern Nyungic languages, the first and third person dative forms do seem to be so. Nhanda was classified by OVV as a Kartu language; however Blevins (1999) has argued convincingly that it does not belong in this subgroup but may be a higher order descendant of PN.

- (1) a. Direct Object (Walmajarri)
Luwarni ma=nta.
 shot IND=2SG.ACC
 “(He/she) shot you.”
- b. Dative Adjunct (Applicative) (Walmajarri)
Luwarni ma=ngu.
 shot IND=2SG.DAT
 “(He) shot (him) for/because of you.”
- c. Dative Complement (Walmajarri)
Luwarni ma=ngu-rla.
 shot IND=2SG.DAT-AUG
 “(He) shot at you.”
- d. Locative Adjunct (Walmajarri)
Ya-nku ma=nta-rla.
 go-FUT IND=2SG.ACC-AUG
 “He will go with you.”

NGY languages, with the exception of Walmajarri, do not formally distinguish Direct Object clitics (coreferent with an Absolutive NP) as in (1a) from Dative clitics (coreferent with a Dative NP) as in (1b), except for the third person singular (zero marking for direct object, =*rla* elsewhere). Warlpiri distinguishes the simple dative (2b&b') from the augmented dative in (2c&c'), both coreferent with a Dative NP. The augmented third person singular dative form is formed by the suffixation of a special form (-*jinta* in Warlpiri) to the third person dative enclitic =*rla* (2c') to be further discussed in section 2.7.

- (2) Warlpiri
- a. Direct Object: Second Person
Luwarnu=ngku (nyuntu).
 shot=2SG.NS (2SG)
 “He shot you.”

- a'. Direct Object: Third Person
Luwarnu (nyanungu).
 shot (3)
 "He shot him."
- b. Dative Adjunct: Second Person
Luwarnu=ngku (nyuntu-ku).
 shot=2SG.NS (2SG-DAT)
 "He shot him for/because of you."
- b'. Dative Adjunct: Third Person
Luwarnu=rla (nyanungu-ku).
 shot=3SG.DAT (3-DAT)
 "He shot him because of him."
- c. Dative Complement: Second Person
Luwarnu=ngku-rla (nyuntu-ku).
 shot=2SG.NS-AUG (2SG-DAT)
 "He shot at you."
- c'. Dative Complement: Third Person
Luwarnu=rla-jinta (nyanungu-ku).
 shot=3SG.DAT-AUG (3-DAT)
 "He shot at her."

Similar distinctions are formally marked by three distinct series of non-subject enclitic pronouns in the north-western Wati language Yurlparija (Burridge 1996), as shown in (3a-c). Like Walmajarri, Yurlparija has distinct Accusative and Dative forms for all persons. The non-subject enclitic augmentation shown in (3c) applies to the Accusative form. From the data available to us, *-rla*-augmentation does not apply to the Yurlparija Dative forms.

- (3) a. Direct Object (Yurlparija)
Wakanpa=rna=nta.
 spear=1SG.S=2SG.ACC
 "I'll spear you." (OVV:152)

- b. Dative Adjunct (Yurlparija)
Kalyu=rna=ngku manmanpa.
 water=1SG.S=2SG.DAT fetch
 “I’ll fetch water for you.” (OVV:153)
- c. Indirect Object (Yurlparija)
Yungu=rna=nta-ra.
 gave=1SG.S=2SG.ACC-AUG
 “I gave (it) to you.” (OVV:153)

Singular forms only are given in Table 5, although *-ra/-rla* suffixation extends throughout the pronominal paradigm in Warlpiri (also in Ngarti, Warlmanpa, Gurindji, Birlinarra and Walmajarri) as in the Marrngu languages. The third person forms differ from the first and second person forms. In Karajarri (Marrngu) and Warlpiri (NGY), *=ra* and *=rla* respectively constitute the enclitic base which hosts an additional suffix: *-la* in Karajarri, *-jinta* in Warlpiri, *-nyanta* in Walmajarri and other Ngumpin languages. The Mangarla and Pintupi forms consist of a base *=lu* to which *-ra* is suffixed, a structure paralleling that of the first and second person forms. The Yurlparija and Nyangumarta third person form consists only of *-lu*. Accounting for this variation is beyond the scope of this paper (see Nash 1996 for a detailed description of Yapa pronominal clitics).

Table 5: Bound pronominal series with suffixal augment *-ra:-rla*

		1sg.	2sg.	3sg.
NGY	Warl	<i>-ju-rla</i>	<i>-ngku-rla</i>	<i>-rla-jinta</i>
	Wlm	<i>-ja-rla, -ji-rla</i>	<i>-nta-rla, -ngu-rla</i>	<i>-nyanta, -rla-nyanta</i>
MARRNGU	Kar	<i>-ja-ra, -ju-ra</i>	<i>-nta-ra, -ngku-ra</i>	<i>-ra-la</i>
	Nya	<i>-ja (<*ji-ra)</i>	<i>-nga (<*ngu-ra)</i>	<i>-lu</i>
WATI	Man	<i>-ja (<*ju-ra)</i>	<i>-ngka (<*ngku-ra)</i>	<i>-la (<*lu-ra)</i>
	Yul	<i>-ja-ra</i>	<i>-nta-ra</i>	<i>-lu/-li</i>
	Pin	<i>-ju-ra</i>	<i>-ngku-ra</i>	<i>-lu-ra</i>

Possessive suffixes on nominals (excluding pronouns, but not demonstratives) in both of the Yapa languages, Warlpiri and Warlmanpa, contain the morpheme *-rla* affixed to a dative stem. In Warlpiri, the possessive morpheme complex contains a reflex of possessive **-ngu* which is absent from Warlmanpa (Nash 1979), as shown in (4).

- (4) “man-POSSESSIVE”
 a. Warlmanpa: *ngarrka-ku.rla*
 b. Warlpiri: *ngarrka-ku.rla.ngu*

The triad of forms in Table 6 can be reconstructed back to proto-Yapa.⁴

Table 6: *Proto-Yapa complex genitive paradigm*

base stem	dative case	adnominal	augmented adnominal
nominal	*-ku	*-ku]-rla	*-ku]-rla]-ngu

In fact these forms can be reconstructed back to a pre-NGY paradigm in Nyungic, and beyond, in Pama-Nyungan. These show the correspondence between *-ra* and *-rla* that we expect from the proposed **r>rl* sound change in NGY.

2.2 Negative particle *kula*

The negative particle *kula* is found in all Ngumpin-Yapa languages but not in any other subgroups of Nyungic. In most of the NGY languages, it provides the normal way of negating a clause, as exemplified by the Warlpiri (Yapa) and Gurindji (Ngumpin) sentences in (5).

- (5) a. ***Kula=rna*** *nga-rnu.* (Warlpiri)
 NEG-1SG.S eat-PAST
 “I didn’t eat (it).”
- b. ***Kula=rna*** *nga-rni.* (Gurindji)
 NEG-1SG.S eat-PAST
 “I didn’t eat (it).”

In the languages using *kula* as the normal sentential negation particle, there are separate words for “nothing, no” — for instance in Warlpiri this is expressed by *lawa*, and in Gurindji by *lawara*. In Walmajarri, the westernmost Ngumpin language, the normal means of negation of a clause is by the use of the element *ngajirta*, which also means “nothing, no”.

In Jaru too, the “no, nothing” word *wakurra* is used as the unmarked clause negation marker, as in (6a). However, *kula* is also used quite frequently in Jaru as a clausal negation marker with an additional meaning of incapacity, as in (6b).

- (6) a. *Wakurra* *nga=rna* *nga-rni.* (Jaru)
 NEG CAT=1SG.S eat-PAST
 “I didn’t eat it.”

⁴ Ngumpin languages lack this genitive construction, although the morpheme complex *-rla-ngu* is preserved in both Ngumpin and Yapa dyadic kin suffixes.

⁶ There is much evidence in Wakaya for loss of ancestral final vowels. The sound written as *e* is schwa.

[illegible]

- ⁷ A few other PN languages have similar morphemes which may be related; for example, Paakantyi has a clausal and phrasal negator *gila* (Hercus 1982:228-9).

(Wati, Marrngu, Ngayarta: Palyku and Nyamal only, and Kartu: Wajarri and Yingkarta), while in Nhanda the plural subject clitic is *-nu*.⁸

The origin of *-lu* as the plural subject pronominal clitic in NGY cannot be stated with certainty at this stage. If, like the other subject clitics (with the exception of third dual *-pula* ~ *-pala*) it derives from a form that can be reconstituted with an initial missing CV which would give us **CVlu*, then there are several possibilities. One is that *-lu* is what remains from the ergative (subject) form of the original full pronoun. Another more likely possibility is that it derives from a plural pronoun of the form **CVlu*. Such a form is found in Warluwarric, where the third person plural pronoun is **yalu* (Carew 1993), which has reduced clitic forms: *-alu* in Yanyuwa (Kirtton and Charlie 1996), *-al* in Wakaya (Breen 2000b).⁹ The first and second person singular bound pronouns of NGY (and more widely of northern Nyungic) correspond with reconstructed proto-Warluwarric forms (except for the dative series). It is probable that the plural subject form *-lu* in NGY languages is also linked to the Warluwarric third person form *yalu*.

What then is the nature of this ‘link’? Is the link between the NGY form *-lu* and the Warluwarric *yalu* the result of common inheritance, or is it due to borrowing? If the latter, then what is the source? Did both proto-Warluwarric and proto-NGY borrow this from another language — perhaps from the same ‘other’ language — since it is found in NPN languages such as Garrwa and Waanyi as the third plural nominative pronoun, and also in NPN Alawa (Blake 1990a)? Or did proto-NGY borrow this form from a Warluwarric language?

If NGY *-lu* derives from pre-NGY **CVlu* (along with the singular bound pronoun forms and the first person subject forms which can be reconstructed back to forms with an original word-initial CV), then given that these appear to be inherited in NGY from a common pre-NGY northern Nyungic ancestor, we would expect *-lu* to have the same origin. However, there is no trace of plural subject clitic

⁸ The Proto-Thura-Yura first person plural pronoun **ngalu* reconstructed by Simpson and Hercus (this volume, chapter Chapter 8) contains a possible plural suffix *-lu* which contrasts with the dual *-li*; however this form does not mark plural on any other pronoun, and is not cognate with the proto-NGY clitic.

⁹ Warumungu non-singular nominative pronoun forms, all of which end in *l(u)*, probably reflect an earlier Ergative suffix. This form may have been reanalysed as both a case and number-marker, e.g. *-l(u)* ‘nominative and non-singular’ in Warumungu (Simpson 1998). While Carew (1993) reconstructs **yalu* as the proto-Warluwarric form, the third plural pronoun in Warluwarra is *yanu*, possibly an original dative form cognate with the non-subject third person plural clitic *-yanu* found in some Ngumpin languages. The Western Queensland language Guwa (Winton area south of Warluwarric region) also has *yanu* as its third plural pronoun subject form (Breen 1990:116). The relationship (if any) between these forms and the widespread PN third plural *thana* ~ *jana*, or the plural suffix *-nu* is unknown at this stage.

-lu in the other northern Nyungic languages. Given that all the first and second person singular northern Nyungic bound pronouns (with the exception of the dative forms) are cognate with Warluwarric pronouns in which the initial CV has been preserved, these pronouns clearly pre-date proto-NGY and in fact have their origin in an ancestor of both the northern Nyungic and Warluwarric languages. If **yalu* were of the same age, then we would expect to find reflexes of it as *-lu* in northern Nyungic apart from in NGY. How do we account for the loss of *-lu* in all the other branches of northern Nyungic and its replacement by *-ya*? This scenario seems most unlikely, as Janet Sharp (1997) has convincingly shown that in Nyangumarta (Marrngu) *-ya* behaves in a way which links it structurally to the singular bound pronouns (and first person non-singular subject forms), which are those derived from free pronouns by the deletion of the original initial CV segments (for example, 1sg **ngarna* > *-rna*; 2sg. **nyin* > *-n*, 1sg.dat **ngaju* > *-ju*, 2sg.dat **nyungku* > *-ngku* ...). The more likely scenario involves the replacement of northern Nyungic plural subject pronoun *-ya* with *-lu* in proto-NGY.

If NGY *-lu* is linked to Warluwarric *yalu* then it would seem that borrowing is the likely explanation for its presence in NGY, whether it entered NGY from Warluwarric or from another source. Since *yalu* as a third person plural pronoun is not found in PN languages outside Warluwarric languages, the NPN origin of this form seems very likely. In his discussion of the distribution of *yalu* as a third plural form in both Warluwarric and Garrwa/Waanyi, Blake (1988, 1990a) concludes that the origin of this pronoun is to be found in some non-PN source — first being borrowed into Warluwarric and from there into Garrwa/Waanyi along with some other pronouns. Direct borrowing from a NPN source into proto-NGY also seems likely. There are a number of possible NPN sources including Alawa (Blake 1988). Many of the eastern NPN languages including the Tangkic neighbours of Warluwarric display a contrast between *-rr(V)* marking dual number and *-l(V)* marking plural number.¹⁰ However, whatever the ultimate source of NGY *-lu* can be shown to be, the important point for the purposes of establishing that the NGY languages descend from a common source that is unique to them, is that this common source is differentiated from other languages by the fact of this innovation (and others): northern Nyungic plural subject clitic *-ya* was replaced by *-lu* in proto-NGY.

¹⁰ These morphemes were borrowed into the northern Warluwarric language, Yanyuwa, as the dual and plural nominal class markers (Carew 1993:32).

2.4 First and Second person plural with =lu

In all NGY languages the exclusive plural subject first person enclitic is composed by combining the plural form =*lu* with the appropriate person form, =*rna*. While a similar pattern of first person exclusive plural clitic formation is attested also in the Western Marrngu languages (Karajarri and Nyangumarta) and in the Wati language Warnman, this differs from the NGY form in that the plural clitic -*ya* precedes the person clitic -*rna* whereas in NGY languages the order is reversed. In most languages the person morpheme can be separated from the number morpheme by a non-subject second person form, e.g. Warlpiri *rna=ngku=lu* ‘we>thee’. In Warlpiri, Warlmanpa and Jaru, and also in Gurindji, Ngarinyman and Mudburra under certain conditions, the second person subject clitic complex is formed in the same way. Again, one finds in some Wati languages second person plural subject clitic complexes formed from distinctive second person and plural subject forms, e.g. =*ya=n*. However, again, it is the plural form which precedes the person form. This is exemplified by Ngaatjatjarra forms in Table 8. The combination of subject person form followed by the plural subject form found in NGY languages is analogous to the widely used pattern for second person dual forms (e.g. *n-pula/-n-pala*). In the speech of many Yuendumu Warlpiri speakers this pattern is also used to form a first person dual exclusive subject form -*rna-pala*, which has replaced the older *rli.jarra*.

The uniqueness of the NGY formation within Nyungic languages is illustrated by a comparison of the forms in Table 7 with those in Table 8. In NGY languages (Table 7) the element -*lu* follows the subject person morpheme and may be separated from it. In those languages whose second plural subject form is derived from second person -*n* followed by plural subject -*lu*, epenthetic *ku* or *pa* is inserted to separate the non-permitted nasal+lateral sequence which would otherwise result.

In other Nyungic languages, however, either the order is reversed or portmanteau person-number forms are used, as shown in Table 8. Plural subject =*ya/yi* precedes first subject =*rna/rni*, and second subject =*n*, and first plural =*la* precede first oblique =*ju* to form the exclusive first plural subject.

Not only is the form =*lu* an innovation, but the way it combines with other pronominal enclitics is distinct from number marking in pronominal clitic complexes in other Nyungic languages.

Table 7: *First exclusive and second person plural subject clitics in NGY languages*

	1PL.EX.S	2PL.S
YAPA		
Warlpiri	= <i>rna</i> ...= <i>lu</i>	= <i>n.ku</i> ...= <i>lu</i> ~= <i>n.pa</i> ...= <i>lu</i>
Warlmanpa	= <i>rna</i> ...= <i>lu</i>	= <i>n.ku</i> ...= <i>lu</i>
NGUMPIN		
Jaru	= <i>rna</i> ...= <i>lu</i>	= <i>n</i> ...= <i>lu</i>
Ngarti	= <i>rna</i> ...= <i>lu</i>	= <i>n.ta</i>
Ngarinyman	= <i>rna</i> ...= <i>lu</i>	= <i>n.ta</i> ~ = <i>n</i> ...= <i>lu</i>
Guriindji	= <i>rna</i> ...= <i>lu</i>	= <i>n.ta</i> ~ = <i>n</i> ...= <i>lu</i>
Mudburra	= <i>rna</i> ...= <i>li</i> /= <i>lu</i>	= <i>n.ta</i> ~ = <i>n</i> ...= <i>lu</i>
Walmarjarri	= <i>rna</i> ...= <i>lu</i>	= <i>n.ta</i>

Table 8: *First exclusive and second plural subject clitics in non-NGY Nyungic languages*

Language	1EX.PL.S	2PL.S
MARRNGU LANGUAGES		
Nyangumarta	= <i>yi=rni</i>	= <i>nyurru</i>
Karajarri	= <i>ya=rna</i>	= <i>yurru</i> ~ = <i>nyurra</i>
Mangarla	= <i>ngarni</i>	= <i>nyurru</i>
WATI LANGUAGES		
Warnman	= <i>ya=rna</i>	= <i>ya=n</i> ~ = <i>nyurra</i>
Yurlparija	= <i>la=ju</i>	= <i>nyurra</i>
Ngaatjatjarra	= <i>la=ju</i>	= <i>ya=n</i>
Pintupi	= <i>la=ju</i>	= <i>nyurra</i>
NGAYARTA LANGUAGES		
Palyku	= <i>kuta</i> ~ = <i>kartu</i> ~ = <i>kurta</i>	= <i>nyu</i>
Nyamal	= <i>rtu</i>	= <i>nyurra</i>
KARTU LANGUAGES		
Yingkarta	= <i>la</i> (incl/excl)	NO FORM
Wajarri	= <i>tu(ju)</i>	NO FORM

2.5 -nyja as the imperative inflection on monosyllabic verbs of the 'I' conjugation

The imperative form of the verb “to eat” *nga-nyja* has a suffix *-nyja* which is unique to the NGY group (Koch 1981), and should be listed as an NGY shared innovation. Elsewhere in Nyungic the cognate verb has an imperative form appropriate to verbs of the ‘I’ conjugation, e.g. Western Desert *nga-la* “eat-IMP”. In Ngumpin languages only, one other verb conjugates in the same way: *ma-* “say”: *ma-nyja* “say-IMP”. There is another verb root *ma-* “get” in most NGY languages which conjugates differently, like *ya-* “go”: i.e. *ma-nta* “get-IMP”; *ya-nta* “go-IMP”. While these roots and meanings are pan-Australian, these imperative suffixes in *nta* are not commonly found outside NGY. Similar forms (e.g. Yingkarta *yanta-ka* and *manta-ka* (Dench 1998a:41), Yandruwandha and Wangkumarra *yanta* “go”) indicate that they are inheritances from earlier than proto-NGY. Warlpiri has an intransitive verb root *ma-* “say, make a sound”, but it is not distinguished from the transitive verb meaning “get”; it is not used alone, but only with coverbs for

sound production; we hypothesise that **ma-nyja* has in Yapa shifted to the conjugation of **ma-nta*. The source of the *-nyja* innovation is not clear: it may relate to a non-finite form *-nyja* found in Pama-Nyungan languages including Yapa (Warlmanpa and Warlpiri) with possible reflexes in Mudburra.¹¹

2.6 *Reflexives formed with the enclitic *=nyanu, replacing earlier reflexive morphology*

All NGY languages use an anaphoric enclitic *=nyanu* (*=nyunu* in some languages) to form most reflexive/reciprocal constructions: it follows the subject enclitic pronoun and does not vary for person or number, as in Gurindji (10a). A number of languages (Walmajarri,¹² Warlpiri, Warlmanpa and Mudburra (1b)) use a different construction for first person singular reflexive only, with a first person object enclitic.

- (10) a. *ngu=rna=nyunu* *kampa-rni* (Gurindji)
 CAT=1SG.S=REFL burn-PAST
 ‘‘I burnt myself.’’
- b. *kampa-rnirra* *pa=rna=yi* (Mudburra)
 burn-PAST CAT=1SG.S=1SG.O
 ‘‘I burnt myself.’’

Other Nyungic languages have different reflexive/reciprocal morphemes: some Western Desert dialects have *-nku* ~ *-ngku* as in (11a) and Marrngu languages have forms like the Karajarri anaphoric verbal enclitic *-wani-* in (11b).

- (11) a. *mama-lu =nku* *kampa-rnu* (Western Desert)
 father-ERG=REFL burn-PAST
 ‘‘Father burnt himself.’’

¹¹ The Warlpiri non-finite verb form marked by the suffix *-nyja* is used (as well as the imperative form) in commands and directives, reminiscent of French infinitival directives.

¹² Walmajarri uses a form *=rna=ju=n* for first singular reflexive in which *=ju* is the indirect object first person clitic and *=n* is a morpheme otherwise unknown in the language, which we propose is related to the *n* of Wati *=nku* reflexive and *=na*, a morpheme used in some reflexive and other combinations in the Mudburra clitic complex (see McConvell 1980). Mudburra has a regular sound change of word final *-a* augmentation. These elements may be relics of an earlier reflexive system before *=nyanu* took over. Hudson (1978:69) also shows Walmajarri as using *-nyanu* in reflexive constructions with first and second singular subjects.

b. <i>japulu-lu</i>	<i>kampa-nu=wani-nya</i>	(Karajarri)
father-ERG	burn-PAST= REFL-ACC	
“Father burnt himself.”		(Johnson 1992 #127)

The origin of this innovated use of *nyanu* (cognate with the dative form of Blake’s (1988) reconstructed Eastern feminine third person pronoun stem **nyan-*) as a reflexive morpheme in NGY is probably an extension of its use in NGY as a third person and anaphoric kin possessive pronoun, which continues as a suffix in most NGY languages and elsewhere in Pama-Nyungan including other Nyungic languages in the Mantharta subgroup (Austin 1996 and Klokeid 1969 for Tharrgari forms). Both Yapa languages have *nyanu.ngu* as the independent third singular pronoun; Mudburra has *nyani* as an independent pronoun “he, she” where the final *i* descends from **u* (in parallel fashion to the change from third plural subject enclitic **-lu* to *=li* in Mudburra). Other Ngumpin languages have *nyantu* “he, she” descended from an ergative form of **nyan*, and *-nyan* as the kin-possessive suffix. The NGY innovation is the new anaphoric function assigned to the pre-existing form *nyanu*.

2.7 The oblique augment enclitic =nyanta/nyinta/jinta

In section 2.1.2 there is discussion of the augmentation of non-subject pronominal enclitics by *=rla* (<**ra*). In all NGY languages which feature this pattern of augmentation, where one might expect a sequence of two *=rla* forms as when the third person singular dative enclitic *=rla* is augmented, the potential second *=rla* is replaced by *=nyanta* (Ngumpin except Ngarti), *=nyinta* (Ngarti) or *=jinta* (Yapa; a Warlpiri example is given as (2c’)). This morpheme and its special usage is unique to NGY languages; other examples in 2.1.2. show that other Nyungic languages deal with this kind of situation quite differently. It is likely that these morphemes also go back to a common source in NGY. One possibility is **nyan-ta* a locative form of **nyan-*, a third person pronoun, as discussed in the previous section. Even taking into account Ngarti *=nyinta* as a potential half-way house, the changes necessary to produce Yapa *=jinta* from this source are not strongly supported by independent evidence.¹³ Another option might be **jinta*, a morpheme found in Yapa as “one” and in Ngumpin forming words for “other” (cf. also Nyangumarta *jinta* “other”); but once again the pathway from this proto-form to *=nyanta* is problematic. Solution of this problem is not necessary, however, to claim this construction as a shared innovation.

¹³ **=nyjinta* could be a stage between *=nyinta* and *=jinta*. Warlpiri features a sporadic sound change *nyi* > *nyji*; e.g. *wirlinyi* “daytime travel” varies with *wirlinyji*. The presence of *jinta* “one; other” may have influenced the further change of *nyj* to *j* in this morpheme.

2.8 *An inflecting verb root as a NGY shared innovation*

All NGY languages tend to have a relatively small inventory of monomorphemic verb roots, with the remaining verbs being complex, made up of a non-inflecting coverb and a verb drawn from a subset of the inflecting ‘light’ verbs. Warlpiri and Western Ngumpin have a relatively high number of monomorphemic verbs (around 100), but this declines as we move into Warlmanpa and Eastern Ngumpin, to 30-35, since a number of mono-morphemic verbs are replaced by complex verbs. Eastern Ngumpin languages have large numbers of coverbs borrowed from NPN neighbours — at least 30-40% in Gurindji and Ngarinyman. The syntactic structure of Eastern Ngumpin complex verbs is also much ‘looser’ than in Western Ngumpin and Yapa, due to interaction with NPN languages (McConvell and Schultze-Berndt 2001).

Some verb roots in Warlpiri can be shown to be Arandic loans, but other than those it is likely that a large number of monomorphemic roots shared by Western Ngumpin and Yapa might be reconstructible to proto-NGY, some having been lost in Eastern Ngumpin. However we have decided to be more conservative in this paper and only consider as candidates for proto-NGY those verbs which have witnesses in all three branches, Yapa, Western Ngumpin and Eastern Ngumpin. This reduces the pool to less than forty.

Of these 30-40 verbs investigated, all but one turned out to be inherited from some higher level grouping like proto-Nyungic, or in a number of cases from Proto-Pama-Nyungan, which excludes them from consideration as shared innovations in NGY. A few of the Proto-Ngumpin-Yapa roots have cognates in Non-Pama-Nyungan languages, and were most likely inherited from a proto-language wider than Proto-Pama-Nyungan; e.g. **ju-* ‘scold, swear at’ is related to proto-Arnhem **THu*, as discussed by Rebecca Green (in press).

The exceptional verb which appears to have been borrowed into proto-NGY is **yunpa-rn-* ~ **yinpa-rn* ‘sing’. This root is found in all branches of NGY, in the form *yunpa-rn-* in Jaru, Eastern Ngumpin and Warlpiri.¹⁴ It has been recorded as *yinpa-rn-* in Birlinarra (Nordlinger 1991). This verb may be a loan from the Warluwarric sub-group, specifically from the (northern) branch containing Yanyuwa — or some now extinct closely-related language. The direction of borrowing is clear because the proto-Warluwarric form is **jinpa-* ‘sing’ (Carew 1993:71: cf. Wakaya *jinp*; Warluwarra, Bularnu *jipa*). Only the Yanyuwa branch of Warluwarric has *yinpa-*, produced by a regular sound change of initial lenition **TH>y* (Carew 1993:45-46; cf. Proto-Warluwarric **jika* > Yanyuwa *yika* ‘yam’). The change of vowels **i>u* within NGY would indicate that this is not a recent loan

¹⁴ In Warlmanpa, the form is *yina-nga-* ‘sing’; c.f. also Warumungu *wina-nta* ‘sing’.

and there is no evidence indicating diffusion took place later than proto-NGY; so this would count as a shared innovation in NGY.

However, a change from *i* to *u* in this environment is completely unmotivated, whereas a change from *u* to *i* would not be unexpected following the palatal consonant *j* or *y*. There is no regular correspondence between Birlinarra *i* and *u* in other NGY languages; so the Birlinarra form *yinpa-* is likely to be the result of a local assimilation. On the other hand there is some evidence of a correspondence between the NGY vowel sequence *u-a* and the sequence *i-a* in Warluwarric cognates; e.g. proto-NGY verb stem **luwa-* ‘hit with missile, grind, spin’ and the negative particle **kula* (discussed in §2.2) are cognate with forms plausibly reconstructed as proto-Warluwarric **liwa-* and **kila* respectively. Proto-NGY **yunpa-* ‘sing’ and proto-Warluwarric **jinpa-* would follow this pattern, assuming both forms descend ultimately from a stem **junpa-*.¹⁵ If this is so, then the proto-NGY innovation consisted of borrowing the lenited **yunpa-* from a branch of pre-Warluwarric characterised by the lenition of initial **j* to **y*, but which did not undergo a change of vocalism, unlike the proto-Warluwarric branch, of **u* to **i*. The initial lenition in northern Warluwarric, which is only attested by Yanyula, would be a later sound change.

Whatever the source of NGY *yunpa-* is, it certainly appears at this stage of our research to constitute a lexical innovation, rather than being a form inherited from an immediate ancestral language.

3. Comparisons beyond Ngumpin-Yapa

3.1 Northern Nyungic

In terms of general lexicon and grammar, NGY is most similar to the northern Nyungic languages overall, especially to the sub-groups Marrngu and Wati. These, together with NGY, may form a higher level subgroup within Nyungic, but this has not yet been demonstrated fully; nor is the internal structure of such a grouping yet clear. Possible shared features in such a grouping might include the absence of two laminal series, possibly due to merging, and the presence of initial apico-alveolars absent from other Nyungic languages except for Ngajumaya (Mirniny subgroup).

Another feature found in these languages, as well as in Kartu (Wajarri and Yingkarta) and Ngayarta (Nyamal, Palyku and Panyjima) languages, is a system of pronominal enclitics which includes a common core of identical or related forms. While some southern Western Desert dialects and some Kartu and most Ngayarta

¹⁵ This unlenited form may be the source of *junba* ‘song (type)’ in the Victoria River district and eastern Kimberley.

languages lack this feature, it seems highly likely that it has been inherited but partially lost in these groups. The distribution of these bound pronouns could indicate a larger grouping of northern Nyungic languages which includes Ngayarta and Kartu. Although some of the Thura-Yura languages in the south-east of the Nyungic language area (Hercus and Simpson 1996, Simpson and Hercus, this volume) also have enclitic pronouns, these can be shown to be relatively recently derived from the free form pronouns in those languages.

3.2 *The Warluwarric connection*

We have already discussed some significant connections between NGY and Warluwarric: the pronouns, the negative *kula*, and the verb *yunpa*- “sing”. Some of these connections extend beyond NGY to other northern Nyungic languages — for instance, some of the pronominal enclitics found in these languages, such as *=rna* 1 SG.S, are related to pronouns in Warluwarric.¹⁶ For those connections which are more specific to NGY, we have already discussed: the negative morpheme *kula*, related to Wakaya, a Warluwarric branch; the plural enclitic *=lu*, related to a proto-Warluwarric third plural pronoun; and the root **yunpa*- “sing”.

There are more connections than just these, however. Warluwarric languages have *rl* correspondences of NGY *rl* which are reflexes of Nyungic (and PN) **r*. Shared lexical forms are shown in Table 9. What is even more interesting is that this correspondence extends to bound morphemes, including the complex adnominal genitive discussed in §2.1.2: pre-NGY **-ra* > NGY **-rla*, possibly cognate with Warluwarric *-rla*. Yet another bound morpheme reflecting the **r>rl* change which is common to both NGY and Warluwarric languages is the ablative *-ngurlu*, which corresponds to *-nguru* in Nyungic and non-Nyungic languages as shown in Table 9.

Sharing of detailed morphological patterns as well as sound changes and lexical items suggests a *prima facie* case for both the NGY and Warluwarric languages being descended from a common ancestor. Under this scenario the change from PN **r>rl* would be counted as a shared innovation in the joint group (and no longer in NGY). This would make the genetic relationship between these languages closer than is the relationship between NGY and other Nyungic languages. However, there is a disparity in shared lexicon between NGY and Warluwarric; in this respect and others, such as verbal and nominal morphology,

¹⁶ The assumed source for the first person singular subject enclitic *-rna* is *ngarna*, found in Warluwarric and also in the southern Nyungic languages Mirniny and Wirangu (Hercus 1999).

Table 9: *NGY and Warluwarric reflexes of lateralisation of PN*

Proto-NGY	Warluwarric languages		Wakaya	Yanyuwa
	Bularnu	Warluwarra		
* <i>kanka.rla</i> “up”	<i>kagarlija</i>	<i>kangkarliya</i>	<i>kinkarl</i>	<i>anka(ngu)</i>
* <i>karla</i> “west”	<i>karla-</i> “west/north”		<i>kerl-</i>	
* <i>jirra</i> “mouth; teeth”		<i>lira</i> “mouth, front, lips”		
* <i>luwa-V</i> “pelt, winnow, spin, grind”	<i>liwanga</i> “pelt”	<i>yirhwanga-</i> “pelt” <i>liwama</i> “winnow”	<i>la-</i> “pelt”	
* <i>marla</i> “hand”				<i>marli.ji</i>
* <i>-ngurlu</i> “from”	<i>-ngurlu</i>	<i>-ngurlu ~ngurla</i> <i>~ngirli ~ngirla</i>		
* <i>nyangurla</i> “when”	<i>nhangarli</i> “what” ¹⁷	<i>nhangarli</i> “what”	<i>nhengarl</i> “what”	
* <i>-rla</i> “irrealis”	<i>-rla</i>	<i>-rla</i>	<i>-rla</i>	
* <i>-rla</i> “adnominal poss” (Yapa only)		<i>-rla</i>	<i>-rla</i>	

NGY shares much more with Nyungic than with Warluwarric. The presence in both Ngy and Warluwarric of some non-Nyungic lexemes like *yunpa-* ~ *yinpa-* “sing” discussed above can be shown to result from borrowing from (pre)-Warluwarric into Ngy. It is possible that the greater percentage of vocabulary which Ngy shares with other Nyungic languages than it does with Warluwarric could result from a more recent (lengthy) contact between Ngy and Nyungic languages. This might have favoured lexical borrowing amounting to virtual lexical replacement. The evidence from bound morphemes (especially the enclitic pronouns), however, points much more strongly to a scenario in which there was either direct or indirect contact (mediated by a third language, or set of languages) between proto-NGY and early Warluwarric languages. This contact resulted in borrowing between these languages and the shared influence of the phonological change from **r* > **rl*.

There is good evidence from a variety of sources, but more particularly from a study of Nyungic and Warluwarric pronouns (which takes us beyond the scope of this chapter), that northern Nyungic and Warluwarric retain forms descended from a common ancestor. However, this comparison of pronoun forms also shows that Ngy is more closely related to Nyungic — or at least to northern Nyungic — than to Warluwarric. For example, all Nyungic languages which have retained bound pronouns that can be reconstructed to an ancestor of both Nyungic and Warluwarric (among other Pama-Nyungan subgroups) have retained reflexes of the original dative series (< **ngaju* 1DAT, **nyungku* 2DAT and **CVra* 3DAT) for singular forms. Warluwarric, however, lacks this dative series, and has introduced a new

¹⁷ Compare Bularnu and Warluwarra *nhangarda* “where”, *nhangarli* “what” also in Yinjilanji (Warluwarric).

derived dative series. Under this scenario, the innovations in NGY which have direct correspondences in Warluwarric result from areal diffusion that affected both Warluwarric and NGY, but not (in most cases) other Nyungic languages. These innovations would include an areal spread of lateralisation (**r > r/*) or borrowing of forms from a language which underwent lateralisation into neighbouring languages which did not.

We have identified a number of common elements in the prehistory of the NGY and Warluwarric groups. The proto languages of both groups had already undergone lateralisation of **r > r/* which may have been due to areal diffusion. The NGY plural subject clitic =*lu* and the Warluwarric third person plural subject pronoun *yalu* seem likely to descend from a common source. Direct or indirect contact between proto-NGY and proto-Warluwarric involved the diffusion of negative particle **kula* which we reconstruct in proto-NGY as a modal negative. Again, the introduction of the verb **yunpa-* into proto-NGY points to contact with early Warluwarric languages.

4. Conclusions

We have identified eight shared innovations in Ngumpin-Yapa languages, and there are no doubt more. These include phonological, morphological and lexical changes. The number and range of these innovations combine to build a strong case for Ngumpin-Yapa being a coherent subgroup. The identity of the next higher-level subgroup has not been investigated here, but it is likely that it will be a grouping of northern Nyungic languages of which NGY would be the most north-easterly subgroup. However of the eight proposed NGY innovations, four are also shared with Warluwarric, an apparently distantly related group of Pama-Nyungan spoken over a hundred kilometres to the east at its closest. If these shared features were the result of descent from a common ancestral language, they would be eliminated as evidence for a distinct NGY subgroup. In such a case, we would rely on the strong evidence from the remaining features to argue for a NGY subgroup. However, on balance we have concluded that these four features are the result of diffusion between proto-NGY and Warluwarric languages or from other languages in contact with both NGY and Warluwarric languages. Hence these four features can be counted as proto-NGY innovations, while other similarities between the two groups are the result of common inheritance from a more distant ancestor.

The nature of the relationship between Warluwarric and NGY groups which are today not contiguous, raises questions about the relative geographical location of these groups in Holocene prehistory. The Warluwarric and NGY languages are today separated from each other by the eastern Mirndi languages in the north, the

Warumungu language to the south of Mirndi and then the Arandic language group even further south. Proto-NGY speakers must have been located adjacent to proto or pre-Warluwarric speakers to account for the linguistic diffusion documented in this paper. One might expect that these features would have diffused into other Nyungic languages, but this is not the case. They are confined to NGY. This leads to the hypothesis that speakers of other northern Nyungic groups such as Wati and Marrngu were not in contact with the sources of these innovations reflected in NGY languages at the time of their diffusion into NGY.

THURA-YURA AS A SUBGROUP

Jane Simpson and Luise Hercus

University of Sydney and Australian National University

1. Introduction

The close relationship between the languages of southern Australia surrounding Spencer's Gulf and Gulf St Vincent has long been recognised. Black (1920:85) claimed that "the coastal tribes from Cape Jervis to north of Port Augusta can have had no difficulty in understanding each other". This link is supported by the Nukunu man Fred Graham's assertion (Hercus 1992:2): "The languages differ from tribe to tribe and it gradually works away till they can't understand one another. We could understand Barngarla and Kuyani."

O'Grady et al (1966) used the classification of Schmidt (1919a) and their own data to suggest that these languages form a subgroup of the southwest group of the Pama-Nyungan (PN) family. They dubbed it 'Yura' (from the word for "person" in several of these languages), and suggested that it was a sister of the Nangga subgroup whose sole member is Wirangu. This was confirmed further in O'Grady and Klokeid (1969). O'Grady and Fitzgerald (1997) extend this position, proposing a Yura sub-subgroup of the Nyungic subgroup of a Nyungo-Yuulngic group. This sub-subgroup includes at least Barngarla, Nukunu, Narangga, Kuyani, Ngadjuri, Adnyamathanha and Kurna.

In this paper we support the proposal that the Yura languages are genetically related, forming what, for the purpose of this paper we call a 'subgroup'. We argue for the inclusion of Wirangu as an outlier of the subgroup. By the term 'outlier' we imply that this language shows some differences from the rest of the subgroup: we suggest that these differences are not genetic, but due to profound changes that have taken place in relatively recent times owing to the influence of Western Desert languages. We also include Nauo, insofar as the few words and historical descriptions permit this (Hercus and Simpson 2001). We call this subgroup 'Thura-Yura' (TY) in recognition of a *th* > *y* lenition which distinguishes the northern members of the subgroup. We reconstruct at two levels, the core TY languages (pcTY), and the greater group consisting of the core languages and Wirangu (pTY).

Reconstructing the Thura-Yura subgroup is hampered by the following difficulties:

- (i) the lack of sources for Ngadjuri, Nukunu and Narangga.

(ii) the many synonym doublets and triplets, some of which are undoubtedly Nauo words, in the main source for Barngarla (Schürmann 1844).

(iii) the lack of a consistent orthographic distinction between lamino-dental, apico-alveolar and retroflex consonants, or between flaps, semivowels and trills, in the main sources for Barngarla, Kurna, Ngadjuri and Narangga.¹

(iv) the absence of substantial nineteenth century sources for all languages but Barngarla and Kurna, which means we have little ability to track the effects of recent language contact.

(v) the considerable language contact that took place in the nineteenth century as a result of the transferral of people to missions at Poonindie on Eyre Peninsula and at Point Pearce on Yorke Peninsula.

(vi) the considerable language contact that took place as a result of the southeasterly migration of Kukata people.

2. Languages, culture area and location

2.1 *Languages*

The languages in the proposed Thura-Yura subgroup, major data sources and the abbreviations we use for them² are given in Table 1.

¹ Conventions: In accordance with general practice we give non-English words in italics, if they have been recorded according to linguistic principles, and in small capitals those known only from earlier data. All words from Kurna, Narangga, Ngadjuri and Barngarla are from early sources. We use quotation marks to represent orthographic letters. We use upper-case letters for sounds whose place or manner of articulations cannot be determined: R rhotic, L lateral, LH laminal lateral, C consonant, V vowel, N nasal, NH laminal nasal, T non-peripheral stop, TH laminal stop. In giving correspondences, we order the languages from west to east and then south: WIR, BNG, KUY, ADN, NUG, NGD, NAR, KAU.

² For non-TY languages major data sources include: Alyawarr (Green 1992), Arabana (Hercus 1994), Diyari (Austin 1990a), Kukata (Platt 1972), Kukatja (Valiquette 1993), Mirniny (O'Grady and Klokeid 1969), Ngaiawang (Moorhouse 1846), Paakantyi (Hercus 1993), Pintupi (Hansen and Hansen 1992), (Pitjantjatjara (Goddard 1995, 1992), Ramindjeri (Meyer 1843), Yankunytjatjara (Goddard 1992), Yardiylawara (Hercus n.d.-b). If no citation is given, then the data is from the source above. We thank Geoffrey O'Grady for access to his digital compilation of data deposited in ASEDA, Australian Institute of Aboriginal and Torres Strait Islander Studies. We thank Barry Alpher for access to his digital compilation of Australian etymologies.

Table 1: *Thura-Yura languages and sources*

language	abbr.	where spoken	source
Kaurna	KAU	Adelaide Plains and north	Teichelmann and Schürmann 1840, Teichelmann 1857, 1858
Ngadjuri	NGD	Mount Lofty Ranges and east	Berndt and Vogelsang 1941, Berndt 1987
Nukunu	NUK	head of Spencer Gulf	Hercus 1992, Valentine 1886
Narangga	NAR	Yorke Peninsula (possibly two dialects, in the south and north)	Black 1920, Johnson 1930-31, Kühn 1886, McEntire 1879, O'Grady 1958, Snell in Griffiths and Platt 1988, Tindale 1936
Barngarla ³	BNG	eastern Gawler Ranges and the northern Eyre Peninsula	Schürmann 1844, O'Grady 2001
Adnyamathanha	ADN	Northern Flinders Ranges	McEntee and McKenzie 1992, Schebeck 2000a,b
Kuyani	KUY	around Lake Torrens, on Stuart Ck and south to Parachilna	Hercus n.d.-a
Nauo	NAU	southern Eyre Peninsula	Schürmann 1844
Wirangu	WIR	on the Great Australian Bight	Hercus 1999

By the name ‘Gawler Ranges Dialect’ (of Wirangu) we refer to the data from Whipstick Billy as noted by Bedford (n.d.) and the data from two people who recorded information for J. Platt (transcribed by L. Hercus). Where data comes from sources other than these, citations of the source are given.

2.2 Area

The area of land concerned stretches to the southwest at least as far as the head of the Great Australian Bight, on the northwest to Billa Kalina (northwest of Andamooka). In the southeast it stretches towards Encounter Bay on Fleurieu Peninsula and in the northeast towards the northernmost point of the Flinders Ranges, and further south to Bimbowrie.

Most of the speakers of the languages concerned lived on the western side of the major watershed created by the Mount Lofty Ranges, in the Flinders Ranges and the plains to the West, on Eyre Peninsula and the West Coast.

2.3 Culture area

All the languages are spoken west of the major circumcising initiation rite boundary line proposed by Tindale (1974). All but the southernmost (Kaurna, Narangga and Ngadjuri) are spoken west of the major subincising initiation rite boundary line proposed by Tindale. All but those southernmost people had a matri-

³ The language name has also been written ‘Parnkalla’, but we use the spelling of the present-day people.

lineal moiety system, the main features of which were shared with Karnic people, with moieties, named Mathari and Karraru.

One particular cultural-linguistic feature, not shared by the neighbouring languages and uniquely Thura-Yura, is the use of a series of ten birth-order names. This was shared by the whole subgroup, although for some of the languages we only have one or two representative examples. There are different names for male and female children. To illustrate this we just list in Appendix 8.1 what is known of the first five.

2.4 *Neighbours*

To the west and northwest the neighbours belong to the proposed Western Desert family, or are hard to classify (Miminy). To the north are Karnic languages. To the northeast are languages belonging to the Yarli and Paakantyi language subgroups and further south the Murray River languages, Peramangk (about which too little is known to classify it) and Ngarrindjeri languages.

2.5 *Previous groupings*

In Table 2 we compare previous classifications of the TY languages with ‘MDS’ (multidimensional scaling), five groups derived from two dimensional scaling of our lexicostatistic figures (ALSCAL 84 Alternating Least Squares Scaling, done by David Nash).

The major difference between the MDS groupings and earlier groupings is the closeness of the link between Kurna and Narangga, and the linking of Barngarla with Ngadjuri and Nukunu. The grouping of Kurna and Narangga together fits with East’s (1888) observation that one of the three divisions in language was the ‘Padnayndie’ (named from the word “to go”) “occupying all Yorke’s Peninsula and the region between Crystal Brook and Noarlunga”.

As for the position of Wirangu, we have given two figures; Wirangu (RB) refers to earlier data (Bedford n.d.), Wirangu (LAH) refers to modern Wirangu collected by Hercus, which has been influenced by the Western Desert language Kukata. The few Nauo words recorded suggest a language intermediate between Wirangu and Barngarla (Hercus and Simpson 2001); so it too may be part of this *Sprachbund*. East (1888) claimed that Wirangu and Nauo were part of one division, but distinct from Barngarla (this may be due to the sound changes that have affected Barngarla). Black (1917:3) claimed that Wirangu was closely related to Barngarla, and more distantly to “the extinct Adelaide language and others on the eastern side of Spencer Gulf”. The Bedford Wirangu shows a greater percentage of correspondences with the other TY languages than modern Wirangu, because Bedford’s consultant, Whipstick Billy of the Gawler Ranges, spoke a separate

dialect of Wirangu closer to the northern TY languages. Modern Wirangu shows a greater affinity with Kukata than the other TY languages do with Kukata, because of increasing recent Kukata contact and the growth of a West Coast *lingua franca* with much Western Desert influence. Likewise O’Grady’s 1960 recording of Barngarla shows considerable Wirangu and Kukata influence (O’Grady 2001).

Table 2: *Comparison of classifications*

	MDS	East 1888-9	Schmidt 1919a:56	O’Grady et al 1966	Dixon 2001
Adnyamathanha	3	?	<i>Thura</i>	Yura: 4	WBb
Kuyani	3	?Wirrung	<i>Thura</i>	Yura: 3	WBb
Kurna	2	Padnayndie	<i>Miru</i>	Yura: 5	WBa Kadli
Narangga	2	Padnayndie	<i>Miru</i>	Yura: 5	WBa Kadli ⁴
Ngadjuri	1	?Padnayndie	? <i>Miru</i>	Yura: 5	WBa Kadli
Nukunu	1	?Padnayndie	? <i>Miru</i>	Yura: 5	WBa Kadli
Barngarla	1	Parnkalla	<i>Parnkalla</i>	Yura: 2	WBb
Nauo	–	Wirrung		Yura: 1	WC
Wirangu (RB)	1				
Wirangu (LAH)	5	Wirrung		Nangga	WC
Kukata	5	Wirrung		Wati	

For reconstructing grammatical forms only Wirangu, Barngarla, Adnyamathanha, Kuyani and Kurna have enough data. In this paper we will look at the evidence for:

1. Thura-Yura being a distinct subgroup with Wirangu as an outlier
2. the lesser internal divisions within the core TY languages
 - a. Barngarla, Adnyamathanha and Kuyani forming the northern division of the subgroup
 - b. Narangga and Kurna forming the southern members of the subgroups

We examine the grammatical forms shared between the northern and southern Thura-Yura languages and propose reconstructions for “proto core Thura-Yura” (pcTY), that is all the Thura-Yura languages except Wirangu and Nauo if reflexes are found in both the southern and northern groups: we use caution with data from Ngadjuri and Nukunu for reconstructions at the pcTY level because there is not enough evidence to group them definitively either with the southern or with the northern TY languages. If reconstructed pcTY forms are shared with Wirangu, then we attempt reconstruction at the proto Thura-Yura level (pTY). We attach a detailed

⁴ Dixon (2001) includes ‘Nantuware’ (KAU “kangaroo talk”) in his WBa group. This name was given by the southern Narangga speaker Louisa Eglinton (Tindale 1936) as the name for people living north of the Hummock Range, who Tindale (1974) identifies as a northern group of Kurna people. We have found no data assignable to a separate ‘Nantuware’ language.

Thura-Yura wordlist to show the cohesiveness of Thura-Yura and at the same time the internal variations (Appendix 8.2 on the accompanying CD).

3. Phonology

3.1 *Phonotactics*

Phonotactically the TY languages share many properties. Words are vowel-final, except in Wirangu. To a limited extent Narangga inflections can end in consonants (perhaps by vowel elision), and likewise there is an N/NI final verb ending in southern Kurna (Williams 1839), also found in the earliest southern Narangga recording (Snell in Griffiths 1988). Words cannot begin with laterals or rhotics; this includes Wirangu except for one word which may be a borrowing. Lamino-dentals, rather than lamino-palatals, appear word-initially, except in Wirangu and Nauo. They have been lenited word-initially by phonetic change in Barngarla, Adnyamathanha and sporadically in Ngadjuri. The languages have few monosyllabic words; only Kurna, Barngarla, Narangga and Wirangu have clear monosyllabic words.

Sonorants in non-homorganic clusters with peripheral stops appear to show no distinction between retroflex and alveolar stops: Nukunu (Hercus 1992), Kuyani (Hercus n.d.-a), and probably also in Adnyamathanha — the variation in Schebeck (2000a,b) suggests this. Wirangu has a marginal distinction.⁵ Thus our reconstruction of such clusters in the core TY Languages with the alveolar stop is to be interpreted as a neutralisation of the difference.

All the languages have phonotactic restrictions on initial *ki* and *ngi*, an areal feature shared with both Karnic and Western Desert languages. Wirangu has undergone a sound change which has created some initial *ki*-words. Table 3 presents the number of forms with initial *ki* or *ngi* compared with the number of *k/ng* initial forms in the language.⁶

⁵ Of two Wirangu minimal pairs (Hercus 1999:32), one (*warlga* “edible solanum”/ *walga* “frost”) is not attested in the other languages. Of the other (*walba* “hill”/ *warlba* “wind”), compare Western Desert *warlpa* “wind” (Goddard 1992) with our pcTY **walypi* “wind”.

⁶ Manual count of vocabulary for Wirangu (Hercus 1999) and Nukunu (Hercus 1992); electronic counts of vocabulary for Barngarla (Schürmann 1844), Kuyani (Hercus 2001), Adnyamathanha (Schebeck 2000b), Ngadjuri (Berndt and Vogelsang 1941), Kurna (Teichelmann 1857). The Narangga count was done electronically on a combined list, whose structure meant it was not possible to get an accurate total for the lexical items. Note: because of the lenition of initial *k* in Adnyamathanha, all 31 *k* initial words are likely to be borrowings.

Table 3: *ki/ngi-initial words compared with k/ng-initial words*

	WIR	BNG	KUY	ADN	NUK	NGD	NAR	KAU
#ki	5/126	2/519	5/142	5/31	2/78	2/45	2	2/297
#ngi	0/58	0/264	0/88	0/296	0/29	2/28	0	3/248

3.1.1 Rhotics

Intervocally, the core TY languages have at least a three way distinction in rhotic sounds, and one, Adnyamathanha, may have a four way distinction⁷ between rhotics intervocally. Wirangu has a two-way rhotic distinction (retroflex glide versus alveolar flap), and this is likely to be due to Kukata influence. Likewise O’Grady’s Barngarla has only two rhotics. Retroflex glides reconstructible for core TY correspond to retroflex glides in Wirangu, but the interpretation of the other rhotics is less certain.

In Adnyamathanha consonant clusters the four-way rhotic distinction appears to have been neutralised; Schebeck (2000a) represents all clusters with ‘rr’ (the alveolar trill), and Nukunu and Kuyani may have a similar neutralisation. Kaurna has gained more rhotics in such clusters as a result of a conversion of laterals to rhotics in clusters with peripherals, but occasional spelling alternations with ‘d’ suggest they were also realised as flaps or trills:

- (1) pTY **maLpu* “murderer, murder”: Nauo MALPU, BNG MALBU, KAU MARPUNNA (Teichelmann and Schürmann 1840), MURTPOONA (Wyatt 1879), MERT-POO-NAH (Williams 1839). Cf. Ramindjeri MALPURI “guilty, murderer” (Meyer 1843)

Table 4 lists the orthographic representations for those languages where a consistent distinction is made, together with the conventions used in this paper.

Table 4: *Spelling conventions*

Sound	Our spelling	WIR	BNG	KUY	ADN	NUK
alveolar tap	r	r		r	d	r
alveolar trill	rr		rr	rr	rr	rr
retroflex glide	ɽ	R	r	R	r	ɽ
retroflex tap	rd			rd	rd	
indeterminate rhotic source	R	Hercus (1999)	O’Grady (2001)	Hercus (n.d.-a)	Schebeck (2000a)	Hercus (1992)

⁷ The Adnyamathanha retroflex tap can be a lenited form of a retroflex stop (e.g. *artu* “wife”, *ardu-ardupa* “men and wives”, although Schebeck (2000) contains examples with retroflex taps corresponding to rhotics in other languages. Likewise the alveolar tap when appearing later than the first syllable can correspond to a stop in other languages: ADN *ipidi* “orphan”, KAU IPITI (Schebeck writes *d* for the alveolar tap).

The correspondence sets given in (2) show a rhotic before peripheral consonant alternating with a lateral or stop.

- (2) pTY **thilka-* “see, know”: WIR *dyilga-* “gaze”, BNG YILKATA “gaze”
ILKARINGUTU “show”, KUY *thilka-* “know”, ADN *ilka/ irlka-* “know”, KAU
TIRKANDI “know”
pTY **ngalku-* “eat”: WIR *ngalgu-*, BNG NGALGUTU, KUY *ngalku-*, ADN
ngalku-, *ngarlku-*, NUK *ngalku-tya*, NAR YERKO (Snell), ARGOOROO
(Kühn), KAU NGARKONDI
pTY **pulka* “old man”: WIR *burlga*, BNG PULKA, ADN *vurlka*, *vulka*, NAR
BURKA (Black), BULKA (Tindale), KAU BURKA.
pcTY **ngalpa-* “enter”: BNG NGALBATA, KUY *ngalpa-*, ADN *ngarlpa-*, KAU
NGATPANDI
pTY **walpu* “bone”: WIR *warlbu*, BNG WALBO, KUY *walpu*, ADN *warlpu*,
NUK *warlpu*, NGD WALPU, NAR WULBO (Snell), KAU WORPO
South TY: “skin”: NUK *parlpa*, BERTPA (Valentine), NAR BULBA (Snell),
PARPARI “premature child” (Tindale), KAU PARPA “skin, foreskin”, PURTPA
(Williams)

3.1.2 Laminal alternation

Table 5 shows that there is no evidence in the northern TY languages for reconstructing initial apical consonants distinct from initial laminal consonants. Initial stop lenition in Adnyamathanha (the only language with substantial modern data) and Barngarla further reduces the possibility of reconstructing initial apicals for the northern TY languages.⁸ The few examples of initial apicals in Wirangu all correspond to forms in Kukata or English. This contrasts with Karnic, for which Austin (1990a) reconstructs a few forms with initial **t*, **tj* as well as initial **th*. Harold Koch (pers. comm.) points out that northern TY *thurlku* “heart” corresponds to Bandjalang *dulgu*.

While there is a small amount of evidence from Narangga for an apical/laminal contrast initially, as in Table 5, this can probably be discounted, since some Narangga sources show no contrast for the same form, and the correspondents in other languages show laminals.⁹ Likewise, we cannot reconstruct a difference

⁸ In the table question marks indicate lack of data.

⁹ Some orthographic ‘t’ forms in Kaurna (but apparently not Barngarla) have some correspondents in Western Desert with forms in initial *t*. These are likely to be shared inheritances, since we have not found correspondents in other TY languages neighbouring WD languages. Since Yankunytjatjara and Pintupi lack initial lamino-dentals, these WD forms could be the realisation of initial lamino-dentals or initial apicals in the ancestral language.

between lamino-palatal and lamino-dental stops and nasals initially in the core TY languages. The small numbers of initial alveolar and lamino-palatal stops and nasals in Adnyamathanha and Kuyani have not yet been found to have correspondents in the other TY languages.

Table 5: *Initial apical and laminal consonants in TY languages*

	WIR	BNG	KUY	ADN	NUK	NGD	NAR	KAU
Indeterminate stops	NONE	TA	NONE	NONE	NONE	D, T	D, T	TA TI TU
apical	d [FEW]	?	NONE	NONE	NONE	?	RD, T	?
lamino-dental	<i>dha</i> <i>dhu</i>	?	<i>th</i>	<i>th</i> [few]	<i>th</i>	?	TH	?
lamino-palatal	<i>dya</i> <i>dyi</i> <i>dyu</i>	TYI	<i>ty</i> [few]	<i>ty</i> [few]	<i>ty</i> [few]	?		?NO
							DJI, DJU [few]	
Indeterminate nasals	NONE	NA NI NU	NONE	NONE	NONE	NA NI NU	NA NI NU	NA NI NU
apical		?	NONE	<i>n</i> [few]	NONE	?	?	?
lamino-dental	<i>nha</i> <i>nhu</i>	?	<i>nh</i>	<i>nh</i> [many]	<i>nh</i> [many]	?	?	?
lamino-palatal	<i>nya</i> <i>nyi</i> <i>nyu</i>	?NO	<i>ny</i> [few]	<i>ny</i> [few]	<i>nya</i> <i>nyi</i> [few]	?- ¹⁰	?	?NO

The data in Table 5 for the southern TY languages suggests a single laminal series. The northern TY languages, Barngarla and Adnyamathanha, have many forms in initial *y* corresponding to forms in initial *T* in the other TY languages. The major evidence for initial *ty* comes from Barngarla — 22 forms in Schürmann (1844). However, the distribution of orthographic ‘ta’, ‘tu’ and ‘tyi’ in Barngarla suggests a single laminal series with the lamino-palatal as the realisation preceding the high front vowel *i*. Unfortunately we cannot yet decide if they are genuine Barngarla forms with initial laminals, or perhaps apicals, or whether they are borrowings from another dialect or language (Nauo, Wirangu).¹¹ The same

KAU TATTENDI “climb”; Yankun. *tatini* “climb”

KAU TANPANDI “paste, fasten”; Yankun. *tanpani* “fix in place”

KAU TOWINNA, TAUARA “long, large, great”; Kukatja *tawarra* “long, tall”

KAU TITTAPPENDI “bind, fasten”; Yankun. *titir-punganyi* “strap down”

KAU TIWA “native honey”; Pintupi *tiwirpa* “honey ant”

¹⁰ Some *ngi* initial words may represent *nyi*.

¹¹ For example, BNG TADLI “spit” and BNG YARLI “tongue” both correspond to forms in ‘t’ or ‘th’ in core TY languages, are realised as either lamino-palatal or lamino-dental in Wirangu, and are

allophony of lamino-palatals is found in Kukata (Platt 1972) and Wirangu (Hercus 1999), while the limited Mirniny data (O'Grady and Klopeid 1969, O'Grady n.d.-a) shows an extension to the high back vowel: *tha, thu, tyi, tyu*. Kukata and modern Wirangu, as Hercus (1999) notes, have a distinction between initial lamino-dental and lamino-palatal, and even some minimal pairs.

3.2 Sub-group-internal sound-changes

Here we list and illustrate sound changes that have affected TY languages.

3.2.1 Prestopping

The core TY languages have undergone prestopping of nasals and laterals, with the usual restriction of the area (Hercus 1994:38) that prestopping of nasals in nasal-initial words is rare¹² or impossible. Prestopping is also found in the Gawler Ranges dialect of Wirangu (Hercus 1999:33). Prestopping in the southern TY languages, and perhaps also Nukunu,¹³ appears to be a low-level phonetic rule, usually in variation with non-prestopped equivalents. Hence we do not reconstruct prestopping for Proto-Thura-Yura.

- (3) pcTY **puna-* “come”: BNG BUDNATA, ADN *vutna-* “meet”, KAU *budnandi*
 pTY **mulha* “nose”: WIR Gawler Ranges *mudlha*, BNG MUDLA, KUY *mudlha*,
 ADN *mutlha*, NUK *mutlha*, NGD MUDLA, NAR MUDLA (Black), MULLAH (Snell),
 KAU MUDLA, MOOLA (Wyatt 1879)

Prestopping of bilabial nasals is restricted to the northern TY languages (including Nukunu) and the Gawler Ranges dialect of Wirangu:

realised as lamino-dental in Mirniny. Thus it is unlikely that Schürmann's TADLI started with an apical *t*. Rather it looks as though the original pTY form was lost in Barngarla, and perhaps replaced by NGAPPALYA (itself presumably related to Arandic forms like Alyawarr *apelh* “spit” (Green 1992)). Schürmann's TADLI is either a Nauo synonym, or else it was borrowed back into Barngarla from say Wirangu after the *th > y* rule stopped being productive. Since *tadli* is not attested in Kuyani or Adnyamathanha, we cannot reconstruct it for pcTY, (both languages have instead a form similar to pKarnic **ngaltja*).

¹² Occasional examples are recorded, e.g. NAR MIDNA “eye” (McEntire), but other sources have this without prestopping: NAR mi:na “eye” (Black).

¹³ In general, the nineteenth century Nukunu sources (LeBrun 1886-87, Valentine 1886-87, Hack 1879) have less prestopping than the twentieth century sources (Hercus 1992), particularly for bilabials and lamino-palatals. Likewise for Narangga Snell, working in 1850, records less prestopping than O'Grady, working in 1958; e.g. “foot” DEENA (Snell), THITNA (O'Grady).

- (4) pcTY **thima* “raw”: BNG IBMA, KUY *thibma*, ADN *ipma*, NUK *thipma*, KAU TIMANNA
- (5) WIR Gawler Ranges *wabma* “carpet snake”, BNG WABMA, KUY, ADN *wabma*

3.2.2 Consonant lenition

A systematic initial laminal stop lenition distinguishes Barngarla and Adnyamathanha from Kuyani, and also from the other TY languages.

- (6) pTY **thina* “foot”: WIR *dyina*, BNG IDNA, ADN *itna*, KUY *thidna*, NUK *thitna*, KAU TIDNA, NAR THITNA (O’Grady), NGD TIDNA, IDNA
 pTY **tharna* “back”: WIR *dhana*, BNG YERDNA, ADN *yartna*, KUY *thardna*, NUK, *yartna*, JA:NA (Tindale n.d.), KAU TARNA

The variation found in Nukunu and Ngadjuri suggests either borrowing, or change in progress. Adnyamathanha has extended the lenition further, to initial **k* and initial **p*.

- (7) pTY **karla* “fire”: BNG GADLA, ADN *artla*
 pTY **parlu-* “to die”: BNG PADLUTU, ADN *varthlu-*

The seeds for this change can be seen in Kaurna and Narangga, which often lenite initial consonants of the second element of compounds, as shown in (8).

- (8) KAU TIDLUMBO “bladder” (TIDLI “waist”, KUMBO “urine”)
 NAR DAVARA “lip” (DA: “mouth”, BARA “hole”)

There is also occasional lenition of rhotics, as illustrated in (9).

- (9) alveolar tap > y: ADN *-di-* ~ *-i-* intransitive verb suffix
 retroflex glide > y: ADN *-ri-* ~ *-i-* intransitive verb suffix
 pcTY **miru* “adult”: BNG MIRRU “grown-up”; MIYERTA “man of mature age”;
 KUY *miru* “male”; ADN *miru* “man”; *miardityi* Orion, boys, men; NUK *miru* “male”; NAR MERROO (McEntire); KAU MEYU “man”.

3.2.3 Root-internal vowel harmony

Barngarla, Kuyani and Adnyamathanha have examples suggesting vowel harmony changing original *iCu* to *uCu* following a laminal consonant, and perhaps

extending to following other consonants in Adnyamathanha as a phonetic variation. Kuyani shows optional alternation.

- (10) pTY **thirntu* “sun”: WIR *dyirndu*, BNG YURNO, KUY *thirntu*, *thurntu*, *yurndu*, ADN *yurntu*, NUK *thirntu*, NGD JANDU~ DJENDU; DENDU, NAR *thirntu* (O’Grady), KAU TINDO
- (11) pcTY **nhiipu*: ADN *nhuu* “neighbour”, NAR NIPPU/NIPU (Black) “blackfellow”, KAU NEPO “neighbour”.

3.2.4 Sonorant/stop cluster changes

Barngarla has undergone reduction of apical sonorant-stop clusters to the sonorant as in YURNO “sun” (10). Prestopping apparently never applies to these reduced clusters.

- (12) pTY **karlta*- “to call”: WIR *galda*- “bring, summon”, BNG KALLANNITI, KUY *karlda*-, ADN *arlt*-, KAU KARLTANDI
- pTY **pirlta* “possum”: WIR *birda*, BNG PILLA, KUY *pilta*, ADN *virta*, NUK *pirlta*, KAU PILTA
- pcTY **wanti*- “to lie”: BNG WANNITI, KUY *wanti*-, ADN *wanti*-, NUK *wanti-tya*, KAU WANDENDI

There are some instances where this rule does not apply. We have not worked out why. Some could be due to the admixture of non-Barngarla vocabulary into Schürmann’s dictionary (e.g. BNG TYINDARA “light, candle” is almost certainly related to Nauo TYENDU “sun”). Others could represent loans, such as BNG NGULTAPA “young man”, KAU NGULTA “initiated man”, which may result from the spread of initiation ceremonies. But some are hard to understand, e.g. BNG PARNDALLA “lime”, PURNDA “round stone”, compared with pTY **parnta* and pPN **parnta* “stone” (Koch 1997c:294).

There are some instances of reduction of velar nasal-stop clusters to velar nasals in Barngarla and Adnyamathanha, mostly in suffixes; e.g. BNG Locative -NGA, KUY Locative -*ngka*. A similar sound change is found in proto-Karnic (Bowern 2001c:255) reducing nasal stop clusters to nasals following unstressed syllables. When it occurs in other places, it can be attributed to nasal cluster dissimilation associated with nasals in adjacent syllables: ADN *wanggata* “to talk”, *wangu-ngu*- “tell somebody”. But in others the conditioning remains obscure; e.g. ADN *nhangartanha* “what?”, ADN *nhangga* “how are you?”

In Kaurna, lateral clusters appear to be restricted to homorganic clusters. Rhotics or stops or omission of the lateral correspond to laterals in other languages. The Narangga data shows variation before *k*, but not before *p*. Original clusters with *rk* are usually retained in Kaurna, as in (13), although a couple of examples, as in (14), suggest deletion of the lateral.

(13) pTY **puRku* “dew”: WIR *burgu*, BNG BURKO, KAU BURKO

(14) pcTY **malku* “cloud”: BNG MALKO, NUK *maku* “high cloud”, NGD MALKU
 “heavy white cloud”, KAU MAKKO.
 “baby”: NUK WOLKALKO (Valentine), KAU WAKWAKKO

3.2.5 Conclusion

There is no single phonological feature that distinguishes the TY languages from all their neighbours as a separate subgroup. There are, however, distinguishing features within the TY languages themselves. The most clear-cut of these internal distinctions are initial consonant lenition and root-internal vowel harmony in the northern TY languages.

4. Nominal morphology

As in the case of other parts of the grammatical system, reconstruction and analysis of nominal morphology is hampered by the scarcity of data for several languages. Table 6 gives the forms.

4.1 Ergative/locative

4.1.1 Notes on form

The ADN and BNG (and probably WIR) change **ngka* > *nga* is due to the nasal cluster reduction mentioned in Section 3.2.4.

Several BNG suffixes have final vowels assimilating completely to the preceding vowel. If this vowel assimilation affected either the original Locative or Ergative, it would have led to a neutralisation of the distinction between the two suffixes in many contexts. This may have caused reanalysis resulting in a single suffix in Adnyamathanha. Why the *a* form should have been chosen over the high vowel form is not clear — perhaps this is related to there being more *a*-final nouns.

The initial vowels of the Kaurna *-Lu/-La* allomorphs suggest reanalysis of a demonstrative. However the conditioning factors for when the vowel appears in the Ergative are not yet known.

The quality of the ancestral lateral is uncertain — it appears to be alveolar in the modern languages ADN and KUY, but the KAU written form *-URLO* suggests a retroflex.

Table 6a: *Case-markers: Ergative, instrumental and locative*

	ERG	ERG ₂	INSTR	LOC	LOC ₂	LOC ₃
WIR	<i>-ngu</i> ¹⁴		= ERG	<i>-nga</i>		<i>-da</i> ¹⁵
BNG	-NGA, -NGI, -NGU ¹⁶	-DLO ¹⁷	-NTA	-NGA -NGI, -NGU	-LA ¹⁸	-NTA (restricted)
KUY	<i>-ngku</i>	<i>-lu</i> ¹⁹	= ERG	<i>-ngka</i>	<i>-la</i> ²⁰	<i>-nta</i> ²¹
ADN	<i>-nga</i>	<i>-lu</i> ¹⁹		<i>-nga</i>		
NUK				<i>-nga</i>		
NGD						<i>-nta</i> (?)
KAU	-NGKU	-(D)LO ~ -VLO	= ERG	-NGGA (2 syll)	-ILLA (3 sylls)	
NAR					-LA (?)	
PTY	*-ngku	*-Lu	(pcTY *-NTu)	*-ngka	*-La	(pcTY *-NTa)

Table 6b: *Case-markers: Other cases*

	DAT	GEN	PURP	ALL	DIR. ALL	ABL	EL
WIR	<i>-ku</i>	= DAT	= DAT	= DAT		<i>-ngurni</i>	<i>-birna</i>
BNG	-RU	= DAT	= DAT	= DAT	-TARRI	-NGUNNE	-BIDNI
KUY	<i>-ru</i>	= DAT, <i>-runha</i>	= DAT, <i>-pudnu</i> ²²	= DAT, <i>-ri</i> ²³		<i>-ngurni</i>	<i>-pidna</i>
ADN	<i>-ru</i>	= DAT	= DAT	= DAT	<i>-thari</i>	<i>-ngurni</i>	<i>-vidna, -virdna</i>
NAR				<i>-nu</i>			
KAU	-RNI, -NNI	-(U)NNA, -KO	-ITYA	-ANNA, -RNI, -NNI pcTY *-Ni (endpoint)	-(T)ARRA pcTY *-tharV	-UNUNGKO -ANANGKO -ITYA	-BINNA pcTY *-pirna

¹⁴ Also one example of *-du* after final *n*.

¹⁵ Example of *-da* with noun after final *n*.

¹⁶ The form is determined by assimilation to the final vowel of the stem.

¹⁷ After 3rd sg. pronoun stem *pa-*.

¹⁸ On a few locationals.

¹⁹ Proper nouns, some pronouns.

²⁰ Proper nouns and pronouns.

²¹ Allative/locative with persons.

²² Some pronominals.

²³ In some locationals.

4.1.2 General comments on allomorphy

We consider Ergative and Locative together, because the allomorphy for the two is clearly connected. We reconstruct the forms in (15) with marginal evidence of **(N)Ta ~ *- (N)Tu* allomorphy.

(15)	pTY	Ergative	*-ngku ~	*-Lu
		Locative	*-ngka ~	*-La

The allomorphy was probably conditioned by syllable count, changing to a semantic distinction based on proper names, as Hale (1976a) suggests. Barngarla and Adnyamathanha have both collapsed the Locative/Ergative form distinction, but by different means: Barngarla has developed vowel assimilation in several suffixes including the Locative/Ergative, while Adnyamathanha has reduced both to the Locative *-nga* form. Wirangu, Barngarla and Adnyamathanha have *ng*-initial Locative/Ergatives, whereas Kuyani has *ngk*-initial Locative/Ergatives.

4.1.3 Evidence: distribution in the subgroup

Both sets of both allomorphs are found in a northern language (Kuyani) and a southern language (Kurna). In Kuyani the *L* forms for both Ergative and Locative are conditioned semantically — by proper names and pronouns. Kurna shows *-(V)Lu* for all Ergatives, and shows *-ngka~iLa* for Locatives, the *L* Locative form being conditioned by three or more syllables and the *-ngka* Locative form by two syllables. The initial vowels of the Kurna endings probably represent reanalysis of a demonstrative, perhaps **yi-La*, **yi-Lu*, following a noun. If case were only represented on the final element of a noun phrase, and if demonstratives occurred finally in noun phrases, this would be a plausible reanalysis. If this scenario is correct, then Kurna like Kuyani shows some evidence for the allomorphy being determined by semantic class of nominal.

Traces of both sets are found in Barngarla and Adnyamathanha: both have *-nga* for both Ergative and Locative, but Adnyamathanha has a *-lu* Ergative allomorph for some proper names and pronouns, and Barngarla has a *-Lu* Ergative allomorph on the third person pronoun *pa*.

The data on Narangga, Nukunu and Ngadjuri are scanty. Nukunu shows *-NGA* for the Locative. One Narangga form *-LA* may reflect Locative or Ergative.²⁴ One Ngadjuri form *-NGA* may denote Locative/Allative on a disyllabic

²⁴ This form is found in the “song of the Peach Tree” sung by the Narangga speaker Louisa Eglinton (Tindale 1936:58), who described it as being “from the north country”, but whether this refers to the northern Narangga, the Nantuwara mentioned in the same paragraph, or people still further north (Nukunu say). Tindale transcribes the song as follows:

word: DENDU YUNDUNGA is glossed as “in sun/on ground” (Berndt 1987). We have no placename evidence for Locatives in Narangga, but Ngadjuri placenames like Eudunda and Tanunda may contain a Locative ending *-nda*, comparable to the many Kaurna placenames in final *-NGGA* or *-LLA*.

Words for “yesterday” and “tomorrow” in the Thura-Yura languages tend to have an ending *iLu* or *uLu*, which may reflect an old Ergative or Ergative-inflected demonstrative, e.g. (16).

- (16) “yesterday”: NAR BUCCILOO (Kühn), NUK BOKILOU (Valentine), KAU BUKKILYELO (cf. KAU BUKKI “a long time ago”) “tomorrow”: WIR *maldhulu* (cf. WIR *maldhi* “night”), BNG MALTURLO (cf. BNG MALTI “night”), NUK TOKILOU (Valentine), KAU TARKARI, TARKARLYELO; PANINGGOLO (cf. KAU PANYIWORTA “morning”); KAU TINDOURLO (TINDO “sun”)

There is marginal evidence for an old Ergative in **NT* in some pronoun forms, given in (17). The Barngarla form probably represents an original reduced by nasal stop cluster reduction and reanalysed as the base for adding the regular Ergative, just as BNG NGANKURU “whose” probably represents the old possessive pronoun with the regular Possessive added.

- (17) pcTY **ngaNTu*: KAU NGANDO “who, agent”, NGANNA “who, what”; BNG NGANNUNGE “who, agent”, NGANNA “who, what”

There is also evidence for an old Locative/Causative, seen in pcTY **ya-NTa*, in the Barngarla instrumental *-NTa*, perhaps also KUY *-nta* “allative marker on persons”, and also in:

- (18) BNG WANA, WANANDA “where?”, MAI WANANDA “where is food”
BNG YATTA “now”, YATTANDA “just now”

'PARABARA	'WANARNI	'TJINDU	'KALALA	KAMBARNI
wild peaches	“come”	sun	light	burn
'JARUGAREITJA		MADEITYA	'TJINDU	'KALALA KAMBARNI
go round and gather them	sun	light	burn.	

“Wild peaches hanging in the trees, the sun will burn you (to the colour of fire) we will gather you for food.”

KALALA as implied by the translation is probably a case-form of *ka(rd)la* “fire”, “fiery heat”. It could be an ergative as Kaurna KAMBANDI is a transitive verb and the logical translation would be: “let the fiery heat of the sun cook (i.e. ripen) you”. Or it could be a locative “it will burn in the heat”.

KAU NGU “that, yon”, NGUNTA “there”
 KAU PA “he, she, it”, PANTA “thither, nearer than NGUNTA”

Thus evidence for three sets of allomorphs is found in the core TY languages, and can be reconstructed. We tentatively reconstruct the *ng-* and *L-* forms for pTY as well, since while Wirangu, like its neighbour Barngarla, has mostly *ng* allomorphs, the *-L* allomorph is found in an isolated pronominal form *nganhala* (1st per. sg. loc) and in some adverbs, such as WIR *yurulu* (meaning not quite certain), BNG YURULLU “later”.

4.1.4 Distribution among neighbours

There is no evidence for this allomorphy in the southern and eastern neighbours of TY languages, Ngarrindjeri and Ngaiawang. There is evidence for this allomorphy in the Western Desert languages which are western neighbours of TY languages: Pitjantjatjara shows a similar distribution of the *-Lu* and *-La* allomorphs on proper names and some pronouns, but does not show the syllabic allomorphy of Kurna.

4.1.5 Conclusion

Since both sets, the *-ng(k)* and *-L* allomorphs are found in their fullest form in languages located at the extreme north (Kuyani) and extreme south (Kurna) of the group, and since traces of them are found in languages in between, it is likely that they were found in proto-Thura-Yura. They can be described as a shared inheritance from the ancestor of the subgroup. The distinction between Locative and Ergative is kept at the extreme north (Kuyani) and extreme south (Kurna), but is neutralised to *-nga* in Barngarla and Adnyamathanha. The *ngk/l* alternation is kept most clearly in Kuyani where the same semantic conditioning is used for both Locative and Ergative. The *ngk/l* alternation is kept in Kurna but only for Locatives.

Proto-PN had as allomorphs of the Ergative **-lu*, **-ngku*, **-Tu* (stop homorganic with preceding sonorant consonant) and perhaps **-thu* (see Dixon 1980, Sands 1996). Allomorphs of the Locative are similar, with the vowel *a* in place of *u*.

Both **-lu* and **-ngku* occurred after vowels. The exact distribution is not certain. In the various PN languages reflexes of **-lu* occur especially after pronominal stems such as *pa-*, after personal names; after noun stems of three or more syllables. The favoured environment for **-ngku* is after disyllabic common noun stems.

There is a good chance that the Thura-Yura languages inherited the pPN situation with respect to vowel-final stems. Of consonant-final stems there may only be traces of *n*-final stems, whose inherited Ergative would have been **-tu*.

While the conditioning of the **-Lu* and **-La* allomorphs according to proper name/pronoun could have diffused from Western Desert, there is no synchronic evidence for diffusion of either proper name/pronoun allomorphy or syllable-based allomorphy into Kurna. Thus pTY must have had the distinction, which would have been based at least in part on semantic distinctions among nominal types. Whether it also involved syllable-counting, as in some other Pama-Nyungan languages (Warlpiri and Warumungu) and in Sands' reconstruction, awaits a proper account of the Kurna forms.

4.2 *Oblique/Dative*

Obliques and Possessives show a range of forms in these languages. There are traces of earlier forms of Oblique and Possessive endings in pronouns and other special forms, which seem to be shared widely.

4.2.1 *-ru*

The northern TY languages share an Oblique/Possessive case ending *-ru* not found in the southern TY languages. The origin of this suffix is not clear, and it cannot be reconstructed for pcTY.

4.2.2 *-itya*

In Kurna a different augment is used, the Purposive *-ITYA*, which may have been borrowed from the Yarli subgroup (cf. Hercus and Austin this volume). One Narangga example may contain the same suffix: Kühn KABI**THCHA**, BADWAICH “thirsty” probably consists of KAPI “water” + **TYA**, cf. KAU KAUI**TYA** “water-purposive” (Teichelmann 1857: entry KUNDO). This purposive is not found in other TY languages, except perhaps as an augment in forms such as Kuyani *pardnityarunha*, “belonging to this one we have been talking about”.

4.2.3 *-Ni*

The best candidate for a common oblique is found in a widespread word meaning “hither”, based on the demonstrative pTY **pa*.

- (19) pTY **paNi* “hither”: WIR *banhi-wa*, *banyi-wa* (*banyini* “up to right now”), BNG PARDNI, NUK *patnhi*, NAR PARNI (Black), KAU PARNI

This suggests an ending *-Ni* for “endpoint”. While the alternation between laminal and apical realisations in the daughter languages does not inspire confidence in this reconstruction, such an alternation does exist synchronically in Adnayamathanha in the durative ending ending on verbs, *-ta*, *-tha*. No conditioning has been found (Schebeck 1974:25). A form *-NNI* is used for a limited range of Dative arguments in Kurna.²⁵ In Barngarla there are occasional instances of a form *-NNI*, *-DNI* on pronouns, demonstratives, and nouns denoting humans, apparently with a Genitive/Dative meaning, and sometimes contrasting with the *-RU* form: *NURALLI-DNI* “of, or from you”, *NURALLU-RU* “of you, your”. They act as an augment, to which local case suffixes are attached: e.g. *NUNKU* “thy”, *NUNKU-RNI* “of thee”, *NUNKU-RNI-RU* “towards thee”, and sometimes there is alternation: *PARNÜNTYU-RU*, ~ *PARNÜNTYU-DNI* “his/hers/its”.

On the basis of the pTY **paNi*, the Kurna and Barngarla forms, we can hypothesise pcTY **-Ni* Oblique/Dative “endpoint”.

4.2.4 *-ku*

The widespread Australian form *-ku* is found in several TY languages. In Wirangu it is the main Dative and Oblique suffix. In the core TY languages it occurs occasionally on pronouns, most obviously in Kurna where it is found as a suffix attaching to otherwise Genitive pronouns, and as the Genitive on non-singular pronouns and nouns. This is unlikely to have been borrowed into Kurna from its eastern neighbours recently, since Ngaiawang has *-AK* for Dative, not possessive. Other traces of *-ku* in TY languages include: *NAR BARNUGU* (Black), probably a plural Possessive; *BNG YARDNA: YARDNA-KU-RRU* (third pl pronoun Possessive); and *KUY nhinhaku* (apparently a Dative or an emphatic adversative). There is not sufficient evidence to justify positing an ancestral **-ku* with certainty. However, we think it likely that the wide range of functions for *-ru* in the northern TY languages (Purposive, Possessive, Allative and Dative) is probably a later development, perhaps from an areal trend to build complex pronouns reanalysing old case suffixes as stem augments.

4.3 *Directional allative: pcTY *-tharV*

The evidence is given in (20).

- (20) BNG *-TARRI* “in the direction of”
 ADN *-thadi* “direction towards” (Schebeck 1974:7, standardised to Schebeck’s later spelling of the alveolar tapped *r* as ‘d’)

²⁵ But compare Ngaiawang *-NU*, *-NI* for Dative. Ramindjeri forms differ: *-ALDE*, *-AMBE*.

KAU-(T)ARRA “along, alongside of, in the direction of”

A similar type of form, with elision of *-th-* appears to be represented by BNG WILTYA-PARRARI “tomorrow” (from WILTYA “a time root”), and if so, then WIR *budyari* “going further, after that” (from *budya* “then”) may be related. The suffix *-tharV* seems to be a joint innovation of the TY languages.

4.4 Ablative: **-ngurni*

The Ablative *-ngurni* “out of” is found in Wirangu, Barngarla (as -NGUNNE) Kuyani and Adnyamathanha. It occurs in Kukata, perhaps having been borrowed from Barngarla and Wirangu. It is not attested in the southern TY languages and so cannot be reconstructed. (Kurna has a different suffix).

There is however no doubt that *-ngurni* must go back via pTY to pPN: there is a well attested ablative marker *-ngu*, which is usually supplemented by another syllable (Blake 1988:27), and there is actually a parallel form *-ngurni* in Walmajarri (Richards and Hudson 1990:376).

4.5 Elative: *pTY *-pirna*

The evidence for the reconstruction is given in (21).

- (21) WIR: *-birna* “coming from”, as in *burgu-birna* “coming out of the mist”,
 “wild killers”, *gadha-birna* “coming from some other place”
 BNG -(B)IDNI “coming from”, WILTYARIDNI “from yesterday”
 KUY *-pidna*, as in *wanha-pidna* “where from?”
 ADN *-vidna*, *-virdna*, “afterwards, because of”
 KAU *-BINNA* expresses a strong inclination or desire of what the word to
 which it is affixed denotes: NGANGKIBINNA “fond of females” (NGANGKI
 “woman”), MARNGUBINNA “envious” (MARNGU “envy”).

While we have no explanation for the Barngarla final /i/, we note a similar problem with BNG NAMMINNI, ADN *nhaminha* “how many”, as well as with the birth order names for men in Appendix 8.2.

There is nothing similar to this suffix in any of the other language subgroups in the area. It is the directional allative and elative that most clearly characterise the Thura-Yura subgroup as regards nominal declension.

5. Pronouns

Barngarla, Adnyamathanha and Kuyani had a complex system of kinship pronouns: there are ten different types of forms of the dual and plural pronoun, and there are remnants of the system in Wirangu. The form used depends on the relationship between each other of the people designated by the pronoun, as well as, in the second and third person, their relationship to the speaker. The particular forms quoted here have been chosen as they are the ones of widest currency and they happen to be the ones listed in the standard works. Thus BNG, KUY, ADN *ngadli* can mean “we two, husband and wife” and more widely “we two of the same or alternate generation level and opposite moieties”. The use of kinship pronouns is patently a diffusional feature: it has its maximum complexity in the northern Thura-Yura languages, and is found in a simpler form in those Karnic languages which are adjacent, and in Lower Arrernte (Schebeck, Hercus and White, 1973).

Table 7a: Pronouns (first and second person singular)

	1 sg ERG	1sg ABS	1sg GEN	2 sg ERG	2 sg ABS	2sg GEN
WIR	<i>ngadhu</i>	<i>ngayi</i> ²⁶ <i>ngie nganha</i>	<i>ngadyu</i>	<i>yurni, nyurni</i>	<i>nyurni</i>	<i>nhunyuku,</i> <i>nyurniku</i>
BNG	NGATTO	NGAI	NGAITYE	NUNNO	NINNA	NUNKURNI, NURKURNI
KUY	<i>ngathu</i>	<i>ngayi,</i> <i>(nganha)</i>	<i>ngatyu</i>	<i>nhuntu,</i> <i>nhuntungku</i>	<i>nhina</i>	<i>nhungkuru</i>
ADN	<i>ngathu</i>	<i>ngayi</i>	<i>ngatyu</i>	<i>nhuntu</i>	<i>nhina</i>	<i>nhungku</i>
NAR	NGATTU	NGAI	NGAITJU	NINTU	NINI	NINGKU
KAU	NGATTO	NGAI	NGAITYO	NINDO	NINNA	NINKO
pTY				<i>*nhintu</i>	<i>*nhina, nhini</i>	<i>*nhingku</i>
pTY	<i>*ngathu</i>	<i>*ngayi</i>	<i>*ngatyu</i>			

Table 7b: Pronouns (third person singular)

	3 sg ERG	3sg ABS	3sg ACC	3sg GEN
WIR	<i>banhangu,</i> <i>balangu</i>	<i>banha, bala</i>	<i>banha, bala</i>	<i>banhigu, balagu</i>
BNG	PADLO	PANNA, -WO	PANNA	PARNÜNTYURU,~ PARNÜNTYUDNI PANNÜNTYARU
KUY	<i>palu</i>	<i>panha</i>	<i>panha</i>	<i>pardnitya- runha pard(n)- ityanha</i>
ADN	<i>valu</i>	<i>vanha, -wa</i>	<i>vanha, -wa</i>	<i>vanytyu-ru vardnundyaruru</i>
NAR	BARLU	BA	BA	BARNU
KAU	PADLO	PA	PA	PARNU, PARNUKO
pTY	<i>*pa-Lu</i>			<i>*pa-Nu</i>
pTY		<i>*pa(nha)</i>	<i>*pa(nha)</i>	

²⁶ *Ngayi* is now hardly used, but it is found in early records, as NGIE: see Provis in Taplin (1879:93-101) and Curr (1886-87:6-7). It was even then being replaced by *nganha* as shown by Richardson in the same publication: NGUNNA (Curr 1886-87:3-7).

Table 7c: Pronouns (non-singular)

	1 dual (nom) 1 plural	1 dual GEN 1 plural GEN	2 dual 2 plural	3 dual 3 plural	3nsg GEN
WIR	<i>ngali, ngalu(du) ngalurlu</i>	<i>ngaliku ngalurgu</i>	<i>nyubali, nyubili (dl and pl) nyura</i>	<i>bala-gudharadyana</i> ²⁷ , <i>banhara, baladhaga</i>	<i>baladhaga-gu</i>
BNG	NGADLI, NGARRINYELBU	NGADLURU NGARRINYE- LBURU	NUWALLA NURALLI	PURLANBI YARDNA	YARDNA-KU-RRU
KUY	<i>ngadli ngadlalpu</i>	<i>ngadliru ngalpularu</i>	<i>nhura (pl)</i>	<i>-pila</i> ²⁸ <i>thadna</i>	<i>thadna-runha</i>
ADN	<i>ngalpu, ngadli ngalpula</i>	<i>ngadliru</i>	<i>nhuwala nhura (pl)</i>	<i>-pila yatna (unengoo)</i>	<i>yatnaru</i>
NAR	NGADLU	NGALUGU			<i>barnugu</i>
KAU	NGADLI	NGADLIKO,	NIWA (dl)	PURLA	PARNAKO
	NGADLU	NGADLUKO	NAA (pl)	PARNA	
pcTY			<i>?*nhuwala ?*nhurra</i>	<i>*pula</i>	
pTY	<i>*ngali *ngalu</i>	<i>*ngali-ku *ngalu-ku</i>	<i>?*nhupalV</i>	<i>*thana</i>	

5.1 First person singular

The Thura-Yura languages show considerable internal consistency as regards these pronominal forms (see Table 7). The *ngayi* form is found throughout the TY languages; it is even attested for Ngadyuri, as *nejji*, “I”, “me”, and occurs as a nominative in the one likely Nao sentence:

- (22) NGAI MALPU MAKKA
 I murderer not
 “I am not a murderer.”

(Hercus and Simpson 2001:287)

The pPN accusative form **nganha* has survived in WIR *nganha*, and NUK *nganya*. Only uncertain examples of it are found in Kuyani as a grammatical form; it is mainly used as an exclamation resembling “oh my!” The use of *ngayi* and the genitive *ngatyu* is one of the more conspicuous features that unites the Thura-Yura languages.

The first person singular pronouns show no change in the nuclear forms from pPN, reconstructed as **ngathu*, **ngay*, **nganha* (Dixon 1980:342), apart from the extension of the first person Nominative to cover Accusative and also Dative arguments, as attested for all those languages for which we have extensive data.

²⁷ The form *dyana* survived in Wirangu until the 1960s, but as a polite form of the 2sg, not the 3pl.

²⁸ The dual marking suffix *-pila* is affixed to demonstrative pronouns in Adnyamathanha and Kuyani.

These *ngayi* forms set the TY languages apart from the adjacent language groups. The only exception to this is the appearance of *ngayi* as an accusative-dative in Southern Paakantyi, as opposed to the more northerly dialects. Whether the presence of *ngayi* in Southern Paakantyi is due to the influence of the neighbouring Thura-Yura languages remains uncertain.

Similarly the *ngatyu* forms of the Genitive set the Thura-Yura languages apart regionally. The contrast between *ngatyu* and the ergative *ngathu*, shown by the use of two different laminal consonants, is also found in Arandic. It is attributed by Koch (in press) to pPN.

5.2 *Second person singular*

There are differences in this pronoun between Kurna and also Wirangu as opposed to the other Thura-Yura languages.

Narangga and Wirangu differ in having a final NI and *rni* respectively. This could well be through retention of a pPN form that is known also from other subgroups in the area (Yarli and Karnic). In Wirangu moreover the vowel of the first syllable of this pronoun has been altered, probably under the influence of the plural. It seems that in very recent times, subsequent to the investigations of Black (1917), the second person pronoun in Wirangu has lost the ergative-absolutive distinction, probably under the influence of Kukata.

In the ergative form Barngarla, Adnyamathanha and Kuyani have changed the vowel *i* of pcTY **nhintu* to *u*: this is due to an existing phonotactic constraint in those languages against the sequence *i...u* (Section 3.2.3). pcTY **nhintu* is interesting, because of the posited pPN **nyuntu* (Koch 1997c). It could be a shared innovation in the core TY languages. Alternatively, it could provide evidence for a pPN form **nyintu* before the operation of an **i...u* constraint.

5.3 *Third person singular*

The PA- base for third person is found as a monosyllabic free word in Kurna and Narangga, as is the Genitive BARNU, PARNU, immediately derived from this base. It is found as a pronominal clitic: BNG -WO, ADN -wa. This has many correspondents in other languages, in particular languages of the Western Desert and the Pilbara — although the modern languages tend to avoid the monosyllabic *pa* in favour of disyllabic extended bases: *palu* (Kukata, Platt 1972; Yankunytjatjara, Goddard 1985), *pala* (Thalanyji, Dench 1994), *panha* (Payungu, Dench 1994).

The ergative *paLu* is found in Kurna, Narangga and in all the other languages of the subgroup except Wirangu. In the nominative and accusative however all except Kurna and Narangga have an extended form *pa-nha*. In Wirangu the whole declension of the pronoun is based on this extended form. There is however even in

Wirangu a locative form *ba-la* “there”, parallel to similar locatives ending in *-la*, e.g. *(w)indhala-la* “where”,²⁹ and this form *bala* clearly points to a simple base *ba/pa-*.

The evidence thus shows that a simple monosyllabic base *pa-* can be reconstructed for the whole Thura-Yura subgroup.

5.4 Non-singular forms

A first person plural form **ngalu* can be posited for proto-Thura-Yura, seeing that it has been retained by the languages at both ends of the chain, Wirangu to the north-west and Narangga and Kurna to the south-east. In the northernmost languages this has been lost in favour of composite forms with *-alpu*, *-alpula*, which may have indicated the dual originally.

In the genitive the forms with *-ku* have been retained only in the peripheral languages, Narangga, Kurna and Wirangu. In the other languages this suffix has been replaced by *-ru*, an innovation whose origin is uncertain.

The use of *ngalu* certainly singles out the Thura-Yura languages regionally. This form is however not unique in Pama-Nyungan; it is found as first person dual inclusive in two Karnic languages, Yandruwantha *ngalu*, and Wangkangurru *aruna* (with the loss of initial *ng-* and *l > r*).

Reconstruction of core Thura-Yura forms for the second person non-singular forms is difficult. Seeing that the pPN dual form is generally agreed to have been **nhu(m)pVIV* (Dixon 1980:344, Blake 1991a:221), the Northern Thura-Yura forms look like retentions. The Kurna form *niwa* shows the influence of the singular stem by the use of *-i-* and the loss of the final syllable. The Wirangu dual form may be influenced by Western Desert.

Reconstructing third person plural is also difficult. Kurna, Narangga and Wirangu use forms based on the third person singular. It is possible that the use of the stem of the singular form of the third person pronoun for the plural goes back to an early period. However, there are instances in Narangga of -TJA on imperative verbs with non-singular subjects, which may be cliticised polite uses of this pronoun comparable to the use in Wirangu of *dyana*. If this claim can be strengthened, then we can reconstruct pTY **thana*.

5.5 Special pronominal case form shared between Wirangu and Barngarla

Whereas nouns simply use the locative to imply “in company with”, Wirangu pronouns had a special comitative suffix *-dinga*, consisting of the locative *-nga*

²⁹ An extended pronoun base *pala-* in Wirangu resembles a similar form in Western Desert languages.

preceded by *-di*. This does not appear to be used any more, but it is found in the Bates manuscripts several times, as in NGANADINGA, i.e. *nganha-dinga** “with me”. This parallels the use of a **Ni* augment (Section 4.2.3) as a base for local cases in Barngarla; a suffix *-DNINGA* is attested numerous times (Schürmann 1844), e.g. NGADLIDNINGE, “with us two” (WIR *ngalidinga* “with us two”). Schürmann states (1844:6):

-dninge or *-rdninge* expresses the place or locality where a person or thing is to be found: it seems however only to be applicable to proper nouns and pronouns.

The meaning is distinctly comitative, as in Wirangu *-dinga*. This cannot be reconstructed for pTY, but it is one of a number of interesting close bonds between those neighbouring TY languages.

5.6 Conclusion

The use of the *ngayi* forms of the first person singular and the *ngalu* forms of the first person plural set apart the TY subgroup, and the reconstruction **nhintu* distinguishes the core TY languages. There are also some important retentions, notably the *ngatyu* form of the possessive in the first person singular and the monosyllabic *pa* of the third person singular. These are unique to TY in this region with nothing comparable anywhere in the vicinity.

6. Verbs

6.1 Verb endings and forms

Verb inflections are difficult to reconstruct, since TY languages appear to have developed complex verb morphologies, using bare stems for some tenses, as well as verb compounding and subsequent grammaticalisation into stem formatives and markers of aspect, associated motion as well as tense, mood and aspect. None of the languages appear to have conjugation classes, with the possible exception of a few irregular verbs in Wirangu, Kurna and Narungga. Some verb endings are shared only in Kuyani, Adnyamathanha and Barngarla and to some extent found also in Wirangu, but not in Kurna. The relationship between Adnyamathanha and Kuyani is particularly close

6.1.1 Durative inflection

A durative /present ending pTY *(*n*)*tha* can be reconstructed for the core TY languages. The forms are illustrated in Table 8.

Table 8: *Durative and present endings*

	“sit”	“talk”
BNG	<i>ika-tha</i> (O’Grady)	<i>wangka-tha</i> ³⁰ (O’Grady)
KUY	<i>thika-nta</i>	<i>wangka-ta</i>
ADN	<i>ika-nta</i>	<i>wangka-tha</i> ³¹ <i>wangka-ta</i>
NUK	<i>thika-tya</i>	<i>wangka-tya</i>
NAR	TIKADJA (Black).	WANGGADJA (Black).
KAU	TIKKANDI, TIKKÁN (Wyatt)	WANGGA:NDI, WANGÁN (Wyatt)
pcTY	<i>*(n)tha</i>	

The variable absence of the nasal can be attributed to dissimilation following nasal stop clusters in the root in Kuyani and Adnyamathanha, and a similar alternation for present tense *-(rn)da* is found in the neighbouring Arabana-Wangkangurru (Hercus 1994:157). pcTY **(n)tha* cannot confidently be extended to pTY. While Wirangu durative/present *-rn*, may be related to Kurna -N, we must note that the Kurna form may equally relate to its neighbour Ramindjeri’s present tense -IN and -UN (Meyer 1843).

6.1.2 Valence-changing affixes

A causative/applicative form *-(ng(k))u* is shared by the northern TY languages and Wirangu. No reflex has been found in Kurna, but there is one possible reflex in Narangga, on a noun. We tentatively reconstruct pTY **-ngku-*.

- (23) WIR stem vowel *-u-* causative: *yugarn* “stand”, *yugurn* “stand up a post or other object”

BNG -NGU- causative/ applicative: YURRITI “hear”, YURRINGUTU “understand”, YUWATA “stand”, YUWANGUTU “make stand”

KUY *-ngku-* benefactive: *palpani-* “become clean”, *palpaningku-* “clean up (for someone else)”

ADN *-ngu-*, *-ngku-*, *-ngungka-i-*: *yua-* “stand”, *yuangu/a-* “make stand”

NAR YOORINGOOROO (Kühn) “hear” (from “ear”)

A system of two intransitive markers with similar conditioning can be reconstructed for the core TY languages. Core TY languages have pcTY **-ni-* attaching to nominal roots, for making intransitive verbs often with an inchoative meaning. Core TY languages have a rhotic (tap or trill in those languages with reliable orthographies) followed by *-i-* attaching to verbs for valence decreasing

³⁰ Barngarla has vowel harmony; e.g. WITTI-TI “shoot-PRES”, MANKU-TU “get-PRES”.

³¹ The stop/nasal-stop allomorphy in Kuyani and Adnyamathanha is determined by the presence of a nasal stop cluster stem medially.

functions. Adnamathanha shows the maximal contrast. Since Wirangu uses *-ri-* for all the uses, we tentatively reconstruct pTY**-rri-* attaching to verb roots. The evidence is summarised in Table 9.

Table 9: *Intransitive verb affixes*

	Attaches to noun roots		Attaches to verb roots		
	denominal intransitive verb	denominal intransitive verb	reflexive	reciprocal	valence decreasing
WIR	<i>-ri-</i>	NONE	<i>-ri-</i>	<i>-ri-</i>	<i>-ri-</i>
BNG	<i>-RI-</i>	<i>-NI-</i>	<i>-NGARRI-</i>	<i>-RI-, -NGURRI-, -NGARRI-</i>	<i>-RI-, -NNI-</i>
KUY	<i>-rri-</i>	<i>-ni-</i>	<i>-(k)apmarri-</i>	<i>-ngku, -ngkurri-</i>	<i>-rri-</i>
ADN	<i>-r(I)- ~ -i-</i> [limited]	<i>-ni-</i>	<i>-ngkadi-</i>	<i>-nguri-</i>	<i>-di- ~ -i-</i>
NAR		<i>-NI- (2 ex)</i>			
KAU	<i>-RI-</i>	<i>-NI-RNI-</i>	<i>-RI-</i>	<i>-RI- -NUNGKURRE-</i>	<i>-RI-</i>
		pTY * <i>-ni-</i>		pTY * <i>-rri-</i>	

Examples include:

- (24) WIR *mingga* “sick”, *minggarrirn* “be sick, become sick”
 BNG *MINGKA* “sore, sick, ill”, *MINGKARNITI* “become sore, ill”
 ADN *mingka* “sore, wound”, *mingka-ni-* “be/become sore”
 KUY *muntya* “sick” *muntya-ni-* “be sick”
 KAU *MINGKA* “wound”, *MINGKARNENDI* “be/become wounded”

6.2 Reconstructed verb forms

Since verbs are generally thought to be conservative, we discuss these briefly. Further details of reconstructions are given in Appendix 8.2. At least six verbs which are reconstructible for the greater TY group appear, as far as we have checked, to be shared innovations:

- (25) pTY **karlta-* “call” (cf. Ngaiawang *KARLTUMONGKO* “cry, call”), pTY **ngura-* “hit with missile”, pTY **pama-* “come”, pTY **parlta-* “hit with hand” (cf. Ngaiawang *PARLDKUN*), pTY **thaa-pa-* “manipulate with mouth” (drink, kiss, suck), pTY **THiLka-* “see, know” (cf. Malyangapa, Yardliyawara *thilka-*).

Important for the proposal that Wirangu is a TY language are three verb forms shared between Kaurua and Wirangu, but not properly attested in intermediate languages.

- (26) WIR *winarn* “go”, KAU WENE-NDI (recorded in the extreme south of Kaurna country (Rapid Bay). Cf. ADN *witni*- “wander around”.
 WIR *ngunyirn* “laugh”, KAU NGUNYA “joy”, NGUNYENDI “laugh”
 WIR *winburn* “whistle”, KAU WINBIRRI “whistle”

The following verb form-meaning pairs which are reconstructible for the core TY languages appear to be shared innovations:

- (27) pTY **muLka*- “cry”, pTY **nhuu*- “poke with hand”, pTY **ngaTV*- “scream”,
 pTY **paNV*-, “go” (cf. Ngaiawang pa:a:n), pTY **puna*- “come, return”, pTY
**wapi*- “do”, pTY **thika*- “sit”, pTY **yuwa*- “stand” (cf. WIR *yugarn*, Mirniny
yuka, Nyungar *yuk* “stand” (cf. Walmajarri *yukarni* “lie”, Kayardild *yiiwija*
 “lie”).

7. Conclusion

The Thura-Yura languages are not uniform and lacking in internal distinctions, but their general cohesiveness can be seen throughout the topics we have examined in this paper. There are not only joint retentions that are not shared by any other languages in the area, but there are also joint innovations that distinguish them as a subgroup at the core level, and also at a level which includes Wirangu.

THE YARLI LANGUAGES

Luise Hercus and Peter Austin

Australian National University and SOAS

1. Introduction

The Malyangapa language, traditionally spoken in far north-western New South Wales, has been classified into various subgroups of Australian Aboriginal languages, including the Karnic languages of the Lake Eyre Basin. Using all the available data on this language we consider previous classifications and regard Malyangapa as part of a small subgroup of languages, the Yarli subgroup, once spoken in the far north-west corner of New South Wales and adjacent areas in South Australia and Queensland.

The words quoted from Malyangapa, Yardliyawara, Diyari and Paakantyi are from our own transcriptions. Words from other languages are spelt according to the relevant standard works, Adnyamathanha according to Schebeck (2000a), Wangkumara and Yandruwantha according to Breen (forthcoming and n.d.). The only changes that have been made are in the notation of the rhotics.

1.1 Languages

The three languages in the proposed Yarli subgroup are:

Malyangapa — recorded by Stephen Wurm in 1957 with Hannah Quayle, born near Yancannia in about 1875, and with George Dutton and Alf Barlow. Peter Austin has made a detailed study of these data (Austin 1986). Luise Hercus did some recording with George Dutton in the mid-1960s on Malyangapa; Jeremy Beckett had previously worked with him on social and cultural traditions. Luise Hercus also recorded Laurie Quayle, son of Hannah Quayle, checking some of the earlier materials. He passed away in 1976, and with his death the language became extinct.

Wadikali — known from a 72 word vocabulary in Tindale's 1934 Diamantina notebook, taken down from Ned Palpilina 'Blanche Ned', who was said to be the

¹ Notation of rhotics: *r* = alveolar tap, *rr* = alveolar trill, *R* = retroflex glide. Abbreviations used are: ACC, accusative; ALL, allative; CAUS, causal; ERG, ergative; FUT, future tense; IMPER, imperative; INCH, inchoative; LOC, locative; NOM, nominative; PAST, past tense; PRES, present tense; PURP, purposive.

last Wadikali. His country was Yandama Creek, but his mother had left there just before he was born and he had spent much of his life at Blanchwater in Pirlatapa country (Hercus 1987, Hercus and Koch 1996) There are descendants of Wadikali people, but the language has evidently not been spoken since the 1930s.

The name Wadikali might suggest that the language belongs to the Paakantyi subgroup as there are similarly formed names for Paakantyi people with a term *kali*, which is said to be an archaic word meaning “people”. Hence we have the names Wilyakali, Thangkakali, Bula-ali and Pantyikali “the Creek people” whose language was called Wanyiwalku. The use of the term *kali* is however by no means confined to Paakantyi: Malyangapa people called the Adnyamathanha, i.e. “the Stone People” of the Flinders Ranges, by the term *Yarnda-ali*, which is simply a translation and also means “the Stone People”. As the linguistic evidence in §4.1. below will show, Wadikali is not a Paakantyi language: it is clearly part of the closely-knit subgroup of Yarli languages.

Yardliyawara — based on limited material from two speakers, Barney Coffin, recorded by Bernhard Schebeck and Luise Hercus, and Fred Johnson, with whom Bernhard Schebeck did some recording of vocabulary and short sentences (Schebeck 1987). Bernhard Schebeck has very kindly made his data available to us. More work on the Coffin recordings is in progress.

Three vocabularies in Curr (1886-87) belong to the area:

1. No. 69 Evelyn Creek, by A. Dewhurst, Esq, Curr (1886-87 II:156):

Dewhurst and Crozier, as quoted (II:152), informed Curr that this area belonged to the ‘Pono’ people, but owing to the influx of other people there was “a great mixture of dialects”. Curr goes on to speculate that the “Pono Blacks belonged to the Cooper’s Creek (i.e. Wangkumara) rather than to the Darling Tribes”. This may well be so, as it seems likely that ‘Pono’ is a transcription of *purnu*, which in Wangkumara means “country”. The vocabulary written down by Dewhurst contains some admixture of Wangkumara but is mainly Malyangapa; e.g. “fire” is *wiyi* versus *kal:’a* in Wadikali, *kardla* in Yardliyawara; “beard” is *ngankuru* as opposed to *nganku* in Wadikali and Yardliyawara. There does, however, also seem to be some influence of Paakantyi; e.g. *yimba* for “you”, cf. Paakantyi (*ngimba*).

2. No. 69 Evelyn Creek, by H. Crozier, Esq, Curr (1886-87 II:154)

This is probably Wadikali with some admixture of Wangkumara and Pirlatapa.

3. No. 69a Near the North-west Corner of New South Wales, by A.W. Morton, Esq, Curr (1886-87 II:160)

This seems to be mainly Wadikali, though the introduction speaks of ‘Mulya napa’ people living in the area. All the available evidence, and especially that of Tindale, points to the extreme northwest of New South Wales being Wadikali country.

1.2 *Areas and locations*

Like many other language-owning groups, the people of this region were divided up into a number of local clans. In view of the general disruption and depopulation during the course of the nineteenth century, information on this has been lost. The area was particularly vulnerable on account of the discovery of gold in the Milparinka-Tibooburra area. Police and pastoralists sometimes refer to groups of people by names that are otherwise unknown, such as ‘Pono’ quoted above (§1.1.). It is possible that these references are to small local groups, which were displaced in the wake of the first European settlement. There is however rough general agreement among all the sources as to the area originally occupied by speakers of Yarli languages. The most important of these sources is Beckett’s published and unpublished work with George Dutton in 1957-58:

1. George Dutton spoke of Malyangapa people being at Salisbury, Cobham, Yantara Lakes, Mt Pool and Mt Arrowsmith. The name was written as ‘Milya-uppa’ by Reid in Curr II:180. Reid’s ‘Milya-uppa’ vocabulary, from Torrowotto is however not Malyangapa at all, but straight Paakantyi. This may well be due to the displacement of people, which resulted in there being a mixed population at Torrowotto, some Paakantyi, some Malyangapa. Wurm’s main consultant, Hannah Quayle, placed Malyangapa country very much as George Dutton had, as “Tibooburra, Salisbury Downs and Milparinka.”
2. George Dutton spoke of “Wadikali, like Malyangapa (i.e. it is close to Malyangapa), go from Mt Pool, Mt Sturt, Yandama, Tilcha from there to Lake Frome.”
3. Yardliyawara was spoken on the eastern side of the Flinders Ranges, and Adnyamathanha people referred to it as ‘Wooltana talk’ (Wooltana being the name of a station on the north-eastern side of the Flinders).

There has been some confusion regarding the location of Wadikali people from Tilcha to Lake Frome. This was caused by a statement in the work of R.H. Mathews (1898:242): “At Lake Boolka and Tilcha are the Endawarra and Berluppa people respectively.” Mathews was basing himself on information from correspondents, including letters from the police sergeant B. Hynes from Tibooburra in 1897-98. Hynes wrote 28.5.1898: “the Tilcha Blacks are called Berluppa”. In a later communication 18.8.1898, too late to be used by Mathews in his article, he wrote: “Tilcha is now only a back station of Yandama and I believe there are no blacks there at present.” Hynes was passing on information he had been given by R.B. Daws, the manager of Tilcha: he was talking about the state of affairs at that particular time, not about the ancestral homeland of particular groups of people. The homeland of particular groups is precisely what George Dutton was speaking about.

‘Berluppa’ or ‘Biraliba’ are variant spellings for the Pirlatapa, who were not linguistically associated with the Yarli group but were closely akin to Diyari (Austin 1990b). There may well have been a group of them visiting Tilcha. The Pirlatapa were the immediate neighbours of the Wadikali and the Yardliyawara, as indicated by George Dutton and confirmed by all the other available evidence. They were strongly associated with the Blanchwater area, as is clear from oral evidence from South Australia (Hercus and Koch 1996); and according to George Dutton (Beckett 1958) they were at “Callabonna, Quinyambie Station and through to Lake Elder, Congie Bore and Cooney Bore.”

The ‘Endawarra’, who are mentioned by Mathews as being at Lake Boolka, about 30 km south of Tilcha, were even further from their country: Endawarra is a spelling for Yandruwantha. We know from Tindale’s evidence (1934) that the Yandruwantha had joint initiation ceremonies with Wadikali people; so this too probably refers to a temporary situation. See Tindale’s 1940 map for further details.

There is a major change in Tindale’s maps between 1940 and 1974 for this area. Into what was on his earlier map Yardliyawara and Wadikali country, Tindale has inserted another group, Ngurunta. This name is known also from Curr 1886-87 (II:180): “The tribes which bound the Milya-uppa are the Ngurunta on the west, the Momba on the south....”

In connection with Ngurunta Tindale (1974:216) also mentions the anonymous and very fragmentary vocabulary in Curr 1886-87 (II:173) with the vague title ‘Country north-west of the Barrier Range’. There is however no indication that this brief vocabulary belongs to Ngurunta or any of the Yarli subgroup; every single word in it is Paakantyi and Curr himself mentions this: “The following words, contributed anonymously, some of which correspond with those of the Common (Paakantyi) vocabulary, show that the tribe which uses them is of Darling descent.”

None of the senior people in South Australia and on the NSW side in the 1960s ever mentioned the Ngurunta, and this includes Barney Coffin, who travelled frequently between the two states. Tindale’s information, however, does seem to be from a person interviewed by him in the 1960s, so memory of the group as an entity had survived in this limited way. The area in question, which is mainly inhospitable sandhill country, was generally regarded by these senior people in NSW as being part of Yardliyawara. See Tindale’s 1974 map for further details.

1.3 Culture

As regards social organisation the group is uniform in having a matrilineal moiety system. Yet, as elsewhere, belonging to the same linguistic subgroup does not necessarily imply social and cultural uniformity. All the three sets of people — Malyangapa, Wadikali and Yardliyawara — were circumcising and, along with

their westerly neighbours, they had a form of the Wilyaru secondary initiation ritual (see Beckett 1967). Nevertheless it seems that the three groups did not perform joint ceremonies but joined in with their respective neighbours. Wadikali and Malyangapa joined in with what was called ‘Milia’, a circumcision ceremony and myth shared with Wangkumara/Kungardutyi people and centred on Cobham Lake in Malyangapa country. Wadikali people also shared in Yandruwantha initiation ceremonies, according to the entry mentioned above by Tindale in his Diamantina notebook (1934). Yardliyawara people joined in ceremonies with the Adnyamathanha.

There are numerous myths and song cycles traversing the whole area. Some were shared by all, along with Paakantyi people, such as the story of the Two Snakes from the Paroo who travelled all the way to the Paralana Hot Springs in Yardliyawara country (Beckett 1958). The *Kurlimuku* song cycle was also shared widely, as Barney Coffin pointed out to us, “Four nations sings the same song. Malyangapa, Wadikali and Kungardutyi and Wanyiwalku, that is four nations.”

The people speaking Yarli languages clearly remained associated with one another, but each had cultural associations, involving intermarriage, with outside groups as well. In the case of the Malyangapa it was especially with the Paakantyi group Wanyiwalku/Pantiyikali; in the case of the Wadikali it was with the Karnic speaking Kungardutyi/Wangkumara and Pirlatapa; in the case of the of the Yardliyawara it was with the Pirlatapa and the Thura-Yura speaking Adnyamathanha.

1.4 Genetic unity versus diffusion

Yardliyawara and Malyangapa are so close to one another, and what we know of Wadikali is also so close, that Proto-Yarli is more or less self-evident. The differences between the languages are largely due to outside factors. There is evidence for linguistic characteristics cutting across this whole area and apparently arising from borrowing and diffusion. For example, Malyangapa and Wadikali show phonetic lengthening of single consonants at the beginning of the second syllable following the initial stressed syllable. This feature is shared with Paakantyi to the east, and with Karnic. In Yardliyawara laterals and sporadically also the nasal *n* have become prestopped in this position (thus compare Malyangapa *yarli* ‘person’ with *yardli* in Yardliyawara), a feature shared with neighbouring Karnic languages and Adnyamathanha.

Furthermore, the Yarli languages show bound pronouns for subject and object suffixed to the verb, a feature shared with both Paakantyi and Adnyamathanha. Bound pronouns are not found in Karnic.

Finally, there are lexical items which are distributed according to these regional diffusion patterns. Two examples from the vocabulary in Appendix 9 are quoted in Table 1 to show the intricacy of these diffusion patterns.

Table 1: *Lexical items showing regional diffusion patterns*

	kangaroo	kangaroo	bird	bird	bird
Adnyamathanha	<i>urdlu</i>		<i>yirta</i>		
other Thura-Yura	<i>kurdlu</i> PNK		<i>thirta</i> KUY		
Yardliyawara	<i>kurdlu</i>		<i>thirta</i>		
Wadikali	<i>'kol:o</i>	<i>talda</i> (Morton)		<i>ju:li</i>	
Malyangapa		<i>tharlta</i>		<i>yurli</i>	
Wangkumara		<i>thaldra</i>			<i>maranga</i>
Paakantyi		<i>tharlta</i>			
Paakantyi dialect	<i>kurlu</i> Wilyakali			<i>yurli</i> duck <i>Pantyikali</i>	

Adnyamathanha had the closest geographical and social ties with Yardliyawara: other Thura-Yura languages like Parnkalla and Kuyani were further away. It therefore appears that these words had spread to Yardliyawara from Adnyamathanha before the occurrence of lenition of initials in Adnyamathanha.

The first example also shows the spread of pre-stopping. The second example shows a word, *yurli* “bird”, which appears to have been a joint innovation of the Yarli languages. This appears to have been subsequently lost from Yardliyawara. Some examples of morphological diffusion are discussed in §5.2. There is also a possible layer of recent borrowings from Adnyamathanha into Yardliyawara in our data, since both the speakers who survived to be recorded were also speakers of Adnyamathanha.

2. History of classification

Over the past 84 years, that is from the time of Schmidt (1919a) on, the Yarli languages have been classified into a number of linguistic subgroups:

- 1. with the neighbouring Karnic languages, that is with Wangkumara to the north and Pirlatapa the north-west
- 2. with the Thura-Yura languages to the south-west
- 3. with the Paakantyi or Darling River subgroup to the east.

As indicated above, in many ways this area of western New South Wales and north-eastern South Australia is marked by cultural and linguistic diffusion and shows evidence of phonological and morphological features shared across genetic

subgroups. Despite this we are able to isolate characteristics of Malyangapa that it shares with those neighbouring languages with which we propose it forms a genetic subgroup, namely Wadikali and Yardliyawara. We call this the ‘Yarli subgroup’.

2.1 *Schmidt*

The first published classification of Yarli languages using lexical data was by Schmidt (1919a), who calls the language of the area ‘Evelyn Creek language’, basing himself on vocabularies by Dewhurst, Crozier and by Morton in Curr (1886-87 II). Unfortunately, Dewhurst’s vocabulary appears to be mixed, with some influence from Wangkumara and other Karnic languages. Schmidt had available to him only those Curr vocabularies and no morphological data; yet he was sufficiently impressed with the special features of ‘the Evelyn Creek language’ to make it a special subgroup of a big group which included the Karnic and the Thura-Yura languages. (See further the map in Schmidt 1919a.)

2.2 *Tindale*

Tindale thought of Malyangapa and ‘Wanjiwalku’, a Paakantyi language, as being ‘the same’. In discussing ‘Wanjiwalku’ (1974:200) he states: “both this group and the Maljangapa speak one language (Wanjiwalku)” — an idea that may well have stemmed from the fact that his main informant, George Dutton, was a fluent speaker of both these languages. Tindale did a lot of very intensive language work with George Dutton: he transcribed two long myths and compiled a special separate notebook on Wanyiwalku grammar. There are no linguistic data on Malyangapa in Tindale’s work, and it would seem that he had no means of comparing the two languages.

There is not much similarity between any Paakantyi language and Malyangapa, as will be shown in §4.2. below.

2.3 *O’Grady, Voegelin and Voegelin*

To the north and north-west the Yarli languages are bordered by Karnic languages: for general discussion of the Karnic subgroup see Austin (1990a), Bown (1998, 2001c). In O’Grady, Voegelin and Voegelin (1966:123) the ‘Yalyi subgroup’ consists of Karenggapa, Malyangapa and Wadikali, while Yardliyawara is placed in the Yura subgroup of south-west Pama-Nyungan.

The name Karenggapa requires some explanation. The first mention of the name Karenggapa is by J.A. Reid in Curr 1886-87 II:180: “The tribes which bound the Milya-uppa are ... those of the Paroo to the east and the Karengappa on the north.” Karenggapa is mentioned by Tindale both in his 1940 work and in 1974:193 as the name of people around Mt Bygrave and the southernmost part of

Bulloo Downs. It must have been a small local group, as none of the senior people recorded in the late 1950s and the 1960s had any recollection of the Karenggapa. This included elders who had memories reaching back to the last decades of the nineteenth century. The name Karenggapa has survived in the area only as the name of an old tank at the southern end of the Carryapundy Swamp. There is massive evidence from place names and statements in the mythology that the people originally living around Mt Bygrave and the southernmost part of Bulloo Downs, the area associated with the Karenggapa by Tindale, were speakers of a form of Wangkumara (Hercus 2001). The wordlist quoted by Tindale as belonging to the Karenggapa is by J.A. Reid from Torowotto Swamp, much further to the south, and is, as stated above, entirely in Paakantyi. There is thus no evidence whatsoever to associate a 'Karenggapa' language with the Yarli subgroup.

The 1966 map *Aboriginal Languages of Australia: a preliminary classification* by O'Grady, Wurm and Hale follows this same classification and has Wadikali, Malyangapa and Karenggapa forming a subgroup.

2.4 Wurm

Wurm (1972:133) has a 'Yalyi' subgroup of the Dieric group. This subgroup consists of 'Nadikali' (presumably Wadikali) and Malyangapa. Karenggapa is no longer mentioned, but 'Yadliyawara' is still in the Yura subgroup of the southwest or Nyungic Group.

Walsh and Wurm (1982) have a Yarli subgroup (Wadikali and Malyangapa) of the Karnic languages. Yardliyawara has been reclassified into the Karna/Diyari group.

2.5 Dixon

Dixon (2001: maps on pages 72, 76, 94 and 96) also classifies 'WAd' as part of Karnic. 'WAd' is described as consisting of 'Maljangapa, Yardliyawara and Wardikali', but on those maps it appears as if Yardliyawara were not included.

Bowern (1998 and 2001c:255) has already given excellent reasons why there does not seem to be any close link between the Yarli languages and Karnic. These and other reasons will be discussed in §4.3 below.

3. Lexical evidence for the subgroup

3.1 The lexical distinctiveness of Yarli

Lexical comparisons of Wadikali, Yardliyawara and Malyangapa are difficult, given the limited amount of data we have, particularly on Wadikali. Nevertheless, even a

cursory survey of the available materials shows that the three are lexically very close and not particularly closely related to the nearest Karnic language, Wangkumara. A comparative vocabulary illustrating this appears in Appendix 9, along with a commentary further substantiating the evidence.

Most of the similarities between the three languages represent innovations in the Yarli languages; some, however, are joint retentions. There are a number of lexemes that are shared by all three Yarli languages and by no other languages in the area. These include such basic words as: “be hungry”, “dog”, “go”, “good”, “little”, “moon”, “speak”, “stick (n)”. These all appear to be lexical innovations of the Yarli subgroup.

Secondly, there are lexemes shared by two Yarli languages and no others in the area, where the third Yarli language is simply undocumented or has that word replaced by a loan from a neighbouring language. Examples are the words for “euro”, “leg”, “uncle”, “see”, “no”. These also appear to be lexical innovations of the Yarli subgroup.

Some lexemes are only found in all three Yarli or only two Yarli languages plus a neighbouring language, where there was probably borrowing out of Yarli; e.g. “bite”, “ground”. These also appear to be lexical innovations of the Yarli subgroup.

There are also lexemes inherited from Proto-Pama-Nyungan (pPN) but not found in those particular forms in neighbouring languages. These include “eye” and “lie down”. Although these are by no means innovations, they differentiate the Yarli languages from their neighbours.

Some lexemes are found in the Yarli languages only, but they have regional cognates involving major differences in form and/or meaning; e.g. the words for “arm (upper)”, “bring”, “emu”. Thus *pardu* “bring” is cognate with a verb meaning “hold” in a number of Karnic languages, including Yandruwantha *pardra*. The Yarli word *kalarti* “emu” differs from but does have some resemblance to Paakantyi *kalthi* and Kurna *kari* “emu” and even Western Desert *karlaya* could be a distant cognate. These differences, however, are sufficiently significant to distinguish the Yarli words from those in neighbouring languages.

Finally, there are a number of basic items of vocabulary which are shared with neighbouring languages and which are inherited from proto or regional Pama-Nyungan; e.g. some body-parts, “to eat”, “give”, “food” and “possum”. Their presence in the Yarli languages shows resemblance to neighbouring subgroups, but not adherence to one or the other, because all those subgroups have them.

3.2 *Lexical differences from Karnic*

To the north and north-west the Yarli languages are bordered by Karnic languages: for general discussion of these see Austin (1990a), Bownern (1998 and 2001c). In the vocabulary listed in Appendix 9 we have mainly considered Wangkumara, as being geographically and socially the nearest Karnic language. Bownern shows that the Yarli languages do not form part of Karnic. One of her arguments is based on the lexical comparison of all the Karnic languages. She gives (2001c:250) the following lexical cognate percentages, given here as Table 2, for Malyangapa in relation to a widespread number of members of the Karnic group. These numbers are sufficiently low to go towards proving her point.

Table 2: *Lexicostatistical percentages between Malyangapa and Karnic languages*

Language	Percentage
Pitta-Pitta	16
Arabana-Wangkangurru	29
Mithaka	30
Yaluyandi	21
Ngamini	21
Diyari	33
Yandruwantha	22
Wangkumara	35

4. Morphological evidence for the subgroup

4.1 *Internal comparisons*

4.1.1 *Wadikali*

Morphological comparisons within the Yarli subgroup are difficult because of the limited data from Wadikali. Tindale's materials do, however, include a couple of entries that show parallels to Yardliyawara and Malyangapa structures.

- (1) The entry "flat ground" has *wankanga* 'pakaita which is almost certainly:
wanka-nga *paka-yitha*
 meat-LOC go-PURP
 "to go for meat"
- (2) The entry "breast" has '*min:ami'teita* which could represent
minha mitya-yitha
 what suck-PURP
 "something for sucking"

- (3) The entry “salt lake” has the words *pak:uta pakanu* crossed out but this almost certainly represents:

paku-tha paka-nu
lake-ALL go-PURP
“to go to the lake”

All of the bound morphemes in these phrases, *-yitha* “purposive”, *-nu* “purposive”, *-nga* “locative” and *-tha* “dative, allative” have identical parallel forms in Yardliyawara and Malyangapa. There can be no doubt that we are dealing with a single group of languages here.

4.1.2 *Yardliyawara and Malyangapa*

The recordings of Yardliyawara so far studied show no appreciable morphological differences from Malyangapa. There are only minor divergences, and two examples of these are given here.

The first example is that of special time-marking. There is no sign in Yardliyawara of the special time-marking verbal suffixes for morning and evening: this seems to be confined to Malyangapa. Those morning and evening forms were not used by the Yardliyawara speaker, and even one Malyangapa speaker was heard to use a noun “in the morning” instead of expressing time as part of the verb *wanirithu miRinga* “I leave (you people) in the morning”. It seems highly likely that this specialised paradigm for time was used only in Malyangapa and probably in Wadikali, but we have no means of knowing for certain about Wadikali. One thing is clear: it was not a genetic but a regional diffusional feature. The actual forms used were not diffused, but the grammatical category was. We can deduce this from very important but as yet unpublished material by Breen from Yandruwantha (Breen forthcoming:§1.11). In this language there are verbal affixes referring to the time of day, including *-thalkana* meaning “early in the morning”, based on *thalka* “upward”, and *-yukara* meaning “at night”, based on a verb “lie down”. The Nhirrpi dialect of Yandruwantha, recorded by Wurm and studied by Bowern (1999b:§4.4.2) shows those same features. It is from the Nappa Merrie area, very close geographically to Wangkumara. Similarly Wangkumara has a suffix *-pa* which refers to action in the morning or action upward, and a suffix *-waga*, which refers to action at night and is based on a verb meaning “sleep” (Breen n.d.).

The corresponding Malyangapa suffixes were formed from the actual word for “morning”, while the origin of the “night” suffix is not so clear. Special suffixes for action in the morning and evening have not been recorded for Karnic languages other than Yandruwantha and Wangkumara; so it looks like a purely regional

phenomenon. It probably originated in Yandruwantha because this language has the most developed system of this kind. It has special forms, apart from those already quoted, for “in the morning (not quite so early)”, “during the day”, “within the last hour or two” and so forth. The diffusion of this feature into Malyangapa and possibly Wadikali but not Yardliyawara clearly does not impinge on the Yarli languages being regarded as a unity.

The second example concerns a verbal form not shared between the three Yarli languages. There seems to be in Yardliyawara a past causal participle *-utu*, which does not appear in the Malyangapa data, as for instance in the Yardliyawara sentence in (4).

- (4) *Wanka iniki-nha wanyu-r-utu, pulkata!*
 meat that-NOM bad-INCH-CAUS throw away IMPER
 “Throw that meat away because it’s gone bad.” (Barney Coffin)

4.2 Grammatical differences from Paakantyi

There are very good reasons for recognising that, while there are some cognates and some lexical borrowings from Paakantyi, such as *kumpaka* “woman, wife”, *yartu* “wind” *wanka* “meat”, the grammatical systems of the two language groups are quite distinct. This is evident from the pronouns, both free and bound, as shown in Table 3. The Malyangapa singular forms are given here, with any divergences in Yardliyawara being noted.

Table 3: *Malyangapa and Paakantyi pronouns*

	Malyangapa		Paakantyi	
1sg ERG	<i>ngathu</i>	<i>-thu</i>	<i>ngathu</i>	<i>-thu</i>
1sg NOM	<i>nganyi</i>	<i>-nyi</i>	<i>ngapa</i>	<i>-apa</i>
1sg ACC	<i>nganyinha</i>	<i>-nyi</i> (Yard. also <i>-ayi</i>)	<i>ngayi, nganha</i>	<i>-ayi, -anha</i>
2sg ERG	<i>yintu</i>	<i>-ntu</i>	<i>ngintu</i>	<i>-ntu</i>
2sg NOM	<i>yini</i>	<i>-ni</i>	<i>ngimpa</i>	<i>-mpa</i>
2sg ACC	<i>yininha</i>	<i>-ni</i>	<i>nguma</i>	<i>-uma</i>

Note that the only shared pronouns are 1sg ERG *ngathu* (and in the dual the first person *ngali*); but these are also well known outside these languages and descend from a more distant ancestor. The suffix *-ayi*, an optional form in Yardliyawara, heard from Barney Coffin, was probably due to Adnyamathanha influence. In the Yarli languages the singular bound pronouns follow an ‘ergative-absolutive pattern’ (syncretising NOM and ACC) while in Paakantyi the pronouns have three distinct forms. In both languages in the dual and plural the systems are ‘nominative-accusative’ (syncretising the ERG and NOM).

Verb morphology shows a range of differences also. Both language subgroups have a single verb conjugation and a general verb structure of Root+Tense+NOM pronoun for intransitive sentences and Root+Tense+ERG pronoun+ACC pronoun for transitive sentences

The forms and meanings of their inflectional categories are rather different, however. This is shown particularly in tense marking as indicated in Table 4.

Table 4: *Malyangapa and Paakantyi tense marking*

	Malyangapa	Paakantyi
past	-nganta-	-ty-
yesterday past	-la-	
last night past	-ngantinta- (absent from Yard)	
this morning past	-miRinganta- (absent from Yard)	
present	-rnta-	-ø-
future	-yi-	-t-
evening future	-ngantiyi-	
morning future	-miRiyi-	
imperative	-ø-	-ø-

4.3 Grammatical differences from Karnic

4.3.1 General

Bowern (1998:30) has listed some of the main morphological features that distinguish the Yarli languages from Karnic. The Yarli languages do not share the change of the locative case to the dative, a change that occurs in all Karnic languages but Arabana-Wangkangurru. Furthermore, the ablative in the Yarli languages is not based on the ergative. The link between the ergative and ablative is a trait shared by all Karnic languages. Also, in the Yarli languages there are different demonstrative forms from Karnic and there are no deictic increments. Finally, unlike the more easterly of the Karnic languages, those of the Yarli subgroup show no sign of gender marking in nouns or pronouns. Table 5 lists some nominal/pronominal features.

Table 5: *Comparison of Yarli languages and Proto Karnic*

	Yarli	Proto-Karnic
Nominal Ergative	-ngu	*-ngu/-lu
Nominal Dative	-tha	*-ku
Pronominal Dative	-tha	
Locative	-nga	*-la/ *-nga
Ablative	-tyali	*-ngu
3sg pronoun	nhu-	*nhan (fem), *nhu (masc)

Those forms that are shared between the Yarli languages and Proto-Karnic, namely the locative -nga, the ergative -ngu and the 3rd singular pronoun base nhu-

are by no means an indication of a close relationship between the Yarli languages and Karnic: they are much more widespread and go back to pPN.

Those forms in Table 5 that are very different from Proto-Karnic, however, are significant features for the recognition of the Yarli languages as a subgroup.

The ablative *-tyali* as such is an innovation of the Yarli languages and there seems to be nothing similar in any of the language subgroups in the vicinity, Karnic, Thura-Yura or Paakantyi. From a historic perspective the first syllable of the suffix *-tyali* goes back to pPN as an ablative and “having” marker.

4.3.2 The suffix *-tha*

The dative/allative *-tha* is bi-valent: it is also a verbal suffix in the extended form *-yitha* (*-yi* FUT + *tha*), as in the form *pakayitha* “in order to go” quoted above from Wadikali. Neither as a purposive nor as a dative-allative suffix can *-tha* be reconstructed for Proto-Karnic or for Proto-Thura-Yura.

There is a nominal suffix *-tha* in one distant Karnic language, namely Wangka-yutyuru, once spoken in parts of the eastern Simpson Desert and along the Mulligan Channel. It is used there as a genitive-possessive, and may well go back to the same pPN ablative and “having” marker *-tya* that was noted above for *-tyali*.

There is however a suffix *-tya* ~ *-itya*, which cannot be reconstructed for Proto-Thura-Yura, but is well attested in just one Thura-Yura language, Kaurna from the Adelaide plains (Jane Simpson pers. comm. on evidence from Teichelmann and Schürmann 1840). *-itya* has the following main functions in Kaurna:

- (5) a. On nouns it is a purposive:
 - parngutta* wild potato
 - parnguttitya* for wild potatoes
- b. On verbs it is a purposive:
 - punggondi* to heap up (present form)
 - punggetitya* for heaping up
- c. It is added to the ergative form of pronouns to form an allative:
 - nindo* you (ergative form)
 - nindaitya* to you

It is possible that the Kaurna suffix *-itya* had a pronominal origin within Thura-Yura (J. Simpson pers. comm.). There is also a good possibility that *-itya* (a palatalised version of the extended form that is only found with verbs in the Yarli

languages) was borrowed from the Yarli languages into Kaurna. Kaurna is not adjacent to Malyangapa: the Thura-Yura language Ngadjuri is in between. Unfortunately the presently available data on Ngadjuri have practically no morphological content, and it is impossible to say whether there were *-itya* forms in Ngadjuri. The proposition that *-itya* was borrowed from the Yarli languages into Kaurna via Ngadjuri therefore remains just that, a proposition. There is also a possibility that in a more distant way Yarli *-tha* is related to the directional *-tharV* of Thura-Yura. One thing remains certain: *-tha*, *-itha* as such is an innovation shared by all three Yarli languages.

4.3.3 *The inchoative*

The inchoative forms within the subgroup illustrate how by innovation as well as by the retention of different Pama-Nyungan features the Yarli languages cannot be classed with their neighbours. This is shown in Table 6.

Table 6: *Forms of the inchoative*

	YAR, MAL	YAN	WAN	DIY	ADN
to become	<i>-ngunti</i>	<i>-na</i>	<i>-minda</i>	<i>-ri</i>	<i>-ri</i>
to become (good or bad)	<i>-r-</i>	<i>-na</i>	<i>-minda</i>	<i>-ri</i>	<i>-ri</i>

The inchoative suffix *-r-* is used in both Malyangapa and Yardliyawara as a verbaliser, but only, as far as our recordings go, with the adjectives “good” and “bad”, as in the sentence quoted above (4) from Yardliyawara (repeated below) and as in (6), which is from Malyangapa.

- (4) *Wanka iniki-nha wanyu-r-utu, pulkata!*
 meat that -NOM bad-INCH-CAUS throw away IMPER
 “Throw that meat away because it’s gone bad.” (Barney Coffin)

- (6) *Wanyu-r-arnta-nyi ngurna-yi-nyi*
 bad- INCH-PRES-1sg intr lie down-FUT-1sg intr

palyu mingku-ra-yi-nyi.

soon good-INCH-FUT-1sg intr

“I’m beginning to feel no good, I’ll lie down and I’ll come good by and by.”

(George Dutton)

With other adjectives a verbalising inchoative suffix *-ngunti* is used, as in *mantha-ngunti* “cool down”, lit. “get cold”.

The suffix *-ngunti* appears to be an innovation in the Yarli languages. The *-r-*verbaliser, however, is widely known in several forms (both with a retroflex *R* and with an alveolar tapped *r*), and the relationship between the various forms is not clear. It can be reconstructed for Thura-Yura (Simpson and Hercus this volume, chapter 8) and it is found in parts of Karnic (e.g. Diyari). It is certainly not a feature that would imply any close association of the Yarli languages with either Karnic or Thura-Yura.

5. Summary and conclusion

There is phonological evidence such as pre-stopping (applying to Yardliyawara only), lexical evidence such as a number of ‘regional’ words, and grammatical evidence such as the use of specialised ‘time of day’ markers in Malyangapa which all point towards a measure of linguistic diffusion cutting across genetic relationships. But the overwhelming testimony of much unique joint lexical and grammatical innovation in the Yarli languages provides a solid and deeper link between them. There can be little doubt that they form a small separate subgroup of Pama-Nyungan. Whether Schmidt was right and whether there was once a higher grouping of Karnic, Yarli and Thura-Yura remains as yet uncertain.

EVOLUTION OF THE VERB CONJUGATIONS IN THE NGARNA LANGUAGES

Gavan Breen

Institute for Aboriginal Development

1. Introduction

The Ngarna languages (also called Warluwaric or Warluwarric in recent years) are a discontinuous group of genetically related languages spoken or formerly spoken in the Borroloola area, Northern Territory (one language, Yanyuwa) and in an area stretching from the Davenport Range, southeast of Tennant Creek, across the southern part of the Barkly Tableland and the desert to its south, to the upper Georgina River and the Urandangie area in far west Queensland (a group of four languages). The name Ngarna is the first person nominative singular pronoun and is of significance in that it is (presumably) the source of the bound pronoun *-rna* found in many languages, but is retained as a free-form pronoun almost nowhere except in this group of languages.¹ Such a name is preferred to one which arbitrarily chooses the name of one of the languages as the basis for the name of the whole group. Furthermore, the suffix *-ic* on a name is undesirable because it is associated with one level in a hierarchical system of nomenclature (see O'Grady and Klokeid 1969:300-301) which is now superseded.

The languages of this group were originally classified (O'Grady, Voegelin and Voegelin 1966) as comprising a one-member family (Yanyulan) and two non-contiguous groups (Wakayic and Warluwarric) within the Pama-Nyungan Family.² Breen (1967) found that a previously unknown (to linguists) language, Bularnu, lay between Wakaya and Warluwarra and was related to both of them. Some evidence for this relationship was published in Breen (1971a, b); also in these publications it was observed that these languages seemed to be related to Yanyuwa. Blake (1988) reclassified the four of them as a group within Pama-Nyungan, on the basis of their pronoun systems with some reference also to nominal case-marking. The little-known language YinjilANJI, studied briefly by

¹ One other language which is reported as having this pronoun is the little-known Mirminy from the coast of the Great Australian Bight.

² The term 'group' here (in its second occurrence in the sentence) is part of the hierarchical system referred to in the previous paragraph, being the next level below 'family'. I do not use the term in this way elsewhere.

Osborne and later Breen with the last (partial, second language) speaker, clearly belongs also to the group.³ Its status as a genetic group has since been generally accepted. Three honours theses (Koch 1989, Brammall 1991, Carew 1993⁴) have studied the group (using materials which have since been superseded in some aspects). The present paper provides strong supporting evidence for this genetic relationship by outlining the development of a verb conjugation system that is shared by the members of the group.

In section 2 I give a brief outline of the reasons previously put forward for regarding these languages as forming a genetic group, and of the subgrouping of the languages within the group. This is based largely on an introductory chapter to a series of grammars and dictionaries of the four southern languages which is in preparation.

2. Summary of previous comparative work

Appendices 10.1-3 give short comparative lists of basic vocabulary, with no attempt made to select items so as to show the relationship. Verbs are in their present tense forms except for Yanyuwa, where they are present participles. Orthographies are based on the system used for Yanyuwa, in which voiced symbols are used for stops except for the interdental and velar, but Warluwarra and Bularnu have contrasting voiced and voiceless stops.

Cognate counts were done on a longer list (not included here) of about 250 words (similar to that used in Breen 1971a). For pairs of languages not including Yinjilanji 90% or more of the items could be compared; for pairs involving Yinjilanji the figure was a little over 60%. Table 1 gives the figures, in the form: percentage of total (available) items cognate / percentage of verbs cognate.

Table 1: *Cognate counts*

	Wakaya	Yinjilanji	Bularnu	Warluwarra
Yanyuwa	20 / 23	26 / 26	21 / 27	20 / 30
Wakaya		73 / 69	45 / 64	32 / 53
Yinjilanji			51 / 70	38 / 52
Bularnu				53 / 71

It will be noted that the figures for verbs (involving up to 55 items) are higher in most cases — sometimes substantially higher — than the total figures. This is

³ Abbreviations for the language names used on occasions below are: Y for Yanyuwa, Wk for Wakaya, Yi for Yinjilanji, B for Bularnu and Wl for Warluwarra.

⁴ Thanks to Margaret Carew for reading an earlier version of this paper, and for her helpful comments on it.

regarded as a good preliminary indication that the relationship is genetic and does not involve substantial borrowing (see Breen 1990:ch.7).

Table 2 gives a comparison of grammatical forms affixed to nominals; those affixed to verbs are dealt with in the following section. Some Yinjilanji forms are not known.

Table 2: *Comparison of grammatical forms*

	Warluwarra	Bularnu	Yinjilanji	Wakaya	Yanyuwa
on nouns					
ergative	-gu	-gu ~ -gi	-li, -lu, -ji	-rl, -k, -ij	-lu, -ngku, etc.
locative	-ga	-ga		-rl, -k, -ij	-la, -ngka, etc.
dative	-yi, -yu	-yi, yu	-ri, -ru	-riy, -iy	-wu, -yu, etc.
allative	-lu	-lu	= dative	-rd, -rriy	-lu
ablative	-ngurlu	-ngurlu		-arn	nakari (prep)
aversive	-marlu	-marlu	-barli	-barl	dative
genitive	-ba	-ba	= dative	-b	dative
propriative	-wara, etc ⁵	-anyi	-wurru	-werr(u)	-wiji
privative	-nharrangu	-nharrangu		-nhawerr(u)	
“other”	-rrila	-adha		-ithu, -ithi	arrgu (free)
dual	-wiya	-wiya	-wiya	-wiy, -awiy	-wujara
plural	-wali	-wali	-wali	-wul, -awul	-birri, li-
“like”	-ngamurnu	-ngamurnu		kil (prep.)	
on non-singular personal pronouns					
accusative	-nha	-nha	-nyi	-iny	= subject
dative	-nga	-nga		-ng	-nga
genitive	-ma	-ma	-ba	-ba	dative
reflexive/reciprocal	-ba	-ba	-b	-b	-mba ⁶

A notable feature, which seems to be an innovation in the Ngarna languages, and perhaps not known elsewhere in Australia, is the possession of two unrelated verbs “eat”, one for vegetable food and one for animal food (meat, but also such animal-derived foods as milk and eggs).

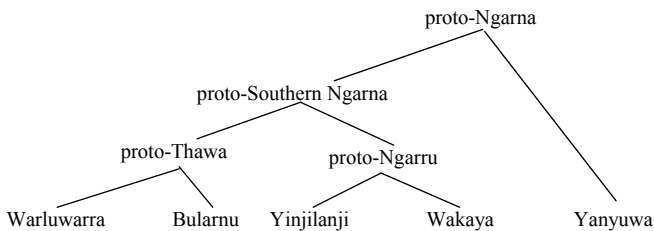
Carew (1993) reconstructs about seventy proto-Ngarna lexical items (based on reflexes in Y and at least one other language); for about half of these she found no likely correspondent outside the group. These can then be postulated as innovations in the group. Even where there are cognates outside the group — for example, the widespread Australian verb reflecting **nhaa* (with postulated conjugation marker **-ng*) “see” with proto-Ngarna **yanga*, there is a Ngarna innovation in that the nasal has been replaced by a glide. The same innovation can be noted in several of the personal pronouns; see Bammall (1991:21-22).

⁵ -wara is the full form; reduced forms -aa and -ara are more common; -ya and -wa are common after final /i/ and /u/ respectively; -ra is rare.

⁶ The Yanyuwa reflexive-reciprocal is not a suffix to a pronoun but is a verb prefix which could be thought of as suffixed to the pronominal prefix of the verb.

The following chart gives a tentative family tree of the Ngarna languages. While the figures in Table 1 would suggest that Bularnu is as closely related to Yinjilanji as it is to Warluwarra, grammar comparison (and see below) shows that it is closer to the latter.

Figure 1: *Family tree of the Ngarna languages*



The subgrouping shown in the chart is based not only on the cognate counts and comparison of the pronouns and the bound morphemes, but also on a series of sound changes. These can be illustrated here by items mostly appearing in Appendices 10.1–3.⁷ These changes and others are discussed in much more detail, with many more examples and consideration of exceptions, by Carew (1993). The most salient changes include:

1. lenition or loss of word-initial stops in Yanyuwa; see “go” and “drink” in Appendix 10.2;
2. loss of word-initial glides before /a/ in Yanyuwa; see “one” in Appendix 10.1 and “3sg.nm or f” in Appendix 10.3;
3. simplification of nasal-stop clusters in B and Wl; see Table 10, also “tongue” in Appendix 10.1;

⁷ These also show some unexplained irregular sound changes, as noticed by Søren Wichmann in discussion of this paper at the workshop. For example, the /t/ in the Warluwarra word for “nose” contrasting with /ɾ/ in other languages is a unique anomaly; the seeming correspondence between /ɾ/ in Warluwarra and /l/ in other languages in words for “creek, river” is, I believe, spurious — Yanyuwa also has a word *yarra* “dry river bed” which I believe is cognate with the Warluwarra word, and I do not believe the others are related. Another unexplained correspondence is in the third person plural pronouns. Note, too, that orthographic differences tend to obscure some stop correspondences, where the voiced symbol is used in some languages and the voiceless in others.

4. liquid-peripheral stop clusters softening to liquid-glide (and continuing to simple liquid) in Wl and simplifying to stop in B; see “one” in Appendix 10.1 and “enter” Y *ngalba*, Wk *ngelb*, B *ngapa*, Wl *ngalwa* (sometimes *ngala*). This may have proceeded via stop-stop in Bularnu; compare B *burtka* “many” with Wl *burlgha* “old man” and *purlka* “old man” in Warlpiri and some other languages, “big” in some Western Desert dialects.

3. Data on verb conjugations

In all the languages, verbs comprise a stem, vowel-final in all of the languages except Wakaya where many final vowels have been lost, with derivation, mood, aspect, tense and direction marked as needed by suffixation. Zero suffixation is possible; this often marks imperative.

Minimal verb stem is *Ca* or *CVC* in Wakaya, *CVCV* in the other languages.⁸ The grouping of verbs into conjugations is based on the phonological shape of the stem; specifically, the nature of the last consonant or consonant cluster. There is no division into conjugations on morphological grounds (such as of transitive versus intransitive). However, the phonological shape of certain formatives ensures that certain conjugations will have a preponderance of transitive or intransitive verbs. Labelling of conjugations is based on the reflex in the members of that conjugation of a postulated proto-nominaliser **-ntha*.⁹ This reflex — zero in one conjugation in each language apart from Yanyuwa, otherwise a consonant or consonant cluster followed by /a/ — functions as a verb suffix in its own right in some languages (for example the gerund in Warluwarra) and as the first part of a significant number of compound verbal suffixes, such as purposive, in all the languages.

3.1 Warluwarra

Conjugations are labelled TH, J, 0 and RR. There is one highly irregular verb — *nhanda* ~ *nata(ma)*- “go”, which behaves mostly as a member of the 0 conjugation, except that *natama*- behaves as a TH conjugation verb. Other irregularities are few: the irregular imperatives *dhangurnanga* “eat!” and *wanmanga* “move!” with suffix *-nga*, the irregular present tense *ngutayidha*, of *nguta* “give”, and the verb whose only known forms are *gawa* “come here!” and *gaandi* “was coming”. In a few cases there is insufficient evidence to assign a verb to a conjugation. Note that all

⁸ C represents any consonant, V any vowel.

⁹ To reduce variability I have used TH and J even when the relevant sounds in the orthography of the particular language are written *dh* and *dj* respectively.

verb stems have final /a/ or /i/. A paradigm showing most verbal inflections is presented in Table 3. Notes on the membership of the conjugations follow.

The representative verbs chosen for the table are: TH conjugation, *yanga* “see”; J conjugation, *larri-* “hear”;¹⁰ 0 conjugation, *yapa* “fall”; RR conjugation, *nakarra* “cut”. Some of the forms have not been heard or may even be impossible for the representative verb, but are included because they have been heard with other verbs of that group.

It will be noted¹¹ that there are some differences between conjugations (in Bularnu as well as Warluwarra) which are not marked by the gerund or an obvious variant of it. The complement forms *-nha* and *-nya* could be derived from gerund plus accusative: *-dha-nha* and *-dja-nha*, but the form *-ngu* is obscure.

Table 3: *Paradigm of Warluwarra verbal inflections*

	TH conj.	J conj.	0 conj.	RR conj.	irregular
	“see”	“hear”	“fall”	“cut”	“go”
imperative	<i>yanga</i>	<i>larra</i>	<i>yapa</i>	<i>nakarra</i>	<i>nhanda</i>
optative	<i>yangarla</i>	<i>larrirla</i>	<i>yaparla</i>	<i>nakarrarla</i>	<i>nhandarla</i>
irrealis	<i>yangimarla</i>	<i>larrimarla</i>	<i>yapimarla</i>	<i>nakarrimarla</i>	<i>nhandimarla</i>
past	<i>yangarna</i>	<i>larrirna</i>	<i>yaparna</i>	<i>nakarrarna</i> (<i>nakarrirna</i>)	<i>nhandarna</i>
present	<i>yangayidha</i>	<i>larriyidja</i>	<i>yapariyidha</i>	<i>nakariyidha</i>	<i>natayidha</i>
gerund	<i>yangadhi</i>	<i>larridji</i>	<i>yapi</i>	?	<i>nhandi</i>
purposive	<i>yangadhiyi</i>	<i>larridjiyi</i>	<i>yapiyi</i>	<i>nakariyi</i>	<i>nhandiyi</i>
privative	<i>yangadhi-</i>	<i>larridji-</i>	<i>yapi-</i>	<i>nakarri-</i>	?
	<i>nharrangu</i>	<i>nharrangu</i>	<i>nharrangu</i>	<i>nharrangu</i>	
normalis	<i>yangadha</i>	<i>larridja</i>	?	?	?
habitual past	<i>yangadhagarri</i>	<i>larridjagarri</i>	<i>yaparragarri</i>	<i>nakarragarri</i>	<i>natagarri</i>
hab. present	<i>yangadhagadja</i>	<i>larridjagadja</i>	?	?	<i>natagadja</i>
continuative	<i>yangadhini</i>	<i>larridjini</i>	<i>yaparrinyini</i>	<i>nakarrinyini</i>	<i>nhandini</i>
potential	<i>yangadhaa</i>	<i>larridjaa</i>	<i>yapaa</i>	<i>nakarraa</i>	<i>nhandaa</i>
subject	<i>yangadharragu</i>	<i>larridjarragu</i>	<i>yaparragu</i>	?	<i>natagu</i> ~ <i>natamadharragu</i>
complement	<i>yanganha</i>	<i>larrinya</i>	<i>yapangu</i>	<i>nakarrangu</i>	<i>nhandangu</i> ~ <i>natamanha</i>
causative	<i>yanganhama</i>	<i>larrinyama</i>	<i>yapama</i>	<i>nakarranhama</i>	?

Table 3 includes, as well as reflexes of **-ntha*, reflexes of almost all of the handful of morphemes which are reconstructed (with little justification in some cases) for proto-Ngarna by Brammall (1991:67).¹² These include imperative **-0* ~

¹⁰ Only J conjugation verbs are written with a following hyphen, because only these stems cannot function as words without suffixation.

¹¹ This was pointed out by Nick Evans in discussion at the conference.

¹² These include negative present **-PRES-ma*, despite Brammall’s description of it (p. 63) as a “construction unique to” Yanyuwa.

-*ya*, continuative imperative *-gerund + *-ni*, past tense *-rna* (reflected in the four southern languages, whereas Yanyuwa, which logically should have reflexes of all reconstructed forms, has zero), future *-*la* and possibly the present *-gerund + *-i*.

The TH conjugation includes all verbs the last consonant of whose stem is a nasal, a lateral (there are only a few examples) or a glide, and whose final vowel is /a/, plus *madja* “eat (vegetable food)”, *gaa* “cry”,¹³ *djirra* “be sick”, *warra* “grind”, *gurra* “like” and *gunugurra* “be sick of”. The only known verbs with stem-final nasal or lateral that are not in the TH conjugation are *ganyi-* “weigh on”, *gunyi-* “(liquid) to run out”, *birni-* “chop”, *bitjirni-* “swim”, *yapuni-* “dry”, *dhuli-* “be hot”, *galarli-* “vomit”, all of which are in the J conjugation.

The J conjugation includes all verbs whose stems end in /i/. The majority have /rr/ as the last consonant of the stem, and the majority of these are, or can be plausibly supposed to be, stems formed with the inchoative suffix *-(V)rri*. Others include *garri-* “stand”, *larri-* “hear” (perhaps, apart from its compounds, the only transitive verb ending in /rri/) and *barri-* “sneak up”. A handful of verbs whose last consonant is /rr/ are in the TH conjugation; see above. Verbs in the J conjugation whose last consonant is not /rr/ are listed under 0 and RR conjugations. Several of these are formed with the allomorph *-i* of the inchoative: *yapuni-*, *guti-*, *burllugudi-*. Probably *lirrirlirri-* “become hurt” also belongs in this category.

The 0 conjugation includes all verbs the last consonant of whose stem is a stop, with the exception of *madja* and *gaa* (TH conjugation) and the few with stem-final /i/ (those attested are *nati-* “do what”, *latji-* “dance”, *birrtji-* “swallow”, *burllugudi-* “get hard”, *guti-* “be shut in” and its compound *marnkarru-guti-* “be deaf”, and *barlardi-* “show”) which are in the J conjugation.

The RR conjugation consists of a few verb stems of three or more syllables ending in /rra/. Those known are *bitjarra* “make (a fire)”, *nakarra* “cut”, *wurrgharra* “run”, *wurrgharrarra* “chase”, *yatjuwarra* “smell (intr)”, *ngawirra* “bathe”, *numarra* “break” and *numarnumarra* “break into pieces”.

3.2 *Bularnu*

As in Warluwarra, the conjugations are labelled TH, J, 0 and RR. Again, all verbs have stem-final /a/ or /i/. The language is not as well attested as Warluwarra. Table 4 gives a partial paradigm of the four conjugations. Notes on conjugation membership follow.

¹³ This has changed quite recently from *gagha*, with a velar glide in the second consonant position, and so was not previously an exception. It could currently be regarded as having a zero consonant in that position.

Table 4: *Paradigm of Bularnu verbal inflections*

Meaning	TH “see”	J “stand”	0 “hit”	RR “sit”
Stem	<i>yanga</i>	<i>garri-</i>	<i>matha</i>	<i>yiwarra</i>
Imperative	<i>yanga</i>	<i>garriya</i>	<i>matha</i>	<i>yiwarra</i>
Optative	<i>yangarla</i>	<i>garrirla</i>	<i>matharla</i>	<i>yiwarra</i>
Present	<i>yangadharra</i>	<i>garridjarra</i>	<i>matharra</i>	<i>yiwarra</i>
Past	<i>yangarna</i>	<i>garrirna</i>	<i>matharna</i>	<i>yiwarra</i>
Past Imperfect	<i>yangadhi</i>	<i>garridji</i>	<i>mathi</i>	<i>yiwarri</i>
Purposive	<i>yangadhayi</i>	<i>garridjayi</i>	<i>mathayi</i>	<i>yiwarrayi</i>
Complement	<i>yanganha</i>	<i>garrinya</i>	<i>mathangu</i>	?
Causative	<i>yanganhama</i>	<i>garrinyama</i>	<i>mathama</i>	?
Potential	<i>yangimi</i>	<i>garrimi</i>	<i>mathimi</i>	<i>yiwarrimi</i>

The Baringkirri dialect (known only from one half-hour tape) has *-warra*, as in *yiwarrawarra*, which seems to be interchangeable with the *-0* (RR, Present); also *-rrawarra* interchangeable with *-rra* (Present) on 0 verbs.

The *-rra* of the present tense (and the corresponding *-rrV* in Yinjilanji) would be cognate with the *-rra* of the present participle in Yanyuwa. Imperative and optative (from postulated proto-future) may reflect proto-Ngarna forms.

TH-conjugation comprises all verbs with stem-final /a/ except those in 0 or RR; J-conjugation: all verbs with stem-final /i/; 0-conjugation: many verbs with stem-final /a/ preceded by a stop; RR-conjugation: all verbs of three or more syllables with the final syllable /rra/.

Membership of the 0-conjugation (and hence of the TH-conjugation) is not completely predictable from synchronic data, although it seems that all stems ending in a coronal stop followed by /a/ do belong to it (however, this only means one with /dh/, two with /th/, three with /d/ including a compound and none with /dj/, /tj/, /t/, /rd/ or /rt/). All stems whose last consonant is a voiceless peripheral stop followed by /a/ belong to TH; this includes three with /p/ (one a compound) and six with /k/ (one probably a compound).

As for the others, there is synchronically no way of predicting membership; thus *gaga* “cry” belongs to TH, *baga* “walk” to 0. The main informants disagreed on the membership of only one verb — *baniga* “swim”: one placed it in 0 and the other in TH. Of other words with final /b/ or /g/, *ngayiba* “chip”, *larruga* “eat (meat)” and *laga* “carry” belong to TH, while *yaba* “fall”, *wiyaba* “call out”, *djiba* “sing”, *nguladhaba* “return”, *dhuga* “throw” and *birribaga* “jump” belong to 0.

3.3 Yinjilanji

Yinjilanji has at least five conjugations, labelled NTH, TH, NJ, J and 0, and differentiated by the present tense suffix. The TH conjugation has present tense

-thirri after stem-final /i/ or /a/, and *-thurru* after /u/, and maybe the others are divided that way too. There is not much information on the language.

NTH, with present tense *-nthirri*: verb stems end in NV, where N is a nasal other than /ny/; also *maa*, *ngala* and *kaliwi*. Nine of eleven attested stems are transitive; the others are *warrama* “look for” and *dhurrumi* “play”.

TH, present *-thirri* with variant *-thurru* after stem-final /u/: verb stems end in /ki/ or /ku/; also *darribi* “bite”, *yilyiwi* “spear” and *mingka* “hit (throwing)”.

NJ, present *-njirri*: attested on two verbs ending in /nyi/, also on *wani*- “dance” contrasted to *wani*- “tie”, which possibly takes *-ndhirri*, and on *warla*- “pull”. It is not known if *wani*- is transitive; the others are.

J, present *-jirri*: on all verb stems ending in /rri/, including all verbs formed by inchoative *-arri* (e.g. *ngubarri*- “get bad” from *ngubu* “bad”); also *kudu(wu)*- “be deaf”, which may be wrong — it should be inchoative. Most of these verbs are intransitive.

0, present *-arri*: on *yuwurru* “sit” and *banki* “go” (which lose their stem-final vowel) and on five other verbs with stem-final /a/ (for which the suffix could be called *-rri*; these are *yajika* “get up”, *birriba* “run”, *duka* “throw”, *nankirra* “cut”, *badha* “scratch”, *kunja* “drink” and *ngunduwudhamba* “go back”).

There seems to be a present tense suffix *-rra* on two stems, *kunjana* “cough” and *wiimba* “sing out” (perhaps it should be *-rri*). *Bujijurru* “is swallowing” is anomalous (if correct). The verb “hit” seems to have two stems, *maa* and *mayi*, depending on the suffix.

Verb suffixes include: imperative *-0*, past *-rri* (possibly *-ni*), future *-nyi* (possibly *-inyi*), purposive (“want to”) replace /Vrri/ of present with /a/ (only four examples). It seems that purposive is not distinct from imperative on 0-conjugation verbs with stem-final *a*. There is fragmentary information on possible potential, same subject subordinate and negative imperative markers. There is also a directional (“hither”) suffix *-ardi* which follows other suffixes.

3.4 *Wakaya*

There are four conjugations, which differ in the form of the completive, imperfect and gerund. In addition the NTH conjugation differs from the others in the form of its present tense and probably its directional (hither) imperative (attested only for one stem). The forms of these affixes are given in Table 5.

The factors which determine which conjugation a verb belongs to are (tentatively in one or two aspects) as follows.

NTH Conjugation: stems ending in any phoneme other than a stop or /rr/ (examples: *ma* “hit”, *lirla* “call out”, *wulema* “bury”, *nheng* “get”, *miny* “hold”,

Table 5: *Diagnostic features of Wakaya conjugations*

Conjugation	NTH	TH	J	0
Completive	-nth	-th	-j	-0
Imperfect	-nthiy	-thiy	-jiy	-iy
Gerund	-ntha	-tha	-ja	-a
Present	-rndiy	-rdiy	-rdiy	-rdiy
Hither imperative	-arnd	-ard	-ard	-ard

ngun “lie”, verbs with causative *-m* like *ngubungubum* “spoil”, *walew* “burn”, *ker* “copulate”).

TH Conjugation: stems ending in a stop other than those in the 0 conjugation (examples: *kek* “cry”, *ngelb* “enter”, *ngiib* “make”, *benengk* (E) — and presumably *benungk* (W) — “swim”).

J Conjugation: stems ending in *rr* other than those in the 0 conjugation (examples: *marr* “talk”, *kirr* “stand”, *benbarr* “hide”, *berarr* “sneak up” and words with inchoative *-irr* like *menjurnirr* “be hungry”). The /rr/ is deleted from the completive form and others built on the completive, if the verb stem is of two or more syllables. This is illustrated in (1).

- (1) *beraj* “sneaked up” instead of **berarrej*
munukaj “stole” instead of **munukarrej(iy)*
yiningkijiy “was listening” instead of **yiningkirrejiy*

This probably applies only in the Western dialect. In some cases with other inflections, such as present tense, it is not clear whether a word is shortened or just seems to be because of the lack of clarity of the speech of the speaker; e.g., whether the present tense of the verb “listen” is *yiningkirrerdiy* or *yiningkirdiy*.

0 Conjugation: monosyllabic stems, or compound stems with the second part monosyllabic, ending in a nasal-stop cluster, stems ending in /err/, /th/ and /uk/ (e.g. *benk* “go”, *ngund* “give”, *ngurldethanb* “go back”, *kujerr* “laugh”, *nernkerr* “cut”, *beth* “dig”, *yileweth* “ask”, *thuk* “throw”, *bujuk* “run”).

One pair of words which do not conform to the conjugation membership rules is *wakew* and *yukew*, both meaning something like “call”. In fact, the latter, which was heard only once and could not be confirmed later, may simply have been a mispronunciation of the former. These (this?) seem to belong to the TH conjugation, perhaps because the influence of the consonant /k/ overrides that of the phonetically vocalic /w/. The stem *bej* “swallow” seemed to belong to the J conjugation, but perhaps only because of the problem of distinguishing /j/ and /th/ in the speech of the informants. A couple of other little-known words are problematical.

Note that there are certain limitations on the form of verb stems: no verb stems end in a vowel other than *a*; verb stems ending in *a* have *m* or an apical lateral preceding; no verb stems end in apical stops; other individual restrictions are probably insignificant.

Table 6 gives a paradigm for the four verb conjugations. Forms given have not necessarily been heard for the particular stems used as exemplars. A couple of the less well-attested suffixes are not included.

Table 6: *Paradigm of Wakaya verbal inflections*

	NTH “see”	TH “climb”	J “heat”	0 “fall”
Imperative (= stem)	<i>ying</i>	<i>yirrk</i>	<i>larr</i>	<i>yinb</i>
Optative	<i>yingarl</i>	<i>yirrkarl</i>	<i>larrarl</i>	<i>yinbarl</i>
Potential	<i>yingiyi</i>	<i>yirrkiiyi</i>	<i>larriyi</i>	<i>yinbiyi</i>
Past	<i>yingerniy</i>	<i>yirrkerniy</i>	<i>larrerniy</i>	<i>yinberniiy</i>
Completive	<i>yingenth</i>	<i>yirrketh</i>	<i>larrej</i>	<i>yinb</i>
Imperfect	<i>yingenthiy</i>	<i>yirrkethiy</i>	<i>larrejiy</i>	<i>yinbiy</i>
Present	<i>yingerndiy</i>	<i>yirrkerdiiy</i>	<i>larrerdiy</i>	<i>yinberdiy</i>
Future (W)	<i>yingerl</i>	<i>yirrkerrl</i>	<i>larrerl</i>	<i>yinberl</i>
Irrealis (W)	<i>yingarli</i>	<i>yirrkarli</i>	<i>larrarli</i>	<i>yinbarli</i>
Irrealis (E)	<i>yingemurli</i>	<i>yirrkemurli</i>	<i>larremurli</i>	<i>yinbemurli</i>
Gerund	<i>yingentha</i>	<i>yirrketha</i>	<i>larreja</i>	<i>yinba</i>
Pergressive	<i>yingarr</i>	<i>yirrkarr</i>	<i>larrarr</i>	<i>yinbarr</i>
Purposive	<i>yingenthariy</i>	<i>yirrkethariy</i>	<i>larrejariy</i>	<i>yinbariy</i>
Simultaneous	<i>yingenthangi</i>	<i>yirrkethangi</i>	<i>larrejangi ?</i>	<i>yinbangi</i>

There is some evidence that an alternative gerund form in /th/ or perhaps /j/ can be used for a couple of 0 conjugation verbs with final /err/: *yuwerrrethangerl* was heard for expected *yuwerrangerl* “was sitting”; this was repeated as (to my hearing) *yuwerrijangerl*, and on a later occasion when I suggested purposive forms *yuwerrijariy* “sit” and *nguberrijariy* “bathe” they (as well as *yuwerrariy* and *nguberrariy*) were accepted.

Imperative and optative (from Brammall’s reconstructed future) and possibly present tense may reflect proto-Ngarna morphemes.

3.5 Yanyuwa

Yanyuwa is the only language of the group which is still spoken, and is by far the most intensively studied. Kirton (1978) does not postulate verb conjugations for Yanyuwa, but instead describes the differences in affixation of different verbs in terms of morphophonemic rules. The relevant rules, 6 and 7 (p.8), are (paraphrased):

6. Interdental consonant becomes alveopalatal consonant following /i/ or following alveopalatal consonant plus vowel.

(Exceptions: (a) This rule also applies to the following stems: *lharrkuwa* “mimic”, *murruma* “cause pressure, dig in (to person)”, *ngabu* “swim, bathe”, *ngulguma* “twist”, *uma* “cut, break”, *urrkuwa* “burn” (intrans), *wurda* “become wet”.

(b) This rule does not apply to the stems: *ija* “send”, *waya* “light up (of torch)”, *wuya* “taste, suck, lick”.) [cf. W1 *yiya*, *yallama*, *butha*]

7. Nasal-stop cluster becomes /y/ after a nasal-stop cluster or /rr/.

Other rules involving suffixes are:

3. A vowel is deleted before a vowel-initial affix, high vowel-initial stem or *anma* “stay”. (It is not clear that this ever affects the end of a verb stem; see Kirton 1978:38.)

4. /u/ becomes /a/ before a suffix or a monosyllabic stem. Exceptions: (a) *wunjinu* “swim” > *wunjini* before suffix, (b) *ngabu* “swim, bathe” remains unchanged.

8. /rr/ becomes /y/ after /rrV/.

9. A consonant is deleted after /rr/.

10. Any consonant becomes /rr/ after /ndV/ and before /(C)a/.

Examples of these rules are quoted from p. 38-39 in Table 7.

Table 7: *Illustration of Yanyuwa morphophonemic rules*

	morphophonemic	phonemic	gloss
6	<i>ga-wula-0-0-wani-0-0-nhu</i> <i>mba-uja-ntha-rra-0</i> <i>0-uma-ntha-rra-0</i>	<i>gawulawaninyu</i> <i>nyambujanjarra</i> <i>manjarra</i>	they returned recently swelling cutting
7	<i>0-anba-ntha-rra-0</i> <i>ja-anda-anda-0-ngunda-0-nji-0</i> <i>ja-anda-0-0-munjarr-0-nji-0</i>	<i>nbayarra</i> <i>jarrandangundayi</i> <i>jandamunjarryi</i>	falling she is giving her she is getting firewood
4	<i>ja-iwa-0-0-yinu-0-nji-0</i> <i>ja-iwa-0-0-ngabu-0-nji-0</i>	<i>jiwayinanyi</i> <i>jiwangabunji</i>	he is drowning he is bathing
8	<i>ka-iwa-0-0-luwarri-0-0-rru</i>	<i>kiwaluwarriyu</i>	he will not depart
9	<i>ka-alu-0-0-munjarr-0-0-la</i> <i>ka-alu-0-0-munjarr-0-0-nma</i>	<i>kalumunjarra</i> <i>kalumunjarrma</i>	they will get firewood they might get firewood; they didn't get firewood
10	<i>ka-wula-anda-0-ngunda-0-0-nma</i> <i>ka-wula-anda-0-ngunda-0-0-la</i> <i>wula-inja-0-wanda-0-ya-0</i>	<i>kawulandangundarra</i> <i>kawulandangundarra</i> <i>wulinjawandarra</i>	she might give them; she didn't give them she will give them follow them!

Kirton (1978:15-20) describes the system of verb suffixation. There are three orders of suffixes, of which: those of the first order express mood orientation; second order distinguish present, non-present and customary non-present tenses in relation to mood and verb types; third order distinguish future versus non-future

tense in relation to a modal evaluation of the reliability of the information given. The attested combinations are shown in Table 8.

Table 8: *Yanyuwa verb suffixation*

		Past	Present	Future
Indicative	customary	<i>-ntha-ani-nha</i>		<i>-ntha-ani-ama</i>
	general	<i>-0-0-0</i>		<i>-0-0-la</i>
	near	<i>-0-0-nhu</i>		<i>-ntha-ani-0</i>
	focal	<i>-0-0-nha</i>		
	perfective		<i>-0-nji-mu</i>	
	imperfective		<i>-0-nji-0</i>	
Participle	customary	<i>-ntha-ani-nha</i>		
	general	<i>-ntha-0-0</i>	<i>-ntha-rra-0</i>	
Imperative	general		<i>-0-ya-0</i>	<i>-ntha-ani-0</i>

The mood orientation suffixes are *-ntha* ‘recountive mood’ and *-0* ‘conservative mood’. The mood-tense suffixes (second order) are *-nji* ‘conservative indicative present’, *-ya* ‘conservative imperative present’, *-rra* ‘present participle’, *-ani* ‘recountive customary (or custom-based) non-present’, *-0* ‘past participle, conservative indicative non-present’. Mood-tense suffixes (third order) are shown in Table 9.

Table 9: *Third order verb suffixes in Yanyuwa*

	definite	potential	non-evaluated
affirmative	<i>-nha</i> past focal	<i>-ama</i> future focal	-0 occurs with: (INDICATIVE) past general, present imperfective, near future (IMPERATIVE) present, future (PARTICIPLE) past, present
	<i>-nhu</i> past near / specific	<i>-la</i> future	
	<i>-mu</i> present perfective		
	<i>-rru</i> future negative	<i>-nma</i> past negative / dubitative	
negative		<i>-ma</i> present negative / subjunctive, past customary negative	

The division into conjugations postulated here¹⁴ is based on the present participle (i.e. customary + present participle), which is also the citation form of the verb. The endings are: *-ntharra* (NTH conjugation), *-njarra* (NJ conjugation) and *-yarra* (Y conjugation). The members are as follows.

NTH: stems not belonging to another conjugation. There are hundreds.

¹⁴ This was implicitly postulated also by Brammall (1991:58), who, however, also mentions a form with *-tha*, which I did not find in any verb in my sources.

NJ: stems ending in /i/ (about 140), six stems ending in /ija/¹⁵ (but not the stem *ija* “send”¹⁶), four stems ending in *ya* (one *ya*, one *iya*, two *aya*¹⁷) (but not *waya* “light” or *wuya* “lick”¹⁸), *lharrkuwa* “mimic”, *murruma* “cause pressure”, *ngabu* “swim”, *ngulkuma* “twist”, *uma* “uncover”, *urrkuwa* “be hot”, *wurda* “become wet”.

Y: stems ending in *NSV* (about 80 with final /a/, five with final /i/) and two roots ending in *rr* (*munjarr* “get firewood”, *ngkarr* “defecate”).

The suffix *-nji* is equally diagnostic. The suffixes *-nha* and *-nhu* are palatalised by a preceding /i/, but this may be in a preceding suffix *-ani* (in the case of *-nha*). They are presumably not palatalised by the other stems that belong to the NJ conjugation. They are presumably reduced to their vowel after the two /rr/-final verb roots. (The last two statements follow from the morphophonemic rules but are not exemplified.)

4. Development of the conjugations

A pre-proto-language had a present participle (or perhaps a present tense) formed with a compound suffix *-ntharra*, comprising a nominaliser *-ntha* plus a present tense suffix *-rra*. The nominaliser *-ntha* was probably related to similar suffixes in other languages,¹⁹ such as *-ntja* in Western Desert (e.g. Douglas 1964:52, 77), *-nja* in Warlpiri (Capell 1962:27-28, 31-32, spelt there *-ndja*), *-ntyē* and *-tyē* in Arrernte (Wilkins 1989:137-139), and *-ntya* (in *-ntyaaya* verbal purposive with *-ya* nominal dative, and in several other compound suffixes) and *-ntyirr* (nominaliser) in Kalkutungu (Blake 1979a:56, 79, 89, 92: the spelling there uses IPA symbols; see also Breen 1974a). The *-DHu* affix in Yuulngu languages (e.g. Morphy 1983:73) seems not to be related (Alpher this volume). A group of verbs in Garrwa and Waanyi²⁰ ending in *-nja* may result from borrowing.

¹⁵ Two of these are compounds: *mayija* “clench or grind teeth” with *mayi* “teeth” and *walkurrija* “flatten” (and its reflexive form *nyamba-walkurrija* “lie down to sleep”) with *walkurr* “asleep”.

¹⁶ This has present participle *jantharra*; compare the cognate Warluwarra *yiya* “send”, which is regularly in the TH-conjugation. Note also that *janjarra* is the present participle of *ja* “swallow”.

¹⁷ One of these, *wurraya* “tie up (salted stingray meat, in preparation for later cooking)” may be a compound containing *ya* “tie up”, although this is not clear: there is a word *wurra* meaning “in the water, underwater”. Another, *ngabiya* “do something” (used when trying to recall a specific action) functions also as an interjection with a related meaning, and is cognate with Wl and B *ngawiya* “so-and-so, whatsisname”, a noun which can be verbalised with inchoative and causative suffixes.

¹⁸ This is probably not cognate with Warluwarra *butha*, in the 0-conjugation; Carew (1993:45) relates that to Yanyuwa *wunjulpunjulma* “taste, lick, suck”.

¹⁹ Evans (1988:94) suggests that it is a Pama-Nyungan innovation.

²⁰ This was brought to my attention by Mary Laughren.

This would have been split into four forms (in proto-Ngarna) by the introduction of two morphophonemic rules: (a) interdental becoming alveopalatal after a stem-final /i/ and (b) dissimilation of nasal-stop cluster after another nasal-stop cluster (see McConvell 1988). The first of these is an instance of a sound change that has been common in Australian languages (see Dixon 1980:153-4, where Yanyuwa and Warluwarra are two of the languages used as exemplars, and for more detail Dixon 1970b). The second is attested for several languages in the Ngumpin subgroup (see McConvell 1988), to the west of but not contiguous with the Ngarna languages. For Garrwa, contiguous with Yanyuwa, see Breen (in press); for Kalkutungu, contiguous with Warluwarra and Bularnu, see Blake (1979a:18-19); and for some more distant languages see Dixon (1980:217-218).

These two morphophonemic rules would have led to four forms of the suffix: *-jarra* after *NSi*, *-tharra* after *NSa* or *NSu*, *-njarra* after other final /i/, *-ntharra* in all other cases, giving what we can call *J, *TH, *NJ and *NTH conjugations. Probably at least two-thirds of verbs had stem-final /a/ and perhaps only about ten percent had a nasal-stop cluster in the final consonant position of the stem. These figures are based on modern figures for Yanyuwa, Bularnu and Warluwarra; the figures range from close to 80% with final /a/ in Yanyuwa to about 60% in the others. A large proportion of verbs in all three languages are (either clearly or apparently) derived with either the causative suffix *-ma* or the inchoative *-(V)rri*. A figure of 60% final /a/ and 40% final /i/ would mean that about three percent of verbs were in *J, 10% *TH, 27% *NJ and 60% *NTH.²¹ In fact, there seem to be only four stems in Yanyuwa which have descended from the *J conjugation (i.e. with stem-final /i/ and in the Y conjugation).

In modern Yanyuwa, it seems that there has been lenition of the two suffix-initial laminal stops to /y/, so *J and *TH have merged to form the Y conjugation (or they may have merged before the lenition, since *J had so few members). Such lenition is attested (but with only two examples for **j*, none for **th*) in word-initial position (Carew 1993:46): a relevant cognate set is shown in (2).

- (2) **jinba* “sing” > Y *yinba*, Wk *jimb*, B *djiba*, Wl *djipa*

This lenition is not attested intervocally.²² There are some /j/-initial suffixes, but, it seems, none with initial /th/. The Yanyuwa dictionary files contain only eleven words with initial /th/, one of which may result from loss of an earlier

²¹ Warluwarra and Bularnu have no /u/-final verb stems. Yanyuwa has about seventeen.

²² It is presumed that it is Y *tha*- “eat (meat)” that is cognate with Wk *wuth* “eat (meat)”, and not Y *wiya* “taste, suck, lick”.

initial syllable (*tha*- “eat (meat)”; compare Wakaya *wuth*). However, there are 129 words with initial *j*, including 22 verbs.

Of the handful of exceptions to the conjugation membership rules, there is little that can be said. It is probably coincidental that words meaning “bathe” or “swim” crop up several times in the details of conjugation membership for the various languages, as exceptions or doubtful cases. It may be that Yanyuwa *ngabu* “swim, bathe” was earlier *ngaburr*- and so a member of the Y conjugation. It is cognate with Wk *nguberr*, B *ngaburra* and Wl *ngawirra*. This is the only /u/-final verb stem that retains the /u/ when a suffix is added.

At the proto-Southern Ngarna level (or proto-Wakayic, after Yanyuwa split off) there seem to be still four conjugations: NTH continues from proto-Ngarna, NJ has become J — all four Southern Ngarna languages have /j/ (or /dj/) instead of /nyj/ in the relevant suffixes for stems with final /i/ (or, in Yinjilanji, final /rri/, and in Wakaya descended from verbs with final /i/ and including inchoative verbs). There is no evidence for this simplification of /nyj/ clusters other than in these verbal suffixes at this stage, however.²³ The old TH and J conjugations have merged to form a 0 conjugation. There may have been also a small conjugation, RR, ancestral to the modern RR in the Thawa languages and the /err/-final stems in the 0 conjugation in Wakaya, and possibly related to the two /rr/-final verb stems in Yanyuwa (in the Y conjugation). The nasal-stop dissimilation rule may have been still functional at this stage.

Proto-Southern Ngarna split into two languages featuring different generalisations of the nasal-stop dissimilation rule. In proto-Ngaru (or at least Wakaya; Yinjilanji data are reasonably consistent with this too) the dissimilation was broadened from stems with a nasal-stop cluster in the final consonant position to all stems with a stop in that position. In Wakaya (at least) too the RR conjugation has merged with the 0 (from which it is only minimally distinct in the Thawa languages).

In proto-Thawa the dissimilation was broadened to a nasal-stop cluster simplification rule. Some examples showing the operation of this rule (which has also affected a few stems in Wakaya) are shown in Table 10. In verbal suffixes /nth/ also was simplified by this rule. Thus Warluwarra and Bularnu retain the proto-Southern Ngarna conjugations with TH in place of NTH.

²³ An alternative scenario is that proto-Southern Ngarna had /nyj/ and the simplification of this cluster spread from the Thawa languages at a later stage.

Table 10: *Changes to nasal-stop clusters*

	fall	give	sing	east/north	we PlInc	you Du	drink
proto-Ngarna	*yanba	*ngunda	*jinba	*nguthundu	*ngambala	*yimbala	*kunja
Yanyuwa	anba	ngunda	yinba	nguthundu	ngambala	yimbala	wunja
Wakaya	yinb	ngund	jinb	ngujil	ngambel	yibul	kunj
Yinjilanji		yirrimi	jinba	nguthaali(?)	ngambili	yibili	kunja
Bularnu	yaba	nguda	djiba	ngudhidha	ngabala	yibala	ngudha
Warluwarra	yapa	nguta	djipa	nguvinda	ngapala	yipala	gutja

In general I do not have explanations for exceptions (but see note 13). These are generally quite unsystematic (and at least in Yinjilanji may be attributable in part to the poor quality of the data). An exception that is not totally unsystematic is the presence of stems with voiceless peripheral stops (and a minority of those with voiced peripheral stops) in the TH conjugation in Bularnu.

5. Conclusion

The development of a system of verb conjugations in the Ngarna languages from a pre-proto stage where there were no conjugations (or perhaps an earlier conjugation system which was swamped by the newly emerging phonologically based system) has been outlined. It is clear that there has been a complex series of changes from an earlier stage, common to and confined to this group of languages and pointing strongly to its genetic unity. It may be that more detailed study will explain some of the inconsistencies and changes in the membership of the conjugations and changes in the system in the different languages, but the major changes over time can be followed. These can be summarised as follows (with irregularities in conjugation memberships disregarded).²⁴

- proto-Ngarna TH with stems ending in *NSa/u* and J with stems ending in *NSi* were small conjugations which merged to form Y in Yanyuwa and 0 in proto-southern Ngarna and its descendants, but membership comprising stems ending in *Sa* in the Thawa languages;²⁵
- proto-Ngarna NTH with all other stems ending in *Ca/u* is unchanged in Yanyuwa, has stems ending in *(~S)a/u* as its membership in proto-Southern Ngarna, adds some words ending in *rra/u* in proto-Ngarrru, and becomes TH, with membership *(~S)a*, in proto-Thawa;
- proto-Ngarna NJ with all other stems ending in *Ci* descends as J in all its successors;

²⁴ N = nasal, S = stop, / = or, ~ = not (so *~Sa/u* = ‘not Sa or Su’, but *(~S)a/u* = *Ca/u* where C is not a stop).

²⁵ Remember that the Thawa languages have no /u/-final verb stems.

- proto-Southern Ngarna innovation RR with members *rra/u* merges with 0 in proto-Ngaru and remains, with membership trisyllabic or longer verbs ending in *rra* in proto-Thawa;
- proto-Southern Ngarna innovation TH descends as such in proto-Ngaru and merges with 0 in proto-Thawa.

Individual languages conform to their immediate parents except for Yinjilangi, which seems to have innovated some conjugations — but the data are too poor to allow more to be said with confidence.

It may be that if these languages had continued to be used a situation would have been reached in which there was one conjugation of intransitive verbs dominated by inchoatives and one of transitive verbs dominated by causatives, or perhaps one of /i/-final verbs dominated by inchoatives and one of /a/-final verbs dominated by causatives.

THE FAILURE OF THE EVIDENCE OF SHARED INNOVATIONS IN CAPE YORK PENINSULA

Paul Black
Northern Territory University

1. Introduction

Since the work of Hale in the 1960s (e.g. Hale 1964), Cape York Peninsula has been well known as an area of considerable phonological change, including such striking developments as the loss of initial consonants and even whole initial syllables. One might hope that some of these innovations would provide evidence for subgrouping, but this has rarely turned out to be the case. Even by 1976 Sutton (1976b:x) had suggested that some changes “were apparently diffused across genetically determined genetic boundaries, and perhaps also developed quite independently in separate areas”, while Alpher (1976:94) noted that few of the “hundreds of isoglosses on Cape York” appeared to be associated with either genetic subgroups or socio-cultural traits. For phenomena related to initial consonant loss alone, some of the reasons they must often be regarded as having occurred independently are readily apparent from Dixon’s (1980:195-207) nicely readable survey of these developments.

The present paper¹ attempts to explore the evidence for shared innovations in Cape York Peninsula more systematically: is there *any* such evidence that sheds light on subgrouping, particularly at levels where groupings are not otherwise obvious? After presenting general background (in Section 2), the paper first moves from north to southwest to review evidence on languages that have been grouped as Northern (§3), Middle (§4) and Southwest Paman (§5), and then it moves east to cover additional “initial dropping” languages (§6) and more conservative languages along the east coast (§7). Much of this evidence is from past comparative work (notably Sommer 1969, Alpher 1972, various papers in Sutton 1976c, and Black 1980), but occasionally supplemented by new material. This review leads to a conclusion (§8) that the occasionally more convincing evidence for shared innovations either relates to such obvious groupings as dialects of the same language or else tends to be swamped by changes that appear to have occurred

¹ I am grateful to Dr. Harold Koch (Australian National University), Dr. Zane Goebel (La Trobe University), and to my wife Cristina for their comments on a draft of this paper.

independently in different languages and/or tend to provide conflicting evidence for subgrouping.

2. Background and conventions

When Hale (1964) began his historical study of the languages of Cape York Peninsula, he tentatively took them to belong to a family that he called “Paman”, based on the fact that most of the languages shared reflexes of the proto-form **pama* for “person”. In work largely unpublished at that time he also reconstructed close to three hundred Proto-Paman forms; see Sommer (1969:62-66) for a list.

The subsequent classification of Australian languages by O’Grady, Voegelin and Voegelin (1966) did not confirm Paman as a group, but rather it treated the same languages as members of a larger “Pama-Maric family” that extended south through much of central Queensland. Alpher (1972:67-68) subsequently characterised Paman as a “rather vaguely delimited subgroup” within Pama-Maric, which in turn he considered a “rather vaguely delimited subgroup” of the Pama-Nyungan family, to which a majority of Australian languages are believed to belong.

While evidence continues to be developed for Pama-Nyungan itself (see e.g. Evans and Jones 1997:387-391), there is still no real evidence that either Paman or Pama-Maric actually represents a genetic grouping. Even so, the present paper can consider the extent to which comparative reconstruction has produced evidence for subgrouping the languages involved. Even here, however, we can note that any such evidence has not led to much agreement on any but the more obvious groupings, such as Northern Paman (Section 3).

Without establishing a subgrouping, of course, it is impossible to be sure that reconstructed proto-forms actually belonged to the same proto-language. Whereas each of Hale’s Proto-Paman forms is based on evidence from at least two different Paman groups, this is no guarantee that they all coexisted in the ancestor of all Paman languages. If proto-forms are reconstructed on evidence from only two groups that belong to an intermediate level subgroup, as some evidence suggests that Northern and Middle Paman do (see Section 4), then they could only be attributed to the corresponding intermediate proto-language; see also Black (1980:184-185). Alpher (1991:80) attempts to avoid more serious problems by distinguishing among Proto-Paman, Proto-Pama-Maric and Proto-Pama-Nyungan reconstructions, as well as those based on just “local” evidence, but this does not mean we can be fully confident that even his Proto-Paman forms actually coexisted in the same proto-language.

While the possibility that reconstructions may attest different proto-languages must accordingly be kept in mind, this has yet to cause any obvious problems. That

fact alone already suggests how limited the evidence of shared innovations must be. Shared innovations should actually emerge as an automatic consequence of comparative reconstruction in that they allow statements of sound change to be simplified by taking the shared changes to have happened just once in the intermediate proto-language of the languages involved. The more numerous or striking the shared innovations, the more likely they would have become apparent from the reconstruction of forms representing different ancestral stages.

For the most part the phonological changes and reconstruction forms dealt with in the following sections are ones already established in past literature. Thus, for brevity, I generally cite enough evidence to illustrate the point at hand, but not necessarily all the evidence that may be needed or is available to fully establish the point; further information or details can generally be found in sources cited in nearby text. Thus too I do not always try to explain idiosyncrasies in the forms of individual varieties (e.g. less obvious vowel correspondences), regardless of whether the sources have provided such explanations or simply treat the forms as problematic.

The accompanying map gives the names and locations of many of the languages considered here. In citing data I sometimes use rather obvious abbreviations for just those language names already mentioned in the same paragraph or in very recent discussion, e.g. 'Kr.' for Kurrtjar and 'YY' for Yir-Yoront.

In transcribing words in these languages I avoid special phonetic symbols, instead following conventions common in the orthographies of Australian languages. The most unusual conventions are the use of *D* to represent an apical flap distinct from both an apical trill *rr* and a retroflex *r* (see Section 5.4), the use of *v* to represent schwa and *q* to represent glottal stop (both following Alpher 1991), and the use of *oe* to represent a mid or high central vowel (including the 'barred *i*' of Rigsby 1976 and Dixon 1991). Whether symbols for voiced and voiceless consonants represent distinct phonemes depends on the language; lamino-palatal stops are written variously as *ty*, *tj* or *ch* (and/or their voiced equivalent *dy*, *dj* or *j*), again depending on the language; and fricatives are represented by the digraphs *bh*, *dh*, and *gh*, as well as by *f*.

In reconstructions there is no contrast between **t* and **r* in initial position (see Alpher 1972:72), and I follow Alpher (1991) rather than Hale (1976b, c, d) in writing initial **t*. At the same time I continue to write reconstructed laminals as **ty* and **ny* even though I do not mean to imply they were necessarily lamino-palatal (cf. Sommer 1969:52-53; Crowley 1983:332).

3. Northern Paman

Northern Paman is a linguistic group established by Hale (1964) to include the languages in the northern part of Cape York Peninsula. The best evidence for the grouping is lexicostatistical (see also Black 1974a): even for the most marginal member, Mbiywom, all but one of the percentages (namely 28% with the most distant variety) are clearly higher (35% and above) than any percentage shared with languages outside the group.

This grouping also seems rather obvious in that all of the languages have lost at least some, and usually all, initial consonants; but it turns out that neither this nor other innovations established by Hale (1976b, c) can actually be taken to support Northern Paman as a genetic subgroup. The best candidates are considered below.

3.1 *Initial consonants loss*

All initial consonants were lost in all Northern Paman varieties except the northernmost, Uradhi, which retained the initial consonants of some words without any clear environmental conditioning (Hale 1976b:42) and with some variation among dialects (Crowley 1983:331-332). One might nonetheless hope to find that either (1) the loss of all initial consonants was a shared innovation for varieties other than Uradhi, or else (2) the loss of just those initial consonants lost in Uradhi was an innovation shared by all Northern Paman varieties. By considering just those cognate sets for which Uradhi shows initial consonant loss we can actually rule out both possibilities.

In the cognate sets (from Hale 1976c) in Table 1 the initial consonants (reconstructed on the basis of evidence outside Northern Paman) have been lost in all Northern Paman varieties, as exemplified by the reflexes in the four varieties in the table (Uradhi, Yinwum, Luthigh, Awngthim). Before the consonants were lost, however, they conditioned certain changes in some but not all Northern Paman varieties. One change is found in Yinwum alone, where an initial nasal (N) caused the stop (S) after the following vowel (V) to become prenasalised; i.e. S became NS after an initial NV that was subsequently lost, as in **ngatyi* > Yn. *nty*- ‘mother’s father’ (for a second example see **nyatji*- in Table 2).² No such prenasalisation occurred when the initial consonant was non-nasal, as in Yn. *twa* ‘dog’ < **kuta(ka)*. A different change is found in about half of Hale’s thirteen varieties, including Luthigh in the table: an initial nasal caused the loss of the nasal in a subsequent nasal-stop cluster; i.e. initial NVNS > NVS > S, as in **nyuntu* > Lt. *tu* ‘you’; contrast this with the Luthigh reflex of **kungkarr*.

² In both instances the prenasalised *ty* has been rendered as *nty*, although Hale appears to distinguish such prenasalised stops from nasal-stop clusters.

Table 1: *Initial consonant nasality as a conditioning environment (q represents glottal stop)*

gloss	dog	north	mother's father	you
proto-form	<i>*kuta(ka)</i>	<i>*kungkarr</i>	<i>*ngatyi</i>	<i>*nyuntu</i>
Uradhi	<i>utagha</i>	<i>ungkidhu</i>	<i>athi</i>	<i>antu(-bha)</i>
Yinwum	<i>twa</i>	<i>ngkwath</i>	<i>nty-</i>	<i>nti</i>
Luthigh	<i>uqa</i>	<i>ngkwithu</i>	<i>thay-</i>	<i>tu</i>
Awngthim	<i>qwa</i>	<i>ngkwath</i>	<i>thay-</i>	<i>ntru</i>

If it were just a matter of distinguishing nasal from non-nasal initials, then one might be tempted to suggest that vowels were first nasalised after initial nasals and that this nasalisation became contrastive after the loss of initial consonants. This would allow initial consonant loss (not to mention the unattested nasalisation) to be considered a shared innovation, since subsequent developments could be taken to have been conditioned by the nasalised vowels before they subsequently lost their nasalisation (as is easy to imagine). Whether or not something like this may actually have happened, however, to allow changes and their reversals to be posited without independent evidence would make it easy to posit spurious shared innovations, such as a split of an original phoneme *X into reflexes Y and Z followed by a merger of Y and Z in those members of the putative group that don't actually show the split.

In any case it was not just nasal initials that conditioned changes in individual Northern Paman varieties. In just four of Hale's thirteen varieties, including Uradhi, Luthigh, Awngthim in Table 2, intervocalic **ty* became *th* in reflexes of **ngatyi* but *ty* in reflexes of **nyatyi-* and other words beginning with a laminal (**ty* or **ny*). In Yinwum and a variety not shown in the table (Ngkoth), initial laminals also caused vowel fronting that now appears in the second syllable of the Yinwum forms *nti* 'you' < **nyuntu* and *ngkit(aw)-* 'laugh' < **tyangkar-*.³

Table 2: *Changes conditioned by initial laminals*

gloss:	mother's father	see	you	laugh(ter)
proto-form:	<i>*ngatyi</i>	<i>*nyatyi-</i>	<i>*nyuntu</i>	<i>*tyangkar-</i>
Uradhi:	<i>athi</i>	<i>aty-</i>	<i>antu(-bha)</i>	<i>angkarr-</i>
Yinwum:	<i>nty-</i>	<i>nty-</i>	<i>nti</i>	<i>ngkit(aw)-</i>
Luthigh:	<i>thay-</i>	<i>ty-</i>	<i>tu</i>	<i>ngkat(ang)-</i>
Awngthim:	<i>thay-</i>	<i>ty-</i>	<i>ntru</i>	<i>ngkaq-</i>

It is thus clear that initial consonant loss did not occur until Northern Paman had begun to develop distinct dialects (at least), some of which had already

³ For Mpakwithi Crowley (1981, pp. 157-8) also took initial labials as a conditioning environment, for a change of at least medial *nt* to *dr*. If so this again would have to have happened before initial consonant loss. From Crowley's own data, however, it is clear that the same change happened in **nyuntu* > *dru* 'you', and in fact no data is presented to show that it did not happen in all *nt* clusters.

undergone changes conditioned by the initial consonants. While it may be tempting to treat initial consonant loss as a shared innovation in a dialectally variegated Proto-Northern Paman, this would violate the basis for using shared innovations as evidence of subgrouping. For one thing, comparative evidence does not permit such a case to be distinguished from one in which the innovation truly occurred independently in distinct daughter languages, so that accepting such a possibility means losing any basis for establishing the independence of other innovations. In addition it would allow evidence that supports conflicting subgroupings, since several innovations could have spread across a language area in a pattern of partial overlaps. (If we accept evidence that violates the family tree model we should not expect it to support a family tree model.) Accordingly initial consonant loss cannot be considered a shared innovation supporting Northern Paman as a genetic subgroup.

3.2 *Loss of vowel length*

Similar problems arise for a merger of long and short vowels that occurred in all Northern Paman languages. As the cognate sets in Table 3 suggest, after the loss of initial consonants, short first syllable vowels were generally lost in all of Northern Paman varieties other than Uradhi (as in the first two cognate sets, although unexplained exceptions do occur in Luthigh) while long first-syllable vowels were retained in all of the varieties (as in the last two sets). Subsequently the contrast in vowel length was lost.

Table 3: *Vowel length as a conditioning factor (v represents schwa)*

gloss	mother's father ⁴	north	south	far
proto-form	<i>*papi</i>	<i>*kungarr</i>	<i>*yiiiparr</i>	<i>*tuungku-</i>
Uradhi	<i>api</i>	<i>ungkidhu</i>	<i>ibhidhu</i>	...
Yinwum	<i>pe-</i>	<i>ngkwath</i>	<i>ipyath</i>	<i>uwu-n</i>
Luthigh	<i>pi-</i>	<i>ngkwithu</i>	<i>ibhadh</i>	<i>ungku-l</i>
Awngthim	<i>pay-</i>	<i>ngkwath</i>	<i>vbheth</i>	<i>vghu-n</i>

If the merger of long and short vowels followed initial consonant loss, as the above account suggests, then of course it could not be considered a unitary development any more than the latter can. Alternatively, if the merger occurred before initial consonant loss, then it must have followed a loss of short vowels in initial syllables (or perhaps just their reductions to predictable vocoids) that happened in all varieties except Uradhi, which continues to distinguish the various short vowels from each other.

⁴ I have followed Hale (1976c) in glossing **papi*, as well as the earlier **ngatyi*, as “mother’s father”, although I suspect **papi* should actually be “father’s mother”.

In either case, the merger must also have followed certain changes that were conditioned by vowel length in just some of the Northern Paman varieties. In most Northern Paman languages medial stops became lenited after a long vowel: in Table 3 note how **p* after the short **a* in **papi* continues as *p* in all of the varieties, but after the long **ii* in **yiiparr* it lenites to the fricative *bh* in the varieties other than Yinwum. Since this lenition does not occur in Yinwum and three varieties not shown in the table, neither this change nor the subsequent loss of the conditioning vowel length can be attributed to an undifferentiated Proto-Northern Paman. A partially different set of varieties show lenition of nasal-stop clusters after long vowels — e.g. **ngk* becomes Yinwum *w* and Awnghim *gh* after the long **uu* in **tuungku-* — but again this cannot be attributed to Proto-Northern Paman because it did not occur in Luthigh and two varieties not shown in the table.

3.3 Other innovations

There are two other innovations that may seem at first glance to provide excellent evidence for the Norman Paman grouping, including a merger of intervocalic **r* and **t* and the development of final **rr*. However, it turns out that they can just as easily support grouping Northern Paman with the Middle Paman languages to the south, and thus they are dealt with in Sections 4.1 and 4.2 respectively.

There are other similarities in development among Northern Paman languages that clearly do not involve shared innovations. For one, all of the languages show a contrast between lamino-dentals (e.g. *th* and *nh*) and lamino-palatals (e.g. *ty* and *ny*), and this generally seems to have arisen through a split in a single reconstructed series **ty* and **ny*. In some of the languages, however, the conditioning factor was the adjacent vowel (with lamino-palatals appearing before and/or after **i*) whereas for others it was whether or not the initial consonant was also laminal, as noted in Section 3.1 earlier. (For Uradhi, apparently Crowley (1983:332) could trace only the lamino-dental series back to the proto-language, but his form *akyi-* “see” where Hale has **aty-* < **nyaty-* (noted in 2.1) would nonetheless suggest a split of **ty* into *th* and *ky*, if not into *th* and *ty*.)

Other similarities are that all have come to have a series of fricatives *bh*, *dh*, and *gh* and systems of four or more vowels (only three being reconstructed for the proto-language), but these seem to have come about in various ways and do not involve shared innovations for the group as a whole. Finally, stress shift was suggested as a shared innovation by Alpher (1976:94), but this seems a question of phonetic detail since stress is not actually contrastive in these languages or in reconstructed proto-forms.

4. Middle and Northern Paman

The languages immediately south of Northern Paman were treated as members of a Middle Paman group by Hale (e.g. 1976d). Here Middle Paman will be taken to include just the dialectally related Umpila, Kaantju, and Kuuku Ya'u varieties on the east coast near Lockhart River (see Thompson 1976:213) and the somewhat more divergent Wik languages (e.g. Wik Mungkan, in which *wik* means 'language') around and south of Aurukun in the west. From Black's (1974a) analysis of Hale's lexical data each of these varieties shares no less than 44% cognates with at least one other member of the group and no less than 28% with all other members.

Originally Middle Paman was also taken to include the Kuuk Thaayorre language further south because it shared similar lexicostatistical percentages with the other varieties. However, since Kuuk Thaayorre does not show any of the phonological innovations shared by other Middle Paman languages, it will be disregarded in this section and dealt with instead in Section 5 along with Yir-Yoront, with which its lexicostatistical percentages have been found to be equally high or even higher.

On the basis of comparative reconstruction by Hale (1976d) and O'Grady (1976), the remaining Middle Paman languages seem to share three innovations, at least two perhaps also being shared with the Northern Paman languages; they are considered in the following subsections. A shared similarity among the Wik languages alone (but not Umpila and its sister dialects) is the split of **a* into *a* and *e*, but due to differences in conditioning environment this could at best be a shared innovation for some of the Wik varieties other than Wik Mungkan (see Hale 1976d:53).

4.1 *The merger of *t and *r*

As Black (1997:53) has noted, all Northern and Middle Paman languages (disregarding Kuuk Thaayorre) underwent the merger of earlier **t* and **r* in intervocalic position, the only environment in which they were in contrast. As Table 4 suggests, both the **t* in **kutaka* and the **r* in **waari* are reflected as *t* (or its lenited equivalent in leniting environments) in such Northern Paman varieties as Uradhi and Yinwum and as glottal stop (here written as *q*) in the remaining varieties, both in Northern Paman (e.g. Luthigh and Awnghthim) and in Middle Paman (e.g. Umpila and Wik Mungkan).

Table 4: *Northern and (below the dotted line) Middle Paman reflexes of *t and *r*

gloss	dog	who
proto-form	* <i>kuta(ka)</i>	* <i>waari</i>
Uradhi	<i>utagha</i>	<i>ari-</i>
Yinwum	<i>twa</i>	<i>ate-</i>
Luthigh	<i>uqa</i>	<i>qi</i>
Awngthim	<i>qwa</i>	<i>qay</i>
Umpila	<i>kuqaka</i>	<i>waaqi</i>
Wik Mungkan	<i>kuq</i>	<i>weeq</i>

The reflexes **t* in other environments (initially and in clusters) occasionally differ from these, but **t* did not contrast with **r* in those environments in any case. In several varieties that show glottal stop as the reflex of intervocalic **t* and **r*, the cluster **nt* is reflected as *ntr* or *dr*,⁵ as in **wanta-* > Yinwum, Linngithigh *ntra-*, Mpakwithi (Crowley 1981) *dra-* “put, leave (it)”. While Crowley (1981:158) suggested that this change had to precede the merger of intervocalic **r* and **t*, this is not necessarily so, since the environments are different.

In initial position, what Hale wrote as **r* and Alpher (1991) and I write as **t* (see Alpher 1972:72) seems to have become zero in Middle Paman languages (where it would not actually contrast with the glottal stop reflex found in intervocalic position), as of course it also has in the Northern Paman languages that lost all initial consonants. However, it does show a non-zero reflex *r* in some Uradhi forms, e.g. **tungka-* > Ur. *rungka-* (cf. Umpila *ungka-*) “cry”. There is no evidence that Middle Paman varieties have lost any initial consonant other than **t*, and thus Black (1997:53) was wrong to suggest otherwise.

For the merger of intervocalic **r* and **t*, the most straightforward sequence of development is as suggested by Crowley (1981:158), namely that they first merged to **t*, which remains as *t* in some Northern Paman varieties, and subsequently that **t* became a glottal stop in the varieties showing that reflex. The only problem with this is that the **t* resulting from the merger would seem to have coexisted in the same proto-language as a second *t*-like sound — Hale writes it as **T* in one place — which has only *t* as its reflexes, even in languages in which the **t* from the merger is reflected as a glottal stop. This **T* has been reconstructed in only one form, namely **kuTini* > Mpalityanh *utin*, Awngthim *twin* “emu”, Umpila *kutini* “cassowary”. Since the form is reconstructed on the basis of Northern and Middle Paman evidence alone, however, it does not pose a problem if **r* and **t* had first merged to something distinct from **T* (e.g. perhaps to **d*) or if the anomalous correspondences were simply due to borrowing.

⁵ The original transcriptions used raised *r* to show that *tr* and *dr* are unitary phonemes.

Despite that small problem this evidence for a shared innovation seems particularly compelling because a merger of **r* and **t* is relatively unusual. In addition, the grouping of the Northern and Middle Paman languages is also at least weakly supported by lexicostatistical evidence (Black 1974a:4-5; 1980:185) and to some extent by the evidence treated in the following subsection. As for the further development of the merged **t* to glottal stop, it is logically possible to view this as a shared innovation for a smaller subgroup containing the Middle Paman varieties and just those Northern Paman ones that show this glottal stop as a reflex, but only if one abandons Northern Paman as a genetic group.

4.2 Development of final **rr*

The other innovation that may have been shared by all Northern and Middle Paman varieties was a distinctive development of word-final **rr*. The clearest evidence is for the development of final **rr* after **u*, where it becomes *gh* in Northern Paman varieties other than Uradhi (as in **takurr* > Luthigh *akugh*, Awnghim *kawgh* “skin”), *y* in Uradhi and in the Middle Paman languages Kuuku Ya’u (and sister dialects) and Wik Ngathrr (thus **takurr* > Ur., KY *akuy*), and zero in other Middle Paman varieties (as in Wik Muminh *aku* “skin”). As Black (1997:53) has noted, this change is not without parallel elsewhere: see Section 5.4 on the velarisation of final liquids in Kok-Nar, Kurrtjar and Walangama.

After other vowels it seems that the Middle Paman reflexes of final **rr* are exactly the same as those after **u* (and thus **kungkarr* > Umpila *kungkay*, Wik Ngathrr *kungkiy*, Wik Muminh *kungke* “north”), but that final **rr* continued as either *dh* or *th* in Northern Paman (e.g. **kungkarr* > Uradhi *ungkidhu*, Luthigh *ngwadh*, Yinwum and Awnghim *ngkath* “north”). The latter type of development was proposed by Crowley (1981:162) after having been left unclear in Hale’s (1976b, c, d) account, where all of the reflexes of most of the relevant forms (two others being **tyiparr* “south” and **kuutyirr* “two”) were taken to involve suffixes, as several clearly do (with such suffixes as *-m* and *-ntuw* before which the **rr* may of course have become zero). One of Hale’s cognate sets did clearly show a Northern Paman *dh* reflex of **rr* after **i*, but in just a few varieties: **mulirr* > Linngithigh, Ntra’ngith *lidh*, Awnghim, Aritinnghithigh *hwidh* “tooth”.

The split of final **rr* into laminal and velar obstruents is such a distinctive change that it surely must represent a shared innovation, but is it a shared innovation for just the Northern Paman grouping, with Middle Paman showing an independent development of final **rr* to *y* (and later zero in some varieties)? Or should we take it to be a shared innovation for the grouping of all Northern and Middle Paman varieties (disregarding Kuuk Thaayorre), with the *y* and zero

reflexes of the latter being taken to be a subsequent development (as **gh* > *y* surely was in Uradhi)? You can take your pick.

4.3 Laminal split

All Middle Paman languages (again disregarding Kuuk Thaayorre) show the split of non-initial laminals (**ty* and **ny*) into lamino-palatals (*ty* and *ny*) before **i* but lamino-dentals (*th* and *nh*) before other vowels: e.g. **katyi* > Wik Mungkan *katy* and Umpila *katyi* ‘far’ but **katya-* > WM *kath* and Um. *katha* ‘tie’. While such palatalisation is very common in languages throughout the world, the change in Middle Paman is somewhat distinctive in that it did not apply to initial laminals, which are reflected only as *th* (or sometimes *y* under conditions that remain unclear) and *nh* respectively: e.g. **tyipa* > Um. *yipa* or *thiqa* (with *q* < **p*) ‘liver’; **nyiina-* > WM *nhiin-*, Um. *nhiina-* ‘sit’.

While this could be considered a shared innovation for the Middle Paman group, note that exactly the same development of non-initial laminals is found in such Central Paman languages as Uw Oy kangand (see Section 5.3), whose loss of initial consonants makes it impossible to know what happened in initial position. By the same token the same innovation could conceivably be taken as shared by those Northern Paman varieties (notably Yinwum, Aritinngithigh and Mbiywom) in which a similar laminal split was conditioned by a following **i*, if also by a preceding **i* (as noted in 3.3). It is also possible to imagine that the split of non-initial laminals was also shared by various other languages (again see 4.3), in which initial laminals might be taken to have undergone a similar split at a later time.

5. Southwest Paman

Here I am using ‘Southwest Paman’ as a convenient cover term for a set of languages to the southwest of Middle Paman, along and occasionally inland from the Gulf of Carpentaria coast as far south as beyond Normanton. The name was introduced by Alpher (1972) for a proposed grouping of languages in the northern half of that area on the basis of three shared grammatical features, namely reflexes of an ergative suffix **-nytyV*, a past perfective suffix **-l*, and a distinction between two past tenses (perfective and imperfective). It turns out that the same features can also be found in such more southern languages as Kurrtjar (Black 1980:193, 222, 224), which thus would be members of the same group if these characteristics are indeed indicative of subgrouping.

The use of such grammatical characteristics as evidence is fraught with problems, however, especially in the absence of extensive grammatical recons-

truction and in an area where little is known about the grammars of many poorly attested varieties. With regard to the characteristics proposed for Southwest Paman, for example, something much like the *-nytyV* ergative can also be seen in Yidiny (Dixon 1977:127) and Djabugay (Patz 1991:264), on the east coast, while the past perfective **-l* may well be cognate with a *-la* past suffix in the Bidjara language of south-central Queensland (Black 1980:224).

Alpher (1972) has cited several other grammatical similarities in support of further subgrouping the languages into Coastal and Upper Southwest Paman. This information is useful and possibly without contradiction (although some related phenomena are found in other languages), but in view of its problematic nature it is not discussed further here, although the evidence for shared phonological innovations for these subgroups is treated below (largely in Section 5.2).

Phonologically the putative Southwest Paman languages are quite varied, but most of them do have one clear similarity: to a great extent they include just those Cape York Peninsular languages which have lost original final vowels. Even so, after various other candidates for shared innovations are considered, Section 5.5 will show why final vowel loss cannot be a single innovation in a shared proto-language. Note also that some of these languages (in e, f, and g below) have lost initial consonants, a matter that will be left untreated until a few additional languages can be considered in Section 6.

Here is some background information on the languages considered in the present section:

a. Kuuk Thaayorre, in the Edward River area, is phonologically relatively conservative. One development that may become apparent in cited data (from Hale 1976d and Foote and Hall 1992) is a change of preconsonantal and final **l* to *r* that did not occur in the Yak dialect of the same language (see Hall 1968:251-269): e.g. **miili* > KT *meer* ‘eye’ but Yak *mel* ‘eye’.

b. Yir-Yoront, from the coast between Edward River and Kowanyama, underwent a number of major phonological changes, including two shared with a sister dialect, Yir-Thangedl. These are a striking and quite regular loss of nasals from all homorganic stop-nasal clusters (as in **punytya* > YY, YT *puṯ* ‘arm’; see Alpher 1972:73) and the loss of the distinction between long and short vowels. Yir-Yoront also underwent some striking changes not found in Yir-Thangedl, such as the lenition of the stops **p*, **t*, **ty*, and **k* to *w*, *r*, *y*, and zero in certain environments and a change of other non-initial **k* to glottal stop (written *q*), the latter as in **kakara* > *kaqar*, YT *kakār* ‘moon’ (Alpher 1972:75). Alpher’s (1991) Yir-Yoront dictionary includes etymological information as well as abundant lexical data.

c. Koko-Bera is a commonly used English rendering of the indigenous name Kok-Kapér (“language-proper”) for the language of the coastal area west of Kowanyama. It has undergone significant vowel changes, including a fronting of earlier **a* and (after non-velar consonants) **o* (< **u*) that is not found in an otherwise quite similar dialect called Kok-Papónk (also “language-proper”): e.g. **ngamurr* > KP *ngamórr*, KB *ngamérr* “armpit” and **kutaka* > KP *kutáw*, KB *kutéw* “dog”. Kok-Papónk has also retained **rr* where Koko-Bera has lost it before velars, as in **yirrka-* > KP *yirrka-*, KB *yiká-* “say”. Both varieties share the replacement of vowel length by a contrastive stress that falls on the first syllable if it was originally long (e.g. **puula-* > KP *pólv-yvrr*, KB *pélv-yvrr* “elder brother”) and on the second syllable otherwise, as in earlier examples. The data on these varieties is my own.

d. Kok-Nar, on the Staaten River to the south, is not particularly well attested, but Black (1980) found similarities in development between it and Koko-Bera (c), Kurrtjar (g) and Kukatj (h).

e. Uw Oy kangand (UO), inland from Kowanyama, has undergone such major phonological innovations as the loss of initial consonants and the pre-stopping of medial nasals, as treated in Section 6. Data cited here is from both Sommer (1969) and Kowanyama Aboriginal Community (1997), the latter showing that the closely related Olkola dialect shares both those changes and an *r* reflex of **rr* (cf. **tyalparr* > UO (ew) *alfar*, Ol. (ew) *elbhar* “chin”; **kutyirr* > UO *ujir*, Ol. *uchir* “two”). Olkola often differs in its reflexes of stops (as the same examples show), as well as in having retained original final vowels: e.g. **minya* > UO *inh* but Ol. *inha* “animal, meat”; **tyalmpu* > UO *ilbmb*, Ol. *ilbmbu* (cf. Middle Paman Pakanh *thalmpu*) “salt”. Developments were apparently similar (and as varied) in Okunjan and the closely related Kawarrangg to the south, which Sommer (1969:14-15) took to be additional members of a Central Paman group.

f. Walangama, in the Croyden area, is an initial dropping language treated by Black (1980) on the basis of his interpretation of data recorded over a century ago; Sommer (personal communication) has since suggested that it is probably what he recorded as Uw Alngam. In any case it seems to share initial consonant loss and the pre-stopping of nasals with the Central Paman language (e above) but also certain other developments with Norman Pama (g below).

g. Kurrtjar (Kr.) and Kuthant (Kt.), along the coast from the Staaten River to the Normanton area, were two closely related languages treated by Black (1980) as members of a Norman Paman group. Both lost some but not all initial consonants, an aspect treated further in Section 6.

h. Kukatj, southwest from Normanton, preserves initial consonants, but Black (1980) found some similarities between it and the Norman Paman languages (g), as well as with Kok-Nar (d).

5.1 Second syllable reduction

One change that Kuuk Thaayorre seems to share with both some of the Wik languages to the north and with Yir-Yoront to the south is the loss or reduction of a second-syllable vowel before a final consonant. This is most clearly so before final **n*, as in **kuman* > KT, YY *kumn*, Wik Mungkan and Wik Me'nh *kum.n* (but Wik Muminh and Kaantju *kuman*) “thigh” and in **patin* > KT *petn*, YY *pertn*, Wik Mungkan and Wik Me'nh *pe'.n* “skin”. Note that the second vowel was not lost in trisyllables, i.e. when the following consonant was originally followed by a vowel: e.g. **kalmpara* > KT *karmpar*, YY *kalpar* “flesh”.

Yir-Yoront and the same Wik varieties also lost the second syllable vowel before final **l*, and at least Yir-Yoront also lost it before final **rr* (which became *y* or was lost in the Wik varieties). Apparently Kuuk Thaayorre did as well, but it is difficult to be sure because the dictionary by Foote and Hall (1992) generally writes vowels in such syllables (e.g. even in *kumun*, where Hale wrote *kumn* “thigh”). Whereas **thamal* became YY *thaml* “foot”, for example, the Kuuk Thaayorre equivalent is given as both *thamir* and *thamur* by Foote and Hall (1992:153), and as *thamar* by Hale (1976c:58). This variation suggests that the second syllable just contains a predictable vocoid of indistinct quality, but it is impossible to distinguish this vocoid from a full vowel when such variant forms are not given.

In any case, Alpher (1972:83) noted this similarity between Kuuk Thaayorre and Yir-Yoront but did not take it to be indicative of subgrouping. Considering the uncertainties in the data this may be fair enough for now, but if it should be possible to show that the development in Kuuk Thaayorre was like that in Yir-Yoront, then there would be no reason not to treat them as a shared innovation for a grouping of these two languages, and perhaps with some of the Wik varieties as well if one is willing to question the shared innovations proposed in Section 4.

5.2 Vowel lowering

From a reconstructed system of three vowels **i*, **a*, and **u* plus contrastive length, at least those Southwest Paman languages in groups (a) through (e) seem to have developed systems including at least the five vowels *i*, *e*, *a*, *o*, and *u*, with Kuuk Thaayorre (a) also retaining contrastive length and Koko-Bera (c) and perhaps Kok-Nar (d) reinterpreting length in terms of stress. Norman Paman (g) maintained something closer to the original three vowel system (although written as **e*, **a*, and

**o*), but with a marked redistribution of length and with the development of a central vowel **oe* and the occasional need to write schwa (as *ʌ*). The available data on Walangama (g) leaves vowel distinctions unclear, and I will also not deal with Kukatj (i) vowels because of inconsistencies in the available data.

Those languages that have developed five vowel systems seems to have undergone various innovations, but one that is more common is the split of the high vowels **i* and **u* to yield the mid vowels *e* and *o* respectively in some environments. The high vowels almost always remain high (in initial syllables, at least) if the vowel in the following syllable was **a*, as can be seen of the **i* in **minya* > Kuuk Thaayorre and Yir-Yoront *minh*, Koko-Bera and Kok-Nar *miny*, Uw Oygangand *inh* ‘animal, meat’ and of the **u* in **kutaka* > KT *kuta* (ergative *kutaku*), YY *kurta* (ergative *kurtuw-l*), KB *kutéw*, KN *kúDvk* (where *D* is an alveolar flap), and UO *ud* ‘dog’.

The extent to which the high vowels were lowered to *e* and *o* in other environments varies somewhat among the languages. Yir-Yoront, Koko-Bera and apparently Kok-Nar appear to agree in lowering high vowels when the following syllable contained an identical high vowel. Examples for **u* > *o* are easy to find: e.g. **yuku* > YY *yoq*, KB *yok* (but KT *yuk*, UO *uk*) ‘tree’; **kuuku* > KB, KN *kok* (but KT *kuuk*, UO *uw*) ‘language’. Those for **i* > *e* are fewer: **tyili* > KB *chel*, KN *yel* ‘eye’ shows the Kok-Nar reflex, while Yir-Yoront YY *then*, KB (*mandélvng*) *chen* ‘(shield) handle’ could reflect earlier **tyini* and YY (*minh*-)*kerrqel*, KB (*ming*-)*kékv* ‘hawk species (swamp harrier)’ could reflect **kiirrkilV*.

Alpher (1972:78) has in fact proposed this lowering as a shared innovation for a Coastal Southwest Paman group including at least Yir-Yoront and Koko-Bera (he did not consider Kok-Nar). However, he suggested that the lowering occurred when the following syllable contained either of the two high vowels, rather than just an identical high vowel. While this seems clear for Yir-Yoront, I have found only limited evidence for Koko-Bera, including **kuli* > YY *kol* (ergative *kililh*) ‘provocation, cheek’, KB *kol* ‘cheeky’ (which could be borrowed) and **tyulyti* > YY (*minh*-)*tholhth* (ergative *thilhthi* or *tholhtho*), KB (*min*-)*chelch* ‘(any) small bird’. Koko-Bera evidence to the contrary includes **piimur* > YY *pemr* but KB (*pa*-)*pumér-vyvr* ‘father’s sister’; **mimur* > YY *memr*, KB *mimér* ‘leech’; **yumpi-* > YY *yow* but apparently KB *yimbé-l* ‘take’; and perhaps **munyi* > KB *muny* ‘burnt grass, burnt-off country’ (cf. Guugu Yimidhirr *munhi* ‘black’; on the other hand, YY *monhn* (ergative *monh-olh*) ‘burnt grass, burnt-off country’ seems to reflect earlier **mu(u)nyun*).

There are also two cases in which the lowering seems to have failed to occur even before a like vowel in Koko-Bera, namely in YY *nhopol*, but KB *yupél* ‘you

(dual)” < **nyupula* and (if the Yir-Yoront ergative reflects the lost final vowel) YY *then* (ergative *thenelh*), KB *chin* “penis” < **tyini*.

It is thus not clear that this lowering of high vowels could be due to a single innovation in a proto-language shared by Yir-Yoront and Koko-Bera (and perhaps Kok-Nar). The situation is complicated by the fact that similar but environmentally more limited vowel lowering seems to be found in Kuuk Thaayorre and Uw Oygangand, which Alpher (1972:79) grouped as members of an Upper Southwest Paman group. The four cognate sets I am aware of (given in Table 5) seem to show **u* > *o* in just words in which the following syllable is also reconstructed as containing **u*, and thus the *o* reflex is also seen in the Yir-Yoront, Koko-Bera and Kok-Nar forms. These forms also contain a velar or **w*, but this does not account for the apparent lowering because it is not found in the Kuuk Thaayorre or Uw Oygangand reflexes of **kuuku* or **yuku* (see earlier), nor is it found in UO *uy* < **kuyu* “fish” (cf. KB, KN *koy* “fish”).

Table 5: *Forms that seem to consistently reflect *u as o in Southwest Paman varieties*

gloss:	nose	mosquito	blow fly	water
proto-form:	<i>*kuuwu</i>	<i>*kongolV</i>	<i>*wuulul(V)</i>	<i>*nguku</i>
Kuuk Thaayorre:	<i>koow</i>	<i>wongol</i>	<i>woolol</i>	<i>ngok</i>
Uw Oygangand:	<i>ow</i>	<i>ogngol</i>	<i>olol</i>	<i>og</i>
Yir-Yoront:	<i>kow</i>	...	<i>woll</i>	...
Koko-Bera:	<i>kow</i>	<i>kongól</i>	<i>(wénvl?)</i>	...
Kok-Nar:	<i>kow</i>	<i>wongól</i>

Where these Southwest Paman languages agree in having the reflex *o*, of course, we might simply reconstruct **o* in their shared proto-language (whatever it was). Then lowering would not be a shared innovation for Kuuk Thaayorre and Uw Oygangand, but it could perhaps prove to be a shared innovation for grouping the Southwest Paman languages involved if this **o* can be shown to regularly reflect an earlier **u* based on evidence from languages outside the group. For example, if only **kuuwu* “nose” could be attributed to a proto-language earlier than a putative Proto-Southwest Paman, then it could be that **u* became **o* in the latter proto-language just when it was followed by **wu*. No evidence of such a conditioning environment would then need to be apparent for other instances of **o* reconstructed for Proto-Southwest Paman, since the words involved could have been introduced into that proto-language after that change occurred. This example is too speculative to take seriously, but hopefully it will help demonstrate how problematic evidence for shared innovations can be.

Alpher (1972) did not mention a lowering of **i* to *e* in Kuuk Thaayorre or Uw Oygangand, but some evidence suggests the possibility. The clearest example is KT *meer* (ergative *meere*), YY *mel* (also Middle Paman Pakanh *meqe*) “eye” < **miili*

(see Alpher 1991:295); UO *el* and Olkola *ele* “eye” could reflect either this or **tyili*, whose reflexes are also widespread.

5.3 Laminal split

All of the Southwest Paman languages have two series of laminals, namely lamino-dental (at least *th* and *nh*) and lamino-palatal (at least *ch* and *ny*). In Kuuk Thaayorre and Yir-Yoront, however, the latter are almost never found in forms with cognates in other languages. One possible exception is KT *kunch* (ergative *kunchi*) “penis”, which if cognate with Koko-Bera *konch* “urine” could seem to reflect earlier **kuntyi*. (One may wonder if this could somehow also be cognate with YY *kachl* (ergative *kichirr*) “urine”, which could reflect an earlier **ka(n)tyil*.) Usually, however, **ty* and **ny* simply continue as KT and YY *th* and *nh* respectively, as in the various cognate sets given below.

In the remaining languages **ty* and **ny* before **i* consistently yield *ch* (or *j* or *y*) and *ny* respectively. In Table 6 the change can be seen in initial position in Koko-Bera, Kok-Nar, and (in the one form that preserves the initial consonant) Kurrtjar (above the double line), but not in Kuuk Thaayorre and Yir-Yoront (below it). Where languages have lost initial consonants, of course, the change is apparent only in non-initial position: e.g. **ngaty* > Uw Oykangand *aji-ngarr* “grandparent”, Kurrtjar *aach*, Walangama *tyv-ngvdh* “mother’s father” (cf. KT *ngethe* “grandad”); **punyi* > UO *ujny*, Olkola *ujnyi* (cf. YY *ponh*) “hornet”.

Table 6: Some Southwest Paman reflexes of the initial **ty* and **ny* before **i*

gloss	south	liver	eye	sit
proto-form	<i>*tyiparr</i>	<i>*thipa</i>	<i>*tyili</i>	<i>*nyiina-</i>
Koko-Bera	<i>yípvrr-vy</i>	...	<i>chel</i>	<i>nyiné-/nyiná-</i>
Kok-Nar	...	<i>yebh</i>	<i>yel</i>	<i>nyen-</i>
Kurrtjar	<i>bhvD-iyvng</i>	<i>yeebh</i>	<i>eel</i>	...
Kuuk Thaayorre	<i>thiiparr</i>	<i>thip</i> “liver meat”	...	<i>nhiin</i>
Yir-Yoront	<i>thiprr</i>	<i>thip</i>	...	<i>nhin</i>

In other environments **nh* generally yields *nh*, as in **nhaa-* > KB, KN, Kukatj *nha-*, KT *nhaa-m* “see”, but in some of the languages it appears as *ny* when it ends up in word-final position after **i*, as in **minya* > KB, KN, Kukatj *miny*, Kurrtjar *eeny*, but UO *inh*, YY, KT *minh* “animal, meat”. The stop **th* is more consistently realised as *th* in such environments, although after **i* it can appear as *ch* in Kurrtjar due to this vowel being copied into the following syllable: e.g. **pityarrV* > KB *pithérr*, KN *mitherr* (with unexplained initial *m*), KT, YY *pitharr*, Kuthant *tiaarr* (with *t* not distinct from *th* before *i*), but Kurrtjar *chaarr* “dream”.

Laminal split before **i* could be taken to be a shared innovation for the languages other than Kuuk Thaayorre and Yir-Yoront, but of course it is a common

sort of development, and indeed one partially similar to the laminal split in Middle Paman (Section 4.3) and in some of the Northern Paman languages (3.3). From a brief report by Sutton (1976d) it also seems likely that some of the Mari languages of central and southern Queensland underwent a similar laminal split. Nearly all have two series of laminals, sometimes with lamino-palatals most frequent before *i* and lamino-dentals more frequent before other vowels.

5.4 Lenition and velarisation

Most of the languages of Cape York Peninsula show at least the occasional lenition of stops to fricatives or glides, but this tends to vary across and sometimes even within languages. For example, whereas Alpher (1972:78) noted that non-initial **k* lenited to *w* or zero in certain environments in both Yir-Yoront and Koko-Bera, as in **kutaka* > KB *kutéw*, YY *kurta* (ergative *kurtuw-l*) “dog”, only the Yir-Yoront form shows lenition (of **ty* to *y*) in **parritiyil(V)* > YY *(yo-)pirriyl*, KB *(yok) parréchl* “bloodwood tree”.

Some other languages also show lenition or loss of the third consonant (**k*) in other reflexes of **kutaka*, as in Kuuk Thaayorre *kuta* (ergative *kutaku*), Uw Oygangand *ud*, Wik Mungkan *kuq*, and (in Northern Paman) Uradhi *utagha* and Luthigh *uqa* “dog”. In the more southern Kok-Nar, Norman Paman (e.g. Kurrjar) and Kukatj, on the other hand, there is lenition of the second consonant, **t*, to a flap (written *D*): KN *kúDek*, Kk. *koDvk* and Kr. *Duaak* “dog”. It would be interesting to see if a similar pattern held for other cognate sets, but reconstructions of shape CVCVCV or longer are rare; Sommer (1969:62-66) lists no more than a dozen among Hale’s reconstructions.

For Kok-Nar, Norman Pama and Kukatj the development of **t* to a flap *D* (in contrast with a trilled **rr* and a retroflex **r*) could represent a shared innovation, but the only other known example attests this reflex only for Norman Paman, where **kati-* > Kurrjar *Diy-*, Kuthant *Di-* “come, go” (see Black 1980:204-205).

Another apparent innovation involving Norman Paman seems to be shared with Walangama and perhaps Kok-Nar, but not Kukatj (see Black 1980:200, 210-211). This is the addition of a voiced fricative *gh* after word-final **rr* and **l* in Norman Paman (e.g. Kurrjar) and Walangama, for which Kok-Nar shows *k* and *ng* respectively, as in the reflexes of **tyalparr* and **ngulkal* in Table 7. The Kok-Nar *ng* reflex of **l* is problematic, since it is also found in KN *ngamáng* “big”, which seems to reflect a form **ngamala* reconstructed with a final vowel. For non-final **rr* the languages simply have **rr*, as in their reflexes of **tyiparrV* in Table 7.

Table 7: *Reflexes of final and non-final liquids in Kok-Nar, Kurrtjar, and Walangama*

gloss	beard	meat	lily species
proto-form	<i>*tyalparr</i>	<i>*ngulkal</i>	<i>*tyiparrV</i>
Kok-Nar	<i>thalbhék</i>	<i>ngolkóng</i>	<i>yibhérr</i>
Kurrtjar	<i>lbhaarrgh</i>	<i>lkuaalgh</i>	<i>bheerr</i>
Walangama	<i>lperrgh</i>		...

5.5 Final vowel loss

As noted earlier, all of the Southwest Paman languages lost earlier final vowels except Olkola, a dialect of the same language as Oygangand. Even if that language is ignored, however, in no way can final vowel loss be considered a innovation shared by more than a few of these languages because it had to follow various changes specific to just some of them, including these as discussed in the subsection indicated:

- (in 5.1) the loss of second-syllable vowels before final consonants in Kuuk Thaayorre and Yir-Yoront (as well as some Wik languages to the north);
- (in 5.2) vowel lowering conditioned by a later (often final) vowel in at least Yir-Yoront, Koko-Bera, and Kok-Nar;
- (in 5.3) a laminal split conditioned by the following (occasionally final) vowel in all of the languages other than Kuuk Thaayorre and Yir-Yoront;
- (in 5.4) the velarisation of final liquids to *rrgh* and *lgh* in Kurrtjar and Walangama and to *k* and *ng* respectively in Kok-Nar.

Notice how each of the above could perhaps represent a shared innovation, but together they (and such others as the emergence of a flap *D* in some languages, as noted in 5.4) represent a conflicting set of possibilities, e.g. the first for grouping Kuuk Thaayorre with Yir-Yoront against the remaining languages, the second for grouping Yir-Yoront with Koko-Bera and Kok-Nar as against Kuuk Thaayorre and the others, and so on.

In addition to these more widespread innovations there is at least one innovation specific to Norman Paman that had to precede final vowel loss, namely the fronting of **u* to a central vowel *oe* when the following syllable contained **a*, as in **kuna* > Kurrtjar *ooen*, Kuthant *ooern* (but e.g. KB *kun*) “faeces” (Black 1980:210).

6. Initial dropping among the more southern languages

The languages covered in Section 5 included three groups of languages that lost some or all initial consonants, namely Uw Oygangand and the other Central Paman languages (Sommer 1969), Walangama, and the Norman Paman languages Kurrtjar and Kuthant (Black 1980). The present section will consider these along with data

from brief accounts of several rather different initial dropping languages to the east, namely Kuku Thaypan (Rigsby 1976), Yanga-Mbara (Sutton 1976a:103-115), and Mbabaram (Dixon 1991; see also Sutton 1976a:116-122).

Of these languages, the Norman Paman ones lost many but not all initial consonants for reasons that remain unclear (see Black 1980:206-209). However, this detail can be ignored here as it essentially was for the Norman Paman variety Uradhi in Section 3: it is enough to consider whether the loss of even just some initial consonants could be a shared innovation among all of these languages. The remaining languages will be treated as if they had lost all initial consonants, with a number of exceptions in Mbabaram (Dixon 1991:364-365) and a few in Yanga-Mbara (Sutton 1976a:111) assumed to be borrowings or contaminations in the data.

6.1 Initial consonant loss itself

To the extent that initial consonants were lost in these languages, this could not be due to a single innovation in their common proto-language because the loss was preceded by certain changes in just some of the languages.

Most clearly, when the initial consonant was non-nasal, a following nasal consonant became a prestopped nasal (e.g. *pm* or *bm* < **m*) in both Walangama and such Central Paman languages as Uw Oygangand: e.g. **pama* > Wl. *apm*, UO *abm*, but Kurrtjar *aam*, Yanga-Mbara *ma*, Kuku Thaypan *me* ‘person’; **tyina* > Wl. *itn*, but YM *nia* ‘foot’; **pungku* > UO *ogngg-eg*, but Kr. *ngko-yil*, Kuku Thaypan and Mbabaram *ngkoe* ‘knee’. There was no prestopping if the initial consonant was nasal, as in **nyVntV* > Wl. *int*, Kr. *aant* ‘you’ or in **ngamurr* > UO *amur*, Kr. *maarrgh* ‘armpit’, or when the intervening vowel was long, as in **kaanya* > Wl. *an(h)*, Kr. *ghaan-chvrg* ‘yamstick’ and in **piinya* > UO *inya-ngarr* ‘aunt’.

In at least Uw Oygangand initial **ty* and **y* seems to have provided a conditioning environment for the raising of **a* to *e*, as in *ebmal* ‘foot’ < **tyamal* (Sommer 1969:56-57).

For Mbabaram, Dixon (1991:362-263) also took initial consonants to condition the reflexes of vowels in later syllables. Specifically, initial dorsal-velars were taken to raise **a* to *o* (e.g. **kuwa* > *wo* ‘west’) and to back **i* to a high central vowel *oe* (e.g. **wanyi* > *nyoe-b* ‘what’) while initial lamino-palatals were taken to front **a* to *e* (e.g. **tyana-* > *ne-* ‘stand’) and **u* to *oe* (e.g. **yuku* > *goe* ‘tree’). This leaves several forms (on p. 364) unexplained, but the same is true of the possible of taking the conditioning environment to be the first-syllable vowel (see 5.2 below on vowel metathesis) rather than the initial consonant. If the conditioning environment is indeed the initial consonant, this would constitute further evidence for the independence of initial consonant loss.

6.2 Loss or metathesis of first-syllable vowels

After the loss of initial consonants nothing further happened in Central Paman (e.g. Uw Oy kangand) that need concern us here. That is, the following vowel was always retained in some form or other, if with loss of any length.

In the other languages, at least some first-syllable vowels were either lost or shifted into the second syllable: e.g. **kuta(ka)* > UO *ud*, but Kurrtjar *Duaak*, Walangama *twegh*, Mbabaram *dog*, Kuku Thaypan *to*, Yanga-Mbara *tey* “dog”. In the Kurrtjar and Walangama forms the first syllable **u* clearly moves or is copied into the second syllable to appear as *u* or *w*. The remaining forms show *o* or *e* either as reflexes of the **a* in **kuta(ka)* — whether or not conditioned by the first-syllable vowel or even the initial consonant (see 5.1) — or else as the result of change from a sequence **ua* resulting from the shift of the vowel from the first syllable to the second. In any case such first-syllable vowels were then lost in the languages other than the Central Paman varieties.

The above account needs several qualifications. Firstly, this initial vowel loss or metathesis must have occurred after the loss of final vowels in Norman Paman (e.g. Kurrtjar) and Walangama, since it did not apply to initial vowels in words that had become monosyllabic through the loss of the final vowel, such as Kr. *aam*, Wl. *apm* “person” < **pama*. (An alternative of taking initial vowels to have been retained in words that were originally disyllabic does not work for disyllables ending in consonants, such as **ngulkal* > *lkuaalgh* “meat”.) It did apply to such roots when they were followed by a suffix, as in Kr. *maal* “person (ergative)” < **amaal* < **pama-lu*. Accordingly this initial vowel loss or metathesis must have occurred independently from that in languages which did not lose final vowels, but which instead lost the first-syllable vowels of such disyllables as **pama*, as in Yanga-Mbara *ma* and Kuku Thaypan *me* “person”.

The second qualification is that any changes conditioned by the first syllable vowel (including its metathesis into the second syllable) must of course occur before that vowel is lost, and to the extent those changes vary from one language to another — a matter that remains unclear — then the vowel loss must also be taken to have occurred independently. The reason that it is not clear to what extent the changes must be taken to vary among languages is that the conditioning environments are not always clear within individual languages. For example, Rigsby (1976:74) was unable to find a basis for predicting the quality of second syllable vowels in Kuku Thaypan; for example, he found that a **CuCu* sequence yielded *Cu* in three instances (e.g. **yuku* > *ku* “tree”) but *Coe* in four others (e.g. **pungku* > *nggoe* “knee”). There seems to be no clear basis for accounting for this difference in terms of either the initial consonants (as Dixon tried to do for Mbabaram; see

5.1) or the medial consonants: e.g. **kungulV* > *ngoel* “mosquito” but **kuuku* > *wu* “language” but **muku* > *koe* “bone”.

Finally, it should be noted that these languages varied in whether or not they lost long first-syllable vowels. Those seem to be retained in Walangama (e.g. in *athurr* “pelican” < **maatyurr*), Yanga-Mbara (e.g. *iivali* “west” < **tyiiparr*) and Mbabaram (always as *a*, as in *aberr* “south” < **tyiiparr*), but not in the Norman Paman languages (e.g. *bhiD-iyvng* “south” < **tyiiparr*), while Kuku Thaypan show the loss in a number of forms (e.g. *bhye-ng* “father” < **piipa*) but not in *anha* “yamstick” < **kaanya*.

6.3 Shared innovations for Norman Paman

For particular subgroups there may be better evidence for shared innovations. Comments by Sommer (1969) suggest this could be true for his Central Paman languages, but the evidence has not been presented. Within Norman Paman Black (1980) found that the closely related Kurtjar and Kuthant (with about 65% shared cognates in a lexicostatistical test list) had undergone a number of shared developments, including the loss and lenition of some initial consonants, the fronting of **u* to *oe* when the following syllable contained **a*, the subsequent loss of final vowels, the lengthening of short vowels not preceded by a syllable containing a long vowel, and, in words that remained polysyllabic, the loss or metathesis of vowels that were now in initial position; e.g. **pukan* > Kr., Kt. *kuaan* “grass”; **tyilkan* > **ilkan* > Kt. *lkiarn* and (with **iaa* > *ee*) Kr. *lkeen* “moon”.

7. East coast languages

In addition to the preceding, Hale’s (1964) tentative Paman grouping included additional languages along the east coast, of which only the four best attested are considered here. Of these, Guugu Yimidhirr (Haviland 1979) and Gugu Yalanji (Oates et al. 1964), to the north and south of Cooktown respectively, seem relatively close syntactically and lexically (with 42% shared cognates reported by Haviland 1979:31), but they differ phonologically in that only Guugu Yimidhirr has contrastive vowel length and two series of laminals. Further south near Cairns, Djabugay (Patz 1991) and Yidiny (Dixon 1977) share 53% vocabulary as well as close similarities in grammar and phonology (Dixon 1977:6-7). (Still further south, the well known Dyirbal language need not be considered Paman.) All four languages tend to be conservative phonologically, often continuing reconstructed forms with little change (aside from the use of symbols for voiced stops rather than voiceless ones), as in **pama* > GYm., GYL, Dj., Yd. *bama* “person”. However, the lexical similarity drops to only 16% cognates between Guugu Yimidhirr in the

north and Djabugay and Yidiny in the south on the basis of Hale's data (Black 1974a).

To the extent languages show little phonological change, of course, there tends to be little evidence for shared phonological innovations. Guugu Yimidhirr did undergo one innovation that should be considered: unlike the other languages here, but like most of those considered in earlier sections, it distinguishes two series of laminals, apparently due to a split in the single series in the proto-language. The conditions of the split do not seem like those noted for other languages on the Peninsula, however: **ty* and **ny* generally continue as *dh* and *nh* respectively, even before **i* (as in *nhin*- 'sit' < **nyin*- and *ngadhi* 'mother's father' < **ngatyi*), but initial **ny* is reflected as *ny* before **u* in such pronouns as *nyulu* 'he, she' < **nyulu*, while initial **ty* is reflected as *dy* in *dyiba*-/ *dyiba(a)rr*- 'south' < **tyiiparr*.

Despite its reflex of **tyiiparr*-, above, Guugu Yimidhirr normally preserves earlier vowel length, but the other three languages have lost it: e.g. **kuuku* > GYm. *guugu* but Gugu Yalanji and Yidiny *gugu* 'language'; **kaari* > GYm. *gaari* but GYL, Djabugay *gari* 'not'. This merger of long and short vowels could perhaps be treated as a shared innovation for the three languages, but it is not a particularly unusual development; it could similarly be taken to be shared with languages as far away as Gunya (Breen 1981), in south central Queensland, whose examples include *garda* 'not' < **kaari* and *ganha* 'yamstick' < **kaanya*. Recall also that vowel length was also lost in Northern Paman languages (Section 3.2), but only after other changes that show that the loss was repeated independently.

A more striking innovation could perhaps be taken to be shared by Guugu Yimidhirr, Yidiny, and to some extent Djabugay, all of which show the unusual development of contrastive vowel length in non-initial syllables. The comparative evidence relating to this is not entirely straightforward, but descriptive material presented by Haviland (1979:41-44, 50), Dixon (1977:39-41, 56-68, 128) and Patz (1991:254-255) suggests that vowels in the middle syllable of trisyllabic words became phonetically long, and that this length then became contrastive through the loss of some final vowels. That is, **CVCVCV* became *CVCVVC*, or even *CVCVV* though loss of a consonant as well, thus coming into contrast with **CVCVC* and **CVCV*, which remained unchanged.

The change of **CVCVCV* to *CVCVVC* is apparent only in Guugu Yimidhirr and Yidiny, as in **kanyarra* > GYm. *ganhaarr* 'crocodile', Yd. *ganyaarr* 'alligator'. For Yidiny the development is also apparent from morphophonemic alternation in this and about eighty other forms listed by Dixon (1977:56-68), who was able to treat the second syllable length as predictable by positing final morphophonemic vowels; e.g. he wrote Yd. *ganyaarr* 'alligator' morphophonemically as *ganyarrA* (with a morphophoneme *A*) to account for both the length and the fact

that it appears as *ganyarra-* before suffixes. The same final vowel can also be seen in the Djabugay cognates of this form (Dj. *ganyarra* “crocodile”) and at least fifteen other such forms; e.g. Dj. *gunggarri*, Yd. *gunggaar* (*gunggari-* before suffixes) “north” < **kungkarri* (although such cognates as Yir-Yoront *kuqrr* “north” appear to reflect **kungkarr*, with no final vowel). In eight other forms Djabugay is like Yidiny in having lost the final vowel (almost always **u* after a nasal or **l*), but without the lengthening of the preceding syllable; e.g. Yd. *malaan* (*malanu-* before a suffix) and Dj. *malan* “right hand” appear to reflect **malanu* (perhaps a suffixed form of what Hale reconstructed as **mala*).

As its form for “crocodile” suggests, Guugu Yimidhirr seems to be like Yidiny in lengthening the second syllable after loss of the final vowel in trisyllabic words. This can also be seen in GYM. *nyubaal* “you two” < **nyubala*, which can be contrasted with such original disyllables as *dhamal* “foot” < **tyamal*. Note how this change parallels second syllable reduction in such western languages as Yir-Yoront (see Section 5.1), which retains the second-syllable vowel in trisyllabic words (thus *nhopol* “you two”, which seems to reflect earlier **nyupula*) but loses it in such original disyllables as *thaml* “foot” < **tyamal*. Other comparative evidence is problematic, however. GYM. *kudhiirra* “two” actually shows a final vowel, but such other cognates as YY *koyrr* “two” suggest the reconstruction of a disyllable **kutyirr* or even **kuutyirr*. GYM. *biimuur* “father’s younger sister” would also require an earlier final vowel that is usually not reconstructed (e.g. YY *pemr* “father’s sister” seems to reflect **piimur*). In any case, however, note how this form suggests that Guugu Yimidhirr preserves first-syllable length even when the second syllable was lengthened, and this can also be seen in GYM. *gaanhaal* “elder sister” if it is cognate with forms that Black (1980:225) took to reconstruct **kaanyila* (e.g. Kok-Nar *kanilāt* “elder sister”) despite the unexplained difference in vowel quality.

In Djabugay the vowel lengthening is most apparent when both the consonant and vowel of the following syllable was lost, as it was in Dj. *gurraa* and also Guugu Yimidhirr *gudaa*, but not in Yidiny *gudaga* “dog” < **kutaka*. Other known examples also seem to involve the loss of velar consonants. In both Djabugay and Yidiny the apparent loss of a locative suffix **-ngka* (but not the ergative suffix **-ngku*) left length alone to mark the locative: e.g. Dj. *mara* “hand”, locative *mara-a* < **mara-ngka*; Yd. *huri* “fire”, locative *huri-i* < **huri-ngka*. In Guugu Yimidhirr the ergative is similarly marked by length alone on a few forms that mostly denote humans: e.g. *babi* “grandmother” < **papi*, whose ergative *babi-i* could involve the loss of either **-ngku* or **-ku* (Kurrtjar has an ergative *-k* characteristic of human nouns, as well as an ergative *-ngk*). Guugu Yimidhirr does not seem to have other reflexes of the ergative **-ngku*, locative **-ngka*, or purposive **-ku*, at least after

vowels; Haviland (1979:53) does give examples of an “archaic purposive or dative” *-ga* on a few forms with final consonants.

While there are intriguing similarities in the developments in the three languages, there are also significant differences in detail. Oddly, the greatest similarity seems to be between the geographically remote Guugu Yimidhirr and Yidiny, whose treatment of second-syllable vowels is also grossly parallel to developments in western Cape York Peninsula (Section 5.1), with no such development at all in the geographically intermediate Gugu Yalanji language.

8. Conclusion

The main findings of this review of past research are as follows:

- a. The widespread loss of initial consonants cannot be taken to be a single shared innovation, neither for the more obvious Northern Paman grouping (Section 3) nor for the more southern initial dropping languages (6), and naturally this is even more true of such subsequent changes as first syllable vowel loss or metathesis.
- b. The loss of final vowels in most languages along the west coast of Cape York Peninsula similarly could not have been a single shared innovation (Section 5.5).
- c. A widespread distinction between laminal-palatals and lamino-dentals also cannot have arisen through a single innovation shared by many languages, or not even by Northern Paman alone (Section 3.3). Whereas it would be possible to posit a single innovation for Middle Paman (4.3), or perhaps one applying also to some of the Northern Paman varieties and to more southern languages other than Kuuk Thaayorre and Yir-Yoront (5.3), the palatalisation of laminals before **i* is such a common phenomenon that it would be hard to take this seriously as evidence for subgrouping.
- d. Original vowel length was lost in all Northern Paman varieties — but not as a single, shared innovation (see Section 3.2) — and in Uw Oygangand (6.2) and some east coast languages (7). For the latter two there is no evidence that the loss was independent, but similar loss of vowel length does not seem uncommon elsewhere in Australia.
- e. A number of other innovations have not been shown to have occurred independently in the languages involved and thus may be regarded as shared innovations. Those suggesting the grouping of Northern and Middle Paman languages (Sections 4.1 and 4.2) seem especially interesting. Regrettably, however, if all possibilities are viewed collectively they tend to provide conflicting evidence for subgrouping (see especially Section 5.5), so they can’t all be taken to be shared.

This raises the question of how much confidence we can have in the evidence for even those innovations that do not seem to conflict with others.

f. Where there is clear evidence for several shared innovations, it simply seems to confirm such fairly obvious subgrouping as Norman Paman (see 6.3), which are not really in question in any case.

Linguists have often regarded the evidence of shared innovations as the most reliable, or even the only, evidence for genetic subgrouping (e.g. Dixon 1980:253), even though it is tied to a family tree model of language evolution that has long been known to be simplistic in its assumption of the dialectal homogeneity of proto-languages (see e.g. Bloomfield 1933:314-315). However, it takes only a little thought to realise that nothing in the nature of linguistic changes actually guarantees that it will produce any enduring evidence of shared innovations. For example, it is not impossible for the phonological shapes of forms to continue largely unchanged, e.g. for **mara* to continue as *marā* “hand” across much of the Australian continent, as it does in such east coast languages as Gugu-Yalandji and Djabugay. The present paper simply confirms that there is no guarantee of clear evidence of shared innovations even in areas involving substantial phonological change, a result I also found in earlier research on Cushitic languages in north-eastern Africa (Black 1974b).

The remedy, of course, is to not focus on just the evidence of shared innovations, but to consider all evidence available. The best known alternative, lexicostatistics, is not without its own limitations, but these have often been exaggerated (see Black 1997). In addition they are limitations quite different from those of shared innovations — e.g. unlike evidence for the latter, lexicostatistical evidence of some sort can always be found — so that results confirmed by both approaches should be especially strong.

The “traditional” lexicostatistical approach of Swadesh has been found to produce useful results for the Indo-European languages, not only confirming many (though not all) of the groupings established through a century of comparative reconstruction, but also providing support for and against some issues it left unclear, e.g. that Balto-Slavic does indeed constitute a subgroup but Italo-Celtic does not (Dyen, Kruskal and Black 1992). For the languages of Cape York Peninsula the various lexicostatistical results reported in the literature have left many aspects of their classification unclear, but even those based on the 100-item word lists collected by Hale in the 1960s provide better evidence for Northern Paman than shared innovations do, and they also lend weak support to the larger grouping of Northern and Middle Paman suggested by the two shared innovations discussed in Sections 4.1 and 4.2 (see Black 1974a).

There is still much room for the application of both approaches (and others) to the languages of Cape York Peninsula. From years of work with the languages my impression is that the overall classification tends to remain unclear for much the same reason the subclassification of the major branches of Indo-European remains unclear, namely because our means of subgrouping are simply not refined enough to clearly distinguish sequences of divergence that took place so long ago. As Bloomfield (1933:318) remarked some eighty years ago, “Whenever the comparison is at all ambitious as to the reach of time or the breadth of the area, it will reveal incommensurable forms and partial similarities that cannot be reconciled with the family-tree diagram.” Still, as fuller accounts of some languages continue to become available, we might hope to find a basis for shedding further light on at least a few more aspects of the classification of the languages of Cape York Peninsula.

DIAGNOSTIC SIMILARITIES AND DIFFERENCES BETWEEN NYULNYULAN AND NEIGHBOURING LANGUAGES

Claire Bowern

Harvard University and

Centre for Research on Language Change, Australian National University

1. Introduction

The Nyulnyulan languages of the Western Kimberley coast appear to form a discrete group with characteristics that differentiate them from the Pama-Nyungan languages to the South, Gooniyandi and Bunuba to the East, and the Worrorran languages to the North and North-East.

In this paper I identify some of the features that set Nyulnyulan languages apart from the other languages of the area, the features that are common to the area as a whole (and are likely to be areally diffused) and features which may be indicative of deeper genetic relations. I aim to answer the question, ‘Do we have enough evidence to call Nyulnyulan a subgroup of a higher order phylum, a family-level isolate or a linguistic area?’ This is a bottom-up approach to linguistic relationships (see, for example, Miceli this volume). We cannot identify innovations from a higher level group and use them to define a subgroup or family, because at this stage we cannot reconstruct a group higher than proto-Nyulnyulan. Rather, we will use the criteria familiar from demonstrating genetic relationship — that is, shared features in multiple areas of grammar, systematic correspondences (and not resemblances among the odd lexical item or morpheme) and shared irregularities. I aim also here to present reconstructions and invite others to look for similarities in the languages with which they are familiar.

There is a growing literature on reconstruction in Non-Pama-Nyungan languages; the evidence for a genetic group linking non-Pama-Nyungan languages is rather scarce. Blake (1988, 1990) reconstructs a set of ‘Northern’ pronouns which occur widely in Non-Pama-Nyungan languages, and Heath (1987, 1990) has written several articles identifying possible comparanda in morphology. To my knowledge there has, as yet, been no systematic search of multiple correspondences amongst non-Pama-Nyungan groups.

McGregor and Stokes (in press:§6) suggest that there might be cognates between Nyulnyulan and the Jaminjungan or Mirndi languages, noting the resemblance of the ergative marker pN **-ni* and a few other similarities. Rather

than looking further afield in this paper, I will be concentrating on possible relationships within the languages of the Western Kimberley — that is, the Bunuban and Worrorran families (with occasional references to Jarrakan in the East Kimberley). I will also be considering only systematic similarities between the languages, since resemblances in single morphological items could be due to chance.

McGregor and Stokes (in press) have shown quite convincingly that Nyulnyulan itself is a cohesive genetic group and not simply a linguistic area or genetically unrelated languages. They give clear evidence for regular sound correspondences and systematic similarities between the languages. They also give evidence for subgrouping within Nyulnyulan. I will not repeat this work here. Instead I will concentrate on morphemes and lexical items reconstructed for proto-Nyulnyulan in McGregor and Stokes (in press) and in my own work and look for cognate or similar forms in other languages in the region.

2. The languages

Nyulnyulan is a small family of between six and ten closely related languages.¹ They fall into two subgroups; the Western group of Jawi, Bardi, Nyulnyul and Jabirr-Jabirr, and the Eastern group, which comprises Nyikina, Warrwa, Yawuru and Jukun.² Two others, Ngumbarl and Nimanburru, are too poorly attested to be

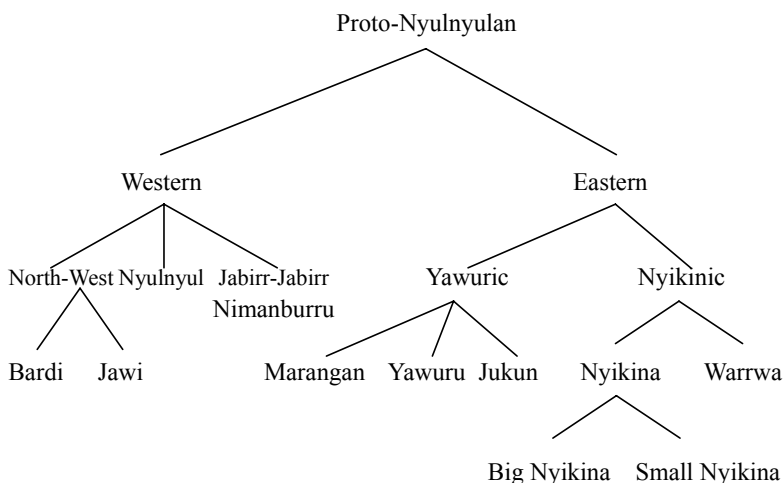
¹ Language abbreviations are: Jw, Jawi; B, Bardi; Bun, Bunuba; Goon, Gooniyandi; Jar, Jaru; Jb, Jabirr-Jabirr; Juk, Jukun; Kara, Karajarri; Mang, Mangarla; Ngar, (U)ngarinyin; Ngum, Ngumbarl; Nim, Nimanburru; Nyik, Nyikina; Nyl, Nyulnyul; Ungg, Unggumi; Umi, Umiida; Yawij, Yawijibaya; Wo, Worrorra; Yaw, Yawuru; Walm, Walmajarri; Warr, Warrwa. Proto-language abbreviations are: pE, proto-Eastern Nyulnyulan; pN, proto-Nyulnyulan; pNK, proto-Northern-Kimberley (i.e., Capell and Coate's (1984) name for Proto-Worrorran) pW, proto-Western Nyulnyulan. Other abbreviations are: a, augmented number; abl, ablative; all, allative; C, unspecified consonant; comit, comitative; dat, dative; DO, direct object; erg, ergative; fut, future; inst, instrumental; IO, indirect object; irr, irrealis; loc, locative; m, minimal number; nfut, non-future; nom, nominative; num, number; pers, person; prop, proprietive; refl, reflexive; t/a, tense/aspect; tns, tense; tr, transitivity marker; V, unspecified vowel; val, valency; 1, first person; 2, second person; 3, third person; 1+2, first person dual inclusive. + marks a preverb. - marks a morpheme boundary and = marks a clitic boundary.

² The languages are actually spread roughly along a North/South axis, but terms Eastern and Western have been used by McGregor and Stokes (in press) because of the way Kimberley people tend to orient the languages; the languages of the coast, to the West, as opposed to the inland languages to the East.

classified for certain but they probably also belong to the Western group.³ A family tree is given in Figure 1.

The tree is somewhat misleading as both the Eastern and the Western groups form a dialect continuum, where each end of the continuum is mutually unintelligible with the other, but there is quite a high degree of similarity between contiguous languages. The fact that we have so little data for the languages between the Eastern and Western groups (Nimanburru and Ngumbarl) perhaps leads us to assume a greater degree of difference between the Eastern and Western groups than there actually was.

Figure 1: *The Nyulnyulan family*



While, as McGregor and Stokes (in press) state, there are few clear innovations that distinguish subgroups within Nyulnyulan, there are a number of lexical items that can be reconstructed to the Eastern or the Western languages only, including identifying verb roots and root suppletion. Another trait shared by the Eastern languages but not the Western ones is the loss of compound verb roots (Bower forthcoming-b). I consider the status of an Eastern and Western group to have been well demonstrated in McGregor and Stokes (in press) and I will not discuss the question further here.

³ A short tape of Nimanburru recorded by the late A. Peile in the 1960s has recently come to light, and an analysis of these data suggests that Nimanburru should be a primary branch of Western Nyulnyulan. See further Bower (forthcoming-b).

The geographical area of interest is roughly the area of the ‘Western Kimberley’. It covers the Dampier Peninsula and the coastal area as far south as Broome (18°S) and as far north as the northern tip of the Kimberley region (around Napier and Vansittat Bays). The map at the beginning of this volume shows these locations.

2.1 *History of classification*

While the unity of the Nyulnyulan family goes back to early classifications, including Schmidt (1919a), no one to my knowledge has seriously proposed a close relationship between Nyulnyulan languages and any particular Non-Pama-Nyungan language group over another, except within the context of a Non-Pama-Nyungan language family. McGregor and Stokes (in press) make some suggestions based on running lexicostatistical results through cluster analysis software, but these do not suggest a close genetic relationship between Nyulnyulan and other Western Kimberley languages, only a ‘presumed genetic relationship’ (caption to figure 3, McGregor and Stokes in press).

The Nyulnyulan family was identified by Schmidt (1919a) as the ‘King Sound group’. Capell (1940), in his classification of Kimberley languages, also has a Dampier Land group defined typologically as the prefixing languages without noun classification. The membership of the group seems to be stable across classifications, although the number of languages in the group changes as different researchers disagree about what lect names are ‘languages’ and what lects are subsumed as ‘dialects’ of other ‘languages’. O’Grady, Voegelin and Voegelin (1966:35-36) have four languages in the group: Nyulnyul, Yawuru, Nyikina and Warrwa. Dixon (2001) has just two languages, Bardi and Nyikina, possibly following Hudson and McConvell (1984). McGregor and Stokes (in press), on the other hand, lists ten languages, with the comment that languages like Bardi and Jawi are mutually intelligible.

The closest families to Nyulnyulan geographically are Bunuban (an isolated family comprising Bunuba and Gooniyandi), Worrوران (Capell and Coate’s (1984) ‘Northern Kimberley’) and the Ngumpin-Yapa and Marrngu subgroups of Pama-Nyungan. The other family in the immediate area is Jarrakan, in the East Kimberley extending into the Northern Territory, including languages such as Kija and Miriwung.

2.2 *Language data*

The following tables list the sources for Nyulnyulan languages and surrounding Kimberley languages. The quality and quantity of data for Nyulnyulan languages

Table 1a: *Summary of materials in Nyulnyulan languages*

Language	Sources
Western	
Jawi	Bird 1910; Laves 1928-1931; Nekes and Worms 1953.
Bardi	Aklif 1990-1994, 1999; Nekes and Worms 1953; Bowern 2001d, 2002; Metcalfe n.d. Metcalfe 1975, Bowern 1999a; Laves 1928-1931
Nyulnyul	Kerr n.d.; Nekes and Worms 1953; Tachon 189X. McGregor 1996a,b; McGregor (n.d.)
Nimanburru	Kerr n.d.; Peile n.d.-b ⁴
Ngumbarl	Kerr n.d.
Jabirr-Jabirr	Peile n.d.
Eastern	
Yawuru	Hosokawa n.d., Hosokawa 1991
Jukun	as for Yawuru
Nyikina	Stokes n.d. , Stokes 1982
Warrwa	Kerr (n.d.), McGregor 1994, Nekes and Worms 1953

varies considerably; Bardi, for example, has two theses, two dictionaries totalling more than 3,500 words, and a large text collection, while for Ngumbarl we have fewer than 50 lexical items. Table 1a gives a summary of materials available for Nyulnyulan languages. For the better-described languages I have not listed every source. A complete list of materials can be found in Bowern (forthcoming-b).

Table 1b: *Summary of materials in surrounding languages*

Language	Sources
Bunuban	
Bunuba	McGregor 1988b; Rumsey 2000; KLRC 1999.
Gooniyandi	McGregor 1988b; McGregor 1990.
Pama-Nyungan	
Walmajarri	Richards and Hudson 1990; Hudson 1978.
Karajarri	Nekes and Worms 1953; McKelson 1989a; Sands 1989, Capell 1949-1950.
Mangarla	McKelson n.d.
Worrorran	
General	Capell and Coate 1984; Nekes and Worms 1953
Unggarangi	Coate n.d.
Umiida	McGregor n.d.; Coate n.d.
Ngarinyin	Coate and Elkin 1974; Rumsey 1982; Coate and Oates 1970
Worrorra	Clendon 2001a,b; Love 2000; Utemorrah 2000
Jarrakan	
General	Kofod 1978
Kija	Blythe 2001

Table 1b gives the sources consulted for the languages of the Western Kimberley.⁵ I am aware of a number of important gaps in the data. I have also

⁴ I am very grateful to Peter Bindon for permission to listen to Fr Peile's Nimanburru recordings.

relied heavily on Nekes and Worms 1953 for data for languages such as Nyulnyul, for which better data are available but were not accessible at the time. While I stand by the broad conclusions outlined in this paper on the relationships of the Western Kimberley languages, there is much more to be said and much more detail to be added, particularly in the area of loan analysis.

3. Lexical evidence

In this section I focus on reconstructions of basic vocabulary, dividing them between words unique to Nyulnyulan languages, words that are not unique to Nyulnyulan but are reconstructible to proto-Nyulnyulan and have been borrowed into a neighbouring language, Wanderwörter and Nyulnyulan words with possible cognates outside the family. Lexicostatistical percentages between Kimberley languages are given in McGregor and Stokes (in press); my arguments here do not involve them.

3.1 Words only in Nyulnyulan

McGregor and Stokes (in press:§3.2) give several forms for which they have been unable to find cognates outside the family in the immediate region:

A number of reconstructed forms seem to be peculiarly NN, including core vocabulary items such as: **bana* “when”, **buru* “camp, place, country”, **-JALA* “see”, **-JALKU* “fall”,⁶ **-JANBU* “tread, trample”, **kalbu* “up, above”, **-lababa* “ear”, **-mbala*⁷ “foot”, **-RLI* “eat”, **wamba* “man”, **wula* “water”, and **yila* “dog”.⁸

To these I add other words with no apparent external cognates. Discussion here focusses on body parts since they are good data on these words even for the partly attested languages; my argument, however, can be generalised across other semantic classes and further evidence is presented in Bower forthcoming-b. Some cognates are given below in (1)-(11).⁹

⁵ I am very grateful to Howard Coate’s literary executor, Heather Jenkins, for permission to view Mr Coate’s manuscript *Notes on 3 dead languages* (Coate n.d.).

⁶ Compare, however, the Ngarinyin verb *-ayalgi-*; *-iyalgan* “fall” (Coate 1972) which may be cognate or borrowed.

⁷ I exclude this as my reconstructed form is **-jambala* and this has possible cognates in Kija and Unggumi.

⁸ These last three I reconstruct as **waamba*, *wuula* and *yiila*, since I regard distinctive vowel length in Bardi, Nimanburru and Warrwa as reflecting for the most part distinctive vowel length in Proto-Nyulnyulan.

⁹ Entries are sorted by proto-Nyulnyulan reconstruction, or, if no reconstruction is possible to proto-Nyulnyulan, by proto-Eastern Nyulnyulan or proto-Western Nyulnyulan. The reconstruction is

- (1) ***duru** “fart”
Ba. *do:r* Nyl. *do:r* Jb. *do:r* Yaw. *do:r*, *rduru* Nyik. *dur*
- (2) ***gaburra** “guts” (pW **ngujin*)
Jw. *ngujin* Ba. *ngujin(i)* Nyl. *gaburr* Nim. *ngujin* Yaw. *gaburra* Nyik. (*jilbidi*); *gaburra* Warr. *gabarra*
- (3) ***gararra** “saliva”
Ba. (*barrja*), Nyl. *garerr*, (*djiwil*) Nim. (*djubil*) Nim. *gararr* Jb. (*djiwil*), *gararr* Yaw. *gararra*, (*djuba*) Nyik. *gararra* (spit, froth), (*juba*)
- (4) ***-gurinygurinyg** “navel”
Ba. *-gurunggurungg* Yaw. *nyija* Juk. *nunguringguring* Nyik. *nuguruny-guruny*, *nugudunyguruny*,¹⁰ (*nungulala*) Warr. *-(ng)gurinyguriny*
- (5) ***gururr** “blood” (pE **gunbulu*) (pW **wilgarr*);
Ba. *gururr*, *ilgarr* Nyl. *konbol*; *welger* Warr. *gururr*; *gunbulu* Yaw. *kunbulu* Juk. *gururr* Nyik. *kunbulu*, *gururr* (blood or colour of blood)
Kara. *kunpulu* Jar. *kungulu* Kij. *kungulu-m*
- (6) ***(i)mal(ul)** “nose” (pE **nguni-*)
Jw. *-mal* Ba. *-imal* Nim. *-mal* Ngum. *nimalul* Jab. *nga-malm* (?); *-mal* Yaw. *ngunijina*,¹¹ *nimalul* Juk. *ngunijina* Nyik. *ngunijina* Warr. *ngunina*, *ngunijina*, *ngunii-*
- (7) ***-iminy** “eye”
Jw. *‘nimmie’*, *-min*; *-miny*, *‘nemen’* Ba. *-imi* Nyl. *nēm* Nim. *nim* Ngum. *-mi*, *niminy* Jb. *nim*; *-m* Yaw. *niminy* Juk. *niminy*, *nyimi* (Warr. *naarda*)

in bold. The Nyulnyulan comparanda are given on the line following the reconstruction. Relevant non-cognate items are also given, but are included in parentheses. Where two words are given for the same language, they represented different sources. On the following line cognates and words/morphemes of similar meaning are given from the other languages of the region. Where relevant I have included referenced Proto-Pama-Nyungan reconstructions. If the gloss of the cognate is different from the reconstructed gloss, it is given following the cognate. Note that in reconstructions all glosses are indicative only. In the reconstructions, some entries begin with a hyphen. These words are reconstructed as taking inalienable possession prefixes in proto-Nyulnyulan. Items enclosed in ‘ ’ are from wordlists where the transcription is doubtful. Note that *e* and *o* are phonemes distinct from *i* and *u* in Bardi, but not in the other Nyulnyulan languages; *e* and *o* are used for unstressed *i* and *u* in Nekes and Worms (1953). Voicing contrasts are not significant in any Nyulnyulan language and differing transcriptions in voicing reflect the preferences of the transcribers. Note also that many of my reconstructions differ in some details from those presented in McGregor and Stokes (in press).

¹⁰ Initial *nu-* here is a fossilised agreement prefix. See further §6.2.1 below.

¹¹ *-jina* on this word and its cognates in Jukun, Nyikina and Warrwa is the third person singular possessive suffix.

- (8) ***jub-** “saliva” (pE **juba*, pW **jubil*)
 Ba. (*barrja*), *jubil*+¹² Nyl. (*garerr*), *djiwil* Nim. *djubil* Nim. (*gararr*) Jb. *djiwil*, (*gararr*) Yaw. (*gararra*), *djuba* Nyik. (*gararra* (spit, froth)), *juba*
- (9) ***-uru** “anus”
 Ba. -*uru* Nyl. *noro*, *nanmor* Yaw. *nyiru* Nyik. *nuru*
- (10) ***wiirri** “rib”
 Ba. *wiirri*, *iirri* (rib of dugong)¹³ Yaw. *wiri* Juk. *weeree* Nyik. *wirri* Nyik. (*ji.wer*) Warr. *wiirri*
- (11) ***yiiga** “sore”
 Ba. *iiga* Nyl. (*y)iig* Nim. *i:g* Yaw. *i:ga* Nyik. *yig.id* (limping after thigh-spearing) Warr. *iga*, *yiiga*

3.2 Borrowings

For many sets the Nyulnyulan word, reconstructible to proto-Nyulnyulan, is also shared by one other language outside the Nyulnyulan family. Most of these look like borrowings, as there are regular correspondences between the Nyulnyulan languages, and the word is identical in one or a few non-Nyulnyulan languages (there has been extensive borrowing between Karajarri and Yawuru, for example). An especially messy example is the word for “fingernail”, exemplified in Table 2:¹⁴

In this case, Yawuru and Nyikina share forms with the Pama-Nyungan language Karajarri, but Nyikina also shares *milja* with Bunuba and Gooniyandi (and probably Unggumi). This word is reconstructed by Dixon (1970b) to Proto-Australian. Unggumi also has a form similar to the proto-Western Nyulnyulan **wurul*, although the vowel differs.¹⁵ At this stage, we cannot reconstruct the source of borrowing with any certainty, and it seems that there has been borrowing in more than one direction. However, most examples are not this involved.

¹² In Bardi *barrj(a)* is the noun “saliva” but the cognate *jub-* is preserved in the preverb *jubil*+ “spit out”.

¹³ In Bardi *iirri* is the expected reflex since initial glides are regularly lost in this language. I assume *iirri* has preserved the proper reflex and *wiirri* is an early borrowing from Nyulnyul.

¹⁴ The quality of the rhotic in Jawi and Bardi versus the other languages in (*w*)*ur(r)ul* is irreconcilable at this stage, and is probably the result of inadequate data.

¹⁵ Note that the Nyulnyul form points to a possible reconstruction **wuril*, in which case the Unggumi form would be by vowel harmony.

Table 2: Words for “fingernail” in the Western Kimberley**fingernail**

pN	*?
pW	*wurul
Proto-Australian ¹⁶	*milyV
Jawi	urul
Bardi	urul
Nyulnyul	worel
Nimanburru	urrul
Jabirr-Jabirr	urrul
Yawuru	girimal
Nyikina	miljan; miljarn girimal
Bunuba	miljarni
Gooniyandi	miljarndi
Karajarri	kirrimal
Unggumi	wirrilga, milyan

In (12)–(22) there are some words which are shared by borrowing between Nyulnyulan and non-Nyulnyulan languages. Due to space restrictions only a selection of words is included:

(12) ***-alma** “head”

Jw. *nalm* Ba. *-alma* Nyl. *-alm* Nim. *-alm* Ngum. (*marru*), *-alma* Jb. *nalm*; *-alm* Yaw. (*marru*) Juk. *nalma* Nyik. *nalma*, (*marru*) Warr. *-alma*
Kara. *kunkulu* Kara (Najanaja) *maru* Kij. *kungkulum* (brain, head)

(13) ***baburr** “cicatrice, scar”

Ba. *bawurr* Nim. *babor* Jb. *babor* Yaw. *babor*, *mugudal* Nyik. *mugudal*
(cicatrice), *lamba*; *baburr* (any type of scar) Warr. *mugaly*, *mugudaly*
Kara. *mukatalpari*, (*parlkurn*), *babor* Yawij. *burlg*

(14) ***burda** “excrement”

Nyl. *burd* Nim. *burd* Jb. *burd* Yaw. *burda*
Umi. ‘*mee-la*’, ‘*good-dal-yar*’ Yawij. *gudalu* Ungg. *ngornde* Kara. *purta*

(15) ***gaanyji** “bone”

Jw. *kanjie* Ba. *gaanyji* Nyl. *kandja* Nim. *ga:ndj* Yaw. *kanyji*, *gamari* Nyik.
ganyji, *gamar(r)i* Warr. *ganyji*
Kara. *ga:ndji* Mang. *gamari* Walm. *gamari*; *djingeri* Jar. *ganyji* (leg, thigh)

(16) ***gabir** “liver”

Jw. (*allan*), *kawir* Ba. *gawirr* Nyl. *gaabir* Nim. *gabor*, *gawir* Jb. *gabir*
Yaw. *warnba* Juk. *gabir* (guts) Nyik. (*yugula*) Warr. *gawiri*, *gabir*
Kara. *wanpa*

¹⁶ Reconstructed as such by Dixon (1970b).

- (17) ***janggala** “calf”
 Ba. *janggal(a)*, *jagal* (upper part of hip)¹⁷ Nim. *djang.gal* Ngum. *nimidi*, *janggala* Jb. *djang.gal* Yaw. *jangkala* Nyik. *janggala* Warr. (-*midi*) (< “knee”) Kara. *jangkala*
- (18) ***juulu** “face, appearance, looks”
 Ba. *juulu* Nyl. (*naler namel* (lit “mouth and nose”)), *djol* Nim. *djol* Jb. *djol* Yaw. *mibarr*, *niminy* (= “eye”), *djolo* Nyik. *djolo* Walm. *djulu* “head”
- (19) ***-lababa** “ear”
 Nyl. *nalebab* Ngum. *nilababa* Jb. *nilababa* Yaw. *nilabab(a)* “earlobe”, *bijara* Juk. *nilabap* Nyik. *nilaba(ba)* Warr. *nilawa*, -*liwa* Kara. *pijarra*
- (20) ***lagid?** “fat”
 Jw. *li*, *lay* Ba. *laya* Nyl. *led*; Jb. *lid*, *led* Yaw. *lida* Juk. *lida*, ‘*leeda*’ Nyik. *lagaba* Warr. *lagaba* Kara. *lakapiya*
- (21) ***-midi** “shin, knee”
 Jw. ‘*nimidie*’, *nimida* Ba. *niimid(i)* Nyl. -*mird* Nim. *nimid* Yaw. *nimirdi*, *munyu* Nyik. *nimidi* Warr. *nimidii* Kara. *mirtimirti* “kneel” Walm. *mirti*
- (22) ***-nganyburr** “armpit”
 Jw. *nganybu*, *nirngunyburr* Ba. *ninganybu* Nyl. -(*n*)*barm*, -*mbarrm* Nim. *ninganyburr* Ngum. *nimarremba* Jb. *nimarremba* Yaw. *garlngu(y)ny* Nyik. *galnguny* Warr. *nimbarrma*, -(*m*)*barrma* Kara. *galnginy* ~ *kalnguny* Goon. *galnginy* Ungg. *malambarrma* Ngar. *marlambarr*

A summary of the directions of borrowing is given in Table 3. Note that there are three types of cognate sets illustrated in the table. There are those where the proto-Nyulnyulan word is straightforward to reconstruct and one of the Eastern Nyulnyulan languages has borrowed a form from a neighbouring language. Then there are the cases where the word is reconstructible to proto-Nyulnyulan, and in addition a non-Nyulnyulan language has borrowed a reflex from a Nyulnyulan language. We cannot always tell which language was the donor. Finally, there are the cases, such as demonstrated in Table 2 above, where borrowing in several directions occurs.

¹⁷ Like **wiirri* “rib” above, Bardi shows a doublet; *jagal* is the expected cognate, while *janggala* is probably a borrowing from Nyulnyul.

Table 3: *Directions of borrowing*

	Word	Donor language(s)	Recipient language(s)
12	<i>marru</i>	Karajarri (Najanaja dialect)	Yawuru, Nyikina
13	<i>baburr</i>	Eastern Nyulnyulan languages	Karajarri
	<i>mukutal</i>	Karajarri	Yawuru, Nyikina, Warrwa
14	<i>burda</i>	Yawuru	Karajarri
15	<i>gaanyji</i>	Nyulnyulan	Jaru, Karajarri
	<i>gamari</i>	Mangarla or Walmajarri	Yawuru, Nyikina
16	<i>warnba</i>	Karajarri	Yawuru
17	<i>janggala</i>	Nyulnyulan	Karajarri
18	<i>juulu</i>	Nyikina?	Walmajarri
19	<i>pijarra</i>	Karajarri	Yawuru
20	<i>lagid</i>	a Nyulnyulan lang	Karajarri
21	<i>midi</i>	Kara, Walmajarri	(proto-)Nyulnyulan
22	<i>galnginy</i>	Karajarri or Gooniyandi	Nyikina, Yawuru

All but the last case can also be used in indentifying discrete groups; in those cases, the direction of borrowing can be identified (because, for example, the word can be reconstructed to one family but not another, there are no systematic sound correspondences shown on the basis of the loan words, or because they only occur between adjacent languages). None of these words count for establishing higher order groups amongst the languages of the Western Kimberley.

3.3 *Wanderwörter*

Some words can be immediately excluded from consideration as cognates. Pan-Kimberley words like *may(i)* “vegetable food”, *ga(r)nka* “raw” and *jalnggurru* “doctor man” (Kija “handsome”) appear with little variation over most of the area. These of course cannot be used to determine genetic relationships.

3.4 *Residue*

There remain a number of words which show certain similarities across a number of languages in the area, but do not fit the borrowing patterns described in (12)-(22) above. Eight of these words are discussed here. Of these, three, **-lirr* “mouth”, **-ngamarna* “mother, breast” and **-marla* “hand” are very widespread across the continent, especially in Pama-Nyungan languages (see, for example, Capell 1954, Koch 1997c), and may be borrowings into proto-Nyulnyulan. Perhaps they should be classed as *Wanderwörter*. Alternatively, they may be cognate at a deeper level; however, if they are, we cannot establish regular sound correspondences. The forms are given in Appendix 12.1.

3.5 *Summary of lexical evidence*

So, to summarise the lexical evidence for relationships in the Western Kimberley, many words are only in Nyulnyulan, thus showing the integrity of that family. In addition, many words are quite clearly borrowings into and from surrounding languages in single Nyulnyulan languages. We would expect this in an area of intense contact. There are pan-Kimberley Wanderwörter, such as *mayi*, “tucker”. Finally, some words may be cognate at a deeper level, but we cannot, at this stage, establish sound correspondences and regular cognate sets.

4. **Phonological evidence**

There is no relevant phonological evidence for higher level groupings in the Western Kimberley, partly because no higher groups can be identified at this time, and so no diagnostic sound changes can be identified. As seen in the previous section, there are putative cognate sets that may be indicative of higher genetic relationships. At this stage, however, there are so few that no regular correspondence sets can be set up.

Nyulnyulan languages lack some of the phonemes found in some surrounding languages. These languages lack the lamino-dental lateral *lh* or glide *yh* of Bunuba, or the lamino-dentals of most Worrorran languages. It is not known, however, whether this is due to innovation in the Worrorran languages from a higher subgroup, and archaism in the Nyulnyulan languages, or the reverse (that is, the loss of lamino-dentals in Nyulnyulan and their retention in Worrorran), if indeed the languages are related at all. It is a typological fact about the languages but it does not help us in defining groups, since we do not have enough cognate material to establish correspondence sets.

5. **Evidence from word-formation**

There is little morphology which could be called derivational in Nyulnyulan languages. There are ‘adjectival’ formatives (which are not reconstructible) and a reflexive/reciprocal circumfix for verbs. There is also a nominaliser (gerund formative) that takes the slot of the person agreement markers and limits the tense forms the verb can appear in. The circumfix and the nominaliser are reconstructible to proto-Nyulnyulan but do not seem to appear outside these languages, although cf Alpher, Evans and Harvey (in press, §3.19) for similar forms of the suffixal part of the circumfix outside the Kimberley region.

The suffix **-gurdany* “having the characteristic of X” is also widespread in Nyulnyulan. There are a number of possible cognates related to *-gurda*, that is,

Ngarinyin *-gurde*, Worrorra *-gude* and Bunuba *-guda*. However, the loss of final *-ny* in Bardi is regular (cf. for example, the instrumental *-ng(a)*, from PN **-ngany*), so the forms in Worrorran and Bunuban could be borrowings from Bardi. Alternatively, Nyulnyulan **-gurdany* and the forms in *-gude* could be genetically related, although in this case Nyulnyulan would still stand as a distinctive feature because of the accretion *-ny*. Capell and Coate (1984:157) list *-gude* as the “accompaniment” case for all eleven Worrorran languages in their survey; this is remarkable homogeneity for languages that otherwise show very few reconstructible cases. It implies that *-gude* is a recent borrowing into Worrorran.

In addition to these, the only other derivational morphemes in the languages are a set of usually unproductive, unreconstructible morphemes denoting “expert” status. The forms are given in Table 4.

Table 4: Derivational morphology

	nominaliser	pertaining to	propriative	reflexive/recip
pN	<i>*ma-</i>	<i>*iidi</i>	<i>*gurdany</i>	<i>*ma- -inyji</i>
Bardi	<i>ma-</i>	<i>-iidi</i>	<i>-gurda</i> ¹⁸	<i>m(a)- -inyji</i>
Nyulnyul	<i>ma-</i>	<i>-id</i>		<i>ma- -inyji</i>
Jabirr-Jabirr	<i>ma-</i>	<i>-id</i>		
Yawuru	<i>ma-</i>		<i>-gurdany</i>	<i>ma- -inyji</i>
Nyikina	<i>ma-</i>	<i>[yig]id</i>	<i>-gurdany</i>	<i>-nyji</i>
Warrwa	<i>ma-</i>			<i>ma- -inyji</i>

No cognate forms outside Nyulnyulan can be found, apart those for *-gurda* mentioned above. The gerund formative *ma-* is specific in its use to Nyulnyulan languages. Its place in the person system, however, indicates that it may be morphology recycled from some other use, such as a noun class marker, in which case it would have cognates outside Nyulnyulan (for example, in Worrorran).

6. Pronouns

Pronouns are complex items in Nyulnyulan languages and all the languages have several paradigms. Discussion here is confined to the nominative and oblique (possessive) free pronouns and the nominal possessive agreement prefixes. See Bown 2001d for details of the reconstructions of the other paradigms in Nyulnyulan languages.

The areas where pronominal marking is found in Nyulnyulan are given in (23) and (24) below:

¹⁸ There is also a secondary allomorph *-orda*.

(23) **Nominal**

- Free pronouns. These are independent words to which case suffixes can be added.
- Free possessive pronouns. The forms are used both as pronouns (e.g. Bardi *jana irrol* “my spear”, *jiya irrol* “your spear”) and in marking possession where the noun is overt: e.g. Bardi *burru agal larrud jirra jawal*, literally “kangaroo and hermit crab their story”; “the story about kangaroo and hermit crab”.
- Possessive prefixing on inalienably possessed nouns. The Eastern languages show this productively. It is dying in Warrwa and absent from Nyikina. Bardi: *ni-nga* “his name”; *irr-nga* “their name(s)”; *nga-nga* “my name” etc.
- Possessive suffixing on nouns. Nyikina and Warrwa have a possessive suffix on some body parts which is related historically to the free possessive pronouns discussed above. Bardi has variable ordering for possessives and possessum, with optional encliticisation of the possessor pronoun to the possessum.

(24) **Verbal**

- Subject agreement on verbs. These are compound prefixes comprising person, number, tense and transitivity.
- Object agreement. Object marking is a suffix on the verb.
- Indirect object suffixal agreement on verbs. Indirect object agreement suffixal clitics are related historically to the free possessive pronouns. Bardi and the other Western languages have both object and indirect object agreement on verbs. In Nyikina, however, agreement is not obligatory and only one of the pronominal clitics, either the indirect object or the direct object, can appear at a time.

6.1 *Personal pronouns*

Some Kimberley languages have the Ilocano pronominal system of four numbers, restricted and unrestricted (also called m(inimal) and a(ugmented)). Parts of the grammars (especially subject agreement on verbs) also show the Assiniboine system, where 1a (first person augmented) and 1+2a (first person inclusive augmented) are not differentiated (McGregor 1989). This is equivalent to saying that there is no inclusive/exclusive distinction in the plural, but there is in the dual. Nyulnyulan languages generally show the Ilocano system in free pronouns, but the Assiniboine system in the bound morphology. These are illustrated schematically in (25).

(25)	Ilocano	
	1m	1a
	1+2m	1+2a
	2m	2a
	3m	3a
	Assiniboine	
	1m	
	1+2m	1a
	2m	2a
	3m	3a

6.1.1 Summary of pronominal reconstructions

Table 5 below gives a summary of the reconstructions of pronominal paradigms in Nyulnyulan languages. Full data, discussion and justification are given in Bower 2001d.

Table 5: *Summary of Nyulnyulan Pronominal Reconstructions*

	Free Pronouns	DO Suffixes	Noun Prefixes	Free possessives	IO suffixes
1m	*ngayu	*ngay(u)	*nga-	*janu	*=janu
2m	*ju(y)a	*juya	*nyi-	*jiya	*=jiya
3m		*-ø	*ni-	*jina	*=jina
1+2m	*yayu		*ya-	*jayu	*=jawu
1a	*yarra	*yarr-?	*yarr-?	*jarra?	*=jarra-
1+2a	*yadirr(V)			*jay(a)rdi(R)?	*=jayirda ?
2a	*kurr	*-kurra	*kurr-	*jungkarra	*=jungkarra
3a	*yirr	*-(y)irr	*yirr-	*jirra	*=jirra

6.1.2 Free pronoun stem

The proto-Nyulnyulan system as I reconstruct it is given in the first column of Table 4 above. McGregor and Stokes differ in a few details from this paper and they reconstruct a 3m *ginya. I cannot, however, reconstruct this any further back than Eastern Nyulnyulan. I reconstruct a Western Nyulnyulan *ginyingga but this is also found in Karajarri, so it is not clear whether this is the correct form to reconstruct for proto-Nyulnyulan, and the intervening languages have innovated, or if the Western languages have innovated by enlarging the proto-Nyulnyulan stem.

The 1m form *ngayu* is a widespread Northern form (cf Blake 1988). Of the other forms, there are some suggestive similarities, especially in the 1+2 and 1a forms (although given the diversity in Nyulnyulan we cannot rule out areal influences or chance here). *gurr “2a” is another well-known Northern form.

There is one place where we could say that the pronoun paradigms between proto-Nyulnyulan and non-Nyulnyulan languages show systematic similarities. This is between Bunuba and Nyulnyulan. The relevant sections of the Bunuba pronouns are underlined.

Table 6: *Comparison between Nyulnyulan and Bunuban pronouns*

	Proto-Nyulnyulan	Bunuba	Gooniyandi
1m	*ngayu	ngayini	nganyji
1+2m	*yayu	ngiyirri(-way)	
2m	*ju(y)a	nginji	nginyji
3m	-	niy	niyi
1a	*yarra	ngiyirri(yani)	yaadi
1+2a	*yadirr(V)	yaarri (yani)	ngidi
2a	*kurr	yinggirri(yani)	gidi
3a	*yirr	biyirri (yani)	bidi

The relationship between Nyulnyulan and Bunuba looks much less regular, however, when one considers the Gooniyandi data. It would still be possible to argue, however, that there are similarities between Proto-Bunuban, assuming that Gooniyandi has undergone a change $rr > d$ and has remodelled the first person minimal on the basis of the second. These data are somewhat suggestive, but are by no means conclusive and would represent similarities in only one area of the grammar.

6.1.3 Oblique and possessive pronouns

In contrast to the nominative pronouns, I found no plausible cognates with proto-Nyulnyulan oblique pronouns outside the family. Proto-Nyulnyulan reconstructions and data from other families are given in Appendix 12.2. Note that the functions of the pronouns are not comparable between Nyulnyulan and other Western Kimberley languages either; the Nyulnyulan ‘oblique’ pronouns are used to mark possession and for indirect objects. The free pronoun forms are used when the pronoun is case-marked. In Bunuban, however, the oblique form is used with case markers.

6.2 Pronominal agreement prefixes

6.2.1 On nominals

Prefixes on inalienably possessed nominals are a feature of the Western Nyulnyulan languages, as well as appearing sporadically in Yawuru and Warrwa. Nyikina has lost productive marking but shows *ni-* on those nouns that take agreement in other Nyulnyulan languages. Some examples were given in (23)

above. Reconstructions of pronominal agreement prefixes in Nyulnyulan and Worrorran are given in Table 7. Bunuban does not exhibit prefixal agreement.

The pronominal possessive prefixes seem to reconstruct to an Assiniboine system; that is, the distinction between the 1a and 1+2a forms is collapsed. Data and cognates outside the family are given in Table 7. Note that the Bunuban languages and the Pama-Nyungan languages of the area do not have personal agreement prefixes. There are quite a few resemblances between the Proto-Nyulnyulan and the Proto-Worrorran reconstructions. It would certainly be possible to argue that these paradigms go back to the same proto-paradigm.

Table 7: *Reconstructions and data for pronominal agreement prefixes*

	1m	1+2m	2m	3m
PN	*nga-	*ya-	*nyi-	*ni-
Ba	<i>nga-</i>	<i>a-</i>	<i>nyi-</i>	<i>nu-</i>
Nyl	<i>nga- ~ ngi-</i>	<i>ya-</i>	<i>nyV-</i>	<i>nV-</i>
Nyk	-	-	-	(<i>ni-</i>)
Warr	<i>nga-</i>	<i>ya- ~ ngarr-</i>	<i>nyi- ~ nya-</i>	<i>ni-</i>
PNK	*ng-	*ngarr-	*ngun-	*n-
Yawij	<i>ng-</i>		<i>ngun-</i>	
Ngar	<i>ngi-</i>		<i>nyunga-</i>	
	1a, 1+2a		2a	3a
PN	*yarr-		*gurr-	*yirr-
Ba	<i>arr-</i>		<i>gurr-</i>	<i>irr-</i>
Nyl	<i>yarr-</i>		<i>gurr- ~ girr-</i>	(<i>y</i>) <i>irr-</i>
Nyk	-		-	-
Warr	<i>yarr- ~ ngarr-</i>		<i>gurr(i)-</i>	<i>yirri- ~ yurr-</i>
PNK	*nyarr-		*nyir- (S) / *gur- (N)	*birr-
Yawij	<i>nyar-</i>		<i>nyir-</i>	<i>ya-</i>
Ngar	<i>nyad- / ngad-</i>		<i>nud-</i>	<i>bud-</i>

Table 8: *Comparison of Proto-Nyulnyulan and Proto-Worrorran reconstructions*

	PN	PNK
1m	*nga-	*ng-
2m	*nyi-	*ngun-
3m	*ni-	- ¹⁹
1+2m	*ya-	*ngarr-
1a	*yarr-	*nyarr-
1+2a	= 1a	*ngar-
2a	*kurr-	*nyir-/*kur-
3a	*yirr-	*birr-

The first person minimal forms are almost identical. For the second person minimal, we could argue that there has been a backformation in Nyulnyulan from

¹⁹ There are noun classes for third person singular nouns; this is discussed further below.

an earlier 2a ***nyirr-* (i.e., *ny(i)-* second person + *irr-* augmented) which was replaced. Alternatively, and more plausibly, given that *gurr-* appears from its wide distribution in non-Pama-Nyungan languages to be very archaic (Blake 1988), we could argue that there has been a replacement in Proto-Worrorran, and *nyirr* is historically a compound of an earlier *nyi-* (second person) and *-rr* (non-singular). The possible stages are summarised in (26) below:

(26)	2m	2a
Stage I	<i>*nyi-</i>	<i>*gurr-</i>
Stage II	<i>*nyi-</i>	<i>*nyirr-</i>
Stage III	<i>ngun-</i>	<i>nyirr-</i>

The third person forms are difficult to reconstruct because Proto-Worrorran has genders; however, a possible cognate to the Proto-Nyulnyulan third person prefix is the Class VI Northern Kimberley prefix *n-*. The second person augmented forms in the two proto-languages are identical.

It is very interesting that although Nyulnyulan seems to share more forms for the free pronouns with Bunuba than with any Worrorran language, in the possessive prefixes we can make a case for almost every form to be related in some way between Worrorran and Nyulnyulan. There are, however, no *systematic* similarities which allow us to posit a genetic relationship at this point.

6.2.2 On verbs

See below under §8.3 for subject agreement markers.

6.3 Interrogative pronouns

The Nyulnyulan interrogative pronouns are also distinctive. The only similar form is Unggumi *agaba* “who” (cf Bardi *anggaba*) which could be a borrowing. The distinction between an animate interrogative “who” and an inanimate “what” is an innovation in Bardi; *-ba* is the cleft marker; thus animate interrogatives were historically obligatorily clefted, and this has been grammaticalised.

7. Nominal inflection

7.1 Inflection or postpositions?

McGregor (1990) and McGregor and Stokes (in press) consider the forms that mark grammatical relations on nouns to be postpositions and thus heads of phrases. McGregor (1990:90ff) gives some arguments for this approach. Under McGregor’s analysis, the Nyulnyulan languages are fairly consistently head marking. In

Bowern (2001b) I argue that the forms in question, at least for Bardi, show much more of the behaviour of case affixes than postpositions, and they will be treated as such in the following argument. I do not assume this argument for all the languages of the region, only the Nyulnyulan languages.

Table 9: *Nyulnyulan and Western Kimberley Interrogative Pronouns*

pN	who	what	when	where
	<i>*yanggi</i>	<i>*yanggi</i>	<i>*baana</i>	<i>*jana</i>
Bardi	<i>anggaba</i>	<i>anggi</i>	<i>baanigarr</i>	<i>jana</i>
Nyulnyul	<i>angg</i>	<i>angg</i>	<i>bananggarr</i>	<i>'an-og'</i> ²⁰
Jabirr-Jabirr	<i>angg</i>	<i>angg</i>		<i>'an-og'</i>
Yawuru	<i>yanggaru</i>	<i>yanggi</i>		<i>jana(gun)</i>
Nyikina	<i>yanggi ~ yangi</i>	<i>yanggi</i>	<i>bana</i>	<i>jana</i>
Bunuba	<i>ngunda</i>	<i>nginjaga</i>	<i>nginjayha</i>	<i>ngaa</i>
Gooniyandi	<i>ngurndu</i>	<i>jaji</i>		<i>ngunyiya</i>
Unggumi	<i>agaba ~ aubayi</i>	<i>ngandjaru, anggube</i>	<i>ngambuljan</i>	<i>nganu-</i>
Worrorra	<i>ang(k)uYa</i>	<i>ang(k)uYa</i>		<i>nga-(ni)-</i>
Yawijibaya	<i>angujay</i>			
Ngarinyin	<i>nyanggi</i>	<i>anyja</i>	<i>anja(n)manggan</i>	<i>gunjal</i>

7.2 Forms and reconstruction

Case forms are given in Appendix 12.3. Note that although there is a lot of straightfowardly cognate material in the Nyulnyulan languages, the functions of the cases can differ between languages, particularly in the areas of the instrumental and comitative (cf McGregor 1998 for discussion).

There do not seem to be any systematic similarities between the Nyulnyulan languages and the other languages of the region. Compare the way Nyulnyulan languages relate to each other across the case system, and the way they relate to the other languages, where there is the odd similar form but no systematic similarities.

8. Verbs

Verb structure in the Nyulnyulan languages is, like in most non-Pama-Nyungan languages, intricate. There is a lot of suppletion and many once-regular phonological alternations have been obscured by analogy. The situation is even more complex in the languages to the East, such as Bunuba and Gooniyandi, where prefixal alternations are complicated by the fusion of subject and object markers.

My (slightly simplified) analysis of the Bardi verb phrase is given in (27) below. Note that this is a synchronic analysis and I would not reconstruct such a scheme for Proto-Nyulnyulan (see further Bowern forthcoming-b).

²⁰ These forms are from Nekes and Worms (1953); *'-og'* is *-uk*, the locative suffix.

- (27)
- | Prefixes | Suffixes |
|--|--|
| <p>pers (tr) tns (num (tr) (refl) ROOT</p> | <p>(refl) (t/a₁) (t/a₂) (val) (=IO) (=O)</p> |

Reconstruction of the verb morphology of Nyulnyulan languages is ongoing.

8.1 *Verb roots*

Nyulnyulan languages have between a hundred and two hundred roots, about ten of which account for most of the uses with preverbs; Gooniyandi has twelve ‘classifiers’ (McGregor 1990) which fulfill the same function as the ten most frequent Nyulnyulan roots. Ungarinyin is described by Rumsey (1982:79-80) as a similar system to the Nyulnyulan one, although he estimates the number of roots occurring (on a rough dictionary count) to be over a thousand. Walmajarri and the Pama-Nyungan languages of the area also have the preverb-inflecting verb system, with a very small number of inflecting verbs. Discussion here focuses on the ten or so most common roots (those identified in Nicolas 2000 and Stokes 1996) and comparison with the verbal classifiers in Bunuban and Worrorran languages. The forms are given in (28)–(40) below.

- (28) ***-bu-** “hit”
 Ba. *-bu-* Nyik. *-bu-*
 Goon. *bini* Ngar. *y₁ibu* “throw”
- (29) ***-bula-** “come”
 Ba. *dorrol+* *-bulu-* “come out of the water” *-bulu-* “[tide] comes in” Yaw.
-bula- Nyik. *-bula-* Warr. *-bula-*
- (30) ***-jala-** “see”
 Ba. *-jala-* Nyl. *-jal-* Jb. *-jala-* Yaw. *-jala-* “look after” Nyik. *-jalajala-* Warr.
-jala-
- (31) ***-janba-** “step on something”
 Ba. *-janba-* “step on sth.” Yaw. *-janbajanba-* “kick” Nyik. *-janba-* “step on dry land”
- (32) ***-jiidi-** (pE) “go”
 Ba. *-jiidi-* Nyl. *-jid-* Jb. *-jid-*
- (33) ***-ju- ~ -di-** “say/do”
 Ba. *-ju-* ~ *-da-* Nyl. *-ji-* ~ *-di-* Jb. *-ji-* ~ *-di-* Yaw. *-ju-* Nyik. *-i-* ~ *-di-* ~ *-ø-*
 Warr. *-yi-* ~ *-di-*

- (34) ***-ka-** “carry”
Ba. *-ka-* ~ *-kaja*-²¹ Nyl. *-k-* Jb. *-k(a)-* Yaw. *-ka-* Nyik. *-ka-* Warr. *-ka-*
- (35) ***-ma-** “put”
Ba. *-ma-* Nyl. *-m-* Jb. *-m-* Yaw. *-ma-* ~ (*-ngama*) Nyik. *-ma-* “go” Warr. *-ma-*
Bun. *ma*₂ Goon. *mi* “effect” Ngar. *ma(ra)* “take/bring”
- (36) ***-minjala-** “wait for”
Ba. *-minjala-* “wait for” Nyik. *-minjala-* Warr. *-minyjala-*
Ngar. *mindjala* “wait for”
- (37) ***-ni-** “sit, be”
Ba. *-ni-* Nyl. *-n-* Jb. *-n-* Yaw. *-ni-* *-nga-* ~ *-ji-* Nyik. *-ni-* ~ *-nga-* Warr. *-wani-*
~ *-nga-*
- (38) ***-ra-** “spear”
Ba. *-ar-* “sew, spear lice” Nyl. *-r-* Jb. *-ra-* Yaw. *-ra-* Nyik. *-ra-* Warr. *-ra-*
Bun. *ra*₂ Ngar. (*r*)*a* “go, come”
- (39) ***-rli-**?
Ba. *-arli-* “eat”
Goon. *birli* “consume”
- (40) ***-wu-** “give”
Ba. *-ø-* < **w* Nyl. *-w(u)-* Jb. *-w-* Yaw. *-ø-* Nyik. *-mi-* Warr. *-ø-*
Bun. *wu* Ngar. *wu* “act on”

Compare this list also with that in Capell (1956) for more examples of the same recurring forms. The alternation of *-ju-* and *-di-* is characteristically Nyulnyulan and not found to my knowledge in the other languages in the region, however, the other monosyllabic verbs show widespread recurring forms.

8.2 Agreement

Gooniyandi and the Worrorran languages have portmanteau subject/object complexes which are suppletive; Nyulnyulan languages have subject-only prefixal agreement which is suppletive by tense. Again, some of the forms are similar across the languages, and show similarity to the free forms in each language; this could be the result of old diffusion or deep genetic inheritance (or coincidence). Due to the complexities of the forms of the transitive paradigms and the amount of suppletion in them, especially in the Worrorran languages, only intransitive prefixes have been considered here. It is a high priority to attempt to reconstruct whole words, i.e., fully inflected verbs, à la Alpher (1990).

²¹ In the present only; cf *i-n-kaja-n* 3SG-TRANS-CARRY-CONT “he carries”.

I have not found any systematic similarities in verb prefixes between Nyulnyulan and other languages, although there are isolated forms that look similar. However, I do not think that not finding anything means very much at this stage, because of the amount of analogy and restructuring that has gone on. Each language requires detailed investigation to see what is old and what is innovated before external comparison can take place; I have only done this fully for Bardi at this stage.

Table 10: *Reconstructions of verbal agreement prefixes*

	Nfut	Fut	Irr
1m	*nga-	*nga-	*nga-
2m	*mi-	*nga-	*mi-
3m	*i-		
1+2m	*ya-	*ya-	*ya-
1a	*ya-rr- ²²	*ya-rr-	*ya-rr-
1+2a			
2a	*gu-rr-	*warr-	*gu-rr-
3a	*yi-rr-		

9. Conclusions

Evidence was presented that the Nyulnyulan languages form a cohesive group that is quite distinct from the other languages of the Western Kimberley region. We cannot rule out higher genetic relations between Nyulnyulan languages and the other languages of the region (of the level of ‘Proto-Australian’), but there is nothing in this survey of shared characteristics and reconstructions to suggest a particularly close relationship; certainly not enough to suggest a namable ‘proto-Western Kimberley’ or ‘Proto-Non-Pama-Nyungan’. Moreover, the characteristics shared by Nyulnyulan languages are indicative of genetic (rather than areal) relations, since there are systematic correspondences in lexicon, morphology and grammar which are not shared by surrounding languages.

²² The form is hyphenated as the tense prefix intervenes between the person desinence and the number desinence.

REVISITING PROTO-MIRNDI

Ian Green and Rachel Nordlinger

University of Tasmania & University of Melbourne

1. Introduction¹

The Mirndi subgroup² was established through the pioneering work of Neil Chadwick. Circulated as a manuscript from the early 1980s the work took over a decade to appear in published form Chadwick (1984, 1997), a surprising lag given that the subgrouping proposed had major implications for Australian historical linguistics.³ In tying together a set of languages in the western Top End with a set of languages in the Barkly Tablelands, several hundred kilometres to the east, it provided the first substantial case for a geographically discontinuous subgroup within the Australian family.⁴ This subgroup was of further interest in that its languages are also typologically divergent, cross-cutting Capell's (1956) typological and geographical distinction between 'prefixing' and 'non-prefixing' Australian languages. The languages in the western Mirndi bloc sit clearly on the prefixing side of this line, while the languages in the eastern (Barkly) bloc are more predominantly suffixing (or 'non-prefixing').

¹ For valuable comments and suggestions we would like to thank the participants of the Workshop on Subgrouping in Australia, and particularly Harold Koch and Claire Bowern for editorial input on an earlier version of this paper. Rachel Nordlinger would like to acknowledge the financial support of an Australian Research Council APD Fellowship (F59930036) held at the University of Melbourne.

² The name for the subgroup is taken from the innovative first person dual inclusive pronoun, which all the languages share. In the Western languages and Jingulu, the base form of the pronoun is *mind-*; in the remaining languages (those we call Ngurlun, see section 2) the base form has a retroflex nasal-stop cluster: *mirnd-*. The name for the subgroup is thus variously given as *Mindi* or *Mirndi*. We adopt the latter spelling here as the most plausible reconstruction of the proto-Mirndi form.

³ It was only a few years previously that Dixon had expressed doubt as to whether Jingulu (one of the Mirndi languages) was even a member of the greater Australian family (Dixon 1980:225).

⁴ The other recognised geographically discontinuous sub-group in Australia is Warluwarric (Blake 1990a) or Ngarna, as it is referred to by Breen (this volume). Of course, if Pama-Nyungan is held to be a genetic group then it also presents as geographically discontinuous by virtue of the Yolngu group's stranding on the north-eastern side of the non-Pama-Nyungan bloc.

The existence of Mirndi is well-accepted in the Australian linguistic community (e.g. Dixon 2002, Green 1995, Nordlinger 1998, Pensalfini 1997, 2001, 2003) despite the fact that there has been little published by way of critical evaluation of Chadwick's arguments, and no thorough-going attempt to reconstruct the proto-language. Both of these tasks, however, need seriously to be addressed.⁵ Chadwick's (1997) study, for example, is methodologically ambiguous. While he seems to be strongly suggesting that the Mirndi languages constitute a genetic subgroup, there is only one point — in the discussion of the *mirnd* first inclusive stem (p. 100) — at which he attempts to identify any kind of innovation that would define the subgroup and distinguish it from other Australian languages. At the same time, even a cursory look at the comparative morphology within the subgroup reveals large-scale formal divergence, the extent of which confounds reconstruction and might even prompt alternative non-genetic accounts of the features shared within the group. These, then, are the aims of this brief paper: to re-examine carefully the evidence for the subgroup and the extent to which a reconstruction of proto-Mirndi and its internal branching is possible. We show that the evidence for the subgroup is far less substantial than its widespread acceptance would seem to suggest and argue that, while the weight of the pronominal evidence would appear to favour a subgroup analysis, the situation is far from straightforward. Much further work is needed, especially in accounting for the enormous amount of grammatical and lexical divergence across the languages of the group.

The structure of this paper is as follows. In section 2 we provide a brief overview of the Mirndi group and the typological divergence within it. In section 3 we review the evidence for proto-Mirndi, suggesting that it is not as clear as conventional wisdom may suggest. We then turn to look particularly at the position of Jingulu within the Mirndi subgroup in section 4 arguing that there is little conclusive evidence to reconstruct it as a part of a Barkly subgroup. Finally, in section 5, we discuss some of the implications of our suggestions and suggest some directions for further research.

2. The nature of Mirndi

The putative Mirndi subgroup consists of just five languages. In the west are Nungali, and the closely related dialects Jaminjung and Ngaliwurru, making up a language we refer to as 'Jaminjungan'. In the east are Jingulu, Ngarnka and the dialect cluster of Wambaya, Gudanji and Binbinka which makes up the language

⁵ For recent (unpublished) work along these lines see Harvey (2002) and Harvey, Green and Nordlinger (to appear).

we refer to as ‘Wambayan’.⁶ We refer to the Western and Eastern blocs following Chadwick (1997) as the ‘Yirram’ and ‘Barkly’ groups respectively (noting however that these are convenient geographical descriptors which imply no claim of genetic branching). In addition it is convenient to have a cover term for the group consisting of Ngarnka and the Wambayan dialects, as they share a number of significant features which distinguish them from the other Mirndi languages. We have called these the ‘Ngurlun’ group⁷ and, as discussed below, we believe that they will most likely turn out to make up an internal subgroup within Mirndi. Thus, the terminology used in this paper is as follows:

Yirram:	geographical bloc consisting of Nungali and Jaminjungan
Barkly:	geographical bloc consisting of Jingulu and Ngurlun
Ngurlun:	geographical bloc consisting of Ngarnka and Wambayan
Jaminjungan:	language cluster consisting of the Ngaliwurru and Jaminjung dialects
Wambayan:	language cluster consisting of the Wambaya, Gudanji and Binbinka dialects

The assessment of the Mirndi group as typologically diverse arises from just two features: gender/case affixation of nominals and deictics, and the pronominal affixation in verbs. Both the Barkly languages and the Yirram languages (represented in this case only by Nungali) have nominal gender marking with gender/case portmanteaux. In Nungali gender is marked predominantly by prefix, while in the Barkly languages, which all have gender, it is marked predominantly by suffix.⁸

The Yirram languages have a verb structure which is typical of languages of the ‘prefixing’ region (McGregor 2002). That is, complex verbs consist of a lexical main verb stem (or ‘co-verb’) followed by an ‘auxiliary’ verb.⁹ The auxiliary verb, which constitutes an independent phonological word, is made up of a series of pronominal and tense/aspect/mood (TAM) prefixes attached to a classifying verb

⁶ In earlier work this dialect group has been referred to as ‘the McArthur language’ (Chadwick 1978, Nordlinger 1998).

⁷ This replaces the ‘Eastern’ group of earlier works (e.g. Chadwick 1978, Green 1995, Nordlinger 1998), and is taken from the first person dual exclusive pronoun which is shared by all languages of the group.

⁸ Recent work, however, shows that some productive gender marking is suffixal in Nungali (Harvey 2002).

⁹ In the examples of this section, auxiliary verbs are in bold and lexical main verbs are underlined.

stem; the classifying verb stem can in turn take further inflections. There are about 30 such classifying verbs in Jaminjung:¹⁰

- (1) *Mooloorroo-ni gagawooli voorrg gan-garra-ny Gilwi-ni.*
 old.woman-ERG long.yam show 3sg.1sg-PUT-PST Gilwi-LOC
 “The old woman showed me yam in Gilwi.”
 (Schultze-Berndt 1998:20, ex. 31)

Across the Barkly languages verbs also consist of a main verb stem together with an ‘auxiliary’ sequence of pronominal and TAM morphemes. In Jingulu this auxiliary sequence is usually suffixed to the main verb (2), but in some cases may occur independently (3) (Pensalfini 1997:307).

- (2) *Mindiyila imbiyi-mindi-ju Jingulu.*
 1du.inc.NOM speak-1du.inc-doJingulu
 “We two are speaking Jingulu.” (p. 309, ex. 2b)
- (3) *Kiwarlija ya-rruk nginiwa.*
 snake 3sg-went this.way
 “A snake went this way.” (p. 310, ex. 3d)

In the Ngurlun languages the phonological status of the auxiliary is different again. In this group the pronominal-TAM sequence occupies second position in the clause: encliticised to the first constituent when monosyllabic, and constituting its own phonological word otherwise.

- (4) *Wara-nmanji gini-ngg-a yardi bulinja.* (Wambaya)
 face-ALL 3sg.m.A-RR-NFUT put algae(ACC)
 “He put algae on his face.” (Nordlinger 1998:236, ex. 35)

Note that auxiliaries in the Barkly languages are further differentiated from those in the Yirram group by their lack of any classifying verb morpheme. There is some verbal classification of sorts, however. The auxiliary sequence in Jingulu, for

¹⁰ We use the following abbreviations: A ‘transitive subject’, ABS ‘absolutive’, ACC ‘accusative’, ALL ‘allative’, DAT ‘dative’, du, ‘dual’, exc ‘exclusive’, ERG ‘ergative’, f ‘feminine’, FUT ‘future’, HAB ‘habitual’, inc ‘inclusive’, IRR ‘irrealis’, LOC ‘locative’, m ‘masculine’, n ‘neuter’, n-sg ‘non-singular’, nABS ‘non-absolutive’, NFUT ‘non-future’, NOM ‘nominative’, O ‘object’, pl ‘plural’, Pres ‘present’, PST ‘past’, RR ‘reflexive/reciprocal’, S ‘intransitive subject’, sg ‘singular’, v ‘vegetable’.

example, varies in form to classify the verb as ‘motion away’ (glossed ‘go’), ‘motion towards’ (glossed ‘come’) or ‘motion neutral’ (glossed ‘do’). Some of the Ngurlun languages also exhibit this three-way classification, although in these languages it more closely resembles the associated motion systems of nearby Pama-Nyungan languages (Koch 1984, Simpson 2001; see Nordlinger 2001 for discussion).

Previous work by Green (1995) and Nordlinger (1998) has demonstrated that there are relatively straightforward scenarios available to account for the differences in affixal alignment between the two Mirndi blocs. In respect of the gender markers Nordlinger (1998) has suggested that the Wambayan deictics hold the historic key. Deictic gender marking in Wambayan shows strong formal similarities with the nominal gender marking, but is irregular in respect of being prefixal rather than suffixal. If proto-Mirndi had such prefixed deictics, then gender suffixation of nominals in the modern Barkly languages could be achieved through the reduction of postposed deictics. Evidence for this diachronic scenario is the fact that the deictics themselves do not take gender suffixes: we would not expect deictics to be postposed to deictics.

In respect of the verbs Green (1995) shows that Yirram and Jingulu share the same linear ordering of main verb stem and pronominal-TAM sequence, and that the suffixal character of the Jingulu verb could therefore have arisen through a process analogous to that suggested by Nordlinger for gender markers; that is, through the original classificatory verb prefixes migrating to the preceding main verb stem. Green sees the Ngurlun situation as a subsequent development, this movement of the ‘auxiliary’ sequence to second position then bringing the verbal structure into line with, for example, the Ngumpin languages to the west (cf. McConvell 1980). At the same time, Green (1995) suggests that the three-way motional verbal classificatory system found in the Barkly represents simply the remains of a larger proto-system which more resembled those in the contemporary Yirram languages. Green speculates that the original verb classifier inventory may have been decimated through language interference by an influx of speakers who could only interpret the very foreign verb classification system through the concept of ‘associated motion’ that is prevalent in the Pama-Nyungan languages of the area (Koch 1984, Simpson 2001).

Now while these scenarios are no doubt plausible, at critical points they lack formal support from a more comprehensive and independently motivated reconstruction of proto-Mirndi. Nordlinger’s gender marking hypothesis, for example, seems to assume a *case inflected* four-way gender division in the proto-language, although across the group there are good correspondences for only a few of the relevant morphemes. Furthermore, it has proven difficult to find a solid set of

candidates for proto-Mirndi verbal classifiers; the search for relics of the putative proto verbal classifiers amongst the auxiliaries of the Barkly group, for example, throws up only a handful of possible cognates (Green 1995:419, Nordlinger 1998:285, Nordlinger 2001:404). This apparent dearth of formal morphological correspondence, otherwise the keystone to proof of subgrouping in the Australian context, raises some very serious questions about the status of proto-Mirndi. In the absence of regular formal correspondences across various sub-systems of their grammars, can we continue to consider the Mirndi languages as making up a subgroup? Indeed are we right to consider them as closely genetically related at all?

3. Reviewing the formal evidence for proto-Mirndi

In neither his 1984 manuscript nor his 1997 article does Chadwick make an explicit claim that the Mirndi languages constitute a genetic subgroup of the Australian family. His aims are rather more fundamental. Reserving judgement as to whether in fact 'all mainland languages are related' (1997:95), and not considering enough wider comparative data to bring potential Mirndi innovations to light, he aims in the detailed 1984 work only to demonstrate the weight of evidence in favour of a genetic relationship in general between Jingulu and the Yirram languages, and in the more condensed 1997 study to show that all the Mirndi languages, the Ngurlun group now included along with Jingulu and Yirram, are genetically linked. And while both treatments hint strongly at the Mirndi languages ultimately being establishable as a branch of the Australian family it has remained for those analysts who have built on Chadwick's work (Green 1995, Nordlinger 1998, Dixon 2002), to finally use the s-word in respect of the group.

Good evidence for the genetic relatedness of the languages however does not come from the lexicon, where extensive diffusion could be argued to have muddled the genetic picture. Chadwick (1997) for example makes only a weak claim in respect of the lexicon, pointing out that there has been extensive borrowing across the region, in particular from the Ngumpin languages that intervene between the Yirram and Barkly blocs. Removal of the items that are common within the broader region from the comparative Mirndi word-lists brings cognate densities down to less than 20% between the Yirram, Jingulu and Ngurlun sets (1997:103). Weakening the lexical claim even further still is recent work by Harvey (2002), whose exhaustive examination of the regional vocabularies leads to a set of just thirteen lexical items that could be reconstructed as innovative proto-Mirndi vocabulary.

The primary evidence for the genetic relatedness of the Mirndi languages is morphological rather than lexical, and comes from just two areas of the grammar:

pronouns and gender markers. Unfortunately, the treatment of the data that Chadwick offers amounts to nothing more than an ‘inspection’ method; that is, the relevant comparative morphology is assembled and similarities observed. Consistent with Meillet (1967), recurrent, systematic similarities are especially noted as are correspondences in irregular or anomalous forms. However, there is no attempt at reconstructing the parent language, and no attempt to show how the contemporary forms are plausibly, and with an acceptable degree of consistency, derived from this parent. This is an essential step in the establishment of any claim of genetic relatedness, and its absence here leaves the Mirndi case somewhat incomplete. In this section, we will therefore briefly review the comparative situation with the Mirndi pronouns and gender markers, and then go on to consider some other areas of the grammar.

3.1 *Pronouns and genetic relatedness*

All of the languages of the Mirndi group have five distinct pronominal paradigms: bound subject and object forms, free-form direct and oblique forms, and possessive pronouns. It is beyond the scope of this paper to examine all of these paradigms, and so we will focus particularly on the bound subject and object pronominal forms. These forms would seem to be the most likely to establish a case for genetic relatedness since, being morphologically dependent on the verb stem, they are probably older and less susceptible to diffusion.

The bound subject paradigm in Table 1 is typical of the other comparative pronominal sets, which by and large offer comparable pronominal stems, number markers and structures. These pronominal sets show a range of consistent correspondences, both in respect of their regularities and a number of their suppletive forms, and there should be little doubt that they are fully consistent with a claim of genetic relatedness. To demonstrate, we have provided in the final row of Table 1 one possible reconstruction of the proto-Mirndi paradigm. It is not the purpose of this paper to justify this particular reconstruction in full, and we do not have the space for the required argumentation; we present it rather as a first approximation, to be modified as necessary by subsequent debate, and for the time being to show that a plausible paradigm can indeed be reconstructed on the basis of the observed correspondences.

The reconstruction suggests that proto-Mirndi had bound subject marking in which transitive and intransitive subject were distinguished in second and third person singular (and within third person singular perhaps only in masculine and feminine genders), but were not distinguished elsewhere in the paradigm. There is near universal justification for this in the third singular, where all languages but Jaminjungan (which lacks the feminine reflex, which it could well have just

Table 1: *Mirndi bound subject pronouns (separate A forms as indicated)*

	1st sg	2nd sg	3rd sg (S)	3rd sg (A)
Jam./Ngali.	<i>nga</i>	<i>na, nganyJV-(A)</i> ¹¹	<i>ga</i>	<i>ganV-</i>
Nungali	<i>nga</i>	<i>ngaj</i>	<i>wa</i>	<i>ngani-</i> (m.) <i>ngayV-</i> (f.)
Jingulu	<i>nga</i>	<i>nya ~ na, nganyja-</i> (A)	<i>ga</i> (following certain verbs), <i>ya</i> (in isolation) <i>ø</i> , (normal)	<i>ni-</i> (m.) <i>ngayi</i> (f.)
Ngarnka	<i>ngV</i>	<i>nyjV ~ jV</i>	<i>yV</i> (Fut), <i>nggV</i> (nFut)	<i>nV</i> (m.) <i>ngVjV</i> (f.)
Wambaya	<i>ngV</i>	<i>nyV</i>	<i>gV</i>	<i>ginV</i> (m.) <i>ngiyV</i> (f.)
Gudanji	<i>ngV</i>	<i>nyV</i>	<i>gama</i> (m. pres) <i>garna</i> (f. pres), <i>gV</i> (other)	<i>gVnV</i> (m.) <i>ngVjV</i> (f.)
Binbinka	<i>ngV</i>	<i>nyV ~ nyjV</i>	<i>nggi</i> (m. pres), <i>ma</i> (v. Pres), <i>na</i> (f. pres), <i>nggu</i> (n. Pres) <i>gV</i> (others)	<i>gVnV</i> (m.) <i>ngVjV</i> (f.)
pMirndi	<i>*ngV</i>	<i>*nya ~ *na</i> S <i>*nganyjV</i> A (<i>*nyjV ~ *nyV</i> S/A pNgurlun)	<i>*ga</i> (S)	<i>*gVnV</i> (m.) <i>*ngayV</i> (f.)

	1st Inc du	1stExc du	2nd du	3rd du
Jam./Ngali.	<i>mind(i)</i>	<i>yiny</i>	<i>guny</i>	<i>buny</i>
Nungali	<i>bidi ~ mindi</i>	<i>yiny</i>	<i>wuny</i>	<i>winy</i>
Jingulu	<i>mind</i>	<i>nginy</i>	<i>guny</i>	<i>wuny</i>
Ngarnka	<i>mirnd</i>	<i>ngurl</i>	<i>gurl</i>	<i>wurl</i>
Wambaya	<i>mirndi</i>	<i>ngurl</i>	<i>gurl</i>	<i>wurl</i>
Gudanji	<i>mirndi</i>	<i>ngurl</i>	<i>gurl</i>	<i>wurl</i>
Binbinka	<i>mirndi</i>	<i>ngurl ~ yurl</i>	<i>gurl</i>	<i>wurl</i>
pMirndi	<i>*mirndi</i>	<i>*yiny~*nginy</i>	<i>*guny</i>	<i>*biny</i>
	1st Inc pl	1st Exc pl	2nd pl	3rd pl
Jam./Ngali.	<i>yurr</i>	<i>yirr</i>	<i>gurr</i>	<i>burr</i>
Nungali	<i>yurr</i>	<i>yirr</i>	<i>wurr</i>	<i>wirr</i>
Jingulu	<i>ngurr</i>	<i>ngirr</i>	<i>gurr</i>	<i>wurr</i>
Ngarnka	<i>ngurr</i>	<i>ngirr</i>	<i>girr</i>	<i>irr</i>
Wambaya	<i>ngurr</i>	<i>ngirr</i>	<i>girr</i>	<i>irr</i>
Gudanji	<i>ngurr</i>	<i>ngirr</i>	<i>girr</i>	<i>wirr</i>
Binbinka	<i>ngurr ~ yurr</i>	<i>ngirr ~ yirr</i>	<i>girr</i>	<i>wirr</i>
pMirndi	<i>*yurr ~* ngurr</i>	<i>*yirr ~* ngirr</i>	<i>*gurr</i>	<i>*birr</i>

¹¹ In Jaminjung items ‘J’ represents a laminal stop which is realised as an inter-dental in Ngaliwurru and a palatal in Jaminjung (Schultze-Berndt 2000:41).

dropped) can be seen to have reflexes of a special *ngayV* feminine A and *gVnV* masculine A, in conjunction with a more general *gV* subject form. The motivation is less compelling in the second person singular, where synchronically distinctive S and A forms are found only in Jingulu and Jaminjungan. However, the presence of both *nyV* and *nyjV* second singular stems in the Ngurlun group as a whole, together with their co-occurrence in Binbinka, raises the possibility that these languages had both *nyV* and *nyjV* (as a contraction of an earlier *nganyjV*) in their common prehistory. We suggest therefore that proto-Ngurlun collapsed the S-A distinction of proto-Mirndi but retained reflexes of both forms as variants of second person singular subject. Binbinka then retained the variation, but Ngarnka, Wambaya and Gudanji opted for one or other of the alternates. The *nya* ~ *na* variation that we have postulated for the proto-Mirndi second person singular S form is a highly tentative and somewhat arbitrary reconstruction. There are a number of other equally plausible mechanisms for accounting for the contemporary second singular S forms, and further investigation, which will no doubt look to the bound O and free-form paradigms as sources of innovative bound S forms, is required. For the time being, then, the *nyV* ~ *nV* second person singular bound S forms do not provide good evidence of the overall genetic relatedness of the group.

With the exception of the dual marking in Ngurlun the remainder of the reconstruction is relatively transparent. **Mirndi* is our choice for the proto first inclusive dual, with the retroflex being lost in Jingulu and Yirram.¹² The initial consonant of the other first non-singular stems is consistently *y* in Yirram and *ng* in all the other languages, except for Binbinka, which has a *y* ~ *ng* alternation. This Binbinka alternation is plausibly a retention from proto-Mirndi; the ancestral variation has been collapsed in favour of the velar nasal in the rest of the Barkly languages, and in favour of the semi-vowel in the west. For those non-singular stem vowels which differ across the modern languages, that is, in the first exclusive dual, third person dual, second person plural and third person plural, our reconstruction matches the contemporary Nungali data. This reconstruction has stem vowels consistent for person rather than for number in the proto-paradigm. Jaminjungan and Jingulu have then regularised stem vowels for second and third non-singular person to *u*. The Ngurlun group have instead moved in the direction of having the *u* stem vowel for the dual and the *i* stem vowel for the plural; this, however, has not been extended to first person inclusive plural, where it would erode the contrast with the first person exclusive. Again, other reconstructions are possible.

¹² In the absence of any other cognates for the putative correspondence set, and with no apparent phonological motivation for the development of the retroflex contrast here, we assume that it is more likely simply to have been lost.

Within the pronoun system the *-rl* dual marker in Ngurlun corresponds consistently to the *-ny* dual in the other Mirndi languages. We have reconstructed the Yirram and Jingulu *-ny* dual marking as ancestral, proposing that Ngurlun has innovated an *-rl* dual and systematically replaced the original form with it. Blake (1988:43) also posits the *-rl* as innovative in the Ngurlun group. Blake speculates that it has been borrowed from nearby non-Pama-Nyungan languages (e.g. Mangarrayi, Warndarrang, Alawa) where it occurs as a plural and in alveolar rather than retroflex form, though no plausible mechanism for this borrowing and adaptation is outlined. As an alternative source for the pronominal innovation we might also tentatively point to the nominative dual suffix found in the Barkly; this has the form *-CulV* in the Ngurlun languages (Chadwick 1978:173) and in Jingulu has an allomorph with the retroflex, *-(w)urlu* (Pensalfini 1997:265). But these remain speculative suggestions, and on the basis of the current evidence it remains equally possible that *-rl* was the original dual and was supplanted by an innovative *-ny* in the west. Even more complex reconstructions might be motivated by the data. For example, note that Binbinka has free oblique dual forms which appear to contain both the *-rl* and the *-ny* number marking. This is illustrated in Table 2 below.

Table 2: *Mirndi free form oblique pronouns*

	2nd singular	2nd dual	2nd plural
Jaminjungan	<i>ngunggu</i>	<i>gunyag</i>	<i>gurrag</i>
Jingulu	<i>nganggu</i>	<i>gunyagu</i>	<i>gurragu</i>
Gudanji	<i>nganga</i>	<i>gurlaga</i>	<i>girraga</i>
Binbinka	<i>ngangi</i>	<i>gurlinya</i>	<i>girra</i>

If the *-nya* segments in these anomalous Binbinka oblique forms are in fact cognate with the regular dual morphemes in Jingulu and Yirram, then rather than a simple replacement of *-ny* by *-rl* there may have been a transitional period, presumably at the time of proto-Ngurlun, in which both dual affixes appeared together.¹³

Across the Mirndi group as a whole the bound O paradigms provide us with less for formal comparison than do the bound S/A pronouns. Among the Ngurlun languages bound Os mark only person and not number, and overt forms occur only for first and second person. These are clearly relatable to the singular subject set,

¹³ A full discussion of how such a co-occurrence might plausibly arise is outside the scope of this paper. We simply note that one possible route is through adaptation of an ancestral dual form which adds the dual *-ny* to the plural rather than directly to the pronominal stem. Such structuring is attested in modern Jaminjungan free forms such as second person dual absolutive *gu-rrī-nyi* (Schultze-Berndt 2000:64). The innovation of the *-rl* dual then sees it supplant the *-rri* morpheme rather than, in the first instance, the *-ny*.

having the shapes *ng(V)* and *ny(V)* respectively. Specificity for object number can then be achieved through the use of the appropriate free-form pronoun elsewhere in the clause:

- (5) a. *Jiyaj-ba ngu-ny-u gurla gijululu* (Wambaya)
 give-FUT 1sgA-2O-FUT 2du.ACC money.ACC
 ‘I will give you two some money.’ (Nordlinger 1998:140, ex. 5-11)
- b. *Daguma gini-ng-a ngirra* (Wambaya)
 hit 3sg.m.A-1O-NFUT 1pl.exc.ACC
 ‘He hit us.’ (Nordlinger 1998:140, ex. 5-12)

Although showing a different form for the first person (*ana* rather than *ng(V)*) the operation of bound O marking in Jingulu is largely identical to the Ngurlun languages. However, there is one exception: when there is a third person singular subject then non-singular O pronouns appear affixed to the verb (Chadwick 1975:32). As in the Yirram languages also, these non-singular Os are closely related in shape to those in the bound S paradigm. The singular bound O forms for the Mirndi group are provided in Table 3.

Table 3: *Mirndi bound object pronouns*

	1st sg	2nd sg	3rd sg
Jam./Ngal.	-n	-nyi	ø ~ -i
Nungali	-n ~ -an	-ny(i)	ø ~ -i
Jingulu	-ana	-nyV	ø
Ngurlun	-ngV	-nyV	ø
pMirndi	*an(a)	*nyV	*ø

The lack of specifically non-singular bound Os in most constructions in the Barkly languages, together with the resemblance in shape between the non-singular bound Os in Yirram and Jingulu and other bound pronoun paradigms, means that we cannot be sure about the existence of non-singular bound Os in proto-Mirndi. The proto-language may well have worked like modern Wambaya, with the Jingulu and Yirram branches independently innovating a fuller set of bound Os based on the S forms; the Yirram languages employed this set unrestrictedly while Jingulu confined it to co-occurrence with third person singular subjects only.

Whatever the pre-history of the non-singular forms we can with some confidence propose first and second person singular bound Os for proto-Mirndi, as indicated in Table 3 above. For second person singular bound O all languages have *ny(V)*, including the Yirram languages, which do not otherwise have second person stems in *ny(V)*. **nyV* is thus a viable reconstruction for the parent language. For

first person singular O Yirram has *n* and *an*, corresponding to Jingulu *ana*. The Ngurlun form here is *ngV*, which we cannot be sure is indeed cognate. We therefore reconstruct for the proto first singular O **ana*. As this would have been suppletive for first person singular in the proto-language we assume that it has been regularised in Ngurlun where it has been given the standard first singular *ngV* stem shape.¹⁴ **ana* is most likely a proto-Mirndi modification of *nga-n(V)*, an ancestral form arguably composed of a first singular stem followed by an accusative (or perhaps inverse) marker, and widely reflected as a bound O in the prefixing languages of northern Australia (Dixon 2002).

3.2 *Assessing pronominal innovation*

We have attempted to illustrate in 3.1 that the comparative Mirndi pronominal data is consistent with a hypothesis of genetic relatedness and that proto-paradigms which plausibly give rise to the modern forms can be reconstructed. But this of course is not tantamount to a claim that the languages constitute a subgroup, a claim that would require us to be able to identify in the modern languages reflexes of the distinctive innovations wrought by proto-Mirndi on a higher-level proto-language. Such a claim would be difficult, of course, to advance rigorously as we simply do not have well-motivated reconstructions of the pronominal paradigms of many other ancestral northern Australian languages, although Blake (1988) constitutes a significant first step in this direction. Nevertheless it is instructive to survey the pronominals of the Mirndi languages, together with their putative proto-Mirndi source forms, for signs of uniqueness within the wider Australian context.

Carrying out this task on the items in Table 1 produces mixed results. For example, first singular *ngV* is a near ubiquitous bound S/A form in northern Australia. Second person singular *nV* stems (including *na* allomorphs) are also found in the Western Daly languages Marrithiyel (Green 1989) and Marranunggu (Tryon 1970), where second singular *nyV* stems also appear. The second person singular A form *nganyjV* is echoed elsewhere in free-forms such as Worrorra *ngunju* (Clendon 2001a) and bound forms such as Ngarinyin *anyja-* and perhaps Ngalakgan *ju-* (both marking second singular A with 3 singular O function) (Rumsey 1982; Merlan 1983). In the third singulars the *ga-* general third person singular subject form is shared with Kunbarlang and Dalabon (Blake 1988:52-53), while the *ngayV* third person singular feminine is so widespread that **ngaya* is

¹⁴ Of course, a reconstruction of **ngana* would also be possible on the basis of this data, allowing us to propose the first (singular) bound O in all Mirndi branches as derived from the ancestral form. However, the preservation of initial *ng* in the Jingulu first person non-singular bound Os argues against this.

reconstructed by Blake as the ancestral northern Australian free form (1988:19). In addition an *nV*- third person singular masculine A affix occurs widely, for example in Ngandi (Heath 1978b), Maung (Capell and Hinch 1970) and Marrithiyel (Green 1989), with **nu* being proposed by Blake as the ancestral northern third person masculine free form.

Amongst the non-singular morphemes we find that while the *ny*- dual appears to have only a limited occurrence outside the Mirndi group, being otherwise recorded for Marringarr and reconstructed for the Western Daly sub-group (Green 1994), the *rr*- plural is found so often that it too is reconstructed by Blake (1988:19) for the ancestral northern Australian free pronominal paradigm. The *gu*-second person non-singular stem is also reconstructed for the ancestral paradigm, and while *bu*- is Blake's choice for the ancestral third person non-singular stem, the *bi*- reconstructed here for proto-Mirndi is widely attested in the north (1988:11-12). Further, both *yi*- and *ngi*- are recorded by Blake (1988:64) as occurring in a number of other languages as first person exclusive non-singular stems; *yi*- is found in Warray and Wardaman, for example, and *ngi*- in Na-kara and Mangarrayi. In addition *ngi*- first person exclusive non-singular occurs in Bunuba (Rumsey 2000:71). Blake (1988) also reports a first inclusive plural stem in *ngu*- for Burarra, Na-kara and Ndjébbana. No *yu*- first inclusive stems are to be found in his comparative tables, but there are a number of other *yV*- shapes with this function, for example in Warray, Malak-Malak and Miriwung.

In looking at these possible correspondences between morphemes of the Mirndi group and forms found in other languages we are not, of course, always comparing apples with apples. Blake's (1988) tables focus primarily on free-form pronouns, for example, whereas the Mirndi paradigms in Table 1 are of bound subjects. But this is in a sense the very point that needs to be made. That is, in searching for shared innovations in the Mirndi languages within the pronouns surveyed above we can identify only one item that could be a unique formal creation of the putative proto-language. This is the **mirndi* first inclusive dual pronoun, which is entirely unattested outside of the Mirndi group.¹⁵ Otherwise the pronominal innovativeness of proto-Mirndi is likely to be found not so much in its creation of new morphology as in its particular reworking and rearrangement of inherited morphological material. Thus while the *ngayV* third person singular feminine A form does clearly correspond to forms in other languages, and may even reflect an ancestral feminine ergative free pronoun (Sands 1995), its hiring into the bound subject pronominal paradigm, and its setting in opposition to a *gVnV* masculine A bound form, may be particular to proto-Mirndi. Similarly, although *gu*

¹⁵ Note that *mV* forms otherwise appear in an area of the western top end as first inclusive dual stems (Harvey in press-a), but never in association with a following (*r*)*ndi* or similar sequence.

second person non-singular and *bi* third person non-singular stems are readily found outside of the Mirndi group, their particular combination with the *ny* and *rr* number markers in this paradigmatic arrangement may well prove to be one of the modifications that distinguishes proto-Mirndi from its congeners. Equally, looking to Table 3, we can note that while the putative ancestral first singular accusative bound pronoun **ngan(a)* is widely reflected in northern Australia, it appears that we can construe the process of eliding the initial *ng* of this form to give *ana* as the particular proto-Mirndi development, this precise version of the form not being found elsewhere in our data.

The work of determining the degree of innovativeness of the putative proto-Mirndi pronominal set will thus involve careful reconstruction and comparison of a range of ancestral paradigms. In the meantime we can note that an initial survey of the data reveals an array of reasonably wide-spread northern Australian forms, and indicates that the Mirndi pronominal set is not as morphologically distinctive as the strikingly innovative first inclusive stem has perhaps led some linguists to assume.

3.3 Gender Marking

The other major plank in Chadwick's (1997) claim of a close relationship between the Yirram and Barkly languages is the existence of a 'parallel relationship between feminine and masculine affixes for ergative oblique' (1997:96). However, as with the pronouns, a reconsideration of the data leads to the conclusion that the evidence here is as not as decisive in the establishment of a Mirndi subgroup as might currently be supposed.

Chadwick's presentation of this section of the argument (1997:96-99) is somewhat opaque. For example, he tables 'reconstructed' forms for the various languages without actually showing us the source data or indicating precisely what he means by 'reconstructed' in this context. Chadwick's two main points here are, however, underlyingly fairly simple. Firstly, Nungali, Jingulu and the Ngurlun languages all show a suffix of the form *-ni* or *-rni* which marks masculine ergative. Chadwick could also have added to the database here Jaminjungan, which has *-ni* as its sole ergative suffix, unvaried for gender. Secondly, Nungali has a feminine ergative suffix *-ngayi*. This can be compared with the *-nga* feminine ergative suffix forms found in Jingulu and the Ngurlun languages. This data is consistent with a reconstruction of proto-Mirndi as having gender inflected ergative suffixes (or perhaps enclitics): **-ni* or **-(r)ni* for masculine, and **-ngayi* for feminine. The feminine has been lost in Jaminjungan and contracted to its initial syllable in the Barkly. These markers have most likely arisen historically via the postposing of a gender inflected pronoun to the NP. We have noted above, for example, that *-ngayV*

third person feminine has cognates outside the Mirndi group and otherwise appears within the group as a third person feminine A bound form. Similarly *-nV* shows up as a third person masculine A both within the Mirndi group (in Jingulu and Ngarnka as a bare *-nV* form, elsewhere as part of a longer *-gVnV* or *-ngVnV* sequence¹⁶) and widely elsewhere (Sands 1995). However, observe that the suffixal masculine vs. feminine ergative opposition is the property exclusively of the Mirndi group. It has therefore not been borrowed in its entirety from any other known language.

As with the shared pronominal features examined in Section 3.2 above what we have here is not an overwhelming case for genetic relatedness supported by a set of wholesale innovations. We have rather two shared features which are consistent with, and perhaps more plausibly explained through, a subgrouping hypothesis. And the innovativeness of these shared features lies more in the tweaking — the readjustment and rearrangement — of ancestral material than in total reconstitution of it.

Note further that what we have here does not constitute a formally motivated argument for proposing a more robust gender or noun-class system at proto-Mirndi level. This is perhaps somewhat frustrating, given the typological similarities across the group. Apart from the Jaminjungan varieties, all languages have an analogous four-fold noun class system, distinguishing categories of masculine, feminine, plant/food and residue. While these categories *per se* are common across much of northern Australia (Harvey 1997a), the class marking morphology has the property, rare by Australian standards, of being bound up with case marking. Both the distribution of marking across NP constituents and class-case allomorphic variation are matters of some complexity and are not examined in detail herein; the forms for the various categories are however compiled below in Table 4. (Note that Table 4 includes both suffixal and prefixal forms; the prefixal forms have no initial hyphen. In addition, the Nungali masculine and feminine ergative suffixes discussed above are not included, as they constitute a separate and alternative system.)

Unfortunately these sets of class-case affixes do not readily give rise to any reliable or systematic reconstructions at the proto-Mirndi level. Some isolated forms perhaps present as candidates for reconstruction. For example, the absolutive class III affix is possibly reconstructible as **ma*. But in the absence of a larger proto-paradigm we cannot take this as evidence for the existence of this form and

¹⁶ The initial syllable of this longer sequence would appear to have functioned at some historic stage as a tense marker, though how systematically segmentable it may have been in proto-Mirndi remains for further detailed argumentation (we have not segmented it in our interim bound pronoun reconstruction in Table 1), and is outside the immediate scope of this paper.

Table 4: *Mirndi gender affixes*¹⁷ (based on Nordlinger 1998:258-263)

Class I (m)	Nominals		Demonst.	
	ABS	nABS	ABS	nABS
Nungali	<i>di-, du-, da-, diya-*</i>	<i>nyi-</i> (ERG), <i>gi-, giya-*</i> (DAT)	<i>da-, y-/yid-</i>	<i>yinya-</i> (ERG), <i>ginya-</i> (DAT)
Jingulu	<i>-a, -ji, -lyi, -i, -u, -ø</i>	<i>-(r)ni/(r)di/(r)li</i> (ERG), <i>-(r)na/(r)da, -(r)la</i> (DAT)	<i>-rni</i>	<i>-rni</i> (ERG, DAT)
Ngarnka	<i>-ji, -i, -lyi</i>	<i>-nyi, -ngi, -di, -ni, -rna#</i> , <i>-li</i>	<i>i-, ni-</i>	<i>rni-</i>
Wambayan	<i>-ji, -ø, -i*, -yi*</i>	<i>-ni-/nyi-/ngi-,</i> <i>-di-, -rdi-#, -na-#</i>	<i>i-, yi-, ji-</i> (B)	<i>rni-</i> <i>rni-, rnu-</i> (B)

Class II (f)				
Nungali	<i>nya- a-*, ana-*</i>	<i>nganyi-, nyanyi-*</i> (ERG) <i>ganyi-</i> (DAT)	<i>nya-, yiny-</i>	<i>nganya-</i> (ERG) <i>ganya-</i> (DAT)
Jingulu	<i>-rni, -rdi, -rli</i>	<i>-nga, -ga</i> (ERG, DAT)	<i>-ø</i>	<i>-nga</i>
Ngarnka	<i>-rna, -nya, -nga, -da, -la</i>	<i>-nga, -nya, -ga#</i>	<i>rna-, a-</i>	<i>nga-</i>
Wambayan	<i>-rna/-nya, -nga, -rda#, -rra*, -ø*</i>	<i>-nga-/nya-, -ga-#</i>	<i>rna-</i>	<i>nga-</i>

Class III (v)				
Nungali	<i>ma-, mi-*</i>	<i>mi-*</i> (ERG), <i>gi-</i> (DAT) <i>gima-*</i> (DAT)	<i>ma-, yim-</i>	—
Jingulu	<i>-mi, -bi</i>	<i>-ma, -ba</i>	<i>-ma</i>	<i>-ma</i>
Ngarnka	<i>-ma</i>	—	<i>ma-, a-</i>	—
Wambayan	<i>-ma</i>	<i>-mi-</i>	<i>ma-</i>	—

Class IV (n)				
Nungali	<i>nu-, ni-, nuwa-*</i>	<i>nyi-</i> (ERG), <i>wunyi-*</i> (ERG) <i>gi-/gu-</i> (DAT)	<i>na-, yin-</i>	—
Jingulu	<i>-u, -gu, -rru, -(r)lu</i>	<i>-u, -gu, -rru-, (r)lu</i>	<i>-u</i>	<i>-u</i>
Ngarnka	<i>-a, -ja, -rra, -dga</i>	—	<i>rna-, a-</i>	—
Wambayan	<i>-ø, -a, -ja*, -ga*, -wa*</i>	<i>-ø-, -i-, -ji-*, -gi-*</i>	<i>ya-</i>	—
			<i>ya-, ga-</i> (B)	

category in proto-Mirndi; *ma(yV)* is so prevalent elsewhere (Dixon 2002) as a noun class marker that its independent diffusion, either formally or functionally, into the separate Mirndi branches would not appear to be implausible. The sharing between Nungali and Wambayan of an absolutive vs. non-absolutive/ergative opposition of *ma* vs. *mi* in this class does of course present as a potential retention from the proto-language. However, given some of the uncertainties about vowel correspondences evident elsewhere in our reconstructions, for example with the pronouns in Section 3.2, there is an issue here as to whether the vowels can in fact be considered as properly cognate. This concern is underlined by the Jingulu forms,

¹⁷ * = adjectives only, # = kinship nouns only, • = found on a small number of nouns only. (B) marks forms found only in Binbinka. Jingulu also has ‘gender bases’: *ja-* (Class I), *-nya* (II) and *gu* (IV). Non-absolutive forms in the Ngurlun languages are followed by case markers.

which show a reversal of the vowel qualities, with *mi* for the absolutive and *ma* for the non-absolutive, and which, for the time being at least, vex any reconstruction. Concerns of this nature mean that we cannot yet come to any conclusions either about the nature of the noun class system (if indeed there was one) or, despite the tantalising typological parallels, the tying in of case marking to any wider noun class system (that is, beyond the masculine and feminine ergative discussed above) in our putative proto-Mirndi. Unravelling these issues within the Mirndi group is a task that presumably will need to go hand in glove with a more comprehensive and stratified working out of the evolution of noun class systems across northern Australia as a whole.

3.4 Morphological divergence

The case for the Mirndi languages constituting a subgroup is based on the pronoun paradigms and the gender opposition in the ergative suffixes, together with somewhat minimalistic lexical data, and to date there has been no systematic evidence put forward that significantly advances the claim. By way of further scattered support, though, Chadwick (1984) points to a correspondence in the imperative morpheme between Yirram *ba-* and Jingulu *wa-*, suggesting a possible proto-Mirndi **ba-*. In addition, Nordlinger (1998) and Green (1995) have located some odd correspondences in irregular auxiliary verb forms. For example, *ganj* the Jaminjungan past for the verb ‘go’ appears to be cognate with *(g)anj*, the Wambayan past tense form marking ‘motion away’ (Nordlinger 1998:267). However, these constitute but occasional cognates in what is otherwise a scene of wholesale divergence, and while they are at least consistent with an hypothesis of genetic relatedness we need, as with the lexicon, to determine whether they can be postulated as vestigial of proto-Mirndi innovations or rather reflect older and/or more widespread forms. The putative proto-imperative marker **ba*, for example, would appear not to be innovative in and of itself, *ba* related imperative markers being found in analogous and sometimes formally relatable verbal structures in languages of the Western Daly, such as Marrithiyel (Green 1989).

The complete story of the Mirndi languages, then, will need to look at least as much to the creation and sources of divergence within the family as to the ongoing reflection of ancestral forms. In this respect we should note in particular the paucity of correspondences amongst the tense/aspect/mood markers, as exemplified in Tables 5-7 below. Amongst these paradigms virtually nothing is confidently reconstructible at the level of proto-Mirndi (nor proto-Barkly, see section 4). Any

theory which supports the analysis of Mirndi as a subgroup also needs to account for such large-scale divergence amongst the daughter languages.¹⁸

Table 5: *Mirndi TAM markers (motion neutral)*

	PRES	FUT	PST	HAB.NP	HAB.PST
Jaminjung	-m, -ya	bV~wV	-ny (PERF) -nyi, -na (IMPF)		
Nungali	-m	bV~wV	-nyi, -na		
Jingulu	-ju ¹⁹	-yi	-nu	-ardi	-ga
Ngarnka	-ani	-ulu~-ili	-rna (sg) ø (-i) (n-sg)	-uliya~-iliya	agbangi ²⁰
Wambaya	ø (-i)	-u~-i	-a	-ala	-aji
Gudanji	ø (-i)	-u~-i -ulu~-ili	-ma, -anyi	-ala	-maji
Binbinka	ya-... -a	-urla~irla -uba~-iba	-ani	-ala	-maji

	IRR.PST	IRR.PRES	IRR.FUT
Jaminjung			ya-
Nungali			nya-
Jingulu	-mi	-mi	-mi
Ngarnka	-udani~-ujani	-udu~-uja	-agba
Wambaya	-udi~-uji	-uda~-uja	-agba
Gudanji	-udi~-iji	-uda~-uja	yi-...-a?
Binbinka	-udu~-uju	(ijani)?	yi-...-a?

Table 6: *Barkly TAM markers (motion away)*²¹

	PRES	PAST	FUT	IMP
Jingulu	-(w)ardu ~ -(w)arda	-rruku -rraku -rriki	-wa -rriyi	-wirri
Ngarnka	-ula	-iyarra	(=PRES)	ayi
Wambaya	-uba	-any ²²	(=PRES)	gama

¹⁸ In Table 5, the Jaminjung forms are verbal affixes, except that bound S pronouns have final /a/ in the past imperfective. The IRR comes before the bound pronouns in Jaminjung, while the FUT comes between the bound pronouns and the verb stem. Other tense markers are suffixes to the verb. /u/~i/ variants in the Ngurlun languages have /i/ forms with disyllabic bound pronouns with /i/ in the initial syllable (i.e. 1pl.exc, 2pl, 3pl), and /u/ elsewhere. The /d/ vs /j/ forms for IRR in the Ngurlun languages are (pretty much) conditioned by the number of the subject bound pronoun: /d/ forms are for singular subject and /j/ forms for non-singular subject.

¹⁹ Jaminjung has -Juyu “be PRES”.

²⁰ Jaminjung has agba-nyi “be PAST-IMPERF”.

²¹ Note that neither Gudanji nor Binbinka have distinct motion away/motion towards forms.

²² Jaminjung has ga-ruma-ny “3sg-come-PST”.

Table 7: *Barkly TAM markers (motion towards)*

	PRES	PAST	FUT	IMP
Jingulu	<i>-jiyimi</i>	<i>-miki</i>	<i>-ngku</i>	<i>wangku (sg)</i>
	<i>-jimi</i>	<i>-mika</i>	<i>-ngu</i>	<i>wanyungku (dl)</i>
	<i>-jima</i>		<i>-nki, -nku</i>	<i>warrungku (pl)</i>
Ngarnka	<i>-ulagyami</i>	<i>-agyani</i>	(=PRES)	<i>ama</i>
Wambaya	<i>-ulama</i>	<i>-amany</i>	(=PRES)	<i>ga</i>

4. The genetic status of the Barkly group

The extent of divergence within the Mirndi group, together with the restricted nature of the genetic evidence, no doubt calls for non-genetic accounts of the shared similarities of the languages to be entertained. These non-genetic models would need to be reasonably complex, presumably, since we appear to have sets of shared pronominal paradigms, a phenomenon not readily accounted for by straightforward language contact and regular diffusion mechanisms (see section 5). At the same time it needs to be recognised that the genetic account of Mirndi similarities, should it prove tenable, is not without its complications. In this respect the group's internal branching provides us with some interesting questions.²³

Without having the scope here to provide a detailed proof, we assume that the postulation of a Ngurlun node on the eastern side of the family tree is, at least as a working hypothesis, relatively unproblematic. As the tables above amply demonstrate, the Ngurlun languages share very particular pronominal, gender and tense/aspect/mood features; a range of these features have no correspondences in the other Mirndi languages and are thus better considered as innovations of a (low-level) sub-group than as retentions from proto-Mirndi. No such considerations, apply, however, to a comparison of Jingulu and Ngurlun; on the basis of the current data there are no sets of formal features which stand out as shared innovations of Jingulu and Ngurlun and which would compel us to set up a Barkly node.²⁴

This view of the internal branching is perfectly consistent with Chadwick (1997) but runs counter to the assumptions of Green (1995), to which the existence of proto-Barkly is crucial. As outlined in section 2 above, Green seeks to establish that proto-Mirndi was a 'prefixing' type language, with affixal structures more akin

²³ We will not consider for the moment whether or not the Yirram languages comprise an internal subgroup—a question that does not bear immediately on the scenarios under consideration here.

²⁴ Green (1995:423) cites the reflexive bound form *-ngg(V)* and a dative/oblique marker *-ngi* (attached to third person singular free pronouns) as possible proto-Barkly innovations, claiming that both are likely to have been borrowed from Garrwa. These need further investigation, but in the absence of a proto-Barkly node would need to be viewed as having diffused.

to the modern Yirram languages than to the languages of the Barkly. He also suggests that, like most of the contemporary languages in the centre and west of the prefixing bloc, proto-Mirndi would have had a set of ten or more auxiliary or ‘classifier’ (McGregor 2002) verbs. Proto-Barkly is a convenient construct in this scenario. It provides for a single channel through which the shift to a more suffixal typology and the wholesale reduction of the verbal classifier inventory are effected. However, if there are no solid reasons to maintain a construct of proto-Barkly, and if at the same time the arguments for the prefixing character of proto-Mirndi hold good, then we have an intriguing scenario in which Jingulu and proto-Ngurlun (or perhaps its daughters) have separately undergone such changes. This is not implausible, given that Jingulu and the Ngurlun languages have had independent and significant contact with neighbours such as Mudburra, in the case of Jingulu, and Garrwa/Waanyi in the case of the Ngurlun group. In the absence of a proto-Barkly node, Jingulu and the Ngurlun languages are seen as adapting their structures to their neighbours’ models in slightly different ways, the similarities in their responses perhaps being achieved through on-going social contact and resultant indirect diffusion across the group.

5. Conclusions

Our review of the currently available evidence has shown that the Australian linguistic community’s faith in the subgroup status of the Mirndi languages is not grounded in a wide range of formal evidence. Across the Yirram, Jingulu and Ngurlun languages lexical cognate densities are less than 20% (Chadwick 1997:103) and most grammatical sub-systems — most strikingly the tense/aspect/mood system — fail to show any cognates at all. In these circumstances it is perhaps remarkable that a claim for genetic relatedness *per se* should be mounted, let alone a claim for subgroup status.

Nonetheless a genetic account appears at this stage to be the most plausible means of explaining the pronominal similarities. The lexical sharings that are not traceable to common borrowings from the Ngumpin languages could of course be the result of ancestral diffusion, at a time when the Mirndi languages were not geographically discontinuous. The shared masculine vs. feminine ergative opposition could similarly have been the result of diffusion, perhaps associated with the spread of noun class marking across the region. The pronominal similarities, however, seem not so susceptible to diffusional accounts. The pronouns in the modern languages show systematic correspondences across some five pronominal paradigms. It is unlikely under regular language contact conditions that these pronominal paradigms would be borrowed in their entirety from one

language to another, or that through mutual influence languages would converge on a set of common pronominal paradigms, without extensive diffusion in other areas of the grammar and lexicon. That scale of diffusion is of course not evidenced. In addition there is no available support yet for more radical language contact scenarios, such as language ‘mixing’, which might provide a mechanism for sets of morphological paradigms to be transplanted into non-related languages (Thomason and Kaufman 1988). We therefore conclude that the shared pronominal features of the Mirndi languages are better explained genetically rather than diffusionally. And we note that at the same time those features provide some limited evidence of shared innovation and thus of subgroup status. The only strikingly innovative form in this respect is the *mirndi* first inclusive dual. Indeed if it were not for this highly aberrant form it is likely that the potential relationship of the Mirndi group might not have come under scrutiny at all, as the remaining pronouns instead represent only minor variations on forms found elsewhere across the north.

It remains to be seen what advances can be made in accounting for the divergences exhibited by the modern Mirndi languages. In particular, comparative work with the languages of the region should be pursued along the lines of Heath (1978a), in order to identify and stratify the influences responsible for developments in the separate Mirndi branches. High levels of divergence in northern Australia have typically been explained as due primarily to long periods of autonomous development (e.g. Harvey 1997a). However, Green (1995) has speculated that the changes in the Barkly might have come about through language interference processes, the languages of these Mirndi branches being radically affected by an influx of speakers imprinting on them their Pama-Nyungan structures. If this indeed were the case then very significant language change may have taken place over a relatively short time. The linguistic map of the greater Barkly region, more than many other areas of Australia, raises interesting possibilities for this kind of large-scale contact-induced language change. There has clearly been significant movement in the region, the Mirndi family being geographically split, and to the east the Garrwa/Waanyi group driving a wedge into the Ngarna family, with Yanyuwa to its north, and the remaining Ngarna languages to its south. Close comparative linguistic work may hopefully provide formal evidence pointing to the nature of these prehistoric migrations and their consequences for language change.

STEM FORMS AND PARADIGM RESHAPING IN GUNWINYGUAN

Brett Baker

University of New England, Armidale

1. Introduction

In this chapter I address the internal subgrouping of the Gunwinyguan (GN) family, originally proposed by O'Grady, Voegelin and Voegelin (1966). The most recent and extensive argument for this family is Alpher, Evans, and Harvey (in press; henceforth AEH). AEH's primary evidence for the existence of this group comes from a shared set of finite verb paradigms. According to the authors, languages belonging to this family (see §1.1 below) can be shown to descend from a pGN verb inflection system which distinguished Past Punctual (PP), Past Continuous (PC), and NonPast (NP) tense forms, and had several conjugations. I take this family level grouping as a given in my discussion.

The present paper is a development of AEH in two respects. The first of these is that AEH do not provide significant evidence for the reconstruction of subgroups within GN. The second is that my focus in verbal paradigms is the form and organisation of stems, as well as affixes. While the distribution of the NP stem within paradigms was recognised by AEH, it was not used as a diagnostic of subgrouping relationships.

My primary focus in what follows is on Ngalakgan and Rembarrnga. I show that there is evidence of systematic innovation in verb inflection morphology, and they may therefore be subgrouped together. I will call this subgroup 'Jala' (from the word for "mouth" in Rembarrnga and Ngalakgan).

Examination of the inflecting verb paradigms of the Jala group in comparison to those of other GN languages shows that pJ (the ancestor of Ngalakgan and Rembarrnga, henceforth abbreviated pJ) innovated several features which do not appear to be retentions from the superordinate ancestor pGN. Among these innovations are:

1. Organisation of all inflecting verb paradigms into NonPast stems of just three types
2. The NonPast stem as a base for the Future and Irrealis inflections
3. The Future suffix **-a ~ *-ra*

Other features which are limited to Ngalakgan and Rembarrnga, but which may be retentions rather than innovations, are the following (§§3, 4):

- 4. The feminine gender prefix **jI-* (*I* a high vowel)
- 5. Aspects of the prefixal agreement paradigm, in particular, the opaque 1st/2nd subject -> 1st/2nd object forms.

Throughout the paper, I discuss to what extent these features constitute innovations or retentions, and in what way they relate to neighbouring languages.

A look at the eastern group of GN languages (Ngalakgan, Rembarrnga, Ngandi, Nunggubuyu) is germane to the debate concerning the place of lexical comparison in the historical reconstruction of Australian languages. Lexical cognacy rates between Ngalakgan, Rembarrnga, and Ngalakgan’s near neighbour Ngandi are of the following order:¹

Table 1: *Lexical cognacy for three GN languages*

		Ngandi
	Ngalakgan	56%
Rembarrnga	51%	46%

Ngalakgan shares more of its basic vocabulary with Ngandi than it does with Rembarrnga. Nevertheless, an examination of irregular morphology — especially verbal morphology — in these three languages clearly demonstrates that Rembarrnga is closely related to Ngalakgan. Indeed, the similarities are such that they can only have been separated for a comparatively short time. Conversely, the verbal morphology of Ngandi is quite different to Ngalakgan and Rembarrnga. In §5 I look briefly at evidence suggesting that Ngandi should be subgrouped with Wubuy. Therefore, this exercise provides another demonstration that Heath’s (1978a) point — that lexical cognacy rates alone are not a sufficient or necessary proof of genetic relationship — is still valid and can be applied to other linguistic groupings.

I briefly consider some wider potential groupings of GN languages. In particular, I argue against the proposal in AEH that GN may be internally subgrouped into a ‘Central GN’ group consisting of Bininj Gun-wok and Dalabon, and an ‘Eastern GN’ group consisting of Ngandi, Wubuy, Ngalakgan, and Rembarrnga. The Irrealis category of pGN has diversified in such a way in the daughter languages as to argue against subgrouping Dalabon and Bininj Gun-wok together. Dalabon, like Ngandi, appears to conserve the original pGN Irrealis forms, whereas Bininj Gun-wok verb forms have undergone significant changes in this category (and others). Similarly, Ngalakgan and Ngandi have often been considered to share a special genetic relationship. The evidence of verbal morphology, however, clearly demonstrates that Ngandi should be subgrouped with

¹ These results were obtained from inspection of a 113-word list of basic vocabulary (body parts, terms for common natural phenomena, manufactured items, and basic human classification terms).

Wubuy, and that this subgroup cannot be considered to be particularly close to Jala. In the remaining sections of the introduction I give some background on the languages making up the proposed GN family, as well as an overview of the phonology of the languages discussed here.

1.1 *The Gunwinyguan language family*

AEH include the following languages in this family: Uwinymirr, Warray, Jawoyn, Bininj Gun-wok (Mayali, Kunwinjku, Kune), Dalabon, Rembarrnga, Mangarrayi, Ngalakgan, Ngandi, Nunggubuyu (Wubuy), with Kungarakany and Kunbarlang being possible additional members. Uwinymirr and Kungarakany are now extinct, and, apart from Bininj Gun-wok and Kunbarlang, none of the other languages are being learnt by children as a first language.

Sources and abbreviations (unless otherwise noted) for the languages discussed here are presented below in Table 2:

Table 2: *GN languages and sources*

Eastern Gunwinyguan (EGN)	(Ngandi and Wubuy)
Dalabon/Ngalkbon/Buan/Gun-dangbon (Dlbn)	(Heath 1974), Merlan (n.d.)
Gunwinyguan (GN)	(AEH, in press)
Jawoyn (Jwyn)	(Merlan n.d.)
Ngalakgan (Ngkn)	(Merlan 1983; Baker 1999) and own fieldnotes
Ngandi (Ngdi)	(Heath 1978b) and own fieldnotes
Non-Pama-Nyungan (NPN)	
Nunggubuyu/Wubuy (Wby)	(Heath 1984)
Mayali/Bininj Gun-wok (BGW)	(Evans 2003)
Rembarrnga (Rmba)	(McKay 1975) and own fieldnotes
Warray (Wrry)	Harvey pers. comm.

A brief note on coverage: all four of the languages discussed in detail here (Ngalakgan, Ngandi, Wubuy, Rembarrnga) have relatively extensive descriptions and lexica available (of 1000 words or more), as does Bininj Gun-wok. Jawoyn, Warray and Dalabon at present are under-described, at least on available sources, though for Jawoyn there is a relatively extensive electronic dictionary available. Ngandi, Ngalakgan, and Warray are all on the verge of extinction: none has more than a couple of fluent first-language speakers. The other languages are slightly better off, to varying degrees. Bininj Gun-wok is the most widely spoken GN language, with several thousand speakers.

1.2 *Phonological correspondences*

Table 3 shows the orthography used here for Ngalakgan, Rembarrnga, Dalabon and Ngandi.

Table 3: *Orthography for central and southern GN*

	Labial	Apico- alveolar	Apico- postalveolar	Lamino- alveopalatal	Velar	Glottal
Simple stops <i>syll init...syll fin</i>	<i>b...p</i>	<i>d...t</i>	<i>rd...rt</i>	<i>j...tj</i>	<i>g...k</i>	<i>h</i>
Geminate stops	<i>...pb...</i>	<i>...td...</i>	<i>...rtd...</i>	<i>...tjj...</i>	<i>...kg...</i>	
Nasal	<i>m</i>	<i>n</i>	<i>rn</i>	<i>ny</i>	<i>ng</i>	
Lateral		<i>l</i>	<i>rl</i>			
Tap		<i>rr</i>				
Approximant			<i>r</i>	<i>y</i>	<i>w</i>	

All GN languages possess the range of place and manner contrasts shown here with the exception of the glottal stop, which is not found in Wubuy. Ngandi and Wubuy in addition have syllable-initial dental stop *dh*, and nasal *nh*; Ngandi also has geminate lamino-dental stop *tdh* and Wubuy has lateral *lh*. All GN languages contrast five vowels /a e i o u/ except Wubuy which has the typical three vowel Australian system /a i u/. Some languages have been analysed with a vowel length contrast also, always with a restricted distribution. In Rembarnga and Dalabon, *v* represents a central vowel (schwa in Rembarnga, high central vowel in Dalabon), which is in variation with [i] and [u] realisations.

Most GN languages, including Ngalakgan, Rembarnga and Ngandi, distinguish simple from geminate stops. Some authors (Heath 1978a, Merlan 1983, Evans 2003) have analysed this as a stop contrast: lenis/fortis or short/long. I have adopted the simple/geminate analysis for all languages discussed in this chapter.² Geminate stops are represented orthographically with a digraph consisting of the syllable-final voiceless symbol and the syllable-initial voiced symbol of the corresponding simple stop. Note that the simple/geminate distinction is not a segmental contrast: geminates are simply members of the class of possible consonant clusters in each language.

There are simplifying conventions for representing clusters. The orthographic cluster *nk* corresponds to IPA [ŋg], contrast *ngg* for [ŋg], similarly *ntj* for [ɲʝ] and *nj* for [ɲʝ]. Apicals are neutralised morpheme-initially to postalveolar, but for simplicity only the apico-alveolar symbols are used. Apico-postalveolar clusters are simplified: *rnd* [ɲd], *rtd* [ɲt].

I retain the standard Bininj Gun-wok orthographic conventions for forms cited from this dialect chain. The lamino-palatal stop and nasal are represented *dj*, *nj*, respectively, though *y* is the palatal glide symbol. Stops are written with voiced or voiceless symbols depending on dialect. ‘Long’ stops are written double.

² Reasons for preferring the simple/geminate analysis in Ngalakgan are provided in Baker (1999), and for Rembarnga in McKay (1975).

The main phonological correspondences relevant to what follows are presented in Table 4.³

Table 4: *Phonological correspondences*

	Ngalakgan	Rembarrnga	Ngandi	
a.	<i>d</i>	<i>d</i>	<i>d</i>	'Laminal-apical correspondences'
	[j]	[d]	[dh]	
	<i>j</i>	<i>j</i>	<i>j</i>	
b.	<i>i, u</i>	<i>ɤ, i, u</i>		'Vowel reduction'
c.	<i>o</i>	<i>uwa, uwe</i>		'Vowel breaking'
	<i>e</i>	<i>iya, iye</i>		

(a) The lamino-palatal:apical:lamino-dental correspondence shown in Table 4 is wide-ranging in GN but problematic, and I will not address the issue here (see Harvey, in press-b, for discussion).⁴ For correspondences of Ngalakgan *j*: Rembarrnga *d* I reconstruct a lamino-palatal **j* for pJ, pending further investigation of this correspondence in GN. There is further discussion of some potentially crucial examples of this correspondence in §2 and §3.

Apart from this, Rembarrnga has undergone two changes to vowels which did not occur in other GN languages apart from neighbouring Dalabon.

(b) Vowel centralisation. Where Rembarrnga has the vowel *ɤ* I reconstruct pJ **i* or **u*, depending on the Ngalakgan cognate. These two vowels have become merged and centralised in certain environments in both Rembarrnga and Dalabon. (The environments include: preceding apico-postalveolar segments, word-finally, and in unstressed positions generally). Since this is a reasonably common sound change, there is no reason to consider it as evidence of subgrouping.

(c) Vowel breaking. Mid vowels of monosyllabic forms in pGN commonly correspond to disyllabic high+low or high+mid vowel sequences in Rembarrnga. (See Harvey, to appear, for details.) Some cognates are: pGN, Ngalakgan *gony* 'macropod', Rembarrnga *guweny*; Ngalakgan *jelng* 'tongue' Rembarrnga *diyaling*;

³ The symbol [refers to a left morpheme boundary. This correspondence affects only morpheme-initial segments, judging by the correspondence sets so far found.

⁴ For a putative pGN lamino-dental stop phoneme **dh*, we find the following reflexes: Ngalakgan, Jawoyn, Mangarrayi: /j/; Bininj Gun-wok, Dalabon, Rembarrnga, Uwinyimil: /d/; Ngandi: /dh/, Wubuy: /lh/. This correspondence is restricted to morpheme-initial position; there are no reliable correspondence sets for other positions. There is no evidence for a corresponding nasal **nh* in pGN. Note that this correspondence set does not pattern according to subgroups established on other bases. In particular, Rembarrnga and Ngalakgan have distinct reflexes of this proto-phoneme yet are demonstrably more closely related to each other than either is to any other language. Rather, the correspondences appear to pattern on an areal basis, contiguous languages sharing a common reflex.

pGN **nguk* “guts”, Ngalakgan *ngoh*, Rembarrnga *nguwah*. Further examples of this sound change are given in reference to the verb paradigms discussed in §2.⁵

1.3 The form of tense paradigms in GN

In this paper I am only considering the *morphological* evidence for genetic relationships among the central GN languages. (See Harvey in press-b for lexical correspondences among the various GN languages.) I look at two main sources: the inflection of verbs for tense/aspect/mood, and the form of pronominal morphemes: inflectional prefixes, enclitics and independent pronouns. Verb suffixes provide good evidence for reconstruction because in the majority of Australian languages, verb suffixes are the site of the greatest irregularity and least productivity (Baker 1999). We expect these aspects of morphology to be the least amenable to borrowing. Conversely, for two languages to share a system of irregularities in corresponding categories is strong evidence in favour of a historical genetic source for these irregularities (Heath 1978a).

Within verb inflection, I in turn look at two main sources of evidence. One is the form of the inflectional suffixes themselves. The other is the form of stems, the source of stem forms, and the deployment of stems according to inflectional category. The latter is the prime evidence for the innovation of morphology in pJ, and thus for the subgrouping of Ngalakgan and Rembarrnga (and other languages). In the Jala group, the innovation lies in regularising the nonpast paradigm, both in the form of nonpast suffixes and in the form of nonpast stems. In order to explain the innovations we need to first understand the Tense-Aspect-Mood (TAM) system from which pJ developed.

GN verb paradigms have a characteristic morphological structure, as described in AEH and Baker (1999). Table 5 shows the range apparent in Ngalakgan inflected verbs.⁶

Characteristically in Ngalakgan, as in GN languages generally, we may recognise *roots*, *stems*, and *suffixes*. Following traditional practice, a *root* is the indivisible portion of a word. The *stem* is that portion left when suffixes have been removed. *Suffixes* are those portions which generally recur from paradigm to

⁵ Vowel breaking has affected other languages also, such as Latin *bon-* > Spanish *bueno*, French *bien*, Italian *buono*, and English *mail*, *fail*, *jail* in Irish and Jamaican English.

⁶ Abbreviations: a/aug: augmented number (roughly equivalent to plural); FEM: Feminine; FUT: Future; IRR: Irrealis; MASC: Masculine; m/min: minimal number (roughly equivalent to singular); NP: NonPast; O: object; PC: Past Continuous; POT: Potential; PP: Past Punctual; PR: Present; RR: Reflexive/Reciprocal; S: subject; SAP: Speech Act Participant (pronominal categories referring to 1st or 2nd person); TAM: tense/aspect/mood.

Table 5: *A range of inflected verb paradigms in Ngalakgan*

	<i>bu-</i> “hit”	<i>ma-</i> “get”	<i>ja-</i> “stand (itv)”	<i>garrbe-</i> “crawl”	<i>jo-</i> “chop”
PP	<i>(boh)bo</i>	<i>(meh)me</i>	<i>ja-ny</i>	<i>garrbe-ny</i>	<i>je</i>
NP	<i>bu-n</i>	<i>(mah)ma</i>	<i>ja-nga-n</i>	<i>garrbe</i>	<i>jo</i>
PC	<i>bu-n-iny</i>	<i>ma-ng-iny</i>	<i>ja-ngan-iny</i>	<i>garrbe-n-iny</i>	<i>jo-ng-iny</i>
FUT	<i>bu-n-a</i>	<i>ma-ng-a</i>	<i>ja-ngan-a</i>	<i>garrbe-n-a</i>	<i>jo-ng-a</i>
IRR	<i>bu-n-i</i>	<i>ma-ng-i</i>	<i>ja-ngan-i</i>	<i>garrbe-n-i</i>	<i>jo-ng-i</i>
RR	<i>bu-yji- ~ bu-ytjji-</i>	<i>ma-ngi-tjji-</i>			

paradigm in the same category. The forms in Table 5 have been separated with word internal morpheme boundaries according to this basis. Note that this does not represent a synchronic analysis. I have shown elsewhere (Baker 1999) that there are clear differences between the morphological relationships between elements of inflected verbs, and those of most other complex words in the grammar of Ngalakgan and other Australian languages (Baker and Harvey 2003). There are good reasons to distinguish the ‘suffixes’ found in verb paradigms from other kinds of suffixes, such as those marking case and number. For instance, the latter feed rules of stress assignment, the former do not. Inflected verb forms behave as indivisible roots for the purposes of the prosodic system.

The distinctive characteristic of GN languages is that the PP typically involves concatenation of the root and a suffix, which may be zero. The NonPast category typically involves a suffix with the form -N (i.e. a nasal, this is almost always either an apico-alveolar or velar). The other TAM categories normally use the NonPast form as a stem form for further affixation. For instance, taking the “hit” verb as an example, the PP has the form *(boh)bo*. For this verb, the PP suffix is zero, but the root vowel undergoes ablaut. The NP form of the verb is *bun*, and this form is also the basis of the other TAM inflections: PC *bun-iny*, FUT *bun-a*, POT *bun-i*.

According to AEH, this use of the NP as a base for the PC and other categories was a characteristic of pGN. Hence, I refer to all verb TAM categories except the PP as ‘nonpast’ categories. I distinguish these from the NonPast *inflection* proper, which is used to implement the present tense in most GN languages, and often the imperative and future as well in the absence of distinct inflectional forms for these categories. The form of the NP *inflection* may or may not be equal to the form of the NP *stem*. For instance, the verb root *jo* “chop” has a NP form *jo*, but the NP stem is *jong-*; this is the form we find in the Irrealis and Future categories, and is the reconstructible form of the NP for this verb in pGN.

There are 32 inflecting verbs in Ngalakgan, and 31 in Rembarrnga (not all of them cognate), inflected in the following formal TAM categories: Past Punctual, Past Continuous, Present, Future, Irrealis⁷, Infinitive (Rembarrnga only).

In terms of the formal categories of verb paradigms, these two languages are alike and differ from most other GN languages. Jawoyn, Warray, and Bininj Gunwok lack a distinct suffixal category of Future. Jawoyn and Warray instead implement the Future and other modal categories with prefixes. Ngandi and Wubuy are similar to Jala, but have several inflectional or derivational stem forms in addition, including distinct Potential and Negative stems for many verbs. The most similar system to Jala is to be found in Dalabon/Ngalkbon, which has the same number and type of suffixal categories as Ngalakgan. Only Rembarrnga has a category of Infinitive (McKay 1975).

2. Verb macro-conjugations

Almost all Ngalakgan and Rembarrnga verbs fit into one of three macro-conjugations based on the form of the nonpast categories: those with apical nasal theme, those with velar nasal theme, and stance verbs, which have a distinctive augmented stem. The form of these three nonpast macro-conjugations in the two languages is as shown in Table 6.

Table 6: Jala macro-conjugations

<i>N-conj</i>	NP	PC	IRR	FUT
Ngalakgan	-n	-niny	-ni	-na
Rembarrnga	-n	-niny	-nv	-na
<i>NG-conj</i>	NP	PC	IRR	FUT
Ngalakgan	-ø	-ny ~ -nginy	-ngi	-nga
Rembarrnga	-ø	-ny ~ -nginy	-ngv	-ngara
<i>Stance (stative)</i>	NP	PC	IRR	FUT
Ngalakgan	-ngan	-nganiny	-ngani	-ngana
Rembarrnga	-ngan	-nganiny	-nganv	-ngana

I call these macro-conjugations since they categorise verb paradigms at a higher level of generality than the conjugation. Macro-conjugations are determined purely on the basis of stem forms in the nonpast categories. So for instance, the “hit” verb and the “cry” verb in Ngalakgan and Rembarrnga both belong to the N-

⁷ What I have called the Irrealis is referred to as the Potential by Merlan (1983) and the Past Counterfactual by McKay (1975). In both languages, verbs in this category are used to realise (typically past) unrealised situations: *nginy-raboni* (2sg-go+IRR) ‘‘You should have come’’ (Ngalakgan). It is not clear from McKay (1975) what the precise distribution and function of the Infinitive form is, nor what form is used for Imperative, Evitative, and Jussive functions.

conjugation, and are inflected identically in the NonPast, Past Continuous, Future and Irrealis, but their Past Punctual forms differ: *bohbo* vs *rowiny*. So, at least on some analyses, they would belong to distinct conjugations. (Merlan (1983) assigns these two verbs to distinct conjugation classes.) I recognise just three macro-conjugations, while Merlan (1983) has seven conjugation classes. The NG-conjugation and the stative stance conjugation (see §2.4) are both less homogenous than the N-conjugation. The NG-conjugation shows signs of old variation stemming from prosodic factors and avoidance of neutralisation. The stative stance conjugation also has some variant forms in Rembarnga which find no reflex in Ngalakgan. I discuss each of the macro-conjugations in turn in what follows.

2.1 The N-conjugation

The N-theme verbs are the most regular. Characteristically, the NonPast stem ends in *-n*, the PC is formed with this stem plus *-iny*, the Irrealis with the NP stem plus *-i* (Ngalakgan) or *-v* (Rembarnga) and the Future with the NP stem plus *-a*.

Examples of all the shared N-theme finite verbs in Ngalakgan and Rembarnga are given in Table 7. All of these verbs can also be reconstructed to pGN.

Table 7: *N-conjugation verbs in Jala*

	Root	Sense	Past Punct	NonPast	PastCont	Irrealis	Future
Ngkn	<i>bu</i>	“hit”	<i>bo</i>	<i>bun</i>	<i>buniny</i>	<i>buni</i>	<i>buna</i>
Rmba	<i>bu</i>	“hit”	<i>buwa</i>	<i>bun</i>	<i>buniny</i>	<i>buny</i>	<i>buna</i>
Ngkn	<i>na</i>	“see”	<i>na</i>	<i>nan</i>	<i>naniny</i>	<i>nani</i>	<i>nana</i>
Rmba	<i>na</i>	“see”	<i>na</i>	<i>nan</i>	<i>naniny</i>	<i>nany</i>	<i>nana</i>
Ngkn	<i>ga</i>	“take”	<i>ganginy</i>	<i>gan</i>	<i>ganiny</i>	<i>gani</i>	<i>gana</i>
Rmba	<i>ga</i>	“take”	<i>ganginy</i>	<i>gan</i>	<i>ganiny</i>	<i>ganv</i>	<i>gana</i>
Ngkn	<i>ngu</i>	“eat”	<i>ngowiny</i>	<i>ngun</i>	<i>nguniny</i>	<i>nguni</i>	<i>nguna</i>
Rmba	<i>ngu</i>	“eat”	<i>nguny</i>	<i>ngun</i>	<i>nguniny</i>	<i>ngunv</i>	<i>nguna</i>
Ngkn	<i>wa</i>	“follow”	<i>waniny</i>	<i>wan</i>	<i>waniny</i>	<i>wani</i>	<i>wana</i>
Rmba	<i>wa</i>	“follow”	<i>wawiny</i>	<i>wan</i>	<i>waniny</i>	<i>wany</i>	<i>wana</i>
Ngkn	<i>ru</i>	“cry”	<i>rowiny</i>	<i>run</i>	<i>runiny</i>	<i>runi</i>	<i>runa</i>
Rmba	<i>ru</i>	“cry”	<i>runy</i>	<i>run</i>	<i>runiny</i>	<i>runv</i>	<i>runa</i>

The Ngalakgan and Rembarnga forms of these verbs are identical, allowing for regular phonological changes in Rembarnga.⁸ The monosyllabic root form *bo* “hit (PP)” in Ngalakgan (which I reconstruct to pJ) underwent vowel breaking in Rembarnga, coming out as *buwa*. The form of the Irrealis is universally *-i* in

⁸ The exception is the “follow” verb in Ngalakgan, where the PP and PC categories have merged, with the loss of the original PP form in Ngalakgan. Presumably this was because of an incompatibility between the Past Punctual category and the semantics of “follow”, an atelic verb. More research is needed on the semantics of the tense categories of GN. For a preliminary survey, see AEH. Merger and reanalysis of past categories has also affected the stance verbs (see §2.4).

Ngalakgan but *-v* in Rembarrnga. Since the vowel is unstressed in this position, and hence was in the right context for reduction in Rembarrnga, I reconstruct pJ *-i* (this is the post-consonantal form of the Irrealis reconstructed for pGN generally in AEH).

I reconstruct the nonpast categories in this conjugation in pJ as in Table 8.

Table 8: *The pJ N-conjugation*

NP	PC	IRR	FUT
*-n	*-n-iny	*-n-i	*-n-a

Formally, these are identical to the modern Ngalakgan forms, and to the NP and PC forms reconstructed to pGN for these verbs by AEH.

The derivational roots *-me-* (Ngkn), *-mi-* (Rmba) “Inchoative” and *-tjji-* (Ngkn) *-ttv-* (Rmba) “Reflexive/Reciprocal” also belong to this conjugation. There are other N-conjugation verbs in Ngalakgan which do not find cognates in Rembarrnga, but are found in other GN languages: *wu* “give”, *rabo* “go”, *wakge* “return”, *ru* “cry”. The Rembarrnga roots all find cognates in Ngalakgan except for *ba* “leave” which has been restructured in Ngalakgan as an open class verb (see §2.5) *bawunh-mi-*.

2.2 *The pJ Irrealis and Future*

The major innovations in the pJ verb conjugations are these: using the NP stem universally as a base for the Irrealis and the Future, and the form of the Future suffix itself **-a ~ *-ra*. Besides Ngalakgan and Rembarrnga, Dalabon, Bininj Gunwok, Ngandi, and Wubuy also have an Irrealis suffix of the form *-(y)i*. In Ngandi, Wubuy, Dalabon and Bininj Gunwok, the Irrealis is added directly to the root in verbs corresponding to those of the pJ N-conjugation (with NP in *-n*). Ngalakgan and Rembarrnga have innovated in adding the suffix to the NP stem in all conjugations, never to the root:

Table 9: *The Gunwinyguan Irrealis*

	“see”	“take”	“eat”
Ngalakgan	<i>nani</i>	<i>gani</i>	<i>nguni</i>
Rembarrnga	<i>nanv</i>	<i>ganv</i>	<i>ngunv</i>
Dalabon	<i>ney(i)</i>	<i>gey(i)</i>	<i>nguy(i)</i>
Ngandi	<i>nayi</i>	<i>gavi</i>	<i>nguyi</i>

The NP+*i* form of the Irrealis is an innovation in pJ which distinguishes this group from other GN languages. I believe the Irrealis is important in reconstructing the internal break-up of pGN. This issue is addressed separately in Appendix 14,

with respect to the other languages discussed here. In particular, it bears on AEH's proposed 'Central' vs 'Eastern' GN groups.

Similar remarks apply to the Future form in Ngalakgan and Rembarrnga. In the N-conjugation, this is identical to the Irrealis except that the final vowel is *-a* rather than *-i*. This form of the Future is not found in any other GN languages. Dalabon has a regular Future suffix *-an*, which is added to a stem equal to the Irrealis form. Presumably a similar process occurred in pJ also—where the Future was likewise regularly based on the Irrealis. The difference is that in pJ, the Irrealis suffix *-i* and the Future suffix *-a* are in a substitution relationship (that is, they take the same stem), whereas in Dalabon, it is the Irrealis which acts as a stem for the Future suffix *-an*.

Table 10: *The Future suffix in pJ and Dalabon*

	IRR=		FUT=	
pJ	NP+i	* <i>nan+i</i>	NP+a	* <i>nan+a</i>
Dalabon	root+i	<i>ney</i> (< * <i>na+y</i>)	IRR+an	<i>niyan</i> (< * <i>ney+an</i>)

In Rembarrnga, the substitution relationship between the Future and Irrealis is only true of the N-conjugation however. In the NG-conjugation, the Future suffix in Rembarrnga is *-ara*, added to the NP stem. I discuss this suffix in §2.3, immediately following.

The regularity of the Irrealis and the Future indicates their recent origin in Jala. Both inflections are entirely predictable on the basis of the PC of a verb. In Ngalakgan, if the PC ends in *-niny*, then the Irrealis is *-ni* and the Future is *-na*. If the PC ends in *-nginy*, then the Irrealis is *-ngi* and the Future is *-nga* (Ngalakgan) or *-ngara* (Rembarrnga). If the PC is *-ny* (rather than *-nginy*), then the irrealis is *-ngi* and the future is *-nga* (Ngalakgan)/*-ngara* (Rembarrnga).⁹ Verb inflection in general is unpredictable and irregular in GN languages (Baker 1999). This is true of the NP inflection, and especially of the PP, which is the least predictable inflectional category in GN languages (AEH). The fact that the Irrealis and Future *are* so predictable in Ngalakgan and Rembarrnga indicates that they have been recently innovated.

2.3 The NG-conjugation

The NG-theme conjugation is formally messier in both languages. Rembarrnga and Ngalakgan have undergone distinct development in this conjugation in the Future and Past Continuous categories. In Rembarrnga, a distinct Future suffix *-ara* is

⁹ The exceptions to this pattern are the suppletive verb *batja* in Ngalakgan, which has an Irrealis in *-ngi* but a Future in *-na* (Merlan 1983), and the irregular verb *ga(ba)* (Causative) in Rembarrnga, which has some affinities with the open conjugation examined below.

used, which is not found in Ngalakgan except (in a relic form) in the open conjugation (root *-mi*), to which I return in §2.5. Ngalakgan simply adds *-a* to the NonPast stem, as with the N-conjugation forms. It is unclear which — the *-ara* or the *-a* — is the innovative form in Jala.

In both languages, verbs with a NP stem in *-ng* fall into two (sub-)conjugations. In one of these, the PP is \emptyset but the root often shows ablaut. The PC in this conjugation varies between *-ny* and *-nginy*. Monosyllabic roots such as *ma-* “get”, *ne-* “burn (tv)” take *-nginy* in the PC, while in Ngalakgan disyllabic roots such as *marra-* “spear”, *mutji-* “show, teach” take *-ny*. In Rembarnga, disyllabic roots can each vary between the two PC forms in *-ny* or *-nginy* (for some verbs, this variation is dialectally restricted). In the other conjugation, the PP is *-ny*, and in Ngalakgan the PC is *-nginy*, regardless of root size. In Rembarnga, the PC varies as in the other conjugation.

This conjugation in other GN languages typically has NP in *-ng*, and PC in *-nginy*, and hence the \emptyset NP and *-ny* PC forms found in Jala would appear to be innovations:

Table 11: *The pGN NG-conjugation*

Past Punctual	Past Continuous	Non-Past
*-y	*-nginy	*-ng (e.g. *ma, *jo)
*-ny	*-nginy	*-ng (e.g. *ru, *ne, *be)

In pJ, these two conjugations are merged when the NP *-ng* is lost. In addition, a new PC form *-ny* arises on the basis of the NP \emptyset . This form is licensed on those roots which are (a) polysyllabic, and (b) do not have PP in *-ny*.

The general form of the NG-conjugation is set out in Table 12:

Table 12: *The pJ NG-conjugation*

NP	PC	IRR	FUT
*- \emptyset	*-ny ~ -nginy	*-ngi	*-nga(ra)

There is a valid reason for the loss of final velar nasal here. Velar nasals are phonotactically marked as word- or syllable-final segments in Australian languages (Hamilton 1996), as are bilabial nasals. Velar and bilabial nasals are licensed in word-final position in Ngalakgan and Rembarnga roots, but not in syllable-final position preceding another consonant (unless homorganic). It is not unsurprising that they should be eliminated from such high-frequency items as finite verb forms, particularly given the fact that inflected verbs in both languages take a range of suffixes for relativisation, person/number, and indirect object. Velar and bilabial nasals would be ill-formed in such an environment. In addition, velar nasals in coda positions are perceptually similar to vowels; a form [maŋ] is perceptually similar to

[ma:] (with vowel lengthening at the surface due to a constraint against monomoraic content words in Ngalakgan; see Baker 1999).

I reconstruct the alternation of **-ny* ~ *-nginy* with a prosodic condition: disyllabic roots took the innovated form **-ny*, monosyllabic roots retained the original form **-nginy*. Probably the latter condition arose as a strategy to avoid monomoraic verb words. In verbs which took a PP in **-ny*, the PC in **-nginy* was retained in disyllabic roots also, presumably to avoid neutralisation in the past tense. This solution accounts for the otherwise inexplicable variation in PC suffix allomorphs. Cognate NG-theme verbs in Ngalakgan and Rembarrnga are shown in Table 13:

Table 13: *NG-conjugation verbs in Jala*

	Root	Sense	PP	NP	PC	IRR	FUT
Ngkn	<i>ma</i>	“get”	<i>me</i>	<i>ma</i>	<i>manginy</i>	<i>mangi</i>	<i>manga</i>
Rmba	<i>ma</i>	“get”	<i>miya</i>	<i>ma</i>	<i>manginy</i>	<i>mangv</i>	<i>mangara</i>
Ngkn	<i>ne</i>	“burn”	<i>neny</i>	<i>ne</i>	<i>nenginy</i>	<i>nengi</i>	<i>nenga</i>
Rmba	<i>niya</i>	“cook”	<i>neny</i>	<i>niya</i>	<i>niyanginy</i>	<i>niyangv</i>	<i>niyangara</i>
Ngkn	<i>marra</i>	“spear”	<i>marre</i>	<i>marra</i>	<i>marreny</i>	<i>marrengi</i>	<i>marrenga</i>
Rmba	<i>marra</i>	“spear”	<i>mirriya</i>	<i>marra</i>	<i>marriny</i> ~ <i>marringiny</i>	<i>marrangv</i>	<i>marrangara</i>
Ngkn	<i>mutju</i>	“show”	<i>mutje</i>	<i>mutju</i>	<i>mutjiny</i>	<i>mutjingi</i>	<i>mutjinga</i>
Rmba	<i>muttu</i>	“show”	<i>muttiya</i>	<i>muttu</i>	<i>muttiny</i> ~ <i>muttinginy</i>	<i>muttungv</i>	<i>muttungara</i>
Ngkn	<i>gortji</i>	“load”	<i>gortje</i>	<i>gortji</i>	<i>gortjiny</i>	<i>gortjingi</i>	<i>gortjinga</i>
Rmba	<i>gortdo</i>	“load”	<i>gortdiya</i>	<i>gortdo</i>	<i>gortdiny</i> ~ <i>gortdinginy</i>	<i>gortdongv</i>	<i>gortdongara</i>
Ngkn	<i>batji</i>	“hit”	<i>batje</i>	<i>batja</i>	<i>batjiny</i>	<i>batjingi</i>	<i>batjinga</i>
Rmba	<i>batja</i>	“hit”	<i>batjiya</i>	<i>battja</i>	<i>batjiny</i>	<i>batjangv</i>	<i>batjangara</i>

Only the “get”, “burn” (transitive) and “hit” (suppletive) verbs are reconstructible to pGN. This class also includes several verbs in both languages which are not shared cognates, or which have distinct suppletive paradigms. In Ngalakgan, verbs in this category are: *yini* “do/say thus”, *be* “bite”, *ye* “put”, *jo* “chop”, and *ru* “burn” (intransitive); all these verbs are in turn reconstructible to pGN. In Rembarrnga, this category includes *ra* “go”, *nvttv* “keep”, *ngeja* “name, tell about”, *gapba* “frighten”, *wurraja* “find”.

There are other differences between Ngalakgan and Rembarrnga in this conjugation. In both languages, (original) medial vowels preceding the PC suffix have undergone raising and/or fronting conditioned by a following lamino-palatal nasal, or a high vowel in the following syllable, for instance Ngalakgan, Rembarrnga *marra* (NP), *marreny* (PC), Rembarrnga *marriny*; but Rembarrnga *niyanginy* (< pJ **nenginy*) where the synchronic medial vowel (after vowel

breaking) was originally an initial vowel. Ngalakgan generalises this high vowel to the Future and Irrealis forms also: *marrenga*, *mutjjinga*; while Rembarrnga retains the final vowel of the NP form: *marrangara*, *mutjjungara*. The Ngalakgan Future and Irrealis forms presumably have arisen through paradigmatic levelling by analogy with the PC.

2.4 Stance verbs

As AEH note, the stance verbs in GN are the most difficult to reconstruct; Ngalakgan and Rembarrnga are no exception in this regard. According to AEH's reconstruction, pGN had two "stand" verbs, one with a stative sense "be standing", and one with a punctual or causative sense "assume standing posture; cause to stand/become erect".

The forms of the nonpast categories of cognate verbs with a contrastive stative sense in Ngalakgan and Rembarrnga are presented below.

Table 14: *Stance verbs: stative*

	Root	Sense	NonPast	PastCont	Irrealis	Future
Ngkn	<i>bara</i>	"hang"	<i>barangan</i>	<i>baranganiny</i>	<i>barangani</i>	<i>barangana</i>
Rmba	<i>ba</i>	"hang"	<i>boru</i>	<i>baringaniny</i>	<i>baringanv</i>	<i>baringana</i>
Ngkn	<i>ja</i>	"stand"	<i>jango</i>	<i>jangoaniny</i>	<i>jangani</i>	<i>jangana</i>
Rmba	<i>da</i>	"stand"	<i>dangan ~ duru</i>	<i>danganiny ~ dany</i>	<i>danganv</i>	<i>dingana</i>
Ngkn	<i>na</i>	"sit"	<i>nangan</i>	<i>nanganiny</i>	<i>nangani</i>	<i>nangana</i>
Rmba	<i>ni</i>	"sit"	<i>nangan ~ nura</i>	<i>ninganiny</i>	<i>ninganv</i>	<i>ningana</i>
Ngkn	<i>yo</i>	"lie"	<i>yongan</i>	<i>yonganiny</i>	<i>yongoni</i>	<i>yongona</i>
Rmba	<i>yu</i>	"lie"	<i>yangan ~ yuru</i>	<i>yinganiny ~ yuweny</i>	<i>yinganv</i>	<i>yingana</i>

I reconstruct the stative stance paradigm in pJ with the following form:

Table 15: *Stative stance verb conjugation in pJ*

NP	PC	IRR	FUT
*-ngan ~	*-ngan-iny	*-ngan-i	*-ngan-a
*-ra ~ *-ru			

In both languages, the stative stance paradigm constitutes a distinct conjugation class from other verbs. The monosyllabic root common to stance verbs has been extended with a syllable of the shape *-ngan* (in the case of Ngalakgan *yo* "lie", the vowel of this syllable is *o*, presumably through vowel harmony). The extension of this augment throughout the paradigm, though not the augment itself, appears to be an innovation unique to pJ. No other GN languages have stance verbs with this

kind of stem extension throughout the paradigm, though the augment itself is found in Bininj Gun-wok, and in Maung (Evans pers. comm.).¹⁰

Rembarrnga also has an alternate form in the NP in *-ru* ~ *-ra*, added directly to the root. This may be a retention from pGN or the pre-GN period. Similar forms to the Rembarrnga NP are found in the stance verb forms in Ngandi, Wubuy, and other non-GN languages (e.g. Burarra) (see AEH, §3.11). I therefore do not regard this form as a pJ innovation. It is quite possible that this suffix derived a form which had a distinct TAM interpretation from the NP.

There are other differences between the two languages. In Rembarrnga we find a high vowel in the stems of the “sit”, “stand”, and “lie” verbs, whereas in Ngalakgan the corresponding vowel is low (“sit” and “stand”) or mid-back (“lie”). The alternate Past Continuous forms of the “stand” and “lie” verbs (*dany*, *yuweny* respectively) in Rembarrnga are anomalous. These are cognate with the Ngalakgan Past *Punctual* forms *jany*, *yony*. I return to this problem after discussing the punctual forms.

In both Ngalakgan and Rembarrnga, there are two punctual stance verbs, shown in Table 16:

Table 16: *Stance Verbs: punctual/causative*

Root	Sense		NP	PC	IRR	FUT
<i>-ji</i>	“erect”	Ngalakgan	<i>-ja</i>	<i>-jinginy</i>	<i>-jingi</i>	<i>-jinga</i>
<i>da</i>	“erect”	Rembarrnga	<i>da</i>	<i>danginy</i>	<i>dangv</i>	<i>dangara</i>
<i>bare</i>	“hang” (tv)	Ngalakgan	<i>bara</i>	<i>baranginy</i>	<i>barengi</i>	<i>barenga</i>
<i>bari</i>	“hang” (tv)	Rembarrnga	<i>bari</i>	<i>bariny</i> ~ <i>baringiny</i>	<i>baringv</i>	<i>baringara</i>

Notably, the vocalism of the nonpast stem (but not the NonPast itself) for both the stative and punctual “stand” roots has the opposite value in Ngalakgan and Rembarrnga in each case: apart from the NP forms themselves, where Ngalakgan has /a/ in the root, Rembarrnga has /i/, and vice versa. I have no explanation for this alternation. However, the same alternation may be observed in other GN languages also. In Ngandi and Wubuy, the punctual “stand” verb also has a high front vowel in the root, while the stative counterpart has the low vowel, as in Ngalakgan. In Bininj Gun-wok, distribution of the alternation is the opposite, as in Rembarrnga. Hence, this may be an areal phenomenon.

The punctual paradigm may be reconstructed as in Table 17.

¹⁰ BGW has NP forms *yongen* “lie”, *tangen* “stand up” which look similar, but these forms do not act as stems for the PC in BGW, unlike Ngalakgan, Rembarrnga.

Table 17: *Punctual stance verb conjugation in pJ*

NP	PC	IRR	FUT
*- <i>ø</i>	*- <i>nginy</i>	*- <i>ngi</i>	*- <i>nga</i>

The paradigm of punctual stance verbs is identical to the NG-conjugation in pJ. As with the NG-conjugation, there is some variation in the PC forms in Rembarrnga, depending in part on the size of the root.

The stance paradigms of GN appear to have undergone a good deal of reshaping and reanalysis, perhaps as a result of the split into “stative” and ‘punctual’ forms. AEH suggest that the stative forms *jany* (Ngkn PP) and *dany* (Rmba PC) continue the pGN PC form **thany*, the original pGN PP form **thanginy* having been lost in Ngalakgan and Rembarrnga. The Ngalakgan PC form *jangan-iny* (and the alternate Rembarrnga PC form *dingan-iny*) is then a reshaping on the basis of the NP *jangan*. This proposal would make sense if a PastPunctual interpretation was incompatible with an inherently stative verb. At this stage, there is not enough research on the interpretations of the PP and PC tense categories in GN to be able to assess this proposal.

2.5 The open conjugation

In both Ngalakgan and Rembarrnga, the majority of verbal predicates belong to the open conjugation (called the ‘thematic’ conjugation in Merlan 1983). This is also the conjugation with which new verbs are productively formed from loanwords. Verbs in this class consist of an invariant ‘coverb’ stem, which realises the meaning of the verb, and a meaningless dependent auxiliary root *-mi*, which carries the TAM inflections. Internal evidence in GN suggests that the root originally meant ‘say/do (thus)’, which is the meaning of the cognate root as an independent verb in Mangarrayi. Some example paradigms from Ngalakgan and Rembarrnga are presented in Table 18, for the coverbs *yerrert* (Ngkn)/*yarrart* (Rmba) “grow”, *bayimh* “buy” (a loan from Kriol), *berdeh* “carry on shoulder”, and *yukgah* “go ahead” (productively derived from the adverb *yukgah* “ahead”).

There are several major differences between this verb conjugation and all other conjugations. Firstly, this is the only paradigm which involves suppletion.¹¹ There

¹¹ In Rembarrnga, the Causative derivational stem *-ga* also has a suppletive paradigm. Some of the suppletive inflections (with augment *-ba*) are similar to the corresponding categories in the open class conjugation: PP *-gaba*, PC *-gabvrn* (open class *-mvrn*), NP *-gara*, IRR *-gabv* (open class *-mv*), FUT *-gara* (open class *-ra*). The Rembarrnga verb *yinih* is also partly suppletive, taking a PP form in *yiminy* like a verb of the N-conjugation, but for other TAM categories behaving like a verb in the open conjugation. The cognate verb in Ngalakgan, also *yini(h)*, also has a suppletive paradigm; I discuss this verb immediately below. The cognate verb in Ngandi also has an unusual mixed paradigm.

is no identifiable root form which appears throughout the paradigm of tense inflections (i.e. in the position of *-mi*).

Table 18: *Jala open conjugation*

	PP	PC	NP	IRR	FUT
Ngkn	<i>yerrert-mi-ny</i>	<i>yerrert-me-riny</i> ~ <i>yerrert-mi-yiny</i>	<i>yerrert-ø</i>	<i>yerrert-de</i>	<i>yerrert-da</i>
Rmba	<i>yarrart-mi-ny</i>	<i>yarrart-mvrn</i>	<i>yarrart-ø</i>	<i>yarrart-mv</i>	<i>yarrart-da</i>
Ngkn	<i>bayimh-mi-ny</i>	<i>bayimh-me-riny</i> ~ <i>bayimh-mi-yiny</i>	<i>bayimh-ø</i>	<i>bayimh-me</i>	<i>bayimh-ma</i>
Rmba	<i>bayimh-mi-ny</i>	<i>bayimh-mvrn</i>	<i>bayimh-ø</i>	<i>bayimh-mv</i>	<i>bayimh-ma</i>
Ngkn	<i>berdeh-mi-ny</i>	<i>berdeh-me-riny</i> ~ <i>berdeh-mi-yiny</i>	<i>berdeh-ø</i>	<i>berdeh-ye</i>	<i>berdeh-ya</i>
Rmba	<i>berdeh-mi-ny</i>	<i>berdeh-mvrn</i>	<i>berdeh-ø</i>	<i>berdeh-mv</i>	<i>berdeh-ya</i>
Ngkn	<i>yukgah-mi-ny</i>	<i>yukgah-me-riny</i> ~ <i>yukgah-mi-yiny</i>	<i>yukgah-ø</i>	<i>yukgah-re</i>	<i>yukgah-ra</i>
Rmba	<i>yukgah-mi-ny</i>	<i>yukgah-mvrn</i>	<i>yukgah-ø</i>	<i>yukgah-mv</i>	<i>yukgah-ra</i>

Secondly, every inflected form of an open class verb is predictable from the phonological shape of the coverb stem (i.e. the stem to which the root *-mi* attaches). The Future (and, in Ngalakgan, the Irrealis) form is derived by means of gemination of the final supra-laryngeal consonant of the stem, plus the distinctive vowel associated with each tense form (McKay, 1975:38, 133; Merlan, 1983:120). This can be seen in the forms for *yerrert/yarrart* and *bayimh*, in Table 18. In the case of coverb stems lacking a final supra-laryngeal consonant, these tense forms are realised with a glide onset determined by the place of articulation of the final vowel of the stem, for non-low vowels, as in the forms for *berdeh*. In the case of stems ending in *a*, in both languages the Future tense suffix is *-ra*, e.g. Ngalakgan *yukgah-ra* ‘go ahead’-FUT.¹²

The third major difference is that coverbs of this conjugation may appear in an alternate, phrasal, structure.

- (1) *burru-worowk-mi-ny*
3aS-gallop-AUX-PP
‘They galloped.’
- (2) *worowk burru-mi-ny*
gallop 3a-AUX-PP
‘They galloped.’

¹² This is the only form of the Future found in the *galduyh* (south-western) dialect of Rembarnga according to McKay (1975:133). The north-eastern dialect has the same formation of the Future as Ngalakgan.

The standard construction for thematic verbs is shown in (1). The phrasal construction in (2) is an alternate, used commonly in monologic discourse.

Internal evidence from GN suggests the stem of this verb was originally **mar-*. In Jala, the vowel has undergone reduction and centralisation under the influence of following retroflex glide (the Ngalakgan form written *-meriny* is pronounced [məɭɪɲ], or [mɭɪɲ], with elision of the intervening vowel). A tentative reconstruction is given in Table 19.

Table 19: *Open verb conjugation in pJ*

NP	PC	IRR	FUT
<i>*-ø</i>	<i>*-meriny</i>	<i>*-mi</i>	<i>*-mera</i>

The Irrealis forms in each language differ. Rembarrnga has an Irrealis in *-mv*, which is presumably a reflex of the original form. Internal reconstruction of the open class Irrealis suggests a form **mi-* for pGN. Ngalakgan appears to have innovated a new Irrealis form by analogy with the Future, substituting *e* for *a*.

Presumably the Future suffix form *-ra* found in the *galduyh* dialect is the original form of the suffix in both languages, with the other forms derived by phonological assimilation processes which affect glides at morpheme boundaries generally in both languages. The *-ra* form is found as a variant after all vowel-final verbs in this class, at least in Ngalakgan. It is conceivable that the reconstructed pJ Future form **-mera* was subject to a process of elision with eventual loss of the initial nasal, with **[məɭa] > *[mɭa] > [ɭa]*. While this is not a regular phonological process in Gunwinyguan languages, to my knowledge, it would make sense given the usual phonotactic environment of this root — following a coverb. In GN languages, coverbs are most commonly closed monosyllables. The weakening of the initial vowel of the root to a centralised schwa, then to essentially a syllabic form of the retroflex glide, would tend to hasten the loss of the initial nasal in this environment.

Of course, this process has not affected the PC form, though the initial stage (elision of the vowel between *m* and *r*) has already begun. The logical outcome would be loss of the initial nasal in the PC also. In fact, this appears to have happened in the case of one verb: *yini(h)* “say/do thus” (that is, the independent form of the erstwhile *-mi* root). In Ngalakgan, this verb has a mixed paradigm. The attested forms are: *yini* (PP), *yininy* ~ *yineriny* (PC), *yini* (NP), *yininga* (FUT), *yiningi* (IRR); that is, a verb of the NG-conjugation. The Future and Irrealis in addition have variant forms based on the open conjugation: *yinih-ya* ~ *yinih-ra*, *yinih-ye* ~ *yinih-re*. The PC alternate *yineriny* [jinəɭɪɲ] is anomalous for a verb of the NG-class. This is, however, the form we would expect from an original open class form **yinih-meriny* with elision of the initial nasal of *-meriny*. Given that

yini(h) is one of the most frequently occurring verbs in Ngalakgan, it is unsurprising to find changes occurring here first.¹³

The open conjugation finds cognates in other GN languages, where it is commonly the open and/or largest verb class found. However, the productive formation of the Future (and, in Ngalakgan, the Irrealis) on the basis of the stem-final segments of the coverb finds no analogue elsewhere in GN. This is indeed a radical departure from the typical morphology of inflected verbs in these languages, where direct inflection of verbs is a completely closed, lexicalised area of the morphology.

2.6 *Significance of the NP conjugations*

The elaboration of NP categories in GN languages appears to have happened independently in each subgroup of the family, while inheriting the form of the NP itself from the pGN ancestor. The forms of these categories in the various daughter languages therefore provide good evidence for the internal relationships of the family, since the nonpast categories (except for the PC and NonPast itself) appear to have been undeveloped or nascent in the proto language. I have noted already that some modern languages of the family (Jawoyn, Warray, Bininj Gun-wok) lack a formal suffixal category of Future. In Ngandi and Wubuy, the Future form corresponds generally to what is the NonPast form in other GN languages. This may be an innovation particular to Ngandi and Wubuy, and hence evidence for subgrouping them. There is other evidence from the verb paradigms of Ngandi and Wubuy, particularly in the nonpast categories, which confirms this view (I return to this below). In Appendix 14 I consider another NP category, the Irrealis, and what it can tell us about the internal breakup of pGN.

Aside from the evidence of verb paradigms, there is other evidence subgrouping Ngalakgan and Rembarnga; this is discussed in the following sections.

3. Gender prefixes and other bound morphology

Gender categories are found in three areas of the morphology of Ngalakgan and Rembarnga: prefixes, semi-independent dative enclitics, and independent pronouns. These three classes manifest distinct forms of the feminine gender, at least one of which is unique to the Jala group among GN languages.

¹³ The Rembarnga PC form *-mvrn* appears to be a separate, later development, with an otherwise unattested retroflex nasal inflection.

3.1 Gender prefixes

Ngalakgan has a four class system marked by prefixes to nouns, adjectives, demonstratives, and verbs. Prefixes have two overt forms, called “short” and “long” in Merlan (1983), which I have called ‘focus’ and ‘topic’, in accordance with their usual function in connected speech. All four lexical categories also have the possibility of taking no overt prefix for noun class (this also functions as an expression of focus).

Table 20: *Noun class prefixes in Ngalakgan*

	Focus	Topic
Masculine	ø ~ <i>nu-</i>	<i>nu-gu-</i>
Feminine	ø ~ <i>ju-</i>	<i>ju-gu-</i>
Vegetable	ø ~ <i>mu-</i>	<i>mun-gu-</i> (~ <i>mun-</i>) ¹⁴
Neuter	ø ~ <i>gu-</i>	<i>gun-gu-</i> (~ <i>gun-</i>)

In Ngalakgan, all nouns are assigned to a noun class, with two well-defined classes of lexical exceptions.¹⁵ The same set of prefixes are used on nouns, adjectives (whether functioning as referential expressions or predicates), and demonstratives. Demonstratives in addition have the possibility of using just the initial element of the ‘topic’ forms: *gun-*, *mun-*. Verbs show overt agreement only for the two inanimate classes Vegetable and Neuter.

The relic gender prefixes of Rembarnga are shown in Table 21. In Rembarnga, the gender prefix *da-* occurs as a frozen element on some kinterms, deriving feminine forms of ‘around half’ of the kinterms in Rembarnga (McKay 1975): e.g. *dage* “woman’s daughter”, *ge* “woman’s son”, cf. Ngalakgan *ju-ge* “man’s daughter”, *nu-ge* “man’s son”. The prefix also appears on variants of the feminine forms of subsection terms: *gotjjan* ~ *dagotjjan* (Ngalakgan *gotjjan* ~ *ju-gotjjan*). There is no trace of the inanimate prefixes in Rembarnga. I return to the masculine prefix immediately below.

Table 21: *Gender prefixes in Rembarnga*

Feminine	<i>da-</i> <i>ngal(ik)-</i>
Masculine	<i>na(yik)-</i>

¹⁴ The forms *mun-*, *gun-* are found only on demonstratives as alternates of the long forms: *mun-gohje* “that [Vegetable class]”, *gun-gohje* “that [Neuter class]”.

¹⁵ Kinterms and age-grade categories (e.g. *bolo* “old person”), as well as (optionally) terms for some higher mammal species (e.g. *gajah* “dog”), are assigned to a noun class on the basis of biological sex. Some generic nouns (e.g. *gony* “(any) macropod”, *jangu* “meat, large game”) can take head and agreement prefixes of either Neuter or Masculine class; see Baker (2002) for discussion.

In Ngalakgan, prefixes are stressless, regardless of the length of the stem to which they are attached, and are freely omissible for most nouns in most contexts. The feminine kinterms in Rembarrnga appear to be frozen formations: the prefix is stressed in these forms (as if it were part of the word), and cannot be omitted without changing the reference of the word. (I am not sure of the status of the feminine subsection forms.) Furthermore, not all kinterms in Rembarrnga have a feminine-prefixed form, even those which might be expected to have one. Therefore, as stated by (McKay 1975:73), the prefix appears to be unproductive.

The prefixes *na-* ~ *nayik-* (MASC) and *ngal-* ~ *ngalik-* (FEM) are prefixed to the *daworro* (patrilineal clan) names to indicate male and female members of a clan: *na-balngarra* ‘a Balngarra [clan] man’ (McKay 1975:74). The shorter forms of the prefixes are identical to the MASC and FEM gender prefixes in neighbouring Bininj Gun-wok. In this case, the prefixes are omissible — in free variation with the prefixed forms. They would also appear to be fully productive. I consider them to be a recent calque from Bininj Gun-wok.

The occurrence of noun classes in both Ngalakgan and Ngandi, and the lack of them in Rembarrnga, might be thought of as evidence for a genetic relationship between Ngalakgan and Ngandi. Despite this fact, however, the *form* of the prefixes in Ngalakgan is mirrored systematically in Rembarrnga. One reflex of initial *j-* in Ngalakgan is *d-* in Rembarrnga, and prefixes with *u* in Ngalakgan correspond systematically to *a* in Rembarrnga. (Ngalakgan has largely eliminated vowel contrasts in inflectional prefixes; all prefixes involve just the high vowels *u* or *i*.)

Ngalakgan also resembles Rembarrnga in reserving the gender prefixes (i.e. Masculine and Feminine) just for male and female humans, and in the case of Ngalakgan, animals (all animals, unless specifically female, are in the MASC class). This contrasts with the situation in other GN languages. In Ngandi, Wubuy, and other Gunwinyguan languages, Masculine/Feminine are not so congruent with biological sex, and animals are distributed among the various classes (Harvey 1997a).

No other Gunwinyguan language, with the exception of Dalabon, has a Feminine morph of the form **DHa-*. Dalabon has a feminine gender *suffix* of the form *-jan* ~ *-tjjan*.¹⁶ This form occurs on some kinterms to mark feminine (*be* ‘son’, *bejan* ‘daughter’; Evans pers. comm.), as well as on subsection terms: *wamut* (MASC), *wamutjjan* (FEM), *gojok* (MASC), *gotjjan* (FEM), etc. These are the subsection terms which are widely distributed in Arnhem Land, and since Dalabon is the only language in this area with feminine suffixes of this form outside the

¹⁶ This form does not show the expected correspondence here. For correspondences Ngkn *j*: Rmba *d* we expect Dalabon *d* also. It may be significant that the form is a suffix.

subsection system, we infer that this group of subsection terms originated with Dalabon.

3.2 *Dative clitics*

The Masculine and Feminine forms of the Dative enclitics in Ngalakgan and Rembarrnga are shown in Table 22. Dative pronominal enclitics are used to head-mark possession on an alienably possessed noun: kin terms are the most common locus. They can also be suffixed to verbs in both languages, to mark a Dative argument (Ngalakgan *nu-ne-nggorre* (2aug-cook+NP-12aug) ‘‘you mob cook it for us’’). They are distinct from genitive forms of independent pronouns, which can also mark possession, but more commonly act as predicates in a contrastive function (‘‘it’s mine, not yours’’). In Ngalakgan, the Dative enclitics are normally bound; in Rembarrnga they are apparently somewhat freer.

Table 22: *Dative clitics in Jala*

	3m fem	3m masc
Ngkn	- <i>ngoji</i>	- <i>nowi</i>
Rmba	- <i>ngadv</i>	- <i>nawv</i>
pJ	*- <i>ngoji</i>	*- <i>nowi</i>

The Ngalakgan and Rembarrnga forms are again closely cognate, allowing for systematic correspondences. Note that the correspondence *j:d* here is non-standard. As noted in §1.2, this correspondence is found only in morpheme-initial position (see Harvey, in press-b). It may be an indicator of an old morpheme boundary in this form i.e. *-*ngo-ji*. I reconstruct the initial vowel in both clitics tentatively as *o*. Levelling of vowels to *a* has affected pronominal forms generally in Rembarrnga. Besides this, the Dalabon 3rd minimal clitic form *-no* also argues for the mid-back vowel in this position. The final vowel I reconstruct as *i*, with centralisation again being a feature of the Rembarrnga forms.

Examination of dative clitics in other GN languages suggests that the dative clitic stems in Rembarrnga and Ngalakgan represent old retentions from a pGN (or earlier) level, though the actual forms (with masculine in *-wi* and feminine in *-ji*) may be Jala innovations.

3.3 *Independent pronouns*

Traces of the same gender marking are found in the independent pronoun forms in both languages. Both languages have two sets of independent pronouns, called ‘contrastive’ and ‘emphatic’. In both cases, the pronouns consist of an initial pronominal element followed by a stem shape. In Rembarrnga, the contrastive pronouns take a stem in *-da*, and the emphatic pronouns a stem in *-garnvh*. In

Ngalakgan, the contrastive set alternates between *-kgah* and *-jah*, while the emphatic set has *-kgarnih* and *-jarnih*. In both cases the laminal initial allomorphs are found just in the 2minimal, 3masc and 3fem forms. These alternations are largely orthogonal to the issue of gender marking morphology however. Again we see a non-standard instance of the laminal:apical correspondence in a medial position, possibly indicating an old morpheme boundary before the stem.

In the case of the gender-marked forms, shown in Table 23, the Ngalakgan Feminine form appears to be based on **jin-* plus the stem *-jah*. I would reconstruct this as **jin-* rather than **jiny-* given the forms in Burarra and Dalabon, both ending in the apical, and the apical-final forms of the Vegetable and Neuter prefixes. Assimilation of apical nasals to following laminal stop is a common pattern in Ngalakgan. Rembarrnga appears to use the stem found in the Dative enclitic, with an interesting difference. While the Dative form uses the apicalised *-ngadv*, the independent pronoun *ngajih-* ~ *ngayih-* retains the laminal stop found in Ngalakgan and reconstructible to pJ: **-ngoji*. The variant with the laminal glide may be significant here. Sporadic hardening of laminal glides is attested in Ngalakgan and presumably in Rembarrnga also. It is possible that the original form is *ngayih-*, and that this is a distinct stem from that found in the Dative enclitic.

Table 23: *Independent pronoun forms*

	3fem contr.	3masc contr.	3fem emph.	3masc emph.
Ngkn	<i>jinjah</i>	<i>ninjah</i>	<i>jinjarnih</i>	<i>ninjarnih</i>
Rmba	<i>ngajihda-nda</i> ~ <i>ngayihda-nda</i> ¹⁷	<i>nihda-nda</i>	<i>ngajihgarnvh</i>	<i>nihgarnvh</i>

The existence in Rembarrnga of a 3rd masculine form indicates a pJ origin for the masculine/feminine gender opposition. This shows that Rembarrnga lost a gender opposition which was present in the proto-language. It cannot be the case, for example, that Ngalakgan borrowed its gender system from a neighbouring language such as Ngandi. Aside from the differences in the morphemes involved, we would have no explanation for the existence of relic gender morphology in Rembarrnga, such as the *da-* kinterm prefix. This reasoning applies also to Dalabon, with its relic *-tjjan* ~ *-jan* feminine suffix. The evidence suggests that pGN was a language with a system of masculine and feminine gender oppositions at the least.

¹⁷ McKay (1975:105-6) states that the *ngajihdanda* form is the most common for all speakers, but that both forms are rare. He also notes that the final element *-(n)da* on independent pronouns is occasionally omitted or in a substitution relationship with overt case suffixes: *nihda-gan* 3min-Dat.

4. Pronominal prefixes

The pronominal prefix systems of Ngalakgan and Rembarrnga show a remarkable degree of similarity. There are two major differences, involving the relative order of subjects and objects in some parts of the system and some of the forms in the SAP → SAP subsystem (Speech Act Participant: 1st and 2nd person categories).

The prefixal system can be divided into 3 basic subsystems: (1) the intransitive system, (2) the system of prefixes realising at least one 3rd person argument, and (3) the SAP → SAP system. The subsystem of transitive prefixes realising one 3rd person category is the most transparent transitive subsystem. In both languages, the intransitive prefixes are equal (with minor differences) to the prefixes realising the subject in combination with a 3rd person minimal object (which is realised as \emptyset) in the transitive system.

Tables 24 and 25 show that the allomorphs used in both languages on the whole closely correspond (allowing for regular phonological changes). There are, however, differences in ordering in the case of prefixes involving one 3rd person argument. Both Ngalakgan and Rembarrnga make use of Object allomorphs of prefixes, ending in an apical nasal segment. In Rembarrnga, the apical is always alveolar, but in Ngalakgan it is postalveolar when preceded by *-rrV-* or is otherwise in an augmented category: *nun-* 2minO, *nurn-* 2augO (presumably < **nurrurn-*).¹⁸

Ngalakgan uses a hierarchical system of order in transitive prefixes, whereby prefixes realising SAPs precede those realising 3rd person categories. Rembarrnga uses a mixed hierarchical/case ordering system. In both languages, when the subject is 3rd person, and the object is a SAP, the order is object ^ subject (i.e. object followed by subject), using the object allomorph of the SAP prefix: e.g. Ngalakgan *ngun-bu-* (1minO-3aug) 3aug/1min¹⁹, Rembarrnga *ngan-ba-*. The object ^ subject order is also used in Rembarrnga for 3rd person objects with SAP subjects: *ba-nga-* (3aug-1minS-) 1min/3aug. In Ngalakgan however, the order subject ^ object is used for prefixes in this category: *ngu-bu-* (1minS-3aug) 1min/3aug.

¹⁸ The minimal/augment distinction is due to McKay (1978), who showed that the pronominal paradigms of Rembarrnga were more perspicaciously described in these terms, rather than in terms of singular vs. plural. *Minimal* corresponds to 'singular' for all persons except the 1st inclusive, where it corresponds to 'dual'. *Augmented* corresponds to 'plural' for all persons. A further refinement introduced by Ken Hale is the convention of using '12' to signal 1st inclusive, as opposed to '1', which always signals 1st exclusive.

¹⁹ The slash notation with pronominal glosses should be interpreted as 'Subject/Object', i.e. with the gloss on the left of the slash referring to the transitive subject, and gloss on the right of the slash to the transitive object, regardless of the order and meaning of the allomorphs involved.

Table 24: *Third person paradigm allomorphs*

		subject allomorphs	object allomorphs
1min	Ngkn	<i>ngu-</i>	<i>ngun-</i>
	Rmba	<i>nga-</i>	<i>ngan-</i>
12min	Ngkn	<i>yi-</i>	<i>yin-</i>
	Rmba	<i>ya-</i>	<i>yan-</i>
2min	Ngkn	<i>ju-</i>	<i>nun- ~ nginy-</i>
	Rmba	<i>da-</i>	<i>nan- ~ nginy-</i>
1aug	Ngkn	<i>yirr-</i>	<i>yirrirn-</i>
	Rmba	<i>yarr-</i>	<i>yarran-</i>
12aug	Ngkn	<i>ngurr-</i>	<i>ngurrurn-</i>
	Rmba	<i>ngarr-</i>	<i>ngarran-</i>
2aug	Ngkn	<i>nu-</i>	<i>nurn-</i>
	Rmba	<i>na-</i>	<i>nan-</i>
3aug	Ngkn	<i>burr-</i>	<i>burrurn- ~ bun- ~ bu-</i>
	Rmba	<i>barr-</i>	<i>barran- ~ ban- ~ ba-</i>
3min	Ngkn	<i>ø-</i>	
	Rmba	<i>ø-</i>	

The SAP → SAP system is the most morphologically opaque subsystem in the prefix paradigm. It contains several forms which cannot be derived from the forms of intransitive prefixes. Of particular interest here are the forms found in Ngalakgan and Rembarnga, presented in Table 25.

Table 25: *Ngalakgan, Rembarnga SAP → SAP*

		Patients		
	2aug	2min	1aug	1min
Agents	2aug		yini-	yini-
			<i>yarranba-</i>	yana-
	2min		yini-	jun-
			<i>yarra-</i>	dan-
	1aug	<i>yirri-</i>	<i>yirri-</i>	
		<i>nayarr-</i>	??	
	1min	nugu-	<i>nginy-</i>	
		<i>nanga-</i>	<i>nginy-</i>	

The forms of interest are in bold typeface. These forms cannot be derived regularly from the prefixal paradigms of the two languages. I return to these forms immediately below. The other forms in the table can be derived from existing intransitive or transitive forms, with pronominal skewing or merger in some cases. Rembarnga in particular has reshaped this paradigm to fit the rest of the transitive prefix paradigms: *na-yarr-* and *na-nga-* are transparently 2aug-1aug- and 2aug-1min- respectively, following the object ^ subject order found in 3rd person object prefixes. Given that these forms are transparent, compared (especially) to the

opaque Ngalakgan form *nugu-* (1min/2aug), this would indicate a recent origin for these prefixes in Rembarrnga, and hence for the order object ^ subject .

Several prefixes derive from forms found in the intransitive (or 3rd minimal object) paradigm. The prefix *nginy-*, found in both Ngalakgan and Rembarrnga as the marker of 1minS/2minO is particularly interesting in this regard. This form is used in both languages as the intransitive prefix for 2nd person minimal, and in Ngalakgan and one dialect of Rembarrnga as the marker of 2nd minimal object with 3rd minimal subject. This is the only prefix category which has a markedly different intransitive and transitive form: the transitive form for 2min Agent is *ju-* (Ngalakgan), *da-* (Rembarrnga). In this case then, there is no marker of 1st person, rather, an intransitive subject or object form of the 2nd person prefix is used alone. This is an instance of what Heath (1991) refers to as the ‘obscuring’ of pronominal reference in 1/2 prefix combinations (although Heath does not recognise the particular effect we see in this combination).

The transitive form *yirri-* in Ngalakgan marks 1augS/2O (minimal or augmented). As an intransitive prefix, this realises the category of 1st person augmented (i.e. 1st person dual/plural exclusive); the category of 2nd person finds no formal realisation here. The cognate prefix *yarra-* in Rembarrnga marks the same intransitive category, but the *opposite* transitive relation 2minS/1augO. The prefix *yarranba-* in Rembarrnga marks **2nd person** augS/1augO in this paradigm, but in the 3rd person paradigm realises **3rd person** augS/1augO, a case of category merger.

Apart from these forms derived from other parts of the pronominal prefix paradigm by skewing and obscuration, there are several opaque prefixes in this paradigm in both languages. The opaque prefixes in Ngalakgan and Rembarrnga are *nugu-* (Ngalakgan only), *yini-* (Ngalakgan) ~ *yana-* (Rembarrnga), and *jun-* (Ngalakgan) ~ *dan-* (Rembarrnga). The latter looks on the face of it like the 2minAgent form *ju-* plus the object allomorph *-n*, which makes no sense in this case since the form realises 2min**Subject**/1minO. I would regard this form as a pre-Jala retention. I can find no close cognates in other GN languages nearby (Dalabon, Bininj Gun-wok, Ngandi, Wubuy, Jawoyn), but other Non-Pama-Nyungan languages have similar forms realising this category.²⁰

The forms *yini-* ~ *yana-* are probably cognate with Ngdi *nyana-*, which realises exactly the same range of combinations: 2 > 1 (one of which is augmented). These forms are most probably derived ultimately from either the 1st augmented prefix

²⁰ This does not rule out one or more of the forms being a retention from an older stage. For instance Ungarinyin has the form *jan-* in just this combination 2sg->1sg (Rumsey 1982), which is identical to a proposed pJ form **jan-*. This scenario would imply that pGN was already internally diverse when it split from its own ancestor language, e.g. R. Green’s (in press) ‘Proto Arnhem’.

forms, *yirri-*, *yarra-* and *nyarra-* (Ngalakgan, Rembarrnga, Ngandi respectively), or the apparently related 1st dual inclusive forms *yi-*, *ya-*, *nya-*. Given the opacity of the forms in all three languages, these are presumably then retentions from a stage prior to pJ.

5. The Eastern GN subgroup: Ngandi and Nunggubuyu (Wubuy)

Heath has claimed since 1978 that Ngandi and Nunggubuyu (Wubuy) form a subgroup, together with Anindhilyakwa. I will briefly discuss this proposal in what follows, arguing that Heath was right, at least for Ngandi and Wubuy. (I will not be looking at Anindhilyakwa here.)²¹ However, there is no evidence to suggest that Ngandi (with or without Wubuy) is more closely related to Ngalakgan and Rembarrnga than it is to other GN languages. Indeed, the differences between the Ngandi and Wubuy paradigms, and those in other GN languages, are so radical we must consider them to have undergone separate development for a considerable length of time, if indeed Ngandi and Wubuy can be considered to be members of the same genetic subgroup as other GN languages at all. I consider the issue of wider relationships within GN further in Appendix 14.

There are more than enough formal similarities between the verb paradigms of Ngandi and Wubuy to indicate that these two languages formed a subgroup of GN, which I will call ‘Eastern GN’ (EGN) (in contrast to AEH’s ‘Eastern GN’, which includes Ngalakgan and Rembarrnga also — the evidence is discussed in Appendix 14). Proto-EGN elaborated nonpast categories, as did pJ, but in a very different fashion. Where pJ eliminated differences between paradigms, pEGN extended them. As a result, the paradigms of EGN are extremely complex and irregular. Unlike Jala, it is not possible to predict the forms of any inflectional categories in EGN on the basis of any of the others, with any degree of confidence. Instead, verbs fall into smaller conjugation classes of (generally) a few members each. Each conjugation class tends to have its own unique forms of the nonpast categories, which can be used to characterise the class (as is done by Heath 1984). On the whole, these forms are shared between Ngandi and Wubuy, but no other languages.²² The inflectional category equivalences are as follows:

²¹ Anindhilyakwa retains so little in the way of recognisable monomorphemic roots and inflections that it is impossible to say if it was once related to Ngandi and Nunggubuyu.

²² R. Green’s (in press) paper suggests that some of the Ngandi and Wubuy formations are retentions from a deeper level which she calls ‘proto-Arnheim’, since there are similar forms in Maningrida languages such as Burarra and Ndjébbana.

Table 26: *Verb inflection categories in pGN and EGN*

pGN	Ngandi	Wubuy
PastPunctual	PastPunctual	Past1
PastContinuous	PastContinuous	Past2
NonPast	Present	NonPast2
	Future	NonPast1
Irrealis	Potential	Evitative
	Evitative	NonPast3

The PP and PC of EGN correspond to these categories in other GN languages. The cognate of the pGN NP (which encodes both Present and Future tenses) is generally the Future category in Ngandi and Ngby, though sometimes the Present appears to be the reflex. Wubuy and to some extent Ngandi have both reshaped the Future, including generalising a Future ending in *-ng*, obscuring correspondences with the pGN NP in some cases (Alpher et al., in press). The pGN Irrealis corresponds to the Ngandi Evitative, and the Wubuy ‘NonPast 3’ category, which is also used for the evitative mood, as well as the future negative. The Potential in Ngandi corresponds to the Evitative category of Wubuy, but this category finds no analogue in pGN.

I consider a few representative developments in Appendix 14. Again, I concentrate on the innovated forms — in this case the Present, Potential, and to some extent the Future — disregarding for the most part the PP and PC. Only the Ngandi names for the inflectional categories will be shown in the tables.

6. Conclusion

I hope to have shown conclusively that Ngalakgan and Rembarrnga are not only closely related, but share a number of systematic correspondences not found in other languages of the GN family. These correspondences indicate a period of independent innovation in their immediate ancestor, which is reflected in each daughter language. Similarly, there are sets of correspondences in Ngandi and Wubuy which indicate that these two languages also should be considered to derive from a single ancestor. Apart from these two subgroups, it is difficult to show correspondences of the same order between any other two (groups of) GN languages, leaving the question of the internal break-up of GN as yet unresolved. Some tentative suggestions were made on the basis of the Irrealis paradigms of daughter languages, but these suggestions lack substance and must be regarded as preliminary. Indeed, the very complex nature of the nonpast category inflections in Ngandi and Nunggubuyu, as well as the fact that their closest cognates are found not in GN but in neighbouring Maningrida languages, suggest that the relationship of these two languages with GN should be reassessed.

REFERENCES

- Agnew, Brigitte. 1994. BP Complex (in Mangala). La Trobe University. ms.
- Aikhenvald, Alexandra Y. and R.M.W. Dixon. 2001. Introduction. in Aikhenvald, Alexandra Y. and R.M.W. Dixon (eds.), 1-26.
- Aikhenvald, Alexandra Y. and R.M.W. Dixon (eds.). 2001. *Areal diffusion and genetic inheritance: problems in comparative linguistics*. Oxford: Oxford University Press.
- Aklif, Gedda. 1990-1994. Bardi field notes, elicitation books, cassettes, and stories. ms.
- Aklif, Gedda. 1999. *Ardiyooloon Bardi ngaanka: One Arm Point Bardi dictionary*. Halls Creek, Western Australia: Kimberley Language Resource Centre.
- Alpher, Barry. 1972. On the genetic subgrouping of the languages of southwestern Cape York Peninsula, Australia. *Oceania Linguistics*, 11.67-87.
- Alpher, Barry. 1976. Some linguistic innovations in Cape York and their sociocultural correlates. in Sutton, Peter (ed.), 84-101.
- Alpher, Barry. 1990. Some Proto-Pama-Nyungan paradigms: a verb in the hand is worth two in the phylum. in O'Grady, Geoffrey and D.T. Tryon (eds.), 155-71.
- Alpher, Barry. 1991. *Yir-Yoront lexicon: sketch and dictionary of an Australian language*. Trends in Linguistics, Documentation 6. Berlin: Mouton de Gruyter.
- Alpher, Barry. 1997. Fluctuating final *n* in noun-stems in Cape York languages. in Tryon, Darrell and Michael Walsh (eds.), 11-20.
- Alpher, Barry. 1998. Pama-Nyungan cognate files: electronic files created and maintained by Alpher. Washington D.C. ms.
- Alpher, Barry. 2001. Pama-Nyungan etyma. Washington D.C. ms.
- Alpher, Barry, Nicholas Evans and Mark Harvey. in press. Proto-Gunwinyguan verbal suffixes. in Evans, Nicholas (ed.).
- Alpher, Barry and David Nash. 1999. Lexical replacement and cognate equilibrium in Australia. *Australian Journal of Linguistics*, 19.5-56.
- Anttila, Raimo. 1972. *An introduction to historical and comparative linguistics*. New York: Macmillan.
- Austin, Peter. 1981. Proto-Kanyara and Proto-Mantharta historical phonology. *Lingua*, 54.295-333.
- Austin, Peter. 1986. A sketch of Malyangaba. Melbourne, La Trobe University. ms.
- Austin, Peter. 1988a. Aboriginal languages of the Gascoyne-Ashburton region. *La Trobe Working Papers in Linguistics*, 1.43-63.
- Austin, Peter. 1988b. Classification of southern Pilbara languages, 1-17.
- Austin, Peter. 1990a. Classification of Lake Eyre languages. *La Trobe Working Papers in Linguistics*, 3.171-201.
- Austin, Peter. 1990b. The last words of Pirlatapa. in Austin, Peter, R.M.W. Dixon, Tom Dutton and Isobel White (eds.), 29-48.

- Austin, Peter. 1996. The Kanyara and Mantharta languages and their relationship to Western Desert. Paper presented at a workshop 'Where did the Western Language come from?', Australian Linguistic Institute, Australian National University, Canberra, 10 July 1996. ms.
- Austin, Peter. 1997a. Causatives and applicatives in Australian Aboriginal languages. in Matsumara, Kazuto and Tooru Hayasi (eds.), 165-225.
- Austin, Peter. 1997b. Proto Central New South Wales phonology. in Tryon, Darrell and Michael Walsh (eds.), 21-49.
- Austin, Peter, R.M.W. Dixon, Tom Dutton and Isobel White (eds.). 1990. *Language and history: essays in honour of Luise A. Hercus*. Pacific Linguistics C-116. Canberra: Research School of Pacific Studies, Australian National University.
- Baker, Brett. 1999. Word structure in Ngalakgan, Linguistics, University of Sydney: PhD.
- Baker, Brett. 2002. How referential is agreement? The interpretation of polysynthetic disagreement morphology in Ngalakgan. in Evans, Nicholas and Hans-Jürgen Sasse (eds.), 51-86.
- Baker, Brett and Mark Harvey. 2003. Word structure in Australian languages. *Australian Journal of Linguistics*, 23.3-33.
- Baldi, Philip (ed.). 1990. *Linguistic change and reconstruction methodology*. Trends in Linguistics, Studies and Monographs 45. Berlin / New York: Mouton de Gruyter.
- Beckett, J. 1967. Marriage, circumcision and avoidance among the Maljangaba of western New South Wales. *Mankind*, 6.456-64.
- Beckett, Jeremy. 1958. Field notebook. ms.
- Bedford, R. n.d. Manuscript notes on blackfellow tribes and languages of Eyre's Peninsula extracted from a notebook in the possession of Mrs R. Bedford, August 1953 and checked by N. B. Tindale Aug 1952. ms.
- Berndt, R.M. 1987. Panaramittee magic. *Records of the South Australian Museum*, 20.15-128.
- Berndt, R.M. and T. Vogelsang. 1941. Comparative vocabularies of the Ngadjuri and Dieri tribes, South Australia [25 July]. *Transactions of the Royal Society of South Australia*, 65.1-8.
- Bird, W.H. 1910. Some remarks on the grammatical construction of the Chowie language, as spoken by the Buccaneer Islanders, north western Australia. *Anthropos*, 54.454-56.
- Birdsell, Joseph B. 1950. Some implications of the genetic concepts of race in terms of spatial analysis. *Cold Spring Harbor Symposia on Quantitative Biology*, 15.259-314.
- Birdsell, Joseph B. 1957. Some population problems concerning Pleistocene Man. *Cold Spring Harbor Symposia on Quantitative Biology*, 22.47-69.
- Black, J.M. 1917. Vocabularies of three South Australian languages, Wurrung, Narrinyeri and Wongaidya. *Transactions of the Royal Society of South Australia*, 41.1-13.
- Black, J.M. 1920. 'Vocabularies of four South Australian languages, Adelaide, Narrunga, Kukata, and Narrinyeri with special reference to their speech sounds. *Transactions of the Royal Society of South Australia*, 44.76-93.
- Black, Paul. 1974a. An assessment of the comparative study of Cape York languages. Canberra: Australian Institute of Aboriginal Studies. ms.

- Black, Paul. 1974b. Lowland East Cushitic: subgrouping and reconstruction, Yale University: PhD.
- Black, Paul. 1980. Norman Paman historical phonology. in Rigsby, B. and P. Sutton (eds.), 181-239.
- Black, Paul. 1997. Lexicostatistics and Australian languages: problems and prospects. in Tryon, Darrell and Michael Walsh (eds.), 51-69.
- Blake, Barry. 1977. *Case marking in Australian languages*. Linguistic Series 23. Canberra: Australian Institute of Aboriginal Studies.
- Blake, Barry. 1979a. *A Kalkatungu grammar*. Pacific Linguistics B-57. Canberra: Australian National University.
- Blake, Barry. 1979b. Pitta-Pitta. in Dixon, R.M.W. and Barry J. Blake (eds.), 182-242.
- Blake, Barry. 1987. *Australian Aboriginal grammar*. London: Croom Helm.
- Blake, Barry. 1988. Redefining Pama-Nyungan: towards the prehistory of Australian languages. in Evans, Nicholas and Steve Johnson (eds.), 1-90.
- Blake, Barry. 1990a. Languages of the Queensland/Northern Territory border: updating the classification. in Austin, Peter, R.M.W. Dixon, Tom Dutton and Isobel White (eds.), 49-66.
- Blake, Barry. 1990b. The significance of pronouns in the history of Australian languages. in Baldi, Philip (ed.), 435-50.
- Blake, Barry. 1991. *Australian Aboriginal languages: a general introduction*. St Lucia: University of Queensland Press.
- Blake, Barry. 1993. Verb affixes from case markers: some Australian examples. *La Trobe Working Papers in Linguistics*, 6, 33-58.
- Blake, Barry (ed.). 1974. *Papers in Australian Aboriginal languages*. Melbourne: Monash University.
- Blake, Barry and Kate Burridge (eds.). 2003. *Historical linguistics 2001: Selected papers from the 15th International Conference on Historical Linguistics, Melbourne, 13-17 August 2001*. Amsterdam / Philadelphia: John Benjamins.
- Blake, Barry and R.M.W. Dixon. 1991. Introduction. in Dixon, R.M.W. and Barry J. Blake (eds.), 1-28.
- Blevins, Juliette. 1999. Nhanta and its position within Pama-Nyungan. *Oceanic Linguistics*, 38, 297-320.
- Blevins, Juliette. 2001a. *Nhanda: an Aboriginal language of Western Australia*. Oceanic Linguistics Special Publication 30. Honolulu: University of Hawai'i Press.
- Blevins, Juliette. 2001b. Where have all the onsets gone? Initial consonant loss in Australian Aboriginal languages. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 481-92.
- Blevins, Juliette and Doug Marmion. 1994. Nhanta historical phonology. *Australian Journal of Linguistics*, 14, 193-216.
- Bloomfield, Leonard. 1925. On the sound-system of Central Algonquian. *Language*, 1, 130-56.
- Bloomfield, Leonard. 1933. *Language*. London: Allen and Unwin.
- Blust, Robert. 1990. Patterns of sound change in the Austronesian languages. in Baldi, Philip (ed.), 231-67.

- Blythe, Joseph. 2001. *Yuwurriyangem Kijam: a phrasebook of the Kija language*. Halls Creek, Western Australia: Kimberley Language Resource Centre.
- Bowern, Claire. 1998. The case of Proto Karnic: morphological change and reconstruction in the nominal and pronominal system of Proto Karnic (Lake Eyre Basin), *Linguistics*, Australian National University: BA(Hons).
- Bowern, Claire. 1999a. A sketch Grammar of Nhirrpi. Harvard University, Cambridge. ms.
- Bowern, Claire. 2001a. Bardi field notes. One Arm Point. ms.
- Bowern, Claire. 2001b. Head and Dependent Marking in Bardi: Invited seminar at the Research Centre for Linguistic Typology, La Trobe University, Melbourne. ms.
- Bowern, Claire. 2001c. Karnic classification revisited. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 245-61.
- Bowern, Claire. 2001d. Nyulnyulan pronouns and paradigms: seminar presented at Australian National University, Historical Linguistics series. ms.
- Bowern, Claire. forthcoming. Another look at Australia as a linguistic area. in Matras, Yaron, Nigel Vincent and April McMahon (eds.).
- Bowern, Claire. in preparation. A comparative grammar of Bardi, *Linguistics*, Harvard University: PhD.
- Bowern, Claire (ed.). 1999b. *Bardi jawal: stories in Bardi from One Arm Point*, by Jessie Sampi, Bessie Ejai, David Wiggan and Nancy Isaac, compiled for the One Arm Point School Bardi literacy program. One Arm Point, Western Australia: One Arm Point School.
- Bowern, Claire (ed). 2002. *Jiiba nganman jawal: Stories in English and Bardi from the elders of One Arm Point and Sunday Island*. Harvard University. ms.
- Brammall, Daniel. 1991. A comparative grammar of Warluwaric, *Linguistics*, Australian National University: B.A. (Hons).
- Brandenstein, C.G. von. 1967. The language situation in the Pilbara — past and present, 1-20.
- Brandenstein, C.G. von. 1980. *Ngadjumaja: an Aboriginal language of south-east Western Australia*. Innsbruck: Innsbrucker Beiträge zur Kulturwissenschaft.
- Breen, J. Gavan. 1967. *Report to Australian Institute of Aboriginal Studies on field trip*. Canberra: Australian Institute of Aboriginal Studies.
- Breen, J. Gavan. 1971a. Aboriginal languages of Western Queensland. *Linguistic Communications (Monash University)*, 5.1-88.
- Breen, J. Gavan. 1971b. A description of the Warluwara language, *Linguistics*, Monash University: MA.
- Breen, J. Gavan. 1972. *Bidyara and Gungabula grammar and vocabulary*. Melbourne: Monash University.
- Breen, J. Gavan. 1974a. On bivalent suffixes. in Blake, B.J. (ed.), 22-58.
- Breen, J. Gavan. 1974b. Wakaya vocabulary and preliminary grammar. ms.
- Breen, J. Gavan. 1976. Warluwara and Bularnu. in Dixon, R.M.W. (ed.), 586-90.
- Breen, J. Gavan. 1977. Andegerebinha vowel phonology. *Phonetica*, 34.371-91.
- Breen, J. Gavan. 1981a. Margany and Gunya. in Dixon, R.M.W. and Barry J. Blake (eds.), 274-393.

- Breen, J. Gavan. 1981b. *The Mayi languages of the Queensland Gulf Country*. Canberra: Australian Institute of Aboriginal Studies.
- Breen, J. Gavan. 1990. *Salvage studies of Western Queensland Aboriginal languages*. Pacific Linguistics B-105. Canberra: Australian National University.
- Breen, J. Gavan. 1998. The grammar of kinship in Central Australia. Alice Springs. ms.
- Breen, J. Gavan. 2000a. Grammar and dictionary of Bularnu. Alice Springs N.T.: Institute for Aboriginal Development. ms.
- Breen, J. Gavan. 2000b. Grammar and dictionary of Wakaya. Alice Springs N.T.: Institute for Aboriginal Development. ms.
- Breen, J. Gavan. 2000c. Grammar and dictionary of Warluwarra. Alice Springs N.T.: Institute for Aboriginal Development. ms.
- Breen, J. Gavan. 2000d. Injilanji vocabulary and grammar notes. Alice Springs N.T.: Institute for Aboriginal Development. ms.
- Breen, J. Gavan. 2001. The wonders of Arandic phonology. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 45-69.
- Breen, J. Gavan. forthcoming. *Innamincka Talk: the Innamincka dialect of Yandruwantha with notes on other dialects*.
- Breen, J. Gavan. in press. Wanyi and Garrwa comparative data. in Evans, Nicholas (ed.), 392-429.
- Breen, J. Gavan. n.d. Wangkumara. ms.
- Breen, J. Gavan and Robert Pensalfini. 1999. Arrernte: a language with no syllable onsets. *Linguistic Inquiry*, 30.1-25.
- Bright, William (ed.). 1992. *International encyclopedia of linguistics*. New York: Oxford University Press.
- Burridge, Kate. 1996. Yulparija sketch grammar. in McGregor, William (ed.), 15-69.
- Campbell, Lyle. 1997. *American Indian languages: the historical linguistics of Native America*. Oxford Studies in Anthropological Linguistics. New York / Oxford: Oxford University Press.
- Campbell, Lyle. 1998. *Historical linguistics: an introduction*. Edinburgh: Edinburgh University Press.
- Campbell, Lyle. 2003a. Beyond the comparative method? in Blake, Barry J. and Kate Burridge (eds.), 33-57.
- Campbell, Lyle. 2003b. How to show that languages are related: methods for distant genetic relationship. in Joseph, Brian D. and Richard D. Janda (eds.), 262-82.
- Capell, Arthur. 1937. The structure of Australian languages. *Oceania*, 8.27-61.
- Capell, Arthur. 1940. Classification of languages of North and North-West Australian. *Oceania*, 10.241-72, 404-34.
- Capell, Arthur. 1941. The structure of Australian languages. in Elkin, A.P. (ed.), 46-80.
- Capell, Arthur. 1942. Languages of Arnhem Land. *Oceania*, 12, 13.364-92, 24-51.
- Capell, Arthur. 1949-50. Some myths of the Garadjeri tribe. *Mankind*, 4.46-61, 108-25, 48-62.
- Capell, Arthur. 1956. *A new approach to Australian linguistics (Handbook of Australian languages part I)*. Oceania Linguistic Monographs 1. Sydney: University of Sydney.

- Capell, Arthur. 1962. *Some linguistic types in Australia (Handbook of Australian languages part 2)*. Oceania Linguistic Monographs 7. Sydney: University of Sydney.
- Capell, Arthur. 1967. Pronominalisation in Australian languages, 21-42.
- Capell, Arthur. 1971. History of research in Australian and Tasmanian languages. in Sebeok, Thomas A. (ed.), 661-720.
- Capell, Arthur. 1972. The Affix-Transferring languages of Australia. *Talanya*, 1.5-36.
- Capell, Arthur. 1975. Ergative constructions in Australian languages. *Working Papers in Language and Linguistics, Tasmanian College of Advanced Education, Launceston*, 2.1-7.
- Capell, Arthur. 1979a. Classification of verbs in Australian languages. in Wurm, S.A. (ed.), 229-322.
- Capell, Arthur. 1979b. Grammatical classification in Australia. in Wurm, S.A. (ed.), 141-228.
- Capell, Arthur. 1979c. The history of Australian languages: a first approach. in Wurm, S.A. (ed.), 419-619.
- Capell, Arthur and H.H.J. Coate. 1984. *Comparative studies in the North Kimberley languages*. Pacific Linguistics C-69. Canberra: Australian National University.
- Capell, Arthur and A.P. Elkin. 1937. The languages of the Kimberley division. *Oceania*, 8.216-46.
- Capell, Arthur and H.E. Hinch. 1970. *Maung grammar: texts and vocabulary*. The Hague: Mouton.
- Carew, Margaret. 1993. Proto-Warluwarric phonology, Linguistics and Language Studies, Melbourne University: BA(Hons).
- Chadwick, Neil. 1975. *A descriptive study of the Djingili language*. Canberra: Australian Institute of Aboriginal Studies.
- Chadwick, Neil. 1978. The West Barkly languages: complex morphology, Monash University: PhD.
- Chadwick, Neil. 1979. The West Barkly languages: an outline sketch. in Wurm, S.A. (ed.), 653-711.
- Chadwick, Neil. 1984. The relationship of Jingulu and Jaminjungan. Canberra: AIATSIS. ms.
- Chadwick, Neil. 1997. The Barkly and Jaminjungan languages: a non-contiguous genetic grouping in North Australia. in Tryon, Darrell and Michael Walsh (eds.), 95-106.
- Clendon, Mark. 2001a. *A grammar of Worrorra*. Halls Creek, Western Australia: Kimberley Language Resource Centre.
- Clendon, Mark. 2001b. *Provisional Worrorra dictionary*. Halls Creek, Western Australia: Kimberley Language Resource Centre.
- Coate, H.H.J. n.d. Notes on three dead languages. Canberra: AIATSIS. ms.
- Coate, H.H.J. and A.P. Elkin. 1974. *Ngarinjin-English dictionary*. Oceania Linguistic Monographs 16. Sydney: University of Sydney.
- Coate, H.H.J. and Lynette Oates. 1970. *A grammar of Ngarinjin, Western Australia*. Canberra: Australian Institute of Aboriginal Studies.
- Croft, William. 2000. *Explaining language change: an evolutionary approach*. Essex: Longman.

- Crowley, Terry. 1976. Phonological change in New England. in Dixon, R.M.W. (ed.), 19-50.
- Crowley, Terry. 1981. The Mpakwithi dialect of Anguthimri. in Dixon, R.M.W. and Barry J. Blake (eds.), 146-94.
- Crowley, Terry. 1983. Uradhi. in Dixon, R.M.W. and Barry J. Blake (eds.), 306-428.
- Crowley, Terry. 1987. *An introduction to historical linguistics*. Linguistic Series no. 1. Port Moresby, PNG / Suva, Fiji: University of Papua New Guinea Press / University of the South Pacific.
- Crowley, Terry. 1999. Review of R.M.W. Dixon 1997, *The rise and fall of languages*. *Australian Journal of Linguistics*, 19.108-15.
- Crozier, H. 1886. Vocabulary 69: Evelyn Creek. in Curr, Edward M. (ed.), 160-61.
- Curr, Edward M. 1886-87. *The Australian race: its origin, languages, customs, place of landing in Australia, and the routes by which it spread itself over that continent*. Melbourne: J. Ferres, Government Printer.
- Dempwolff, O. 1934-38. *Vergleichende Lautlehre des austronesischen Wortschatzes*. Beiheft zur Zeitschrift für Eingeborenen-Sprachen, Vols. 15, 17, 19.
- Dench, Alan. 1994. The historical development of pronoun paradigms in the Pilbara region of Western Australia. *Australian Journal of Linguistics*, 14.155-91.
- Dench, Alan. 1995a. The development of associating case. Paper presented to annual meeting of the Australian Linguistic Society, Australian National University, Canberra. ms.
- Dench, Alan. 1995b. *Martuthunira: a language of the Pilbara region of Western Australia*. Pacific Linguistics C-125. Canberra: Australian National University.
- Dench, Alan. 1998a. The Dative split in Martuthunira. Paper presented at Annual conference of the Australian Linguistic Society, University of Queensland, Brisbane.
- Dench, Alan. 1998b. What is a Ngayarta language? A reply to O'Grady and Laughren. *Australian Journal of Linguistics*, 18.91-107.
- Dench, Alan. 1998c. *Yingkarta*. Languages of the world/ Materials 137. München: Lincom Europa.
- Dench, Alan. 2001. Descent and diffusion: the complexity of the Pilbara situation. in Aikhenvald, Alexandra Y. and R.M.W. Dixon (eds.), 105-33.
- Dench, Alan. 2003. From purposive/future to present: shifting temporal categories in the Pilbara languages of north west Western Australia. in Blake, Barry J. and Kate Burridge (eds.), 87-103.
- Dewhurst, A. 1886. Vocabulary 69: Evelyn Creek. in Curr, Edward M. (ed.), 156-57.
- Diffloth, Gérard. 1994. *i*: big, *a*: small. *Sound symbolism*, ed. by Hinton, Leanne, Johanna Nichols and John J. Ohala. 107-14. Cambridge: Cambridge University Press.
- Dixon, R.M.W. 1970a. Languages of the Cairns rain forest region. in Wurm, S.A. and D.C. Laycock (eds.), 651-87.
- Dixon, R.M.W. 1970b. Proto-Australian laminals. *Oceanic Linguistics*, 9.79-103.
- Dixon, R.M.W. 1972. *The Dyirbal language of North Queensland*. Cambridge Studies in Linguistics 9. Cambridge: Cambridge University Press.
- Dixon, R.M.W. 1977. *A grammar of Yidiny*. Cambridge Studies in Linguistics 19. Cambridge: Cambridge University Press.

- Dixon, R.M.W. 1980. *The languages of Australia*. Cambridge: Cambridge University Press.
- Dixon, R.M.W. 1981. Wargamay. in Dixon, R.M.W. and Barry J. Blake (eds.), xxiv-144.
- Dixon, R.M.W. 1983. Nyawaygi. in Dixon, R.M.W. and Barry J. Blake (eds.), 430-525.
- Dixon, R.M.W. 1990. Summary report: linguistic reconstruction and change in the Australian language family. in Baldi, Philip (ed.), 393-401.
- Dixon, R.M.W. 1991. Mbabaram. in Dixon, R.M.W. and Barry J. Blake (eds.), 348-402.
- Dixon, R.M.W. 1997. *The rise and fall of languages*. Cambridge: Cambridge University Press.
- Dixon, R.M.W. 2001. The Australian linguistic area. in Aikhenvald, Alexandra Y. and R.M.W. Dixon (eds.), 64-104.
- Dixon, R.M.W. 2002. *The Australian languages: their nature and development*. Cambridge: Cambridge University Press.
- Dixon, R.M.W. (ed.). 1976. *Grammatical categories in Australian languages*. Canberra: Australian Institute of Aboriginal Studies.
- Dixon, R.M.W. and Barry Blake. 2000. Preface. in Dixon, R.M.W. and Barry J. Blake (eds.), xvi-xvii.
- Dixon, R.M.W. and Barry Blake (eds.). 1979. *Handbook of Australian languages Vol. 1*. Canberra: Australian National University Press.
- Dixon, R.M.W. and Barry Blake (eds.). 1981. *Handbook of Australian languages Vol. 2*. Canberra: Australian National University Press.
- Dixon, R.M.W. and Barry Blake (eds.). 1983. *Handbook of Australian languages Vol. 3*. Canberra: Australian National University Press.
- Dixon, R.M.W. and Barry Blake (eds.). 1991. *Handbook of Australian languages Vol. 4: The Aboriginal language of Melbourne and other grammatical sketches*. Melbourne: Oxford University Press.
- Dixon, R.M.W. and Barry Blake (eds.). 2000. *Handbook of Australian languages Vol. 5*. Melbourne: Oxford University Press.
- Douglas, W.H. 1964. *An introduction to the Western Desert language: a pedagogical description of the Western Desert language, based on the dialect spoken at Warburton Ranges, Western Australia*. Oceania Linguistic Monographs 4. Sydney: University of Sydney.
- Douglas, W.H. 1976. *The Aboriginal languages of the South-West of Australia*. Canberra: Australian Institute of Aboriginal Studies.
- Douglas, W.H. 1981. Watjarri. in Dixon, R.M.W. and Barry J. Blake (eds.), 196-272.
- Durie, Mark and Malcolm Ross (eds.). 1996. *The comparative method reviewed: Regularity and irregularity in language change*. New York: Oxford University Press.
- Dyen, Isidore. 1965. *A lexicostatistical classification of the Austronesian languages*. International Journal of American Linguistics, Memoir 19.
- Dyen, Isidore. 1975. *Linguistic subgrouping and lexicostatistics*. Janua linguarum : Series minor ; 175. The Hague: Mouton.
- Dyen, Isidore, Joseph B. Kruskal and Paul Black. 1992. *An Indoeuropean classification: a lexicostatistical experiment*. Transactions of the American Philosophical Society, vol. 82.

- East, J.J. 1888-89. The Aborigines of South and Central Australia. *Proceedings of the Field Naturalist Section of the Royal Society (South Australia)*, 7.15-26.
- Evans, Nicholas. 1985. Kayardild: the language of the Bentinck Islanders of North West Queensland, Linguistics, Faculty of Arts, Australian National University: PhD.
- Evans, Nicholas. 1988. Arguments for Pama-Nyungan as a genetic subgroup, with particular reference to initial laminalization. in Evans, Nicholas and Steve Johnson (eds.), 91-110.
- Evans, Nicholas. 1990a. A draft dictionary of Gun-djeihmi. ms.
- Evans, Nicholas. 1990b. The Minkin language of the Burketown region. in O'Grady, Geoffrey and D.T. Tryon (eds.), 173-207.
- Evans, Nicholas. 1990c. Without this child - some regularities of semantic change in the Australian linguistic area. in Austin, Peter, R.M.W. Dixon, Tom Dutton and Isobel White (eds.), 137-55.
- Evans, Nicholas. 1992. Multiple semiotic systems, hyperpolysemy and the reconstruction of semantic change in Australian languages. *Diachrony within synchrony: language history and cognition*, ed. by Kellermann, Guenter and Michael D. Morrissey. 475-508. Duisburger Arbeiten zur Sprach- und Kulturwissenschaft / Duisburg Papers on Research in Language and Culture 14. Frankfurt:: Peter Lang.
- Evans, Nicholas. 1995. *A grammar of Kayardild: with historical-comparative notes on Tangkic*. Mouton Grammar Library 15. Berlin / New York: Mouton de Gruyter.
- Evans, Nicholas. 1997. Macassan loans and linguistic stratification in western Arnhem Land. in McConvell, Patrick and Nicholas Evans (eds.), 237-60.
- Evans, Nicholas. 1998. Iwaidja mutation and its origins. in Siewierska, Anna and Jae Jung Song (eds.), 115-49.
- Evans, Nicholas. 2003. *Bininj Gun-wok: a pan-dialectal grammar of Mayali, Kunwinjku and Kune*. Pacific Linguistics 541. Canberra: Australian National University.
- Evans, Nicholas. in press. Introduction: comparative Non-Pama-Nyungan and Australian historical linguistics. in Evans, Nicholas (ed.), 2-24.
- Evans, Nicholas (ed.). in press. *The non-Pama-Nyungan languages of northern Australia: comparative studies of the continent's most linguistically complex region*. Pacific Linguistics. Canberra: Australian National University.
- Evans, Nicholas. n.d. Proto-Tangkic word list. ms.
- Evans, Nicholas and Steve Johnson (eds.). 1988. *Aboriginal Linguistics I*. Armidale, NSW: Department of Linguistics, University of New England.
- Evans, Nicholas and Rhys Jones. 1997. The cradle of the Pama-Nyungans: archaeological and linguistic speculations. in McConvell, Patrick and Nicholas Evans (eds.), 385-417.
- Eyre, Edward John. 1845. Manners and customs of the Aborigines of Australia.
- Fitzgerald, Susan A. 1997. Velar-initial etyma and issues in comparative Pama-Nyungan, Linguistics, University of Victoria: PhD.
- Foote, Tom and Allen Hall. 1992. *Kuuk Thaayorre dictionary: Thaayorre/English*. Brisbane: Jollen Press (for Pormpuraaw Community and School).
- Fox, Anthony. 1995. *Linguistic reconstruction: an introduction to theory and method*. Oxford Textbooks in Linguistics. Oxford: Oxford University Press.
- Gibson, E. 1951. Culture contact on Sunday Island, University of Sydney: MA.

- Goddard, Cliff. 1985. *A grammar of Yankunytjatjara*. Alice Springs, N.T.: Institute for Aboriginal Development.
- Goddard, Cliff (ed.). 1987. *A basic Pitjantjatjara/Yankunytjatjara to English dictionary*. Alice Springs, N.T.: Institute for Aboriginal Development.
- Goddard, Cliff (ed.). 1992. *Pitjantjatjara/Yankunytjatjara to English dictionary*. Alice Springs, N.T.: Institute for Aboriginal Development.
- Goddard, Ives. 1979. Comparative Algonquian. *The languages of Native America: historical and comparative Assessment*, ed. by Campbell, Lyle and Marianne Mithun. 70-132. Austin: University of Texas Press.
- Green, Ian. 1989. Marrithiyel: a language of the Daly River region of Australia's Northern Territory, Linguistics, Australian National University: PhD.
- Green, Ian. 1994a. The Western Daly languages. ms.
- Green, Ian. 1995. The death of 'prefixing': contact-induced typological change in northern Australia. *Berkeley Linguistic Society*, 21.414-25.
- Green, Ian. in press-a. The genetic status of Murrinh-patha. in Evans, Nicholas (ed.).
- Green, Jennifer. 1998. Kin and country: Aspects of the use of kinterms in Arandic languages, Linguistics and Applied Linguistics, University of Melbourne: MA.
- Green, Jennifer (ed.). 2001. 'Both sides of the bitumen': Ken Hale remembering 1959. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 29-43.
- Green, Jennifer and Myfany Turpin. 2001. Common sense: continuing in the comparative tradition. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 89-111.
- Green, Jenny. 1994b. *A learner's guide to Eastern and Central Arrernte*. Alice Springs, N.T.: IAD Press.
- Green, Jenny (ed.). 1992. *Yawarr to English dictionary*. Alice Springs, N.T.: Institute for Aboriginal Development.
- Green, Rebecca. in press-b. Proto Maningrida within Proto Arnhem: evidence from verbal inflectional suffixes. in Evans, Nicholas (ed.).
- Grey, Sir George. 1841. *Journals of two expeditions of discovery in NorthWest and Western Australia, during the years 1837, 38 and 39... with observations on the moral and physical condition of the Aboriginal inhabitants...* London: Boone.
- Griffiths, Tom and Alan Platt (eds.). 1988. *The life and adventures of Edward Snell: the illustrated diary of an artist, engineer and adventurer in the Australian colonies 1849 to 1859*. North Ryde, NSW: Angus and Robertson and The Library Council of Victoria.
- Grimes, Barbara F. (ed.). 1988. *Ethnologue, languages of the world*. Dallas: Summer Institute of Linguistics.
- Hack, Bedford, with Coonia. 1879. The Mount Remarkable tribe. in Taplin, George (ed.), 142-53.
- Hale, Kenneth. 1960. Other Paman. AIATSIS pMS 741. ms.
- Hale, Kenneth. 1961. Vocabularies and cognation judgments for 30 Cape York Peninsula languages.
- Hale, Kenneth. 1962. Internal relationships in Arandic of Central Australia. in Capell, Arthur (ed.), 171-83.

- Hale, Kenneth. 1964. Classification of Northern Paman languages, Cape York Peninsula, Australia: a research report. *Oceanic Linguistics*, 3.248-64.
- Hale, Kenneth. 1966a. Kinship reflections in syntax: some Australian examples. *Word*, 22.318-24.
- Hale, Kenneth. 1966b. The Paman group of the Pama-Nyungan phylic family: Appendix to XXIX [in O'Grady, Voegelin and Voegelin]. *Anthropological Linguistics*, 8.162-97.
- Hale, Kenneth. 1971. A note on a Walbiri tradition of antonymy. *Semantics: an interdisciplinary reader in philosophy, linguistics and psychology*, ed. by Steinberg, Danny and Leon A. Jakobovits. 472-82. Cambridge: Cambridge University Press.
- Hale, Kenneth. 1976a. On ergative and locative suffixial alternations in Australian languages. in Dixon, R.M.W. (ed.), 414-17.
- Hale, Kenneth. 1976b. Phonological developments in a Northern Paman language: Uradhi. in Sutton, Peter (ed.), 41-49.
- Hale, Kenneth. 1976c. Phonological developments in particular Northern Paman languages. in Sutton, Peter (ed.), 7-40.
- Hale, Kenneth. 1976d. Wik reflections of Middle Paman phonology. in Sutton, Peter (ed.), 50-60.
- Hale, Kenneth. 1982. Review of J.G. Breen, The Mayi languages of the Queensland Gulf country. *Anthropological Linguistics*, 24.372-76.
- Hale, Kenneth. 1984. Remarks on creativity in Aboriginal verse. *Problems and solutions: occasional essays in musicology presented to Alice M. Moyle*, ed. by Kassler, J. and J. Stubington. 254-62. Sydney: Hale & Iremonger.
- Hale, Kenneth. n.d. Arandic word list. Cambridge, MA. ms.
- Hale, Kenneth and David Nash. 1997. Damin and Lardil phonotactics. in Tryon, Darrell and Michael Walsh (eds.), 247-59.
- Hall, Allen. 1968. A depth-study of the Thaayorr language of the Edward River tribe, Cape York Peninsula, University of Queensland: MA.
- Hamilton, Philip. 1996. Phonetic constraints and markedness in the phonotactics of Australian Aboriginal languages, University of Toronto: PhD.
- Hansen, K.C. and L.E. Hansen. 1992. *Pintupi/Luritja dictionary*. Alice Springs, N.T.: Institute for Aboriginal Development.
- Harris, Barbara P. and Geoffrey N. O'Grady. 1976. An analysis of the progressive morpheme in Umpila verbs: a revision of a former attempt. in Sutton, Peter (ed.), 165-212.
- Harrison, S.P. 2003. On the limits of the comparative method. in Joseph, Brian D. and Richard D. Janda (eds.), 213-43.
- Harvey, Mark. 1997a. Head and agreement classes: an areal perspective. in Harvey, Mark and Nicholas Reid (eds.), 147-64.
- Harvey, Mark. 1997b. The temporal interpretation of linguistic diversity in the Top End. in McConvell, Patrick and Nicholas Evans (eds.), 179-85.
- Harvey, Mark. 2002. Proto-Mindi. Newcastle. ms.
- Harvey, Mark. in press-a. The evolution of object enclitic paradigms in the Eastern Daly language family. in Evans, Nicholas (ed.).

- Harvey, Mark. in press-b. An initial reconstruction of Proto Gunwinyguan phonology. in Evans, Nicholas (ed.).
- Harvey, Mark. in press-c. Reconstruction of pronominals among the Non-Pama-Nyungan languages. in Evans, Nicholas (ed.).
- Harvey, Mark. in press-d. Western Gunwinyguan. in Evans, Nicholas (ed.).
- Harvey, Mark, Ian Green and Rachel Nordlinger. to appear. Morphological reconstruction: the case of Proto-Mirndi. ms.
- Harvey, Mark and Nicholas Reid (eds.). 1997. *Nominal classification in Aboriginal Australia*. Amsterdam and Philadelphia: John Benjamins.
- Harvey, Paul H. and Mark D. Pagel. 1991. *The comparative method in evolutionary biology*. Oxford series in ecology and evolution ; 1. Oxford ; New York: Oxford University Press.
- Haspelmath, Martin. 1993. The diachronic externalization of inflection. *Linguistics*, 31.279-309.
- Haviland, John. 1979. Guugu Yimidhirr. in Dixon, R.M.W. and Barry J. Blake (eds.), 26-180.
- Heath, Jeffrey. 1974. Dalabon fieldnotes. Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies. ms.
- Heath, Jeffrey. 1978a. *Linguistic diffusion in Arnhem Land*. Canberra: Australian Institute of Aboriginal Studies.
- Heath, Jeffrey. 1978b. *Ngandi grammar, texts and dictionary*. Canberra: Australian Institute of Aboriginal Studies.
- Heath, Jeffrey. 1980a. *Basic materials in Ritharngu: Grammar, texts and dictionary*. Pacific Linguistics B-62. Canberra: Australian National University.
- Heath, Jeffrey. 1980b. *Dhuwal (Arnhem Land) texts on kinship and other subjects with grammatical sketch and dictionary*. Oceania Linguistic Monographs 23. Sydney: University of Sydney.
- Heath, Jeffrey. 1984. *Functional grammar of Nunggubuyu*. Canberra: Australian Institute of Aboriginal Studies.
- Heath, Jeffrey. 1987. Story of *-n-: *CV- vs *CV-n- noun class prefixes in Australian languages. in Laycock, D.C. and Werner Winter (eds.), 233-43.
- Heath, Jeffrey. 1990. Verbal inflection and macro-subgroupings of Australian languages: the search for conjugation markers in non-Pama-Nyungan. in Baldi, Philip (ed.), 403-17.
- Heath, Jeffrey. 1991. Pragmatic disguise in pronominal-affix paradigms. *Paradigms: the economy of inflection*, ed. by Plank, Frans. 75-89. Berlin: Mouton de Gruyter.
- Heath, Jeffrey. 1997. Lost wax: abrupt replacement of key morphemes in Australian agreement complexes. *Diachronica*, 14.197-232.
- Heath, Jeffrey. 2002. Review of Forty Years On: Ken Hale and Australian Languages (Jane Simpson, David Nash, Mary Laughren, Peter Austin, and Barry Alpher, eds.). *Anthropological Linguistics*, 44.200-01.
- Heath, Jeffrey, Francesca Merlan and Alan Rumsey (eds.). 1982. *Languages of kinship in Aboriginal Australia*. Oceania Linguistic Monographs 24. Sydney: University of Sydney.

- Heffernan, John A. 1984. *Pintupi Luritja language notes*. Papunya, N.T.: Papunya Literature Production Centre.
- Henderson, John. 1997. Topics in Eastern and Central Arrernte, Centre for Linguistics, University of Western Australia: PhD.
- Henderson, John and Veronica Dobson (eds.). 1994. *Eastern and Central Arrernte to English dictionary*. Alice Springs N.T.: Institute for Aboriginal Development.
- Hendrie, Timothy R. 1990. Initial apicals in Nuclear Pama-Nyungan. in O'Grady, Geoffrey and D.T. Tryon (eds.), 15-77.
- Hercus, Luise. 1972. The prestopped nasal and lateral consonants of Arabana-Wanganguru. *Anthropological Linguistics*, 14.293-305.
- Hercus, Luise. 1979. In the margins of an Arabana-Wanganguru dictionary: the loss of initial consonants. in Wurm, S.A. (ed.), 621-51.
- Hercus, Luise. 1982. *The Baagandji language*. Pacific Linguistics B-67. Canberra: Australian National University.
- Hercus, Luise. 1987. Ned Palpalinha, the last Wadikali. Canberra: ANU. ms.
- Hercus, Luise. 1992. *A Nukunu dictionary*. Canberra: Luise Hercus with the assistance of the Australian Institute of Aboriginal and Torres Strait Islander Studies.
- Hercus, Luise. 1993. *Paakantyi dictionary*. Canberra: Luise Hercus with the assistance of the Australian Institute of Aboriginal and Torres Strait Islander Studies.
- Hercus, Luise. 1994. *A grammar of the Arabana-Wangkangurru language of the Lake Eyre Basin, South Australia*. Pacific Linguistics C-128. Canberra: Australian National University.
- Hercus, Luise. 1999. *A grammar of Wirangu, a language of the west coast of South Australia*. Pacific Linguistics C-150. Canberra: Australian National University.
- Hercus, Luise. 2001. Language and groupings of Wangkumara and Punthamara people. ms.
- Hercus, Luise. n.d.-a. Kuyani dictionary: unpublished electronic dictionary, based on fieldwork. ms.
- Hercus, Luise. n.d.-b. Yardliyawara fieldnotes. ms.
- Hercus, Luise and Grace Koch. 1996. 'A native died sudden at Lake Allalina'. *Aboriginal History*, 20.133-50.
- Hercus, Luise and Jane Simpson. 1996. Wirangu, Western Desert and Thura-Yura. Paper presented at a workshop 'Where did the Western Language come from?', Australian Linguistic Institute, Australian National University, Canberra, 10 July 1996. ms.
- Hercus, Luise and Jane Simpson. 2001. The tragedy of Nauo. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 263-90.
- Hercus, Luise and Isobel M. White. 1973. [Note on B. Schebeck: The Adnyamathanha personal pronoun and the Wailpi kinship system, 42-43.
- Hetzron, Robert. 1976. Two principles of genetic reconstruction. *Lingua*, 38.89-108.
- Hey, Jody. 2001. *Genes, categories, and species: the evolutionary and cognitive causes of the species problem*. Oxford ; New York: Oxford University Press.
- Hosokawa, Komei. 1991. Meaning in Yawuru: a semantically oriented description of an indigenous language of the Kimberley region, Western Australia, Linguistics, Australian National University: PhD.

- Hosokawa, Komei. n.d. Yawuru dictionary. Canberra: AIATSIS. ms.
- Hudson, Joyce. 1978. *The core of Walmatjari grammar*. Canberra: Australian Institute of Aboriginal Studies.
- Hudson, Joyce and Patrick McConvell. 1984. *Keeping language strong: report of the Pilot Study for the Kimberley Language Resource Centre (long version)*. Halls Creek, Western Australia: Kimberley Language Resource Centre.
- Hynes, B. n.d. Letters from B. Hynes of Tibooburra Police Station to R.H. Mathews. Sydney: Elkin Papers, Fisher Library Archives. ms.
- Johnson, Edward. 1992. Karajarri sketch grammar, Linguistics, University of Sydney: BA (Hons).
- Johnson, J. Howard. 1930-31. The native tongue: a valuable vocabulary. *The pioneer: southern Yorke Peninsula*. Dec. 26, 1930, Jan. 9, 1931; Jan. 16, 1931.
- Joseph, Brian D. and Richard D. Janda (eds.). 2003. *The handbook of historical linguistics*. Blackwell Handbooks in Linguistics. Malden MA: Blackwell.
- Keen, Sandra. 1983. Yukulta. in Dixon, R.M.W. and Barry J. Blake (eds.), 190-304.
- Kempe, H. 1891. A grammar and vocabulary of the language of the Aborigines of the MacDonnell Ranges. *Transactions of the Royal Society of South Australia*, 14.1-51.
- Kerr, Nora. n.d. Kimberley comparative wordlists. ms.
- Kirton, Jean. 1978. Yanyuwa verbs, 1-52.
- Kirton, Jean and Bella Charlie. 1996. *Further Aspects of the grammar of Yanyuwa, Northern Australia*. Pacific Linguistics C-131. Canberra: Australian National University.
- Klokeid, Terry J. 1969. *Thargari phonology and morphology*. Pacific Linguistics B-12. Canberra: Australian National University.
- KLRC. 1999. *Thangani Bunuba*. Halls Creek, W.A.: Kimberley Language Resource Centre.
- Koch, Catherine. 1989. A problem of subgrouping: four Australian languages of the Queensland and Northern Territory border area, Linguistics, La Trobe University: B.A. (Hons).
- Koch, Harold. 1982. Kinship categories in Kaytej pronouns. in Heath, Jeffrey, Francesca Merlan and Alan Rumsey (eds.), 64-71.
- Koch, Harold. 1984. The category of 'associated motion' in Kaytej. *Language in Central Australia*, 1.23-34.
- Koch, Harold. 1990. Do Australian languages really have morphemes? Issues in Kaytej morphology. in Austin, Peter, R.M.W. Dixon, Tom Dutton and Isobel White (eds.), 193-208.
- Koch, Harold. 1995. The creation of morphological zeroes. in Booij, Geert and Jaap van Marle (eds.), 31-71.
- Koch, Harold. 1996. Reconstruction in morphology. in Durie, Mark and Malcolm Ross (eds.).
- Koch, Harold. 1997a. Comparative linguistics and Australian prehistory. in McConvell, Patrick and Nicholas Evans (eds.), 27-43.

- Koch, Harold. 1997b. Morphological changes in Arandic pronouns. Canberra: Paper presented to the 13th International Conference on Historical Linguistics, Duesseldorf, 10-17 August 1997. ms.
- Koch, Harold. 1997c. Pama-Nyungan reflexes in the Arandic languages. in Tryon, Darrell and Michael Walsh (eds.), 271-302.
- Koch, Harold. 2001. Basic vocabulary of the Arandic languages: from classification to reconstruction. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 71-87.
- Koch, Harold. 2003. Morphological reconstruction as an etymological method. in Blake, Barry J. and Kate Burridge (eds.), 271-91.
- Koch, Harold. in press. The case for Pama-Nyungan: evidence from inflectional morphology. Proceedings of the 17th International Congress of Linguists, Prague.
- Koch, Harold. n.d. Particles and proto-paradigms: Extending the catchment area for the reconstruction of pronominal inflection.: Paper presented at the Australian Linguistics Society, Newcastle University, 26-28 September 2003. ms.
- Koch, Harold and Jane Simpson. 1995. Grammaticalisation of motion in Australian languages. Canberra: Paper presented to the Australian Linguistic Society Annual Meeting, Canberra, 25 September 1995. ms.
- Kofod, Frances. 1978. The Miriwung language (East Kimberley): a phonological and morphological study, University of New England: MA.
- Kowanyama Aboriginal Community, with Philip Hamilton. 1997. Uw Oykangand and Uw Olkola multimedia dictionary: Electronic document found at <<http://www.geocities.com/Athens/Delphi/2970/index.html>>.
- Kruskal, Joseph B., I. Dyen and P. Black. 1973. Some results from the vocabulary method of reconstructing language trees. *Lexicostatistics in genetic linguistics*, ed. by Dyen, I. 30-55. The Hague: Mouton.
- Kühn, Wilhelm and W. Fowler. 1886. No. 67 Yorke's Peninsula, South Australia. in Curr, Edward M. (ed.), 160-61.
- Laffan, Kate. 2003. Reconstruction of the Wakka-Kabic languages of south-eastern Queensland, School of Language Studies, ANU: BA(Hons).
- Lass, Roger. 1997. *Historical linguistics and language change*. Cambridge Studies in Linguistics 81. Cambridge: Cambridge University Press.
- Laves, Gerhardt. n.d. Field notebooks: Bardi, Jawi, Karajari and other languages. Canberra: AIATSIS. ms.
- Laycock, Donald C. and Werner Winter (eds.). 1987. *A world of language: papers presented to Professor S.A. Wurm on his 65th birthday*. Canberra: Australian National University.
- LeBrun, S. 1886. No. 66: Port Pirie, forty miles east of...[?]. in Curr, Edward M. (ed.), 140.
- Love, J. R. B. 2000. *The grammatical structure of the Worora language of North-Western Australia*. LINCOM Studies in Australian Languages 04. München: LINCOM Europa.
- Mathews, R.H. 1898. The group divisions and initiation ceremonies of the Barkunjee tribes. *Journal of the Royal Society of New South Wales*, 32.241-155.
- Mathews, R.H. 1907. The Arran'da language, Central Australia. *Proceedings of the American Philosophical Society*, 46.322-39.

- Matthews, P.H. 1991. *Morphology*. Cambridge Textbooks in Linguistics. Cambridge: Cambridge University Press.
- McConvell, Patrick. 1980. Hierarchical variation in pronominal clitic attachment in the Eastern Ngumbin languages. in Rigsby, Bruce and Peter Sutton (eds.), 31-117.
- McConvell, Patrick. 1988. Nasal cluster dissimilation and constraints on phonological variables in Gurindji and related languages. in Evans, Nicholas and Steve Johnson (eds.), 135-65.
- McConvell, Patrick. 1990. The linguistic prehistory of Australia: opportunities for dialogue with archaeology. *Australian Archaeology*, 31.3-27.
- McConvell, Patrick. 1997. Long-lost relations: Pama-Nyungan and Northern kinship. in McConvell, Patrick and Nicholas Evans (eds.), 207-35.
- McConvell, Patrick. 2002. Linguistic stratigraphy and native title: The case of ethnonyms. *Linguistics and native title*, ed. by Henderson, John and David Nash. 261-92. Canberra: Aboriginal Studies Press.
- McConvell, Patrick. forthcoming. Grammaticalisation of demonstratives as subordinate clause complementisers in Ngumpin-Yapa. *Australian Journal of Linguistics*.
- McConvell, Patrick and Nicholas Evans (eds.). 1997. *Archaeology and linguistics: Aboriginal Australia in global perspective*. Melbourne: Oxford University Press.
- McConvell, Patrick and Michael Smith. 2003. Millers and mullers: the archaeo-linguistic stratigraphy of technological change in Holocene Australia. *Language contacts in prehistory: studies in stratigraphy*, ed. by Andersen, Henning. 177-200. Amsterdam / Philadelphia: John Benjamins.
- McEntee, John and Pearl McKenzie. 1992. *Adynya-math-nha English dictionary*. Adelaide: The authors.
- McEntire, Edward. 1879. The Wallaroo tribe, Yorkes' Peninsula. in Taplin, George (ed.), 142-53 and 61.
- McGregor, William. 1988a. Handbook of Kimberley languages Vol. 2. ms.
- McGregor, William. 1988b. *Handbook of Kimberley languages volume 1: General information*. Canberra: Pacific Linguistics C-105.
- McGregor, William. 1994. *Warrwa*. Languages of the world materials 89. München: Lincom Europa.
- McGregor, William. 1996a. The grammar of nominal prefixing in Nyulnyul. in McGregor, William and Hilary Chappell (eds.), 251-92.
- McGregor, William. 1996b. *Nyulnyul*. Languages of the world materials 88. München: Lincom Europa.
- McGregor, William. 2002. *Verb classification in Australian languages*. Empirical Approaches to Language Typology 25. Berlin: Mouton de Gruyter.
- McGregor, William. n.d. Field notes. ms.
- McGregor, William (ed.). 1988c. *Handbook of Kimberley languages Vol. 1: General information*. Pacific Linguistics C-105. Canberra: Australian National University.
- McGregor, William (ed.). 1996. *Studies in Kimberley languages in honour of Howard Coate*. München: Lincom Europa.

- McGregor, William and Hilary Chappell (eds.). 1996. *The grammar of inalienability: a typological perspective on body part terms and part-whole relation*. Berlin: Mouton de Gruyter.
- McGregor, William and Bronwyn Stokes. in press. Classifying the Nyulnyulan languages. in Evans, Nicholas (ed.).
- McKay, Graham. 1975. Rembarnga: a language of Central Arnhem Land, Linguistics, Australian National University: PhD.
- McKay, Graham. 1978. Pronominal person and number categories in Rembarnga and Djeebbana. *Oceanic Linguistics*, 17.27-37.
- McKelson, Kevin. 1989a. Karajarri dictionary. Canberra: AIATSIS. ms.
- McKelson, Kevin. 1989b. Yuriparija dictionary. Canberra: AIATSIS. ms.
- McKelson, Kevin. n.d. Sketches: brief sketches of Karajarri, Mangarla and a few other languages of the area. ms.
- McKnight, David. 1999. *People, countries, and the rainbow serpent*. New York / Oxford: Oxford University Press.
- Meillet, Antoine. 1965. *Linguistique historique et linguistique générale*. Paris: Champion.
- Meillet, Antoine. 1967. *The comparative method in historical linguistics*. Paris: Champion.
- Menning, Kathy and David Nash. 1981. *Sourcebook for Central Australian Languages*. Alice Springs: Institute for Aboriginal Development.
- Merlan, Francesca. 1980. On the prehistory of some Australian verbs. *Oceanic Linguistics*, 18.33-112.
- Merlan, Francesca. 1983. *Ngalakan grammar, texts and vocabulary*. Pacific Linguistics B-89. Canberra: Australian National University.
- Merlan, Francesca. in press. The genetic position of Mangarrayi: evidence from nominal prefixation. in Evans, Nicholas (ed.).
- Merlan, Francesca. n.d. Jawoyn grammar, texts and dictionary. Canberra. ms.
- Metcalfe, C.D. 1975. *Bardi verb morphology (Northwestern Australia)*. Pacific Linguistics B-30. Canberra: Australian National University.
- Metcalfe, C.D. n.d. Bardi dictionary: draft, handwritten dictionary of c. 3000 items, based on author's field notes. ms.
- Meyer, Heinrich August Edward. 1843. *Vocabulary of the language spoken by the aborigines of the southern and eastern portions of the settled districts of South Australia*. Adelaide: James Allen.
- Milroy, James. 1992. *Linguistic variation and change : on the historical sociolinguistics of English*. Language in society ; 19. Oxford, UK ; Cambridge, USA: B. Blackwell.
- Milroy, Lesley. 1987. *Language and social networks*. Language in society ; 2. Oxford, UK ; New York, NY, USA: B. Blackwell.
- Moore, George Fletcher. 1884. *Diary of ten years eventful life of an early settler in Western Australia: and also a descriptive vocabulary of the language of the aborigines*. London: M. Walbrook.
- Moorhouse, Matthew. 1846. *A vocabulary and outlines of the grammatical structure of the Murray River language*. Adelaide: Andrew Murray.
- Morphy, Frances. 1983. Djapu, a Yolngu dialect. in Dixon, R.M.W. and Barry J. Blake (eds.), xxiv-188.

- Morris, William (ed.). 1969. *The American Heritage dictionary of the English language*. Boston: Houghton Mifflin.
- Morton, A.W. 1886. Vocabulary 69A: 'Near the north west corner of New South Wales'. in Curr, Edward M. (ed.), 160-61.
- Mufwene, Salikoko S. 2001. *The ecology of language evolution*. Cambridge Approaches to Language Contact. Cambridge: Cambridge University Press.
- Nash, David. 1979. Preliminary vocabulary of the Warlmanpa language. Cambridge, Mass.: Massachusetts Institute of Technology. ms.
- Nash, David. 1996. Pronominal clitic variation in the Yapa languages: some historical speculations. *Studies in Kimberley languages in honour of Howard Coate*, ed. by McGregor, William. 117-38. München: Lincom Europa.
- Nash, David. 2001. Bibliography of Ken Hale and Australian languages. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 1-18.
- Nekes, Hermann and Ernst Worms. 1953. *Australian languages, vol. 10*. Vienna: Microbibliotheka Anthropos.
- Nichols, Johanna. 1992. *Linguistic diversity in space and time*. Chicago: University of Chicago Press.
- Nichols, Johanna. 1996. The comparative method as heuristic. in Durie, Mark and Malcolm Ross (eds.), 39-71.
- Nicolas, Edith. 2000. The semantics of verbal classification in Bardi (Western Australia). *Australian Journal of Linguistics*, 20.157-77.
- Noble, Police-constable. 1879. The Flinders Range tribe. in Taplin, George (ed.), 142-53.
- Nordlinger, Rachel. 1991. Sketch grammar of Bilinara, Linguistics and Applied Linguistics, University of Melbourne: BA(Hons).
- Nordlinger, Rachel. 1998. *A grammar of Wambaya, Northern Territory*. Pacific Linguistics C-140. Canberra: Australian National University.
- Nordlinger, Rachel. 2001. Wambaya in motion. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 401-13.
- Oates, William, Lynette Oates, Hank Hershberger, Ruth Hershberger, Barbara Sayers and Marie Godfrey. 1964. *Gugu-Yalanji and Wik-Munkan studies*. Canberra: Australian Institute of Aboriginal Studies.
- O'Grady, Geoffrey. 1958. Narangga, from Mr J. Lang, Point Pearce. Field notes. ms.
- O'Grady, Geoffrey. 1960. More on lexicostatistics: Comments. *Current Anthropology*, 1.338-39.
- O'Grady, Geoffrey. 1966. Proto-Ngayarda phonology. *Oceanic Linguistics*, 5.71-130.
- O'Grady, Geoffrey. 1976. Umpila historical phonology. in Sutton, Peter (ed.), 61-67.
- O'Grady, Geoffrey. 1979. Preliminaries to a Proto Nuclear Pama-Nyungan stem list. in Wurm, S.A. (ed.), 107-39.
- O'Grady, Geoffrey. 1987. The origin of monosyllabic roots in Eastern Pama-Nyungan. in Laycock, Donald C. and Werner Winter (eds.), 517-29.
- O'Grady, Geoffrey. 1990a. Pama-Nyungan *m-, *j- and *k-. in O'Grady, Geoffrey and D.T. Tryon (eds.), 79-103.
- O'Grady, Geoffrey. 1990b. Pama-Nyungan semantics: *brain, egg and water*. in O'Grady, Geoffrey and D.T. Tryon (eds.), 11-14.

- O'Grady, Geoffrey. 1990c. Pama-Nyungan: the tip of the lexical iceberg. in O'Grady, Geoffrey and D.T. Tryon (eds.), 209-59.
- O'Grady, Geoffrey. 1990d. Wadjuk and Umpila: a long-shot approach to Pama-Nyungan. in O'Grady, Geoffrey and D.T. Tryon (eds.), 1-10.
- O'Grady, Geoffrey. 1998. Toward a Proto-Pama-Nyungan stem list, Part I: sets J1-J25. *Oceanic Linguistics*, 37.209-33.
- O'Grady, Geoffrey. 2001. Two southern Australian vocabularies: Parnkalla (Barngarla) and Karlamayi. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 291-303.
- O'Grady, Geoffrey. n.d.-a. Mirniny wordlist (509 entries). Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies: ASEDA no. 0070. ms.
- O'Grady, Geoffrey. n.d.-b. Pama-Nyungan cognate lists. ms.
- O'Grady, Geoffrey and Susan Fitzgerald. 1995. Triconsonantal sequences in the Pama-Nyungan language family. *Oceanic Linguistics*, 34.454-71.
- O'Grady, Geoffrey and Susan Fitzgerald. 1997. Cognate search in the Pama-Nyungan language family. in McConvell, Patrick and Nicholas Evans (eds.), 341-55.
- O'Grady, Geoffrey and T. Klokeid. 1969. Australian linguistic classification: a plea for coordination of effort. *Oceania*, 39.298-311.
- O'Grady, Geoffrey and Mary Laughren. 1997. Palyku is a Ngayarta language. *Australian Journal of Linguistics*, 17.129-54.
- O'Grady, Geoffrey and D.T. Tryon (eds.). 1990. *Studies in comparative Pama-Nyungan*. Pacific Linguistics C-111. Canberra: Australian National University.
- O'Grady, Geoffrey, C.F. Voegelin and F.M. Voegelin. 1966. Languages of the world: Indo-Pacific fascicle 6. *Anthropological Linguistics*, 8.1-199.
- O'Grady, Geoffrey, Stephen A. Wurm and Kenneth L. Hale. 1966. Aboriginal languages of Australia (a preliminary classification). Victoria, B.C.: Department of Linguistics, University of Victoria.
- Patz, Elisabeth. 1991. Djabugay. in Dixon, R.M.W. and Barry J. Blake (eds.), 245-347.
- Peile, Anthony. n.d.-a. Jabirr-Jabirr. ms.
- Peile, Anthony. n.d.-b. Nimanburu (audio tape)
- Peiros, Ilia. 2002. Is Gunwinyguan a language family? Melbourne. ms.
- Pensalfini, Rob. 2001. On the typological and genetic affiliation of Jingulu. in Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.), 385-99.
- Pensalfini, Robert. 1997. Jingulu grammar, dictionary and texts, Linguistics, MIT: PhD.
- Pensalfini, Robert. 2003. *A grammar of Jingulu, an Aboriginal language of the Northern Territory*. Pacific Linguistics 536. Canberra: Australian National University.
- Planert, W. 1907. Australische Forschungen, I: Aranda-Grammatik. *Zeitschrift für Ethnologie*, 39.551-66.
- Platt, John. 1970. Some notes on Gugada and Wirangu. *Linguistic trends in Australia*, ed. by Laycock, Donald. 59-63. Canberra: Australian Institute of Aboriginal Studies.
- Platt, John. 1972. *An outline grammar of the Gugada dialect: South Australia*. Canberra: Australian Institute of Aboriginal Studies.
- Reid, J.A. 1886. Vocabulary 73: Torrowotto. in Curr, Edward M. (ed.), 178-81.

- Renfrew, Colin. 1994. World linguistic diversity. *Scientific American*, 270 (January).116-23.
- Richards, Eirlys and Joyce Hudson. 1990. *Walmatjarri-English dictionary: with English finderlist*. Darwin: Summer Institute of Linguistics.
- Rigsby, Bruce. 1976. Kuku-Thaypan descriptive and historical phonology. in Sutton, Peter (ed.), 68-77.
- Rigsby, Bruce and Peter Sutton (eds.). 1980. *Papers in Australian linguistics no. 13: contributions to Australian linguistics*. Pacific Linguistics A-59. Canberra: Australian National University.
- Ross, Malcolm. 1988. *Proto Oceanic and the Austronesian languages of western Melanesia*. Pacific Linguistics C-98. Canberra: Australian National University.
- Ross, Malcolm. 1997. Social networks and kinds of speech-community event. *Archaeology and language I: theoretical and methodological orientations*, ed. by Blench, Roger and Matthew Spriggs. 209-61. London / New York: Routledge.
- Ross, Malcolm. 1998. Sequencing and dating linguistic events in Oceania: the linguistics/archaeology interface. vol. 2. *Archaeology and Language*, ed. by Blench, Roger and Matthew Spriggs. 141-73. London: Routledge.
- Ross, Malcolm. 2001. Contact-induced change in Oceanic languages in north-west Melanesia. in Aikhenvald, Alexandra Y. and R.M.W. Dixon (eds.), 134-66.
- Roth, Walter E. 1897. *Ethnological studies among the north-west-central Queensland Aborigines*. Brisbane: Government Printer.
- Ruhlen, Merritt. 1976. *A guide to the languages of the world*. Stanford, Calif.: Merritt Ruhlen.
- Rumsey, Alan. 1982. *An intra-sentence grammar of Ungarinjin, north-western Australia*. Pacific Linguistics B-86. Canberra: Australian National University.
- Rumsey, Alan. 2000. Bunuba. in Dixon, R.M.W. and Barry J. Blake (eds.), 1-153.
- Sands, Kristina. 1989. A grammar of Karajarri, Linguistics, Australian National University: BA(Hons).
- Sands, Kristina. 1995. Nominal classification in Australia. *Anthropological linguistics*, 37.247-346.
- Sands, Kristina. 1996. *The ergative in Proto-Australian*. Studies in Australian Languages, vol. 1. München: Lincom Europa.
- Schebeck, B. 1973. The Adnjamathanha personal pronoun and the 'Wailpi kinship system', 1-45.
- Schebeck, B. 1974. *Texts on the social system of the Atynyamathanha people with grammatical notes*. Pacific Linguistics D-21. Canberra: Australian National University.
- Schebeck, Bernhard. 1987. A brief note on Yardliyawara. Melbourne: La Trobe University. ms.
- Schebeck, Bernhard. 2000a. An Atynyamathanha-English "research dictionary", Version 0.02. Port Augusta, S.A. ms.
- Schebeck, Bernhard. 2000b. Yura combined dictionary. ms.
- Schmidt, Wilhelm. 1908. On the classification of the Australian languages. *Man*, 8.184-85.

- Schmidt, Wilhelm. 1919a. *Die Gliederung der australischen Sprachen*. Vienna: Mecharisten-Buchdruckerei. [Translation by D. Clark, 1972. Canberra: Australian Institute for Aboriginal Studies. ms.].
- Schmidt, Wilhelm. 1919b. *Die Personalpronomina in den australischen Sprachen*. Akademie der Wissenschaften in Wien, Philosophische-historische Klasse, Denkschriften, 64. Band, 1. Abhandlung. Vienna: Alfred Hölder.
- Schmidt, Wilhelm. 1972. Classification of the Australian languages, translated by D. Clark. Canberra: Australian Institute of Aboriginal Studies. ms.
- Schönig, Claus. 1997a. A new attempt to classify the Turkic languages (1). *Turkic Languages*, 1.108-60.
- Schönig, Claus. 1997b. A new attempt to classify the Turkic languages (2). *Turkic Languages*, 1.262-98.
- Schönig, Claus. 1998. A new attempt to classify the Turkic languages (3). *Turkic Languages*, 2.130-51.
- Schultze-Berndt, Eva. 1998. Making sense of complex verbs: generic verb meaning and the argument structure of complex predicates in Jaminjung. Paper prepared for the Workshop on "Cross-linguistic perspectives on argument structure: Implications for learnability", June 26-29 1998, Max Planck Institute for Psycholinguistics, Nijmegen. ms.
- Schultze-Berndt, Eva. 2000. *Simple and complex verbs in Jaminjung: a study of event categorisation in an Australian language*. Max Planck Institute Series in Psycholinguistics 14. Nijmegen: E. Schultze-Berndt.
- Schürmann, Clamor W. 1844. *A vocabulary of the Parnkalla language: Spoken by the natives inhabiting the western shores of Spencer's Gulf. To which is prefixed a collection of grammatical rules, hitherto ascertained*. Adelaide: George Dehane.
- Sebeok, Thomas A. (ed.). 1971. *Current trends in linguistics Volume 8: Linguistics in Oceania*. The Hague: Mouton.
- Sharp, Janet. 1997. Nyangumarta pronouns. in Tryon, Darrell and Michael Walsh (eds.), 327-62.
- Siewierska, Anna and Jae Jung Song (eds.). 1998. *Case, typology and grammar: in honor of Barry J. Blake*. Typological Studies in Language 38. Amsterdam / Philadelphia: John Benjamins.
- Simpson, Jane. 1998. Warumungu (Australian - Pama-Nyungan). in Spencer, Andrew and Arnold M. Zwicky (eds.), 707-36.
- Simpson, Jane. 2001. Preferred word order and the grammaticalization of Associated Path. *Time over matter: diachronic perspectives on morphosyntax*, ed. by King, Miriam Butt and Tracy Holloway. 173-208. Studies in constraint-based lexicalism. Stanford: Centre for the Study of Language and Information.
- Simpson, Jane, David Nash, Mary Laughren, Peter Austin and Barry Alpher (eds.). 2001. *Forty years on: Ken Hale and Australian languages*. Pacific Linguistics 512. Canberra: Australian National University.
- Sommer, Bruce A. 1969. *Kunjen phonology: Synchronic and diachronic*. Pacific Linguistics, B-11. Canberra: Australian National University.

- Spencer, Baldwin and F.J. Gillen. 1899. *The native tribes of Central Australia*. London: Macmillan.
- Spencer, Baldwin and F.J. Gillen. 1904. *The northern tribes of Central Australia*. London: Macmillan.
- Spencer, Baldwin and F.J. Gillen. 1927. *The Arunta: A study of a Stone Age people*. London: Macmillan.
- Stokes, Bronwyn. 1982. A description of the Nyigina language of the Kimberley region of Western Australia. Linguistics, Australian National University: PhD.
- Stokes, Bronwyn. 1996. The top ten Nyulnyulan verb roots: further evidence for language classification. in McGregor, William (ed.), 175-87.
- Stokes, Bronwyn, Gladys Johnson and Lucy Marshall. n.d. A first Nyikina lexicon. ms.
- Strehlow, Carl. 1907-1920. *Die Aranda- und Loritja Stämme in Zentral-Australien*. Veröffentlichungen aus dem Städtischen Völker-Museum Frankfurt am Main. Frankfurt am Main: Joseph Baer.
- Sutton, Peter. 1976a. The diversity of initial-dropping languages in Southern Cape York. in Sutton, Peter (ed.), 102-23.
- Sutton, Peter. 1976b. Introduction. in Sutton, Peter (ed.), ix-xi.
- Sutton, Peter. 1976c. A note on Cape York laminals. in Sutton, Peter (ed.), 124-26.
- Sutton, Peter (ed.). 1976. *Languages of Cape York*. Research and Regional Studies No. 6. Canberra: Australian Institute of Aboriginal Studies.
- Swadesh, Morris. 1952. Lexicostatistic dating of prehistoric ethnic contacts. *Proceedings of the American Philosophical Society*, 96.152-63.
- Swadesh, Morris. 1959. The mesh principle in comparative linguistics. *Anthropological Linguistics*, 1.7-14.
- Tachon, Alphonse. 189x. Niolniol: handwritten manuscript, Beagle Bay. ms.
- Taplin, George. 1879. The folklore, manner, customs, and languages of the South Australian Aborigines. Adelaide: Government Printer.
- Teichelmann, Christian Gottlob. 1857. Dictionary of the Adelaide dialect. South African Public Library. ms.
- Teichelmann, Christian Gottlob. 1858. Of the verb. South African Public Library. ms.
- Teichelmann, Christian Gottlob and Clamor W. Schürmann. 1840. *Outlines of a grammar, vocabulary, and phraseology of the Aboriginal language of South Australia, spoken by the natives in and for some distance around Adelaide*. Adelaide: Thomas and Co. [Reprinted in facsimile, 1982, by Tjintu Books, Largs Bay, Adelaide].
- Terrill, Angela. 1998. *Biri*. Languages of the world/ materials 258. München: Lincom Europa.
- Thomason, Sarah. 2000. Linguistic areas and language history. *Languages in Contact*, ed. by Gilbers, Dicky, John Nerbonne and Jos Schaecken. 311-27. Amsterdam: Rodopi.
- Thomason, Sarah and Terrence Kaufman. 1988. *Language contact, creolization, and genetic linguistics*. Berkeley: University of California Press.
- Thompson, David. 1976. A phonology of Kuuku-Ya'u. in Sutton, Peter (ed.), 213-35.
- Thompson, David. 1986. The story of Old Paddy (Umpila story told by Billy Clarmont and Charlie Omeenyo). *This is what happened: historical narratives by Aborigines*, ed. by

- Hercus, Luise and Peter Sutton. 193-204. Canberra: Australian Institute of Aboriginal Studies.
- Tindale, Norman. 1934. *Diamantina Journal*. ms.
- Tindale, Norman. 1935-36. Notes on the Karna or Adelaide Tribe and the natives of Yorke Peninsula and the Middle North of South Australia. South Australian Museum: Adelaide. ms.
- Tindale, Norman. 1936. Notes on the natives of the southern portion of Yorke Peninsula, South Australia. *Transactions of the Royal Society of South Australia*, 60.55-69.
- Tindale, Norman. 1940. Distribution of Australian Aboriginal tribes: a field survey. *Transactions of the Royal Society of South Australia*, 64.140-231.
- Tindale, Norman. 1974. *Aboriginal tribes of Australia: their terrain, environmental controls, distribution, limits, and proper names (with an appendix on Tasmanian tribes by Rhys Jones)*. Berkeley: University of California Press.
- Tindale, Norman. n.d. Nukunu wordlist. in possession of Luise Hercus. ms.
- Tunbridge, Dorothy. 1991. *The story of the Flinders Ranges mammals*. Kenthurst, N.S.W.: Kangaroo Press.
- Tryon, Darrell. 1970. *An introduction to Maranungku (northern Australia)*. Pacific Linguistics B-15. Canberra: Australian National University.
- Tryon, Darrell. 1974. *Daly family languages, Australia*. Pacific Linguistics C-32. Canberra: Australian National University.
- Tryon, Darrell and Michael Walsh (eds.). 1997. *Boundary rider: essays in honour of Geoffrey O'Grady*. Pacific Linguistics C-136. Canberra: Australian National University.
- Tsunoda, Tasaku. 1981. *The Djaru language of Kimberley, Western Australia*. Pacific Linguistics B-78. Canberra: Australian National University.
- Turpin, Myfany. 2000. *A learner's guide to Kaytetye*. Alice Springs: IAD Press.
- Utemorrhah, Daisy. 2001. *I was born at Kunmunya, and other stories*. Halls Creek, Western Australia: Kimberley Language Resource Centre.
- Valentine, J.C. 1886. Vocabulary no. 65: Mount Remarkable. in Curr, Edward M. (ed.), 138.
- Valiquette, Hilaire (ed.). 1993. *A basic Kukatja to English dictionary*. Balgo, W.A.: Luurnpa Catholic School.
- Voegelin, C.F. and F.M. Voegelin. 1977. *Classification and index of the world's languages*. Foundations of Linguistics. New York: Elsevier.
- Walsh, M.J. and S.A. Wurm. 1981. Maps of Australia and Tasmania. *Language atlas of the Pacific area. Part 1: New Guinea area, Oceania, Australia*, ed. by Wurm, S.A. and S. Hattori. Maps 20-23. Canberra: Australian Academy of the Humanities.
- Walsh-Dickey, Laura. 1995. The phonology of liquids, University of Massachusetts, Amherst: PhD.
- Watkins, Calvert. 1966. Italo-Celtic revisited. *Ancient Indo-European dialects*, ed. by Birnbaum, Henrik and Jaan Puhvel. 29-50. Berkeley & Los Angeles: University of California Press.

- Watkins, Calvert. 1997. La linguistique comparée en 1997: quelques réflexions. in B. Caron (ed). *Proceedings of the 16th International Congress of Linguists*. Oxford: Pergamon. CD-Rom. 0010.
- Watkins, Calvert. 2001. An Indo-European linguistic area and its characteristics: ancient Anatolia. Areal diffusion as a challenge to the comparative method? in Aikhenvald, Alexandra Y. and R.M.W. Dixon (eds.), 44-63.
- Wilkins, David. 1989. *Mparntwe Arrernte: studies in the structure and semantics of grammar*, Linguistics, Australian National University: PhD.
- Wilkins, David. 1996. Natural tendencies of semantic change and the search for cognates. in Durie, Mark and Malcolm Ross (eds.), 264-304.
- Williams, W. 1886. Vocabulary no. 35, Eucla: the Yircla Meening tribe. in Curr, Edward M. (ed.), 400-06.
- Williams, William. 1839. *A vocabulary of the languages of the Aborigines of the Adelaide district, and other friendly tribes, of the Province of South Australia*. Adelaide: Published for the author by A. McDougall, Rundle St. Reprinted in the *South Australian Colonist* (1840), pp.297-298.
- Wordick, F.J.F. 1982. *The Yindjibarndi language*. Pacific Linguistics C-71. Canberra: Australian National University.
- Wurm, Stephen A. 1963. Aboriginal languages: the present state of knowledge. *Australian Aboriginal studies: a symposium of papers presented at the 1961 research conference*, ed. by Shiels, Helen. 127-48. Melbourne: Oxford University Press.
- Wurm, Stephen A. 1969. Person marker sequences in the Australian languages, 51-69.
- Wurm, Stephen A. 1971. Classifications of Australian languages, including Tasmanian. in Sebeok, Thomas A. (ed.), 721-78.
- Wurm, Stephen A. 1972. *Languages of Australia and Tasmania*. The Hague: Mouton.
- Wurm, Stephen A. (ed.). 1979. *Australian linguistic studies*. Pacific Linguistics C-54. Canberra: Australian National University.
- Wyatt, William. 1879. Vocabulary of the Adelaide and Encounter Bay tribes, with a few words of that of Rapid Bay. *The Native tribes of South Australia*, ed. by Woods, J. D. 169-82. Adelaide: E.S. Wigg & Son.
- Yallop, Colin. 1977. *Alyawarra: an Aboriginal language of central Australia*. Canberra: Australian Institute of Aboriginal Studies.
- Yallop, Colin. 1982. *Australian Aboriginal languages*. The Language Library. London: Andre Deutsch.

LANGUAGE INDEX

A

Adnyamathanha, 22, 105, 118, 123,
134-135, 137, 179, 181, 183-191,
193-195, 198, 200-204, 207-212,
218
Aghu Tharrnggala, 105
Alawa, 43, 166-167, 300
Algonquian, 101-102
Alingith, 98, 103, 105
Altaic, 63
Alyawarr, 127-128, 137, 141, 180, 188
 Alyawarr, Northern, 127
 Alyawarr, Southern, 127, 128
Anindilyakwa, 43, 114
Aniwan. *See* Nganyaywana
Anmatyerr, 127, 128
 Anmatyerr, Eastern, 127
 Anmatyerr, Western, 127, 134
Antekerrepenh, 127, 128
Arabana-Wangkangurru, 40, 41, 99,
134, 137, 140, 204, 216, 219
Aranda, 4, 14, 19, 20, 23, 24, 127-130,
133, 135-138, 142-150, 199
 Aranda, Upper, 127-128
Arandic, 4, 14, 15, 30, 32, 46, 50, 53,
70-72, 82, 90, 108-109, 127-150,
172, 177, 188, 201
Aritnngithigh, 103, 105, 250, 251
Arnhem, 15, 30, 42-45, 48, 60, 70, 93-
97, 112, 119, 126, 172, 333, 338,
339
Arnhem (Proto-), 172, 339

Arrernte, 20, 104, 106, 124, 127, 128,
130, 236
 Arrernte, Central, 106, 127
 Arrernte, Southern (= Pertame),
127, 138
 Arrernte, Western, 127, 128
Atampaya. *See* Uradhi
Australian, 2, 6, 7, 12, 13, 15-33, 38,
39, 45-61, 65-72, 80-88, 91, 93-95,
101-105, 114, 124, 127-135, 151-
153, 169, 179-181, 197, 207, 223,
225, 237, 241-243, 266, 269, 276,
277, 290-292, 296, 302-305, 310,
314, 316-319, 324
Austronesian, 28, 52, 65, 81, 88
Awnngthim, 98, 105, 244-250
Ayerereng, 127, 128

B

Baagandji. *See* Paakantyi
Balto-Slavic, 63, 266
Bandjalang, 72, 82, 108-112, 115
Bardi, 270-290
Baringkirri, 230
Barkly, 27, 164, 223, 291-311
Barnjala, 20, 22, 31, 181, 183, 212
Barnarla, 179-204
Bidjara, 72, 99, 104-108, 115, 252
Binbinka, 42, 292, 293, 298, 299, 300,
307-309
Bininj Gun-wok, 314-317, 320, 322,
327, 331, 333, 338
Birlinarra, 154, 162, 172, 173
Birria, 40

Bula-ali, 208
 Bularnu, 41, 165, 172, 175, 223-230,
 237-239
 Bunuba, 107, 269, 270-273, 276, 277,
 280-287, 303
 Bunuban, 270-273, 281, 284-285, 288
 Burarra, 44, 303, 327, 335, 339
 Burduna, 35, 37, 71, 72, 104, 105

C

Cape York, 4, 14, 19, 20, 30, 32, 37,
 48, 69-72, 93, 96, 97, 102, 103, 105,
 108, 111, 119, 135, 241-244, 252,
 258, 265-267
 Central New South Wales, 21, 71, 72,
 104
 Centralian languages, 96, 102, 134
 Coen, 70
 Cree, 101

D

Dagoman, 43
 Dalabon, 119, 120, 303, 314-317, 320,
 322, 323, 333-335, 338
 Damin, 92
 Darkinyun, 22
 Dharumbal, 84
 Dhuwal, 96, 115, 123
 Dieric. *See* Karnic
 Diyari, 20, 40, 97, 98, 105, 115, 134,
 140, 180, 207, 210, 214, 216, 222
 Djabugay, 72, 105, 123, 252, 262-264,
 266
 Djamindjung. *See* Jaminjung
 Djapu, 96, 115, 123
 Djinang, 30, 96-98, 108, 115
 Djinba, 30, 96-98, 108, 115
 Djingili. *See* Jingulu

Dyirbal, 38, 48, 104, 106, 113, 123,
 262
 Dyirbalic, 38

E

English, 6, 72, 73, 80, 82, 103, 131,
 132, 147, 180, 186, 253, 318
 Eora, 72

F

Fox, 11, 62, 101
 French, 72, 170, 318

G

Gamilaraay, 50, 105
 Gariyarra, 72
 Germanic, 7, 63
 Gooniyandi, 269, 270-273, 276-279,
 284, 287-289
 Gothic, 92
 Gudanji, 292, 293, 298-300, 308, 309
 Gugu Badhun, 104, 108, 115
 Gugu Yalanji, 19, 38, 262-263, 265
 Gumbaynggir, 80, 84
 Gundangbon, 70
 Gundungurra, 22
 Gunwinygu, 120
 Gunwinyguan, 15, 43, 95, 96, 112,
 119-122, 313, 315, 322, 330, 333
 Gunya, 104-108, 115, 263
 Gupapuyngu, 72, 81, 115, 122
 Gurindji, 122, 155, 156, 162, 163, 168,
 170, 172
 Gurr-goni, 44
 Guugu Yimidhirr, 19, 20, 38, 80, 115,
 255, 262-265
 Guwa, 20, 38, 166

I

Indo-European, 1, 6, 12, 28, 52, 55,
63, 71, 72, 82, 83, 91, 92, 266, 267
Italo-Celtic, 266
Iwaidjan, 45

J

Jabirr-Jabirr, 270-273, 277, 281, 287
Jala, 15, 313, 315-321, 323-325, 329,
330, 331, 334, 338, 339
Jaminjung, 30, 292-294, 298, 308, 309
Jaminjungan, 42, 45, 269, 292, 293,
297-300, 304, 305, 307
Janjula. *See* Yanyula
Jarragan, 30, 270, 272, 273
Jaru, 115, 119, 154, 156, 163-172, 270,
279
Jawi, 270-273, 276, 277
Jawoyn, 315, 317, 320, 331, 338
Jingulu, 15, 30, 42, 45, 49, 291-310
Jiwarli, 37, 82, 105
Jukun, 270-275
Jurruru, 36, 37, 105

K

Kaantju, 103, 105, 248, 254
Kabi Kabi, 72
Kala Lagaw Ya, 72, 82
Kalaw Kawaw Ya, 113
Kalkutungu, 236, 237
Kanyara, 20, 34-37, 71, 72, 101, 108,
111, 115, 123, 152, 158
Kanyara-Mantharta, 36, 72
Kapu, 38, 40
Karajarri, 30, 85, 162, 168-171, 270,
273, 276-279, 283
Kardu. *See* Kartu
Karengapa, 213, 214

Karlamayi, 72
Karna, 20, 40, 214
Karnic, 14, 39, 40, 53, 71, 72, 84, 101,
108, 115, 116, 134, 140, 182, 184,
186, 190, 199-202, 207, 211-222
Karrwa, 166-167, 236-237, 310, 312
Kartu, 34-37, 152, 157, 159, 164, 166,
169, 173
Kaurna, 72, 90, 131, 179-186, 189-
198, 201-206, 215, 220
Kawarrangg, 253
Kayardild, 43, 72, 85, 97, 206
Kaytetye, 4, 14, 92, 109, 127-130,
135-137, 142, 144-150
Kija, 273, 274, 279
King Sound Group. *See* Nyulnyulan
Kiwai, 32
Kok-Nar, 250, 253-259, 264
Koko-Bera, 39, 105, 118, 253-259
Kok-Papónk, 253
Kugu Uwanh, 99, 109
Kukata, 180-188, 198, 201
Kukatj, 253-258
Kukatja, 180, 186
Kuku Thaypan, 108, 260-262
Kuku Yalanji, 23, 108, 113, 115
Kulin, 20, 50
Kunbarlang, 303, 315
Kune, 315
Kungarakany, 315
Kungardutyi, 40, 211
Kunibidji, 44
Kunwinjku. *See* Gunwinygu
Kuri. *See* Yuin
Kurrama, 37, 72, 86
Kurrtjar, 39, 243, 250-253, 257-264
Kuthant, 39, 253, 257-259, 262
Kuuk Thaayorre, 72, 103, 110, 114,
119, 248-259, 265

Kuuku Ya'u, 248, 250
Kuyani, 22, 179-204, 212

L

Lake Eyre Basin, 53, 207
Lamalamic, 38
Lardil, 43, 72, 85, 86, 97
Latin, 72, 92, 318
Linngithigh, 72, 80, 98, 103, 105, 120, 249, 250
Lithuanian, 71
Lower Arrernte, 127, 128, 130, 199
Luritja, 135
Luthigh, 98, 103, 105, 244-250, 258

M

Mabuiag, 27, 32
Madhimadhi, 123
Maithakudi, 40
Malak-Malak, 303
Malgana, 36, 37
Malyangapa, 40, 205-222
Mamngayth, 103, 105
Mangarla, 30, 154, 162, 169-273, 279
Mangarrayi, 43, 300, 303, 315, 317, 328
Maningrida group, 44
Mantharta, 34-37, 71, 83, 101, 108, 111, 115, 123, 152, 158, 171
Mari, 20, 38, 258
Marran, 42, 45
Marranunggu, 302
Marrgany, 104, 106, 108, 115
Marringarr, 303
Marrithiyel, 302, 308
Marrngu, 30, 35, 152, 154, 157-159, 162, 166-170, 173, 177, 272
Martuthunira, 37, 72, 105, 108, 114, 118

Maung, 30, 85, 86, 303, 327
Mayali, 96, 97, 315
Mayi, 19, 38, 40, 46, 85, 104, 106
Mbabaram, 32, 38, 48, 106, 108, 133, 260, 261, 262
Mbiywom, 98, 103, 105, 244, 251
Menomini, 101
Middle Paman, 72, 73, 81, 85, 89
Mindi. *See* Mirndi
Minkin, 42, 43
Miriam (Mer), 27, 82
Miriwung, 272, 303
Mirndi, 14, 42, 45, 51, 164-165, 176, 269, 291-311
Mindi, Western. *See* Jaminjungana
Mirniny, 20, 31, 72, 152, 158, 173, 174, 180, 182, 187, 188, 206, 223
Mitakudic, 40
Mithaka, 40, 216
Mongolian, 63
Mpakwithi, 78, 100, 108, 245, 249
Mudburra, 115, 156, 165, 168-171, 310
Murngin, 30, *See* Yolngu
Murrinh-patha, 44
Muruwari, 109

N

Na-kara, 44, 303
Nangga. *See* Wirangu
Narangga, 179-184, 186, 188-190, 193, 194, 196, 201, 202, 204
Narrinyeri, 19
Nauo, 179-190, 200
Ndjébbana, 44, 303, 339
Ngaatjatjarra, 168, 169
Ngadjuri, 179-184, 189, 193, 221
Ngaiawang, 180, 195, 196, 197, 205, 206

Ngalakgan, 15, 303, 313-340
 Ngaliwurru, 30, 292, 293, 298
 Ngamini, 40, 98, 216
 Ngan.gityemeri, 44
 Ngandi, 43, 303, 314-317, 320, 322, 327, 328, 331, 333, 335, 338-340
 Nganyaywana, 32, 135
 Ngarga. *See* Ngarrka
 Ngarinyin, 273, 274, 281, 287, 288, 303, 338
 Ngarinyman, 154, 168, 169, 172
 Ngarla, 37, 72, 73
 Ngarluma, 37, 72, 79, 87, 105, 110, 120
 Ngarna, 14, 51, 223-230, 233, 237-240, 291, 312
 Ngardji. *See* Ngarnka
 Ngarnka, 42, 292, 293, 298, 299, 305, 307-309
 Ngarrindjeri, 182, 195
 Ngarrka, 14, 151, 152
 Ngarru, 238-240
 Ngarti, 153, 156, 162, 169, 171
 Ngayarta, 20, 34-37, 71-73, 77, 79, 81, 85, 87-90, 101, 108, 110, 111, 115, 118, 123, 124, 152, 154, 157, 166, 169, 173
 Nggerikudi, 70
 Ngiyampaa, 104, 111
 Ngkoth, 98, 103-105, 245
 Ngumpin, 14, 15, 30, 50, 111, 115, 117, 119, 132, 151-155, 158, 159, 162-166, 169-173, 176, 237, 272, 295, 296, 311
 Ngunawal, 21-22
 Ngurlun, 291-296, 298-304, 307-310
 Ngurunta, 210
 Nhanda, 36, 37, 71, 96, 105, 108, 123, 137, 159, 166

Nhirrpi, 217
 Nhuwala, 37, 72
 Nimanburru, 270-274, 277
 Norman Paman, 247, 253, 254, 258-262, 266
 Northern Kimberley. *See* Worrorran
 Nostratic, 12
 Nukunu, 70, 179-185, 188, 189, 193
 Nungali, 30, 292-293, 298-301, 304-308
 Nunggubuyu, 43, 86, 119, 314, 315, 339, 340
 Nyamal, 37, 72, 166, 169, 173
 Nyangumarta, 30, 72, 81, 83, 111, 115, 162, 167, 168, 169, 171
 Nyawaygi, 38, 48, 104, 106, 108
 Nyikina, 270-277, 279, 281-284, 287
 Nyulnyul, 85, 270-278, 281, 287
 Nyulnyulan, 12, 14, 20, 29, 45, 122, 269-276, 279-290
 Nyulnyulan, Eastern, 270, 274, 279, 283
 Nyulnyulan, Western, 270, 271, 274, 276, 283
 Nyungar, 20, 22, 72, 80, 103, 105, 158, 206
 Nyungic, 31, 34, 46, 82, 151-159, 163-179, 214

O

Oceanic, 72, 81
 Ojibwe, 101
 Olkola, 253, 257, 259. *See also* Uw
 Olgol
 Otati, 70

P

Paakantyi, 72, 99, 105, 108, 180, 182, 201, 207-215, 218-220

Pakanh, 119, 253, 256
 Palyku, 36, 37, 72, 166, 169, 173
 Pama-Maric, 37, 38, 40, 46, 101, 111, 242
 Paman, 30, 32, 37-39, 87-90, 96, 100, 101-119, 122, 241-262, 265
 Paman, Middle, 242, 247-258, 265, 266
 Paman, Northern, 37, 39, 70, 87-90, 109, 113, 242-251, 258, 263-266
 Pamic. *See* Paman
 Pankarla, 72
 Pantyikali, 208, 211, 212
 Panyjima, 37, 72, 85, 110, 123, 173
 Papuan, 27, 32, 71
 Parnkalla. *See* Barngala
 Patimaya, 36, 37, 164
 Payungu, 37, 72, 201
 Peramangk, 182
 Pertame, 138, *See* Arrernte, Southern
 Pilbara, 34, 36, 37, 108, 115, 117, 122, 201
 Pintupi, 72, 80, 82, 96, 105, 115, 162, 169, 180, 186, 187
 Pitjantjatjara, 135, 142, 180, 195
 Pitta-Pitta, 98, 104-106, 111, 115, 216

R

Ramindjeri, 180, 185, 196, 204
 Rembarrnga, 15, 313-340
 Ritharrngu, 96, 98, 110, 115

S

Saibai, 83
 Sanskrit, 92
 Southern Australian, 23, 24
 Southern Daly, 44

T

Tangkic, 32, 42-43, 51, 67, 85, 86, 91, 94-97, 102, 112, 122, 167
 Thalanyji, 37, 105, 201
 Thangatti, 21
 Thangkakali, 208
 Tharrgari, 35, 37, 96, 104, 105, 171
 Thawa, 238, 239, 240
 Thura-Yura, 14, 22, 23, 72, 134, 158, 166, 174, 179-183, 188, 194-195, 198-202, 206, 211-213, 220, 222
 Thyanhngayth, 103, 105
 Tiwi, 49, 70, 85, 86
 Tjingiluan. *See* Jingulu
 Tungusic, 63
 Turkic, 6, 63

U

Umiida, 270, 273
 Umpila, 72, 80, 98, 100, 109, 111, 248, 249, 250, 251
 Unggarangi, 273
 Unggumi, 270, 274-277, 286, 287
 Uradhi, 72, 81, 89, 98, 101, 105, 108, 109, 111, 115, 244-251, 258, 260
 Uralic, 52, 86
 Uto-Aztecán, 52
 Uw Alngam, 253
 Uw Olgol, 109, 119. *See also* Olkola.
 Uw Oy kangand, 39, 96, 109, 119, 251, 253-261, 265
 Uwinymil, Uwinymirr, 43, 315, 317

W

Waanyi, 67, 94, 166, 167, 236, 310, 312
 Wadikali, 40, 207-220
 Wagiman, 43

Wajarri, 36, 37, 159, 166, 169, 173
 Wakaya, 41, 136, 164-166, 172, 174,
 175, 223-227, 231-233, 238, 239
 Wakka, 20
 Walangama, 250, 253, 255, 257, 258,
 259, 260, 261, 262
 Walmajarri, 30, 50, 72, 81, 96, 100,
 111, 115, 119, 154, 156, 159-165,
 169, 170, 198, 206, 270, 273, 279,
 288
 Wambaya, 27, 42, 165, 292-294, 298-
 301, 308, 309
 Wambayan, 42, 45, 293, 295, 306, 307
 Wangaaybuwan, 104, 105
 Wangkangurru, 202
 Wangkumara, 40, 115, 123, 207, 208,
 211-217
 Wangkumara (Garlali), 115, 123
 Wardaman, 43, 303
 Warlmanpa, 110, 152, 153, 156, 162,
 168, 169, 170
 Warlpiri, 46, 50, 72, 82, 86, 90, 92,
 102, 111, 115-118, 123, 131, 132,
 140, 152-156, 160-165, 168-172,
 196, 227, 236
 Warluwarra, 41, 95, 134, 166, 172,
 175, 223-229, 236-239
 Warlwarriic, 14, 41, 42, 51, 67, 95,
 153, 164-167, 172-176, 223, 291
 Warndarrang, 43, 300
 Warnman, 37, 151, 152, 168, 169
 Warray, 43, 303, 315, 320, 331
 Warrgamay, 48, 106, 108, 123
 Warriyangka, 37, 75, 82
 Warrwa, 270-275, 279-284
 Warumungu, 131, 136, 164-166, 177,
 196
 Wathawurrung, 50

Wati, 35, 37, 151-161, 166-170, 173,
 177, 183
 Wayilwan, 104
 Wemba Wemba, 72, 123
 Western Desert, 22, 29, 30, 37, 102,
 111-117, 131-135, 146, 151, 169,
 170, 173, 179, 182-186, 195, 201,
 202, 215, 227, 236
 Wik, 72-74, 78, 80, 103, 109, 113,
 248-251, 254, 258, 259
 Wik Me'nh, Wik Me7nh, 78, 103
 Wik Muminh, 73, 250, 254
 Wik Mungkan, 72, 80, 103, 113, 248-
 251, 254, 258
 Wik Ngathan, 113
 Wik Ngathrr, 74, 103, 250
 Wilyakali, 208, 212
 Wiradjuri, 19, 20, 104, 105
 Wirangu, 14, 22, 31, 83, 105, 174,
 179-188, 193-206
 Woiwurrung, 50, 72
 Worrorra, 270, 273, 281, 287, 303
 Worrorran, 269, 270-273, 280-281,
 285-286, 288-289
 Wubuy, 314-322, 327, 331-333, 338-
 340

Y

Yadhaykenu, 111, 115
 Yak, 252
 Yalanjic, 38
 Yaluyandi, 216
 Yalyi. *See* Yarli
 Yanda, 38
 Yandruwantha, 104, 115, 202, 207,
 210, 211, 215-217
 Yanga-Mbara, 260-262
 Yangkaal, 43
 Yangman, 43

-
- Yangmanic, 43
 Yankunytjatjara, 180, 186, 201
 Yanyula, 41
 Yanyuwa, Yanyula, 32, 41, 51, 67, 72, 91, 94, 95, 102, 115, 166, 167, 172-175, 223-230, 233-239, 312
 Yaraikana, 70
 Yaraldi, 104, 105, 111
 Yardliyawara, 180, 205-222
 Yarli, 14, 15, 40, 41, 53, 182, 196, 201, 207-222
 Yawijibaya, 270, 287
 Yawuru, 270-273, 276-281, 284, 287
 Yidinic, 38
 Yidiny, 38, 48, 50, 72, 80, 104, 106, 115, 252, 262-265
 Yingkarta, 36, 37, 72, 96, 166, 169, 173
 Yinjibarndi, 34, 37, 71, 72, 79, 86, 114, 118
 Yinjilanji, 175, 224-226, 230, 238-240
 Yinwum, 72, 78, 81, 98, 244-251
 Yirandhali, 38
 Yirram, 293-296, 299, 300-310
 Yir-Thangedl, 39, 252
 Yir-Yoront, 39, 100-103, 109-110, 113-115, 119, 125, 243, 248, 252, 254-259, 264, 265
 Yolngu, 30, 50, 93-96, 99, 101, 108, 110, 111, 115-118, 122, 126, 291
 Yuin. *See* Yuin-Kuri
 Yuin-Kuri, 19, 20, 21
 Yukulta, 43, 97
 Yuulngu. *See* Yolngu
 Yuwaalaraay, Yuwaaliyaay, 103, 105

SUBJECT INDEX

A

agreement, 13, 47, 66, 143, 209, 242,
275, 280, 281, 282, 284, 285, 286,
289, 290, 314, 332
allomorphy, 47, 67, 68, 192, 193, 195,
204
Alpher, B, 7, 13, 15, 17, 31, 37, 39,
43-48, 54, 67, 68, 76, 78, 80, 81, 85,
87, 94-97, 100, 103, 107, 108, 111,
122, 127, 180, 236, 241-243, 247-
258, 280, 289, 313, 340
analogy, 123, 125, 287, 290, 326, 330
applicative, 204
areal features, 184
Austin, P, 14, 21, 31, 35, 36, 40, 46,
53, 71, 93, 101, 104, 108, 123, 171,
180, 186, 196, 210, 213, 216

B

Black, P, 4, 7, 14, 17, 37-39, 101, 108,
242, 244, 248-254, 258-260, 262-
266
Blake, B, 20, 39-48, 51, 66, 68, 85, 93-
95, 97, 102, 107, 108, 122, 166,
167, 171, 198, 202, 223, 236, 237,
269, 283, 286, 291, 300-303
Blevins, J, 36, 71, 83, 93, 108, 137,
159
borrowing
lexical, 175, 218
Bowern, C, 7, 12, 13, 14, 17, 40, 45,
53, 55, 93, 108, 127, 134, 190, 213,

214, 216-217, 219, 271, 273-274,
281, 283, 287, 291
Breen, J G, 14, 20, 38-42, 59, 85, 99,
127-129, 133, 138, 141, 146, 164,
165-166, 207, 217, 223-237, 263,
291

C

Cape York, 4, 14, 19, 20, 30, 32, 37,
48, 69, 71, 72, 93, 96, 97, 102, 103,
105, 108, 111, 119, 135, 241, 242,
244, 252, 258, 265-267
Capell, A, 6, 13, 15, 17, 25-33, 45-48,
69-70, 86, 93, 94, 102, 128, 133,
236, 270-273, 279-281, 289-291,
303
case
ablative, 107, 156, 174, 198, 219,
220, 225, 270
absolute, 201, 218, 294, 300, 306,
307
accusative, 35, 36, 159, 200, 201,
207, 218, 225, 228, 294, 302, 304
allative, 194, 197, 198, 207, 217,
220, 225, 270, 294
causal, 207, 218
dative, 34, 141, 148, 156, 157, 159,
160-163, 166, 167, 171, 175, 201,
217-220, 225, 236, 265, 270, 294,
310, 331, 334
elative, 198
ergative, 34, 36, 47, 67, 97, 107,
122, 124, 166, 171, 194, 201,
207, 218-220, 225, 251, 252, 255-

258, 261, 264, 269, 270, 294,
304-306, 311
instrumental, 192, 194, 270, 281,
287
locative, 47, 67, 107, 159, 171, 191,
192, 194, 202, 203, 207, 217,
219, 225, 264, 270, 287, 294
nominative, 107, 125, 166, 200,
201, 207, 218, 223, 270, 281,
284, 294, 300
propriative, 225, 270, 281
purposive, 196, 207, 217, 220
causative, 204, 228, 232, 236, 237,
326, 327
Chadwick, N, 42, 291-293, 296, 297,
300, 301, 304, 306, 310
chance resemblances, 64
clade, 3, 4, 7, 8, 11, 97
classification, 1-8, 13-21, 25, 30-44,
51, 57-61, 65, 85, 127, 128, 179,
212-214, 242, 266, 267, 272, 294,
295, 314
communilects, 31, 32, 69
comparative method, 1-5, 15, 28, 29,
33-34, 44-46, 57-62, 64, 69-72, 86-
87, 90-95, 107, 119-121, 125, 152
complex verbs, 172, 293
conditioning (environment), 101, 102,
113, 114, 122, 134, 158, 190, 191,
195, 196, 204, 244-248, 256, 260,
261
conjugations, 14, 42, 223, 227-240,
313, 320, 322, 324, 328, 331
contact-induced change, 65
coverbs, 169, 172, 288, 328-330
Crowley, C, 32, 55, 71, 75, 77, 100,
101, 108, 135, 243-250
Curr, E, 18, 31, 127, 199, 208-210,
213

D

denasalisation, 89
Dench, A, 1, 7, 34-36, 61, 93, 108,
125, 169, 201
diachronisation, 27
dialect areas, 9
diffusion, 1, 4-11, 35, 41, 49-57, 62,
64, 67, 87-89, 94-97, 104, 129, 130,
134, 136, 173, 176, 177, 195, 199,
211-212, 217, 218, 222, 241, 269,
289, 296, 297, 306, 309-311
Dixon, RMW, 1-9, 12-14, 17-18, 32,
38, 42, 45-59, 66, 67, 69, 82, 84, 85,
87, 88, 91, 92, 94, 95, 97, 100-104,
107-108, 113, 122-125, 128, 129,
133, 135, 145, 183, 195, 200, 202,
214, 237, 241, 243, 252, 260-263,
266, 272, 276, 277, 291, 292, 296,
302, 306

E

Evans, N, 12, 17, 42, 43, 45, 47, 51,
61, 67, 83, 85, 91-98, 102, 107, 111,
113, 120, 122, 228, 236, 242, 280,
313-316, 327, 333
evitative, 340

F

family tree, 3-9, 39, 52, 55-59, 130,
226, 246, 266, 271, 309
features, 34
final vowel loss, 252, 259
fortition, 71

G

genetic relationship, 2-6, 11, 13, 14,
27, 33, 35, 38, 39, 44, 45, 48, 54,
73, 100, 129, 174, 222, 224, 269,

272, 279, 280, 286, 296, 314, 318,
333

Hercus, L, 14, 39, 41, 53, 90, 99, 108,
134, 135, 140, 165, 166, 174, 179-
185, 188, 196, 199-200, 204, 207,
208, 210, 214, 222

I

independent innovation, 130, 136, 340
initial lenition, 90, 111, 172, 173, 241,
253, 260, 265

innovation, 2-11, 14, 15, 21, 35, 39,
44, 50, 56-59, 67, 71, 106, 111, 124,
130-135, 139, 140, 144, 145, 147,
148, 153-155, 159, 164, 167-173,
197, 202, 212, 220-222, 225, 236,
240, 244-247, 250-252, 256, 258-
260, 263, 265, 280, 286, 292, 300-
302, 313, 318, 322, 326-327, 331
interrogatives, 47, 129, 144-147, 150,
286

K

Koch, H, 4, 6, 13, 14, 17, 46, 47, 53,
65, 71, 80, 82, 90, 93, 108, 112,
127-129, 132-141, 144, 146, 148,
149, 154, 169, 186, 190, 201, 208,
210, 224, 241, 279, 291, 295

L

laminal split, 251, 258, 259
laminalisation, 51, 67, 85, 111
language contact, 1, 180, 309, 311
language family, 23, 25, 42, 47, 56, 61,
84, 86, 88, 92, 151, 272, 315
lateralisation, 155, 158, 175, 176
lect, 6, 272
lenition, 78, 97, 101, 108-111, 117,
135, 137, 143, 173, 179, 184, 186,

189, 191, 212, 226, 237, 247, 252,
258, 262

lexicostatistics, 6, 13-15, 30-39, 44,
49, 50, 54, 55, 57, 59, 65, 66, 70,
83, 85, 103, 128, 129, 151, 182,
244, 248-250, 262, 266, 272

M

McConvell, P, 14, 35, 55, 91, 93, 122,
154, 155, 170, 172, 237, 272, 295
McGregor, W, 269-275, 282, 283, 286-
288, 293, 310
merger, 35, 52, 114, 134, 138, 245-
250, 263, 337, 338
metathesis, 260, 261, 262
methodology, 2, 6, 7, 10, 13, 17, 58,
59, 60, 64, 97
migration, 25, 91, 180
monophyletic tree, 3
morphology
 alternation, 263
 change, 129, 144

N

Nash, D, 31, 33, 54, 69, 85, 92, 93,
103, 117, 146, 162, 182
negation, 154, 163, 164, 165
Nekes, H, 273-275, 287
numerals, 19

O

O'Grady, Voegelin and Voegelin
 classification, 31-46, 65, 66, 151-
 153, 159, 161, 162

P

paradigm, 63, 64, 68
phenetic classification, 3, 6, 11, 57

phonemicisation, 134
 phonological change, 29, 34, 37, 47,
 104, 133, 138, 143, 150, 175, 241,
 243, 252, 263, 266, 321, 336
 phonotactics, 19, 29, 94, 133
 phylum, 31, 32, 45, 65, 66, 67, 86, 91,
 151, 152, 269
 prefixing languages, 27, 30, 272, 302
 prenasalisation, 108, 244
 prepalatalisation, 137, 138
 prestopping, 134, 188, 253, 260
 productivity, 318
 pronouns, 15, 19, 21-26, 29, 30, 36,
 40-42, 45, 47, 56, 66, 68, 69, 81, 85,
 94, 107, 108, 122-126, 129, 138-
 144, 148-150, 159-162, 167, 174,
 175, 192-198, 200, 203, 211, 218-
 220, 225, 226, 263, 269, 281, 282,
 284, 286, 297-311, 318, 331, 334,
 335
 bound, 159, 165, 166, 167, 174,
 175, 211, 218, 308
 purposive (verbal inflection), 227, 228,
 231, 233, 236, 264

Q

Queensland, 20, 23, 25, 32, 37, 38, 39,
 40, 41, 92, 117, 127, 151, 166, 207,
 223, 242, 252, 258, 263

R

reanalysis, 138, 143, 146, 191, 193,
 321, 328
 reflexive, 29, 99, 154, 170, 171, 205,
 225, 236, 270, 280, 281, 294, 310
 regularity, 10, 64, 100, 102, 125, 323

S

Schmidt, W, 6, 13, 14, 17-24, 28, 30,
 33, 59, 70, 71, 128, 133, 179, 183,
 212, 213, 222, 272
 Schürmann, C, 131, 180, 181, 184,
 185, 187, 190, 203, 220
 semantic change, 6, 73, 83, 132
 shared archaism, 52, 139, 153, 154
 shared innovation, 6, 33, 37, 49, 50,
 56, 58, 62, 130, 140, 141, 150, 153,
 154, 169-176, 201, 205, 206, 241-
 266, 303, 310, 311
 Simpson, J, 14, 31, 90, 93, 129, 165,
 166, 174, 182, 200, 220, 222, 295
 South Australia, 14, 19, 20, 22, 39,
 105, 127, 207, 210, 212
Sprachbund, 2, 11, 50-53, 129, 182,
 269, 270
Stammbaum, 8
 stress shift, 89, 138, 247
 subgrouping, 1-14, 49, 56-59, 62, 95,
 124, 133, 153, 224, 226, 241, 242,
 246, 251-254, 265-267, 270, 291,
 296, 305, 313, 314, 317, 318, 331
 conflicting evidence, 242, 265
 sufficing languages, 27
 suppletion, 271, 287, 289, 328
 Sutton, P, 38, 93, 241, 258, 260
 Swadesh, M, 31, 51, 88, 266
 syntagmatic iconicity, 147

T

Tasmania, 32
 taxonomy, 9
 Tindale, N, 181, 183, 186, 189, 193,
 207-211, 213, 216
 typological classification, 25, 27
 typology, 27, 29, 32, 49, 91, 124, 310

U

univerbation, 140

V

variation, 4, 56, 99, 162, 165, 184,
188, 189, 190, 244, 254, 279, 298,
299, 305, 316, 321, 324, 325, 328,
333

vowel change

breaking, 321, 326

centralisation, 138

final loss, 252, 259

lowering, 256, 259

vowel length, 49, 78, 108, 109, 134,
246, 247, 253, 262-265, 274, 316,
325

W

Wanderwörter, 274, 279, 280

Wilkins, D, 83, 98, 129, 132, 236

Worms, E, 273-275, 287

Wurm, S, 2, 6, 13, 17, 26, 31-33, 37-
43, 58, 65, 69, 93, 128, 207, 209,
214, 217

APPENDIX 1

THE WORKSHOP GUIDELINES

Claire Bowern and Harold Koch

Participants in the workshop were given the following guide as to what constitutes evidence in genetic subgrouping.

Languages: What languages are included in the subgroup? Mention doubtful or borderline cases too. Where are they located? What are the main references for data and how good are the sources? Note any previous historical reconstructive work on the languages.

Lexical evidence: Give the reconstructed form and meaning of lexical items. Organise the vocabulary by part of speech (especially Noun and Verb) and semantic domain (of nouns: kinship, artefact, flora, etc.) Indicate the words which you consider to be unique to the Subgroup. Some lists of basic vocabulary include Swadesh 1952:152-163, Menning and Nash 1981, Alpher and Nash's (1999:53-56) 151 item list, based on O'Grady (1966) and Hale (1961), Kruskal, Dyen and Black's (1973) 200 item list.

Note that there is no need to present lexicostatistical evidence in the paper.

Evidence from word-formation: Indicate any word-formation devices (derivational affixes, reduplications, vowel or consonant alternations) that are distinctive of SG and reconstructible to pSG.

Semantic evidence: Mention distinctive semantic developments that might have affected words of more widespread distribution. (e.g. "Word X of meaning M elsewhere in Australian has shifted in this SG to meaning N.")

Phonological evidence: Indicate distinctive phonemes of SG that are reconstructible to Proto-SG. Indicate distinctive phonotactic patterns of SG that are reconstructible to Proto-SG.

Give the phonological changes which differentiated this SG from other related languages (including the changes which led to the distinctive phonemes and phonotactic patterns of pSG.)

Morphosyntactic evidence: Indicate any distinctive characteristics of the morphosyntax that result from common innovations; e.g. auxiliaries, pronominal clitics.

Pronouns: Give the stems and inflectional forms of personal pronouns that are reconstructible to pSG, especially any that reflect innovations of the SG.

Give the interrogative-indefinite stems reconstructible to pSG.

Give the demonstrative stems reconstructible to pSG.

Nominal inflection: Give the distinctive case, number and/or class markers reconstructible to pSG. If there are conditioned allomorphs, indicate the reconstructed conditioning factors.

Verb inflection: Give the forms according to their inflectional classes, in paradigms. Also indicate the membership of (especially small) inflectional classes in terms of the reconstructed lexemes. Indicate, if possible, the types of inflections that can be reconstructed (along with forms); eg, tense, aspect, mood. If there are multiple morphemes, do they appear in the same order from language to language?

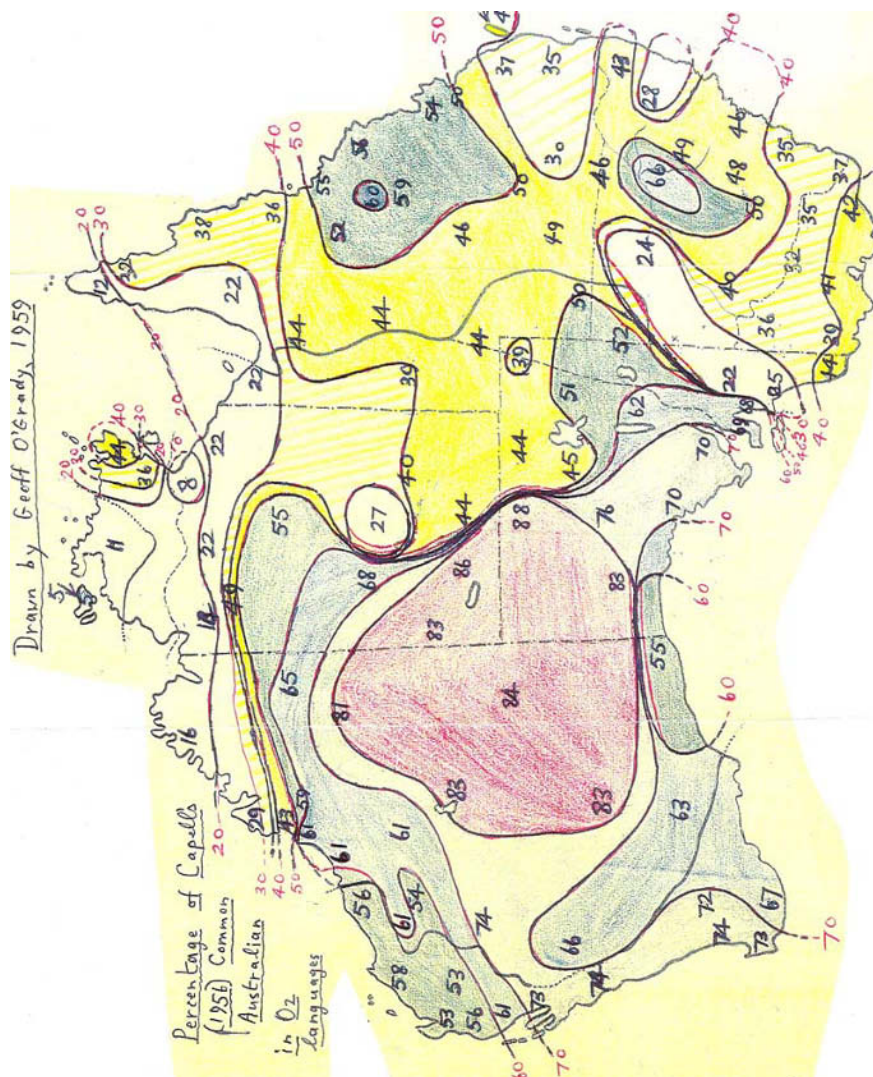
Syntax: Reconstructions in morphology may involve assuming certain syntactic conditions (eg, subordinate clauses with nominalised verbs which give ‘insubordination’ in the modern languages). Indicate where appropriate any reconstructions involving morphosyntax.

Also ... Please be careful to distinguish what features are *innovations* and what are *archaisms*. Only innovations should be used in subgrouping. Where you assume an innovation, please give your reasons for considering a given form an innovation or an archaism. That is, please justify your reconstructions. Please provide etymologies for innovations, where possible. Give reasons, however brief, for assuming a form is a borrowing and give the source.

APPENDIX 4.1

COGNATE DENSITY MAP

Ken Hale and Geoff O'Grady



APPENDIX 4.2

PROTO-PAMA-NYUNGAN INITIALS AND THEIR PUTATIVE REFLEXES (A FIRST APPROXIMATION)

Geoff O'Grady and Ken Hale

In the following table, underlining indicates that there are fewer than 10 examples, unless the product of regular descent.

Key to language names (in order of table)

pPN = Proto-Pama-Nyungan
NYA = Nyangumarta
WLP = Warlpiri
PIN = Pintupi
KAU = Kurna
PNK = Pankarla
NYU = Nyungar
YGD = Yingkarta
pNG = Proto-Ngayarta
pKM = Proto-Kanyara-Mantharta
GUP = Gupapuyngu
pKR = Proto-Karnic
pAR = Proto-Arandic
YAN = Yanyuwa
KLY = Kala Lagaw Ya
pP = Proto-Pamic
URA = Uradhi
UMP = Umpila
WMK = Wik Mungkan
YIM = Guugu-Yimidhirr
YDN = Yidiny
BGU = Bidjara-Gungabula
KAB = Kabi Kabi
BNJ = Banjarlang
pCNS = Proto-Central New South Wales
IOR = Iora (Sydney language)
BAA = Baaganji
WEM = Wemba Wemba
WOI = Woiwurrung

Key to language names (in alphabetical order)

BAA = Baaganji
BGU = Bidjara-Gungabula
BNJ = Banjarlang
GUP = Gupapuyngu
IOR = Iora (Sydney language)
KAB = Kabi Kabi
KAU = Kurna
KLY = Kala Lagaw Ya
NYA = Nyangumarta
NYU = Nyungar
pAR = Proto-Arandic
pCNS = Proto-Central New South Wales
PIN = Pintupi
pKM = Proto-Kanyara-Mantharta
pKR = Proto-Karnic: underlining
pNG = Proto-Ngayarta
PNK = Pankarla
pP = Proto-Pamic
pPN = Proto-Pama-Nyungan
UMP = Umpila
URA = Uradhi
WEM = Wemba Wemba
WLP = Warlpiri
WMK = Wik Mungkan
WOI = Woiwurrung
YAN = Yanyuwa
YDN = Yidiny
YGD = Yingkarta
YIM = Guugu-Yimidhirr

pPN	*p	*t	*th	*j	*k	*m	*n	*nh	*ny	*ng	*lh	*y	*l	*r	*w
NYA	p, <u>w</u>	t	j, <u>y</u>	j, <u>y</u>	k, <u>ng</u>	m	n	ny	ny	ng, <u>w</u>	y	y	l	r, y	w
WLP	p	rd, t	j, <u>y</u>	j, <u>y</u>	<u>w</u> , <u>ø>y</u> k, <u>ng</u>	m	n	ny	ny	ng, <u>w</u>	y	y	l	l	w
PIN	p, <u>ø>y</u> <u>m</u>	t	j, <u>y</u>	j, <u>y</u>	<u>w</u> , <u>i</u> k, <u>w</u>	m	n	ny	ny	ng	y	y	l	r, y	w
KAU	P	T	T	T	<u>ø>y</u> , <u>i</u> K, <u>NG</u>	M	N	N	N	NG	Y, <u>ø</u>	Y,	T	T	W
PNK	P	Y, <u>ø</u>	Y, <u>ø</u>	Y, <u>ø</u> , <u>N</u>	K, <u>NG</u> <u>w</u>	M	N	N	N	NG, <u>w</u>	Y, <u>ø</u>	Y,	Y, <u>ø</u>	Y, <u>ø</u>	W, <u>ø</u>
NYU	p, m	j, th	th	j	k, <u>ng</u> , <u>w</u>	m	ny, nh	nh	ny	ng	y	y	j, th, <u>y</u>	j, th, <u>y</u>	w
YGD	p	j, th	th	j	k, <u>ng</u> , <u>w</u>	m	ny, nh	nh	ny	ng	y	y	j, th, <u>y</u>	j, th, <u>y</u>	w
pNG	*p, * <u>m</u>	*j, *th	*th	*j	*k, * <u>ng</u> , * <u>w</u>	*m, * <u>w</u>	*ny, *nh	*nh	*ny	*ng	*y	*y	*j, *th,	*j, *th,	*w
pKM	*p	*j, *th	*th	*j	*k, * <u>ng</u> , * <u>w</u>	*m, * <u>w</u>	*ny, *nh	*nh	*ny	*ng, * <u>ny</u>	*y	*y	*y, *th,	*j, *th,	*w
GUP	p	t	th	j	k, <u>ng</u> , <u>w</u>	m	n	nh	ny	ng, <u>w</u>	y	y	l	r, l	w

pPN	*p	*t	*th	*j	*k	*m	*n	*nh	*ny	*ng	*lh	*y	*l	*r	*w
pCNS	*p	*th	*th	*th	*k	*m	*nh	*nh	*nh	*ng	*y	*y	*th, *y	*th, *y	*w
IOR	B	D	D	DJ. DY, Y	G	M	N	N	N	NG, N	Y	Y	D	D	W
BAA	p, <u>m</u>	th	th	th	k, <u>ng</u> , <u>w</u>	m	nh	nh	nh	ng, <u>ø</u>	y, <u>ø</u>	y, <u>ø</u>	th	th	w
WEM	*p, * <u>m</u>	t	th	j	k, <u>ng</u> , <u>w</u>	m	n	ny	ny	ng, <u>w</u>	y	y	l	l	w
WOI	p	t	th	j, y	k, <u>ng</u> , <u>w</u>	m	n	ny	ny	ng, <u>w</u>	y	y	l	l	w

APPENDIX 5.1

PROTO-PAMA-NYUNGAN ETYMA

Barry Alpher

Protolanguages

- pCK proto Central Karnic (PA CLE): Yandrruwantha, Yawarrawarrka, Karuwali, and Mithaka.
- pCNSW proto Central New South Wales (Austin 1997): Gamilaraay, Yuwaalaraay-Yuwaaliyaay, Wayilwan, Ngiyampaa (Wangaybuwan), and Wiradjuri.
- pGunwinygu proto Gunwinygu
- pKanyara The Kanyara languages (Austin 1981) are Bayungu, Dhalandji, and Burduna.
- pKarnic proto Karnic; PA CLE (Austin 1990) or CB (Bown 1999, 2001 and pers. comm.), as indicated. The Karnic languages, per Austin 1990, are Diyari, Ngamini, Yarluyandi, Yandrruwandha, Yawarrawarrka, Karuwali, Mithaka, Pitta-Pitta, and Wangkumarra. Bown (2001) revises this to include Arabana-Wangkumarra, listing also—as closely related to Wangkumarra in an Eastern Karnic subgroup—Punthamara and Garlali.
- pMantharta The Mantharta languages (Austin 1981) are Djiwarli, Djururu, Warriyangga, Dhiin, and Dhargari (l and d dialects).
- pNgayarda proto-Ngayarda. The Ngayarda languages (O’Grady 1966) are Noala (Nhuwala), Martuthunira, Ngarluma, Kariyarra (Kariara), Ngarla, Nyamal, Palyku (Bailko), Panyjima, Yinytjiparnti, and Kurrama.
- pNNSW proto-Northern New South Wales (Crowley 1976): Bandjalang (Bundjalung, Yugambeh), Gumbaynggir, and Yaygir, together with others not represented in this list: Nganjaywana (Anewan), Gadjang, Djangadi, and Ngarbal.

pPaman proto-Pama(n) (comments as for pPM): Hale 1960, 1964, 1976b, c, d. Hale's proto-Paman reconstructions are the foundational work in comparative Pama-Nyungan studies. The lexical etymologies are in three lists: 1976c (Northern Paman), 1976d (Middle Paman), and 1960 (Other Paman); a list of all the reconstructions, but not the attestations, can be found in Sommer (1969: 62–66). These papers were part of a work in progress, some of it published piecemeal, some of it in preliminary written form, and much of it in the mind only. Readers need to be aware of the conceptual whole, find the missing parts, and make the connections. Despite a few discrepancies, the items in these lists are to be understood as “Northern Paman reflexes of proto-Paman forms,” “Middle Paman reflexes of proto-Paman forms”, etc.—not as “proto-Northern Paman” etc. (if “Northern Paman” is a true genetic subgroup, forms listed for it must of course have belonged to “proto-Northern Paman” as well as to “Proto-Paman”; note however that numerous Northern Paman forms not attested elsewhere in Paman do not appear in this list, and the phonological inventory for a reconstructed “proto-Northern Paman” would not necessarily be identical to that stated for proto-Paman in Hale [1964: 255]). Furthermore, Hale reconstructed with an eye to the languages of the rest of the continent, and because he treated Paman (possibly to be understood as “Pama Maric”) as a genetic subgroup, some of his etymological listings (viewed from the perspective of these lists only) appear to be mistakes: for example, proto-Paman *nga:ci- (“lay egg, bear child”) on the apparent basis of Uradhi alone and proto-Paman *kuru (“eye”) on the apparent basis of Kaanytju and Umpila (Middle Paman) forms alone—here it is necessary to bear in mind attestations in e.g. the Ngumpin-Yapa and Western Desert languages. There are other etyma, however, for which I have not yet succeeded in finding the cognates elsewhere in Australia that Hale must have had in mind—and, of course, it is possible that some of these will turn out to be just ‘proto-Northern Paman’ or ‘proto-Middle Paman’ after all. In Hale’s Paman lists, the Northern Paman languages are Mpalitjanh, Luthigh, Yinwum, Linngithigh, Alngith, Awngthim, Ndra’ngith, Ngkoth, Aritinnngithigh, and Mbiywom; the

Middle Paman languages are Kaanytju, Umpila, Kuuku-Ya'u, Wik-Mungknh, Wik-Me'nh, Wik-Muminh, Wik-Ngathrr, and Kuuk-Thaayorre; and the "Other Paman" are Port Stewart Lamalama (Rimanggudinhma), Guugu-Yimithirr, Mulurutji, China Camp Mulurutji (Kuku-Yalanji), Hann River Aghu-Tharrnggala, Ogunyan (Kuku-Mini), Tjaapukay (Djabugay), Yidiny, Koko-Bera, Kurrtjar ("Normanton"), Dyirbal, and Girramay—and note especially his parenthetical (Hale 1960) "the last two are not Paman, strictly speaking". I have merged these lists in what is below, with notes as to variation in reconstructions from one list to another, and the original is always recoverable by reference to these lists of languages in this note. I have subsumed under these etymologies material from languages not included in Hale's survey (for example Wik-Ngathan, Kugu-Uwanh, Yir-Yoront, Uw-Oykangand) and more recently available material on languages he did survey, such as Koko-Bera, Guugu-Yimithirr, Uradhi, and Djabugay.

- pPM proto Pama-Maric (undemonstrated as a subgroup as yet)
- pPNy proto Pama-Nyungan
- pSWCYP proto Southwest Cape York Peninsula: Yirr, Koko-Bera, Thaayorre, Uw-Oykangand/Olkol (Alpher 1972). This group almost certainly includes Kuk-Narr and probably also Kurrtjar.
- pT proto Tangkic (N. Evans n.d.)
- pWCYP proto Western CYP: a stopgap category for the local (L) area including Yirr and e.g. the Wik languages, for etyma that show promise of a wider distribution.
- pWK proto Western Karnic (PA CLE): Diyari, Ngamini, and Yarluyandi.
- pYirr the common ancestor of Yir-Yoront and Yirrk-Mel (Yirrk-Thangalkl)
- L local, in the sense of Alpher and Nash 1999 (distribution does not coincide with that of any subgroup)

Semantic domain codes

A	animal, fauna
B	body part or product
C	bugs (“crawlers”): arthropods--insects, arachnids, centipedes, crustaceans)
E	earth: including fire, water, sky, geography
F	fish
H	human, including age categories, languages, dreams, ceremonies, songs
K	kin
L	location, direction, time
M	maritime
O	bird
P	plant
Q	quantifier
S	(“shellfish”): molluscs
T	(“thing”, “tool”, “technology”): artefact
V	vegetable food
Z	animal (“zoic”): the <i>minya</i> (“game animal”, excluding birds) and dog categories

Contributors and authors of published sources¹

AD, Alan Dench (1991, 1995, 1998)
 AEH, Alpher, Evans, and Harvey (in press)
 AT, Angela Terrill (1998)
 BA, Barry Alpher (1982, 1991, and fieldnotes)
 BB, Barry Blake (1979a, 1979b, 1991, n.d.)
 BB&GB, Blake and Breen (1971)
 B&B, Berndt and Berndt (1993)
 BL-MC, Beulah Lowe and Michael Christie (n.d.)
 B&M, Bowe & Morey (1999)

¹ Full full bibliographical references see Appendix 15.

- BR, Bruce Rigsby (1976)
 B&R, Blake and Reid (1998b)
 BSch, B. Schebeck (1973b, 1974)
 BSm, Bruce Sommer (1969)
 BW, Bruce Waters (1989)
 CB, Claire Bower (1998, 2001 and pers. comm.)
 CG, Cliff Goddard (1987)
 CW, Corinne J. Williams (1980)
 DE, Diana Eades (1979)
 DGN, David Nash (1979a & b; pers. comm.)
 DT, Darrell Tryon (1970)
 DTh, David Thompson (1976)
 EB, Ephraim Bani (1987 and pers. comm.)
 FMe, Francesca Merlan (1982, 1983)
 FMo, Frances Morphy (1983)
 G-A, Joseph Gaimard, in Rob Amery 1998
 GB, Gavan Breen (1973, 1974b, 1976a, 1976b, 1981a, 1981b, 1990, 1992, nd)
 GG, Brian and Helen Geytenbeek (1991)
 GL, Gerhard Laves
 GNOG, Geoff O'Grady (1964, 1966, 1976, 1987, 1990a, 1990b, 1990c, 1998, 2001, n.d.; Harris & O'Grady 1976)
 GWVW, J. Galpagalpa, D. Wanyuli, L. de Veer, & M. Wilkinson (1984)
 HAEM, Meyer (1843)
 H&D, John Henderson and Veronica Dobson (1994)
 H&T, Hale and Tindale (1933–1934)
 HK, Harold Koch (1997, 2001, this volume, and pers. comm.)
 Hn&Hn, Hansen and Hansen (1977)
 Hr&Hr, Hershberger and Hershberger (1986)
 IG, Irene Godman (1993))
 JB, Juliette Blevins (2001a)
 JBr, John Bradley (Yanyuwa dictionary)
 JHav, John Haviland (1972, 1979)
 JHeath, Jeffrey Heath (1978, 1980a, 1980b, 1982)
 JHd, Joyce Hudson (1978, ASEDA 0167)
 JHS, Jane Simpson (pers. comm.)
 KLH, Kenneth Hale (1961, 1962, 1964, 1965, 1976b, 1976c, 1976d, 1982,

- 1974, 1997, n.d. a, n.d. b)
 KPPW, Kilham et al. (1986)
 LFO, Lynette F. Oates (1988)
 LH, Luise Hercus (1982, 1986, 1994, 1999)
 LJ, Lesley Jolly (1989)
 LMW, LaMont West (1965)
 LY, Lofty Yam (pers. comm.)
 MC, Michael Christie (see BL-MC)
 MG, Merrkiyawuy Ganambarr (1994)
 MH, Mark Harvey (in press-b)
 M&H, McNicol and Hosking (1994)
 Mc&Mc, McEntee and McKenzie (1992)
 MMb, Mario Mabo (pers. comm.)
 MMcD, Maryalyce McDonald (1977)
 MS, Margaret Sharpe (1992, 1998; n.d.); I have retranscribed “r” in these sources, which always represents a tap or trill not contrasting with a glide in these languages (Bandjalang and Yugambeh), as “rr”.
 M&W, McDonald and Wurm (1979)
 NE, Nicholas Evans (1990, 1992b & c; in press; n.d.)
 NgKL, Ngakulmungan Kangka Leman (1997)
 OG, Geoff O’Grady (see GNOG)
 PMcC, Patrick McConvell (1980, 1982, 1997 & 1997b)
 PA, Peter Austin (1981, 1990a, 1992a, 1992b, 1992c, 1992d, 1992e, 1994, 1997b); PA CLE (Peter Austin 1990a)
 PB, Paul Black (1980 and pers. comm.)
 PH, Philip Hamilton (1996, 1998)
 PS, Peter Sutton (1973, 1995)
 RG, Rebecca Green (n.d.)
 RJK, R. Kennedy (n.d.)
 RMWD, R.M.W. Dixon (1972, 1981, 1983, 1991a, 1991b)
 SIL, Summer Institute of Linguistics (unpublished Wik-language wordlists)
 S&J, Ian Smith and Steve Johnson (2000)
 SK, Sandra Keen (1983)
 TC, Terry Crowley (1976, 1981, 1983)
 TD, Tamsin Donaldson (1980, 1994, 1997)
 TH, Timothy Hendrie (1990)

TK, Terry Klokeid (1969)
 VH, Victor Highbury (pers. comm.)
 WD, Wilfred Douglas (1976, 1981, 1988)
 WOD, Wagiman Online Dictionary (Stephen Wilson & Mark Harvey 1999)

A notation of the form PA/NE means ‘the source is in a work by Peter Austin but it was a secondary source by Nick Evans that alerted me to it’.

Language name abbreviations

Aghu-Tharr, Aghu-Tharrnggala
 Aritinng, Aritinngithigh
 Atnya, Atnyamathanha
 B-GW, Bininj-GunWok
 CC, China Camp Muluridji (same as Kuku-Yalanji)
 ECArrennte, Central and Eastern Arrennte (Henderson and Dobson 1994;
 Alpher’s fieldnotes 1984–86)
 Gumb, Gumbaynggir
 Gupa, Gupapuyngu
 GYim, Guugu-Yimithirr
 HR, Hann River Aghu-Tharrnggala (Aghu-Tharrnggala)
 KB, Koko-Bera (Kok-Kaper, Kokvpér, Kok-Kapér)
 KKY, Kalaw Kawaw Ya (Boigu, Dauan-Saibai)
 KLY, Kala Lagaw Ya (Mabuyag)
 KThaayorre, Kuuk-Thaayorre
 KUwanh, Kugu Uwanh (Kugu Nganhcara)
 KYal, Kuku-Yalanji
 Martuth, Martuthunira
 MM, Murray Mouth: Ngarrindjeri/Narrinyeri, Yaraldi (Yaralde), Tangani
 M-Kulan, Mayi-Kulan
 M-Kutuna, Mayi-Kutuna
 M-Thakurti, Mayi-Thakurti
 M-Yai, Mayi-Yapi
 ON, Ogunyjan, also used for KLH’s “KM” (Koko-Mini), the same language
 P-L, Pintupi-Luritja
 Pitj-Yank, Pitjantjatjara-Yankunytjatjara

PS, Port Stewart Lamalama (KLH); same as Rimanggudinhma
 Rimangg, Rimanggudinhma
 Dhar (d), Dhargari, d-dialect
 Dhar (l), Dhargari, l-dialect
 UOykangand, Uw-Oykangand; UOlgo, Uw-Olgo
 Uradhi (At) Uradhi (Atampaya)
 W, Wik- 'language' in language names, as in WMungknh, Wik-Mungknh;
 WNgathan, Wik-Ngathan; etc.
 Wngurru, Wangkangurru
 Wang, Wangkumarra
 Wang (G), Wangkumarra (Garlali) (McDonald and Wurm 1979)
 Wemba-Baraba, Wembawemba and closely related dialects (Blake and Reid
 1998)
 WR, Warburton Ranges
 Wbuwan, Wangaaybuwan
 W. Bundj, Western Bundjalung
 Werg (Dj), Wergaia (Djadjala)
 Y'warrka, Yawarrawarrka
 Yinytji, Yinytjiparnti
 YTh, Yirrk-Thangalkl (Yirr-Thangedl), same as Yirrk-Mel.
 YY, Yir-Yoront (NOT Yorta-Yorta or Yuwaaliyay, which are written out in full)

Special conventions

Certain monosyllabic nouns in Kuuk-Thaayorre, Uw-Oykangand, Uw-Olgo, Yir-Yoront, Yirrk-Mel, and Koko-Bera add a thematic vowel, which typically continues the second vowel of an original disyllable, when inflected for an oblique case. These are cited in the order Absolutive, Ergative (and Dative, where relevant), as with Yir-Yoront *minh*, *minhal*, *minha* 'animal' (see *miña). In Kuuk-Thaayorre and Yir-Yoront, disyllabic nouns subtract their thematic vowels under the same circumstances and are cited similarly: Yir-Yoront *ya7ar*, *ya7r* "shin" (see *yangkara).

In the transcription of Yir-Yoront and Yirrk-Mel, the vertical stroke "|" cuts off a final dorso-velar nasal (and a preceding shwa) that is present for phonetic reasons alone.

In Wangaaybuwan (Ngiyampaa) nouns cited with final ‘N’, the ‘N’ represents a nasal homorganic with a following stop; the nasal drops if no stop follows (Donaldson 1980: 16).

In Kala Lagaw Ya and Kalaw Kawaw Ya, nouns are (sometimes) cited in the order Singular, Plural: *athe*, *athel* “grandfather” (see *ngaci).

Other conventions

- ^^^ Forms listed below don’t quite correspond to those of the set above or belong to non-Pama-Nyungan languages, but are listed for possible relevance
- *** Forms listed below differ considerably from those of the set above but are listed for possible relevance.
- ~ (Tilde not preceding any form) “Has other alternants”, in Hale’s proto-Paman materials ONLY.

Key: ***caku** “left hand” n B

WMungknh	<i>thak</i> “left hand” (KLH)
WMe’nh	<i>thak</i> “left hand” (KLH)
WNgathan	<i>thak</i> “left-handed” (PS)
KUwanh	<i>thaku</i> “left” (S&J)
Umpila	<i>thaku</i> “left hand” (KLH)
YY	<i>tha7</i> “left side”
YY	<i>tho7m</i> , <i>puth-</i> “left hand” To Rimangg <i>ikum</i> ?
Rimangg	<i>ikum</i> “left” To YY <i>tho7m</i> ? (IG)
KYal	<i>jakuji</i> “left hand” (Hr&Hr)
GYim	<i>dhagu</i> “left hand” (JHav)
Djabugay	<i>jagu</i> : “left hand, foot” (KLH, EP)
Yidiny	<i>jaguy</i> “left hand” (KLH, RMWD A3)
pPaman	* caku (KLH)
ECArremte	<i>akwe</i> arm, arm bones; left-handed” (H&D)
Warumungu	<i>cakku(rr)</i> “left (hand)” (JHS/DGN)
pPNy	* caku
^^^	
Kayardild	<i>thaku</i> “left hand; wrong” Also <i>wañca-thaku</i> “left hand”. (NE)
Yukulta	<i>thaku-wa</i> “left hand (side)” Also <i>thakurlita</i> “left side”. Cf.

	<i>tarra</i> “thigh”, under * <i>carra</i> . (SK/NE)
Lardil	<i>thaka</i> “left hand” <thak>. (NgKL)
pTangkic ^^^	*thaku ²
Gunbarlang	<i>caku</i> “left”
Mangarrayi	<i>cakuyaku</i> “left”
B-GW	- <i>cakku</i> “left hand” (MH)
Mayali	- <i>cakku</i> “left hand” (MH)
Ngalakan	<i>bala-jaku</i> “left-handed” (FM)
Wagiman	- <i>caku</i> “left hand” WOD spelling: <i>nu-jagu</i> . (WOD, MH)
pGunwinygu ***	*cakku ³ (MH A9, B32)
Guyani	<i>jaku</i> “able” (CB/R)

Key: **calañ* “tongue” n B

See also **ca:ra*, **ngañcar*, **yal^yu*.

Uradhi (At)	<i>lalan</i> “tongue” (KLH, TC)
Angkamuthi	<i>yalan</i> “tongue” (TC)
Yadhaykenu	<i>yalan</i> “tongue” (TC)
Mpakwithi	<i>lana</i> “tongue” (TC)
Luthigh	<i>alan</i> ~ <i>lan</i> “tongue” (KLH)
Yinwum	<i>lin</i> “mouth” (KLH)
Linngithigh	<i>lan</i> “tongue” (KLH)
Alngith	<i>lan</i> “tongue” (KLH)
Awngthim	<i>lan</i> “tongue” (KLH)
Ntra’ngith	<i>lan</i> “tongue” (KLH)
Ngkoth	<i>l.yan</i> “mouth, tongue” (KLH)
Aritinng	<i>lan</i> “tongue” (KLH)
Mbiywom	<i>lin</i> “mouth” Also /l.yin/? (KLH)
Kaanytju	<i>yalan</i> “mouth” (KLH)
pPaman	*calan (KLH)
GBadhun	<i>dhalay</i> “tongue” (PS)
Bidjara	<i>dhalañ</i> “tongue” (GB)
Margany	<i>dhalañ</i> “tongue” (GB)
Gunya	<i>dhalañ</i> “tongue” (GB)

² Compare the Tangkic cognates of pPNy **carra* “thigh”; my guess is that **thaku* “left” is a loan in this group and possibly elsewhere in non-Pama-Nyungan.

³ Compare the Gunwinyguan cognates of pPNy **ra:ku* “ground”.

pPM	*calañ (BA)
Warrgamay	<i>jalañ</i> “tongue” (RMWD)
Nyawaygi	<i>jalañ</i> “tongue” (RMWD)
Yugambah	<i>yalañ</i> “tongue” Contrast <i>jalañ</i> “throat”. (MS)
W. Bundj	<i>yalañ</i> “tongue” Contrast <i>jalañ</i> “throat”. (MS, PA)
Gumb	<i>jala:ñ</i> “mouth” ⁴ (DE)
pNNSW	*jaLañ(ja) (TC)
Wiradjuri	<i>dhalañ</i> “tongue” (PA)
Wbuan	<i>thalayN</i> “tongue” (TD/PA)
Gamilaraay	<i>dhalay</i> “tongue” (PA)
Yuwaaliyaay	<i>dhalay</i> “tongue” (PA)
Yuwaalaraay	<i>dhalay</i> “tongue” (CW)
Muruwari	<i>thalañ</i> “tongue” (LFO)
pCNSW	*dhalañ (PA)
Wang (G)	<i>dhalaña</i> “tongue” (M&W)
Baakandji	<i>dhaliña</i> “tongue” Var. <i>dhalaña</i> . (LH)
Madhimadhi	<i>dhali-</i> “tongue; word, speech; language” Citation form <i>dhalingi</i> ; <i>dhalinggu</i> ERG. (LH)
Woiwurrung	<i>jalang</i> “tongue” (BB)
Werg (Dj)	<i>jaling-eg</i> “tongue” (“my-”) (LH)
Wembawemba	<i>jali-</i> “tongue” ⁵ (LH)
Buwandik	<i>thala</i> or <i>thali</i> “tongue” (BB)
MM	<i>thalangk</i> “tongue” <i>Phon</i> : V1 is short. (MMcD)
Atnya	<i>yarli</i> “tongue” (Mc&Mc)
Wirangu	<i>jarling</i> “tongue” Var. <i>dharling</i> . (LH)
Parnkalla	<i>carliñ</i> “tongue” (KLH)
ECArrente	<i>aleñe</i> “tongue; way of speaking” (H&D)
Kaytetye	<i>aleñe</i> “tongue” (HK)
Pitj-Yank	<i>carliñ(pa)</i> “tongue” (CG)
Warlpiri	<i>jalañpa</i> “tongue” (KLH)
Mudburra	<i>calaña</i> “tongue; blade” (RG)
Walmajarri	<i>calañ</i> “tongue” (JHd)
Martuth	<i>thalañ(pa)</i> “tongue” AD has only <i>yalhuru</i> “tongue”. (GNOG)
Yinytji	<i>caliñca-</i> “suck on something (OBJ) inside the mouth, like a coughdrop” First part cognate? (FW)

⁴ Not clear what the conditioning factor for long V2 is.

⁵ Form of root postulated on the basis of *jaliñug* “its tongue” and *jalingin* “your tongue” (see rules at LH 1986: 37).

Palyku	<i>calañ</i> “tongue” (GNOG)
pNgayarda	*thalañ (GNOG #711)
Bayungu	<i>thalañ</i> “tongue” (PA)
Dhalandji	<i>thalañ</i> “tongue” (PA)
Burduna	<i>thalañ</i> “tongue” (PA)
pKanyara	*thalañ (PA #15)
Djururu	<i>thalañ</i> “tongue” (PA)
Wariyanga	<i>thalañ</i> “tongue” (PA)
Dhiin	<i>thalañ</i> “tongue” (PA)
Dhar (l)	<i>thalañ</i> “tongue” (PA)
Dhar (d)	<i>thadañ</i> “tongue” (PA)
pMantharta	*thalañ (PA # 15)
Yingkarta, Nth	<i>thalañ</i> “tongue” (PA)
Yingkarta, Sth	<i>thalañ</i> “tongue” (PA)
Nhanda	<i>thalañu</i> “tongue” (JB)
Nyungar	<i>carliñ</i> “tongue; flame, tongue of fire” (WD)
pPNy	*calañ

Ngalakan	<i>celng</i> “tongue” (FMe)
Ngandi	<i>thelng</i> “tongue” (FH/MH)
pGunywinguan	*celng (MH #108)
Djinang	<i>jilang</i> “tongue” (BW)
Djinba	<i>jalangarn</i> “tongue” (BW)
Ritharrngu	<i>dhi:lng</i> “tongue” (JHeath)

Key: ***cama** “foot” n B

See also ***cina**.

YY	<i>thaml, thamarr</i> “foot”
YMel	<i>thaml, thamarr</i> “foot”
Kokaper	<i>thamél</i> “foot”
KThaayorre	<i>thamr, thamarr</i> “foot” KLH: <i>tha:mar</i> ~ <i>thamar</i> . (AH, BA.
KLH)	
KYak	<i>thaml</i> “foot”
UOykangand	<i>ebmal</i> “foot”
UOlgo	<i>ebmal</i> “foot”
Rimangg	<i>bal</i> “foot” Also “root”. (KLH, IG)
GYim	<i>dhamal</i> “foot” (KLH, JHav)
Aghu-Tharr	<i>ma:l</i> “foot” LJ analyses as /mal/. (KLH, LJ)

Awu-Laya (Thaypan)	<i>mal</i> “foot” (BR)
ON	<i>ibm3l</i> “foot” (BA, KLH)
pPaman	*camal (KLH)
Almura	<i>thamul</i> “foot” /u/? (BR)
^^^	
Pintupi	<i>camana</i> “foot, footprint” Syn. <i>cina</i> , <i>paculpa</i> . (Hn&Hn)
Martuth	<i>jamanu</i> “foot” Partial syn. <i>jina</i> ; see *cina. (AD)
Yinytji	<i>camarlañ</i> “on tiptoes, sneaking quietly” (FW)
pPNy	*cama

Key: ***cana** “they PL” pronoun

KLY	<i>thana</i> “they PL” (EB&TK)
KKY	<i>thana</i> “they PL” (RJK)
Aritinng	<i>n.ya</i> “they PL” (KLH)
WMungknh	<i>than</i> “they PL” (KLH)
WMe’nh	<i>than</i> “they PL” (KLH)
WNgathrr	<i>than</i> “they PL” (KLH)
WNgathan	<i>than</i> “they (more than two)” (PS)
WMuminh	<i>thana</i> “they PL” Also <i>tharra-</i> . (KLH)
KThaayorre	<i>than</i> “they PL” (KLH)
PS (Rimangg)	<i>dv</i> “they PL” Enclitic. IG analyses as <i>da</i> . (KLH, IG)
HR	<i>ne</i> “they PL” (KLH)
KB	<i>than-tvw</i> “they PL” (BA, KLH)
GYim	<i>dhana</i> “they PL” (JHav)
KYal	<i>jana</i> “they PL” (Hr&Hr)
Mbabaram	<i>ne</i> “they (Pl)” (RMWD)
pPaman	*cana (KLH)
GBadhun	<i>dhana</i> “they PL” (PS)
Warrungu	<i>jana</i> “they PL” (TTs)
Bidyara	<i>dhana</i> “they PL” (GB)
Margany	<i>dhana</i> “they PL” (GB)
Gunya	<i>dhana</i> “they PL” (GB)
pPM	*cana
Ngawun	<i>thana</i> “they (Pl)” (GB)
M-Kulan	<i>thana</i> “they (Pl)” (GB)
M-Yapi	<i>thana</i> “they (Pl)” (GB)
Yugambeh	<i>janabang</i> “they” Alt. <i>janabi</i> ~ <i>janabe-</i> . (MS)
Muruwari	<i>thana</i> “they Pl” (LFO)

Diyari	<i>thana</i> “they NOM PL” (PA)
Ngamini	<i>thana</i> “3PL NOM” (PA CLE)
Yarluyandi	<i>thana</i> “3PL NOM” (PA CLE)
Y’warrka	<i>thana</i> “3PL NOM” (PA CLE)
Wang	<i>thana</i> “3PL NOM” (PA CLE)
Wang (G)	<i>dhana</i> “they (Du Nom)” (M&W)
Pitta-Pitta	<i>thana</i> - “they PL” Demonstrative: <i>thanayi</i> (Near), <i>thanaka</i> (General), <i>thana:rri</i> (Far; “rr” = trill). (BB)

pKarnic ***thana** (PA)

Kalkatungu	<i>thina</i> “they (Pl Nom)” Also subject clitics <i>-na</i> and (subordinate clauses) <i>-ayina</i> . (BB)
Woiwurrung	<i>-dhan</i> “their (Pl)” Possessive clitic. (BB)
Werg (Dj)	<i>-ana</i> “they (Pl)” Subj. clitic. Var. <i>-erri</i> . (LH)
Wembawemba	<i>-an</i> “they Pl” Subj. clitic. (LH)
ECArremte	<i>itne</i> “they (Pl)” (H&D)
Pitj-Yank	<i>cana</i> “they PL” (CG)
Warlpiri	<i>-jana</i> “they (Pl)” Object/DAT pronominal clitic. (KLH)
Panyjima	<i>thana</i> “they (Pl)” (AD)
Bayungu	<i>thana</i> “they PL” (PA)
Dhalandji	<i>thana</i> “they PL” (PA)
Burduna	<i>thana</i> “they PL” (PA)

pKanyara ***thana** (PA #156)

pPNy ***cana**

^^^

Wirangu	<i>jana</i> “you SG” Alt. <i>dhana</i> ; polite form; attested since Eyre 1845. (LH)
---------	--

Key: ***cangkar-** “laugh” vi, n

Uradhi	<i>angkarr(i)-</i> “laugh, to” (KLH)
Atampaya	<i>angka:rri</i> “laugh” (TC)
Angkamuthi	<i>angka:rri</i> “laugh” (TC)
Yadhaykenu	<i>angka:rri</i> “laugh” (TC)
Mpalitjanh	<i>ngkarr(ik)-</i> “laughter” (KLH)
Luthigh	<i>ngka7(ik)-</i> “laughter” (KLH)
Yinwum	<i>ngkit(aw)-</i> “laughter” (KLH)
Linngithigh	<i>ngka7-</i> “laughter” In derivatives like <i>ngka7angk</i> “kookaburra”, <i>ngka7kayiy</i> “duck sp., laugh-like call”, <i>ngka7ma-c</i> “laugh,

laugh at”. ⁶ (KLH (NPaman list and 1997))	
Alngith	<i>ngka7</i> - “laughter” (KLH)
Awngthim	<i>ngka7</i> - “laughter” (KLH)
Ntra’ngith	<i>ngka7(ak)</i> - “laughter” (KLH)
Ngkoth	<i>ngkat(ang)</i> - “laughter” (KLH)
WMungknh	<i>thengk</i> - “laugh” (KLH)
WMe’nh	<i>thengk</i> - “laugh” (KLH)
WMuminh	<i>thankanggi</i> - “laugh” (KLH)
WMo’inh	<i>thangki</i> “laugh” (SIL)
Wlyenya	<i>thangki</i> “laugh” (SIL)
KUwanh	<i>thankangki</i> “be laughing” S&J 464
KThaayorre	<i>thangkar</i> “laugh” (KLH)
YY	<i>thar</i> “laugh” <i>ps</i> : vi, NH conj.: <i>tharll</i> Past, <i>thar</i> Nonpast, <i>thultur</i> Nonpast Continuative, <i>thar</i> Imperative.
pPaman	*cangkar- (KLH)
Djaru	<i>cingkiri</i> “laughing” Preverb (noun-like) (TTs/DGN)
Walmajarri	<i>cingkirti</i> ~ <i>cingkirti</i> Preverb (JHd)
pPNy	*cangkar(V)

Ngarluma	<i>jangkarl</i> - “clucking sound” <i>ps</i> : Root. (KLH)

Mayali	<i>jek+me</i> “laugh” (NE)

Key: ***carra** “thigh” n B

KKW	<i>thæra</i> “ridge; reef, sand-bar, shoal; shin; back (of fish)”.
(RJK)	
Djabugay	<i>jarra</i> “thigh” (KLH, EP)
Yidiny	<i>jarra</i> “thigh” Tablelands, Coastal, & Gunggay dialects. (KLH, RMWD A5)
Dyirbal	<i>carra</i> “thigh” (KLH)
Kurrtjar	<i>ðarr</i> : “thigh” (KLH)
Kurrtjar	<i>dha:rr</i> “thigh” (PB)
Kuthant	<i>la:rr</i> “thigh” Cognation judgment PB. (PB)
KNarr	<i>tharr</i> “thigh” (GB)
pPaman	*carra (KLH)
GBadhun	<i>dharra</i> “leg” (PS)
Bidjara	<i>dhara</i> “thigh; trunk of tree; gully” ⁷ (GB)

⁶ Orthography of Hale1997 writes these *ngga*’-.

Margany	<i>dharra</i> “thigh” (GB)
Gunya	<i>dharra</i> “thigh” (GB)
M-Kutuna	<i>tharra</i> “thigh” (GB)
Wunumara	<i>tharra</i> “thigh” (GB)
pPM	*carra
Warrgamay	<i>jarra</i> “thigh” (RMWD)
Nyawaygi	<i>jaran</i> “root of tree” ⁸ (RMWD)
Gamilaraay	<i>dharra</i> “thigh” (PA)
Wiradjuri	<i>dharrang</i> “thigh” (PA)
Wbuwan	<i>tharraN</i> “thigh; lap; hindleg” (TD/PA)
Wayilwan	<i>dharra</i> “thigh” (PA)
Muruwari	<i>tharra</i> “thigh” (LFO)
Yugambah	<i>jarrang</i> “leg; thigh (bone); claw” (MS)
W. Bundj	<i>jarrang</i> “thigh, upper leg; confluent river” Also <i>yarrang</i> “leg”. (MS, PA)
Gumb	<i>ja:ra</i> “thigh” ⁹ (DE)
pCNSW	*dharrang (PA)
Diyari	<i>tharra</i> “thigh” ¹⁰ (PA)
Ngamini	<i>tharra</i> “thigh” ¹⁰ (PA)
Yarluyandi	<i>tharra</i> “thigh” ¹⁰ (PA)
pWK	*tharra (PA)
Woiwurrung	<i>jarrang</i> “thigh” (BB)
Arabana	<i>tharra</i> “thigh” ¹⁰ (PA)
Wngurru	<i>tharra</i> “thigh” ¹⁰ (PA)
Wadharing	<i>thara</i> “thigh” (GNOG)
pPNy	*carra
^^^	
Pitj-Yank	<i>carra-carra</i> “with legs wide apart” (CG)
^^^	
Nyawaygi	<i>jaran</i> “root of tree” ¹¹ (RMWD)
^^^	
Ngawun	<i>tharriru</i> “thigh” (GB)

⁷ *VrrV > /VrV/ is regular.

⁸ Intervocalic *r* < *rr is regular. “Thigh”/“tree root” polysemy is attested for other etyma, e.g. Yir-Yoront *kumn*.

⁹ Glide < tap/trill, and long V1, are apparently regular.

¹⁰ “rr” = tap.

¹¹ *VrrV > /VrV/; Q: source of /n/?

M-Kulan	<i>tharriru</i> “thigh” (GB)
M-Yapi	<i>tharriru</i> “thigh” (GB)
M-Thakurti	<i>tharruru</i> “thigh” Laves gives [darrvrvr]. (GB, GL)
KB	<i>cvrric</i> “thigh” (BA)
? tharri	
^^^	
Mudburra	<i>jarrumulu</i> “leg, thigh; sheet of rain” (RG)
^^^	
Kayardild	<i>rtarr-a</i> “thigh” (NE)
Yukulta	<i>rtarr-a</i> “thigh” (SK)
Lardil	<i>rterra</i> “thigh; couplet sung first in song” <terr> (NgKL)
pT *rtarr-a (NE)	

MM	<i>tar-uk</i> “leg; calf of leg” Vowel is short. Cognation unlikely.
	(MMcD, Meyer, B&B)

Key: ***carra-** “stand it up” vtr

KKW *thæray* “appear; place, be placed, situate, be situated, stand, be; stand (of water); be in the middle of, be caught in the middle of, be in, stand, appear in (e.g. rain, fog); sound (with pole); pole; call, shout; pray; play” *ps: thara-, thare-*. (RJK)

YY *tharr* “leave it, put it” *ps: vtr, L, u: thurr* Past, *tharrl*

Nonpast.¹²

YMel *tharr* “leave it, put it” *ps: vtr, L; tharrat* Past, *tharrl*

Nonpast.¹²

KB *thvrra- ~ thvrre-* “stand, stand up” *ps: Intransitive; thvrral* Past, *thvrrangk* Prp, *thvrrey* Imp.¹² (KLH, BA)

Djabugay *carra-* “stand it up” *ps: vtr, L conj.* (KLH, EP)

Yidiny *carra-* “put standing, set up, erect” *ps: vtr, L conj.* Tablelands & Coastal dialects. (RMWD T2)

pPaman ***carra-** (KLH)

^^^

Ngawun *thara* “stand” Intransitive¹³ (GB)

M-Kulan *thara* “stand” Intransitive¹³ (GB)

Baagandji *dha:rri-* “stand, wait around, be upright (e.g. trees)” (LH)

Woiwurrung *dharriji-* “stand” *ps: Intransitive.*¹⁴ (BB)

¹² *V1 must have been short.

¹³ /t/ < *rr is not regular.

Werg (Dj)	<i>jarriga</i> “to stand” (LH)
Wembawemba	<i>jerriga</i> “to stand, to stand up” (LH)
Gupa	<i>dha:rra</i> “stand” (BL-MC)
Djapu	<i>dha:rra</i> - “stand” <i>ps</i> : <i>vintr</i> , Zero ₁ conj: Unmarked <i>dha:rra</i> , Potential <i>dha:rri</i> , Perfect <i>dha:rran(a)</i> , P nonIndic <i>dha:rranha</i> . (FMo)
Dhuwal	<i>dha:rra</i> - “stand; stand motionless, stop; stand in proper kinship relationship; stand firm (fulfill promise to provide a wife for someone)” ¹⁵ (JHeath)
Ritharrngu	<i>dha:rra</i> - “stand; be upright; stand up (opening or closing a ceremonial performance)” <i>ps</i> : <i>vi</i> , Conj 2: Pres <i>dha:rran</i> , P <i>dha:rrana</i> , Fut <i>dha:rrurru</i> , Nominalization <i>dha:rrana</i> -. (JHeath)
pPNy	* <i>carra</i> - (transitive?) and * <i>ca:rra/i</i> - (intransitive)

Pitta-Pitta	<i>tharrka</i> “stand” <i>ps</i> : Intransitive; transitive is <i>tharrkala</i> . (BB)

Key: **ca*: “mouth” n B

KUwanh	<i>tha</i> : “mouth” ¹⁶ (S&J)
KThaayorre	<i>tha</i> :- “state or condition” In compounds. (AH)
YY	<i>tha</i> - “mouth” ¹⁷
YMel	<i>tha</i> - “mouth” ¹⁷
Bidjara	<i>dha</i> : “mouth; word, language, message” (GB)
Margany	<i>dha</i> : “mouth” (GB)
Gunya	<i>dha</i> : “mouth” (GB)
pMaric	* <i>tha</i> : (BA)
Warrgamay	<i>ja</i> : “jaw” (RMWD)
Yugambelh	<i>je:ng</i> “mouth, beak; lip” Var. <i>jayang</i> , also poss. <i>jeyang</i> . See comments to W. Bundj <i>je:ng</i> . (MS)
W. Bundj	<i>je:ng</i> “mouth” ¹⁸ (MS)
Muruwari	<i>tha</i> : “mouth” (LFO)
Pitj-Yank	<i>ca</i> : “mouth; opening of cave, shade-shelter, burrow; speech, language” (CG)

¹⁴ The initial apparently contrasts with that in reflexes of **calañ* and **carr* (“thigh”), q.v., but the discrepancy is possibly an artefact of dialectal variation or of 19th-century transcriptional inconsistencies (BB1991: 59).

¹⁵ Contrast initial stop in *jarrak* “silver gull” < **c^yarra*.

¹⁶ Probably belongs with the **ca:ra* set.

¹⁷ Unstressed in compounds; but possibly simply a phonologically conditioned alternant of *thaw* “mouth”, q.v. under **ca:wa*.

¹⁸ Possibly < **ca:nga*, but more likely that the final /ng/ is a later addition to **ca*:-

Yinytji	<i>tha</i> : “mouth, beak” ¹⁹ (GNOG, FW)
Kurrama	<i>tha</i> : “mouth” Alt. <i>thara</i> ; see * <i>ca:ra</i> . (GNOG)
Noala	<i>tha</i> : “mouth” (GNOG)
Bayungu	<i>tha</i> : “mouth” (PA)
Dhalandji	<i>tha</i> : “mouth” (PA)
Burduna	<i>tha</i> : “mouth” (PA)
pKanyara	* <i>ca</i> : (PA #14)
Djiwarli	<i>tha</i> : “mouth” (PA)
Djururu	<i>tha</i> : “mouth” (PA)
Wariyanga	<i>tha</i> : “mouth” (PA)
Dhiin	<i>tha</i> : “mouth” (PA)
Dhar (l)	<i>tha</i> : “mouth” (PA)
Dhar (d)	<i>tha</i> : “mouth” (PA)
pMantharta	* <i>ca</i> : (PA #14)
Karlamayi	<i>tha</i> : “mouth” (KLH)
Yingkarta, Nth	<i>tha</i> : “mouth” (PA)
Yingkarta, Sth	<i>tha</i> : “mouth” (PA)
Nyungar	<i>ca</i> “mouth” (WD)
Djining	<i>ja</i> + “mouth” (?) In compounds: <i>jabiri</i> “mouth, entrance, end”, <i>jabirrmar</i> “beard”, <i>jagarl</i> “saliva”, <i>jagirl-ngurri-</i> “to curse”. (BW)
Gupa	<i>dha</i> : “mouth; door; opening” Also <i>dha:7yun</i> “open one’s mouth”. Note also <i>dhakal</i> “cheek; island; fruit”; <i>dhawarang</i> “hole”; <i>dhawarrak</i> “beard, facial hair” (BL-MC)
Djapu	<i>dha</i> : “mouth” (FMo)
Dhuwal	<i>dha</i> : “mouth” (JHeath)
Djambarrpuynu	<i>dha</i> : “mouth” Note also <i>dhakal</i> “chin”. (GWVW)
Daartiwyuy	<i>dha</i> : “mouth” Note also <i>dhakal</i> “cheek bone”. (MG)
Dhangu	<i>dha</i> : “opening; mouth” Also <i>dhakal</i> “cheek; island”; <i>dhawarrak</i> “beard”; <i>dha:wu</i> “story, news”; <i>dha:ruk</i> “word, speech, language”. (BSch)
Ritharrngu	<i>dha</i> : “mouth, orifice” ²⁰ (JHeath)
pPNy	* <i>ca</i> :

Key: **ca:nga* “tooth” n B

See also **lirra*.

KKW *dhang, dhangal* “tooth”²¹ (RJK)

¹⁹ Poss. source is **ca:ra*, q.v.; alt. (GNOG) *thara*.

²⁰ See also *dha:wu* “word, speech” under **dha:wa*.

KLY	<i>dha:nga</i> “tooth; edge” ²¹ (GNOG)
Yugambeh	<i>je:ng</i> “mouth, beak, lip” ²² (MS)
W. Bundj	<i>je:ng</i> “mouth” ²² (MS)
Buwandik	<i>thanga</i> “tooth” (BB)

Key: ***ca:ra** “mouth” n B

Yinwum	<i>atra, lin-</i> “tongue” ²³ (KLH)
WMungknh	<i>tha:7</i> “mouth; opening; edge of something” (KLH, SIL)
WMe’nh	<i>tha:7</i> “mouth” (KLH)
WNgathrr	<i>tha:7</i> “mouth” (KLH)
WNgathan	<i>tha:7</i> “mouth, entrance; direction” (PS)
WMuminh	<i>thaha</i> “mouth” (KLH)
KUwanh	<i>thaa</i> “mouth” (S&J)
pPaman	* ca:ra (KLH)
Wakaya	<i>thar</i> “mouth, lips” (GB)
Wembawemba	<i>jarb</i> “mouth” Cognate? In <i>jarbin</i> “your mouth”, <i>jarbug</i> “his mouth”. Also <i>jarba</i> “to yawn, to open one’s mouth”. (LH)
Panyjima	<i>thara</i> “mouth” (GNOG, AD)
Palyku	<i>thara</i> “mouth” Alt. <i>thaya</i> . (GNOG)
Yinytji	<i>thara</i> “mouth” Alt. <i>tha:;</i> see * ca:. (GNOG)
Kurrama	<i>thara</i> “mouth” Alt. <i>tha:;</i> see * ca:. (GNOG)
pNgayarta	* cara (GNOG #644)
*pPNy	* ca:ra

Warlmanpa	<i>jaru</i> “language, message, talk” (DGN)
Mudburra	<i>jaru</i> “language” (RG)
Gupa	<i>dha:ruk</i> “word” (BL-MC)
Dhuwal	<i>dha:ruk</i> “word, speech” Also <i>dha:wu</i> “words, speech, story”. (JHeath)
Dhangu	<i>dha:ruk</i> “word, speech, language” (BSch)
Ritharrngu	<i>dha:ruk</i> “word, language” (JHeath)

Key: ***ca:wa** “mouth” n B

WMungknh	<i>thaw-</i> “say; tell; speak” ²⁴ (KLH, SIL)
----------	--

²¹ The voicing of the initial consonant is distinctive but the origin of the distinction is not known; cf. *thana* “they” < ***cana**.

²² See comments under ***ca:.**

²³ ***calan** + ***ca:ra**.

KUwanh	<i>thawa</i> ~ <i>thawe</i> “speak, talk” Source of short V? (S&J)
KThaayorre	<i>tha:w</i> “mouth” (KLH, AH)
YY	<i>thaw</i> ; <i>thawa</i> “mouth”
YMel	<i>thaw</i> “mouth”
KB	<i>thaw</i> “mouth” (BA, KLH)
Kurrtjar	<i>a:γ</i> “mouth” (KLH)
Mbabaram	<i>we</i> “mouth; teeth” (RMWD)
pPaman	*ca:wa (KLH)
GBadhun	<i>dhawa</i> “mouth” (PS)
^^^	
Panyjima	<i>jawurta</i> “beard” (AD)
^^^	
Ritharrngu (JHeath)	<i>dha:wu</i> “word, speech” See als <i>dha</i> : “mouth” under *dha:.
Gupa	<i>dha:wu</i> “message, news, story” Also <i>dhawarrak</i> “beard, facial hair”, <i>dhawarang</i> “hole”, <i>dhawurlunggu</i> “noise of people talking”. See also <i>dha</i> : “mouth” under *dha: (BL-MC)
pPNy	*ca:wa/u

Key: ***ca:ya** “mouth” n B

Yugambeh	<i>jayang</i> “mouth, beak; lip” See comments under *ca: (MS)
Wang (G)	<i>dhaya</i> “mouth” (M&W)
Atnya	<i>yaya</i> “mouth” (Mc&Mc)
Ngarluma	<i>thaya</i> “mouth; door; entrance to burrow—as of goanna; top or lid of container” (KLH)
Gupa	<i>dha:y-dhunupamirriyama</i> “indicate by word” With <i>dhunupamirriyama</i> “point at, point out”, <i>dhunupa</i> “right-hand side; correct; straight”. (BL-MC)

Key: ***ca:mi** “wife’s mother’s brother” (?) n K

KThaayorre	<i>tha:m</i> “wife’s mother’s brother; mother’s mother’s brother’s son” (John Taylor)
Pitta-Pitta	<i>cam</i> i ~ <i>yami</i> “father’s sister” ²⁵ (BB)
Warlpiri	<i>camirdi</i> “mother’s father, mother’s father’s sister” (KLH)
Ngarluma	<i>thami</i> “mother’s father; daughter’s son” (KLH)
Panyjima	<i>thami</i> “mother’s father; daughter’s child (to man)” (AD)

²⁴ Source of short V?

²⁵ Note that *c* and *th* contrast in this position.

Yinytji	<i>thami</i> : “maternal grandfather; daughter’s son (to male); son’s son (to female)” GNOG gives <i>thami</i> with short V2. (FW, GNOG)
pNgayarda	*thami (GNOG #849)
Djiwarli	<i>thami</i> “mother’s father” (PA)
Wariyanga	<i>thami</i> “mother’s father” (PA)
Dhar (l)	<i>thami</i> “mother’s father” (PA)
Dhar (d)	<i>thami</i> “mother’s father” (PA)
pMantharta	*thami (PA #393)
Nyungar	<i>dem</i> “mother’s mother, mother’s father, father’s mother, father’s father” (WD)
pPNy	*ca:mi ²⁶

Key: ***cici** “pus, matter” n B

See also ***wi:ci**.

YY	<i>theth</i> “pus”
WMungknh	<i>theth</i> “dew” (KLH)
KUwanh	<i>thici</i> “pus” (S&J)
Djabugay	<i>jiji</i> “boil, pus” KLH: <i>tjitjir</i> “pus, matter” (final /R/ source?). EP, KLH/BSm
Yidiny	<i>jiji</i> “matter in boil” RMWD A12
Warrungu	<i>jiji</i> “sore” (TTs)
GBadhun	<i>jiji</i> “sore” (n) (PS)
pPM	cici
Yorta Yorta	<i>jijin</i> “sexual emission” Cognate? (B&M)
Gumatj	<i>dhi:thi</i> “sore”
Gupa	<i>ji:ci</i> “sore, hole” (BL-MC)
Dhuwal	<i>ji:ci</i> “wound; sore (on body)” (JHeath)
Dhangu	<i>ji:ci</i> “Wunde” (BSch)
Ritharrngu	<i>ji:ci</i> “sore, wound, injury” (JHeath)
pPNy	*ci(:)ci
^^^	
Nunggubuyu	<i>jiji</i> “sore” ²⁷ (JHeath)
Meriam	<i>ziz</i> “cut, sore, scar” Loan, but from where? (MMb)

²⁶ Semantic connection between the KThaayorre and Pitta-Pitta senses and the others is possibly via Crow skewing (extension of a term’s sense to a relative in the maternal line in an adjacent generation). Possibly the same etymon as ***camu**.

²⁷ Presumed loan from Yolngu.

Key: ***cina** “foot” n B

KYaljina “foot” (Hr&Hr)

Djabugay *jina*: “foot” (KLH, EP)

Yidiny *cina* “foot (of human, animal, insect)” All dialects. (KLH, RMWD A5)

Dyirbal *cina* “foot” (KLH)

pPaman ***cina** (KLH)

Warrungu *jina* “foot” (TTs)

GBadhun *jina* “foot” (PS)

Bidyara *dhina* “foot; claw; track” (GB)

Margany *dhina* “foot” (GB)

Gunya *dhina* “foot” (GB)

M-Kutuna *cina* “foot; track” (GB)

Ngawun *cana* “foot; track”²⁸ (GB)

M-Kulan *cana* “foot”²⁹ (GB)

M-Yapi *cana* “foot; track”²⁹ (GB)

M-Thakurti *cana* “foot”²⁹ Laves has [jan:a]. (GB, GL)

Wunumara *thina* “foot” (GB)

pPM ***cina**

Warrgamay *jinaman* “boots, shoes” Also *jinara* “root” (RMWD)

Nyawaygi *jina* “foot” (RMWD)

Yugambah *jinang* “foot; thumb, big toe; handle” (MS)

W. Bundj *jinang* “foot” (MS)

Gumbainggir *ji:na* “foot” (PA)

pPNNSW ***jinal** (TC)

Wiradjuri *dhinang* “foot” (PA)

Wbuwan *thinaN* “foot; toe” (TD/PA)

Wayilwan *dhina* “foot” (PA)

Gamilaraay *dhina* “foot” (PA)

Yuwaalaraay *dhina* “foot” CW gives *baburr* “foot” in Yuwaaliyaay. Both Yuwaalaraay and Yuwaaliyaay have *dhana* “heel”. (CW, PA)

Muruwari *thina* “foot, toe” (LFO)

pCNSW ***dhinang** (PA)

Yaygir *ina* “foot” (TC)

²⁸ Possible blending with an original **cana*; see the note to the Yuwaalaraay entry. Probably /a./ < *i in this context is regular in Ngawun & other Mayi: cf. *ngula, *pula, *ñurra. That *V1 was *i in this form accounts for C1 as /c/ rather than /th/; cf. *carra, *cana.

²⁹ See note to Ngawun.

Baagandji	<i>dhina</i> “foot, footprint” (LH)
Diyari	<i>thina</i> “foot, track” (PA)
Ngamini	<i>thina</i> “foot” (PA CLE)
Yarluyandi	<i>thina</i> “foot” (PA CLE)
Yandrruwantha	<i>thina</i> “foot” (PA CLE)
Y’warrka	<i>thina</i> “foot” (PA CLE)
Mithaka	<i>thina</i> “foot” (PA CLE)
Karuwali	<i>thina</i> “foot” (PA CLE)
Wang (G)	<i>dhina</i> “foot” (M&W)
Wang	<i>thina</i> “foot” (PA CLE)
Pitta-Pitta	<i>thina</i> “foot” (BB)
pKarnic	*thina (PA CLE)
Yorta Yorta	<i>jina</i> “foot” Also <i>yida</i> “sole of foot, palm of hand”. (B&M)
Madhimadhi	<i>dhina</i> - “foot” Citation form <i>dhinangi</i> ; <i>dhinanggu</i> ERG.(LH)
Werg (Dj)	<i>jina</i> “foot” (LH)
Wembawemba	<i>jina</i> “foot” (LH)
Buwandik	<i>thina</i> “foot, footprint” (BB)
Atnya	<i>idna</i> “foot” (Mc&Mc)
Parnkalla	<i>idna</i> “foot” (KLH)
Wirangu	<i>jina</i> “foot, track” (LH)
Karlamayi	<i>cina</i> “foot” (KLH)
Pitj-Yank	<i>cina</i> “foot, feet; tracks, footprints; tripod” (CG)
Pintupi	<i>cina</i> “foot, footprint” (Hn&Hn)
Wakaya	<i>jina</i> “foot; track” (GB)
Warlpiri	<i>cinarn-kici</i> - “trip him; catch his foot and make him fall” <i>ps</i> : tv2. (KLH)
Walmajarri	<i>cina</i> “foot” (JHd)
Kariyarra	<i>cina</i> “foot” (GNOG)
Ngarluma	<i>cina</i> “foot, track” (KLH)
Palyku	<i>cina</i> “foot” (GNOG)
Panyjima	<i>jina</i> “foot” (GNOG, AD)
Kurrama	<i>cina</i> “foot” (GNOG)
Yinytji	<i>cina</i> “foot; footprint, track” GNOG,FW
Ngarla	<i>cina</i> “foot” (GNOG)
Martuth	<i>jina</i> “track, footprint; foot” Partial syn. <i>camana</i> “foot”: see *camal. (GNOG, AD)
Noala	<i>cina</i> “foot” (GNOG)

pNgayarda	*cina ³⁰ (GNOG #603)
Djiwarli	<i>thina</i> “foot” (PA)
Djururu	<i>thina</i> “foot” (PA)
Wariyanga	<i>thina</i> “foot” (PA)
Dhiin	<i>thina</i> “foot” (PA)
Dhar (l)	<i>thina</i> “foot” (PA)
Dhar (d)	<i>thina</i> “foot” (PA)
pMantharta	*thina (PA #395)
Yingkarta, Sth	<i>jina</i> “foot; track” (PA)
Yingkarta, Nth	<i>jina</i> “foot; track” (PA)
Nhanda	<i>yina</i> “foot; track, footprint” (JB)
Nyungar	<i>cin</i> ~ <i>cen</i> “foot” Also <i>cina</i> . (WD)
pPNy	*cina

Key: *cipa “liver” n B

KKW *sib, sibal* “liver, the seat of some emotions, particularly those that are ‘gut’ feelings or from the heart, such as remorse, pity, love, etc.” (RJK)

Uradhi (At)	<i>lipa</i> “liver” (KLH, TC)
Angkamuthi	<i>yipa</i> “liver” (TC)
Yadhaykenu	<i>yipa</i> “liver” (TC)
Mpalitjanh	<i>ipa</i> “liver” (KLH)
Yinwum	<i>pya</i> “liver” (KLH)
Ngkoth	<i>pya</i> “stomach” (KLH)
Aritinng	<i>pa</i> “liver” (KLH)
Mbiywom	<i>pe</i> “liver” (KLH)
Kaanytju	<i>yipa</i> “liver” (KLH)
Umpila	<i>thi7a</i> ~ <i>yipa</i> “liver” (KLH)
KThaayorre	<i>thi:p</i> “liver” (KLH)
YY	<i>thip, thipa</i> “liver”
YMel	<i>thip</i> “liver”
UOykangand	<i>iφ</i> “liver” PH: thematic vowel is /i/. (PH)
UOlgol	<i>ib</i> “liver” PH: thematic vowel is /i/. (PH)
Kurrjar	<i>yi:β</i> “liver” (KLH)
GYim	<i>dhiba</i> “liver” (KLH, JHav)
KYal	<i>jiba</i> “liver; insides, guts” (Hr&Hr)
Djabugay	<i>jiba</i> “heart, happy” Also <i>burrña</i> “heart”. KLH: <i>tjipa</i> “heart”

³⁰ Also in Wakayic, Arabic.

	“not usual”. (EP, KLH)
Yidiny	<i>jiba</i> “liver; front of shield” (RMWD A9, J4)
Dyirbal	<i>jiba</i> “liver” (KLH)
Mbabaram	<i>be</i> “liver” (DMWD)
pPaman	*cipa (KLH)
GBadhun	<i>jiba</i> “liver” (PS)
Bidjara	<i>dhiba</i> “liver” (GB)
Margany	<i>dhiba</i> “liver” (GB)
Gunya	<i>dhiba</i> “liver” (GB)
pPM	*cipa
M-Kutuna	<i>cipa</i> “stomach” (GB)
Yorta Yorta	<i>dipa</i> “chest; heart” Mistranscription of initial C? (B&M)

pGunwinyguan *ciw (liver) (MH B35)

Key: ***ci:rni** “stick” n P, B

YYoront	<i>then, thenelh, thene</i> “penis”
YMel	<i>then</i> “penis”
KBera	<i>then</i> “tail” (KLH)
Ngawun	<i>thirni</i> “tree, wood, stick” (GB)
ECArrente	<i>arne</i> “tree, bush, shrub, woody plant; stick, piece of wood; thing(s), something (not necessarily made out of wood; someone’s possessions, things” Used also as a generic with a following specific term. (H&D)
WArrente	<i>irne</i> “tree; stick” (GB)
pPNy	*ci(:)rni The lenis nasal in the Arrente forms suggests that V1 was long. KLH has <i>*cirni</i> “tree” (questioned as to pPNy age). (KLH 1982:374)

Key: ***curlpi** “mud” n E

YY	<i>tholp, thilpi</i> “mud” Also <i>kun-tholp</i> “muddy faeces, diarrhoea”.
Guwa	<i>thulpi</i> “swamp”
Pitj-Yank	<i>curlpirr(pa)</i> “mud” (CG)
pPNy	*curlpi (BA)

Uradhi (At)	<i>lutpi</i> “belly, stomach” (KLH, TC)
Angkamuthi	<i>lutpi</i> “belly” (TC)
Yadhaykenu	<i>lutpi</i> “belly” (TC)

WMungknh	<i>thip</i> “stomach, belly” ³¹ (KLH)
WMe’nh	<i>thöyp</i> “stomach, belly” (KLH)
WNgathrr	<i>thilp</i> “stomach, belly” (KLH)
WNgathan	<i>thælp</i> “belly, stomach” (PS)
WMuminh	<i>thupi</i> “stomach, belly” MS has “tupi”. (KLH)
KUwanh	<i>thupi</i> “stomach, guts” (S&J)
Kaanytju	<i>yul7i</i> “stomach, belly” (KLH)
Umpila	<i>thul7i</i> “stomach, belly” (KLH)
KYaljulbi	“guts, abdominal contents, lining of abdomen” Yalanji dialect; <i>juwul</i> in Nyungkul. Note also <i>julbiji</i> “diarrhoea”. (Hr&Hr)
pPaman	*culpi (KLH)
Yugambeh	<i>julba</i> “belly; stomach” (MS)

Warlpiri	<i>culpurpa</i> “pile of earth or sand” (KLH)
Warlmanpa	<i>jurlpu</i> “sandy country” (DGN)
Wakaya	<i>thurlpu</i> “sand, sandhill” (GB)

Gupa	<i>dhu:rlu</i> “mud” (BL-MC)

Key: ***curtu** “sand” n E

YY	<i>thortm, thortomn</i> “sand (river)”
YMel	<i>thotvm, thotomvn</i> “sand (river)”
Mudburra	<i>jurdurdu</i> “dirt; dirty” Ex. given is dirty water. (RG)
Walmajarri	<i>curtu</i> “dust” Syn. <i>punturr</i> . (JHd)
Yinytji	<i>curtu</i> : “dust” Initial dental (<i>thurtu</i> :) expected. (FW)
pPNy	*curtu
^^^	

Yangkaal	<i>curtu</i> “dust” (NE)
Yukulta	<i>curtu-wa</i> “dust” Also <i>curturlu</i> “dusty” (NE)

pSouthernTangkic ***curtu** (NE)

Key: ***cuwa** “child (to woman), sister’s child” n K

YY *thuwa, thuwa* “child (to woman), sister’s child” Both are proper noun (address) forms.³²

Koko-Bera *thuwaýrr, pa-* “female cross cousin” To a male, not marriageable; to a female, can be an in-law. Sense is skewed one

³¹ See also **cipa* (“liver”).

³² The presence of V2 in the second alternant implies a former third syllable.

	generation up from original. Term of reference, not address. Also <i>thuwi</i> , <i>thuwwntang</i> .
UOy kangand	<i>uwa</i> + “woman’s child; man’s sister’s child” In <i>uwangar</i> (reference), <i>wuwáng</i> (address; reduplicated), <i>uwarñjarr</i> (respect register). (BA, PH)
UOl gol	<i>uwa</i> + “woman’s child; man’s sister’s child” In <i>uwadh</i> . (PH)
GYimithirr	<i>dhuway</i> “son (to woman), sister’s son” (JHav)
KYaljuway	“great grandfather”; “sister’s child (to man), brother’s child (to woman)” (Hr&Hr)
pPaman	*cuwa
GBadhun	<i>dhuwana</i> “nephew (SiSo, BrSo)” (PS)
Margany	<i>dhuwana</i> “son (of woman)” Also <i>dhuwañ</i> . (GB)
Gunya	<i>dhuwana</i> “son (of woman)” Also <i>dhuwarn</i> . (GB)
pPM	*cuwa (BA)
Wunumara	<i>thuwaNi</i> ³³ “child (to woman); sister’s child” (GB)
Pitj-Yank	<i>cuwari</i> “a woman’s sister-in-law (SiHu [sic—for BrWi?]) or HuSi)” (CG)
Ngarluma	<i>thuwa</i> “aunt, father’s sister; son’s son’s daughter” By Crow skewing. (KLH)
Payungu	<i>thuwa</i> “brother’s wife” (PA)
Thalanyji	<i>thuwa</i> “sister-in-law” (PA)
Gupa	<i>dhuway</i> “father’s sister’s children, cousin; husband” (BL-MC)
Dhuwal	<i>dhuway</i> “woman’s husband or husband’s sister” (JHeath)
Ritharrngu	<i>dhuway</i> - “husband” Cf. <i>galay</i> - under *ka:la for semantic shift. (JHeath)
pPNy	*cuwa
pPNy	*cuway

Wakaya	<i>thuwa</i> “mate” (GB)

Key: *c^yarra “seagull” n Z, B, M

KKW	<i>sara, saral</i> “seagull, tern” (RJK)
Yadhaykenu	<i>carra</i> “seagull” (TC)
Mpakwithi	<i>yarra</i> “seagull” A loanword. (TC)
Umpila	<i>carra</i> “seagull”
Gupa	<i>dharrak</i> “large white seagull” (BL-MC)
Djapu	<i>dharrak</i> “tern (sp)” (FMo)

³³ Position of “N” unknown.

Dhuwal	<i>jarrak</i> “silver gull” ³⁴ (JHeath)
Dhangu	<i>jarrak</i> “seagull” (BSch)
Ritharrngu	<i>jarrak</i> “silver gull” (JHeath)
pPNy	*c^yarra ³⁵ (GNOG in LCY: 63)

Nyangumarta	<i>tarra</i> “seagull” (GNOG)

Key: ***kaca-** “tie” vtr

Atampaya	<i>atha-</i> “tie; weave” <i>ps.</i> : Conj. II; <i>athan</i> Past, <i>athal</i> Pres. (TC)
Angkamuthi	<i>atha-</i> “tie; weave” <i>ps.</i> : Conj. II; <i>athan</i> Past. (TC)
Yadhaykenu	<i>atha-</i> “tie; weave” <i>ps.</i> : Conj. II; <i>athan</i> Past, <i>athal</i> Pres. (TC)
Mpakwithi	<i>tha</i> “tie” (TC)
Linnghithigh	<i>tha-</i> “tie” (KLH)
WMungknh	<i>kath-</i> “tie” (KLH)
WMe’nh	<i>kath-</i> “tie” (KLH)
Umpila	<i>katha-</i> “tie” L conj. GNOG, KLH
KThaayorre	<i>katha</i> , <i>katharr</i> “gird, wrap; bind” <i>ps.</i> : Cnt P <i>kathatharr</i> . In expression <i>mimp kath-</i> “gird, wrap with clothing”. (AH)
YY	<i>kay</i> , <i>kuy</i> “tie” <i>ps.</i> : L conj.; Cnt nP <i>kalkayl</i> .
Rimangg	<i>tha</i> “tie” Reduplicated as <i>thaltha</i> . (IG)
GYim	<i>gadha-</i> “tie up” Ref. “be imprisoned, tie self” (JHav)
KYalkaja-	“tie” L conj. (Hr&Hr)
pPaman	*kaca- (KLH)

Marganya	<i>gacu-</i> “tie” /th/ expected. (GB)
Gunya	<i>gaju-</i> “tie” /dh/ expected. (GB)
Wang (G)	<i>gacu-</i> “tie” (M&W)
Ritharrngu	<i>gatha-</i> “hold, grasp” <i>ps.</i> : Class 4 p65. Belongs with this set? (JHeath)
Dhuwal	<i>gatha-</i> “hold; seize; give something (to NPDat)” <i>ps.</i> : v4tr, p65. Belongs with this set? (JHeath)

Key: ***kacin** “digging stick” n T

See also ***kana**.

WMungknh *kac.n* “digging stick” (KLH)

³⁴ Contrast initial stop in *dha:rra-* “stand” < ***ca(:)rra-**.

³⁵ The regularity of Gupa & Djapu *dh* < ***c^y** needs demonstration, but Dhuwal, Dhangu, and Ritharrngu attest an alveopalatal.

WNgathrr	<i>kac.n</i> “digging stick” (KLH)
WNgathan	<i>kethvn</i> “yamstick, fighting stick” Poss. also [kethin]. Also <i>kachin-woy</i> “false woomera, made of ironwood”. (PS)
WMuminh	<i>kacin</i> “digging stick” (KLH)
KUwanh	<i>kacin</i> “yamstick” (S&J)
Kaanytju	<i>kacin</i> “digging stick” (KLH)
Umpila	<i>kacin</i> “digging stick” (KLH)
KThaayorre	<i>kathn</i> “digging stick” (KLH)
YY	<i>kathn</i> , <i>kithilh</i> “digging stick” ³⁶
YMel	<i>kathvn</i> , <i>kathith</i> “digging stick” ³⁶
UOygangand	<i>acin</i> , <i>acinhdh</i> “yamstick” (BA)
UOlgo	<i>ajin</i> “yamstick” (PH)
KNarr	<i>kacin</i> “girl” (GB)
Flinders Island	<i>áthin</i> “digging stick” (PS)
pPaman	*kacin (KLH)
Warrgamay	<i>gajin</i> “female; yamstick” Also <i>gajiya</i> “young girl”. (RMWD)
^^^	
Kayardild	<i>kathirr-a</i> “digging stick” (NE)
Yukulta	<i>kathirra</i> “yamstick” (NE)
Lardil	<i>katjika</i> “spear type; fighting stick with a long point” <katjikatji->. (NE)
pT	*kathirr-a (NE)
^^^	
Mudburra	<i>kajirri</i> “old woman; wife; partly blind” (RG)

Mudburra	<i>kajin</i> “mother-in-laws” (RG)

Key: ***kakara** “moon”

See also ***pira**.

YY	<i>ka7ar</i> “moon” <i>ps</i> : Oblique case-forms in <i>ka7r(+)</i> .
YMel	<i>kakar</i> “moon”
Koko-Bera	<i>kakér</i> “moon”
Dyirbal	<i>kakara</i> “moon” (KLH; not in RMWD 1972)
pPaman	*kakara (KLH)
Bidjara	<i>gagarda</i> “moon” (GB)
Mayi-Yapi	<i>kakara</i> “moon” (GB)
Wunumara	<i>kakara</i> “moon” (GB)

³⁶ Cf. *kacl*, *kicirr* “urine” < *kañci.

- Mayi-Kutuna *kakara* “moon” (GB)
pPM ***kakara**
 Kaurna *kakirra* “moon” T&C; Gaimard gives *kaker* (and Wyatt *karka:ra*, per Jane Simpson [pers. comm.], who regards the fluctuation in transcriptions of V2 as possible evidence that C3 is a retroflex glide and not a tapped liquid; otherwise the nature of the “rr” is uncertain). (T&C, G-A)
pPNy ***kakara** With regard to the “moon”–“east” connection (see below), note Kayardild *balurdiinda* “new moon” [lit. “westward-sitter”, so-called because the new moon is always in the west at dusk] and *riyathi-diinda* “full moon” [lit. “far-east sitter”]. Note also however the problem with /rr/ mentioned below for the Western Desert languages.

^^^

- Wirangu *gagarrara* “east” (LH)
 Warlpiri *kakarrara* “east” (KLH)
 Pitj-Yank *kakarrara* “east; on the eastern side” (CG)
 Pitjupi-Luritja *kakarra(ra)* “east” The /rr/ is not the regular reflex of *r in this position; cf. *yangkarl+pa* “buttock area, hips” < *yangkara. Note also *rakarra* “moonliyt; predawn liyt, post-sunset liyt; loosely sunset”. (WD)
 Warburton R. *kakarrara* “east” The /rr/ is not the regular reflex of *r in this position; cf. *yangkarl+pa* “buttock area, hips” < *yangkara. Note also *rakarra* “moonliyt; predawn liyt, post-sunset liyt; loosely sunset”. (WD)
 Walmajarri *kakarra* “east” (JHd)

pKanyara-Mantharta ***kakara** “hip” (PA #26)

Key: ***kalka** “spear” n T

- Mpalitjan *aka* “spear” (KLH)
 Mbiywom *ilka* “spear” (KLH)
 Yinwum *ika* “spear” (KLH)
 Ngkoth *ika* “spear” (KLH)
 Aritnngithigh *ika* “spear” (KLH)
 Umpila *kalka* “spear; porcupine quill” (KLH)
 WMungknh *kek* “spear” (KLH)
 WMe’nh *keyk* “spear” (KLH)
 WNgathrr *kalk* “spear” (KLH)
 WNgathan *kalk* “spear” (PS)
 WMuminh *keka* “spear” (KLH)
 KUwanh *keka* “spear” (S&J)

KThaayorre	<i>kirk, kirka</i> “spear” (AH)
YYoront	<i>kal7, kal7alh, kal7a</i> “spear” (BA)
YMel	<i>kalk, kalkath</i> “spear” (BA)
Koko-Bera	<i>kalk, kalkénhth</i> “spear” (BA)
KNarr	<i>kalk</i> “spear” (GB)
UOygangand	<i>alk, alkanhdh</i> “spear” (BA)
UOlgo	<i>alka, alkanhdh</i> “spear” (PH)
Kurrtjar	<i>a:lk</i> “spear” (KLH)
Muluridji	<i>kalka</i> “spear” (KLH)
GYim	<i>galga</i> “spear” Also <i>galgan</i> “porcupine quill”. (JHav)
Rimanggudinhma	<i>alka</i> “spear” <i>ps</i> : Erg <i>alkaw</i> . (KLH, IG)
HR	<i>vlka</i> “spear” (KLH, LJ)
KYalanji	<i>kalka</i> “fishing spear, also generic term for spear” <i>pa</i> : Erg <i>kalkabu</i> . (Hr&Hr)
Djabugay	<i>galga</i> “fighting spear” <i>ps</i> : Instr-Loc <i>galganggu</i> . Possibly also <i>galgalay</i> “long, tall”. (EP)
Ogunyjan	<i>alk3, alkanh</i> “spear” (KLH, BSm)
Walangama	<i>alk</i> “spear” (PB)
Kuthant	<i>a:lk</i> “spear” (PB)
pPaman	*kalka (KLH)
Mayi-Kulan	<i>kalka</i> “spear” (GB)
Wunumara	<i>kalka</i> “spear; death-bone apparatus” (GB)
Wargamay	<i>galgay</i> “spear (generic)” <i>ps</i> : Erg <i>galga(y)ju</i> . (RMWD)
Nyawaygi	<i>galgay</i> “spear for hand spearing” <i>ps</i> : Erg <i>galgaju</i> . (RMWD)
Madhimadhi	<i>galgi</i> [galki] “stick” (LH)
Wergaia (Djadjala)	<i>galg</i> [galk] “stick, tree” (LH)
Woiwurrung	<i>galk</i> “stick, tree, wood” Also <i>galk-galk</i> “stick”, <i>galk</i> “bone”, <i>galk gawang</i> “skull”. (BB)
Wathawurrung	<i>kalk</i> “wood” Also <i>kalkalk</i> or <i>galk galk</i> [in original sources] “log”, darra-kalk “tree branch” (BB)
Yanyuwa	<i>kalkaji</i> “spear; wire (four-prong) spear” Probably a loan; see <i>a-yalwa</i> “path, road” under *yalka. (JB)
Wadjuk	<i>kalga</i> “crook for pulling branches down” (GNOG)
pPNy	*kalka (KLH 82:373)
^^^	
GBadhun	<i>galgan</i> “ironbark tree” (PS)
^^^	
Gippsland	<i>galek</i> [galvk] “stick” (LH)

KLY *klak, kælaka* “spear” (EB)

^^^

Baagandji *galgurru* “spear, a barbed spear” (LH)

Key: ***kali** “water” n E

YY *kal, kili* “dew”

KYal *kali* “discharge from the eye” (Hr&Hr)

^^^

Wiradjuri *galing ~ galiñ* “water” (PA)

Wbuwan *kaliN* “water” (TD/PA)

Wayilwan *gali* “water” (PA)

Gamilaraay *gali* “water” (PA)

pCNSW ***galing*** (PA #48)

Warlpiri *kiliki* “heavy rain, steady rain (like winter rain); running water, runoff after rain” (KLH)

Key: ***kalmpa** “fast” nAdv

WMungknh *kamp* “fast” (KPPW)

WNgathan *kampvl* “quickly, fast (of motion)” Also *kempiy* “up, upwards, on top”, with characteristic *a > e before *l. (PS)

YY *kalpn* “fast, hard”

KB *kalmpá* “first” (BA)

GYim *galmba* “and, also, more” (JHav)

pPaman ***kalmpa**

ECArremte *amparre* “first”³⁷ (H&D)

Warlpiri *kamparru* “ahead, in front, first, before, at the beginning” (KLH)

Warlmanpa *kampa* “in front, ahead” (DGN)

Mudburra *kamparra* “in front, before, in the lead; old” Also
kambarrakambarra “long ago, olden days; big mob in the lead”;
kambarrambarra “long ago”; *kambarrajbunga* “former (people)”.
(DGN/PMcC, RG)

Bayungu *kamparri* “ahead, in front, first, before” (PA)

Thalandji *kamparri* “ahead, in front, first, before” (PA)

Burduna *kaparri* “ahead, in front, first, before” (PA)

PKanyara ***kamparri** (PA)

³⁷ In the construction *ke+amparre*, can be reduced to *kamparre*. Per HK’s analysis, the /a/ suggests that this is a loan.

pPNy ***kalmpa**

Key: ***karlu** “rat” n Z

Wik-Mungknh *kal* “rat” (KPPW)

Pakanh *kalu, minha* “mouse” (PH #557)

KThaayorre *kal, kala ~ kalnhthurr; minh-* “rat” (AH)

YY *kal, kulu; minh-* “rat” (*Rattus conatus*)

YMel *kal, minh-* “rat”

L ***kalu, minha-**

Kalkatungu *karlu* “bush rat” Loan? (BB)

pNE (?) ***kalu**

Yindjibarndi *kaluñca* “house mouse”³⁸ (GNOG/FW)

Panyjima *karluñca* “type of mouse”

pPNy ***kalu**³⁹ (GNOG)

^^^

Nggerikudi “*lai*” “mouse, rat”⁴⁰ (Hey)

Key: ***karli-** “pierce” vtr

YY *kal* “spear, pierce” *ps:* vtr, L, i.

YMel *kal, kali+* “spear, pierce” *ps:* vtr, L.

Atnya *ardli-* “debark, take wrapping from, peel” (Mc&Mc)

Warlpiri *karla-* “dig for; dig up” *ps:* tv1: *karlaca* P, *karla(mi)* nP,

karlaya Imp. Note that this is not the cognate of the YY & YMel L conjugation. (KLH)

Karajarri *kali-* “dig” (GNOG)

Nyangumarta *karli-* “dig (e.g. a hole)” *ps:* vtr, b conj: *karlinyi* P, *karli*

Optative, *karliyi* Imp.⁴¹ (GNOG)

pPNy ***ka(r)li-**⁴² (BA)

Key: ***kami** “mother’s mother” n K

Uradhi *ami* “mother’s mother” (KLH)

³⁸ GNOG 2001: pNgayarda; on the basis of Yindjibarndi & non-Ngayarda languages?

³⁹ The **Yindjibarndi** and Kalkatungu forms suggest that the original had a retroflex lateral, but the Yindjibarndi form suggests it was nonretroflex.

⁴⁰ Poss. *i* (/y/?) < *u as in *ta:ku.

⁴¹ Note that this is not the cognate of the YY & YMel L conjugation.

⁴² See also ***la:ma-** for the “spear, pierce, dig” polysemy. Conjugational difference between eastern & western languages casts doubt on cognation.

Mpalitjanh	<i>mi-</i> “mother’s mother” (KLH)
Yinwum	<i>me-</i> “mother’s mother” (KLH)
Linngithigh	<i>mi-</i> “mother’s mother” (KLH)
Alngith	<i>may-</i> “mother’s mother” (KLH)
Awngthim	<i>mayi</i> “mother’s mother” (KLH)
Ntra’ngith	<i>mi-</i> “mother’s mother” (KLH)
Ngkoth	<i>may-</i> “mother’s mother” (KLH)
Aritinng	<i>may-</i> “mother’s mother” (KLH)
Mbiywom	<i>me-</i> “mother’s mother” (KLH)
WMungknh	<i>kem(-wayaw)</i> “mother’s mother” (KLH)
WMe’nh	<i>kem</i> “mother’s mother” (KLH)
WNgathrr	<i>kem(-yangk.th)</i> “mother’s mother” (KLH)
WNgathan	<i>kem-</i> “parallel grandparent: father’s father, mother’s mother”
Var. <i>keniy</i> . Also <i>kemvnh</i> “mother’s mother” (etc.) (PS)	
WMuminh	<i>kame(-ling)</i> “mother’s mother” (KLH)
Umpila	<i>kami(-cu)</i> “mother’s mother” (KLH)
KThaayorre	<i>(ngan-)keme</i> “mother’s mother” (KLH)
YY	<i>keme ~ kem</i> “mother’s mother, mother’s mother’s brother”
YMel	<i>keme</i> “mother’s mother, mother’s mother’s brother”
GYim	<i>gami</i> “father’s father, mother’s mother” Also <i>gaminhdharr</i> “parallel grandchild”. (JHav)
Kyal	<i>kami</i> “father’s father, mother’s mother” (Hr&Hr)
Djabugay	<i>gami</i> “father’s father, mother’s mother, son’s son” Also <i>gaminjarr</i> “grandchild”, ⁴³ (KLH, EP)
Mbabaram	<i>ami</i> “grandmother” (RMWD)
pPaman	*kami (KLH)
GBadhun	<i>gami</i> “mother’s mother” (PS)
Bidyara	<i>gami</i> “mother’s mother” (GB)
Margany	<i>gamiñ</i> “mother’s mother” Also <i>gaminu</i> “elder sister”. (GB)
Gunya	<i>gamiñ</i> “mother’s mother” (GB)
pPM	*kami (BA)
Ngawun	<i>kamin</i> “mother’s mother; woman’s daughter’s child” (GB)
M-Kulan	<i>kamin</i> “mother’s mother; woman’s daughter’s child” (GB)
M-Yapi	<i>kamin</i> “mother’s mother; woman’s daughter’s child” (GB)
M-Thakurti	<i>kamin</i> “mother’s mother; woman’s daughter’s child” (GB)
Wunumara	<i>kamin</i> “mother’s mother; woman’s daughter’s child” (GB)

⁴³ Djabugay distinguishes *nj/ñj*; this is possibly a typographical error—compare the GYim cognate.

Yugambeh	<i>kami</i> “father’s mother” Southern dialects; elsewhere “grandmother”; “mother’s mother” & also “son’s child” in one listing. ⁴⁴ (MS)
W. Bundj	<i>gami</i> “father’s mother; grandchild (to female ego)” ⁴⁴ (MS)
Gumb	<i>gami</i> “grandmother” ⁴⁵ (DE)
Diyari	<i>kami</i> “father’s mother” (PA)
Ngamini	<i>kami</i> “father’s mother” (PA)
Yarluyandi	<i>kami</i> “father’s mother” (PA)
Yandrruwantha	<i>kami</i> “father’s mother” (PA)
Y’warrka	<i>kami</i> “father’s mother” (PA)
pCK	*kami (PA)
ECArernte	<i>ipmenhe</i> “mother’s mother; daughter’s child” (H&D)
Pitj-Yank	<i>kami</i> “grandmother, great-aunt, etc.; used affectionately by grandmothers of or to their granddaughters, grandnieces, etc.” (CG)
Pintupi-Luritja	<i>kami</i> “granddaughter, grandmother; all departed female ancestors; female offspring below the daughter generation” \s HN&Hn
Warburton	<i>kamina</i> “female (e.g. a female animal)” Questionable. (WD)
Manjiljarra	<i>kami</i> “grandmother” Syn. <i>ñami</i> . (PMcC)
Mudburra	<i>kamiñjarra</i> “woman’s daughter’s children” (RG)
Nyangumarta	<i>kami(c)</i> “mother’s mother” (GNOG)
Yingkarta, Nth	<i>kami</i> “father’s father” (PA)
Yingkarta, Sth	<i>kami</i> “father’s father” (PA)
Nhanda	<i>ami</i> “brother-in-law” By alternate-generation equivalence from “grandparent” (the only attested “grand” kin tern is <i>andadi</i> “grandparents; grandchildren”)? Syn. <i>ngabari</i> (loan from Wadjuk). (JB)
Watjarri	<i>kami</i> “grandfather (father’s father, mother’s father)” (WD)
Gupa	<i>gamiñarr</i> “waku’s [woman’s child’s] gäthu [man’s child] or gäthu’s waku; grandchild” (BL-MC)
Dhuwal	<i>gamiñarr</i> man’s daughter’s child; sister’s son’s child; etc.” (JHeath)
Ritharrngu	<i>gamiñarr</i> “daughter’s child; sister’s son’s child” (JHeath)
pPNy	*kami Also *kamiñcarr . ^^^
Yuwaalaraay	<i>gamiyan</i> “father’s sister” (CW)

Key: ***kana** “digging stick” n T

⁴⁴ Note lack of final /ng/.

⁴⁵ Long V1 expected (see *carra, *kuna, *lirra); possibly a loan.

See also *kaci.

Almura	<i>kana</i> “digging stick” (JHav/BR)
Bidyara	<i>gana</i> “yamstick, digging stick” (GB)
pPM	*kana
Yugambeh	<i>kanay</i> digging stick, yamstick; ironbark spear, heavy spear of hardwood” Var. <i>kanayba</i> ·, <i>kana:y</i> (?). (MS)
W. Bundj PA)	<i>ganay</i> “digging stick, yamstick” Also “ironbark tree”. (MS,
Gumb	<i>ganay</i> “digging stick, yamstick” ⁴⁶ (DE)
pNSW	*ganay (TC)
Wiradjuri	<i>gana:y</i> “digging stick, yamstick” (PA)
Wbuan	<i>kanay</i> “digging stick, yamstick; crowbar” (TD/PA)
Gamlaraay	<i>gana:y</i> “digging stick, yamstick” (PA)
Yuwaaliyaay	<i>gana:y</i> “digging stick, yamstick” CW gives only <i>dhi:nba:y</i> “yamstick” for this dialect. (PA)
Yuwaalaraay	<i>gana:y</i> “yamstick” (CW)
Muruwari	<i>kanay</i> “yamstick” Syn. <i>karray</i> . (LFO)
pCNSW	*gana:y (PA #51)
Yorta Yorta	<i>gana</i> “yamstick” (B&M)
Woiwurrung	<i>ganañ</i> “yamstick” (BB)
Buwandik	<i>kana</i> “yamstick” (BB)
ECArernte	<i>atneme</i> “yamstick” (H&D)
Warlpiri	<i>kana</i> “digging stick” (KLH)
Warlmanpa	<i>kana</i> “digging stick” (DGN)
Walmajarri	<i>kana</i> “yamstick (digging stick)” Syn. <i>milkirn</i> . (JHd)
Djaru	<i>kana</i> “digging stick” Cf. <i>karna</i> “spear”. (TTs)
Nhanda	<i>wana</i> “digging stick” ⁴⁷ (JB)
Dhangu	<i>garna</i> “spear” Cognate? (BSch)
pPNy	*kana
^^^	
Djinang	<i>garni</i> “digging stick” (BW)
Djinba	<i>garni</i> “digging stick” (BW)
^^^	
Wirangu	<i>wana</i> “digging stick” (LH)

⁴⁶ Short V1 is possibly regular in *CVCVC (cf. *pina & *yarra with *carra, *kuna, & *lirra reflexes).

⁴⁷ Lenited initial *k is inconsistent with lost *k in *atpi*- “tie” < *karrpi-.

 GBadhun *ganda* “digging stick” (PS)

*Key: *kana* “finished, ready” particle

WMungknh *kan* “already done, finished; then, now; (with command) right now, at once”. Also *kanvm* “already done, finished”. (KPPW)

WMungknh *kanvk* “ready to do something; enough!” (KPPW)

WNgathan *kan* “perfective, desiderative/inceptive, habitative; ready! OK please, let’s go” (PS)

KUwanh *kana* “(Perfective): completed action, change of state or action which is about to begin or has begun; it’s over, finished” (SJ-IS)

Pakanh *kana(ka)* “finished”

YY *kana* “finished; ready; enough; all right”⁴⁸

YMel *kana* “finished; ready; enough”⁴⁸

KNarr *kanvngk ~ kan* [ka:n] “now” (GB 258)

GYim *gana*: “allright, OK, ready, already, first” (JHav)

Djabugay *gana* “always” (EP)

Yidiny *gana* “try, must try, must now, then try, then have to” Also *ganan* “do for a short while; in turn”. (RMWD Z1, Q3, texts)

pPaman ***kana(ka)**

Ringa-Ringaroo (Curr 102) “*cunna*” “by and by”

Pitj-Yank *kana* “awake; alive; in good health; raw” Syn. *wanka*. (CG)

Pintupi *kana* “alive, awake, conscious, raw Also *kanarriṅgu* “to become awake [etc]” (Hn&Hn)

WD (Warburton) *kana* “alive, green, unripe” (WD)

Gupa *gana*⁷ “enough, adequate” Cognate? Also *ga:na* “alone, by oneself, separate, different”. (BL-MC)

Dhangu *ga:na* “alone” Cognate? (BSch)

^^^

Yinytji *kanangkarri-* “come; arrive; appear” *ps*: v0; *karri-* is “to stand”. (FW)

Nhanda *kanangga* “true; truth” Probably a loan. (JB)

Ritharrngu *gana* “so that” *ps*: particle. Also *ga:na* “alone, by oneself”, *ga:na-gana* “one by one, separately”. (JHeath)

Martuth *kana* “visible; light; clear (of sky)” Also (as subheadings)

⁴⁸ Presence of V2 conditioned by a former 3rd syllable.

	<i>kanangkalwa</i> - “to make visible, to uncover”; <i>kanangka-mpa</i> - “to come into the clear” [cf. Yinytji <i>kanangkarri</i> - come, arrive, appear; above];
	<i>kanangkal-kanangka</i> :- “to become daylight”. (AD)
Panyjima	<i>kana</i> “clear; visible; light” (AD)
Yinytji	<i>kana</i> “clear(ing), visible; light, bright” (FW)

Martuth	<i>kana</i> “rhetorically” (AD §7.2.6 pp170-1)

Maranungku	<i>kana</i> “here, take it” (DT)

Nyungar	<i>karnañ</i> “true, trustworthy” (WD)

Key: ***kañc^yi** “urine” n B

See also **kumpu*.

YY	<i>kacl, kicirr</i> “urine” ⁴⁹
YMel	<i>kacl, kacirr</i> “urine” ⁴⁹
KB	<i>koñc</i> “urine” (BA)
MM	<i>kañc</i> “urine” MMcD records with half-long vowel. Also “urinates”; also <i>kanjimung</i> “to urinate”. (All sources)
pPNy	*kañc^yi

Key: ***kapi+** “woman” n H

YY	<i>keperr, pam-</i> “older sister” Also <i>pam-kewrr-mart</i> “daughter (to man)”, <i>pam-kawrr-e7err</i> “older sister (to woman)”
UOygangand	<i>aber</i> “woman”
UOlgo	<i>aber</i> “woman”
GYim	<i>gabi:rr</i> “girl, female” (JHav)
Mbabaram	<i>abar</i> “sister” Cognate? (RMWD)
pPaman	*kapirrV (BA)
Warlpiri	<i>kapirdi</i> “older sister” (KLH, ML)
pPNy	*kapi+
Ritharrngu	<i>gapirri-</i> “sister’s child” ⁵⁰ (JHeath)
Djinang	<i>gapirri</i> “nephew (sister’s son)” ⁵⁰ (BW)
Djinba	<i>gaparra</i> “nephew (sister’s son)” ⁵⁰ (BW)

Key: ***kari** “not” particle

⁴⁹ Cf. *kathn, kithilh* “yamstick” < **kaci(n)*.

⁵⁰ Semantic connection: Crow skewing (“cousin”); cf. **cuwa*.

See also *wi:ya.

Atampaya	<i>arama</i> “not; no” (TC)
Angkamuthu	<i>arama</i> “not; no” (TC)
Yadhaykenu	<i>arama</i> “not; no” (TC)
WMungknh	<i>ke7</i> “not” (KLH)
WNgathrr	<i>ke7</i> “not” (KLH)
WNgathan	<i>ke7</i> “not, isn’t don’t” (PS 299)
WMe’nh	<i>ka7y</i> (?) “not” (KLH)
WMuminh	<i>ka7i</i> “not” (KLH)
KThaayorre	<i>ka(:)r</i> “not” (KLH, BA)
YY	<i>kar</i> “not” (KLH)
YMel	<i>kar</i> “not” (KLH)
Awu-Laya (KThaypan)	<i>ray</i> “not” (BR)
KNarr	<i>kar</i> “not” (GB)
Rimangg	<i>ari</i> NEG (IG)
GYim	<i>gari</i> “not” JHav has <i>ga:ri</i> . (KLH, JHav)
Muluridji	<i>kari</i> “not” (KLH)
CC	<i>kari</i> “not” (KLH)
KYal	<i>kari</i> “negative, no; conjunction meaning but or however; in discourse, on the paragraph level used to indicate a change of focus” (Hr&Hr)
HR	<i>vray</i> “not” (KLH)
ON	<i>ar3</i> “not” Also <i>ar3mvl</i> “don’t”. (KLH, BA)
Djabugay	<i>gari</i> “not; no” (KLH, EP)
Mbabaram	<i>arri</i> “no, not” Why /rr/? (RMWD)
pPaman	*kari ~ *kara ⁵¹ (KLH)
GBadhun	<i>gara</i> “not” (PS)
Bidjara	<i>garda</i> “not; no” Also <i>gardaru</i> , <i>gardabarri</i> , <i>gardabadi</i> “not”. (GB)
Margany	<i>garda</i> “not” Also <i>garu</i> “in vain”. (GB)
Gunya	<i>gara</i> “not” (GB)
pPM	*kara
Yuwaalaraay	<i>gariya</i> “don’t” (CW)
Wakaya	<i>kal</i> “not” Also <i>kil</i> “not; like”. Cognate? (GB)
Warlpiri	+ <i>kari</i> “another” Also <i>kariyiñanu</i> “another (like) self”. (KLH, ML)

⁵¹ “Other Paman” list has only *kari. The KThaayorre and GYim long-vowel variants suggest also *ka:ri.

Warlpiri	<i>kari</i> “fail to see, recognise” <i>ps</i> : Preverb with verbs of perception. Also “it appears from perceptual evidence to be the case that” (propositional [evidential] particle); “not have knowledge of, not be involved or concerned with” (particle). (ML)
Warlmanpa	<i>kari</i> “I don’t know” Also “far”; also in <i>milkari</i> “blind” (see *mi:l). (DGN)
Mudburra	+ <i>kari</i> “different; another” (RG)
Djaru	+ <i>gariñ</i> ~ + <i>wariñ</i> “another, other, different; by oneself” The w-initial alternant after a vowel. (TTs p231)
Nhanda	<i>ari</i> (question particle) (JB)
pPNy ^^^	* kari
Yanyuwa	<i>waraba</i> “no, not; none, nothing; not any more” ** <i>warda</i> -expected? (JB)

Key: *karrpi- “hold together” vtr

KThaayorre	<i>katpi-</i> “catch (as fish in net), grasp (by hand); heal, restore” <i>ps</i> : Past <i>katpirr</i> , nP <i>katpvr</i> . Also <i>katpatp(irr)</i> “cling, hug”. (AH, BA)
UOykangand	<i>arrphi-</i> “grab; touch, catch, hold, take” <i>ps</i> : Past <i>arrphiirr</i> , Pres <i>arrphin</i> , Imp <i>arrphil</i> . (BS, PH)
KNarr	<i>katpi-</i> “hold” <i>ps</i> : Pres <i>katpiß</i> , Prp <i>katpilk</i> . (GB)
GYim	<i>garba-</i> “hold, touch, grab” <i>ps</i> : L conj: nP <i>garrbal</i> , P <i>garrbay</i> , Imp <i>garrbala</i> , before further inflection & Rfl <i>garba-</i> . (JHav)
KYal	<i>karrba-</i> “catch, grab, touch, arrest” <i>ps</i> : L conj. (Hr&Hr)
WD (Warburton)	<i>karrpi-</i> “tie, tie or bind someone or something” Imp <i>karrpila</i> . (WD)
Pintupi (Hn&Hn)	<i>karrpi-</i> “wrap, tie up, fold” <i>ps</i> : Past <i>karrpirnu</i> , Imp <i>karrpila</i> .
Pitj-Yan	<i>karrpi-</i> “bind, tie up” <i>ps</i> : Past <i>karrpirnu</i> , Pres <i>karrpi(r)ni</i> , Imp <i>karrpila</i> ; <i>karrpilku</i> F; <i>karrpin.ca</i> Participle. (CG)
Walmajarri	<i>karrpi</i> “tie up” <i>ps</i> : Zero conj: P <i>karrpirn(i)</i> , Fut <i>karrpiwu</i> , Irrealis (Imp) <i>karrpi</i> . (JHd)
Payungu (PA)	<i>karrpi-</i> “to tie; to join” <i>ps</i> : Vtr: Pres <i>karrpinma</i> , Fut <i>karrpiru</i> .
Warriyanga	<i>karrpi-</i> “to tie” <i>ps</i> : Vtr: Prp <i>karrpiru</i> , Fut <i>karrpilga</i> . (PA)
Dhiin	<i>karrpi-ru</i> “to tie” (PA)
Dhar (I)	<i>karrbi-</i> “to tie” <i>ps</i> : Vtr: Prp <i>karrbiru</i> , Fut <i>karrbila</i> , P <i>karrbiña</i> , Pres <i>karrbinha</i> < <i>karrbi+inha</i> >, Imp <i>karrbinma</i> , Usitative <i>karrbida:rd</i> u,

Dubitative *karrbilarringkara*, Subordinate *karrbirnu*, Concomitive *karrbini*, Intensive *karrbilarringu*, Subjunctive *karrbilawu*, Admonitive *karrbilangu* [?], Participial *karrbiñadu*. (TK, PA)

Dhar (d) *karrbi-* “to tie” *ps*: Vtr: Prp *karrbiru*, Fut *karrbida* [?], P *karrbiña*, Pres *karrbinha* <*karrbi+inha*>, Imp *karrbinma*, Usitative *karrbida:rdu*, Dubitative *karrbidarringkara* [?], Subordinate *karrbirnu*, Concomitive *karrbini*, Intensive *karrbidarringu* [?], Subjunctive *karrbidawu* [?], Admonitive *karrbidangu* [?], Participial *karrbiñadu*. (TK, PA)

pMantharta **karrpi-ru* “tie” (PA #416)

Yingkarta, Sth *karrpi-* “tie”. *ps*: Vtr: Pres *karrpilañi*, Fut *karrpilku*. (AD, PA)

Nhanda *atpi-* “tie, tie up”. *ps*: Vtr, Y: PPerf *atpii*, PImpf *atpinu*, Pres *atpiya* <*atpi+a*>, Future Realis *atpinhdha*, Future Irrealis *atpindanhda*, Imp *atpiga*, Ambulative *atpingula*. (JB)

Gupa *garrpi+n* “bandage, tie up” (BL-MC)

Djapu *garrpi-L2* “bind; block, block up” *ps*: Unmarked *garrpin*, Potential *garrpul*, Perfect *garrpir*, P nonIndicative *garrpina*. (FMO)

Dhuwal *garrpi-* “wrap; tie up; surround” *ps*: v4tr (Pres/Fut *garrpin*, Fut/Imp *garrpul*, P *garrpir*, P Rem *garrpina(r)*, Derived stem *garrpin-*). (JHeath)

Ritharngu *garrpi-* “coil up, make into a coil” *ps*: v4tr (Pres *garrpirn*, P *garrpiragarrpilara*, Fut *garrpulu*, P Potential *garrpila* (< *garrpi-lu-a*), Inf *garrpinrawu*, Rfl/Rcp *garrpinmi-*, Causative *gatharnmara*, Nominalization *garrpina-*). (JHeath)

Djinang *garrpi-* “tie, roll up, coil, wind” *ps*: v(tr), Conj 2: Fut *garrpigi*, Remote P *garrpin*, Yester P/Pres *garrpinmi*, Yest P Irr/PRI/Imp *garrpirri*, Today P Irr/Remote P Irr/Nominalizer *garrpiniri*, Today P Cont/Remote P Cont *garrpijini* OR *garrpini* [can’t tell which from source]. (BW)

Djinba (Ganalbingu) *garrpa-* “tie, roll up, coil, wind” *ps*: v(tr), Conj 2: Fut *garrpanmak*, Potential *garrpinmic*, Imp *garrpung*, Yester P Irrealis *garrpal*, Yesterday P *garrpan*, Today P *garrpan*, Today P Irrealis *garrpana*. Dabi dialect stem is *garrapi-*; inflectional endings the same except Imp *garrapangi*, Today P *garrapina*. (BW)

pPNy **karrpi-* ~ **karrpa-* *ps*: Past **karrpin* or **karrpan*, Imp **karrpila* or **karrpirra*, Future (or Purposive) **karrpilku*.

^^^

Jiwarli *karrbi-* “to yandy” *ps*: Vtr: Prp *karrbiru*, Fut *karrbilga*. (PA)

Key: ***ka:-** “carry” vtr

Wiradjuri	<i>ga:-ng</i> “carry” (PA)
Wbuwan	<i>ga:N-</i> “carry, bring, fetch” (TD/PA)
Gamlaraay	<i>ga:ng</i> “carry” (PA)
Yuwaaliyaay	<i>ga:-ng</i> “carry” (PA)
Yuwaalaraay	<i>ga:-ng</i> “bring, take” (CW)
Muruwari	<i>ka:-</i> “hold; bring; carry; take” (LFO)
Yugambeh (MS)	<i>ka:ng-</i> “take; get; gatch; hold, retain” Alt. <i>ka:nga-</i> <i>ka:ngga-</i> .
W. Bundj (MS)	<i>ga:nga-</i> “take; carry; obtain; pick up” Alt. <i>ga:nga-</i> , <i>ga:ngga-</i> .
pCNSW	* ga:-ng (PA #44)
Warlpiri (KLH)	<i>ka- g</i> “carry it” <i>ps:</i> tV3 (nP <i>kañi</i> , P <i>kangu</i> , Imp <i>kangka</i>).
Warlmanpa (DGN)	<i>ka-</i> “carry” <i>ps:</i> Conj. 3a: Imp <i>kangka</i> , P <i>kangu</i> , Fut <i>kañi</i> .
Nyangumarta	<i>ka-</i> “carry” <i>ps:</i> Imp <i>kaaawa</i> , Past <i>kaña</i> . (GNOG)
Yinytji	<i>ka-</i> “have, possess” Also <i>kañca-</i> “have; hold”, <i>karpa-</i> “carry, transport, take (along); take, get” (FW)
Yingkarta, Nth	<i>ka-ña</i> “carry” (PA)
Yingkarta, Sth	<i>ka-ña</i> “carry” (PA)
Gupa	<i>ga:+ma</i> “carry; have; bring; take” (BL-MC)
Ritharrngu	<i>ga:-</i> “carry (in the hand)” <i>ps:</i> vtr, 6B: Pres <i>ga:ma</i> , P <i>ga:wala ~ ga:nha</i> , Fut <i>ga:ngu</i> , Nom <i>ga:nha-</i> . (JHeath)
^^^	
Pitta-Pitta	<i>kangka</i> “bring” (BB)
Walmajarri	<i>kangka</i> “carry, take” (JHd)
Mudburra	<i>kang-ku</i> “carry, bring, take” (RG)

Key: ***ka:la** “uncle” n K

Uradhi	<i>ala</i> “mother’s yBr” TC: [a:la]. Atampaya. (KLH, TC)
Linngithigh	<i>ala-</i> “mother’s yBr” (KLH)
Alngith	<i>ala-</i> “mother’s yBr” (KLH)
Awngthim	<i>vla- ~ vle-</i> “mother’s yBr” (KLH)
Ntra’ngith	<i>ala-</i> “mother’s yBr” (KLH)
Ngkoth	<i>ala-</i> “mother’s yBr” (KLH)
Aritinng	<i>ala-</i> “mother’s yBr” (KLH)
Mbiywom	<i>ala</i> “mother’s yBr” (KLH)

WMungknh	<i>ka:l</i> “mother’s yBr” (KLH)
WMe’nh	<i>ka:l</i> “mother’s yBr” (KLH)
WNgathan	<i>ke:linh(thvnh)</i> “mother’s younger brother” Respect form. (PS)
WNgathrr	<i>ka:l</i> “mother’s yBr” (KLH)
WMuminh	<i>kala(-ng)</i> “mother’s yBr” (KLH)
Kaanytju	<i>ka:la</i> “mother’s yBr” (KLH)
Umpila	<i>ka:la</i> “mother’s yBr” (KLH)
KThaayorre	<i>ka:la, ngan-</i> “mother’s yBr” Also (AH) <i>kaaln</i> “mother’s older brother [in address]”, <i>punhth-ka:la</i> “mother’s brother”. (KLH, AH)
YY	<i>kal(-ng)</i> “mother’s yBr”
pPaman	*ka:la (KLH)
Yugambeh	<i>kalang</i> “uncle (mother’s brother)” Also <i>kawang</i> , possibly < *kalnga (see below). (MS)
Warlpiri	<i>kaliñanu</i> “spouse” (KLH)
Gupa	<i>galay</i> “mother’s brother’s son or daughter” (BL-MC)
Dhuwal	<i>galay</i> “man’s wife or wife’s brother; brother’s wife; mother’s mother’s brother’s daughter’s child” (JHeath)
Ritharrngu	<i>galay-</i> “wife” Cf. <i>dhuway-</i> under *cuwa for semantic shift. (JHeath)
^^^	
GBadhun	<i>galnga(na)</i> “uncle (MoBr) Also <i>galngay, galngina</i> . (PS)

Key: ***ka:lka-** “fall” vi

Uradhi (At)	<i>alya-</i> “fall” <i>ps</i> : Conj. II: <i>alyan</i> Past, <i>alyal</i> Present, <i>alyarri</i> Imperative. (KLH, TC)
Angkamuthi	<i>alya-</i> “fall” <i>ps</i> : Conj. II: <i>alyan</i> Past, <i>alya</i> Present, <i>alyarri</i> Imperative. (TC)
Yadhaykenu	<i>alya-</i> “fall” <i>ps</i> : Conj. II: <i>alyan</i> Past, <i>alyal</i> Present, <i>alyarri</i> Imperative. (TC)
Wuthathi	<i>a:lyvn</i> “fall down” LMW-BA
Yinwum	<i>aki-</i> “fall” (KLH)
Aritinnng	<i>ika-</i> “fall” (KLH)
Mbiywom	<i>alka-</i> “fall” (KLH)
WMungknh	<i>ke:k-</i> “fall” (KLH)
Umpila	<i>ka:lki-</i> “sprinkle, baptise” <i>ps</i> : Past <i>ka:lkina</i> , Pres <i>ka:lkingka</i> , Fut <i>ka:lkika</i> , Imp <i>ka:lkila</i> , Pluperfect <i>ka:lkila</i> . Transitive? (GNOG)
Rimangg	<i>alka</i> “enter” Contrast <i>nde</i> “fall”. (IG)
HR	<i>vlke-</i> “fall” KLH: “cognition questionable.” LJ has <i>lke-</i> “fall;

die". (KLH, LJ)	
pPaman	*ka:lka- (KLH)
Ngawun	<i>kalka</i> "fall (incl. of rain), set (of sun)" (GB)
M-Kulan	<i>kalka</i> "fall (incl. of rain), set (of sun)" (GB)
M-Yapi	<i>kalka</i> "fall (incl. of rain), set (of sun)" (GB)
M-Thakurti	<i>kalka</i> "fall (incl. of rain), set (of sun)" (GB)
M-Kutuna	<i>kalka</i> "fall (incl. of rain), set (of sun)" (GB)
pPM	*ka:lka-
Gupa	<i>galki+rrri</i> "fall; blow (of wind)" (BL-MC)
Djapu	<i>ga:lki-</i> "fall over" <i>ps</i> : 03. (FMo)
Dhuwal	<i>galkirri-</i> "to fall down" <i>ps</i> : V1A, intr. (JHeath)
Ritharrngu	<i>galki-</i> fall down" <i>ps</i> : vi, irreg: Pres <i>galkirri</i> , P (also
Nominalization) <i>galkina</i> ~ <i>galkirriña</i> , Fut <i>galkirri</i> . (JHeath)	
pYolngu	*ka(:)lki- (BA)
pPNy	*ka:lka/i- (BA)
^^^	
Biri	<i>galga</i> "let go; flow, run, drip; pour, release" Note also <i>galn.ga</i>
"fall". (AT)	
Bidjara	<i>galgi</i> "pour" Transitive? Also listed as <i>galga</i> . (GB)
^^^	
Kayardild	<i>kalka-tha</i> "be sick, hurt" (NE)
Yukulta	<i>kalka-tha</i> "feel sick" (NE)
Lardil	<i>kalka</i> "sicken, get sick, have pain, hurt, die" (NE)
pT	*kalka-tha (NE)
^^^	
GBadhun	<i>galn.ga-</i> "fall" (PS)
Bidjara	<i>balga</i> "fall (of rain)" (GB)

Key:	*ka:mpa- "cook in earth oven" vtr
Angkamuthi	<i>aβa-</i> "cover, bury" <i>ps</i> : vtr; <i>aβan</i> Past. (TC)
Yadhaykenu	<i>aβa-</i> "cover, bury" <i>ps</i> : vtr; <i>aβan</i> Past, <i>aβal</i> Pres. (TC)
Linngithigh	<i>aβa-</i> "cover (as with sand)" <i>ps</i> : vtr; <i>aβay</i> Fut, <i>aβan</i> Past, <i>aβaʔ</i>
Irr. KLH	
WMungknh	<i>ka:mp-</i> "cook in earth oven" (KLH)
WMe'nh	<i>ka:mp-</i> "cook in earth oven" (KLH)
WNgathan	<i>ka:mpv-</i> "bury; cook (by burying) in earth oven" (PS)
KUwanh	<i>kamba</i> "cover, bury" (S&J)
YY	<i>kaw</i> "cook in earth oven" <i>ps</i> : Transitive, but also occurs with

- transitivizing morphology as *kawvlon* (same sense) “cover over”.
- YMel *kaw ~ kap* “cook in earth oven”
- KB *kamp- ~ kam-* “cook in earth oven”
- Djabugay *gampa(:)-* “cook in earth oven” *ps:* vtr, L: *gambañ* Past, *gambal* Present. (EP, KLH)
- pPaman** **ka:mpa-* (KLH)
- GBadhun *gamba-* “seal up” (PS)
- Bidjara *gambana* “cover” (GB)
- Margany *gamba* “cover, bury; shut (eyes, mouth)” (GB)
- Gunya *gamba* “cover, bury; shut (eyes, mouth)” (GB)
- pPM** **ka:mpa-*
- Atnya *amba-* “cook” (Mc&Mc)
- Guyani *kampata* “cook, roast” (CB/R)
- Wirangu *gamba-* “cook, eat” *ps:* vtr. Also *gambi-* “cook, heat up” (vtr), “be hot” (vi); *gambarri-* “burn” (vi). (LH)
- ECArernte *ampe-* “burn something; be hot (weather), dry something; ...” (Transitive); “be burning; be very hot; become cooked” (Intransitive) Var. (NE) *mpe-*. (H&D)
- Kaytetye *ampe-* “burn” (HK)
- Pitj-Yank *kampa-* burn; (pain) burn, sting; ripen” *ps:* vi & vtr; *kampa* Imp; *kampama* Cnt Imp; *kampangu* P; *kampangi* Cnt P; *kampañi* Pres; *kampaku* F; *kampañca* Participle. (CG)
- Pintupi-Luritja *kampa-* “burn, heat; blow fuse” *ps:* vi & vtr; zero conj. (Hn&Hn)
- Warburton *kampa-* “burn; to be burned” *ps:* vi & vtr; zero conj. (WD)
- Manjiljarra *kampa-* “cook; burn” *ps:* vtr; also vi? (PMcC)
- Warlpiri *kampa-* “be burning—of fire; burn it—of fire” *ps:* iv1 & tv1. (KLH)
- Walmajarri *kampa* “cook” *ps:* vtr. Contrast *mañji* “burn (it); be burning”. (JHd)
- Mudburra *kamb-u* “cook, burn” *ps:* vtr. Also *kambanjaru* “having a camp oven”, considered a loan from English. (RG)
- Nyangumarta *kampa-* “cook it” (tr), “burn” (intr) (GNOG)
- Noala *kampa-* “be burning” (GNOG)
- Martuth *kampa-* “be burning, be cooking [vi, Zero conj]; burn, cook [vtr, L conj]” (GNOG, AD)
- Ngarluma *kampa-* “burn, be alight, cook, get ripe [vi, -ku]; burn, light it, shine (of sun) [vtr, -lku]” (KLH, GNOG)

Kariyarra	<i>kampa-</i> “be burning” (GNOG)
Palyku	<i>kampa-</i> “be burning” (GNOG)
Panyjima	<i>kampa-ku</i> “be burning, be cooking” Also <i>kampa-lku</i> (transitive) “cook, burn; light; shave” (GNOG, AD)
Yinytji	<i>kampa-</i> “be burning; be cooking, get hot” get ripe; get ready” (vi, zero conj.); “burn; light; cook, prepare” (vtr, L conj.); “heat(ing), cook(ing)” (n) (GNOG, FW)
Kurrama	<i>kampa-</i> “be burning” (GNOG)
Tjuroro	<i>kampa-</i> “be burning” Same as Djururu (below)? (GNOG)
pNgayarda	*kampa- (GNOG #605)
Djiwarli	<i>kampa-</i> “cook, burn” ⁵² (PA)
Djururu	<i>kampa-</i> “cook, burn” ⁵² (PA)
Dhiin	<i>kampa-</i> “cook, burn” ⁵² (PA)
Dhar (l)	<i>kapa-</i> “cook, burn” ⁵² Imp <i>kapala</i> . (PA)
Dhar (d)	<i>kapa-</i> “cook, burn” ⁵² Imp <i>kapala</i> . (PA)
pMantharta	*kampa- ⁵² (PA #412)
Yingkart, Nth	<i>kampa-ñi</i> “be burning, be cooking” Also <i>kampa-lañi</i> “burn it, cook it” (tr). (PA)
Yingkart, Sth	<i>kampa-ñi</i> “be burning, be cooking” Also <i>kampa-lañi</i> “burn it, cook it” (tr). (PA)
pPNy	*ka:mpa-

Kayardild	<i>kawa-tha</i> “roast in ground oven; (NE)
Yukulta	<i>kawa-tha</i> “roast in ground oven; (NE)
Lardil	<i>kewe</i> “cover (with dirt, bark, or the like); roast in ground oven” (NE)
pT	*kawa-tha (NE)
Mangarrayi	<i>kawa-</i> “bury” (NE)

Mayali	<i>gambe</i> “termite mound, antbed, used as cooking stone” (NE)

Key: ***kiñca-** “to wet (something)” vtr

YY *kiy* “wet by immersion, wash, leach (as yams); sweeten by
leaching; soak” *ps*: Conj. L, vtr.

YMel *kiy* “wet” Conj. L; Past *kiyit* (but *kiyat* would be expected).

Warlmanpa *kiñja-* “ERG wets ABS” *ps*: Conj. 2: Imp *kiñja(ka)*, P *kiñjarnu*,
Fut *kiñjan(mi)*. (DGN)

⁵² Conjugation: *-ru*.

pPNy***kiñca-**

Key: ***kuc^yarra** “two” nAdj Q

KLY (Mabuyag) *kosar* “two” Also *ukasar* “two”. (EB)

KKW *kosar* “two” Also *ukasar* “two”. (RJK)

Warluwarra *guca* “two” (GB)

Bularnu *guciya* “two” (GB)

Wakaya *kiji(:)wi* “two” (GB)

Wirangu *gudharra* “two” Alt. *gujarra*. (LH)

ECArrennte *atherre* “two; both” Following a person’s name, “that person and another person one would expect to be together”. (H&D)

Kaytetye *atherre* “two” (HK)

Pitj-Yank *kucarra* two; a pair of” (CG)

Mudburra *kujarra* “two” (RG)

Ngarluma *kutharra* “two” (KLH)

Kariyarra *kutharra* “two” (GNOG)

Ngarla *kutharra* “two” (GNOG)

Palyku *kutharra* “two” (GNOG)

Panyjima *kutharra* “two” (GNOG, AD)

Yinytji *kuyharra* “two” (GNOG, FW)

Kurrama *kutharra* “two” (GNOG)

Nhuwala *kutharra* “two” (GNOG)

Martuth *kutharra* ~ *kuwarra* “two” Not in AD, who gives only *kayarra* “two”. (GNOG)

pNgayarda ***kutharra** (GNOG #701)

Bayungu *kutharra* “two” (PA)

Dhalandji *kutharra* “two” (PA)

Burduna *kuyarra* “two” (PA)

pKanyara ***kutharra** (PA #31)

Djiwarli *kutharra* “two” (PA)

Djururu *kutharra* “two” (PA)

Wariyangga *kutharra* “two” (PA)

Dhar (l) *kudharra* “two” (PA)

Dhar (d) *kudharra* “two” (PA)

pMantharta ***kutharra** (PA #31)

Yingkarta, Nth *kutharra* “two” (PA)

Yingkarta, Sth *kutharra* “two” (PA)

Nhanda *wuthada* “two” (JB)

Nyungar	<i>kucal</i> “two” With regard to the /l/, cf. *micara. (WD)
pPNy	* <i>kuc^yarra</i> or * <i>kucarra</i> ⁵³ (BA)

Key: **kuli* “anger” n, nAdj B; Q

Atampaya *uli* “crazy; angry” (TC)

Angkamuthi *uli:ñ* “crazy; angry; poison” (TC)

Yadhaykenu *uli:ñ* “crazy; angry” (TC)

WMungknh *kul* “angry, anger” (KLH)

WMe’nh *köl* “angry, anger” (KLH)

WNgathan *kul* “anger” Also *kölvth* (or *kölöth*) “angry, savage” < **kuli*+ci.
(PS)

KThaayorre *kul* “angry, anger” (KLH)

YY *kol, kililh* “anger; soldier” Also “very many”, as in *kol-pirrm*
“big mobs”.

YMel *kol, kolith* “anger; soldier”

HR *luyv* (?) “anger” LJ gives *luy* “savage”. (KLH, LJ)

GYim *guli* “angry, anger, wild” (JHav)

KYalkuli “anger; poison; trouble” Also *kuliji* “savage, always fighting”.
(Hr&Hr)

Djabugay *guli* “anger” EP lacks *guli* but has *guli garra-y* (vi) “be angry”
and *guliguli* ~ *gulirr* “anger”. (KLH, EP)

pPaman **kuli* (KLH)

GBadhun *guli* “angry, wild” (PS)

Yugambeh *gula*: “anger” MS: “possibly from early pidgin—known from
Sydney area”. (MS)

Coastal Bundjalung *gula*: “many” (MS)

Yuwaalaraay *guliba*: “three” (CW)

Baagandji *gurliga* “angry, wild (with someone)” (LH)

Wembawemba *guli* “crowd, mob” (LH)

Werg (Dj) *guli* “mob, crowd of people” (LH)

Madhimadhi *guli*- “anger” Only in *gulewadha* “to get cross”, *gulinadha*
“[he is] angry”, *gulingai* “[my] “temper, angry”

Buwandik *guli* “angry” (BB)

Wakaya *kulu* “fighting” (GB)

Warlpiri *kulu* “anger, fight” (KLH)

Warlmanpa *kulu* ~ *kili* “anger, fighting” (DGN)

⁵³ The Ngayarda, Kanyara, and Mantharta correspondences for putative **c^y* in this etymon suggest **c* instead (they don’t agree with reflexes of **pac^ya-*).

Djaru	<i>kuli</i> “fīyting” (TTs)
Walmajarri	<i>kuli</i> “angry, wild” (JHd)
pPNy	*kuli ⁵⁴

Bidjara	<i>guli</i> “a long time ago, for a long time” Also <i>guliru</i> ~ <i>gulira</i> “a while ago, before, yesterday” (GB)

Key: ***kulu** “louse” n C

Yidiny	<i>guli</i> “louse” T & C dialects. (RMWD H2)
Gunya	<i>guliñ</i> “louse” (GB)
Kalkatungu	<i>ulu</i> “insect-like creature” “Louse” is <i>thuthu</i> . (BB)
Wirangu	<i>gurlu</i> “louse” (LH)
Adnyamathanha	<i>udlu</i> “louse” (Mc&Mc)
Wirangu	<i>gurlu</i> “louse” (LH)
Ngarluma	<i>kulu</i> “louse, flea” (KLH, GNOG)
Panyjima	<i>kulu</i> “head louse” (GNOG, AD)
Kurrama	<i>kulu</i> “louse” (GNOG)
Yindjibarndi	<i>kulu</i> “louse” (GNOG, FW)
pNgayarta	*kulu (GNOG #334)
Bayungu	<i>kulu</i> “louse” (PA)
Dhalandji	<i>kulu</i> “louse” (PA)
Burduna	<i>kulu</i> “louse” (PA)
pKanyara	*kulu (PA #33)
Djururu	<i>kulu</i> “louse” (PA)
Wariyangga	<i>kulu</i> “louse” (PA)
Dhiin	<i>kulu</i> “louse” (PA)
Dhar (l)	<i>kulu</i> “louse” (PA)
Dhar (d)	<i>kudu</i> “louse” (PA)
pMantharta	*kulu (PA #33)
Yingkarta, Sth	<i>kulu</i> “louse” (PA)
Nyungar	<i>kul</i> “louse” (WD)
pPNy	*kulu/i

Tharrgari	<i>kurlubuyu</i> “mosquito” (PA)
Jiwarli	<i>kurlubuyu</i> “mosquito” Also <i>ñurni</i> . (PA)
Yingkarta, Nth	<i>kulumana</i> “mosquito” (PA)

⁵⁴ The semantic connection between “anger” and “crowd, large number” is presumably via the concept “angry mob” or “members of a revenge expedition”. See Alpher (1991:183-185).

WD *kurluñpa* “small, little; chick inside egg” (WD)**Key: *kuma** “one” nAdj QYidiny *guman* “one; one... another; alone, by oneself” (RMWD R1)GBadhun *guman* “the other” (PS)**pPM kuman**Ngarluma *kuma* “together” (KLH)Yindjibarndi *kuma(rla)* “together”Panyjima *kuma* “together” (AD)**pNgayarda *kuma** (GNOG #816)Kaurna *kuma* “another, also” Also *kumangka* “together”Wailpi *ubmanhaka* “one” (GNOG)Kuyani *kubmanha* “one” (GNOG)Wirangu *guma* “one, alone” (LH, GNOG)Parnkalla “*kubmanna*” “one” (OG&K)Atnya *upma* “one” Also *upmanhaka* “(some-, any-)one” (BSch)**pPNy *kuma****Key: *kumpu** “urine” n BSee also *kañc^yi.Atampaya *wumpu* “urine” (TC)Angkamuthi *umpu* “urine” (TC)Yadhaykenu *umpu* “urine” (TC)Yinwum *mbu* “urine” (KLH)Linngithigh *mpu* “urine” (KLH)Aritinng *mpwu* “urine” (KLH)Uradhi *wumpu* “urine” (Ray cited in KLH)WMungknh *kump* “urine” (KLH)WMe’nh *kump* “urine” (KLH)WNgathrr *kump* “urine” (KLH)WNgathan *kump* “urine” (PS)KUwanh *kumpu* “urine” (S&J)Pakanh *kumpu* “urine” PH #128Umpila *kumpu* “urine” (GNOG)Kaanytju *kumpu* “urine” (KLH)UOykangand *ebmong* “urine” Cognate?UOlgoi *ebmong* “urine” Cognate?

Rimangg	<i>mbonh</i> “arse” Cognate? (IG)
Aghu-Tharr	<i>mbu</i> “urine” (LJ)
GYim	<i>gumbu</i> “urine, gall” (JHav, KLH)
KYal	<i>kumbu</i> “urine” (Hr&Hr)
Almura	<i>gumbu</i> “urine” (BR)
Aghu-Tharr	<i>mbu</i> “urine” (KLH)
Djabugay	<i>gumbu</i> “urine” (KLH, EP)
Yidiny	<i>gumbugara</i> : “urine” KLH only; RMWD (A4) gives <i>gumbu</i> as the respect term for “anus”; <i>jujar</i> as “urine”. (KLH)
Mbabaram	<i>mbu</i> “bottom, anus” Cognate? “Urine” is <i>juwéru</i> . (RMWD)
pPaman	*kumpu (KLH)
GBadhun	<i>gumbu</i> “buttocks” (PS)
pPM	*kumpu
Yuwaalaraay	<i>gumbul</i> “buttocks” (CW)
Atnya	<i>umbu</i> “urine” (Mc&Mc)
Pitta-Pitta	<i>kumpu</i> “anus” Cognate? (BB)
Wirangu	<i>gumbu</i> “urine” (LH)
Karlamayi	<i>kumpu</i> “urine” (KLH)
ECArremte	<i>mpwe</i> “urine, piss” (H&D)
Kaytetye	<i>impwe</i> “urine” (HK)
Pitj-Yank	<i>kumpu</i> “urine, piss, wee; bitter juice of certain fruits; bladder” Also <i>kumpuli</i> “water, rain”. (CG)
Walmajarri	<i>kumpu</i> “urine” (JHd)
Mudburra	<i>kumbu</i> “urine, piss” (RG)
Nyangumarta	<i>kumpu</i> “urine” (GNOG)
Ngarluma	<i>kumpu</i> “urine” (KLH)
Kariyarra	<i>kumpu</i> “urine” (GNOG)
Ngarla	<i>kumpu</i> “urine” (GNOG)
Nyamal	<i>kumpu</i> “urine” (GNOG)
Palyku	<i>kumpu</i> “urine” (GNOG)
Panyjima	<i>kumpu</i> “urine” (GNOG, AD)
Yinytji	<i>kumpu</i> “urine” As free and bound form; FW considers the free form a loan from Ngarluma. (FW)
pNgayarda	*kumpu (GNOG #609)
Bayungu	<i>kumpu</i> “urine” (PA)
Dhalandji	<i>kumpu</i> “urine” (PA)
Burduna	<i>kupu</i> “urine” (PA)
pKanyara	*kumpu (PA #34)

Djiwarli	<i>kumpu</i> “urine” (PA)
Wariyanga	<i>kumpu</i> “urine” (PA)
Dhiin	<i>kumpu</i> “urine” (PA)
Dhar (l)	<i>kupu</i> “urine” (PA)
Dhar (d)	<i>kupu</i> “urine” (PA)
pMantharta	*kumpu (PA #34)
Yingkarta, Nth	<i>kumpu</i> “urine” (PA)
Yingkarta, Sth	<i>kumpu</i> “urine” (PA)
Nhanda	<i>wumbu</i> “urine” (JB)
Nyungar	<i>kump</i> “urine” Also <i>kumpiñ</i> (vi) “urinating”. (WD)
pPNy	*kumpu (GNOG #609)

Key: ***kuna** “excrement” n B

Atampaya	<i>wuna</i> “excrement” (TC)
Yinwum	<i>nwa</i> “excrement” (KLH)
Ngkoth	<i>nwa</i> “excrement” (KLH)
WMungknh	<i>kun</i> “excrement” (KLH)
WMe’nh	<i>kun</i> “excrement” (KLH)
WNgathan	<i>kun</i> “faeces, shit; bowels” (PS)
WMuminh	<i>kuna</i> “excrement” (KLH)
KUwanh	<i>kuna</i> “excrement” (S&J)
Umpila	<i>kuna</i> “excrement” (KLH)
KThaayorre	<i>kun</i> “excrement” (KLH)
YY	<i>kun, kunal</i> “excrement”
YMel	<i>kun</i> “excrement”
UOykangand	<i>adn, adnal</i> “faeces” (BA, PG)
UOlgo	<i>adna</i> “faeces” (PH)
Djabugay	<i>guna</i> “faeces” (KLH, EP)
Mbabaram	<i>dwe</i> “shit” (RMWD)
Dyirbal	<i>kuna</i> “excrement” (KLH)
Girramay	<i>kuna</i> “excrement” (KLH)
pPaman	*kuna (KLH)
GBadhun	<i>guna</i> “faeces” (PS)
Bidyara	<i>guna</i> “faeces; stomach” (GB)
Margany	<i>guna</i> “faeces” (GB)
Gunya	<i>guna</i> “faeces” Also <i>gurna</i> . (GB)
pPM	*kuna
M-Kulan	<i>kuna</i> “faeces, excrement” (GB)

M-Kutuna	<i>kuna</i> “faeces, excrement; guts” (GB)
Kalkatungu	<i>unu</i> “faeces; bowels, intestines” Also <i>kunanta</i> “defecate” (BB)
Warrgamay	<i>guna</i> “faeces, shit” (RMWD)
Nyawaygi	<i>guna</i> “bowels; faeces, shit” (RMWD)
Yugambeh	<i>gunang</i> “faeces, shit” (MS)
W. Bundj	<i>gunang</i> “faeces, shit” (MS)
Gumb	<i>gu:na</i> “faeces” ⁵⁵ (DE)
Yaygir	<i>una:gay</i> “faeces” (TC)
pNSW	*gunang (TC)
Wiradjuri	<i>gunang</i> “faeces” (PA)
Wbuan	<i>kunaN</i> “shit, faeces” (TD/PA)
Gamilaraay	<i>guna</i> “faeces” (PA)
Yuwaaliyay	<i>guna</i> “faeces” (PA)
Yuwaalaraay	<i>guna</i> “faeces” (CW)
Muruwari	<i>kuna</i> “excrement” (LFO)
pCNSW	*gunang (PA #65)
Baagandji	<i>guna</i> “faeces; bowel” (LH)
Diyari	<i>kuna</i> “faeces” Also <i>kudnatajiri</i> “bowels, intestines, entrails”. (PA, CB/R)
Ngamini	<i>kuna</i> “faeces” Also <i>kudnawala</i> “bowels, intestines, entrails”. (PA, CB/R)
Yarluyandi	<i>kuna</i> “faeces” (PA)
Yandruwantha	<i>kuna</i> “faeces” Also <i>kudnawala</i> “bowels, intestines, entrails”. (PA, CB/R)
Yawarrawaka	<i>kuna</i> “faeces” Also <i>kudnawala</i> “bowels, intestines, entrails”. (PA, CB/R)
Mithaka	<i>kuna</i> “faeces” (PA)
Karuwali	<i>kuna</i> “faeces” (PA)
Guyani	<i>kudnawala</i> “bowels, intestines, entrails” (CB/R)
Wang	<i>kuna</i> “faeces” (PA)
Pitta-Pitta	<i>kuna</i> “faeces” (BB)
pKarnic	*kuna (PA)
Woiwurrung	<i>gunang</i> “faeces” (BB)
Wembawemba	<i>guni-</i> “excrement; entrails” In <i>guniñug</i> “his excrement”. (LH)
Buwandik	<i>kuna</i> “excrement; bowels” (BB)
MM	<i>kun-</i> “excrement, excreta, dung” Cited as a plural: <i>kuna(rr)</i> . ⁵⁶

⁵⁵ Long V1 is apparently regular.

⁵⁶ Possibly a loan: Meyer gives the vowel as short, but long V1 is expected.

(Meyer, Taplin, B&B)	
Arabana	<i>kudnatajiri</i> “bowels, intestines, entrails” (CB/R)
Wngurru	<i>kudnatajiri</i> “bowels, intestines, entrails” (CB/R)
Atnya	<i>udna</i> “excrement” (Mc&Mc)
Barngarla	<i>kudna</i> “excrement, bowels; sexual intercourse” (Schürmann/LH)
Wirangu	<i>guna</i> “excrement, bowels; sexual intercourse” (LH)
ECArrente	<i>atne</i> “droppings, shit, faeces; guts, intestines; [offensive lg.] vagina” (H&D)
Kaytetye	<i>atne</i> “excrement” (HK)
Wakaya	<i>kunu</i> ~ <i>kuni</i> “faeces” Also <i>kun</i> “to defecate”, <i>kunatujpu</i> “big guts”. (GB)
Pitj-Yank	<i>kuna</i> “dung, poo, excrement, shit; bowels” (CG)
Warlpiri	<i>kuna</i> “excrement; anus; intestines, contents of entrails” Also <i>kuna-ma-</i> “to eviscerate”. (KLH)
Warlmanpa	<i>kuna</i> “arse—of people, animals, or implements; excrement” (DGN)
Noala	<i>kuna</i> “excrement” (GNOG)
Kariyarra	<i>kuna</i> “excrement” (GNOG)
Ngarluma	<i>kuna</i> “excrement” (GNOG)
Ngamal	<i>kuna</i> “excrement” (GNOG)
Palyku	<i>kuna</i> “excrement” (GNOG)
Panyjima	<i>kuna</i> “faeces, excrement” (GNOG, AD)
Yinytji	<i>kuna</i> “faeces, excrement” (GNOG, FW)
Kurrama	<i>kuna</i> “excrement” (GNOG)
Martuth	<i>kuna</i> “faeces” GNOG: <i>kunaka</i> . (AD, GNOG)
pNgayarda	*kuna (GNOG #610)
Bayungu	<i>kuna</i> “faeces” (PA)
Dhalandji	<i>kuna</i> “faeces” (PA)
Burduna	<i>kuna</i> “faeces” (PA)
pKanyara	*kuna (PA #35)
Djiwarli	<i>kuna</i> “faeces” (PA)
Djururu	<i>kuna</i> “faeces” (PA)
Wariyangga	<i>kuna</i> “faeces” (PA)
Dhiin	<i>kuna</i> “faeces” (PA)
Dhar (l)	<i>kuna</i> “faeces” (PA)
Dhar (d)	<i>kuna</i> “faeces” (PA)
pMantharta	*kuna (PA #35)

Nhanda	<i>wuna</i> “faeces” (JB)
Karlamayi	<i>kuna</i> “excrement” (KLH)
Nyungar	<i>kwun</i> “anus; dung, faeces” Also <i>kwan</i> “anus”; <i>kwuninj</i> “defecating” (WD)
pPNy ^^^	*kuna (GNOG #610)
Kayardild	<i>kunawuna</i> “child, offspring” (NE)
Yukulta	<i>kunawuna</i> “child, offspring” (NE)
Lardil	<i>kunawun</i> “mother in law, mother in law’s brother” (NE)
pT	*kunawuna (NE)

Key: ***kunca** “pandanus” n P, V, M?

WMungknh *kuñcvn* “pandanus”

Pakanh *kuncan* “pandanus” /n.c/ probable; cf. *muñci* “bathe, swim”, *kiñca* “sun”, *wunhthu* “rib”, *tho:nhtho* “big (dog)” (LY)

KThaayorre *kuñcvn* “pandanus palm” (AH)

YY *kunhthvn*, *kunhthalh* “pandanus” *n.c > *nhth* regularly.

UOykangand *udn.jan* “pandanus” Recorded elsewhere (PH #961) as *udñjan*. (VH/BA)

Olgol *udñjan* “pandanus (*Pandanus spiralis*)” (PH)

L1 *kuncan

Djambarrpuyngu *gunjak* “pandanus”

Gupa *gunjalk* “pandanus” For the /n.c/ cluster, contrast *guñjurlu* “spotted gecko lizard”. (BL-MC)

Ritharrngu *gunjak* “flesh of pandanus nuts” /nj/ not= /ñj/. Syn. *jin.gu*. (JHeath)

ppNy *kunca

Ngandi *ma-gunjak* “pandanus”

Nunggubuyu *maguj* “pandanus” *ma-guj ?

Djinba *gurlca* “pandanus palm” (BW)

Gupa *gun.ga* “pandanus” (BL-MC)

Djapu *gun.ga* “pandanus” (FMo)

Dhuwal *gun.ga* “pandanus” (JHeath)

Dhangu *gun.ga* “pandanus” (BSch)

Ritharrngu *gun.ga* “pandanus trees” (JHeath)

Key: ***kunka** “alive” nAdj

WMe'nh (AL)	<i>kunk</i> “alive” (KLH)
KThaayorre	<i>kunk</i> “alive” (KLH)
YY	<i>kun7</i> , <i>kun7a</i> “alive”
YMel	<i>kunk</i> “alive”
UOykangand	<i>udn.g</i> “alive; raw; green” (PJ)
UOlgoi	<i>udn.g</i> “alive; raw; green” (PJ)
Aghu-Laya (Thaypan)	<i>n.gwo</i> “raw; dead” (BR)
pPaman	*kunka (KLH)
GBadhun	<i>gun.ga</i> “raw, unripe, uncooked” (PS)
Bidjara	<i>gun.ga</i> “raw, unripe” (GB)
Marrgany	<i>gurn.ga</i> “raw, green (of fruit)” (GB)
Gunya	<i>gurn.ga</i> “raw, green (of fruit)” (GB)
pPM	kunka
Dyirbal	<i>gun.ga</i> “raw; alive” (RMWD)
Warrgamay	<i>gun.ga</i> “unripe, green (vegetables); raw (meat); alive (person)” (RMWD)
Nyawaygi	<i>gun.ga</i> “raw; green, unripe; uncooked, not fully cooked; alive” (RMWD)
P-L	<i>kunka</i> “condemned person (condemned to death for ritual violation)” As a constituent of idioms, “raw”. See also <i>kurnka</i> . (Hn&Hn)
P-L	<i>kurnka</i> “uncooked, raw, unripe” (Hn&Hn)
Warlpiri	<i>kunka-ma</i> “get square, revenge oneself” (KLH)
Mudburra	<i>kurnka</i> “raw” (RG)
Djaru	<i>kurnka</i> “dead” (TTs)
Walmajarri	<i>kurnka</i> “raw (meat); unripe (fruit)” Antonym <i>pukarr</i> . (JHd)
Nyangumarta	<i>kunka</i> “raw, uncooked” (GNOG)
pPNy	*kunka
^^^	
Kayardild	<i>kunku</i> “raw” (NE)
Yukulta	<i>kunku-wa</i> “raw” (NE)
pSouthernTangikic	*kunku (NE)

Kalkatungu	<i>kunka</i> “tree” (BB)

Key: ***kuñc^ya-** “drink” vtr

Mbiywom *ñjwo-* “drink” (KLH)

Linngithigh *ñjay* “eat; drink” *ps*: Vtr; Present tense-form; all other tense-forms are suppletive with this one and each other. Apparently regular (per

KLH, any laminal cluster would become *ñj*); *y* is apparently originally the present-tense suffix, as in *li+y* “go” and other verbs of its conjugation. (KLH)

Ogunyjan *uñja-* “eat, smoke” *ps*: Vtr; P *uñj3n*, Participle *uñjan*; nP *uñjil*; “will” *uñjinvngk*. Compare *añcan* “we ExPl”; contrast *enhthawvr* “tongue”, *adn.ja-* “burn, cook”, *anhdhi-* “burn, be burning”. (BA)

pPaman ***kuñca-** (KLH)

Dyirbal *guñja-* “drink” *ps*: Vtr, L: nF (“unmarked”) *guñjan*, F *guñjañ* (Jirrbal, Mamu), *guñjaljay* (Girramay). (RMWD)

Wargamay *guñja* “bite” *ps*: Vtri (transitive verb attested in both transitive and intransitive constructions). (RMWD)

Warluwarra *guca+* “drink” *ps*: Pres *gucarriyidha*. (GB 2001 handout)

Yinjilanji *kuñja+* “drink” *ps*: Pres *kuñjarri* (orthog. *kunjarri*). (GB)

Wakaya *kuñj* “to drink; to suck” *ps*: Pres *kuñjvrdiy*. (GB)

Yanyuwa *wuñja+* “drink” *ps*: Semitransitive; Pres *wuñjayarra*. (JB)

Antekerpenhe *añcwe-* “to drink” Some other speakers have *ayntwe-* or *antwe-*; others have *angke-*. (GB)

ECArremte *añcwe-* “drink something; have a drink, sip, suck; drink alcoholic drinks; take (liquid medicine)” *ps*: vtr (H&D)

Anmatyerre *añcwe-* “drink” *ps*: vtr (PGH)

WArentte *ñcwe-* “drink; smoke (cigarette, pipe)” (GB)

Pintupi-Luritja *ku:ñca-nu* “suck (as honey from flower, marrow from bones, sickness from body, water from a soak)” *ps*: Vtr; Conj *rra*: Past *ku:ñcanu*, Imp *ku:ñcarra*. Also *kuñca-* in *wakarra kuñca-* “spear and suck (of mosquito biting)”, cited with short vowel and with Past ending *-rnu* (rather than *-nu*). (Hn&Hn)

Pitj-Yank *ku:ñca-nañi* “suck out, draw out (baby at breast; sucking marrow from bone)” *ps*: Vtr; Conj as for *cu-* “to put”: Imp *ku:ñcarra*, Cnt Imp *ku:ñcama*, P *ku:ñcanu*. Note also *ku:rrca-nañi* “suck on hard, apply suction”. (CG)

Warburton Rangesku:ñca- “to suck” *ps*: Conj *rra*: Imp *ku:ñcarra*, F *ku:ñcanku*, P *ku:ñcanu*. (WD)

Mudburra *kuñca-* “water, wetten, keep cool” *ps*: Conj *-rru*; vtr(?): Past2 *kuñcarna*, D1 *kuñcarni*, DP2 *kuñcarnirra*, Pres *kuñcnini*, Fut *kuñcarru*, Imp *kuñcarra*. (RG)

pPNy ***kuñc^ya-** The long vowel of the Western Desert attestations cannot be original (cf. *kampa-* “burn” < *ka:mpa- in all the dialects) and is possibly sound-symbolic in origin.

Key: ***kuru** “eye” n B

Kaanytju *ku7u* “eye” (KLH)

Umpila *ku7un* “eye” (KLH)

YY *kor+lh, pam-* “boyfriend” Cf. *pam-mel* “girlfriend, sweetheart”, with *mel* “eye”.

KYal *kuru* “woman’s affection/love/lust for a man”. “Man’s... for a woman” is *bujan*. (Hr&Hr)

pPaman ***kuru** ~ **kurun** (KLH)

P-L *kuru* “eye; ripe, mature” (Hn&Hn)

Pitj-Yank *kuru* “eye; vision, eyesight; car headlight”. Also *kuru* “sharpened stick or bone, for sorcery”. (CG)

WD (Warburton) *kuru* “eye” (WD)

Warlpiri *kurlu* “pupil of eye, iris of eye” (KLH)

Warlmanpa *kurlu* “pupil of eye” (DGN)

Nyangumarta *kururr* “pupil (of eye)” (GNOG)

Martuth *kuru* “eye” (GNOG)

Ngarluma *kuru* “seed; grass seeds (as collected from ant beds), spinifex seeds; seed of *ngangkari* grass” Also *kururr* “eyeball”. (KLH, GNOG)

Panyjima *kuru-kuru* “round” Not in AD, who gives *kuru* “hook on spearthrower”, a probable cognate. (GNOG, AD)

Yinytjipartii *kuru.ru* “round; round and fat object” FW writes as *kuru-*. (GNOG)

pNgayarta ***kuru** Also ***kurukuru** and ***kururr**. (GNOG #612, #123)

Bayungu *kuru* “eye” (PA)

Dhalanydji *kuru* “eye” (PA)

Burduna *kuru* “eye” (PA)

pKanyara ***kuru** (PA #37)

Djiwarli *kuru* “eye” (PA)

Wariyangga *kuru* “eye” (PA)

Dhiin *kuru* “eye” (PA)

Dhar (l) *kuru* “eye” (PA)

Dhar (d) *kuru* “eye” (PA)

pMantharta ***kuru** (PA #37)

Yingkarta, Nth *kuru* “eye” (PA)

Yingkarta, Sth *kuru* “eye” (PA)

pPNy ***kuru**

^^^

Kayardild	<i>kuru</i> “egg; flower; kneecap” (NE)
Yukulta	<i>kuru-wa</i> “egg” (NE)
pT	*kuru (NE)
Tiwi	<i>kurukura</i> “seed” (NE)

Key: ***kurri** “behind” n L

KUwanh	<i>koye</i> “outside” (S&J T5.)
YY	<i>korr, kirri, kirr</i> “behind, outside”
YMel	<i>korr</i> “behind, outside”
GYim	<i>gurri:r</i> “behind, motion to the rear” (JHav)
pPM	*kurri
WNgathan	<i>kurr</i> “hither, thither” Respect (PS 78.)
Kabi	<i>kuri</i> “around” (Watson 201,252.)
Nyungar (WD)	<i>kor</i> “back (to place); return” Also <i>kurlpurli</i> “behind; beyond”.
pPNy	*kurri (BA)

Key: ***kuya** “fish” n F

Pakanh	<i>kuy:u</i> “fish” (BA ’74 notes)
KB	<i>koy</i> “fish” Dat <i>koyéw</i> . (BA, KLH)
UOygangand	<i>uy, uyul</i> “fish” (BA, PH)
KNarr	<i>kuy</i> “fish” Dta <i>kuyvk</i> . (GB)
ON	<i>oy3</i> “fish” Dat <i>oyog</i> . (BA, KLH)
GYim	<i>guyu</i> “fish” JHav gives <i>gu:ju</i> as an alternant. (KLH, JHav)
KYalkuyu “fish” (Hr&Hr)	
Mbabaram	<i>yu</i> “fish” (RMWD)
Dyirbal	<i>guya</i> “fish” KLH, RMWD
pPaman	*kuya ~ kuyu ⁵⁷ (KLH)
Nyawaygi	<i>guya</i> “eel” (RMWD)
GBadhun	<i>guyu</i> “fish” (PS)
Bidjara	<i>guyu</i> “fish” Also <i>wina</i> . (GB)
Margany	<i>guyu</i> “fish” (GB)
Gunya	<i>guyu</i> “fish” (GB)
pPM	*kuyu (BA)
Wiradjuri	<i>guya</i> “fish” (PA)
Wayilwan	<i>guya</i> “fish” (PA)
Gamilaraay	<i>guya</i> “fish” (PA)

⁵⁷ Doublet on the basis of inclusion of Dyirbal in “Paman”.

Muruwari	<i>kuya</i> “fish” Also recorded as <i>kwiya</i> . (LFO)
Bandjalang	<i>guyang</i> “species of mullet” (PA)
pCNSW	*guya (PA #73)
Buwandik	<i>kuya</i> “eel” (BB)
Wirangu	<i>guya</i> “fish” (LH)
Kaytetye	<i>weye</i> “meat” Cognate? (KLH, HK)
Warlpiri	<i>kuyu</i> “meat; meat animal” (KLH)
Warlmanpa	“meat; game animal” (DGN)
Walmajarri	<i>kuyi</i> “meat, animal” (JHd p48 ex181)
Nyangumarta	<i>kuyi</i> “meat; animal” Plural <i>kuyarrangu</i> “animals, game” (GNOG)
Djinang	<i>guyi</i> “fish (generic)” (BW)
Djinba	<i>guya</i> “fish (generic)” Ganabingu, Manydjalpingu, Djinba; <i>guyi</i> in Dapi. (BW)
Gupa	<i>guya</i> “fish” Generic; does not include sharks. (MC)
Djapu	<i>guya</i> “fish” (FMO)
Dhuwal	<i>guya</i> “(any) fish” (JHeath)
Djambarrpuynu	<i>guya</i> “fish” Excluding sharks, stingrays, and jellyfish. Syn. <i>ngarirri</i> , <i>burirric</i> . (GWVW)
Dhangu	<i>guya</i> “fish” (BSch)
Ritharrngu	<i>guya</i> “fish (general term)” (JHeath)
pPNy	*kuya/u (PMcC)

Mudburra	<i>kakuyu</i> “fish” Eaten, e.g. small snapper, golden snapper, but not catfish. (RG)

Yuwaalaraay	<i>guyu</i> “bandicoot” (CW)

Key: ***ku:wu** “nose” n B

KThaayorre	<i>ko:w</i> “nose” (KLH)
YY	<i>kow</i> , <i>kowo</i> “nose”
UOykangand	<i>ow</i> “nose”
YMel	<i>kow vng</i> “nose”
KB	<i>kow</i> “nose” (KLH)
KNarr	<i>kow</i> “nose” (GB)
Djabugay	<i>kuwu</i> “nose” EP has /gu:/. (KLH, EP)
Kurrjar	<i>u:w</i> “nose” (KLH)
Dyirbal	<i>kuwu</i> “nose” (KLH)

pPaman (KLH)	*ku(:)wu “Other Paman” list has short-vowel alternant only.
Bidjara	<i>guwu</i> “nose, face” (GB)
Margany	<i>gu:</i> “nose” (GB)
Gunya	<i>gu:</i> “nose” (GB)
pPM	*ku:wu
Yorta-Yorta	<i>gowu</i> “nose” LH has <i>gowo</i> [‘go:wo]. (LH, B&M)
pPNy ^^^	*ku:wu
Margany	<i>gu:</i> “nose” (GB)
Gunya	<i>gu:</i> “nose” (GB)
^^^	
Buwandik	<i>kawu</i> “nose” (BB)

Key: ***lalka** “dry” nAdj

W-Ngathan	<i>alkvn</i> “dry, as of dry land, or meat” (PS)
Margany	<i>yarlga</i> “dry” (GB)
Gunya	<i>yarlga</i> “dry” (GB)
Yugambeh	<i>dalgay</i> “dry; also dry dead timber” Also <i>dalgay-dalgay</i> “brown”. (MS)
W. Bundj	<i>dalgay</i> “dry” Gidhabal <i>dalgay-nga:n</i> (arboreal gender); no gender inflection in Wudjehbal. (MS)
Pitta-Pitta	<i>yarlka</i> “dry” (BB)
Nyangumarta	W <i>lalka</i> “dry, dead, withered—of plant, tree” (TH)
Warlpiri	<i>lalka</i> “dry, dessicated—of vegetation, as tree” (KLH)
Walmajarri	<i>lalka</i> “dried out, crisp” (JHd)
Nhanda	<i>catka</i> “crusty, overcooked, burnt dry” ⁵⁸ (JB)
pPNy	*lalka TH #L2

Key: ***lañirri** “sandfly” n C

KUwanh	<i>iñe, yuku</i> “sandfly” Cognate? (S&J)
YY	<i>lenherrl</i> “sandfly”
YMel	<i>tenherr</i> “sandfly”
pWesternCYP	*tiñirrV
P-L	<i>lañirri</i> “savage, fierce, sharp-tasting; savage animal that stings or bites; a person who physically hurts others, one who always wants to fight, ...” “cheeky bugger”; “liquid or food that is acrid, sour, and has bite

⁵⁸ Initial correspondence uncertain; cf. *ta:ku.

to it; used of strong *mingkulpa* [tobacco]" Syn. *ngañirri*; also *pikarti*.
(Hn&Hn)

pPNy **lañirri**⁵⁹ (BA)

Key: ***laparr** "pigeon (sp.)" n Z, O

Atampaya *rapanh* "blue dove" Cognate? (TC)

YY *lapvrrn, minh-* "topknot pigeon" Q: source of *-n*?

GBadhun *rabarr* "squatter pigeon" (PS)

Kalkatungu *rapaci* "brown pigeon"⁶⁰ (BB)

Ritharrngu *rla:parr* "pigeons, especially with crests" Vowel length
source? (JHeath)

Gupa *rlaparr* "pigeon" (BL-MC)

Djinang *rlaparr* "pigeon" (BW)

Djinba (?) *rlaparr* "pigeon" (BW)

pPNy ***laparr**

^^^

Dalabon *tapparr* "red-eye pigeon" (NE/MH)

Rembarrnga *tapparr* "pigeon (sp.)" (MH)

pGunwinyguan ***Tapparr** (MH #1094)

Key: ***la:ma-** "spear" vtr

See also **ra-*.

YY *lam* "dig" L conj. Also *kun=lam* "dig".

GYim *da:ma-* "spear" *ps:* L conj. (KLH, JHav)

Muluridji *tama-* "spear" (KLH)

CC *tama-* "spear" (KLH)

KYaldama- "spear; sew; baptise; wash" L conj. (Hr&Hr)

HR *ame-* "spear" (KLH)

ON *ema-* "spear" (KLH)

pPaman ***ta:ma-** (KLH)

Diyari *dama-* "cut" *ps:* vtr 2A. (PA)

Ngamini *dama-* "cut" (PA CLE)

Yarluyandi *dama-* "cut" (PA CLE)

Yandruwantha *drrama-* "cut" (PA CLE)

Y'warrka *drrama-* "cut" (PA CLE)

⁵⁹ The /i/ of KUwanh *iñe* is not compatible with the proposed **a* (with the Yirr forms it suggests **CiCi*).

⁶⁰ Probably a loan.

pCK	*tama- (PA CLE)
pPNy	*la:ma- or *ra:ma- or *ta:ma- . ⁶¹ (BA)

Gupa ^^^	<i>lama</i> “shovel spear” <i>ps</i> : n. ⁶² (BL-MC)
Wagiman	<i>tam</i> “to hole” (MH)
Wardaman	<i>tam</i> “to hole” (MH)
*pGunwinyguan	*tam (MH #1085)

Key: ***lipa+** “bream (sp.)” n F, M

YY	<i>liprr</i> , <i>ngar-</i> “silver bream” (<i>Acanthopagrus australis</i>)
KThaayorre	<i>riprrr</i> , <i>ngat-</i> “silver bream” (<i>Acanthopagrus australis</i>)
Ritharrngu	<i>rlipal</i> “grunter, spotted bream” (JH)
pPNy	*lipa-
Dalabon (NE/MH)	<i>rleppal</i> “black bream, butler’s grunter (<i>Syncomistes butleri</i>)”
Jawony	<i>rleppal</i> “spotted bream” (MH)
Mangarrayi	<i>rlipal</i> “spotted bream” (MH)
Ngalakan	<i>rleppal</i> “spotted bream” (FMe/MH)
Ngandi	<i>rleppal</i> “spotted bream” (MH)
pGunwinyguan	*Leppal (MH)

Key: ***luka-** “drink” vtr

Bidyara	<i>yuga</i> “to eat; to drink” <i>ps</i> : Past <i>yugala</i> , Pres <i>yugana</i> , Fut <i>yuganga</i> , Purposive <i>yugalga</i> . (GB)
W. Bundj	<i>juga-</i> “to drink” Also <i>jugali-</i> “copulate”. (MS)
Yugambeh	<i>juga-</i> “to swallow” Also <i>juga:la</i> “gullet”, <i>jugali-</i> “to copulate”. (MS)
Djapu	<i>rluka</i> “ingest” <i>ps</i> : Conjugation Zero: Perfective <i>rlukan(a)</i> , Potential <i>rluki</i> , Past Nonindicative <i>rlukanha</i> . (FM)
Dhuwal	<i>rluka-</i> “eat, drink, consume; smoke; apply (paint)” <i>ps</i> : Conj. V2tr: Nonpast <i>rluka</i> , Past <i>rlukan(a)</i> , Past Remote <i>rlukanha(r)</i> , Future/Imperative <i>rluki</i> , Derived stem <i>rlukanha-</i> . (JHeath)
Ritharrngu	<i>rluka-</i> “to eat, to consume; [occasionally] to drink” <i>ps</i> : V2tr: Pres <i>rluka</i> , Past <i>rlukanha</i> , Future <i>rluki</i> , Nominalisation <i>rlukanha-</i> .
pPNy	*luka-

⁶¹ Initial stop vs. lateral vs. glide cannot be resolved from the evidence given above.

⁶² A Macassan loan, per NE.

Key: ***luku** “foot” n B

See also ***nuka**.

P-L *luku* “bone: outside of ankle” (Hn&Hn)

Manjiljarra *luku* “eel; ankle” (PMcC)

Warlpiri *luku* “heel” (KLH)

Walmajarri *luku* “heel” (JHd)

Nyamal *yuku* “heel” (GNOG #873)

pNgayarda ***yuku** Also ***cukara** (#803); Martuth *cukara* “foot”, Thalanyji *cukara* “foot”. (GNOG #873)

Nyangumarta S *luku* “ankle” (TH)

Nyangumarta W *luku* “metatarsus” (TH)

Djapu *rluku* “foot” (FMo)

Gupa *rluku* “foot, footprint; wheel” (BL-MC)

Djambarrpuynu *rluku* “foot, toes, footprint” (GWVW)

Dhuwal *rluku* “foot” (JHeath)

Daartiwuy *rluku* “foot” (MG)

Ritharrngu *rluku* “foot” (JHeath)

pNyungic (?) ***luku** (GNOG #873, TH #L29)

Key: ***lulku** “heart” n B

Wik-Ngathan *ulkr* “light in weight” “Also applies to a damper that is well risen, not doughy.” (PS)

YY *lolt, lolto* “light in weight; hollow” In *ngerr-lolt* “heart” or “lungs”.⁶³

YMel *tolkr* “kidney; light (in weight)”⁶⁴

Yidiny *dulgu* “heart” Tablelands dialect. (RMWD A9)

Dyirbal *ruglu* “heart” *ps* Neuter (*bala-*). Ngadjan, per Yidiny dictionary. (RMWD)

GBadhun *ruglu* “heart” (PS)

Bidyara *yulgu* “heart” Nothing begins with /d, l, r, rr/. (GB)

Margany *ulgu* “heart” Initial /u/ is not distinct from /wu/; nothing begins with /d, l, r, rr/; cf. the Margany and Gunya reflexes of ***rirra**. (GB)

Gunya *yuriku* “heart” (GB)

pPM ***lulku** (BA)

W. Bundj *dulgu* “heart” In WAtc, *julgu* ~ *jugul*. (MS)

⁶³ Cognation with YMel *tolkr* is supported by similar correspondences.

⁶⁴ See the semantics of the YY cognate.

Yugambeh	<i>dulgu(:)</i> “heart” Also <i>dulgu</i> “back, spine”. (MS)
Wang (G)	<i>dhurlku</i> “heart” Mistranscription of initial /d/? Cited elsewhere as <i>dhurlka</i> . (M&W)
Wang	<i>turlku</i> “heart” (GB)
Yarluyandi	<i>yurlku</i> “throat” (PA)
Mithaka	<i>yirlku</i> “throat” (PA)
Pitta-Pitta	<i>irlka</i> “front of neck” /yirlka/. (BB)
Ngamini	<i>yurku</i> “throat” (PA)
pKarnic	*yurlku ⁶⁵ (PA)
Atnya	<i>yurlk(u)</i> “heart” In <i>yurlk-aka</i> “heart” (<i>aka</i> “head”), <i>yurlku ngarklu-</i> “to be fond of, to love dearly”, <i>yurlku nguñarri</i> “diaphragm”, <i>yurlku warrha-</i> “to be moved (as in grief, or in spirit)”, <i>yurlku marra-</i> “to feel uncomfortable (as after eating too much rich food)”. ⁶⁶ (M&M)
pPNy	*lulku

Mudburra	<i>dulang</i> “heart” (RG)

Key: ***lumpu** “cavity”ⁿ E, B

GYim	<i>dumbu</i> “vagina” In 1972 wordlist; not in 1979 sketch. (JHav)
Ngarluma	<i>thumpu</i> “anus; rear” (KLH, GNOG)
Yinytji	<i>thumpu</i> “anus; arse, rear end; fool, jackass” (GNOG, FW)
Kurrama	<i>thumpu</i> “anus” (GNOG)
Panyjima	<i>thumpu</i> “anus” (AD)
pNgayarda	*thumpu GNOG: also in Kanyara. (GNOG #430)
Nyangumarta W	<i>lumpu</i> “cavity, recess” (GNOG/TH)
pPNy	*lumpu (TH #L34)

Key: ***malu** “shade”ⁿ E

Bidyara	<i>malu</i> “shade” (GB)
Margany	<i>malu</i> “shade” (GB)
Gunya	<i>malu</i> “shade” (GB)
W. Bundj	<i>malung</i> “shade, shadow” (MS)
Yugambeh	<i>malung</i> “shadow, shady; evil spirit, shade” (MS)
Wirangu	<i>malu</i> “shade” (LH)
Ngarluma	<i>malu</i> “shade” (KLH)
Panyjima	<i>malu</i> “shade” (AD)

⁶⁵ As “throat”; from the last 4 languages only.

⁶⁶ For *y* from an initial apical see also **lirra*.

Martuth	<i>malumalu</i> “darkness” (AD)
Yinytji	<i>malu</i> “shade, shadow” (FW)
pNgayarda	*malu (GNOG #824)
Jiwarli	<i>malu</i> “shadow, shade” Also “testicles”; <i>malungu</i> “white man”.
(PA)	
Yingkarta, Sth	<i>malu</i> “shadow, shade” (PA)
Nhanda	<i>malu</i> “shade, shadow; reflection” (JB)
Gupa	<i>mali</i> ⁶⁷ “shadow; photo, image” (BL-MC)
pPNy	*malu

Key: ***manu** “neck” n B

Atampaya	<i>manu</i> “throat” Also <i>manu-kari</i> “windpipe; cave”. (TC)
Angkamuthi	<i>manu</i> “throat” (TC)
Yadhaykenu	<i>manu</i> “throat” Also <i>manu-kari</i> “windpipe; cave”. (TC)
Wuthathi	<i>7an:u</i> (?) “neck” Also <i>man:u</i> ? (LMW-BA)
WMungknh	<i>man</i> “neck, throat” (KLH)
WMe’nh	<i>man</i> “neck, throat” (KLH)
WNgathrr	<i>man</i> “neck, throat” (KLH)
WNgathan	<i>man</i> “neck, throat” (PS)
WMuminh	<i>manu</i> “neck, throat” (KLH)
KUwanh	<i>manu</i> “front of neck” (S&J)
Umpila	<i>manu</i> “neck, throat” (KLH)
Kaanytju	<i>manu</i> “neck, throat” (KLH)
Uradhi	<i>manu</i> “throat” (KLH)
KThaayorre	<i>man</i> “neck, throat”
YY	<i>man</i> “neck, throat”
YMel	<i>man</i> “neck, throat”
KB	<i>man-</i> “neck, throat”
Kurrtjar	<i>ma:n</i> “throat” (KLH)
Almura	<i>manu</i> “neck” (JHav via BR)
GYim	<i>manu</i> “neck, throat” (JHav)
KYalmanu	“throat and fron of neck” (Hr&Hr)
Mutumui	<i>mannu</i> (H&T)
Djabugay	<i>manu</i> “throat, neck” (KLH, EP)
pPaman	*manu (KLH)
Warrungu	<i>manu</i> “neck” Tsunoda
GBadhun	<i>manu</i> “neck, throat” (PS)

⁶⁷ For *i* < **u*, cf. *mani* “neck, creek” < **manu*.

Margany	<i>manu</i> “throat” (GB)
Gunya	<i>manu</i> “throat” (GB)
pPM	*manu
Ngawun	<i>mana</i> “neck” (GB)
M-Kulan	<i>mana</i> “neck” Syn. <i>ñinngin</i> . (GB)
M-Yapi	<i>mana</i> “neck” Syn. <i>ñinngin</i> . (GB)
M-Thakurti	<i>man-garri</i> “front of neck” Part is cognate? (GL)
M-Kutuna	<i>manamuki</i> Questioned in source. Part is cognate? (GB)
Pitta-Pitta	<i>marnu</i> “heart” Cognate? (BB)
Wirangu	<i>manu</i> “gullet” (LH)
Djambarrpuynu	<i>mani</i> “neck; front of neck” (GWVW)
Djinang	<i>mani</i> “river; neck” (BW)
Djinba	<i>mani</i> “river; neck” (BW)
Gupa	<i>mani</i> “neck; creek” ⁶⁸ (BL-MC)
Dhangu	<i>marni</i> “Hals; Fluss” Retroflexion regular? Also <i>manikay</i> “song”. (BSch)
pYolngu	*mani ⁶⁹
pPNy	*manu

Yorta Yorta	<i>manuga</i> “branch” Also <i>maan</i> “face”. (B&M)

Baakandji	<i>ma:rni</i> “song, corroboree” (LH)

Key: ***mangi** “image” n

- YYoront *mang* “image, ‘shadow’; form which spirit-child assumes for incarnation; images of species at increase site” (RLS, BA)
- Walmartjarri *mangi* “spirit or essence of a person which remains when he has gone; presence” As in *Manginga manyanta kirralany piyirn maruwajarti* “The one who killed someone is sitting in the place where that person sat (where his spirit is).” *Kunyangurla manyan marna yukarni nyanartirla ngurranga. Wartapuranjarrinya pa ngajukurarla manginga. Jartkujirni pa warlu piyirntu. Wali malany parla kanarlanyju, ‘Ngajirta ngankurlanyanta jartkuji warlu nyanayirla manginga. Ngajirta ngankurla mangi kampa.’* “Suppose I had slept there in my home. Then someone came afterwards and lit a fire riyt where I had slept. Someone else would say to him, ‘Don’t liyt a fire there where his “spirit” is, don’t cook his

⁶⁸ Cf. reflex of **malu* for quality of V2.

⁶⁹ For *i* < **u*, cf. the Yolngu reflexes of **malu* (neck).

spirit!” (JHd)
***pPNy** ***mangi**

Key: *mangka “bottom” n

WMungsknh *mangk* “lower part of back; small of back” Also, generic for
 “belt” in *mangk kuuy* “string belt”. (KPPW)

WNgathan *mangk* “back, base; ancestral, founding” (PS)

KThaayorre *mangk, mangka* “lowdown, below” (AH)

YY *ma7, ma7a* “bottom” Also, generic for “belt” in
ma7-monporm “possum-fur belt”.

L ***mangka**

Djabugay *mangga* “nest, pouch” (EP)

Yidiny *mangga* “nest of any bird, or of turtle” Tablelands & Coastal
 dialects. (RMWD F1)

pPaman **mangka** (BA)

Gamilaraay *manggarr* “bag” (PA)

Yuwaaliyaay *man.garr* “bag” Cognate? (PA)

p-Gamilaraay-Yuwaalaraay ***manggarr** (PA #253)

Muruwari *mangkañ* “bag; blanket to be laid on the ground for sleeping
 on” (LFO)

MM *mangk* “down; down there; under; within, into, in there; onto”
 (B&B)

Mudburra *mangka* “vagina” Syn. *jindi*. (RG)

Nyangumarta *mangka* “circle of bushes built for concealment in hunting”
 (GNOG)

Ngarluma *mangka* “nest—of bird” (KLH)

Panyjima *mangka* “nest” *ps*: In AD only as “drinking straw”. (GNOG,
 AD)

Yinytji *mangka* “nest” (GNOG; not in FW)

PNgayarda ***mangka** “nest, hair” (GNOG #360)

Nhanda *mangga* “bird’s nest” (JB)

Wadjuk *mangka* “nest” Also *mangkara* “hair”. (GNOG)

pPNy ***mangka** (BA)

^^^

Umpila *mangka* “river” (GNOG)

^^^

Kukatja *mangka* “head hair” (GNOG)

WR	<i>mangka</i> “head hair; hair (generic)” (WD)
Pitj-Yank	<i>mangka</i> “head hair” Also <i>mangkamangka</i> “matspurge or milkweed (<i>Euphorbia drummondii</i>), a flat clumpy herb” (CG)
P-L	<i>mangka</i> “head hair” Used generally of human or animal hair.
(Hn&Hn)	

^^^

WR *mangkawarla* “hat” Lit. “long hair”—but *warla* is given as “spring, a water spring” (WD)

Bayungu	<i>mangkawarla</i> “hat” (PA)
Dhalanyji	<i>mangkawarla</i> “hat” (PA)
Burduna	<i>makawarla</i> “hat” (PA)
pKanyara	*mangkawarla (PA #262)

Muruwari	<i>mangka</i> “bone; spine” (LFO)
----------	-----------------------------------

Key: ***marā** “hand” n B

Uradhi	<i>mata</i> “hand; outrigger of canoe” Atampaya, Angkumuthi, Yadhaykenu. (KLH, TC)
Mpakwithi	<i>7a</i> “hand” (TC)
Mpalitjanh	<i>arta</i> “hand” (KLH)
Luthigh	<i>a7a</i> “hand” (KLH)
Yinwum	<i>tra</i> “hand” (KLH)
Alngith	<i>7a</i> “hand” (KLH)
Awngthim	<i>7a</i> “hand” (KLH)
Ntra’ngith	<i>a7a</i> “hand” (KLH)
Ngkoth	<i>tra</i> “hand” (KLH)
Aritinng	<i>ta</i> “hand” (KLH)
Mbiywom	<i>ta</i> “hand” (KLH)
WMungknh	<i>ma7</i> “hand” (KLH)
WMe7nh	<i>ma7</i> “hand” (KLH)
WNgathvrr	<i>ma7</i> “hand” (KLH)
WNgathan	<i>ma7</i> “hand; time(s), number of nights/days; line of descent”
(PS)	
KUwanh	<i>ma7a</i> “hand” (S&J)
WMuminh	<i>ma7a</i> “hand” (KLH)
Kaanytju	<i>ma7a</i> “hand” (KLH)
Umpila	<i>ma7a</i> “hand” (KLH)
Koko-Bera	<i>mar</i> “hand”

KNarr	<i>mar</i> ; <i>marangk</i> “hand” (GB)
Aghu-Tharr (HR)	<i>ri</i> “hand” (KLH, LJ)
ON	<i>ar3</i> “hand” (BA, KLH)
GYimithirr	<i>maRda</i> “wrist, forearm” Cognate? (JHav)
KYal	<i>marā</i> “hand” (Hr&Hr)
Djabugay	<i>marā</i> “hand” (KLH, EP)
Kurrtjar	<i>ma:r</i> “hand” (KLH)
pPaman	*mara (KLH)
GBadhun	<i>marā</i> “hand” (PS)
Bidyara	<i>marda</i> “hand” (GB)
Margany	<i>marā</i> “hand” ⁷⁰ (GB)
Gunya	<i>marda</i> “hand” ⁷¹ (GB)
pPM	*mara
Hamilton R (Curr 102)	“ <i>murra</i> ” “hand”
Wiradjuri	<i>marā</i> “hand” Poss. a loan; final <i>ng</i> expected. M&H have <i>marra</i> . (PA, M&H)
Wbuwan	<i>marā</i> “hand, finger; five; upper grindstone or handpiece” Poss. a loan; final <i>ng</i> expected. (TD/PA)
Wayilwan	<i>marā</i> “hand” Poss. a loan; final <i>ng</i> expected. (PA)
Gamilaraay	<i>marā</i> “hand” (PA)
Yuwaaliyay	<i>ma</i> : “hand” (PA, CW)
Yuwaalaraay	<i>ma</i> : “hand” (CW)
Muruwari	<i>marā</i> “hand” <i>ps</i> : Instr <i>marangku</i> . (LFO)
pCNSW	*mara (PA #75)
Diyari	<i>marā</i> “hand” (PA)
Ngamini	<i>marā</i> “hand” (PA CLE)
Yarluyandi	<i>marā</i> “hand” (PA CLE)
Yandrruwantha	<i>marā</i> “hand” (PA CLE)
Y’warrka	<i>marā</i> “hand” (PA CLE)
Mithaka	<i>marā</i> “hand” (PA CLE)
Karuwali	<i>marā</i> “hand” (PA CLE)
Wang	<i>marā</i> “hand” (PA CLE)
Wang (G)	<i>marā</i> “hand” (M&W)
Pitta-Pitta	<i>marā</i> “hand” (BB)
pKarnic	*mara (PA)
Baagandji	<i>marā</i> “hand, fingers” (LH)

⁷⁰ /r/ < *r regular?

⁷¹ /rd/ < *r is regular.

Buwandik	<i>marra</i> “hand” ⁷² (BB)
MM	<i>mar-i</i> “hand” ⁷³ (Taplin, MMcD)
Atnya	<i>marā</i> “hand” (Mc&Mc)
Parnkalla	<i>marā</i> “hand” (KLH)
Wirangu	<i>marā</i> “hand” (LH)
Karlamayi	<i>marā</i> “hand” (KLH)
Pitj-Yank	<i>marā</i> “hand; cluster of finger-like pods (as of spear-bush or corkwood)” (CG)
Pintupi	<i>marā</i> “hand, finger; front paw; front wheels” (H&H)
Manyiljarra	<i>marā</i> “hand; arm” (PMcC)
Martuth	<i>marā</i> “hand” (AD)
Ngarluma	<i>marā</i> “hand” (KLH)
Kariyarra	<i>marā</i> “hand” (GNOG)
Panyjima	<i>marā</i> “hand” (AD)
Ngarla	<i>marā</i> “hand” (GNOG)
Nyamal	<i>marā</i> “hand” (GNOG)
Palyku	<i>marā</i> “hand” (GNOG)
Yinytji	<i>marā</i> “hand” Alt. <i>ma:</i> (GNOG). (GNOG, FW)
Kurrama	<i>marā</i> “hand” Alt. <i>ma:</i> . (GNOG)
pNgayarta	*marā (GNOG #703)
Dhalandji	<i>marā</i> “hand” (PA)
Burduna	<i>marā</i> “hand” (PA)
pKanyara	*marā (PA #40)
Djiwarli	<i>marā</i> “hand” (PA)
Djururu	<i>marā</i> “hand” (PA)
Wariyangga	<i>marā</i> “hand” (PA)
Dhiin	<i>marā</i> “hand” (PA)
Dhar (l)	<i>marā</i> “hand” (PA)
Dhar (d)	<i>marā</i> “hand” (PA)
pMantharta	*marā (PA #40)
Yingkarta, Nth	<i>marā</i> “hand, finger” (PA)
Yingkarta, Sth	<i>marā</i> “hand, finger” (PA)
Nhanda	<i>marā</i> “hand, fingers” (JB)
Nyungar	<i>mar</i> “hand” Also (variants?) <i>marā</i> , <i>mayar</i> ; <i>marak</i> “arm”,

⁷² Quality of “rr” not certain; possibly this belongs with *marra (“wing”). Also *marra-wu* “right arm”.

⁷³ Probably a loan. Vowel is short per MMcD (1977: 13), who cites the form as [maRa], contrasting in length with [ma:ra] “sister” (see *ma:ri).

marak piri “finger”; *mart* “leg; foot”. (WD)
pPNy ***mara** Also in Nunggubuyan, Djeragan, Wororan. (GNOG #703)

Woiwurrung *marnang* “hand” (BB)

Key: ***marra** “wing” n Z, B

WNgathrr *marra* “wing feather” (KLH)

WNgathan *marr* “wing; wing feather” (PS)

KThaayorre *marr* “wing” (KLH)

YY *marr* “wing feather; red-winged parrot”

GYim *marra* “wing” (KLH, JHav)

Muluridji *marramarra* “wing” (KLH)

CC *marramarra* “wing” (KLH)

KYalmarra “wing” Also “zamia tree”. (Hr&Hr)

Dyirbal *marra* “limb of tree” (KLH)

pPaman **marra** (KLH)

Mudburra *marramarra* “wings; wing feathers” Also *marrababirni* “dove; common bronzewing”. (RG)

Martuth *marra* “wing, flipper of turtle” GNOG: *marrarli* “wing”. (GNOG, AD)

Yinytji *marrarli* “wing” (GNOG, FW)

Panyjima *marra* “wing” Not in AD. (GNOG)

pNgayarda ***marra** (GNOG #131)

Gupa *marra* “leaf; hair” Syn *marwat*. (BL-MC)

pPNy ***marra** (BA)

Key: ***mayi** “vegetable food” n P

KKY *ay* “food” Cognate? K

Uradhi (At) *mayi* “vegetable food” *ps*: ERG *mayi:lu*. (KLH, TC)

Angkamuthi *ayi* “vegetable food” (TC)

Yadahykenu *ayi* “vegetable food” (TC)

Mpakwithi *ay* “vegetable food” A loan? (TC)

Mpalitjanh *ayi* “vegetable food” (KLH)

Luthigh *ayi* “vegetable food” (KLH)

Yinwum *ayi* “vegetable food” (KLH)

Linngithigh *ayi* “vegetable food” (KLH)

Alngith *ayi* “vegetable food” (KLH)

Awngthim	<i>ay</i> “vegetable food” (KLH)
Ntra’ngith	<i>ayi</i> “vegetable food” (KLH)
Ngkoth	<i>ñci</i> “vegetable food” (KLH)
Aritinng	<i>ayi</i> “vegetable food” (KLH)
Mbiywom	<i>ayi</i> “vegetable food” (KLH)
WMungknh	<i>may</i> “vegetable food” (KLH)
WMe’nh	<i>may</i> “vegetable food” (KLH)
WNgathan	<i>may</i> “vegetable food; food generally” (PS)
WNgathrr	<i>may</i> “vegetable food” (KLH)
WMuminh	<i>mayi</i> “vegetable food” (KLH)
KUwanh	<i>mayi</i> “vegetable, fruit” (S&J)
Kaanytju	<i>mayi</i> “vegetable food” (KLH)
Umpila	<i>mayi</i> “vegetable food” (KLH)
KThaayorre	<i>may</i> “vegetable food” (KLH)
YY	<i>may</i> “vegetable food; food in general” ⁷⁴
YMel	<i>may</i> “vegetable food”
KB	<i>may</i> “vegetable food, food other than meat” <i>ps</i> : Dat <i>mayéw</i> . (KLH, BA)
Kurtjar	<i>ma:y</i> “vegetable food, food other than meat” (KLH)
Aghu-Tharr	<i>yi</i> “vegetable food” (LJ)
GYim	<i>mayi</i> “vegetable food, food other than meat” (KLH, JHav)
Muluridji	<i>mayi</i> “vegetable food, food other than meat” (KLH)
CC	<i>mayi</i> “vegetable food, food other than meat” (KLH)
KYal <i>mayi</i>	“vegetable food; food in general” (Hr&Hr)
Aghu-Tharr LJ)	<i>yi</i> “vegetable food, food other than meat” <i>Phon</i> : [vy:i]. (KLH, LJ)
ON	<i>ay3 ~ aj3</i> “vegetable food, food other than meat” (KLH, BA)
Djabugay	<i>ma</i> : “vegetable food, food other than meat” EP: “non-flesh food” Sound correspondence regular?. (KLH, EP)
Yidiny	<i>mayi</i> “vegetable food, food other than meat” RMWD: “non- flesh food; honey”. (KLH, RMWD K1)
Dyirbal	<i>mayi</i> “sugarbag” (KLH)
pPaman	*mayi (KLH)
GBadhun	<i>mayi</i> “sugarbag” (PS)
Bidyara (GB)	<i>mayi</i> “tucker, fruit” Also <i>mandha</i> “tucker i.e. vegetable food”.
Margany	<i>mayi</i> “vegetable food” (GB)

⁷⁴ V2 of oblique *maya* is an innovation.

pPM	*mayi
Nyawaygi	<i>mayi</i> “English bee” (RMWD)
Atnya	<i>mayi</i> “food (vegetable)” (Mc&Mc)
Karlamayi	<i>mayi</i> “vegetable food” (KLH)
Pitj-Yank	<i>mayi</i> “food from plants (as opposed to meat), whether processed or not, and especially in modern camp life, flour or bread; food plant, type of food plant; food generally, where the difference between plant and animal food isn’t important” (CG)
Warlpiri	<i>miyi</i> “vegetable food” (KLH)
Walmajarri	<i>miyi</i> “vegetable food” (JHd)
Nyangumarta	<i>mayi</i> “vegetable food” (GNOG)
pPNy	*mayi
^^^	
Pitta-Pitta	<i>mayi</i> “ground, dirt” (BB)
Muruwari	<i>mayi</i> “earth, ground, soil; the “run” or territory of a horde which had descent in the male line” (LFO)
^^^	
Kalkatungu	<i>ma</i> : “vegetable food” (BB)
Djabugay	<i>ma</i> : “vegetable food, food other than meat” EP: “non-flesh food”. (KLH, EP)
Wirangu	<i>ma</i> “food; vegetable food” (LH)
^^^	
Mudburra	<i>mayibi</i> “sugarbag—yellow one” (RG)

Key: ***mayi** “auntie” n H, K

KThaayorre *may(a)th, punhth-* “auntie, mother-in-law”

YY *may-warrch* “mother-in-law” (Rsp)

Djabugay *mayi* “father’s sisters”⁷⁵ (EP)

pPaman ***mayi**

MM *ma:y-* “grand- relatives [various]” Inferred from Meyer’s *maiyan:owe* “paternal grandfather”, *maiya:re* “grandchild”, *maiyaundun* “daughter-in-law”; Taplin *maiyanowe* “father’s mother”, *maiya:re* “son’s child”. (Meyer, Taplin)

Guurrindji *mali* “wife’s mother, wife’s mother’s brother”⁷⁶ (PMcC)

Ngarluma *mayili* “father’s father; son’s son” GNOG has *mayirli* “father’s father”. (KLH, GNOG)

⁷⁵ cf. *ma*: “vegetable”, ?< **mayi*

⁷⁶ Regularly < **mayili*.

Martuth	<i>mayili</i> “father’s father” (AD)
Panyjima	<i>mayali</i> “father’s father; man’s son’s child” The second <i>a</i> is unaccounted for. (AD)
Yinytji	<i>mayi</i> “younger sister; stepsister through junior stepparent; father’s yBrDa, mother’s ySiDa” To * <i>ma:ri</i> ? (FW)
Yinytji	<i>ma:li</i> “paternal grandfather; (man’s) son’s son; (woman’s) daughter’s son; (man’s) son’s dog” GNOG gives <i>ma:rli</i> “father’s father”. (FW, GNOG)
pNgayarda	*mayirli (GNOG #135)
Bayungu	<i>mayili</i> “father’s father” (PA)
Dhalandji	<i>mayili</i> “father’s father” (PA)
Burduna	<i>mayili</i> “father’s father” (PA)
pKanyara	*mayili (PA #43)
Djiwarli	<i>mayili</i> “father’s father” (PA)
Wariyangga	<i>mayili</i> “father’s father” (PA)
Dhar (l)	<i>mayili</i> “father’s father” (PA)
Dhar (d)	<i>mayidi</i> “father’s father” (PA)
pMantharta	*mayili (PA #43)
Djapu	<i>ma:yi</i> “granny (MoMo)” Syn. <i>ma:ni</i> ; cf. <i>ma:ri</i> “MoMo, MoMoBr. FaFa” (FMo)
pPNy	*mayi ⁷⁷ (BA)

Bidyara	<i>mayarra(gan)</i> “woman” (GB)
Margany	<i>mayada</i> “sister” /d/ < *rr. (GB)
Gunya	<i>mayada</i> “sister” /d/ < *rr. (GB)

Key: ***ma:-** “take” vtr

KKW *may* “take, give; bring” *ps*: vtr; *ma-*, *mani-*, Dual *mamama-*, Plural *mamayi-*.

Yadhaykenu *ma* “pick up” *ps*: vtr, Conj. Ic: *mana* Past, *malal* Present, *maḍi* Imperative. (TC)

WMungknh *ma:y-* “take” (KLH)

WMe’nh *ma:y-* “take” (KLH)

KUwanh *ma:* “pick up, get, buy” (S&J)

Umpila *matji-* “take” (KLH)

GYimithirr *ma:-* “take, pick up, buy, get, marry, learn, catch” Conj. NA: *ma:na*: Nonpast, *ma:rra*: Imp, *ma:ni* Past. When use suffixially as a

⁷⁷ Yolngu forms < **ma:ri*?

- transitivising (causative) verbaliser, it has a short vowel. There is also an L-Conj. inchoative verbaliser *+ma*. (KLH, JHav)
- Djabugay *ma*:- “make, do” *ps*: vtr, L: *ma:ñ* Past, *mal* Present. (KLH, EP)
- Kurrtjar *ma*- “take” (KLH)
- pPaman** **ma(-)*- “Other Paman” has **ma(-na ~ -rra ~)*. (KLH)
- Bidjara *mara* “catch, get, pick up, hold, take” (GB)
- Nyawaygi *ma*:- “hold in hand” (RMWD)
- W. Bundj *ma*- (verbaliser: turns adjectives and some nouns into verbs) (MS)
- W. Bundj *-ma* “make to, cause to” Added to intransitive; forms transitive verb. (MS)
- Muruwari *ma*: “take; get” Mathews: “mara”. (LFO)
- Pitj-Yank *ma*- “get, pick up, fetch” *ps*: vtr: *manu* P; *manangi* P Cnt; *marra* Imp; *manama* Imp Cnt; *mankuku* F; *mankupayi* “used to”; *mankula* Serial; *mankunyitja* Participle. (CG)
- Warlpiri *ma*- “to take it, to get it; to affect” *ps*: tV5. (KLH)
- Warlmanpa *ma*- “ERG get, take ABS” *ps*: Conj. 5: Imp *manta*, P *manu*, Fut *manmi*. (DGN)
- ^^^
- Mudburra *ma-rru* “talk, tell, say, speak” *ps*: *marna(r)na* P1; *marna* P2; *marrarnku* P Cnt; *marni* D1; *marnirra* DP2; *marnirni* Pres; *marru* F; *marra* Imp; *manarra* “might”. Used to form many complex verbs. (RG)
- Ngarla *ma*- “take it, pick it up” (GNOG)
- Kariyarra *manku*- “take it, pick it up” (GNOG)
- Yinytji *manku*- “get; take hold of, grab, catch; pick (up); buy” (GNOG, FW)
- Palyku *mana*- “take it, pick it up” (GNOG)
- Panyjima *mana*- “get, grab, pick up” Conj. -ku. GNOG gives *marna*-. (GNOG, AD)
- Kurrama *manki*- “take it, pick it up” (GNOG)
- pNgayarda** **ma*- (GNOG #702)
- Yingkarta, Nth *ma-na* “get; pull out” (PA)
- Yingkarta, Sth *ma-na* “get; pull out” (PA)
- Dhuwal *ma:rra*- “to get, take, pick up, acquire; (woman or man) to have a child” (JHeath)
- pPNy** **ma*:- Possibly also **ma*-.
^^^

Key: ***mama-** “get, grab, catch” vtr

WMungknh	<i>mam-</i> “grab, hold” (KLH)
WNgathan	<i>mamv-</i> “grab, grasp (including learning a language), rub” (PS)
KUwanh	<i>mama</i> “grasp, hold” (S&J)
Yuwaalaraay	<i>mama-</i> “stick, adhere” <i>ps</i> : L2 conjugation. (CW)
Pitta-Pitta	<i>mamaka</i> “grab” (BB)
Wang (G)	<i>mama</i> “steal” (M&W)
Diyari	<i>mama-</i> “take back” (PA)
Ngamini	<i>mama-</i> “take back” (PA/R)
Yandruwantha	<i>mama-</i> “take back” (PA/R)
Y’warrka	<i>mama-</i> “take back” (PA/R)
pCK	* mama- (PA)
Woiwurrung	<i>mama-</i> “hold; grab” (BB)
Atnya	<i>mama-</i> “take away” (Mc&Mc)
Djururu	<i>mama-</i> “get, grab, catch” ⁷⁸ (PA)
Wariyangga	<i>mama-</i> “get, grab, catch” ⁷⁸ (PA)
Dhiin	<i>mama-</i> “get, grab, catch” ⁷⁸ (PA)
Dhar (l)	<i>mama-</i> “get, grab, catch” ⁷⁸ (PA)
Dhar (d)	<i>mama-</i> “get, grab, catch” ⁷⁸ (PA)
pMantharta	* mama- ⁷⁸ . (PA #430)

^^^

Key: ***mani-** “get” vtr

CC	<i>mani-</i> “take” (KLH)
Warrgamay	<i>ma:ni</i> “hold in hand, hold onto, catch hold of, catch, grab” (RMWD)
Kalkatungu	<i>mani</i> “take; get” Syn. <i>muma</i> (in both senses). (BB)
Yaygir	<i>ma:ni</i> “take” Var. <i>ma:na</i> and <i>ma:rra</i> . (TC)
pNNSW	* ma:ni (TC)
Diyari	<i>mani-</i> “get” (PA)
Ngamini	<i>mani-</i> “get” (PA)
Yarluyandi	<i>mani-</i> “get” (PA)
pWK	* mani- (PA)
Arabana	<i>mani-</i> “get” (PA)
Wngurru	<i>mani-</i> “get” (PA)
Buwandik	<i>mana</i> “get; take; bring” (BB)

⁷⁸ Conjugation: *-ru*.

^^^

Gupa *ma:rrama* “take; get, fetch” (BL-MC)

Nhanda *matka-* “take, bring; get; give; have; gather, grasp, catch” (JB)Key: ***ma:ri** “cousin” n K

See also *mayi (“auntie”), *yapa.

KThaayorre *ma:r-n* “FaSiCh”YY *mar* “FaSiCh”M-Thakurti *maringu* “MoBrCh, FaSiCh”⁷⁹ (GB)Wunumara *maringu* “MoBrCh, FaSiCh”⁷⁹ (GB)MM *ma:r* “sister”⁸⁰ (MMcD; all sources.)Manjiljarra *mari-ji* “brother-in-law” Belongs with this set?Martuth *mari* “younger sister” (AD)Kariyarra *mari* “younger sister” (GNOG)Ngarluma *mari* “younger sister” (KLH)Yinytji *mayi* “younger sister; stepsister through junior stepparent;
father’s yBrDa, mother’s ySiDa” To *mayi? (FW)Panyjima *mari* “younger sister” (AD)Djinang *maralkur* “cousin” MoMoBrSo. (BW)Djinba *mari* “cousin” MoMoBrSo. (BW)Djapu *ma:ri* “mother’s mother(’s brother); father’s father” (FMo)Daartiwyu *ma:ri* “mother’s mother; mother’s mother’s brother” \d MGDhuwal *ma:ri* “mother’s mother; mother’s mother’s brother” Also
ma:ri7mungu “father’s father, father’s father’s sister”; *maralkur* “mother’s
mother’s brother” and his son’s son and similar (male avoidance) relatives.
(JHeath)Gupa *ma:ri* “MoMo, MoMoBr” Also *ma:ri’mu* “FaFa(Si)”,
maralkur “MoMoBrSo”. (BL-MC)**pPNy** ***ma:ri**⁸¹

^^^

WNgathan *ma7iyam* “man’s daughter’s son” Respect form.⁸² (PS)

⁷⁹ Inferred from written sources only; “parallel cousin” among the glosses. Mayi languages recorded directly in recent years have *waringu*.⁸⁰ Long V1 is regular from a short one in *CVCV.⁸¹ See also *yapa. Cognation of the “cousin” terms with the rest is questionable.⁸² Long vowel expected if from *ma:ri.

Pitj-Yank *marucu* “man’s brother-in-law (WiBr or SiHu)” (CG)

*Key: *micara* “cold” n E

Mpakwithi *tharanga* “cold” *ps*: adj. (TC)

Linngithiy *thar* “cold, southwest wind” *ps*: n; Erg *tharaδ*. KLH

YY *mithar*, *mithr* “cold weather”

Bidyara *mithard* “ice, frost; cold weather” (GB)

Margany *midhard* “frost” /rd/ < *R. (GB)

Gunya *midhard* “frost, cold weather, winter” /rd/ < *R. (GB)

pPM? **micara*⁸³ (BA)

Warlmanpa *micarra* “cold weather, winter” Also *micaku-ca-rra* “feel cold (of person)”; *micakurla* “it’s cold”. (DGN)

pPNy **mica* Also **-ra* ?

^^^

Wimmera *micak* “rain” (B&R)

Wembawemba *midhvg* “rain” (LH)

Wemba-Baraba *mithvk* “rain” (B&R)

Madhimadhi *midhagi* “rain” Probably *midhag-i* (LH p119). (LH, B&R)

Nari-Nari *midhag* “rain” (LH, B&R)

Wadi-Wadi (Piangil) *maiceRi* “rain” *Phon*: Quality of “R” not known. (B&R)

Nyungar *mical* “rain, rainwater” Also *mical+iñ* “to rain”.⁸⁴ (WD/DGN)

^^^

Panyjima *matharri* “frost, mist, fog” Also *muthura* “winter rains” (AD)

Ngarluma *muthu* “cold; winter; year” Also *muthura* “winter rain clouds”.
(KLH)

Martuth *muthu* “cold” (AD)

*Key: *miña* “meat, animal” and “what” n Z

Urathi Atampaya) *minha* “meat, bird, game animal” (KLH, TC)

Angkamuthi *inha* “meat; mullet” (TC)

Yadhaykenu *inha* “meat; mullet” (TC)

Mpakwithi *nha* “fish (generic)” (TC)

Mpalitjanh *inha* “meat, animal” (KLH)

Luthigh *nha* “meat, animal” (KLH)

Yinwum *ña* “meat, animal” (KLH)

⁸³ With regard to the 3rd syllable in Maric, see also *kapari (“armpit”) on the one hand, *kakara (> Bidjara *gagarda* “moon”) on the other.

⁸⁴ In this context, /l/ < *r is quite probably regular; cf. *kuc^yarra

Linngithigh	<i>ña</i> “meat, animal” (KLH)
Alngith	<i>ña</i> “meat, animal” (KLH)
Awngthim	<i>nhya</i> “meat, animal” (KLH)
Ntra’ngith	<i>ña</i> “meat, animal” (KLH)
Ngkoth	<i>ña</i> “meat, animal” (KLH)
Aritinng	<i>ña</i> “meat, animal” (KLH)
WMungkn	<i>minh</i> “animal, meat” (KLH)
WMe’nh	<i>minh</i> “animal, meat” (KLH)
WNgathrr	<i>minh</i> “animal, meat” (KLH)
WNgathan food” (PS)	<i>minh</i> “animal, meat (-animal), animal protein (e.g. eggs), meat
WMuminh	<i>minha</i> “animal, meat” (KLH)
KUwanh	<i>minha</i> “meat, animal, bird” (S&J)
Kaanytju	<i>miña</i> “animal, meat” (KLH)
Umpila	<i>miña</i> “animal, meat” (KLH)
KThaayorre	<i>minh</i> “animal, meat” (KLH)
YY	<i>minh</i> , <i>minhal</i> , <i>minha</i> “animal, meat”
YMel	<i>minh</i> , <i>minhal</i> , <i>minha</i> “animal, meat”
KB	<i>miñ</i> , <i>miñél</i> , <i>miñéw</i> “meat, animal” (KLH, BA)
GYimithirr	<i>minha</i> “meat, animal” JHav: “edible animal”. (KLH, JHav)
Muluridji	<i>miña</i> “meat, animal” (KLH)
CC	<i>miña</i> “meat, animal” (KLH)
KYalmiña	“protein food—meat, eggs; generic term for animal” (Hr&Hr)
Rimangg	<i>inhya</i> “animal, meat” (IG)
HR	<i>nhiv</i> “meat, animal” (KLH, LJ)
ON	<i>inh3</i> “meat, animal” (KLH, BA)
Djabugay	<i>miña</i> “flesh food; fish, edible animal” (KLH, EP)
Yidiny	<i>miña</i> “edible animal, meat, fish” (KLH, RMWD K1)
Kurtjar	<i>iñ</i> “meat, animal” (KLH)
Dyirbal	<i>miña</i> “meat, animal” (KLH)
pPaman	*miña (KLH)
GBadhun	<i>minha</i> “meat, animal, fish-bait, birds” (PS)
Kalkatungu	<i>miña</i> “beef” ⁸⁵ (BB)
Guwa	<i>minha</i> or <i>mina</i> “beef” (GB)

^^^

⁸⁵ Probably a loan, since in Kalkatungu the loss of *C₁ is apparently regular. Note also (as listed below) Kalkatungu *nhaka* “what, something”, possibly continuing *miña.

Key: ***miña** “what” nInt⁸⁶

KKW	<i>miyay</i> “what, which” Also <i>mi-</i> “what; which; whatever, whichever, -ever”, <i>milag</i> “where”, <i>miza</i> “what thing”, <i>min</i> “what, all of what”, <i>mingu</i> “from what; because of what”, <i>mipa</i> “for what; to what”, <i>mizæpa</i> “why, to what, what for”. (RJK)
Dyirbal	<i>miña</i> “what” (KLH)
pPaman	* miña (KLH)
Yugambeh	<i>miñang</i> “what; something; how” Also <i>miña:gu</i> & <i>miñangu</i> “why, what for”. Yugambeh, Galibal, & Wiyabal dialects. (MS)
Gumb	<i>miña</i> “what” something ⁸⁷ (DE)
pNSW	* miñang (TC)
Wiradjuri	<i>miñang</i> “what” (PA)
Wbuwan	<i>miñaN</i> “what” (TD/PA)
Gamilaraay	<i>miña</i> “what” (PA)
Yuwaaliyaay	<i>miña</i> “what” (PA)
Yuwaalaraay	<i>miña</i> “what” <i>ps</i> : Purposive <i>miñagu</i> . Also <i>miña::rr</i> “which”, <i>miñangay</i> “how many”, <i>miña:rruwa</i> “somewhere”, <i>miñaga</i> : “anything” (CW)
Muruwari	<i>miñan</i> “what” <i>ps</i> : Purposive <i>miñanku</i> . (LFO)
pCNSW	* miñang (PA #80)
Kalkatungu	<i>nhaka</i> “what, something” Also <i>nhakaya(n)</i> , <i>nhakaa</i> , <i>nhakakua</i> “why”; <i>nhamingu</i> “how many, some”; <i>nhani</i> “who, someone”; <i>nhakalhi</i> “which”; and possibly <i>nhiang</i> “when”. ⁸⁸ (BB)
Diyari	<i>minha</i> “what; something” (PA)
Ngamini	<i>minha</i> “what” (PA CLE)
Yarluyandi	<i>minha</i> “what” (PA CLE)
Yandrruwantha	<i>minha</i> “what” (PA CLE)
Y’warrka	<i>minha</i> “what” (PA CLE)
Wang	<i>minha</i> “what” (PA CLE)
Wang (G)	<i>minha</i> “what” <i>ps</i> : Dat <i>minhanga</i> . (M&W)
Pitta-Pitta	<i>minha</i> “what” (BB)
pKarnic	* minha (PA CLE)

⁸⁶ Hale (“Other Paman” list) separates the “what” **miña* from “the “animal” one; RMWD unites them. In support of the latter position, note Pitj-Yank *kuka* “edible animal, reptile, bird, game; meat; (unknown) thing (“what’s that?”)”. Dyirbal has *miña* in both senses.

⁸⁷ Long V1 expected (see **lirra*, **carra*, **kuna*); possibly a loan.

⁸⁸ Regarding the *-ka* increment see also **wa:rri* (“where”). NOTE: it is possible that the *nha* continues not **miña* but **ña* (“what”), a different etymon not listed here.

Yorta Yorta	<i>minhe</i> “what” (B&M)
Baakandji	<i>minha</i> “what” (LH)
Madhimadhi	<i>minhi</i> “what?” Probably <i>minh-i</i> (LH p119). (LH)
MM	<i>miñ</i> “what?” ⁸⁹ Also <i>miñai</i> “how many”. (All sources)
^^^	
Pitj-Yank	<i>miña-miña</i> “bits and pieces, various small things of different kinds, broken up or smashed bits of something” (CG)
^^^	
Mudburra	<i>miña</i> “this, here” (RG)
^^^	
Atnya	<i>miña</i> “dew” (Mc&Mc)
Ngarluma	<i>minha</i> “semen” (KLH)
Ngarla	<i>miña</i> “semen” (GNOG)
Nyamal	<i>miña</i> “semen” (GNOG)
Panyjima	<i>minha</i> “semen” AD gives <i>ñarnta</i> “semen” only. (GNOG)
Kurrama	<i>minha</i> “semen” (GNOG)
pNgayarda	*miña (GNOG #140)
Gupa	<i>miña</i> “paint; tar” (BL-MC)
pPNy	*miña

Kaytetye	<i>etñe</i> “vegetable food” ⁹⁰ (KLH, HK)
Karlamayi	<i>miña</i> “baby” Also <i>miña</i> : “baby just born”. (KLH)
Yinytji	<i>miña</i> “lung” (FW)

Key: ***+mirri** “having” clitic or suffix

YY	+mrr (forms adverbs) Ex. <i>lilq</i> “alone”, <i>lilqamrr</i> “by oneself”.
Djabugay	<i>mirri</i> “having” Recorded only in <i>bina mirri</i> “having common sense, intelligent” (<i>bina</i> “ear”); relative stress not given in source. (EP)
Gupa	+mirri “having” (BL)
Djapu	+mirr(i) “having” Propriative suffix. (FM)
Dhuwal	+mirri “having” (JHeath)
Ritharrngu	+mirri “having” (JHeath)
Djinang	+mirri (derives adverbs?) As in <i>yilimirri</i> “next in succession” from <i>yili</i> “again”; of very limited productivity. (BW p129)
pPNy	+mirri
^^^	

⁸⁹ Vowel is short per MMCD (1977: 124); possibly a loan.

⁹⁰ Tense nasal unexpected after initial nasal; putative sense change not paralleled elsewhere.

Pitta-Pitta +*marru* “having” The “concomitant” suffix, as in *kangamarru* “intoxicated” from *kanga* “intoxicant”. (BB)

^^^

Arabana *mirri* “many” An indefinite number above three: *muyu-mirri* “many days”. (LH)

Wngurru *mirri* “many” An indefinite number above three: *muyu-mirri* “many days”. (LH)

Key: ***mi:l** “eye” n B

See also **kuru*.

GYimithirr *mi:l* “eye” (JHav)

Yugambeh *mil* “eye(s)” Also (and more commonly) *mi:* and *miyi*. (MS)

Gumbainggir *mi:l* “eye” (DE)

Yaygir *mi:l* “eye” (TC)

pNNSW ***mi:l** (TC)

Madhimadhi *mir* (?) “eye” Attested only in 3rd-person singular possessed form, *mirnu*. (LH)

Wembawemba *mir* “eye” 3rd-person-singular possessed form *mirnug* “his eye”. (LH)

Wergaia *mir* “eye” 3rd-person-singular possessed form *mirnug* “his eye”. (LH)

Karlamayi *mi:l* “eye” (KLH)

Warlmanpa *milpa* “eye” Also in *milkari* “blind”. (DGN)

Gupa *mi:l* “eye; seed; well” Also *milkarri* “tears”; *milminydjarrk* “permanent bubbling spring (of water)”; *milnyinyiyun* “to aim a camera or gun”; *milng’thun* “shine (light in distance)”; *milparrambarr* “eyelashes”; *milpunuma* and *milthun* “to spy”; *mil’ngu* “spy [n?]”; *milpurnmilpurn* “firefly”; *milwar’milwaryun* “blink one’s eyes”; *milwu’milwu* “nervous, scared, wild (unbroken horse)”. (BK-MC)

Djambarrpuyngu *me:l* “eye; well, soak” Note *mi:limili* ~ *milimili* “grasshopper, dragonfly”, *mi:lpunumun* “eyelid”, but *milkirningin* “eyebrow”, *milkarri* “tears”. Also *mangutji* “eye; well, soak”. (GWVW 2,60,169)

Djapu *mi:l* “eye; seed; well” (FM)

***pPNy** ***mi:l**⁹¹

⁹¹ There are other reconstructible forms for “eye”, **mili*, **miyil*, **tjiyil*, and **tjili*, that relate to this one. I am assuming that **mi:l* is the prototype of the **m* ones.

Key:	*muc^ya “cooked food” n
YY	<i>muc, muca</i> “food cooked in earth oven” ⁹²
Atnya	<i>muca</i> “cooked, ripe” ⁹³ (Mc&Mc)
pPNy	*muc^ya

Key:	*muku “bone” n B
Kurrtjar	<i>mu:k</i> “bone” (KLH)
Rimangg	<i>vko:</i> “bone” IG gives <i>ako</i> . (KLH, IG)
Aghu-Tharr	<i>k3w</i> “back; spine; bone” (LJ)
GYim	<i>mugu</i> “back; seed; backbone, shell, roof, keel, etc.” (KLH, JHav)
KYalmuku	“back” Also “small hawk”. (Hr&Hr)
pPaman	*muku (KLH)
GBadhun	<i>mugu</i> “bone” (PS)
Bidyara	<i>mugu</i> “knee” (GB)
Margany	<i>mugu</i> “knee” (GB)
Gunya	<i>mugu</i> “knee” (GB)
pPM	*muku
M-Yapi	<i>muku</i> “leg, lower leg, shin” (GB)
Wunumara	<i>muku</i> “leg, lower leg, shin” (GB)
M-Thakurti	<i>muku</i> “leg, lower leg, shin” GB citing Roth; Laves gives [muguiñ]. (GB, GL)
Nyawaygi	<i>mugu</i> “knee” (RMWD)
Kalkatungu	<i>rnuku</i> “ankle” ⁹⁴ (BB)
Diyari	<i>muku</i> “bone” (PA)
Yarluyandi	<i>muku</i> “bone” (PA)
Yandruwantha	<i>muku</i> “bone” (PA, CB/R)
Yawarrawarka	<i>muku</i> “bone” (PA, CB/R)
Wang	<i>muku</i> “bone” Also “ <i>muku, thandagurra</i> (bone for pointing)” (PA; CB)
Wang (G)	<i>muku</i> “bone” /k/ not= /g/. (M&W)
Kungadutyi	<i>muku</i> “bone” In “ <i>muku, wiTa muku</i> (backbone)” (CB)
Malyangapa	<i>muku</i> “bone” (CB)

⁹² Cf. *puṭh* < pPaman *puñca.

⁹³ Cf. *mudlha* “nose” < *muḷa.

⁹⁴ Possible loan, in view of initial-dropping in Kalkatungu; however, it seems to occur also in *yurumuku* “elbow”, with *yuru* < *yuru (cf. YY *yor* “hand”) and in such a context would not be subject to initial-dropping.

pKarnic	*muku (PA)
Yorta Yorta	<i>mukuna</i> “man’s back” Also <i>mugujina</i> “foot, track of foot; heel” (B&M)
Atnya	<i>muku</i> “bone” (BSch); “pointing bone; seed, stone (as of fruit)” Also <i>witha-muku</i> “back”. (BSch, Mc&Mc)
Wirangu	<i>mugu</i> “heel” Cognate? (LH)
Kuyani	<i>muku</i> “bone” (LH)
Pitj-Yank	<i>muku</i> “heel of shoe or boot” (CG)
pPNy	*muku

Dalabon	<i>mo-</i> “bone” (NE)
BG-W	<i>-murrng</i> “bone” (NE)

Key: ***muku** “all” n, particle (?) Q

YY	<i>mo7</i> “all”
YMel	<i>mok</i> “all” Less favored than <i>pa-pokrr</i> “all”.
Yidiny	<i>muguy</i> “all the time, always” (RMWD Q3)
Wangka-Yutjurru	<i>-muku</i> “all, always” “Frequentative”. (BB&GB 52)
Warlpiri	<i>muku-</i> “all” <i>ps</i> : Preverb. (KLH)
pPNy	*muku (BA)
^^^	
Dyirbal	<i>mugulnba</i> “whole, round” <i>ps</i> : Adj. (RMWD)
KNarr	<i>-mok</i> (marks emphasis) Ex. <i>miyerr nha ngama-mok</i> “cold this big very: it’s very cold”. (GB)

Nyungar	<i>mo</i> “three, four, a few” <i>ps</i> : Adj. of number. (WD 1979)

Key: ***muku** “mother’s older brother” n K

Atampaya	<i>ukurra</i> “mother’s brother” Also “leather-head turtle”. (TC)
Angkamuthi	<i>ukurra</i> “mother’s brother” Also “leather-head turtle”. (TC)
Yadhaykenu	<i>ukurra</i> “mother’s brother” Also “leather-head turtle”. (TC)
Mpalitjanh	<i>ku-</i> “mother’s oBr” (KLH)
Yinwum	<i>”kurr</i> “mother’s oBr” (KLH)
Linngithigh	<i>ko-</i> “mother’s oBr” (KLH)
Alngith	<i>ko-</i> “mother’s oBr” (KLH)
Awngthim	<i>ku-</i> “mother’s oBr” (KLH)
Ntra’ngith	<i>ko-</i> “mother’s oBr” (KLH)
Ngkoth	<i>kut</i> (~ <i>kot</i> ?) “mother’s oBr” (KLH)

Aritinng	<i>ku-</i> “mother’s oBr” (KLH)
Mbiywom	<i>kwurr-</i> “mother’s oBr” (KLH)
WMungknh	<i>muk</i> “mother’s oBr” (KLH)
WMe’nh	<i>muk</i> “mother’s oBr” (KLH)
WNgathrr	<i>muk</i> “mother’s oBr” (KLH)
WNgathan	<i>muk</i> “mother’s older sibling” Also <i>mökvnh(thvnh)</i> ⁹⁵ (PS)
WMuminh	<i>muka-(ling)</i> “mother’s oBr” (KLH)
Kaanytju	<i>muka</i> “mother’s oBr” (KLH)
Umpila	<i>muka</i> “mother’s oBr” (KLH)
KThaayorre	<i>mokor, ngan-</i> (?) “mother’s oBr” (KLH)
YY	<i>mo7r</i> “mother’s oBr”
YMel	<i>mokr</i> “mother’s oBr”
KB	<i>mvkórvyrr, pa-</i> “mother’s Br” (BA, KLH)
PS	<i>koð</i> “mother’s Br” IG: <i>koz.</i> (KLH, IG)
Flinders Island	<i>okwoyi</i> “father’s sister” (PS)
GYim	<i>mugagay</i> “senior uncle or aunt; junior nephew or niece” Var. <i>mugay.</i> (JHav)
GYim	<i>mugur</i> “cousin, nephew, uncle, etc.” JHav 1972: x+f.m(-m). ⁹⁶ (KLH; JHav (1972, 1979))
GYim	<i>mugul</i> “old” (JHav)
KYal	<i>mukul</i> “old” (Hr&Hr)
KYal	<i>mukay</i> “brother’s child” Sense correct? (Hr&Hr)
pPaman	*muku(r) (NPaman list), *mukur ~ muka (Middle Paman list), *mukur (“Other Paman” list). (KLH)
GBadhun	<i>mugina</i> “older brother” Origin of final vowel? (PS)
Muruwari (LFO)	<i>muki-muki</i> “aunt (father’s sister)” Origin of final vowel?
Mudburra	<i>mukula</i> “father’s sister, auntie” (RG)
Djaru	<i>mukul</i> “father’s sister” (TTs)
Martuthunira	<i>mukul</i> “father’s sister” (AD)
Panyjima	<i>mukulpa</i> “father’s sister” (AD)
Bayungu	<i>mukul</i> “father’s sister” (PA)
Dhalandji	<i>mukul</i> “father’s sister” (PA)
Burduna	<i>mu:l</i> “father’s sister” (PA)
pKanyara	*mukul (PA #47)
Djiwarli	<i>mukul</i> “father’s sister” (PA)

⁹⁵ same gloss; the *ö* implies that V2 was *i); *mukvth* “younger sister’s child”

⁹⁶ In the variant *mugu:r* (JHav 1972 list only) the long V2 implies a former 3rd syllable.

Wariyanga	<i>mukul</i> “father’s sister” (PA)
Dhar (l)	<i>mugul</i> “father’s sister” (PA)
Dhar (d)	<i>mugut(pa)</i> “father’s sister” (PA)
pMantharta	*mukul (PA #47)
Yingkarta, Nth	<i>mukul</i> “mother’s sister” (PA)
Yingkarta, Sth	<i>mukul</i> “mother’s sister” (PA)
Djinang	<i>mukurl</i> “(taboo relative?)” (BW)
Djinba	<i>mukurl</i> “(taboo relative?)” (BW)
Djinba	<i>mukurlk</i> “aunt (FaSi)” (BW)
Gupa	<i>mukul ba:pa</i> “father’s sister”; <i>mukul rumaru</i> “mother’s brother’s wife, mother-in-law”. (BL-MC)
Djapu	<i>mukul bāpa</i> “father’s sister” Also <i>mukulrumaru</i> “mother in law (to male ego)”; <i>bāpa</i> “father”. (FMo)
Dhuwal	<i>mu:kul</i> “mother’s mother’s brother’s daughter (and similar female avoidance relatives); father’s sister (and similar female non-avoidance relatives)” (JHeath)
pPNy	*mukur ⁹⁷

Key: ***mulu** “tail” n B

WMuminh	<i>mulu</i> “tail” (KLH)
KUwanh	<i>mulu</i> “tail” (S&J)
KThaayorre	<i>mul</i> “tail” (KLH)
KYak	<i>mul</i> “tail” (AH, BA)
pPaman	*mulu (KLH)
Baagandji (LH)	<i>murlu</i> “lower back” Also <i>murlu bir:nha</i> “lower backbone”.
Yinytji	<i>mulumulu</i> “cattail” Also <i>mulu</i> “blade attached to the woomera handle”. (FW)
pPNy ^^^	*mulu
Dalabon	<i>molo</i> “tail; penis” (NE)

Key: ***munga-** “eat” vtr

Mpa	<i>kwa-</i> “eat, drink” (KLH)
Lu	<i>kwa-</i> “eat, drink” (KLH)
Awng	<i>ngkwa-</i> “eat, drink” (KLH)

⁹⁷ For the fate of *r in C3 in Western languages, cf. *yangkara; the difference in its treatment in Yolngu is possibly attributable to presence vs. absence of a final vowel.

Ntrangka-	“eat, drink” (KLH)
WMungknh	<i>mungk-</i> “eat, drink” (KLH)
WMe’nh	<i>mungk-</i> “eat, drink” (KLH)
WMuminh	<i>mungka-</i> “eat, drink” (KLH)
KUwanh	<i>mungga</i> “eat, drink” ⁹⁸ (S&J)
KThaayorre	<i>mungk</i> “eat, drink” (KLH)
pPaman	*mungka- (KLH)
Martuth	<i>mungka-</i> “eat” L conj, vtr. (AD)
Nhuwala	<i>mungka-</i> “to eat” (GNOG)
pNgayarda	*mungka- L conj. (GNOG #620)
pPNy	*mungka-

Key: ***mutu** “back” n B

YY	<i>mort</i> In <i>mort-worr</i> + <i>worr</i> “kidney area, external”.
WMungknh	<i>mut</i> “tail” (KLH)
WMungknh	<i>mutu</i> “tail” (BR)
Pakanh	<i>mutu</i> “tail”
UOykangand	<i>od, odomanhdh; adn-</i> “tailbone; lower back” (PH)
UOlgo	<i>ota, adn-</i> “tailbone” In the compound <i>adn-ota-elngnggel</i> “tailbone”; also <i>embmal-adn-ota</i> “heel”. (PH)
KYal	<i>modu</i> “buttocks, rump” (Hr&Hr)
Djabugay	<i>modu</i> “back” (KLH, EP)
pPaman	*mutu Only in “Other Paman” list, only Djabugay. (KLH)
Bidyara	<i>modu</i> “buttocks, anus” Source questions entry (2nd sense only?). (GB)
pPM ^^^	*mutu (BA)
Gupa MC)	<i>muta</i> “back” Also <i>mutpunuma</i> “drive (herd)” (related?). (BL-
pPNy ***	*mutu/a
Yinytji	<i>murru</i> “the back of anything” (FW, GNOG)
Ngarluma GNOG)	<i>murru</i> “back of body; curved surface of boomerang” (KLH,
Kariyarra	<i>murru</i> “back (spine)” (GNOG)
Palyku	<i>murru</i> “back (spine)” (GNOG)
Panyjima	<i>murru</i> “back (spine)” AD gives “back” only. (GNOG, AD)

⁹⁸ Voiced /g/ implies long *u:? Or conditioned by initial nasal?

pNgayarda ***murru** (GNOG #147)

Key: ***nuka** “ankle” n B

See also *luku.

Uradhi	<i>nhukaw</i> “foot” (KLH)
Atampaya	<i>nhukal</i> “foot” (TC)
Angkamuthi	<i>uka</i> : “foot” (TC)
Yadhaykenu	<i>ukal</i> “foot” (TC)
Luthigh	<i>kway</i> “foot” (KLH)
Mpakwithi	<i>kwe</i> “foot” <i>ps</i> : n (II). Is <i>e</i> < *ay < *al regular? (TC)
Linngithigh	<i>kay</i> “foot” (KLH)
Awngthim	<i>kwe</i> “foot” (KLH)
Ntra’ngith	<i>ke</i> “foot” (KLH)
YY	<i>nuʔn, thaml-</i> “ankle”
UOykangand	<i>akal</i> “calf” ⁹⁹ (PH)
UOlgo	<i>agal</i> “calf” ⁹⁹ (PH)
GYim	<i>nugal</i> “ankle” (JHav)
Djabugay	<i>nugal</i> “ankle” (KLH, EP)
Yidiny	<i>nugal</i> “ankle” Coastal & Gunggay dialects; not Tablelands.

(RMWD A5)

pPaman	*nukal ¹⁰⁰ (KLH)
Ngarluma	<i>nhukurlka</i> “ankle” (KLH, GNOG)
Panyjima	<i>nhukurlka</i> “ankle” (GNOG, AD)
Kurrama	<i>nhu</i> : ~ <i>nhu:rtka</i> “ankle” (GNOG)
Palyku	<i>nhuku</i> “ankle bone” (GNOG)
Kariyarra	<i>nyukuru</i> “elbow” (GNOG)
Nyamal	<i>yuku</i> “heel” ¹⁰¹ (GNOG)
pNgayarda	*nhuku ¹⁰² (GNOG #382)

^^^

Kalkatungu	<i>rnuku</i> “ankle” ¹⁰³ (BB)
------------	--

⁹⁹ For quality of V1 cf. *adn* < *kuna.

¹⁰⁰ From the “Other Paman” list. In the “Northern Pama” list, KLH reconstructs ***ñukal**, with an initial laminal solely on the basis of the Uradhi form. However, in his Uradhi sketch (1976b: 46) he lists this etymology as “*n(j)ukal > n(h)ukaw”, and in any event it is entirely possible that an initial apical nasal regularly became lamino-dental in this language.

¹⁰¹ O’Grady does not assign this to *nhuku (below) but (instead) to a separate etymon, *luku (see GNOG #873).

¹⁰² An initial apical nasal could not be reconstructed for this group (O’Grady 1966:83-4); I assume here that an initial apical regularly became lamino-dental.

Dhangu	<i>rnuku</i> “foot” (BSch)
Djinang	<i>rnu</i> “foot; foundation” Cognate? (BW)
Djinba	<i>rnuki</i> “foot; foundation” ¹⁰⁴ (BW)
pPNy	nuka ¹⁰⁵ (BA, from KLH’s careful research)

GBadhun	<i>ragul</i> “ankle” (PS)

Key: ***ngaca** “1st Sg Oblique” pronoun

See also ***ngacu**–.

Atampaya	<i>atha</i> + “me” <i>ps</i> : In <i>athantyu</i> BEN, <i>athanmun</i> ABL. (TC)
WNgathan	<i>ngath</i> “mine; to/for me” Also <i>ngathan</i> “to/for me”, <i>ngathanang</i> “at/on me”. (PS)
YY	<i>ngatha</i> + <i>n</i> “me, my” DAT.
YMel	<i>ngatha</i> + <i>nt</i> “me, my” DAT.
Koko-Bera	<i>ngathéntvw</i> “my” Also <i>ngathérruw</i> , ¹⁰⁶ (BA)
Dyirbal	<i>ngaja</i> “I” KLH, RMWD
Girramay	<i>ngaja</i> “I ERG” KLH, RMWD
pPaman	*ngaca (KLH)
W. Bundj	<i>ngadha</i> – “me” Stem for non-core cases other than GEN. (MS)
Pitta-Pitta	<i>ngatha</i> – “me” <i>ps</i> : Only in <i>ngatharila</i> (Causal case-form). (BB)
Yorta Yorta	<i>ngatha</i> “I (ERG)” (B&M)
EC Arrente	<i>the</i> “I (ERG)” ¹⁰⁷ (H&D)
Martuth	<i>ngatha</i> – “I” Base of Locative case-form <i>ngathala</i> ; GNOG gives <i>ngatha</i> as citation form. AD, GNOG
Palyku	<i>ngatha</i> “I” (GNOG)
Panyjima	<i>ngatha</i> “I (Nom)” (GNOG, AD)
Yinytji	<i>ngayha</i> – “me” <i>ps</i> : In Locative <i>ngayhala</i> , ABL <i>ngayhalangu</i> , Instrumental <i>ngayhalu</i> . ¹⁰⁸ (FW)
Nyamal	<i>ngatha</i> ~ <i>ngaca</i> “I” (GNOG)
pNgayarda	*ngatha (GNOG #709)
Bayungu	<i>ngatha</i> “I” (PA)

¹⁰³ Poss. loan, in view of initial-dropping in Kalkatungu.

¹⁰⁴ Final *i* < *a is apparently regular in at least some of these northwestern Yolngu dialects. Contrast *rlaparr* “pigeon” (q.v. under *laparr) for initial C. Ganalbingu, Dabi, Djinba, & Manydjalpingu clan dialects.

¹⁰⁵ For a different interpretation of these data, see O’Grady 1990a: 11.

¹⁰⁶ KLH records *ngathvrru*, q.v. under *ngacu.

¹⁰⁷ A source in *ngacu is also a possibility.

¹⁰⁸ Intervocalic /yh/ < pNgayarda *th is regular.

Dhalandji	<i>ngatha</i> “I” (PA)
Burduna	<i>ngaya</i> “I” (PA)
pKanyara	*ngatha (PA #60)
Djiwarli	<i>ngatha</i> “I” (PA)
Djururu	<i>ngatha</i> “I” (PA)
Wariyangga	<i>ngatha</i> “I” (PA)
Dhiin	<i>ngatha</i> “I” (PA)
Dhar (l)	<i>ngadha</i> “I” (PA)
Dhar (d)	<i>ngadha</i> “I” (PA)
pMantharta	*ngatha (PA #60)
Yingkarta	<i>ngatha</i> “I” <i>ps</i> : Nom.: any subject. ACC <i>ngathanha</i> , DAT-GEN <i>ngathangu</i> (~ <i>ngayu</i>), Loc <i>ngathala</i> . (AD)
Yinungar	<i>ngac</i> “I” Var. <i>ngany</i> . (WD)
pPNy	*ngaca+ See the note to pPNy *ngacu.

Key: ***ngaci** “mother’s father” n K

KKW	<i>athe, athel</i> “grandfather” (RJK)
KLY (Mabuyag)	<i>athe</i> “grandfather” Syn. (?) <i>bæbath</i> . (EB)
Uradhi	<i>athi</i> “mother’s father” Also <i>athiḍa</i> “mother’s father”; Atampaya, Angkumuthi, & Yadhaykenu. (KLH, TC)
Mpalitjanh	<i>thi-</i> “mother’s father” (KLH)
Luthigh	<i>thi-</i> “mother’s father” (KLH)
Yinwum	<i>ci-</i> “mother’s father” (KLH)
Linngithigh	<i>thi-</i> “mother’s father” (KLH)
Alngith	<i>thay-</i> “mother’s father” (KLH)
Awngthim	<i>thay-</i> “mother’s father” (KLH)
Ntra’ngith	<i>thi-</i> “mother’s father” (KLH)
Ngkoth	<i>thay-</i> “mother’s father” (KLH)
Aritinng	<i>ci-</i> “mother’s father” (KLH)
Mbiywom	<i>ci-</i> “mother’s father” (KLH)
WMungknh	<i>ngac(-wayaw)</i> “father’s mother” (KLH)
WMungknh	<i>ngac(-wu:t)</i> “mother’s father” (KLH)
WMe’nh	<i>ngac(-wu:t)</i> “mother’s father” (KLH)
WNgathrr	<i>ngac(-wu:t)</i> “mother’s father” (KLH)
WNgathan	<i>ngethiy</i> “mother’s father” Also <i>ngethvnh</i> or <i>ngethinhvnh</i> “mother’s father (and reciprocal?)”; <i>ngathiy</i> “mother’s father”; <i>kung-ngathvnh</i> “man’s daughter’s daughter”. Also <i>athiy</i> “father’s father; father’s mother’s older brother”, probably a loan. (PS)

- WNganytjarra *ngaci* “father”
- KUwanh *ngathidhe* “mother, mother’s younger sister” Also *ngathiñe* “father’s elder sister, mother-in-law”, *ngathake* “younger brother”, *ngathale* “mother’s younger brother, father-in-law”, *ngathepe* “elder sister”, *ngathukpe* “mother’s elder sibling”, *ngathule* “younger sister”, *ngathuñe* “elder brother”. Also *ngaci* “father; father’s younger brother”. (S&J)
- Pakanh *ngathi* “mother’s father” Not= *ngathe*. (LY/BA)
- Umpila *ngaci-(mu)* “mother’s father” (KLH)
- Umpila *ngaci-cu* “daughter’s son” (KLH)
- KThaayorre *ngethe, ngan-* “mother’s father” (KLH)
- KThaayorre *ngethe, warr-* “father’s mother” (KLH)
- GYim *ngadhi* “mother’s father” (JHav)
- KYalngaji “mother’s father” (Hr&Hr)
- Djabugay *ngaji* “mother’s father” EP: also “father’s father”. (KLH, EP)
- Flinders I *äthi, rr-* “mother’s father”
- pPaman** **ngaci*¹⁰⁹ (KLH)
- GBadhun *ngajina* “father’s father” (PS)
- Bidyara *ngadhi* “mother’s father; daughter’s son” Also *ngadhindyila*. (GB)
- Margany *ngadhiñ* “mother’s father” (GB)
- Gunya *ngadhiñ* “mother’s father” (GB)
- pPM** **ngaci*
- Ngawun *ngathiya* “spouse” (GB)
- M-Yapi *ngathiya* “spouse” (GB)
- M-Thakurti *ngathiya* “spouse” (GB)
- Wunumara *ngathiya* “spouse” (GB)
- Yugambah *ngadhang* “grandfather; grandson” “Old man”. Also “wife”.¹¹⁰ (MS)
- W. Bundj *ngadhang* “grandfather; grandchild (to male)” Also *ngadhinggirr* “husband”; questioned in source. (MS)
- Gumb *ngaji* “brother-in-law”¹¹¹ (DE)
- Kalkatungu *ngaca(ci)* “father’s father” Cognate? Also *caci(ci)* “mother’s father”. (BB)
- Pitta-Pitta *ngathanha* “father’s mother” Also (?) *ngatha* “little boy”,

¹⁰⁹ Original MS has footnote indication but no fn.

¹¹⁰ Prob. *ngadhang* + *-girrgan* [w. Feminine + *gan*] “grandfather’s wife” (i.e. grandmother).

¹¹¹ Long V1 expected (see **carra*, **kuna*, **lirra*); possibly a loan.

	<i>ngathapiyaka</i> “offspring (man speaking)”, <i>ngathari(ka)</i> “offspring (woman speaking)”. (BB)
ECArrenrte	<i>ace</i> “mother’s father; mother’s father’s dreaming; daughter’s child” Var. <i>ice</i> . See also <i>acewe</i> “friend”, below. (H&D)
Guurrindji	<i>ngaci</i> “father” (PMcC)
Djapu	<i>ngathi</i> “mother’s father” (FMo)
Gupa	<i>ngathi</i> “mother’s father” Also <i>ngathiwalkur</i> “MoMoMoBrSo, mother-in-law’s uncle”. (BL-MC)
Dhuwal	<i>ngathi</i> “mother’s father and similar kinsmen” (JHeath)
Daartiwyuy	<i>ngathi</i> “grandpa (mum’s father)” (MG)
Ritharrngu	<i>ngathi-</i> “mother’s father” (JHeath)
pPNy	* ngaci
^^^	
MM	<i>nga:c-i</i> “friend, countryman, protector, totem” Written “ngaidye”. Meyer; tape
ECArrenrte	<i>acewe</i> “good friend, mate; what a man calls another man who has been through initiation with him; “there are some types of plants, flowers and butterflies, and some types of spirit people that are special friends for particular groups of people such as boys, girls or men” (H&D)
Baagandji	<i>ngaji</i> “watersnake, mythical rainbow serpent” (LH)
^^^	
Panyjima	<i>ngajimu</i> “younger sister” (AD)

Key: ***ngacu** “1 Sg Oblique” pronoun

See also *ngaca.

Uradhi	<i>athu+</i> “1 Sg Obl” (KLH)
Atampaya	<i>athu+</i> “1 Sg Obl” <i>ps</i> : In <i>athunha</i> ACC (also <i>anhi(βa)</i> , <i>athumu</i> Gen, <i>athuna</i> DAT (TC)
Angkamuthi	<i>athu+</i> “1 Sg Obl” <i>ps</i> : In <i>athumu</i> GEN; <i>athi</i> :+ with other case-endings. (TC)
Yadhaykenu	<i>athu+</i> “1 Sg Obl” <i>ps</i> : In <i>athunha</i> ACC (also <i>anhi(βa)</i> , <i>athumu</i> Gen, <i>athuna</i> Dat, <i>athuñcu</i> BEN; not in <i>athi:pun</i> ABL. (TC)
Mpalitjanh	<i>thu-</i> “1 SG Obl” (KLH)
Luthigh	<i>thu-</i> “1 SG Obl” (KLH)
Yinwum	<i>”thu-</i> “1 SG Obl” (KLH)
Linngithigh	<i>tho-</i> “1 SG Obl” (KLH)
Alngith	<i>tho-</i> “1 SG Obl” (KLH)
Awngthim	<i>thaw-</i> “1 SG Obl” (KLH)

Ntra'ngith	<i>tho-</i> “1 SG Obl” (KLH)
Ngkoth	<i>tho-</i> “1 SG Obl” (KLH)
Aritinng	<i>thu-</i> “1 SG Obl” (KLH)
Mbiywom	<i>tho-</i> “1 SG Obl” (KLH)
WMungknh	<i>ngath</i> “1 SG Obl” (KLH)
WMe'nh	<i>ngath</i> “1 SG Obl” (KLH)
WNgathrr	<i>ngath</i> “1 SG Obl” (KLH)
WMuminh	<i>ngathu</i> “1 SG Obl” (KLH)
Kaanytju	<i>ngatha-</i> “1 SG Obl” (KLH)
Umpila	<i>ngatha-</i> “1 SG Obl” (KLH)
KThaayorre	<i>ngath-</i> “1 SG Obl” (KLH)
YY	<i>ngatha+</i> “1 Sg Obl” Dat <i>ngathan</i> , ACC <i>ngathanh</i> (rare).
YMel	<i>ngatha+</i> “1 Sg Oblique”
KB	<i>ngathvrru</i> “my” BA records <i>ngathérrvw</i> . See *ngaca. Hale lists under *ngacu ~ *ngaci. (KLH)
PS	<i>tho-m</i> “my” IG gives <i>thum</i> DAT, <i>ju</i> Nom.. (KLH, IG)
GYimithirr	<i>ngadhu</i> “my” JHA _v : Dat & Gen+Abs. (KLH, JHav)
HR	<i>thaw</i> “my” (KLH)
ON	<i>athu-</i> “1 SG Obl” (KLH)
Yidiny	<i>ngaci-</i> “1 SG Obl” (KLH)
Mbabaram	<i>j3</i> “my (GEN)” (RMWD)
pPaman	*ngacu- ¹¹² (KLH)
Bidyara	<i>ngaju</i> “my (GEN)” <i>ps</i> : ACC <i>ngajuna</i> . ¹¹³ (GB)
Margany	<i>ngacu</i> “my” ¹¹³ (GB)
Gunya	<i>ngacu</i> “my” ¹¹³ (GB)
Wiradjuri	<i>ngadhu</i> “I” (PA)
Wbuwan	<i>ngathu</i> “I” (TD/PA)
Muruwari	<i>ngathu</i> “I” (LFO)
pCNSW	*ngadhu (PA #343)
W. Bundj	<i>ngadhu</i> “I (ERG)” (MS)
Yugambeh	<i>ngadhu</i> “I” ¹¹⁴ (MS)
Kalkatungu	<i>ngathu</i> “I (ERG)” Also <i>ngaci</i> “me (Dat)”. (BB)
Pitta-Pitta	<i>ngathu</i> “I (ERG)” (BB)
Wang (G)	<i>ngathu</i> “I (ERG)” (M&W)
Baakandji	<i>nga(:)dhu</i> “I (ERG)” Bound form <i>-adhu</i> . (LH)

¹¹² Middle Paman list adds *ngaca alternant; “Other Paman” has *ngacu- and *ngaci-.

¹¹³ Expected C2 is *dh*.

¹¹⁴ See also *ngay* under *ngayu.

Buwandik	<i>ngathu</i> “I” <i>ps</i> : Intransitive subject form; inflectional suffixes (ERG, GEN) added to this base. (BB)
MM	<i>ngath(i)</i> “I (ERG)” Yallop gives <i>ngati</i> , Meyer <i>nga:te</i> , Taplin <i>ngat(te)</i> . (B&B)
Atnya	<i>ngathu</i> “I ERG” Contrast <i>ngacu</i> “my”. (Mc&Mc)
Wirangu	<i>ngadhu</i> “I ERG” Also <i>ngaju</i> ~ <i>ngaji</i> “my, mine”. (LH)
ECArrente	<i>ac-</i> “me; my” <i>ps</i> : DAT <i>acenge</i> (N <i>cence</i>); GEN <i>acinhe</i> (N <i>(a)cenhe</i>). A source of the form *ngaci is possible. (H&D)
Warlpiri	<i>ngaju(lu)</i> “I” <i>ps</i> : ABS. Also Object/DAT clitic <i>-ju</i> . (KLH)
Walmatjarri	<i>ngaju</i> ~ <i>ngaji</i> (JH)
Nyangumarta	<i>ngacu-</i> “me” (GNOG)
Ngarluma	<i>ngacu</i> “me” <i>ps</i> : ACC. Nom. <i>ngayi</i> “I”; GEN <i>ngacutharntu</i> “my”. (KLH)
Panyjima	<i>ngaju</i> “me (ACC)” (AD)
Yinytji	<i>ngayu</i> “me, to me, for me” Also <i>ngayi</i> (Nom.). ¹¹⁵ (FW)
pPNy	* ngacu(+) ¹¹⁶

Key: ***ngaka** “later” nAdvTime

YY *nga7vnhvn* “a few days ago; another day later on (in the past), on the next day”

Warlpiri *ngaka* “soon, a short time in the future; by and by” *ps*: particle (KLH)

Warlmanpa *ngaka* “soon, by and by” (DGN)

pPNy ***ngaka** (BA)

Kayardild *ngaka-tha* “wait for” *ps*: v (NE)

Yukulta *ngaka-tha* “to fish” vi (SK/NE)

pT ***ngaka-tha** (NE)

Iwaidja *ri-ngakan* “look around” (NE)

Burarra *ngeki* ~ *ngeka* “have a rest” (NE)

Guurrgone *ngeki* ~ *ngeka* “have a rest” (NE)

¹¹⁵ Lenition to /y/ from and earlier *c (alveopalatal, not dental) is regular in this context, but *ngayu as a source cannot be ruled out.

¹¹⁶ Dixon (1980) and others derive this from *ngay + ERG *cu; this analysis quite probably has explanatory value with regard to reflexes (as in Maric, Arandic, and Ngayarda languages) with /c/ where /th/ is otherwise expected; cf. *ngaca. HK reconstructs a DAT *ngac^yu (his *ngatyu) and an ERG *ngacu (his *ngathu) for this etymon.

Key: *ngali “we INDU” pronoun

Uradhi (At)	<i>ali(βa)</i> “we INDU” (KLH, TC)
Angkamuthi	<i>ali(βa)</i> “we INDU” (TC)
Yadhaykenu	<i>ali(βa)</i> “we INDU” (TC)
Mpalitjanh	<i>li-</i> “we INDU” (KLH)
Yinwum	<i>le-</i> “we INDU” (KLH)
Linngithigh	<i>li-</i> “we INDU” (KLH)
Alngith	<i>lay-</i> “we INDU” (KLH)
Awngthim	<i>lay-</i> “we INDU” (KLH)
Ntra’ngith	<i>li-</i> “we INDU” (KLH)
Ngkoth	<i>lay-</i> “we INDU” (KLH)
Aritinng	<i>li-</i> “we INDU” (KLH)
Mbiywom	<i>le-</i> “we INDU” (KLH)
WMungknh	<i>ngal</i> “we INDU” (KLH)
WMe’nh	<i>ngal</i> “we INDU” (KLH)
WNgathrr	<i>ngal</i> “we INDU” (KLH)
WNgathan	<i>ngal</i> “we INDU” (PS)
WMuminh	<i>ngali- ~ ngale</i> “we INDU” (KLH)
KUwanh	<i>ngale</i> “we INDU” (S&J)
Kaanytju	<i>ngali</i> “we INDU” (KLH)
Umpila	<i>ngali</i> “we INDU” (KLH)
KThaayorre	<i>ngal</i> “we INDU” (KLH)
YY	<i>ngele</i> “we INDU” ¹¹⁷
YMel	<i>ngele</i> “we INDU” ¹¹⁷
PS	<i>lipal</i> “we INPL” IG has <i>liy-pal</i> . (KLH, IG)
PS	<i>lelvk</i> “we DU” ¹¹⁸ IG has <i>le-nda</i> (inclusive), <i>le-la</i> (exclusive). (KLH, IG)
GYim	<i>ngali</i> “we INDU” JHav: “1st person dual”. (KLH, JHav)
Muluridji	<i>ngali</i> “we INDU” (KLH)
CC	<i>ngali</i> “we INDU” (KLH)
KYalngali	“we INDU” Also <i>ngalin</i> “we ExDu”. (Hr&Hr)
HR	<i>lay-n</i> “we INDU” (KLH)
ON	<i>ali-n</i> “we INDU” (KLH)
Yidiny	<i>ngali</i> “we INDU” (KLH)
KB	<i>ngaliñvṭvw</i> “we (Incl Du)” (BA)
Mbabaram	<i>li</i> “we (Du)” (RMWD)

¹¹⁷ Presence of V2 conditioned by a 3rd syllable.

¹¹⁸ Cf. same reduplication & suffixation with *ngana.

pPaman	*ngali ¹¹⁹ (KLH)
GBadhun	<i>ngali</i> “we DU” (PS)
Warrungu	<i>ngali</i> “we DU” (TTs)
Bidyara	<i>ngali</i> “we DU”
Margany	<i>ngali</i> “we DU”
Gunya	<i>ngali</i> “we DU”
pPM	*ngali
Ngawun	<i>ngali</i> “we DU” (GB)
M-Kulan	<i>ngali</i> “we DU” (GB)
M-Yapi	<i>ngali</i> “we DU” (GB)
M-Thakurti	<i>ngali</i> “we DU” (GB)
M-Kutuna	<i>ngali</i> “we DU” (GB)
W. Bundj	<i>ngali</i> “we (nonSg)” (MS)
Yugambeh	<i>ngali</i> “we (nonSg)” (MS)
pNNSW	*ngali ACC *ngaliña. (TC)
Wiradjuri	<i>ngali</i> “we two” (PA)
Wbuan	<i>ngali</i> : “we two” (TD/PA)
Gamilaraay	<i>ngali</i> “we two” (PA)
Yuwaaliyaay	<i>ngali</i> “we two” (PA)
Yuwaalaraay	<i>ngali</i> “we two” (CW)
Muruwari	<i>ngali</i> “we two” (LFO)
pCNSW	*ngali (PA #86)
Pitta-Pitta	<i>ngali</i> “we (Du)” (BB)
Wang (G)	<i>ngali</i> “we two” (M&W)
Baakandji	<i>ngali</i> “we two” Clitic form <i>-ali</i> ; ACC and Poss. free for <i>ngalina</i> , clitic <i>-alina</i> . (LH)
Madhimadhi	<i>ngali</i> “we two” Also <i>-ngal</i> (after a vowel) ~ <i>-al</i> (after a consonant) “our” (Du Poss. pronominal clitic). (LH)
Woiwurrung	<i>-ngal</i> “our (Du Incl)” Poss. clitic. (BB)
Werg (Dj)	<i>-angal</i> “we Du Incl” Subj. clitic. (LH)
Wembawemba	<i>-angal</i> “we Du Incl” Subj. clitic. (LH)
Buwandik	<i>=(ng)al</i> “we DU Incl” <i>ps</i> : Subj. pronominal clitic; attaches to <i>ngathu</i> “I” to form <i>ngathuwal</i> “we Du Incl” (free pronoun). (BB)
Wirangu	<i>ngali(ng)</i> “we DU” Incl. and Excl. (LH)
ECArrente	<i>il-</i> “we (Du)” <i>ps</i> : All oblique cases <i>ile-</i> ; Nom. Harmonic & Agnate <i>ile-</i> ; Nom. Disharmonic or Non-agenate <i>ila-</i> . (H&D)
Wakaya	<i>ngali</i> “we (Ex Du)” Also <i>ngal</i> “we (In Du)”. (GB)

¹¹⁹ NPaman list has footnote superscript but no fn.

Pitj-Yank	<i>ngali</i> “weDU” (CG)
Warlpiri	<i>ngalipa</i> “we (Du Incl)” Also, subject clitic <i>-lipa</i> . (KLH)
Nyangumarta	<i>ngali</i> “we Ex Du” (GNOG)
Ngarluma	<i>ngali</i> “we INDU” Also <i>ngaliya</i> “we EXDU” (KLH, GNOG)
Kariyarra	<i>ngali</i> “we INDU” (GNOG)
Martuth	<i>ngali</i> “we INDU” (AD)
Ngarla	<i>ngali</i> “we INDU” (GNOG)
Nyamal	<i>ngali</i> “we INDU” (GNOG)
Palyku	<i>ngali</i> “we INDU” (GNOG)
Panyjima	<i>ngali</i> “we INDU” Also <i>ngaliya</i> “we (ExDu)”. (GNOG, AD)
Yinytji	<i>ngali</i> “we INDU” FW: harmonic generation(s). (GNOG, FW)
Kurrama	<i>ngali</i> “we INDU” (GNOG)
pNgayarda	*ngali (GNOG #708)
Bayungu	<i>ngali</i> “we DU” (PA)
Dhalandji	<i>ngali</i> “we DU” (PA)
Burduna	<i>ngali</i> “we DU” (PA)
pKanyara	*ngali (PA #61)
Djiwarli	<i>ngali</i> “we DU” (PA)
Djururu	<i>ngali</i> “we DU” (PA)
Wariyangga	<i>ngali</i> “we DU” (PA)
Dhiin	<i>ngali</i> “we DU” (PA)
Dhar (l)	<i>ngali</i> “we DU” (PA)
Dhar (d)	<i>ngadi</i> “we DU” (PA)
pMantharta	*ngali (PA #61)
Yingkarta	<i>ngali(li)</i> “we Du” <i>ps</i> : Intransitive subject; ERG <i>ngalilu</i> , ACC <i>ngalinha</i> , Dat-Gen <i>ngalingu</i> , Loc <i>ngalila</i> . (AD)
Djinang	<i>ngili</i> “we INDU” (BW)
Djinba	<i>ngali</i> “we INDU” Ganalbingu, Dabi, Walmapuy. (BW)
Gupa	<i>ngali</i> “weINDU” Also <i>ngaliñu</i> “weEXDU”. (BL-MC)
pPNy ^^^	*ngali (GNOG #708)
Kalkatungu	<i>ngalhi</i> “we two” Also subject clitic (subordinate clauses)
-alhi. ¹²⁰ (BB)	
MM	<i>ngalh</i> “we two” <i>Phon</i> : As cited by MMcD, but her phonetic transcription is [ng ^y ærl]. Meyer gives <i>nge:le</i> , Taplin <i>ngel</i> & <i>angel</i> , B&B <i>ngel</i> , Yallop <i>ngel</i> . MMcD, Meyer, Taplin, B&B, Yallop

¹²⁰ The main clause subject clitic *-l* and object clitic *-la* seem to continue the original *1.

Yorta Yorta *ngalngin* “we InDu” *ps.*: ERG *ngalnginak*, Poss. *ngalngun*.
 Also *ngala* “we ExDu”, ERG *ngalak*, Poss. *ngalan*. (B&M)

Key: ***ngalñca** “taboo” nAdj
 WMungknh *ngeñc* “forbidden, taboo” (KPPW)
 WNgathan *-ngeñc* “sacred” As in *kaath-ngench* (“mother sacred”) “ritual
 godmother of initiand”. Also *ngench* “snake”. (PS)
 KUwanh *ngañca* “taboo” (S&J)
 KThaayorre *ngañc-an* “holy, sacred” (AH)
 YY *ngalhth*, *ngalhtha* “taboo; sacred; first-level initiation
 ceremony”
 YMel *ngalhth* “taboo”
 GYim *ngañja* “initiation ceremony (olden days)” Also “spouse of
 grandchild”.¹²¹ (JHav)
pPaman ***ngalñca**
 Yanyuwa *ngañjirra* “forbidden” (JBr)
 Martuth *ngañcali* “proscribed object” Also *ngañi* “mother in law;
 sister’s son’s wife” (AD)
 Yinytji *ngañcali* “prohibited food” (FW)
pPNy ***ngalñca** (BA)
 ^^^

ECArremte *alcerre* “the Dreaming, Dreamtime; the creation of the world
 and the things in it, and its eternal existence” (H&D)

Key: ***ngama** “mother” n K
 YY *ngama* “mother”¹¹⁷
 KB *ngamáyrr*, *pa-* “mother” (BA, KLH)
 Aghu-Tharr *mang* “mother” (LJ)
 GYim *ngamu* “mother” (KLH, JHav)
 Muluridji *ngamu* “mother” (KLH)
 CC *ngamu* “mother” (KLH)
 KYal*ngamu* “mother, mother’s sisters, great granddaughter” (Hr&Hr)
 Djabugay *ngama* “mother, mother’s sisters” (KLH, EP)
pPaman ***ngama** ~ **ngamu** (KLH)
 Ngawun *ngamari* “mother’s brother” (GB)
 Yugambeh *nga(:)mang* “milk; woman’s breast” Also *ngamin* “breasts;
 any breast”. (MS)

¹²¹ For fate of *l, cf. GYim *buñja* “night-owl”, KYal *bulñja* “mopoke”.

Yugambeh	<i>ngama</i> : “woman’s breast, nipple, teat” (MS)
Muruwari	<i>ngama</i> “breast” ¹²² (LFO, PA)
Baagandji	<i>ngama</i> “breast, milk” (LH)
Diyari	<i>ngama</i> “breast” (PA)
Ngamini	<i>ngama</i> “breast” (PA)
Yarluyandi	<i>ngama</i> “breast” (PA)
Yandruwantha	<i>ngama</i> “breast” (PA)
Y’warrka	<i>ngama</i> “breast” (PA)
Mithaka	<i>ngama</i> “breast” (PA)
Karawali	<i>ngama</i> “breast” (PA)
Wang	<i>ngama</i> “breast” (PA)
Wang (G)	<i>ngama</i> “breasts” Also <i>ngamaja</i> “mother” (M&W)
Kungadutyi	<i>ngama</i> “breast” (CB)
Pitta-Pitta	<i>ngamaña</i> “breast (female); milk” Also <i>ngamari</i> “mother, mother’s sister”. (BB)
Kalkatungu	<i>ngamana</i> “chest” Very probably a loan. Also, possibly, <i>martu</i> “mother”. (BB)
Warluwarra	<i>ngama</i> “breast” (CB)
Arabana	<i>ngama</i> “breast” (CB)
Wngurru	<i>ngama</i> “breast” (CB)
Malyangapa	<i>ngama</i> “breast” (CB)
pKarnic	*ngama (PA)
Atnya	<i>ngama</i> “milk; breasts” Also <i>ngami</i> “mother; female animal”; <i>ngami</i> “female (animals)”; <i>ngamarna</i> “uncle (maternal)”. (Mc&Mc)
Parnkalla	<i>ngama</i> “breast” Also <i>ngami</i> “mother”. (KLH)
ECArernte	<i>m+</i> “mother” As in <i>mace</i> “my mother”, <i>meyekwe</i> “his/her mother”, <i>meye</i> “mother; daughter-in-law (to male) [in informal usage extended to mother’s brother]”. Also <i>marle</i> “female; girl; woman”. (H&D)
Warlpiri	<i>ngama</i> “female” Also <i>ngamardi</i> “mother”, <i>ngamini</i> “mother’s brother” (KLH)
Walmajarri	<i>ngamarna</i> “breast (female)” (JHd)
Walmajarri	<i>ngamaci</i> “mother, mother’s sister” (JHd)
Daartiwuy	<i>ngama</i> “mother, mum” (MG)
Gupa	<i>ngama</i> “mother” Syn. <i>nga.rndi</i> . (BL-MC)
pPNy	*ngama

Key: ***ngami**- “mother’s brother” n kin

¹²² PA assigns to *ngamung, q.v. under *ngamun.

M-Kulan	<i>ngamirn</i> “mother’s brother” (GB)
M-Yapi	<i>ngamirn</i> “mother’s brother” Also “father in law (to man or woman)” (sense questioned). (GB)
M-Thakurti	<i>ngamirn</i> “mother’s brother” Also “father in law (to man or woman)” (sense questioned). (GB)
Yugambeh	<i>ngamin</i> “breasts, any breast” Also <i>ngamung</i> “breasts”. (MS)
Buwandik	<i>ngami</i> “mother’s brother” (BB)
Wirangu	<i>ngami</i> “breast” (LH)
Warlpiri	<i>ngamirni</i> “mother’s brother” (KLH)
Warlmanpa	<i>ngamirni</i> “uncle, mother’s brother” (DGN)
Mudburra	<i>ngamirni</i> “uncle, mother’s brother” (RG)
Djapu	<i>ngamini</i> “breast” (FM)
Djambarrpuynu	<i>ngamini</i> “breast, nipple; milk” (GWVW)
Daartiwyuy	<i>ngamini</i> “breast” (MG)
Gupa	<i>ngamini</i> “breast; milk” (BL-MC)
Dhangu	<i>ngamini</i> “breast, milk” (BSch)
Ritharrngu	<i>ngamini</i> “milk; female breast, teat; milk snake” (JHeath)
pPNy	*ngami(r)ni .
^^^	
KKW	<i>ama</i> “mum, mummy; auntie (mother’s sister); miss, mrs (for younger women)” Contrast <i>apu</i> , <i>apual</i> “mother (middle-aged to elderly)”. (RJK)
^^^	
Diyari	<i>ngamurrhu</i> “orphan” ¹²³ (PA)
Ngamini	<i>ngamurrhu</i> “orphan” ¹²³ (PA/R)
Yandrruwantha	<i>ngamurrhu</i> “orphan” ¹²³ (PA/R)
Y’warrka	<i>ngamurrhu</i> “orphan” ¹²³ (PA/R)
pCK	*ngamurrhu (PA)
Pitta-Pitta	<i>ngamurrhu</i> “orphan” ¹²³ (BB)
^^^	
Kayardild	<i>ngamathu</i> “mother; man’s daughter-in-law, woman’s brother’s daughter-in-law” (NE)
Yukulta	<i>ngamathu</i> “mother, mother’s older sister” (SK/NE)
Lardil	<i>ngama</i> “mother, ...” (NgKL)
pT	*ngamathu (NE)

Key: ***ngamun** “breast”ⁿ B

¹²³ “rrh” = trill.

Djabugay	<i>ngamun</i> “breasts” Also <i>ngamu</i> “thumb, bug toe”. (EP)
Yidiny	<i>ngamun</i> “breast” (KLH)
Dyirbal	<i>ngamun</i> “breast” (KLH)
pPaman	*ngamun (KLH)
GBadhun	<i>ngamun</i> “breast” (PS)
Bidyara	<i>ngamun</i> “breast” (GB)
Margany	<i>ngamun</i> “breast, milk” (GB)
Gunya	<i>ngamun</i> “breast, milk” (GB)
pPM (?)	*ngamun
Warrgamay	<i>ngamun</i> “(female) breast” (RMWD)
Nyawaygi	<i>ngamun</i> “breast” (RMWD)
Yugambeh	<i>ngamung</i> “breasts” Also <i>ngamin</i> “breasts, any breast” (MS)
Wiradjuri	<i>ngamung</i> “breast” (PA)
Wbuwan	<i>ngamuN</i> “breast” (TD/PA)
Wayilwan	<i>ngamu</i> “breast” (PA)
Gamilaraay	<i>ngamu</i> “breast” (PA)
Yuwaaliyaay	<i>ngamu</i> “breast” Also <i>ngamu-ng</i> “suck”. (CW, PA)
Yuwaalaraay	<i>ngamu</i> breast” Also <i>ngamu-ng</i> “suck”. (CW, PA)
Muruwari	<i>ngama</i> “breast” ¹²⁴ (PA)
pCNSW	*ngamung (PA #87)
Gupa	<i>ngamun'kurr</i> “milk; breast” (BL-MC)
pPNy	*ngamun
^^^	
Kalkatungu	<i>ngamun</i> “lump” (BB)

Key: ***ngana** “we EXnonSg” pronoun

Uradhi	<i>ana(βa)</i> “we EXnonSG” (KLH)
Atampaya	<i>ana(βa)</i> “we InclPI” (TC)
Angkamuthi	<i>ana(βa)</i> “we InclPI” (TC)
Yadhaykenu	<i>ana(βa)</i> “we InclPI” (TC)
Mpalitjanh	<i>rna-</i> “we EXnonSG” (KLH)
Luthigh	<i>rna-</i> “we EXnonSG” (KLH)
Yinwum	<i>na-</i> “we EXnonSG” (KLH)
Linngithigh	<i>na-</i> “we EXnonSG” (KLH)
Alngith	<i>na-</i> “we EXnonSG” (KLH)
Awngthim	<i>na-</i> “we EXPL” (KLH)
Ntra'ngith	<i>na-</i> “we EXnonSG” (KLH)

¹²⁴ PA puts with **ngamung*; BA with **ngama*, q.v.

Ngkoth	<i>na</i> - “we EXnonSG” (KLH)
Aritinng	<i>na</i> - “we EXnonSG” (KLH)
Mbiywom	<i>na</i> - “we EXnonSG” (KLH)
WMungknh	<i>ngan</i> “we EXnonSG” (KLH)
WMe’nh	<i>ngan</i> “we EXnonSG” (KLH)
WNgathrr	<i>ngan</i> “we EXnonSG” (KLH)
WNgathan	<i>ngan</i> “we (EX nonSG)” (PS)
WMuminh	<i>ngana</i> “we EXnonSG” (KLH)
Kaanytju	<i>ngana</i> “we EXnonSG” (KLH)
Umpila	<i>ngana</i> “we EXnonSG” (KLH)
Kurttjar	<i>nga:n</i> “we PL” (KLH)
PS (Rimangg)	<i>dadvkv</i> “we EX” ¹²⁵ (KLH, IG)
GYim	<i>ngana</i> “1st person pl.” Coastal dialect. (JHav)
Muluridji	<i>ngana</i> “we PL” (KLH)
CC	<i>ngana</i> “we PL” (KLH)
KYalngana	“we InPl” Contrast <i>ngañcin</i> “we ExPl”. (Hr&Hr)
Mbabaram	<i>na</i> “we (Pl)” (RMWD)
Dyirbal	<i>ngana</i> “we PL” (KLH)
Girramay	<i>nganaci</i> “we PL” (KLH)
pPaman	*ngana (KLH)
GBadhun	<i>ngana</i> - “we PL” <i>ps</i> : Ben & Gen <i>nganangu</i> , Dat (& “with”) <i>nganan.ga</i> , ERG <i>ngananggu</i> . (PS)
Warrungu	<i>ngana</i> “we PL” (TTs)
Bidyara	<i>ngana</i> “we PL” (GB)
Margany	<i>ngana</i> “we PL” (GB)
Gunya	<i>ngana</i> “we PL” (GB)
pPM	*ngana (BA)
Ngawun	<i>ngana</i> “we (Pl)” (GB)
M-Kulan	<i>ngana(yirra)</i> “we (Pl)” (GB)
M-Yapi	<i>nganayirra</i> “we (Pl)” (GB)
M-Thakurti	<i>ngana</i> “we (Pl)” (GB)
M-Kutuna	<i>ngana</i> “we (Pl)” Questioned. (GB)
pNSW	*nganal “1 Du Ex Nom”. (TC)
Muruwari	<i>ngana</i> “we PL” (LFO)
Pitta-Pitta	<i>ngarna</i> “we (PL, Nom)” (BB)
Wang	<i>ngana</i> “we (ExPl.Nom)” (GB, PA CLE)

¹²⁵ Cf. same reduplication & suffixation with *ngali; it is possible on the other hand that the 2nd *da* relates to the *rna* of Pitj-Yank *nganarna*; see below.. IG has *dada*.

Yantruwantha	<i>ngani</i> “we (ExPl.Nom)” (PA CLE)
Y’warrka	<i>ngani</i> “we (ExPl.Nom)” (PA CLE)
Diyari	<i>ngayana</i> “we (ExPl.Nom)” (PA CLE)
Ngamini	<i>nganyurru</i> “we (ExPl.Nom)” (PA CLE)
Yarluyandi	<i>nganyurru</i> “we (ExPl.Nom)” (PA CLE)
pKarnic	*ngana <i>ps.</i> : Also DAT-Purposive *nganangka , ACC
	*ngananha . (PA CLE)
Woiwurrung	<i>-ngan</i> “our (Du Ex)” Poss. clitic. (BB)
MM	<i>nga:ne</i> “we (Pl)” Taplin gives <i>ngurn</i> , B&B <i>ngan-</i> . (Meyer, Taplin, B&B)
ECArernte	<i>anw-</i> “we (Pl)” With modifications for inclusivity/exclusivity, agnation, generation harmony. Source of labialisation? (H&D)
Pitj-Yank	<i>nganarna</i> “wePL” (CG)
Warlpiri	<i>nganimpa</i> “we (Excl Pl)” Also Object/DAT clitic <i>-nganpa</i> . (KLH)
Ngarluma	<i>nganarna</i> “we PL EXCL” (KLH, GNOG)
Nyarlath	<i>nganarna</i> “we PL EXCL” (AD)
Nyamal	<i>nganarna</i> “we PL EXCL” (GNOG)
Palyku	<i>nganarna</i> “we PL EXCL” (GNOG)
pNgayarda	*nganarna ¹²⁶ (GNOG #627)
Bayungu	<i>ngana</i> “we PL” (PA)
Dhalandji	<i>ngana</i> “we PL” (PA)
Burduna	<i>ngana</i> “we PL” (PA)
pKanyara	*ngana (PA #63)
Djiwarli	<i>ngana</i> “we PL” (PA)
Djururu	<i>ngana</i> “we PL” (PA)
Wariyangga	<i>ngana</i> “we PL” (PA)
Dhiin	<i>ngana</i> “we PL” (PA)
Dhar (l)	<i>ngana</i> “we PL” (PA)
Dhar (d)	<i>ngana</i> “we PL” (PA)
pMantharta	*ngana (PA #63)
Gupa	<i>nganapurru</i> “weEXPL” (BL-MC)
pPNy	*ngana
^^^	
Baagandji	<i>ngina</i> “we PL” Clitic form <i>-ina</i> ; ACC & GEN <i>nginana</i> , clitic <i>-inana</i> . (LH)

¹²⁶ Not attested in Yinytji.

Yorta Yorta *ñana* “we ExPl” (B&M)

*Key: *ngarnka* “beard” n B

Bidyara	<i>ngan.gard</i> “beard” ¹²⁷ (GB)
Margany	<i>ngan.ga</i> “beard” (GB)
Gunya	<i>ngan.gard</i> “beard” ¹²⁷ (GB)
Pitta-Pitta	<i>nganka</i> “chin, beard” (BB)
Arabana	<i>nganka</i> “beard” (CB)
Wngurru	<i>nganka</i> “beard” (CB)
Diyari	<i>nganka</i> “beard” (PA)
Yandruwantha	<i>ngan.ga</i> “beard” (CB)
Wangkumara	<i>nganka</i> “beard” (CB)
Kungadutyi	“ <i>ngarnka, ngaNka</i> ” “beard” (CB)
pKarnic	*ngarnka (PA CLE)
pKarnic	*nganka (BA)
Atnya	<i>ngarn.ga</i> “beard” (Mc&Mc)
Nugunu	<i>ngarnka</i> “beard” (PA CLE)
Barngarla	<i>ngarnka</i> “beard” (KLH)
Wirangu	<i>ngan.ga</i> “whiskers, moustache” Also <i>ngangga</i> “beard”:

Gawler Ranges word. (LH)

pThura-Yura ***ngarnka** (BA)

Nyangumarta	<i>ngarnka</i> “beard” (GNOG)
Mudburra	<i>ngarnka</i> “beard; jaw” (RG)
Bayungu	<i>ngarnka</i> “beard” (PA)
Dhalandji	<i>ngarnka</i> “beard” (PA)
Burduna	<i>ngartka</i> “beard” (PA)
pKanyara	*ngarnka (PA #315)
Ngarluma	<i>ngarnka</i> “beard” Also <i>ngarnngarn</i> “chin”. (KLH, GNOG)
Kariyarra	<i>ngarnka</i> “beard” (GNOG)
Panyjima	<i>ngankurpa</i> “moustache” Lack of retroflexion not accounted for. Also <i>ngarnngarnpa</i> “chin”. (AD)
Ngarla	<i>ngarnka</i> “beard” (GNOG)
Nyamal	<i>ngarnka(n)</i> “beard” (GNOG)
pNgayarda	*ngarnka (GNOG #628)
Nhanda	<i>ngarn.ga</i> “beard, whiskers, moustache” (JB)
pPNy	*ngarnka ¹²⁸

¹²⁷ /rd/ < *R.

¹²⁸ Not in CYP or Yolngu; not pPNy?

^^^

Malyangapa	<i>ngankuru</i> “beard” <i>ps</i> : “r” = tap. (CB)
Karlamayi	<i>ngarnkurr</i> “beard” Also <i>ngarnkurn</i> “chin”. (KLH)
Pitj-Yank	<i>ngarnkurr(pa)</i> “beard, facial hair” (CG)
P-L	<i>ngarnkurrpa</i> “beard, whiskers” (Hn&Hn)
Warburton	<i>ngarnkurrpa</i> “whiskers, beard” (WD)
Bailko	<i>ngarnkurr</i> “beard” (GNOG)

^^^

Martuth	<i>ngarnngarn</i> “chin” (AD)
Karlamayi	<i>ngarnngarn</i> “chin” (KLH)

Key: ***ngañcar** “tongue” n B

See also *calañ, *yal^yu.

Atampaya	<i>anhtharra</i> “scorpion; flame; spear grass” (TC)
Angkamuthi	<i>anhtharra</i> “scorpion; flame; spear grass” (TC)
Yadhaykenu	<i>anhtharra</i> “scorpion; flame; spear grass” (TC)
WMungknh	<i>nganhth</i> “tongue” (KLH)
WMuminh	<i>nganhtha</i> “tongue” (KLH)
KUwanh	<i>nganhtha</i> “tongue” (S&J)
Pakanh	<i>nganhtha, tha:-</i> “tongue” (BA-LY)
Kurrtjar	<i>ñci:r</i> “tongue” ¹²⁹ (KLH)
PS/Rimangg	<i>nhdhar</i> “tongue” (KLH, IG)
Aghu-Laya	<i>nhdherr</i> “tongue” (BR)
GYimithirr	<i>nganhdha(:)r</i> “tongue” ¹³⁰ (KLH, JHav)
pPaman	ngañcar (KLH)
Bidjara	<i>nganhdhan</i> “flame” Also <i>nganhdhañ</i> “chin”. (GB)
pPM	ngañcar ¹³¹
Warluwarra	<i>ngathala</i> “tongue” (GB)
Bularnu	<i>ngathali</i> “tongue” (GB)
Yinjilanji	<i>ngandhali</i> “tongue” (GB)
Wakaya	<i>nginthal</i> ~ <i>ngiñjal</i> ~ <i>ngiñjilt</i> “tongue” Also <i>iñjál</i> ~ <i>iñjirlt</i> “word, talk, language”; initial <i>i</i> = <i>yi</i> . (GB)
Western Wakaya	<i>ngenhthel(d)</i> “tongue” (GB)
Yanyuwa	<i>nganhthal</i> “tongue” (GB)
Antekerrepenhe	<i>añcere</i> “tongue” Unaccounted for: /ñc/ instead of /nhth/ as in

¹²⁹ KLH: cognation extremely doubtful.

¹³⁰ JHav: long V2 only. Long V2 implies former 3rd syll.

¹³¹ Final *r inferred from attestations outside PM.

nhthenhe “where” < **wañca*. Contiguous with E. Alyawarr. (KLH)
 Alyawarr (E) *añcer* “tongue” Unaccounted for: /ñc/ instead of /nhth/.

Contiguous with Antekerrepenhe. (GB)

Martuth *nganhthari* “tooth; sharp” (AD)

pPNy ***ngañcar**

^^^

Karrwa *nganjäl* “tongue” (NE)

Yangkaal *ngañcarlta* “flame” (NE)

Yukulta *ngañcalta* “flames, light” (SK/NE)

pSouthernTangikic ***ngañcal-ta** (NE)

Margany *nganhdhi* “to speak, to talk” Also *nganhdhiñ* “speech,
 language”. (GB)

Gunya *nganhdhi* “to speak, to talk” (GB)

Key: ***ngañi** “1 SG Dir. Object” pronoun

Uradhi (At) *anhi(βa)* “1 SG Dir. Object” (KLH, TC)

Angkamuthi *anhi(βa)* “1 SG Dir. Object” (TC)

Yadhaykenu *anhi(βa)* “1 SG Dir. Object” (TC)

Mpalitjanh *nhi-* “1 SG Dir. Object” (KLH)

Luthigh *nhi-* “1 SG Dir. Object” (KLH)

Alngith *nhay-* “1 SG Dir. Object” (KLH)

Awngthim *nhay-* “1 SG Dir. Object” (KLH)

Ntra’ngith *nhi-* “1 SG Dir. Object” (KLH)

Ngkoth *nhay-* “1 SG Dir. Object” (KLH)

Aritinng *ñi-* “1 SG Dir. Object” (KLH)

WMungknh *ngañ* “1 SG Dir. Object” (KLH)

WMe’nh *ngañ* “1 SG Dir. Object” (KLH)

WNgathrr *nganh* “1 SG Dir. Object” (KLH)

WMuminh *ngañi* “1 SG Dir. Object” (KLH)

Kaanytju *ngañi* “1 SG Dir. Object” (KLH)

KThaayorre *nganh* “1 SG Dir. Object” (KLH)

YY *nginhi ~ nginh* “1 SG ACC” Survival of *V2 implies a former

3rd syllable (suffix); *nginh* is a clitic form.

GYim *nganhi* “me” *ps*: ACC. (KLH, JHav)

Muluridji *ngaña* “me” (KLH)

CC *ngaña* “me” (KLH)

KYal *ngaña* “me” *ps*: ACC. Hr &Hr .

HR	<i>nhe</i> “me” (KLH)
Djabugay	<i>ngaña</i> “me” (KLH, EP)
Yidiny	<i>ngañañ</i> “me” (KLH)
Kurrtjar	<i>nga:nh</i> “me” (KLH)
Mbabaram	<i>na</i> “me (ACC)” With /n/. (RMWD)
Girramay	<i>ngaña</i> “me” (KLH)
pPaman	*ngañi ¹³² (KLH)
GBadhun	<i>nganha-</i> “me” Also given for “we (plural)” (PS)
Warrungu	<i>ngaña</i> “me ACC” (TTs)
Margany	<i>nganha</i> “me” (GB)
Gunya	<i>nganha</i> “me” (GB)
pPM	*ngaña
W. Bundj	<i>ngaña:</i> “me (GEN)” (MS)
W. Bundj	<i>ngañi</i> “me (ACC)” (MS)
Yugambeh	<i>ngaña:</i> “my own, mine (GEN)” (MS)
Yugambeh	<i>ngañi</i> “me (ACC)” (MS)
pNNSW	*nga:ña (TC)
Yuwaalaraay	<i>nganha</i> “me (ACC)” (CW)
Muruwari	<i>ngaña</i> “me (ACC)” (LFO)
Ngawun	<i>ngana</i> “me ACC” <i>Phon:</i> With /n/. (GB)
Pitta-Pitta	<i>ngaña</i> “me ACC” Also as the base of the Causal case-form <i>ngañari</i> . Also <i>ngañu</i> “I (Future Subj.)”. (BB 195)
Diyari	<i>nganha</i> “1st SG ACC” (PA CLE)
Ngamini	<i>nganha</i> “1st SG ACC” (PA CLE)
Yarluyandi	<i>nganha</i> “1st SG ACC” (PA CLE)
Yandruwantha	<i>nganha</i> “1st SG ACC” (PA CLE)
Y’warrka	<i>nganha</i> “1st SG ACC” (PA CLE)
Mithaka	<i>nganha</i> “1st SG ACC” (PA CLE)
Wang	<i>nganha</i> “1st SG ACC” (PA CLE)
Wang (G)	<i>ngañi</i> “I (Nom)” (M&W)
Wang (G)	<i>ngaña</i> “me (ACC)” (M&W)
pKarnic	*nganha (PA CLE)
Baakandji	<i>nga(:)nha</i> “me (ACC), my (Gen)” Also Poss. in Baarundji and Bandjigali dialects. Also <i>-anha</i> “my” (possessive clitic) (cited also with long vowel, and once with apical <i>n</i>). (LH)
Buwandik	<i>=(ng)añ</i> “me” <i>ps:</i> 1st Singular oblique (ACC, DAT, GEN) clitic. (BB)

¹³² “Other Paman” list has ***ngañi** ~ ***ngaña**.

MM	<i>nganh</i> “me (ACC)” Meyer gives <i>ngañi</i> (<i>n</i> with macron); Taplin gives (<i>ng</i>) <i>an</i> , B&B <i>ngan</i> , MMcD <i>nganhi</i> . (Meyer, Taplin, B&B, MMcD)
Wirangu	<i>nganha</i> “I (Nom & ACC & Dat)” In the Nom. (intransitive subject) use this form presumably has replaced <i>ngayi</i> . Var. (Gawler Ranges) <i>nganya</i> . (LH)
pPNy	*ngañi and *ngaña

Key: ***ngayu** “I” pronoun

Uradhi (At)	<i>ayu(βa)</i> “I” (KLH, TC)
Angkamuthi	<i>ayu(βa)</i> “I” (TC)
Yadhaykenu	<i>ayu(βa)</i> “I” (TC)
Mpalitjanh	<i>ayu-</i> “I” (KLH)
Luthigh	<i>ayu-</i> “I” (KLH)
Yinwum	<i>ayu-</i> “I” (KLH)
Linnghithigh	<i>ayo-</i> “I” (KLH)
Alngith	<i>ayo-</i> “I” (KLH)
Awngthim	<i>aw-</i> “I” (KLH)
Ntra’ngith	<i>ayo-</i> “I” (KLH)
Ngkoth	<i>ñco-</i> “I” <i>Sic.</i> (KLH)
Aritinng	<i>ayu-</i> “I” (KLH)
Mbiywom	<i>ayo-</i> “I” (KLH)
WMungknh	<i>ngay</i> “I” (KLH)
WMe’nh	<i>ngay</i> “I” (KLH)
WNgathrr	<i>ngay</i> “I” (KLH)
WNgathan	<i>ngay</i> “I” (PS)
WMuminh	<i>ngaya</i> “I” (KLH)
Kaanytju	<i>ngayu</i> ~ <i>ngaya</i> “I” (KLH)
Umpila	<i>ngayu</i> “I” (KLH)
KThaayorre	<i>ngay</i> “I” (KLH)
YY	<i>ngoyo</i> “I” ¹³³
YMel	<i>ngoyo</i> “I” ¹³³
Kurrtjar	<i>ngay</i> “I” (KLH)
PS	<i>jo</i> “I” (KLH)
GYim	<i>ngayu</i> “I” (KLH, JHav)
KYalngayu	“I” <i>ps.</i> : DAT & GEN <i>ngayku</i> . (Hr&Hr)
HR	<i>yaw</i> “I” (KLH)

¹³³ Presence of V2 conditioned by a third syllable.

ON	<i>ay3</i> “I” (BA, KLH)
Djabugay	<i>ngawu</i> “I” Compare also <i>ngayi</i> - (KLH), <i>ngaya</i> - (RP) “1 SG Obl”. (KLH, EP)
Yidiny	<i>ngayu</i> “I” KLH, RMWD
Mbabaram	<i>y3</i> “I” (RMWD)
Girramay	<i>ngay-pa</i> “I nonERG” (KLH)
pPaman	*ngayu ¹³⁴ (KLH)
GBadhun	<i>ngaya</i> “I” (PS)
Warrungu	<i>ngaya</i> “I” (TTs)
Bidyara	<i>ngaya</i> “I” (GB)
Margany	<i>ngaya</i> “I” (GB)
Gunya	<i>ngaya</i> “I” (GB)
pMaric	*ngaya
Ngawun	<i>ngayu</i> “I” (GB)
M-Kulan	<i>ngayi</i> “I” (GB)
M-Yapi	<i>ngayi</i> “I” (GB)
M-Thakurti	<i>ngayiku</i> “I” As in source. (GB)
M-Kutuna	<i>ngayi</i> “I” (GB)
W. Bundj	<i>ngay</i> “I (Nom)” Intransitive subject. (MS)
Kalkatungu	<i>ngayi</i> “I” (BB)
Yugambeh	<i>ngay</i> “I (Nom)” Var. <i>ngayu</i> and <i>ngayul</i> . Intransitive subject. (MS)
pNNSW	*ngaya (TC)
Gamilaraay	<i>ngaya</i> “I” (PA)
Yuwaaliyaay	<i>ngaya</i> “I” (PA)
Yuwaalaraay	<i>ngaya</i> “I” <i>ps</i> : GEN <i>ngay</i> . (CW)
pCNSW	*ngaya (PA #276)
Baakandji	<i>ngayi</i> “me (ACC), my (Gen)” Also <i>-ayi</i> “me, my” (object and possessive clitic)” (LH)
Yorta Yorta	<i>nga</i> “I” <i>ps</i> : Intransitive subject. ¹³⁵ (B&M)
Madhimadhi	<i>-ngay</i> “my” After a vowel; <i>-ay</i> after a vowel. Poss. pronominal clitic. Written <i>ngai</i> in source. (LH)
Atnya	<i>ngayi</i> “I” (Mc&Mc)
Parnkalla	<i>ngayi</i> “I” (KLH)
Kuyani	<i>ngayi</i> “I” (LH)
Wirangu	<i>ngayi</i> “I” See LH 1999: 73 for details of usage. (LH)

¹³⁴ “Other Paman” adds ***ngayi** alternant.

¹³⁵ Continues **ngayu*?

Kaurna ^^^	<i>ngayi</i> “I” (LH)
ECArrenrte (H&D)	<i>aye-</i> “I” <i>ps</i> : Nom & ACC <i>ayenge</i> , ACC (NE only) <i>ayenhe</i> .
Pitj-Yank	<i>ngayulu</i> “I” (CG)
P-L	<i>ngayulu</i> “I” <i>ps</i> : ACC. <i>ngayunya</i> . (Hn&Hn)
Western Desert (Warburton)	<i>ngayulu</i> “I” (WD)
Mudburra	<i>ngayi</i> “I, me” <i>ps</i> : Gen <i>ngayinya</i> “my”. (RG)
Ngarluma	<i>ngayi</i> “I” <i>ps</i> : Obj. <i>ngatju</i> “me”. (KLH)
Yinytji	<i>ngayi</i> “I” Also <i>ngayu</i> (Objective case). ¹³⁶ (FW)
Kurrama	<i>ngayi</i> “I” (GNOG)
Martuth	<i>ngayu</i> “I” (AD)
Ngarla	<i>ngayi</i> ~ <i>ngaya</i> “I” (GNOG)
pNgayarda	*ngayi (GNOG #709)
Yingkarta	<i>ngayu</i> “me” <i>ps</i> : DAT-GEN; ~ <i>ngathangu</i> . AD (1998:29) considers <i>ngayu</i> a reflex of *ngacu. (AD)
Nhanda	<i>ngayi</i> “I” (JB)
pPNy	*ngayu ~ *ngayi ~ *ngaya ¹³⁷

Key: *nga:ci- “lay (egg), give birth to (young)” vtr

Uradhi (At) *adi-* “lay an egg, give birth; wait for; keep” *ps*: vtr, Conj. II:

adin Past, *adil* Present, *adiwa* Future, *adirri* Imperative. (KLH, TC)

Angkamuthi *adi-* “lay egg, give birth to; wait for; keep” *ps*: vtr, Conj. II:

adin Past, *adi* Present, *adingka* Future, *adirri* Imperative. (TC)

Yadhaykenu *adi-* “lay egg, give birth to; wait for; keep” *ps*: vtr, Conj. II:

adin Past, *adil* Present, *adingka* Future, *adirri* Imperative. (TC)

pPaman ***nga:ci-** (KLH)

Warlpiri *ngaja-rni* “to eliminate it—bodily waste; to give birth to it; to lay it—egg” *ps*: vtr, Conj. 2: *ngajarnu* Past, *ngajaka* Imperative. (KLH)

Warlmanpa *ngaya-* “lay (an egg), give birth to, defecate, urinate” *ps*:

Conj. 2: Imp *ngaya(ka)*, P *ngayarnu*, Fut *ngayan(mi)*. (DGN)

Mudburra *ngaya-ni* “void; give birth” *ps*: vtr, RR conj.¹³⁸ (PMcC)

¹³⁶ Note that *ngacu (q.v.) cannot be ruled out as a source.

¹³⁷ Quite possibly the source is simply *ngay, with V2 added later; cf. the note to *ngacu.

However, widely distributed evidence seems to favor *ngayu. Dixon (1980) and HK (pers. comm.) considers some forms in *ngayu*, as in the Western Desert languages, to have /y/ as a product of lenition from the *c of *ngacu.

¹³⁸ Intervocalic lenition is regular.

Djaru	<i>ngaja-ni</i> “void; give birth” <i>ps</i> : vtr, RR conj.: <i>ngajani</i> Past, <i>ngajarra</i> Imperative. (PMcC, TTs)
Gurindji	<i>ngaya-ni</i> “void; give birth” <i>ps</i> : vtr, RR conj. ¹³⁸ (PMcC)
Walmajarri	<i>ngaja-ni</i> “give birth (to baby)” <i>ps</i> : vtr, RR conj. (JHd, PMcC)
Ngarluma	<i>ngayi-lku</i> “to give birth to; to throw (away)” ¹³⁹ (KLH)
Panyjima	<i>ngayi-</i> “throw, drop” <i>ps</i> : L conj.: <i>ngayilku</i> Present, <i>ngayirna</i> Past, <i>ngayinma</i> Imperative. ¹⁴⁰ (AD)
Yinytji	<i>ngayi-</i> “throw, chuck, or toss (away); let out (a shout, <i>ka:rtuwu</i>); give birth to (a child, <i>mangkurlawu</i>)” “N” conj.: <i>ngayiku</i> Present, <i>ngayina</i> Past, <i>ngayinma</i> Imperative. (FW)
Nyangumarta	<i>ngaci-</i> “void it—as excrement, or an egg” (GNOG)
pPNy ^^^	*nga:ci- ~ *nga:ca-
Bidyara	<i>nganhda</i> “give birth, have (a baby), lay (an egg)” (GB)
Gunya	<i>nganhda</i> “lay (eggs), give birth” (GB)
Muruwari	<i>nga:nta-</i> “lay eggs, give birth to” (LFO)

Key: ***nga:ni** “what” nInt

Uradhi (At)	<i>ani</i> “what” <i>ps</i> : ERG <i>a:nilu</i> , Dat <i>a:niyu</i> . (KLH, TC)
Angkamuthi	<i>ani</i> “what” <i>ps</i> : ERG <i>a:nilu</i> , Dat <i>a:niyu</i> . (TC)
Yadhaykenu	<i>ani</i> “what” <i>ps</i> : ERG <i>a:ningku</i> , Dat <i>a:niyu</i> . (TC)
Mpalitjanh	<i>ani</i> “what” (KLH)
Luthigh	<i>ani</i> “what” (KLH)
Yinwum	<i>ani</i> “what” (KLH)
Linngithigh	<i>ani</i> “what” (KLH)
Alngith	<i>ani</i> “what” (KLH)
Awngthim	<i>vnay</i> “what” (KLH)
Ntra’ngith	<i>ani</i> “what” (KLH)
Ngkoth	<i>ani</i> “what” (KLH)
Aritinng	<i>ani</i> “what” (KLH)
Mbiywom	<i>ani</i> “what” (KLH)
WMungknh	<i>nge:n</i> “what” (KLH)
WMe’nh	<i>nge:n</i> “what” (KLH)
WNgathrr	<i>nge:n</i> “what” (KLH)
WNgathan	<i>nge:n</i> “what” <i>Phon</i> : PS

¹³⁹ Unique ex. of pPNy *c leniting after a long vowel—but there are no apparent exceptions.

¹⁴⁰ See the Yinytji cognate regarding semantic extension.

WMuminh	<i>nga(:)rri</i> “what” Cognate? (KLH)
KUwanh	<i>nga:rri</i> “what; something; anything” Cognate? (S&J)
Pakanh	<i>ngani</i> “what” <i>Phon</i> : Vowel is short. (LY)
Kaanytju	<i>nga:ni</i> “what” (KLH)
Umpila	<i>nga:ni</i> “what” (KLH)
KThaayorre	<i>nga:n ~ nge:n</i> “what” (KLH)
YY	<i>ngan, nginirr, ngini</i> “what”
Rimangg	<i>ni</i> “what” Also <i>ne-ɣv</i> “what for”. IG gives <i>niy</i> . (KLH, IG)
GYim	<i>nga:nay, ngana</i> “what” <i>ps</i> : JHav: ERG <i>nganilin, ngani:lnda, ngani:lngun</i> . Also <i>ngani</i> : “why”, <i>nganiyi</i> “what for”. JHav gives citation form as <i>ngana</i> : “what, which”; probable underlying form < <i>ngani:l</i> >. (KLH, JHav)
ON	<i>an3</i> “what” (BA, KLH)
KB	<i>nganiñ</i> “who” (KLH)
pPaman	<i>nga:ni</i> ¹⁴¹ (KLH)
GBadhun	<i>ngani</i> “what” From HaG; also <i>ngana; nganawu</i> “why”. (PS)
Bidyara	<i>ngani</i> “what” (GB)
Margany	<i>ngani</i> “what; something” (GB)
Gunya	<i>ngani</i> “what; something” (GB)
pPM	<i>ngani</i> (BA)
W. Bundj	<i>nge:n</i> “who” <i>ps</i> : ERG <i>nge:ndu</i> . (MS)
Yugambelh	<i>nga:n</i> “who; somebody” <i>ps</i> : ERG <i>nga:ndu</i> , ACC <i>nge:ni</i> . (MS)
pNNSW	*<i>nga:nang</i> (TC)
Yuwaaliyaay (CW)	<i>nga:n-</i> “who” <i>ps</i> : ABS <i>nga:na</i> , ERG <i>nga:ndu</i> , GEN <i>nga:nngu</i> .
Yuwaalaraay (CW)	<i>nga:n-</i> “who” <i>ps</i> : ABS <i>nga:ndi</i> , ERG <i>nga:ndu</i> , GEN <i>nga:nngu</i> .
Muruwari	<i>nga:na</i> “who; which” (LFO)
Yorta Yorta	<i>ngani</i> “who” (B&M)
Buwandik	<i>nganu(ng)</i> “who” Also <i>nganungat</i> “whose”. (BB)
MM	<i>ngarnt</i> “who” <i>ps</i> : Yallop gives as <i>ngangk</i> <i>i</i> , ERG <i>ngant(i)</i> ; Meyer gives as <i>ngangg</i> . (MMcD, Yallop, Meyer)
Warlmanpa	<i>ngana</i> “who; what” Also <i>nganayi</i> “what’s-its-name” (DGN)
Nyangumarta	<i>ngani</i> “what” (GNOG)
Kariyarra	<i>ngani</i> “what” (GNOG)
Yinytji	<i>ngani</i> “what; something, anything” Many derivatives. (FW)
Kurrama	<i>ngani</i> “what” (GNOG)

¹⁴¹ “Other Paman” list adds ***nga:na** alternant.

Palyku	<i>nganiña</i> “what” (GNOG)
Nyamal	<i>nganiña</i> “who” (GNOG)
pNgayarda	*ngani (GNOG #627)
Nhanda	<i>ngana</i> “who; someone” (JB)
Gupa	<i>ngani</i> “is that right?” “An interrogative, an expression of enquiry, e.g. statement followed by <i>ngani</i> “is that right?”” (BL-MC)
pPNy	*nga:ni (GNOG) Possibly originally a monosyllable, <i>*nga:n</i> (see the Erg case-forms in Bundjalung-Yugambeh, Yuwaaliyaay-Yuwaalaray, and Nhanda). (GNOG; KLH 83:374)
^^^	
Wirangu	<i>ngana</i> “which, what; who” Alt. <i>ngana:rdu</i> , <i>ngana:rda</i> . (LH)
Pitj-Yank	<i>nganaña</i> “who, what name; you-know-who” (CG)
Mudburra	<i>ngana</i> “who; someone [in negative contexts]” Also <i>nganangka</i> “where [question]”; <i>nganayala</i> “whatsaname [place, person]”. (RG)
Ngarluma	<i>ngana</i> “who” (KLH, GNOG)
Kariyarra	<i>ngana</i> “who” (GNOG)
Palyku	<i>ngana</i> “who” (GNOG)
Panyjima	<i>ngana</i> “who” Also <i>ngananha</i> “what”. (GNOG, AD)
Yinytji	<i>ngana</i> “who; someone, anyone” (FW, GNOG)
Kurrama	<i>ngana</i> “who” (GNOG)
Nyamal	<i>ngana</i> “what” (GNOG)
pNgayarda	*ngana (GNOG #625)
Yingkarta	<i>ngana</i> “who” <i>ps</i> : ERG <i>ngantu</i> . (AD)
Nhanda	<i>ngana</i> “who; someone” <i>ps</i> : ERG <i>ngandu</i> . (JB)

Key: ***nguku** “water” n E

KKW	<i>nguki</i> “drinking water, fresh water; drink” (RJK)
KLY	<i>ngu:ki</i> “water” (EB)
KThaayorre	<i>ngok</i> “water” (KLH)
pPaman	*nguku (KLH)
Kalkatungu	<i>kui</i> “water” Also <i>kua</i> “river, creek”. (BB)
Wang (G)	<i>nguku</i> “river” Contrast <i>ngaka</i> “water”. (M&W)
Baagandji	<i>ngugu</i> “water” (LH)
MM	<i>ngu:k</i> “water” ¹⁴² (MMcD; all sources)
ECArrenrte HK)	<i>kwace</i> “water; rain; weather related to rain” Cognate? (H&D,

¹⁴² Long V1 is the regular reflex of short *V1 in this context.

Mudburra	<i>nguku</i> “water; rain; body of water; flood of water; any drink (especially beer or other alcohol, but not milk)” (RG)
Nyungar	<i>nguk</i> “honey, honey in the comb” (WD)
pPNy ^^^	*nguku ~ *nguki
Karrwa	<i>nguwu</i> “water” (NE)
Kayardild	<i>nguku</i> “water” (NE)
Yangkaal	<i>nguku</i> “water” (NE)
Yukulta	<i>nguku-wa</i> “water” (NE)
Lardil	<i>nguka</i> “water; year, period of year; bark of tree (sp.)” <nguku->. (NE)
pT ^^^	*nguku (NE)
Mangarrayi ***	<i>nguku</i> “water” (NE)
WMungknh	<i>ngak</i> “water” (KLH, SIL)
WNgathan	<i>ngak</i> “water” (PS)
KUwanh	<i>ngaka</i> “water” (S&J)

Key: ***ngula** “by and by” nAdvL

KKW	<i>ngul</i> “yesterday” <i>ps</i> : n (masculine) & adv. (RJK)
Mpalitjanh	<i>lwa</i> “by and by” (KLH)
Luthigh	<i>lwa</i> “by and by” (KLH)
Yinwum	<i>lwa</i> “by and by” (KLH)
Aritinng	<i>lwa</i> “by and by” (KLH)
Mbiywom	<i>lwiñj</i> “by and by” ¹⁴³ (KLH)
WMungknh	<i>ngul</i> “by and by; later on [w Fut & Pres V]; planning to; predict; then [Past V]; so then, well then” (KLH, SIL 146-7)
WMe’nh	<i>ngul</i> “by and by” (KLH)
WNgathrr	<i>ngul</i> “by and by” (KLH)
WNgathan	<i>ngul</i> “later, soon” (PS)
KUwanh	<i>ngula</i> “later, afterwards” (S&J)
Kaanytju	<i>ngula</i> “by and by” (KLH)
Umpila	<i>ngula</i> “by and by” (KLH)
YY	<i>ngul</i> “and then”; “but”
HR	<i>luv</i> “by and by” (KLH, LJ)
ON	<i>ol3</i> “by and by” (KLH)

¹⁴³ KLH: “May also contain *ngula.”

KB	<i>nguláw</i> “tomorrow” (KLH, BA)
pPaman	*ngula (KLH)
Ngawun	<i>ngala</i> “by and by, soon” ¹⁴⁴ (GB)
M-Yapi	<i>ngala</i> “by and by, soon” ¹⁴⁴ (GB)
M-Kutuna	<i>ngala</i> “by and by, soon” ¹⁴⁴ (GB)
Pitj-Yank	<i>ngula</i> “later, in the future” (CG)
Ngarluma	<i>ngula</i> “there, by that one” Also <i>ngulathalnguru</i> “then, after that”, <i>ngularniku</i> “this way, in this direction, to this place”. (KLH)
pPNy ^^^	*ngula
W. Bundj ^^^	<i>-ngula</i> “also, too” Var. <i>-wula</i> in Wehlubal. (MS)
Gupa ***	<i>ngula</i> “somewhere; maybe” (BL-MC)
Martuth ***	<i>ngula</i> “ignorantly” <i>ps</i> : particle (AD)
Kalkatungu	<i>ngurli</i> “always; still” (BB)

Key: ***ngulcurr** “black” nAdj

Koko-Bera *ngolthórr* “black” (BA)

Aghu-Tharrnggalalcur “black” (LJ/KLH)

pPaman ***ngulcurr** (PB)

Lower Arrernte *ilcere* “black” (KLH)

Gupapuyngu *ngulci* “dark” (BL-MC)

pPNy ***ngulcu** (BA)

Key: ***ngulu** “forehead” n B

WMungknh *ngul* “white storm clouds” Also *ngul-ngangk* “forehead” (KPPW)

KUwanh *ngulu ngangka* “forehead” (S&J)

YY *ngol, ngolo* “forehead” Also *yirrp-ngol* “thundercloud”, *then-ngol* “glans penis”.

Djabugay *ngulu* “forehead, face” (EP)

GBadhun *ngulu* “forehead, face” (PS)

pPaman ***ngulu**¹⁴⁵ (KLH)

Nyawaygi *ngulu* “forehead” (RMWD)

¹⁴⁴ Cf. *cina, *pula, *ñurra for V1 quality.

¹⁴⁵ “Other Paman” list only.

- Yugambeh *ngulung(may)* “first, foremost, before, in front; soon, later on”
 Derivatives *ngulungbu* “first, before”, *ngulunggirr* “immediately”,
ngulunggu “soon, pretty soon”. Also *ngi:l* “brow; ground”, *ngi:rr*
 “forehead”, both (per source) poss. reduced from *ngayal* ~ *ngayil* ~
ngayirr “clay; ground; cliff”. (MS)
- W. Bundj *ngulung* “in front, ahead, forward” Also *ngi:l* “forehead,
 brow”. (MS)
- pNSW** ***nguLu** (“forehead”), ***nguLuñ** (“penis”) (TC)
- Muruwari *ngulu* “forehead” (LFO)
- Wiradjuri *ngulung* “face, forehead” (PA)
- Wbuan *nguluN* “face, forehead” (TD/PA)
- Wayilwan *ngulu* “face, forehead” (PA)
- Gamilaraay *ngulu* “face, forehead” (PA)
- Yuwaalaraay *ngulu* “face” (CW)
- Yuwaaliyaay *ngulu* “face” (CW)
- pCNSW** ***ngulung** (PA)
- Diyari *ngurlu* “forehead” (PA CLE)
- Ngamini *ngurlu* “forehead” (PA CLE)
- Y’warrka *ngurlu* “forehead” (PA CLE)
- Wang *ngurlu* “forehead” (PA CLE)
- Wang (G) *ngula* “forehead” Cognate? (M&W)
- Pitta-Pitta *ngurlu* “forehead” (BB)
- pKarnic** ***ngurlu** (PA CLE)
- Dhudhuroa (Mathews) *ngulua* “forehead”
- Kaytetye *erlwe* “forehead” (HK)
- ECArnernte *urle* “forehead; head; first or front part of something” (H&D)
- pPNy** ***ngulu**¹⁴⁶
 ^^^
- Muruwari *ngulu-ngulu* “thunder” (LFO)
 ^^^
- MM *ngu(r)l* “hill, mountain”¹⁴⁷ (B&B, Taplin, Meyer.)
 ^^^
- Kayardild *ngulu* “penis” (NE)
- Lardil *ñulwarr* “penis”¹⁴⁸ (NgKL/NE)
- pT** ***ngulu** (NE)

¹⁴⁶ HK reconstructs *ngurlu, with a retroflex lateral.

¹⁴⁷ Meyer gives *ngurle*, with short vowel; if from *ngulu, long V1 is expected.

¹⁴⁸ See discussion in Evans n.d..

Ngandi	<i>ngul</i> “penis” (NE)
Nunggubuyu	<i>ngulu</i> “penis” (NE)
Warndarang	<i>ngul-waya</i> “copulate with” (NE)
^^^	
Dalabon	<i>ngol</i> “sky” (MH)
Jawony	<i>-ngol</i> “sky” (MH)
Mayali	<i>-ngol</i> “cloud” Also <i>-pam-ngol</i> [“compound involving <i>pam</i> “head”] (MH)
Rembarrnga	<i>ngol</i> “cloud” (MH)
Warray	<i>pamngul</i> “cloud” Old compound involving <i>pam</i> “head”. (MH)
pGunwinyguan *ngol ¹⁴⁹ (MH B44)	
^^^	
Maranungku	<i>ngur</i> “penis”
Dyirrbal	<i>nguwun</i> “forehead”
^^^	
Marrgany	<i>ngurlku</i> “cheek” (GB)
Gunya	<i>ngurlku</i> “cheek” (GB)

Key: *nguru	(ablative, elative) suffix or postposition
YY	<i>ngorvm</i> (ablative, elative: “from”) <i>ps</i> : Postposition. Contains + <i>m</i> (ablative). ERG or DAT case-ending can follow.
YY	+ <i>ngr</i> (genitive, dative) <i>ps</i> : Suffix, dative case alternant.
Warluwarra	+ <i>ngurlu</i> (ablative) (GB)
Bularnu	+ <i>ngurlu</i> (ablative) (GB)
Pitj-Yank	+ <i>nguru</i> (ablative) (CG)
Warlpiri	+ <i>ngurlu</i> (elative: “from”) (KLH 74:11)
Mudburra	+ <i>ngurlu</i> “from” (RG)
Nyangumarta	+ <i>ngurlu</i> “from; by” Is the lateral regular? (GNOG)
Djapu	+ <i>ngur</i> (ablative) <i>ps</i> : Suffix (FMo)
Dhuwala	+ <i>nguru</i> (ablative) <i>ps</i> : Suffix. (FMo)
Dhuwal	+ <i>ngur</i> (ablative) <i>ps</i> : Suffix; both Locative & ABL with most stems, but apparently only ABL with demonstratives. (JHeath 17-8, 20-133-4)
Djinang	+ <i>ngiri</i> (ablative) <i>ps</i> : Suffix. (BW 27,38,44)
Djinba	+ <i>ngur</i> (ablative) <i>ps</i> : Suffix. (BW 40,47)
pPNy	*nguru

¹⁴⁹ Cognation with PNy questionable.

^^^

Pitta-Pitta +*nguru* (derivational) Only with *parrkula* “two” in *parrkulanguru* “three”. (BB)

Key: ***ngurrci** “nasal mucus” n B

KKW *ngursi, ngursil* “snot, mucus” Var. *mursi, wærsi*. (RJK)
 KLY *ngursi* “nasal mucus” (EB)
 UOygangand *errch, eg-* (?) “nasal mucus” (PH)
 UOlgol *errch, ow-* “nasal mucus” (PH)
 Pakanh *ngo:ci, tha:-* “nasal mucus” (PH)
 Ngarluma *ngurrci-lku* “to snort—as horse”
 Djapu *ngurrci* “nasal discharge” (FMo)
 Gupa *ngurrci* “nasal discharge” Also *ngurrci7yun* “blow one’s nose”. (BL-MC)
 Djambarrpuynu *ngurrci* “nasal mucus, head cold” (GWVW)
 Dhangu *ngurrci* “Rotz” (BSch)
 Ritharrngu *ngurrci7-yu-* “sneeze” *ps*: vi. (JHeath)
pPNy ***ngu(:)rrci**

Key: ***ngurru** “nose” n B

KLY *ngu:r* “cape (projection of land); front—as point of spear” Ex. *næyngu ngu:r* “tip of tongue”. (EB)
 KKW *ngur, nguray* “point, knob, peg, nipple; “sweet potato vine; excreta” (RJK)
 Muruwari *nguru* “nose” Glide /r/ in source. PA assigns to *murung. (LFO)
 Warumungu *ngurru* “nose”
 Warluwarra *ngutu* “nose” (GB)
 Bularnu *ngurru* “nose” (GB)
 Yinjilanji *ngurru* “nose” (GB)
 Wakaya *ngurru* “nose” (GB)
 Wakaya (W) *ngurr* “nose” (GB)
 Yanyuwa *ngurru* “nose” (GB)
 Gupa *ngurru* “nose” (BL-MC)
 Djapu *ngurru* “nose” (FMo)
 Djambarrpuynu *ngurru* “nose; nipple” (GWVW)
 Dhuwal *ngurru* “nose, tip” (JHeath)
 Daartiwyuy *ngurru* “nose” (MG)

Dhangu	<i>ngurru</i> “nose” (BSch)
Ritharrngu	<i>ngurru</i> “nose, point, tip” (JHeath)
Djinang	<i>ngurri</i> “nose” (BW)
Djinba	<i>ngurri</i> “nose” (BW)
pPNy	ngurru

Kayardilt (NE)	<i>ngurruwarra</i> “fishtrap” Forms a projection from the coastline.
Yukulta	<i>ngurruma</i> “bud of lily flower” (NE)
Lardil	<i>ngurra</i> “forehead; prominence or projection (as point of land, knot of tree)” <ngurru->. (NE)
pT	*ngurru (NE)

Key: ***ña**- “see” vtr

WMuminh	<i>nha:wa</i> - “see” (KLH)
KThaayorre	<i>nha</i> :- (-m ~ -t- ~ -k- ~ -w- ~) “see” (KLH)
YY	<i>nha</i> + “see” Only as <i>nhart</i> “saw” introducing a participial clause: “saw X-ing”.
GYimithirr	<i>nha</i> (:)- “see” JHav <i>nha:ma</i> : Nonpast, <i>nha:dhi</i> Future, <i>nha:wa</i> : Imperative; KLH: <i>ña</i> - with Past <i>-ci</i> , Fut <i>-ma</i> , Imp <i>-wa</i> . (KLH, JHav)
Muluridji	(<i>ñ</i>) <i>aci</i> - “see” (KLH)
CC	<i>ña</i> - “see” Past <i>-cin</i> , Fut <i>-cil</i> , Imp <i>-ka</i> . (KLH)
KB	<i>nha</i> - “see” Fut <i>-cingk</i> , Imp <i>-kal</i> . (KLH)
pPaman	*ña - (~ *ñaci - ~ *ñaka - ~ *ñawa - ~) (KLH)
Margany	<i>ña</i> :- “see” (GB)
Nyawaygi	<i>ña</i> :- “see; look at” (RMWD)
Yugambelh	<i>ña</i> :- “see; look at, watch; find” (MS)
W. Bundj	<i>ña</i> :- “watch, see” (MS)
Gumb	<i>ña</i> :- “see” (DE)
Yaygir	<i>ña</i> “see” Var. <i>ña:gi</i> and <i>ña:wa</i> . (TC)
Kalkatungu	<i>rna</i> “see” <i>ps</i> : Past <i>rnaña</i> , Future <i>rnangi</i> , Imp <i>rnuwa</i> . Cognate? Also given as <i>rnañi</i> & <i>nhañi</i> . BB 52,190-1
Muruwari	<i>nha</i> - “see, look at, observe; hear” Mathews: “naga”. (LFO)
Pitta-Pitta	<i>nhaci</i> “see; look at” (BB)
Wang (G)	<i>nhaja</i> “see” (M&W)
Yorta Yorta	<i>nha</i> - “see, look” <i>ps</i> : Past <i>nhan</i> ~ <i>nhanha</i> , Future <i>nhacuk</i> , Imperative <i>nhawul</i> , Emphatic Imperative <i>nhacelma</i> . (B&M)
Werg (Dj)	<i>ñaga</i> “to see” Also <i>ñagila</i> “to stare at”, <i>ñaguda</i> “to watch”,

	<i>ñangerra</i> “to observe, to take notice”, <i>ñarra</i> “to observe, to watch”. (LH)
Wembawemba	<i>ñaga</i> “see; watch; think of; consider” Also <i>ñagila</i> “look; watch”, <i>ñagamuna</i> “be careful, look out”. (LH)
Pitj-Yank	<i>ñanga-</i> “see, watch, look at; find; look for (NP-ku)” <i>ps:</i> vtr: <i>ñangu</i> P; <i>ñangangi</i> P Impf; <i>ñawa</i> Imp; <i>ñangama</i> Imp Cnt; <i>ñakuku</i> F; <i>ñakupayi</i> “used to”; <i>ñakula</i> Serial; <i>ñakuñca</i> Participle. (CG)
Warlpiri	<i>ña-</i> “see it, perceive it” <i>ps:</i> tV3: nP <i>ñañi</i> , P <i>ñangu</i> , Imp <i>ñangka</i> ; Imm Fut <i>ñanguku</i> . (KLH)
Warlmanpa	<i>ña-</i> “see: ERG sees, looks at ABS; look for DAT” <i>ps:</i> Conj. 3a: Imp <i>ñangka</i> , P <i>ñangu</i> , Fut <i>ñañi</i> . (DGN)
Mudburra	<i>ñang-ku</i> “see; look at; look for; watch; watch out for” (RG)
Yingkarta, Nth	<i>nha-ña</i> “see” (PA)
Yingkarta, Sth	<i>nha-ña</i> “see” (PA)
Nhanda	<i>nha-</i> “see; look at” (JB)

Key: ***ña(:)kV-**

Yaygir	<i>ña:gi</i> “see” Var. <i>ña</i> and <i>ña:wa</i> . (TC)
MM	<i>nhak</i> “see” (All sources)
Atnya	<i>nhaku-</i> “see” Also <i>nhata-</i> “look for, scan (as an eagle)”
(Mc&Mc)	
Parnkalla	<i>nhakuka</i> “see” (KLH)
Ngarluma	<i>nhaku-</i> “see” <i>ps:</i> Conj. -ku; <i>nhakuru</i> Future. (KLH, GNOG)
Kariyarra	<i>nhaku-</i> “see” (GNOG)
Yinytji	<i>nhawu-</i> “see” (GNOG, FW)
Kurrama	<i>nhawi-</i> ~ <i>nhawu-</i> “see” (GNOG)
Noala	<i>nhawi-</i> “see” (GNOG)
Martuth	<i>nhawu-</i> “see” (GNOG, AD)
pNgayarta	nha.ku- (GNOG #704)
Bayungu	<i>nhaku-</i> “see” (PA)
Dhalandji	<i>nhanha-</i> “see” (PA)
Burduna	<i>nhaña-</i> “see” (PA)
pKanyara	*nha(:) (PA #50)
Djiwarli	<i>nhaña-</i> “see” (PA)
Dhalandji, l-dialect	<i>nhaña-</i> “see” (PA)
Dhalandji, d-dialect	<i>nhaña-</i> “see” (PA)
pMantharta	*nha(:) (PA #50)
Djinang	<i>ña-ngi</i> “see, inspect, look at” (BW)
Djinba	<i>ña-mak</i> “see, inspect, look at” Ganalingu, Dapi. (BW 342)

Gupa	<i>nha:ma</i> “see; look at; look out for” (BL-MC)
Dhangu	<i>nha:ma</i> “to see” (BSch)
Ritharrngu	<i>nha:-</i> “to see; to find; to bear [find] a child” <i>ps</i> : Conj. V6B: <i>nha:ma</i> Pres, <i>nha:wala</i> ~ <i>nha:nha</i> Past, <i>nha:ngu</i> F, <i>nha:nha-</i> Nominalisation. (JHeath)

pPNy ***ñä(:)-**

Key: *ñäka “here” n L

KKW *naka* “situated here/there” *ps*: Poss *nakaw*, Dat *nakapa*, Abl
nakaz. (RJK)

Diyari *nhaka* “there” (PA)

Ngamini *nhaka* “there” (PA)

Yarluyandi *nhaka* “there” (PA)

Yandrruwantha *nhaka* “there” (PA)

pCK ***nhaka** (PA)

Wirangu *nhaga* “here, around here” Also *nha(n)* “here”, *nha:rdu* “here,
right here”. (LH)

pPNy ***ñäka**

Key: *ñi:na- “sit” vi

Uradhi *ina-* “sit; stay, live” *ps*: vi; *inan* Past, *inayu* Imperative.
Atampaya, Angkamuthi, Yadhaykenu. (KLH, TC)

Mpalitjanh *ina-* “sit” (KLH)

Luthigh *ina-* “sit” (KLH)

Yinwum *ina-* “sit” (KLH)

Linngithigh *ina-* “sit” (KLH)

Alngith *ina-* “sit” (KLH)

Awngthim *vne-* “sit” (KLH)

Ntra’ngith *ina-* “sit” (KLH)

Ngkoth *n.ya-* “sit” (KLH)

Aritinng *ina-* “sit” (KLH)

Mbiywom *ina-* “sit” (KLH)

WMungknh *nhi:n* ~ *nhin* “sit” (KLH)

WNgathrr *nhi:n-* “sit” (KLH)

WNgathan *nhi:n(v)-* “sit” (PS)

WMuminh *nhini-* “sit” (KLH)

KUwanh *nhi:na* ~ *nhi:ne* “sit” (S&J)

Umpila *nhi:na-* “sit” (KLH)

KThaayorre	<i>nhi:n ~ nhin</i> “sit” Pres <i>nhinin</i> . (KLH)
YY	<i>nhin</i> “sit”
YMel	<i>nhin</i> “sit”
Rimangg	<i>ina-</i> “sit, stay” (KLH, IG)
Djabugay	<i>ñina-</i> “sit” <i>ps</i> : vi, Y conj.: <i>ñinañ</i> Past. (KLH, EP)
Yidiny	<i>ñina-</i> “sit” (KLH)
KB	<i>ñiné-</i> “sit” (KLH)
Kurrtjar	<i>na-</i> “sit” (KLH)
Dyirbal	<i>ñina-</i> “sit” (KLH)
Girramay	<i>ñina-</i> “sit” (KLH)
pPaman	*ñi:na- ~ ñina-¹⁵⁰ (KLH)
GBadhun	<i>nhina-</i> “sit” Initial <i>ñ</i> (or <i>y</i>) expected. (PS)
Ngawun	<i>yina</i> “sit” (GB)
M-Kulan	<i>yina</i> “sit” (GB)
M-Yapi	<i>yina</i> “sit” (GB)
M-Thakurti	<i>yina</i> “sit” (GB)
Wunumara	<i>yinV</i> “sit” Questionable. (GB)
M-Kutuna	<i>yina</i> “sit” (GB)
Yaygir	<i>ina:ga</i> “sit” Var. <i>ngina:ga</i> . (TC)
Kalkatungu	<i>ini</i> “remain; be present” <i>ps</i> : Past <i>ininha</i> , Future <i>inimi</i> . Contrast <i>ngartathati</i> “sit”. (BB)
Wirangu	<i>ñina-</i> “sit, sit down; be (of animates)” (LH)
Karlamayi	<i>ñin</i> “sit” (KLH)
ECArrenrte (H&D)	<i>ane-</i> “sit, sit down; be; have [a body-part]; live, stay stop”
Kaytetye	<i>ane-</i> “sit” (HK)
Pitj-Yank	<i>ñina-</i> “sit, be sitting; live, stay; be in a place; be in, have, or hold a temporary condition; do customarily [in construction w. serial verb]” <i>ps</i> : vi, 0: <i>ñinangu</i> P; <i>ñinangi</i> P Cnt; <i>ñina</i> Imp; <i>ñinama</i> Imp Cnt; <i>ñinañi</i> Pres; <i>ñinaku</i> F; <i>ñinarra</i> Serial; <i>ñinañca</i> Participle. (CG)
Martuth	<i>ñina-</i> “sit” vi, Zero conj. (AD)
Nhuwala	<i>ñina-</i> “to sit” (GNOG)
Ngarla	<i>ñina-</i> “to sit” (GNOG)
pNyayarda	ñina- (GNOG #623)
Bayungu	<i>ñina-</i> “sit” (PA)
Dhalandji	<i>ñina-</i> “sit” (PA)
Burduna	<i>ñina-</i> “sit” (PA)

¹⁵⁰ N Paman list.

pKanyara	*ñina- Y conj. (PA #293)
Yingkarta, Nth	<i>ñina-ñi</i> “sit; stay, camp” (PA)
Yingkarta, Sth	<i>ñina-ñi</i> “sit; stay, camp” (PA)
Nhanda	<i>ñina-</i> “sit; stay, stop” (JB)
Nyungar	<i>ñininj</i> “sit; sitting; staying; be” (WD)
Djinang	<i>ñini-ji</i> “sit; be; live” (BW 342)
Djinba	<i>ñina-k</i> “sit, be live” (BW 342)
Djapu	<i>nhina-</i> sit <i>ps</i> : Conj 01; vi. (FMo)
Gupa	<i>nhina</i> “sit; stay, live; be” (BL-MC)
Dhuwal	<i>nhi:na-</i> “to be sitting, to remain (sitting)” <i>ps</i> : V2, intr.
(JHeath)	
Dhangu	<i>ñi:na-n</i> “to sit” (BSch)
Ritharrngu	<i>nhi:na-</i> “sit” <i>ps</i> : Conj. V2: <i>nhi:na</i> Pres, <i>nhi:nanha</i> Past, <i>nhi:ni</i> (<i>< nhi:na-i</i>) Future, <i>nhi:nanha-</i> Nominalisation. (JHeath)
pPNy	*ñi:na-

Key: ***ñuna** “you SG OBL” pronoun

See also ***ñinu**, ***ñuntu**.

YY *nhun* “you SG DAT” Clitic. Also *nhin* (dative) and the accusatives *nhunh(a)* and *nhinh(a)*.¹⁵¹

Rimangg *-no-* “thee” *ps*: Clitic, in *-non ~ nan* (ACC); also the DAT free pronouns *nom ~ nan*. (IG)

KYalyunu “your SgPoss.” Also *yunun* (Yalanji) and *yunuñin* (Nyungkul) ACC.¹⁵² (Hr&Hr)

Mbabaram *n3* “you (Sg GEN). *ps*: Also *n3ñ ~ ne* ACC, *n3ndv* DAT. (RMWD)

Warrungu *yuna* “you SG ACC” (TTs)

GBadhun *yina* “you SG ACC” Also GEN *yinu*. (PS)

Bidyara *yuna* “you SG ACC” Alt. *yurana*; also GEN *yunu ~ yurangu*.¹⁵³ (GB)

Margany *inanha* “you SG ACC” Initial /i/ and /yi/ are not distinct. Also GEN *inu*. (GB)

Gunya *inanha* “you SG ACC” Initial /i/ and /yi/ are not distinct. Also GEN *inu*. (GB)

¹⁵¹ The vowel-final alternants continue protoforms with a third syllable, probably the old dative suffix **ka*.

¹⁵² Compare the initial of *nhuma-* *< *ñu:ma-*.

¹⁵³ Regarding the alternants in *yura+*, see **ñurra* (“you Pl”).

Kalkatungu	<i>ñun-</i> “you” In the DAT case-form <i>ñunku</i> . (BB)
Wembawemba	<i>-ngun ~ -ngan</i> “thee” Object clitic. (LH)
Buwandik	<i>=(ng)un</i> “thee” <i>ps.</i> : 2nd person Singular oblique (ACC, DAT, GEN) pronominal clitic. (BB)
Wirangu	<i>ñurni</i> “you” <i>ps.</i> : Nom. (intransitive subject). (LH)
Warlpiri	<i>-n(pa)</i> “you (Nom Sg)” Subj. clitic. (KLH)
Nhanda	<i>ñini</i> “you SG” (JB)
Gupa	<i>nhuna</i> “you SG ACC” Also <i>nhungu</i> “yours”, <i>nhi</i> : “you (Sg Nom)”. (BL-MC)
Djapu	<i>nhuna</i> “you SG ACC” Also <i>nhungu</i> Dat1, <i>nhi</i> : “you (Sg Nom)”. (FMO)
pPNy	*ñuna ¹⁵⁴

Key: ***ñinu-** “2nd Sg Oblique” pronoun

WNgathan	<i>nhin</i> “you (ACC)” “s PS
YY	<i>nhin(a)</i> “me (Dat)” Also <i>nhinh(a)</i> “me (ACC)”.
GYimithirr	<i>nhanu</i> “your” JHav: Dat & Gen+Abs. (KLH, JHav)
GYimithirr	<i>nhina(an)in</i> “you Sg ACC” (JHav)
Muluridji	<i>yunu-</i> “2nd Sg Oblique” (KLH)
CC	<i>yuni-</i> “2nd Sg Oblique” (KLH)
HR	<i>niw</i> “you” (KLH)
HR	<i>ni-</i> “2nd Sg Oblique” (KLH)
Ogunyjan	<i>in3</i> “you” (KLH)
Ogunyjan	<i>inu-</i> “2nd Sg Oblique” (KLH)
Yidiny	<i>ñuni</i> “your” (KLH)
Yidiny	<i>ñunuñ</i> “2nd Sg Oblique” (KLH)
KB	<i>yen</i> “you” (KLH, BA)
Dyirbal	<i>nginu-</i> “2nd Sg Oblique” (KLH)
Girramay	<i>nginu-</i> “2nd Sg Oblique” (KLH)
pPaman	*ñinu- ~ ñanu- (KLH)
GBadhun	<i>yinu</i> “your SG, for you” Also <i>yinungga</i> “to you”, <i>yina</i> (ACC).
(PS)	
Yuwaalaraay	<i>nginu</i> “your (GEN Sg)” Also <i>nginunha</i> (ACC). (CW)
Diyari	<i>yina(nha)</i> “you SG ACC” (PA)
Ngamini	<i>yinanha</i> “you SG ACC” (PA CLE)
Yarluyandi	<i>yinanha</i> “you SG ACC” (PA CLE)
Yandruwantha	<i>yina</i> “you SG ACC” (PA CLE)

¹⁵⁴ There was probably also pPNy **ñuña* (ACC).

Y'warrka	<i>yina</i> “you SG ACC” (PA CLE)
Wang	<i>yina</i> “you SG ACC” (PA CLE)
Wang (G)	<i>ini</i> “you (Sg Nom)” Also <i>inha</i> “you (Sg ACC)” (M&W)
Pitta-Pitta	<i>yina</i> “you SG ACC” Source has <i>ina</i> , a noncontrasting notation. Also <i>yinpa</i> (Nom), <i>yinnngu</i> (Future Subj.). (BB)
pKarnic	*yina (PA CLE)
Kalkatungu	<i>ñini</i> “you (Sg Nom)” Also the subject clitics <i>-n</i> and (subordinate clauses) <i>-ani</i> . (BB)
Madhimadhi	<i>ngin-</i> “you (Sg)” Base for oblique case-endings; possibly to be analysed as <i>ngina-</i> . Also <i>-ngin</i> (after a vowel) ~ <i>-in</i> (after a consonant) “your” (Sg possessive pronominal clitic). (LH)
Woiwurrung	<i>-in</i> “your (Sg)” Poss. clitic. (BB)
Wembawemba	<i>ngin</i> “you (Sg Nom)” (LH)
Atnya	<i>nhina</i> “you” Function not given. (Mc&Mc)
Nhanda	<i>ñini</i> “you SG” (JB)

Yorta Yorta	<i>ngina</i> ~ <i>ñana</i> “you” <i>ps</i> : Intransitive subject; ERG <i>nginak</i> ~ <i>ñana</i> , ACC-Allative <i>ngunun</i> ~ <i>ngunuk</i> , Poss. <i>nguni</i> , ABL <i>ngunat</i> . (B&M)

Key: ***ñuntu** “2 Sg” pronoun

See also ***ñun-**.

Uradhi (At)	<i>antu(βa)</i> “2SgNom” ¹⁵⁵ (KLH, TC)
Angkamuthi	<i>antu(βa)</i> “2SgNom” ¹⁵⁵ (TC)
Yadhaykenu	<i>antu(βa)</i> “2SgNom” ¹⁵⁵ (TC)
Mpalitjanh	<i>rntu</i> “2SgNom” (KLH)
Luthigh	<i>rntu</i> “2SgNom” (KLH)
Yinwum	<i>ti</i> “2SgNom” (KLH)
Linngithigh	<i>tru</i> “2SgNom” (KLH)
Alngith	<i>tru</i> “2SgNom” (KLH)
Awngthim	<i>ntru</i> “2SgNom” (KLH)
Ntra'ngith	<i>ntru</i> “2SgNom” (KLH)
Ngkoth	<i>ti</i> “2SgNom” (KLH)
Aritinng	<i>nt.yu</i> “2SgNom” (KLH)
Mbiywom	<i>ndwi-n</i> “2SgNom” (KLH)
WMungknh	<i>nhint</i> “2SgNom” (KLH)
WMe'nh	<i>nhint</i> “2SgNom” (KLH)
WMuminh	<i>nhinta</i> “2SgNom” (KLH)

¹⁵⁵ KLH: “initial /a/ unexpected here; Yaraikana has *untu(-βa)*.”

WNgathrr	<i>nhunt</i> “2SgNom” (KLH)
WNgathan	<i>nhunt</i> “2SgNom” (PS)
Kaanytju	<i>nguna</i> “2SgNom” (KLH)
Umpila	<i>nganu</i> ~ <i>nguna</i> “2SgNom” (KLH)
KYa’u	<i>ngunu</i> “2SgNom” (KLH)
KThaayorre	<i>nhunt</i> “2SgNom” (KLH)
YY	<i>nhorto</i> ~ <i>ngorto</i> “2SgNom” ¹⁵⁶
YMel	<i>nhoto</i> ~ <i>ngoto</i> “2SgNom” ¹⁵⁶
PS	<i>ndo</i> “2SgNom” (KLH, IG)
GYimithirr	<i>nhundu</i> “2SgNom” ¹⁵⁷ (KLH, JHav)
Muluridji	<i>yuntu</i> “2SgNom” (KLH)
CC	<i>ñuntu</i> ~ <i>yuntu</i> “2SgNom” (KLH)
KYalyundu	“you Sg” ¹⁵⁸ (Hr&Hr)
Yidiny	<i>ñuntu</i> “2SgNom” (KLH)
Mbabaram	<i>nd3</i> “you (Sg Nom)” (RMWD)
pPaman	*ñuntu ~ ñintu ¹⁵⁹ (KLH)
GBadhun	<i>yinda</i> “you SG Nom” (PS)
Warrungu	<i>yinda</i> “you SG NOM” (TTs)
Bidyara	<i>yinda</i> “you SG NOM” (GB)
Margany	<i>inda</i> “you SG NOM” Initial /i/ and /yi/ are not distinct. (GB)
Gunya	<i>inda</i> “you SG NOM” Initial /i/ and /yi/ are not distinct. (GB)
pMaric	*yinta (BA)
Ngawun	<i>yuntu</i> “you” (GB)
M-Kulan	<i>yuntu(ñ)</i> “you” (GB)
M-Yapi	<i>yuntu</i> “you” (GB)
M-Thakurti	<i>yuntu</i> “you” (GB)
M-Kutuna	<i>yuntu</i> “you” (GB)
pNNSW	*ngunda (TC)
Yuwaalaraay	<i>nginda</i> “you (Sg Nom)” (CW)
Muruwari	<i>ñintu</i> ~ <i>yintu</i> ~ <i>ngintu</i> “you Sg” (LFO)
Diyari	<i>yundu</i> “you SG ERG” PA CLE writes <i>yundrru</i> . (PA)
Ngamini	<i>yindi</i> “you SG ERG” (PA CLE)
Yarluyandi	<i>yindi</i> “you SG ERG” (PA CLE)

¹⁵⁶ Retention of V2 conditioned by presence of a suffix, or V2 is analogical.

¹⁵⁷ Compare the discrepant realisations of the initial sound in the GYim reflexes of *ñurra & *ñu:ma-.

¹⁵⁸ Compare the initial of *nhuma*- < *ñu:ma-.

¹⁵⁹ Note to Middle Paman list: also with final *a.

Yandrruwantha	<i>yundrru</i> “you SG ERG” (PA CLE)
Y’warrka	<i>yundrru</i> “you SG ERG” (PA CLE)
Karuwali	<i>yindu</i> “you SG ERG” (PA CLE)
Wang	<i>yundrru</i> “you SG ERG” (PA CLE)
Wang (G)	<i>yundrru</i> “you (Sg ERG)” (M&W)
Pitta-Pitta (BB)	<i>yintu</i> “you SG ERG” Notation <i>intu</i> in source is equivalent.
pKarnic	*yuntu (PA CLE)
Kalkatungu	<i>ñinti</i> “you (Sg ERG)” (BB)
Baakandji	<i>ngindu</i> “you (Sg ERG)” Clitic form <i>-indu</i> . (LH)
Madhimadhi	<i>ngindi</i> “you (Sg Nom)” (LH)
Wembawemba	<i>ngindeug</i> “yours” (LH)
MM	<i>ngint</i> Meyer has <i>nginte</i> , Taplin has (<i>ng</i>) <i>inte</i> ; B&B have many tokens of <i>ngint</i> , with <i>nginth</i> a few times. (B&B, Meyer, Taplin)
Atnya	<i>ñundu</i> “you ERG” (Mc&Mc)
ECArremte	<i>unte</i> “you (Sg Nom)” (H&D)
Pitj-Yank	<i>ñuntu</i> “youSG” (CG)
Warlpiri	<i>ñuntu(lu)</i> “you (Sg Abs)” (KLH)
Nyangumarta	<i>ñuntu</i> “you Sg” (GNOG)
Mudburra	<i>ñundu</i> “you” (RG)
Walmatjarri	<i>ñuntu</i> “you SG” (JHd)
Nhuwala	<i>ñinta</i> “you Sg” (GNOG)
Martuth	<i>ñinta</i> “you Sg” AD gives <i>kartu</i> “you Sg” only. (GNOG)
Ngarluma	<i>ñinta</i> “you Sg” GNOG, KLH
Kariyarra	<i>ñinta</i> “you Sg” (GNOG)
Palyku	<i>ñinta</i> “you Sg” (GNOG)
Panyjima	<i>ñinta</i> “you Sg” <i>ps</i> : Dat <i>ñinku</i> . (GNOG, AD)
Yinytji	<i>ñinta</i> “you Sg” (GNOG, FW)
Kurrama	<i>ñinta</i> “you Sg” (GNOG)
pNgayarda	*ñinta (GNOG #705)
Yingkarta	<i>ñinta</i> “you Sg” <i>ps</i> : Intransitive subject; ERG <i>ñintalu</i> , ACC <i>ñintanha</i> , Dat-Gen <i>ñintangu</i> , Loc <i>ñintala</i> . (AD)
Nyungar	<i>ñintak</i> “you SG” Alt. <i>ñunak</i> . (WD)
pPNy	*ñuntu ¹⁶⁰

Key: ***ñurra** “you PL” pronoun

¹⁶⁰ The **tu* probably originated as an ERG suffix; the original status of the **n* is at present controversial.

Linngithigh	<i>iræ</i> “you PL” (KLH)
Alngith	<i>iræ</i> “you PL” (KLH)
Awngthim	<i>rwe-</i> “you PL” (KLH)
Ntra’ngith	<i>orwæ</i> “you PL” (KLH)
WMungknh	<i>nhiy</i> “you PL” (KLH)
WMe’nh	<i>nhiy</i> “you PL” (KLH)
WNgathrr	<i>nhiy</i> “you PL” (KLH)
WNgathan	<i>nhiy</i> “you PL” (PS)
WMuminh	<i>nhiya</i> “you PL” (KLH)
KUwanh	<i>nhiya</i> “you PL” (S&J)
KThaayorre	<i>nhurr</i> “you PL” (KLH)
PS (Rimangg)	<i>rrwa</i> “you PL” IG gives <i>rha</i> . (KLH, IG)
GYimithirr	<i>yurra</i> “you PL” ¹⁶¹ (KLH, JHav)
Muluridji	<i>yurra</i> “you PL” (KLH)
CC	<i>yurra</i> “you PL” (KLH)
KYalyurra “you PL” ¹⁶²	(Hr&Hr)
HR	<i>rruv</i> “you PL” LJ gives <i>rro</i> . (KLH, LJ)
ON	<i>irr3</i> “you PL” (KLH)
Djabugay	<i>ñurra</i> “you Sg” (KLH, EP)
Djabugay	<i>ñurramba</i> “you nonSg” (KLH, EP)
KB	<i>yurr</i> “you PL” (KLH)
Kurrtjar	<i>u:rr</i> “you PL” (KLH)
Dyirbal	<i>ñurraci</i> “you PL” (KLH)
Girramay	<i>ñurraci</i> “you PL” (KLH)
pPaman	ñurra ~ ñirra ¹⁶³ (KLH)
GBadhun	<i>yura</i> “you PL NOM” ¹⁶⁴ (PS)
Warrungu	<i>yurra</i> “you PL” (TTs)
Bidyara	<i>yura</i> “you PL” <i>ps</i> : ACC <i>yurañana</i> , GEN <i>yurañangu</i> . ¹⁶⁴ (GB)
Margany	<i>ida</i> “you PL” ¹⁶⁵ (GB)
Gunya	<i>yura</i> “you PL” ¹⁶⁶ (GB)
Ngawun	<i>yarra</i> “they (Pl)” ¹⁶⁷ (GB)

¹⁶¹ Compare the discrepant realisations of the initial sound in the GYim reflexes of *ñuntu and *ñu:ma-.

¹⁶² Compare the initial of *nhuma-* < *ñu:ma-.

¹⁶³ “Other Paman” list has just *ñurra.

¹⁶⁴ /r/ < *rr is regular in this context.

¹⁶⁵ Initial /i/ is not distinct from /yi/; /d/ < *rr is regular in this context? Cf. *dharra* “thigh” < *carra.

¹⁶⁶ /r/ < *rr apparently *not* regular.

M-Kulan	<i>yarra</i> “they (Pl)” ¹⁶⁷ (GB)
M-Yapi	<i>yarra</i> “they (Pl)” ¹⁶⁷ (GB)
M-Thakurti	<i>yarra</i> “they (Pl)” ¹⁶⁷ (GL)
Yugambah	<i>ngirri:mang</i> “you (Pl)” Cognate? (MS)
Muruwari	<i>nhura</i> “you Pl” “r” is a glide. (LFO)
Diyari	<i>yurra</i> “you pl NOM” ¹⁶⁸ (PA)
Ngamini	<i>yurra</i> “you pl NOM” ¹⁶⁸ (PA CLE)
Yarluyandi	<i>yurra</i> “you pl NOM” ¹⁶⁸ (PA CLE)
Yandruwantha	<i>yurra</i> “you pl NOM” ¹⁶⁸ (PA CLE)
Y’warrka	<i>yurra</i> “you pl NOM” ¹⁶⁸ (PA CLE)
Wang	<i>yurra</i> “you pl NOM” ¹⁶⁸ (PA CLE)
Wang (G)	<i>yurra</i> “you (Pl Nom)” (M&W)
Pitta-Pitta	<i>nhurra</i> “you pl NOM” ¹⁶⁸ (BB)
pKarnic	*yurra (PA CLE)
Kalkatungu	<i>-nhurr</i> “you (Pl Nom)” Subj. clitic; also (subordinate clauses)
	<i>-anhurr</i> . ¹⁶⁹ (BB)
Baakandji	<i>ngurda</i> “ye (Nom Pl)” Cognate? Clitic <i>-urda</i> ; ACC & GEN
	<i>ngurdana</i> ; clitic <i>-urdana</i> . (LH)
Yorta Yorta	<i>nhurra</i> “you Pl” <i>ps</i> : Intransitive subject; ERG <i>nhurrak</i> , Poss.
	<i>nhurran</i> . (B&M)
Woiwurrung	<i>-ngut</i> “your (Pl)” Cognate? Poss. clitic. (BB)
Wembawemba	<i>ngudein</i> “you (Pl Nom)” Cognate? Also <i>ngudeug</i> “yours”. ¹⁷⁰
	(LH)
Atnya	<i>ñurra</i> “you PL” First (in kinship usage) series. (BSch,
	Mc&Mc)
Wirangu	<i>ñurra</i> “you PL” Now supplanted by <i>ñubali</i> in this sense. Alt.
	<i>ñurri</i> . (LH)
Pitj-Yank	<i>ñurra</i> “you PL” (CG)
Warlpiri	<i>ñurrula</i> “you PL” (KLH)
Nyangumarta	<i>ñurra</i> “you Pl” (GNOG)
Ngarla	<i>ñurra</i> “you PL” (GNOG)
Nyamal	<i>ñurralu</i> “you PL” (GNOG)

¹⁶⁷ Cf. *cina, *ngula, *pula for V1 quality.

¹⁶⁸ “rr” = tap.

¹⁶⁹ The free pronoun *nhutu* is probably also cognate.

¹⁷⁰ Possibly belonging with this etymon is the 2nd-person singular subject clitic *-arr*, although more likely this latter is cognate with the apparently unrelated Woiwurrung pronoun *warr* “you (Sg Nom)”.

pNgayarda	*ñurra (GNOG #707)
Bayungu	<i>nhurra</i> “you PL” (PA)
Dhalandji	<i>nhurra</i> “you PL” (PA)
Burduna	<i>nhurra</i> “you PL” (PA)
pKanyara	*nhurra (PA #55)
Djiwarli	<i>nhurra</i> “you PL” (PA)
Djururu	<i>nhurra</i> “you PL” (PA)
Wariyangga	<i>nhurra</i> “you PL” (PA)
Dhiin	<i>nhurra</i> “you PL” (PA)
Dhar (l)	<i>nhurra</i> “you PL” (PA)
Dhar (d)	<i>nhurra</i> “you PL” (PA)
pMantharta	*nhurra (PA #55)
Yingkarta	<i>nhurrangu</i> “you Pl” <i>ps</i> : DAT-GEN; no other case-forms recorded. (AD)
pPNy	*ñurra ¹⁷¹ (GNOG #707)

Key: ***ñu:ma-** “smell” vtr

WMungknh	<i>nhu:m-</i> “smell” <i>ps</i> : vtr. Respect. (KPPW)
Wme’nh	<i>nhu:ma-</i> “smell” (KLH)
Rimangg	<i>ima</i> “smell” Quality of V1? (IG)
GYim	<i>ñu:ma-</i> “smell” <i>ps</i> : L conj. ¹⁷² (KLH, JHav)
Muluridji	<i>ñuma-</i> “smell” (KLH)
CC	<i>ñuma-</i> “smell” (KLH)
KYalñuma-	“smell” Transitive; L conj. ¹⁷³ (Hr&Hr)
Yidiny	<i>ñuma-</i> “smell” (KLH)
Dyirbal	<i>ñuma-</i> “smell” (KLH)
pPaman	*ñu:ma- ¹⁷⁴ (KLH)
Yugambelh	<i>ñu:m</i> “smell” <i>ps</i> : Transitive? Also <i>ñu:mba-</i> and <i>ñu:mbi-</i> . (MS)
Djinang	<i>ñumigi</i> “smell, stink” (BW)
Djinba	<i>yumyuma-nmak</i> “smell, stink” <i>ps</i> : Yesterday Past <i>yumyuman</i> . (BW)
Gupa	<i>nhuman</i> “smell, give off smell” (BL-MC)

¹⁷¹ That the *rra is at some level an old plural marker is not in dispute.

¹⁷² Compare the discrepant realisations of the initial sound in the GYim reflexes of *ñuntu & *ñurra.

¹⁷³ Compare the initials of the KYal reflexes of *ñuna, *ñuntu, and *ñurra.

¹⁷⁴ Hale also reconstructs ***ñu:ca-** and ***ñu:ngka-**, but attestations of these appear to be limited to the Northeast.

Dhuwal	<i>nhuma-</i> “to smell” <i>ps</i> : V4, tr. (JHeath)
Djinang	<i>ñumigi</i> “smell, stink” (BW)
Djinba (BW)	<i>yumyuma-nmak</i> “smell, stink” <i>ps</i> : Yesterday Past <i>yumyuman</i> .
pPNy ^^^	*ñu:ma-
Dalabon	<i>nom-</i> “smell”

Key: ***pac**^(y)**a-** “bite” vtr

See also ***paca-** (“hit”).

Uradhi *watha-* “bite” *ps*: vtr, Conj. II: *wathan* Past; *wathal* (AT & Y only) Present. Atampaya, Angkamuthi, Yadhaykenu. (KLH, TC)

Mpakwithi *tha* “bite” (TC)

Mpalitjanh *tha-* “bite” (KLH)

Luthigh *tha-* “bite” (KLH)

Yinwum *tha-* “bite” (KLH)

Linngithigh *tha-* “bite” (KLH)

Alngith *tha-* “bite” (KLH)

Awngthim *tha-* “bite” (KLH)

Ntra’ngith *tha-* “bite” (KLH)

Ngkoth *tha-* “bite” (KLH)

Aritinng *tha-* “bite” (KLH)

Mbiywom *tha-* “bite” (KLH)

WMungknh *path-* “bite” (KLH)

WMe’nh *path-* “bite” (KLH)

WNgathrr *path-* “bite” (KLH)

WNgathan *pathv-* “bite” (PS)

WMuminh *patha-* “bite” (KLH)

KUwanh *patha-* “bite” (S&J)

Pakanh *patha* “bite” (BA)

Kaanytju *patha-* “bite” (KLH)

Umpila *patha-* “bite” (KLH)

KThaayorre *path* “bite” (KLH)

YY *pay* ~ *puy* “bite” *ps*: Conj. L. Participial *path+n*.

YMel *pay* ~ *paya-* ~ *path* “bite” *ps*: Conj. L.

KB *path-* ~ *pathé-* ~ *p3-* “bite, drink, eat” *ps*: Conj. L. (BA, KLH)

UOygangand *atha-* “bite, eat” (BA, PH)

UOlgol *adha-* “bite, eat” (PH)

Rimangg	<i>tha-</i> “bite” Compare also <i>ca-</i> “to eat”. (KLH, IG)
HR	<i>the-</i> “bite; eat, consume” (KLH, LJ)
Djabugay	<i>baya-</i> “bite” vtr, L conj.: <i>bayañ</i> Past, <i>bayal</i> Present. (KLH, EP)
Yidiny	<i>paca-</i> “bite” (KLH)
Mbabaram	<i>dha-</i> “bite” <i>ps</i> : R conj. (RMWD)
Dyirbal	<i>paca-</i> “bite” (KLH)
Girramay	<i>paca-</i> “bite” (KLH)
pPaman	*paca- (KLH)
GBadhun	<i>badha-</i> “bite” (PS)
Bidjara	<i>badha</i> “bite” (GB)
Margany	<i>badha</i> “bite” (GB)
Gunya	<i>badha</i> “bite” (GB)
pPM	*paca-
Ngawun	<i>patha</i> “bite; eat, drink” (GB)
M-Kulan	<i>patha</i> “bite; eat, drink” (GB)
M-Yapi	<i>patha</i> “eat, drink” (GB)
M-Thakurti	<i>patha</i> “eat, drink” (GB)
Wang	<i>paca-</i> “bite” Syn. <i>draca-</i> . (GB)
Pitta-Pitta	<i>paca</i> “bite” Note that <i>c</i> contrasts with <i>th</i> in this position. (BB)
Atnya	<i>vaya-</i> “bite” Cognate? (Mc&Mc)
Wirangu	<i>badha-</i> “bite, sting, smoke” Alt. <i>baja-</i> , <i>baju-</i> . (LH)
Pitj-Yank	<i>paca-</i> “bite; chew on; (insect) sting; (cat, dingo, etc.) catch; pain, give pain” <i>ps</i> : vtr, L. (CG)
Wakaya	<i>pej</i> “to swallow” (GB)
Warlpiri	<i>paca-</i> “taste it” <i>ps</i> : vtr, 2: Pres <i>-ni</i> , etc. ¹⁷⁵ (KLH)
Nyangumarta	<i>paci-</i> “bite” (GNOG)
Noala	<i>paca-</i> “drink” (GNOG)
Ngarluma	<i>paca-</i> “eat” <i>ps</i> : Pres <i>pacalku</i> , P <i>pacarna</i> , Fut <i>pacaru</i> , Imp <i>pacanma</i> . Compare <i>patha-</i> “hit” under *paca- (“hit”). (KLH)
Kariyarra	<i>paca-</i> “eat” (GNOG)
Nyamal	<i>paca-</i> “eat” (GNOG)
Ngarla	<i>paca-</i> ~ <i>paci-</i> “eat” (GNOG)
Yinytji	<i>pa:-</i> “bite; sting” <i>ps</i> : L conj. Cognate? Note also <i>paya</i> (noun) “fight, war; viciousness; fierce, savage, vicious; anger, rage; angry, wild; force; forceful, bossy”. (GNOG, FW)
Kurrama	<i>pa:-</i> “bite” (GNOG)
Martuth	<i>paya-</i> “drink” <i>ps</i> : L conj. Cognate? (GNOG, AD)

¹⁷⁵ Possibly a separate etymon; see *pa:ca-.

pNgayarda	paca- <i>ps</i> : L conj. (GNOG #634)
Payungu	<i>paja-nmayi</i> “to eat; to drink; to bite” (PA)
Dhalandji	<i>paja-lgin</i> “to eat; to drink” (PA)
Burduna	<i>paya-</i> “drink” (PA)
pKanyara	*paja- (PA #2)
Jiwarli	<i>paja-ru</i> “to bite; to drink” (PA)
Djururu	<i>paja-</i> “drink” (PA)
Warriyangka	<i>paja-ru</i> “to bite; to drink” (PA)
Dhiin	<i>paja-</i> “drink” (PA)
Tharrgari (l & d)	<i>paja-ru</i> “to eat; to bite” <i>ps</i> : Future <i>pajala</i> . (PA)
pMantharta	*paja- (PA #2)
Yingkarta, Nth	<i>paja-lañi</i> “eat” (PA)
Yingkarta, Sth	<i>paja-lañi</i> “drink” (PA)
Nhanda	<i>paja-</i> “bite” <i>ps</i> : Vtr, Y (JB)
pPNy	*pac^ya- or *paca- ¹⁷⁶
^^^	
Kalkatungu	<i>ica</i> “bite, chew” ¹⁷⁷ (BB)
^^^	
Kayardild	<i>pa:-ca</i> “bite” (NE)
Yukulta	<i>pa:-ca</i> “bite” (NE)
Lardil	<i>pe-tha</i> “bite” (NE)
pT	*pa:-ca (NE)
^^^	
Mayali	<i>baye</i> “bite” (NE)

Djapu	<i>batha-</i> “cook” <i>ps</i> : vtr, N1 conj: Unmarked <i>bathan</i> , Potential <i>bathurr</i> , Perfect <i>bathar</i> , P nonIndicative <i>bathana</i> . (FMo)
Ritharrngu	<i>batha-</i> “burn; cook on a fire; sting” <i>ps</i> : vtr Conj 3: Pres <i>bathan</i> , P <i>bathana</i> , Fut <i>bathuru</i> , Nominalization <i>bathana-</i> . The finder list (p237) glosses this form as “bite”. (JHeath)
Gupa	<i>batha-n</i> “cook, boil, burn” Also <i>rathan</i> “bite”. (BL-MC)

Key: ***paca-** “hit” vtr

See also ***pac^ya-** (“bite”).

KKW *pæthay* “chop, hew, cut, cut down, chop down; embark,

¹⁷⁶ L conj. See ***kuc^(y)arra** for disparate reflection of the laminal in the Kanyara and Mantharda languages.

¹⁷⁷ Likely belongs with ***pica-** (“lick”).

- mount, board, get in/on; squash (gen. with foot)” *ps*: *patha-*, *pathe-*, *pathamay*. (RJK)
- Yugambeh *badhi-* ~ *bayi-* “strike, hit” (MS)
- W. Bundj *badhi-* “to hit, to punch” Using any kind of hand-held or thrown object, or hand; “can also refer to noise made by hitting; it is the most general verb of hitting”. (MS)
- Coastal Bundjalung *baji-* “to hit” (MS)
- Yuwaalaraay *badha-* “hit, give someone a hiding” *ps*: Y conj: Fut *badhay*, nonFut *badhani*, Imp *badhaya* (L conj would be *-li*, *-y*, *-la*). Contrast *bumal* “hit, kill”, *yi:-l* “bite”, *ba:ya-l* “bite off, crack between teeth”, *dha-l* “eat”. (CW)
- Wakaya *peth* “dig; scratch” Cognate? Also *wethi* “to eat; to bite” (GB)
- Warlpiri *paci-* “cut it, tear it; break it—of horse” *ps*: tV2 (*pacirni* etc.).¹⁷⁸ (KLH)
- Walmatjarri *paca-* “bite; chop” *ps*: R conj: Fut *pacarrku*, P *pacani*, Imp *pacarra*, Imp Cont *pacarranta*.¹⁷⁹ (JHd)
- Martuth *patha-* “blow; hit (with thrown implement); spin (hair)” *ps*: R conj: Pres *patharnuru*, Passive Perf *patharnu*, Fut *patharniñci*, Imp *patharryu*, Habitual *patharrwayara*, Unrealized *patharra.ngu*. (AD, esp. pp. 139-40)
- Ngarluma *patha-* “hit, strike with missile; spin (string); drill (with firedrill); strike (of lightning); blow (of wind)” *ps*: Pres *patharrku*.¹⁸⁰ (KLH)
- Panyjima *patha-* “blow; hit with thrown boomerang; spin hair” *ps*: L conj.: *pathalku* Present, *patharna* Past, *pathanma* Imperative. AD, GNOG
- Yinytji *payha-* “throw (Obj at Loc); blow (of wind); spin; drill (with firestick)” *ps*: L conj: Pres *payhaku*, P *payharna*, Imperf *payharnu*, Imp *payhanma*.¹⁸¹ (FW, GNOG)
- pNgayarda** **patha-* R conj. (GNOG #171)
- Payungu *patha-nma* “to pelt, to shoot, to hit with a missile” *ps*: vt; also as a vi “to fiyt”. (PA)
- Thalanyji *patha-rrgin* “to hit; to fiyt” *ps*: vt; also as a vi *patharri-n* “to

¹⁷⁸ Belongs with this set?

¹⁷⁹ Probably continues the sense of **pac*^y*a-* (“bite”) as well as “hit”.

¹⁸⁰ Cf. *paca-* “eat” under **paca-* (“bite”).

¹⁸¹ Note that FW’s “R” conj differs from the “L” only for the retroflex nasal (“rn”) corresponding to certain L-conjugation /n/, as in the Imp *-rnmā*; the “L” conj. has no constant /l/; these designations (pp79-80) are made ONLY on the basis of putative pPNy behavior.

	fiyt". (PA)
Iwarli	<i>patha-rru</i> "to hit, to strike, to hit with a missile, to pelt; to twirl (a firedrill); to blow" <i>ps</i> : vt. (PA)
Warriyangka	<i>patha-ru</i> "to hit, to hit with a missile, to strike; to twirl" <i>ps</i> : vt. (PA)
Yingkarta, Nth	<i>patharri-ñi</i> "hit" (PA)
Yingkarta, Sth	<i>patharri-ñi</i> "hit" (PA)
pPNy (?)	* paca- RR conj. (BA)
^^^	
Mayali	<i>bace</i> "strike, punch" <i>ps</i> : vtr. NE writes <i>bajje</i> ; P (Rcp?)
	<i>bajjerrinj.</i> (NE/MH)
Burarra	<i>baca</i> "fight one another" <i>ps</i> : - <i>na</i> , - <i>ø</i> , - <i>n</i> ; nonsingular subject only. (MH)
Ngandi	<i>baca</i> "hit" (JH/MH)
Ngalakan	<i>baci</i> "hit each other" Infr. suppletive form of <i>bu-yji</i> following compound element. (FMe; paradigm p.117)
pGunw	* patca- ~ patci- <i>ps</i> : Past Perfective * <i>patci</i> , Past Imperfective * <i>patcangiñ</i> , Nonpast * <i>patcang.</i> (MH in AEH)

Nyungar	<i>pacarr</i> "a fight" <i>ps</i> : n. (WD)

Pitta-Pitta	<i>pithi</i> "hit, kill" (BB)

Key: ***pacirri** "saltpan" n E

WNgathan	<i>peth</i> "salt plain, saltpan" (PS)
KThaayorre	<i>pathirr</i> ; <i>ra:k-</i> "saltpan" (AH)
YY	<i>petherr</i> "saltpan"
YMel	<i>petherr</i> ; <i>takrr-</i> "saltpan"
L	* pacirrV
^^^	
Ngarluma	<i>picirri</i> "level, flat—as of ground" (KLH)
pPNy	* pacirri ¹⁸²

Key: ***paka-** "dig"vtr

YY	<i>pe-</i> "bury" RR conjugation; cognation questionable.
GYimithirr	<i>baga-</i> "dig, dig up, sting, stab, poke, peck, jab" <i>ps</i> : L conj. (KLH, JHav)

¹⁸² Needs more attestation.

Muluridji	<i>paka-</i> “dig” (KLH)
KYalbaka-	“dig; stab, prick” L conj. (Hr&Hr)
Djabugay	<i>baga-</i> “spear, hit kick” <i>ps:</i> L conj.; “wash”, also transitive, is Y conj. (KLH, EP)
Yidiny	<i>baga-</i> “spear, pierce with pointed implement, shoot; wash” T,C dialects. (KLH, RMWD U3)
Dyirbal	<i>paka-</i> “dig; bite (of insect)” (KLH)
pPaman	*paka- (KLH)
GBadhun	<i>baga-</i> “dig” (PS)
Bidyara	<i>baga</i> “dig, scratch” (GB)
Margany	<i>baga-</i> “dig” (GB)
Gunya	<i>baga-</i> “dig” (GB)
pPM	*paka-
Diyari	<i>paku-</i> “dig” <i>ps:</i> vtr 2A (PA)
Yandruwantha	<i>paku-</i> “dig” (PA CLE)
Y’warrka	<i>paku-</i> “dig” (PA CLE)
Pitta-Pitta	<i>paka-</i> “whittle, chisel, dig” (BB)
Ara.-Wang.	<i>paka-</i> “to dig” (LH)
pKarnic	*paku- (PA CLE)
Madhimadhi	<i>bagadha</i> “to dig” Distinguished from <i>bangadha</i> “to scratch (so as to relieve an itch); to dig the ground very lightly, to scrape soil”. (LH)
Wirangu	<i>baga-</i> “strike with a sharp implement, mark, spear” (LH)
Warlpiri	<i>paka-</i> “strike (someone, with stick, hand, or other instrument), bump (someone, with car or body)” (KLH)
Warlmanpa	<i>paka-</i> “strike; ERG hit, chop, kill ABS (with INSTR)” <i>ps:</i> Conj. 2: Imp <i>paka(ka)</i> , P <i>pakarnu</i> , Fut <i>pakan(mi)</i> . (DGN)
Ngarluma	<i>paka-ku</i> “break; get broken; tear; get torn” Note: NOT L conj. (KLH)
Panyjima	<i>paka-ku</i> “be broken” Intransitive. Also <i>pakapi-lku</i> (transitive) “break into pieces” (AD)
Nyungar	<i>pakinj</i> “poke; touch” (WD)
pPNy	*paka-
^^^	
Gupa	<i>bak+thun</i> “break; get hurt” Also <i>bak+marama</i> “break”; not clear which is transitive. (BL-MC)
^^^	
Mayali	<i>bakge</i> “break” <i>ps:</i> vtr. (NE)

Key: ***pala** “there” nDir

WNgathan *pal* “hither, this way” (PS)

KUwanh *pala* “hither” (S&J)

YY *pal* “hither”

YMel *pal* “hither”

Margany *bala* “that one” (GB)

Gunya *bala* “that one” (GB)

Dyirbal *bala* “visible and there” Nom. base for demonstratives of all three genders except masculine. (RMWD)

Atnya *valanga* “over there somewhere (out of sight)” (Mc&Mc)

Wirangu *bala* “there, not too far away” (LH)

P-L *pala* “that (mid-distant)” *ps*: Demonstrative. Also “look out (for that one)!” (Hn&Hn)

Pitj-Yank *pala* “that, just there; look out!” *ps*: Demonstrative. Also *palaca* Demonstrative Adverb “that there, that one just there”, Exclamation “look out!”. (CG)

WD (Warburton) *palaña* “that (mid-distant) one” *ps*: Nom. and ACC case-form. Also adverbial *palaca* “there in the mid-distance”, *palaca* “look out!”. (WD)

Warlpiri *-pala* “they (Du)” Third-person dual subject clitic.¹⁸³ (KLH)

Nyangumarta *pala* “that (near); there” (GNOG)

Martuth *pala* (Presentative particle) (AD p185)

Nhanda *ala* “that (Proximate)” (JB)

Nyungar *pal* “3rd Sg Subj; “that (mid-distant person/thing)” (WD)

Djapu *bala* “then; movement away” (FMo)

Gupa *bala* “movement away from speaker” Also *balaña* “like this”, *balañamirriy* “by then, by this time”. (BL-MC)

Dhangu *bala* “movement away from speaker; and then” (BSch)

Ritharrngu *bala* “that way” Short form of *ngum-bala*. Also *bala-* (prefix) “side”, as in *bala-wiripu* “other side”. (JHeath)

pPNy ***pala**

^^^

KKY *bal* “cross, crossways, across” (RJK)

Kariyarra *palali* “formerly” (GNOG)

Yinytji *palamu* “long ago; previously, formerly; already, yet” GNOG:

¹⁸³ Possibly belongs with *pula.

	alternant <i>patamu</i> . (FW, GNOG)
Martuth	<i>palaʔi</i> “before; early in time” (AD)
pNgayarda ^^^	*pala (GNOG #399)
KKY ***	<i>bal</i> “tomorrow” (RJK)
Pitj-Yank	<i>paluru</i> “he, she, it” Also “the”; with a NonSg 3rd-person pronoun, “same as previously mentioned”. (CG)
Ngarluma	<i>palu</i> “he, she” <i>ps</i> : Obj. <i>parnumpangu</i> . (KLH)

Key: ***panga-** “dig” vtr

Uradhi (KLH, TC)	<i>anga-</i> ~ <i>angv-</i> “dig” Atampaya, Angkamuthi, Yadhaykenu.
Mpakwithi	<i>nga</i> “dig” (TC)
Luthigh	<i>nga-</i> “dig” (KLH)
Awngthim	<i>nga-</i> “dig” (KLH)
Ntra’ngith	<i>anga-</i> (?) “dig” (KLH)
Rimangg	<i>nga</i> “dig” (IG)
HR	<i>ang-</i> “dig” ¹⁸⁴ (KLH)
pPaman	*panga- (KLH)
Madhimadhi	<i>bangadha</i> “to scratch (so as to relieve an itch); to dig the ground very lightly, to scrape soil” ¹⁸⁵ Distinguished from <i>bagadha</i> “to dig”. (LH)
Warlpiri	<i>pangi-</i> “scratch it deeply, dig it—ground” <i>ps</i> : Conj: Past <i>pangurnu</i> . ¹⁸⁵ Also used as a noun, “wooden scoop used in digging out a soak”. (KLH, DGN)
Warlmanpa	<i>pangi-</i> “ERG scratch, dig ABS” <i>ps</i> : Conj. 2: Imp <i>pangi(ka)</i> , P <i>pangirnu</i> ; Fut <i>pangin(mi)</i> . (DGN)

Key: ***pa:nga-** “dig” vtr

HR	<i>ang-</i> “dig” ¹⁸⁴ (KLH)
pPaman	*pa:nga- ¹⁸⁶ (KLH)
Kaytetye	<i>ange-</i> “scrape, dig” ¹⁸⁷ (KLH, HK)
ECArrernte	<i>angerne-</i> “dig into (e.g. the ground); dig/scrape/scratch

¹⁸⁴ KLH lists this in “Other Paman” under a separate etymon, **pa:nga-*. “Rare usage.”

¹⁸⁵ Possibly continues the long-vowel variant; see below.

¹⁸⁶ Why long V1? Why not listed with **panga-*?

¹⁸⁷ Listed here with the long-vowel etymon because of the lenis nasal.

something out” Also pArandic *angeñce (“soakage”).¹⁸⁷ (H&D, HK)

pPNy ***pa:nga-**

Wembawemba *bangga* “to dig” (LH)

Key: ***pa:ca-** “taste it” vtr

See also *pac^(y)a- “bite”.

Yinwum *atha-* “to eat, taste” (KLH)

WMungknh *pa:th-* “to taste” (KLH)

WMe’nh *pa:th-* “to taste” (KLH)

pPaman ***pa:ca-** (KLH)

Warlpiri *paja-* “to taste it” *ps:* vtr, Conj. 2: *pajarnu* Past, *paja(r)ni*

Nonpast, *pajaka* Imp. (KLH)

Wembawemba *badhema* “to try, or taste food” (LH)

Madhimadhi *badhaima* “to feel, to touch” Distinguished from *banhmadha* “to try, to taste, to feel”. (LH)

pPNy ***pa:ca-**

Key: ***pilu** “hip”ⁿ B

Uradhi (AT,AN,Y) *wilu* “hip”

Wuthathi *7ilu* “hip” LMW-BA

WMungknh *pil* “thigh”

WNgathan *pil* “hip” (PS)

WMuminh *pilu* “rump, buttocks” (SIL)

KUwanh *pilu* “side of hip” (S&J)

Pakanh *pilu* “hip”

Umpila *pilu* “hip, thigh”

KThaayorre *pil, pilu* “hip”

YY *pel, pele* “hip”

YMel *pel* “hip”

GYim *bilu* “hip, hip bone, side of pelvis” (JHav)

Djabugay *bilu* “hip bone” (EP)

Yidiny *bilu* “hip” (RMWD A4)

Flinders I. *wilu* “hip”

pPaman ***pilu** (BA)

Warrgamay *bilu* “hip(bone)” (RMWD)

Nyawaygi *bilu* “hip”

Nyangumarta *pilu* “viscera” (GNOG)

Ngarluma	<i>pirlu</i> “vaginal opening; labia of vagina” (KLH)
Martuth	<i>pirlu</i> “buttocks (upper)” \s`AD
pPNy	*pirlu

Wakaya	<i>pilu</i> “trots” Also <i>wil(u)</i> “penis”. (GB)

Nhanda	<i>pirlu</i> “boomerang”, ¹⁸⁸ (JB)

GBadhun	<i>bilmbu</i> “hip”
Dyirbal	<i>bilmbu</i> “hip”; “widow” (RMWD)

Wirangu	<i>bilda</i> “hip” (LH)
^^^	
Nyamal	<i>pila</i> “vagina” (GNOG)
Panyjima	<i>pila</i> “vagina” AD gives <i>pilapila</i> “buttocks” only”. (GNOG)
pNgayarda	*pila (GNOG #412)
^^^	
Yinytji	<i>pica</i> “clitoris” [GNOG]; “penis” [FW] (GNOG, FW)

Key: ***pil^ya-** “lick” vtr

See also ***pica-**.

YY	<i>piy</i> “lick” vtr, L conj.
UOykangand	<i>ilha-</i> “lick” Past in <i>-rr</i> (etymological L conj.).
Djabugay	<i>biya-</i> “lick honey” Y conj., intransitive (questioned). (EP)
Ngarluma	<i>pi^la-lku</i> “bite, chew” (KLH)
pPNy	*pil^ya- ¹⁸⁹ (BA)
^^^	
Marrgany	<i>bu^la-</i> “suck” (GB)
Gunya	<i>bu^la-</i> “suck” (GB)
^^^	

Key: ***pica-** “lick” vtr

See also ***pil^ya-**.

¹⁸⁸ A loanword. Semantics questionable.

¹⁸⁹ How YY continues an original *λ is not clear; this is the only correspondence noted so far. Although YY does have a contrastive laminal lateral, the attested cognates have a corresponding laminal stop. If YY *piy* continues ***pica-** (see below) instead of ***pi^la-**, then *y* < *c would be regular.

YY	<i>piy</i> “lick” vtr, L conj. ¹⁹⁰
KYal	<i>bija-</i> “lick” L conj. (Hr&Hr)
pPaman	*pi(:)ca ¹⁹¹
GBadhun	<i>bidha-</i> “drink” (PS)
Kalkatungu	<i>ica</i> “bite, chew” ¹⁹² (BB)
Warlmanpa	<i>piya-</i> “cut; break; bite” <i>ps</i> : Conj 2. ¹⁹³ (DGN)
^^^	
Umpila	<i>piyinta-</i> “lick it” (GNOG)
Djabugay	<i>biya-</i> “lick honey” EP has (tentatively) as vIntr. KLH glosses “dip, immerse”. (EP, KLH)

Mayali	<i>beleng7me</i> “lick” (NE)

Key: ***pina** “ear” n B

WNgathrr	<i>pin</i> “ear” (KLH)
WNgathan	<i>pin</i> “ear, leaf” (PS)
KThaayorre	<i>pinarr</i> “awake, alert, wakeful” “Ear” is <i>ka:l</i> . ¹⁹⁴ (AH)
YY	<i>pin, pinal</i> “ear; leaf; place; vulva”
YMel	<i>pin</i> “ear”
KB	<i>pin (-thakél)</i> “ear” Also <i>pinégk nha-</i> “hear (perceive with ears)” (KLH). (BA, KLH)
UOygangand	<i>idn, idnamanhdh</i> “vagina” (PH, BA)
UOlgol	<i>idna</i> “vagina” (PH)
GYim	<i>bina:l</i> “knowing; know” (KLH, JHav)
HR	<i>niv</i> “ear” (KLH, LJ)
ON	<i>idna-(ng3l)</i> “ear” (BA, KLH)
GYim	<i>bina:l</i> “smart, clever; know” (JHav)
Djabugay	<i>bina</i> “ear; gills” (KLH, EP)
Yidiny	<i>bina</i> “ear; gill on fish” (KLH, RMWD A1)
pPaman	*pina (KLH)
Warrgamay	<i>bina</i> “ear” (RMWD)
Nyawaygi	<i>bina</i> “ear” (RMWD)
Gumb	<i>binañ</i> “vagina” ¹⁹⁵ (DE)

¹⁹⁰ See remarks on *piḷa- above.

¹⁹¹ Needs further corroboration; long V is suggested by Warlmanpa form.

¹⁹² Possibly belongs with *pac(?)a- (“bite”).

¹⁹³ If cognate, lenition suggests an original long vowel; cf. *ngaya-* “give birth” < **nga:ci-*.

¹⁹⁴ See *pinarri.

pNNSW	*binang (TC)
Gamlaraay	<i>bina</i> “ear” (PA)
Yuwaaliyaay	<i>bina</i> “ear” CW gives <i>wudha</i> “ear” (not <i>bina</i>) in this dialect.
(PA)	
Yuwaalaraay	<i>bina</i> “ear” CW
Muruwari	<i>pina</i> “ear” (LFO)
Bandjalang	<i>binang</i> “ear” Also (W. Bundj) <i>bina</i> - “know”. (MS, PA)
Yugambeh	<i>binang</i> “ear” (MS)
pCNSW	*bina (PA #145)
Pintupi	<i>pina</i> “ear; centre of understanding” (Hn&Hn)
WD (Warburton)	<i>pina</i> “ear” (WD)
Pitjantjatjarra-Yankunytjatjarra	<i>pina</i> “ear; the mind, intellect, reason; hearing”
(CG)	
Wakaya	<i>pinál</i> “ear” Also <i>pinilt</i> ; Western <i>bineld</i> . (GB)
Warlpiri	<i>pina</i> “wise, knowing, experienced” (KLH)
Warlmanpa	<i>pina</i> “knowledgeable” (DGN)
Mudburra	<i>bina</i> “know, knowing” (RG)
Walmatjarri	<i>pina</i> “ear” (JHd)
pPNy	*pina
^^^	
Baagandji	<i>bina</i> “hole in a tree, possum-hole” (LH)

Buwandik	<i>biniwa</i> “deaf” (BB)

Key: ***pira** “moon (full)” n E

See also *kakara.

YY	<i>pir</i> ; <i>pira</i> ; <i>mel</i> - “eyeballs”
YMel	<i>pir</i> ; <i>mel</i> - “eyeballs”
Diyari	<i>pira</i> “moon, moonlight, month” (PA)
Ngamini	<i>pira</i> “moon” (PA)
Yarluyandi	<i>pira</i> “moon” (PA)
pWK	*pira (PA CLE)
Ara.-Wang.	<i>piRa-piRa</i> “round” “R” = glide. (LH)
Adnyamathanha	<i>βiRa</i> “moon, month” Schebeck
Parnkalla	<i>pira</i> “moon” (KLH)
Wirangu	<i>bira</i> “moon, month” (LH)

¹⁹⁵ Short V1 is possibly regular in *CVCVC (cf. *kana & *yarra with *carra, *kuna, & *lirra reflexes).

Nhirrpi	<i>piRa</i> “moon” (CB 1999)
Yankuntjatjara	<i>pira</i> “moon; month” Note also: <i>pira-pira</i> “a kind of sickle-shaped earth-grub [?]”; <i>piran(pa)</i> “pale, light (in colour); white; white person”. Pitjantjatjara has <i>kirnara</i> “moon”. (CG)
Pintupi	<i>pira</i> “moon” (Hn&Hn)
Warlpiri	<i>pira</i> “full moon”
pPNy	*pira

Key: *pi:mur “father’s sister” n K

Uradhi	<i>imurr-</i> “father’s sister” Note Atampaya, Yaḏaykenu, & Angkamuthi <i>imuñu</i> “spouse’s brother” (TC). (KLH, TC)
Mpalitjanh	<i>imu-</i> “father’s sister” (KLH)
Luthigh	<i>imu-</i> “father’s sister” (KLH)
Yinwum	<i>imu-</i> “father’s sister” (KLH)
Linnghithigh	<i>imo-</i> “father’s sister” (KLH)
Alngith	<i>myu-</i> “father’s sister” (KLH)
Awngthim	<i>vmyu-</i> “father’s sister” (KLH)
Ntra’ngith	<i>imo-</i> “father’s sister” (KLH)
Ngkoth	<i>imyut</i> “father’s sister” (KLH)
Kaanytju	<i>pi:ma</i> “father’s sister” (KLH)
Umpila	<i>pi:ma</i> “father’s sister” (KLH)
GYim	<i>bi:mu:r</i> “father’s younger sister” KLH: short /u/; “father’s sister”. (KLH, JHav)
Muluridji	<i>pimay</i> “father’s sister” MS has “My”. (KLH)
CC	<i>pimakay</i> “father’s sister” (KLH)
KYal	<i>bimakay</i> “father’s sister” Shortened form <i>bimay</i> . Hr &
Hr	
KB	<i>pvmérvyrr; pa-</i> “father’s sister” (BA, KLH)
pPaman	*pi:mu(r) NPaman list. (KLH)
pPaman	*pi:mur ~ pi:ma Middle Paman list. (KLH)
pPaman	*pi:mur “Other Paman” list. ¹⁹⁶ (KLH)
GBadhun	<i>bimu(na)</i> “father’s sister” (PS)
Warrgamay	<i>bimu</i> “father’s elder brother” Also <i>bimulan</i> “father” sister”
(RMWD)	
Nyawaygi	<i>bi:mu</i> “auntie” (RMWD)
Warlpiri	<i>pimirdi</i> “father’s sister” (KLH)
Warlmanpa	<i>pimirdi</i> “auntie, father’s sister” (DGN)

¹⁹⁶ no *a form despite Mu and CC

Walmajarri	<i>pimiri</i> “father’s sister” Also <i>ngarpu</i> . (JHd)
pPNy	*pi:mu

Key: ***pi:rra** “pearlshell” n S, M

Umpila	<i>pi:rra</i> “pearlshell” (GNOG)
Nyangumarta	<i>pirrapirra</i> “pearlshell” (GNOG)
Ngarluma	<i>pirra</i> “large deep shell used as a cup; conch shell” (KLH)
pPNy	*pi:rra (GNOG LCY: 63)

Key: ***puka** “rotten” n

YY	<i>puq, puqa</i> “bait”
YMel	<i>puk</i> “bait”
GYim	<i>buga</i> “buttocks, backside” Impolite. Cognate? (JHav)
KYal	<i>bukarr</i> “rotten tooth” As in <i>Ngayu bukarriji</i> “I have a toothache”. (Hr&Hr)
Dyirbal	<i>puka</i> “rotten, dead, stinking” (RMWD)
pPaman	*puka (KLH)
Warrgamay	<i>buga</i> “rotten; stinking; dead” (RMWD)
Nyawaygi	<i>buga</i> rotten; stinking; dead” (RMWD)
Wiradjuri	<i>buga</i> “rotten; meat when tainted” M&H have <i>bu:ga</i> . (PA, M&H)
Muruwari	<i>puka</i> “rotten, decayed” (LFO)
Wbuwan	<i>buga</i> “stinking, rotten; dead” (TD, PA)
Wayilwan	<i>buga</i> “rotten” (PA)
pCNSW	*buga (PA #329)
Yugambeh	<i>bugaw</i> “stink” (MS)
W. Bundj	<i>bugaw</i> “rotten, putrid; stinking, vile-smelling” (MS)
Gumbainggar	<i>buga:</i> “rotten” (DE)
Baakandji	<i>buga</i> “dead, rotten, smelly” (LH)
Arabana	<i>buka</i> “carrion” (CB/R)
Wngurru	<i>buka</i> “carrion” (CB/R)
Wirangu	<i>buga</i> “pus; stinking, rotten” Also <i>bugara</i> ~ <i>bunggara</i> ~ <i>bunggala</i> “stinking, rotten, dead”. (LH)
Warlpiri	<i>puka</i> “stinking, rotten, fetid” Syn. <i>pukulyu</i> . (KLH)
Warlmanpa	<i>puka</i> “rotten, stinking, fetid” (DGN)
Mudburra	<i>buka</i> “rotten” (RG)
Guurinydji	<i>puka</i> “rotten” (PMcC)
Walmajarri	<i>pukarr</i> “cooked (meat, ripe (fruit)) Contrast <i>kurnka</i> . (JHd)

Nyangumarta	<i>puka</i> “putrid; putrescence” (GNOG)
Ngarluma	<i>puka</i> “rotten—as of meat” (KLH, GNOG)
Kariyarra	<i>puka</i> “rotten” (GNOG)
Martuth	<i>puwa</i> “rotten” (AD)
Palyku	<i>puka</i> “rotten” (GNOG)
Panyjima	<i>puka</i> “rotten” (GNOG, AD)
Yinytji	<i>puwa</i> “rotten” (GNOG, FW)
Kurrama	<i>puwa</i> “rotten” (GNOG)
Nyamal	<i>puka</i> “bad” Cf. Kariyarra <i>puka.ra</i> “fire”. (GNOG)
pNgayarda	*puka (GNOG #639)
Dhalandji	<i>puka</i> “bad, rotten” (PA)
Burduna	<i>puwa</i> “bad, rotten” (PA)
pKanyara	*puka
Djiwarli	<i>puka</i> “bad, rotten” (PA)
Djururu	<i>puka</i> “bad, rotten” (PA)
Wariyangga	<i>puka</i> “bad, rotten” (PA)
Dhar (l)	<i>puga</i> “bad, rotten” (PA)
Dhar (d)	<i>puga</i> “bad, rotten” (PA)
pMantharta	*puka
Yingkarta, Nth	<i>puka</i> “bad; rotten” (PA)
Yingkarta, Sth	<i>puka</i> “bad; rotten” (PA)
Nhanda	<i>puga</i> “rotten, stinking” A loanword. (JB)
pPNy ^^^	*puka (GNOG #639)
Kayardild	<i>puka</i> “rotten, stinking; dead” (NE)
Yangkaal	<i>puka</i> “rotten, stinking; dead” (NE)
Yukulta	<i>puka-ra</i> “bad, rotten” (NE)
Lardil	<i>puka</i> “rotten, fetid, putrid; dead” (NE)
pT puka-ra	(NE)

Key: ***pula** “they DU” pronoun

Uradhi	<i>ula(-βa)</i> “they DU” (KLH)
Mpalitjanh	<i>lwa-</i> “they DU” (KLH)
Luthigh	<i>lwa-</i> “they DU” (KLH)
Yinwum	<i>lwi-</i> “they DU” ¹⁹⁷ (KLH)
Linngithigh	<i>lawuy</i> “they DU” (KLH)
Alngith	<i>law</i> “they DU” (KLH)

¹⁹⁷ Hale: “/i/ is unexpected here.”

Awngthim	<i>lwe</i> “they DU” (KLH)
Ntra’ngith	<i>la-</i> “they DU” (KLH)
Ngkoth	<i>lwa-</i> “they DU” (KLH)
Aritinng	<i>lwa-</i> “they DU” (KLH)
Mbiywom	<i>lwa-</i> “they DU” (KLH)
WMungknh	<i>pul</i> “they DU” (KLH)
WMe’nh	<i>pul</i> “they DU” (KLH)
WNgathrr	<i>pul</i> “they DU” (KLH)
WNgathan	<i>pul</i> “they DU” (PS)
WMuminh	<i>pula</i> “they DU” (KLH)
Kaanytju	<i>pula</i> “they nonSg” (KLH)
Umpila	<i>pula</i> “they nonSg” (KLH)
KThaayorre	<i>pul</i> “they DU” (KLH)
YY	<i>pula</i> “they DU” ¹⁹⁸
YMel	<i>pula</i> “they DU” ¹⁹⁸
KB	<i>pulvw</i> “they DU” (BA, KLH)
PS (Rimangg)	<i>lww</i> “they DU” IG has <i>ala</i> . (KLH, IG)
GYim	<i>bula</i> “they DU; both” (KLH, JHav)
Muluridji	<i>pula</i> “they DU” (KLH)
KYalbula	“they Du” (Hr&Hr)
Mbabaram	<i>le</i> “they (Du)” (RMWD)
Dyirbal	<i>bulay</i> “two” (KLH)
Dyirbal	<i>bulajin</i> “they DU” (KLH)
pPaman	*pula (KLH)
Warrungu	<i>bula</i> “they DU” (TTs)
GBadhun	<i>bula</i> “they DU” (PS)
Bidjara	<i>bula</i> “they DU” Also <i>bulardu</i> “two” (GB)
Marrgany	<i>bula</i> “they DU” (GB)
Gunya	<i>bula</i> “they DU” Also <i>bulardi</i> “two” (GB)
Ngawun	<i>pala</i> “they (Du)” ¹⁹⁹ (GB)
M-Kulan	<i>pala</i> “they (Du)” Questioned. ¹⁹⁹ (GB)
Warrgamay	<i>bula</i> “3 Du” (RMWD)
Bandjalang	<i>bula</i> “two” ²⁰⁰ (MS, PA)
Yugambeh	<i>bula</i> (:) ~ <i>bule</i> ~ <i>bulay</i> “two” ²⁰⁰ (MS)
Gumbainggir	<i>bularri</i> “two” (PA)

¹⁹⁸ Presence of V2 conditioned by a 3rd syllable.

¹⁹⁹ Cf. *cina, *ngula, *ñurra for V1.

²⁰⁰ Absence of final *ng* is exceptional.

pNNSW	*buLa Also *buLaña (“2 (also 1 Ex) Du ACC”); *buLal (“two”). (TC)
Gamlaraay	<i>bula:rr</i> “two” (PA)
Yuwaaliyaay	<i>bula:rr</i> “two” (PA)
Yuwaalaraay	<i>bula:rr</i> “two” (CW)
Muruwari	<i>pula</i> “they Du” Also <i>purral</i> . (LFO)
pCNSW	bula:rr (PA #151)
Pitta-Pitta	<i>pula-</i> “they (Du)” Demonstrative: <i>pulayi</i> (Near), <i>pulaka</i> (General), <i>pula:rr</i> (Far). (BB)
Wang (G)	<i>bula</i> “they (Du Nom)” (M&W)
Kalkatungu	<i>puyu</i> “they (Du Nom)” (BB)
Gurnu (Baagandji)	<i>bula</i> “two” (LH)
Yorta Yorta	<i>bula</i> “you Du” <i>ps</i> : Intransitive subject; ERG <i>bulak</i> , Poss. <i>bulan</i> . (B&M)
Madhimadhi	<i>buladha</i> “two” (LH)
Woiwurrung	<i>bulabil</i> “two” Also <i>-bulañ</i> “their (Du)” (possessive clitic). (BB)
Werg (Dj)	<i>-bulang</i> “they (Du)” Subj. clitic. Also <i>bulej</i> “two” (LH)
Wembawemba	<i>-bula</i> “they (Du) Subj. clitic. Also <i>buleja</i> “two”; poss. also in <i>galvbul</i> “two”, <i>-bulag</i> “his/her” (3rd Sg Poss. clitic). (LH)
Buwandik	+ <i>pul</i> “Dual” <i>ps</i> : Attaches to <i>ngurra</i> “thou” to form the free pronoun <i>ngurrpul</i> “ye two”. Not involved in any 3rd-person pronominal forms. (BB)
Wirangu	<i>bulali</i> “couple, man and woman” Alt. <i>bulili</i> . (LH)
ECArernte	<i>al-</i> “they (Du)” Disharmonic or non-agnate; Nom <i>ala-</i> , Oblique <i>ale-</i> . (H&D)
Pitj-Yank	<i>pula</i> “they DU” (CG)
Wakaya	<i>puluwulu</i> “they (Pl); them (Pl)” Also <i>puluwi</i> “those two”. (GB)
Nyangumarta	<i>pulañ</i> “they Du” (GNOG)
Bayungu	<i>pula</i> “they DU” (PA)
Dhalandji	<i>pula</i> “they DU” (PA)
Burduna	<i>pula</i> “they DU” (PA)
pKanyara	*pula (PA #134)
Gupa	<i>bulal7</i> “two” (BL-MC)
Dhangu	<i>bulal</i> “two” (BSch)
pPNy	*pula

Key: ***purlka** “big” nAdj

KThaayorre *pork* “big” Hall, BA

YY *pul7a* “older brother” *ps*: Proper noun of address.²⁰¹

YMel *pulka* “older brother” *ps*: Proper noun of address.²⁰¹

pSWCYP ***pulka** (BA)

Dyirbal *pulkan* “big” (KLH)

pPaman **pulkan** On basis of Dyirbal and non-CYP languages. (KLH)

Kalkatungu *urlku(w)rri* “big, long, tall”²⁰² (BB 126, 184)

Wakaya *pulkuman*; old man” (GB)

Warluwarra *purlya* “old man” (BB 1979a: 126)

Wirangu *burlga* “old man” Written sources only. (LH)

Pitj-Yank *purlka* “big, large; a lot of; important; heavy; very, really”

Also *purlka-purlka* “bigger”; *purlkarringaṇi* “get bigger; grow up” (vi);

purlka-rni “make bigger, louder; raise (children)” (vtr); *purlkara* “fairly,

well, properly; strongly, forcefully” (adv). (CG)

P-L *purlka* “big; important; great; heavy” Also *purlka-rnu*

“enlarge, expand (vtr; Imp *purlkala*); *purlkarri-ngu* (q.v.). (Hn&Hn)

WD Warburton *purlka-purlka* large; full (moon)” Also *purlka*- “to enlarge”

(vtr; Imp *purlkala*), *purlkarri*- “to increase, become bigger, become

heavier, swell” (vi; Imp *purlkarriwa*). (WD)

Warlpiri *purlka* “old man” Also *purlkapurlka* “old men, elders”. (KLH)

Warlmanpa *pulka* “old man” (DGN)

Mudburra *bulka* “old man” (RG)

Walmajarri *purlka* “big” (JHd)

pPNy ***purlka**

Key: ***puni-** (general transitive verb) vtr

YY +*pon*, +*pin* (forms transitive verbs) *ps*: L conj. Added to nouns and adjectives, as in *waypon* “lift it up” from *way* “high”.

Kalkatungu +*puni*+ (forms transitive verbs) (BB)

W. Bundj *buni-* “to do thoroughly” “Verb of manner, immediately follows the verb it modifies.” (MS)

^^^

Djapu +*punu*+ (forms transitive verbs) *ps*: NG2 conj. As in

mutjpunu- “build”, *rinydjupunu*- “wash” (from English *rinse*). (FM)

²⁰¹ Retention of *V2 conditioned by a former *V3.

²⁰² This form probably belongs not with **purlka* but with a more local etymon, **culkurrV*; cf. YY *thol7orr* “long, tall”.

^^^

GYim *buni-* “have sexual intercourse with” *ps*: L conj. (JHav)*Key: *purra-* “pull” vtrDjabugay *burra-* “pull” *ps*: vtr, L conj.: *burrañ* Past, *burral* Present.

EP: ‘pull off’. (KLH, EP)

pPaman **purra-* (KLH)Yugambeh *burra-* “pull out; take out; take off; release; undo or skin
(something)” (MS)W. Bundj *burra-* “take out; take off; peel; skin; release; remove” (MS)Nyangumarta *purri-* “pull” (GNOG)Ngarluma *purri-lku* “pull, lower it, take it off, draw water (of windmill),
stick out (tongue), catch breath” (KLH, GNOG)Panyjima *purri-lku* “pull” (GNOG, AD)Yinytji *purri-* “pull; extract: pull, bring, or take out; suck in or out;
select for presentation” (GNOG, FW)**pNgayarda** **purri-* L conj. (GNOG # 642)**pPNy** **purra-/i-*

^^^

KThaayorre *pirr* “pull (out); snatch; strip; cut out” *ps*: P *pirrarr*. (AH)YY *pirr* “pull” *ps*: vtr, L.YMel *pirr*; *pirra-* “pull” *ps*: vtr, L; P *pirrat*.**L** **pirra-**Key: *ra-* “spear” vtrSee also **la:ma-*.Atampaya *ra* “throw; spill” *ps*: vtr, Conj Ia: P *rayal*, Pres *rama*, Fut
ramangka, Imp *raði*. (TC)Yadhaykenu *ya* “throw” *ps*: vtr, Conj Ia: P *yayal*, Pres *yama*, Fut
yamangka, Imp *yaði*. (TC)Wakaya *la* “to hit by throwing” (GB)Warlmanpa *la-* “pelts ABS; hits with INSTR(missile); shoot;
ERG(lightning) strikes ABS” *ps*: Conj. 2: Imp *lala*, P *larnu*; Fut *lanmi*.
(DGN)Djaru *lan-* “spear” *ps*: Conj. 5, tr: *lani* P, *lanani* P Cont, *lanan* Pres,
lana Pres Cont, *langu* Prp, *lanngi* Potential, *landa* Imp, *manu* Verbid.
(TTs)Walmajarri *lanta* “pierce (with sharp point)” *ps*: Past *lana*, Fut *lanku*, Irr

	(Imp) <i>lanta</i> , Customary <i>lanañ</i> . (JHd)
Ritharrngu	<i>rla-</i> “spear, strike with a spear” <i>ps</i> : vtr Irreg: Pres <i>rlanan</i> (w. augment <i>na</i> not in other paradigms), P <i>rlana</i> , Fut <i>rlanngu</i> (w. augment <i>n</i> not in other paradigms), Nominalization <i>rlana-</i> . (JHeath)
Djinang	<i>rani</i> “spear, pierce” <i>ps</i> : Pot <i>randinmic</i> , Yesterday Past Irr <i>ranirri</i> , Yesterday Past <i>randan</i> , Today Past <i>ran.gurr</i> , Today Past Irrealis <i>ranina</i> ; Imp <i>ranini</i> G, <i>raninuy</i> D. Ganalbingu & Dabi: “ <i>randa-nmak</i> G,D (stem <i>ra-</i> , irregular archaic)”. Description not clear where the root is <i>ra</i> and where not. ²⁰³ (BW)
Djinba (Ganalbingu, Dabi)	<i>randi-</i> “spear, pierce” (BW)
pPNy	*ra- ^^^
MM	<i>lak</i> “spear, pierce” (all sources)
Diyari	<i>daka</i> “stab, stick, pierce; grind; plait” (PA)
Kayardild	<i>ra:-tha</i> “spear, inject; sew; write” (NE)
Yukulta	<i>rla:-ca</i> “spear; sew; sting (of bee)” (NE)
Lardil	<i>ra-tha</i> “spear; pierce; poke; sting” (NgKL)
pT	*rla:-ca ²⁰⁴ (NE)

Key: ***raca-** “sting” vtr

See also ***pat(y)a-**

YY *lay, luy* “poke” RR conj.

Wang (G) *draca* “bite” Var. *dracica*. (M&W vocabulary & p35)

Wang *draca-* “bite” Also *paca-* “to bite”. (GB)

Gupa *ratha-n* “bite” *ps*: A group 6 verb. (BL&MC)

Dhangu *ratha-n* “to sting; to bite” (BSch)

pPNy ***raca-** Tentative. (BA)

Key: ***ramparra** “father-in-law” n K

YY laparrm, pam- “uncle of deceased” *ps*: ERG *lapvrramn*.

Deceased was his *thuwa*.

Koko-Bera *trapákat* “husband of deceased” Deceased was his *pa-thuwáyrr*.²⁰⁵ (PB)

²⁰³ The initial glide *r* suggests a protoform in ***r**, not ***l**.

²⁰⁴ NE lists as pSouthernTangkic, despite Lardil form; typo?

²⁰⁵ Cannot, at least in its entirety, be related to ***lamparra**. Cognation with the YY form, at least with the ABS case-form, is possible, but the YY ERG cannot have been built on a trisyllable of this form.

- Warlpiri *lamparra* “father-in-law” Probably a fairly recent loan. Also *lampanu-pardu* “two persons of which one is in my subsection and the other is in that of my mother or that of my father-in-law”, in which *lamparra* is thought not to be a loan. (KLH, ML)
- Guurrinydji *lamparr(a)* “wife’s father; wife’s father’s sister; man’s daughter’s husband” (PMcC)
- Mudburra *lambarra* “father-in-law (wife’s father); daughter’s husband; son’s wife” s (RG)
- Walmajarri *lamparr* “father-in-law” (PMcC)
- Nyangumarta *rampanu* “uncle and nephew” ML (pers. comm.)
- Dhuwal *rlambarra* “sister’s child; wife’s father”²⁰⁶ (JHeath)
- pPNy **ramparra*²⁰⁷ (BA)
- ^^^
- Wagiman *lambarra* “father-in-law” (WOD)
- ***
- WMungknh *a:mp, ka:l-* “poison uncle; man’s father-in-law”²⁰⁸ (KPPW)
- WNgathan *-a:mp* “taboo, poison (of kin, avoidance relation)” In *kaal-aamp* “poison uncle” Cognation doubtful; see comments on WMungknh form. (PS)
- ***
- Wakaya *limpirn+* “in-law” In *limpirnngi* “daughter-in-law; “cousin”, mother-in-law”, *limpirnngu* “son-in-law; daughter-in-law”. (GB)
- ***
- Kayardild *yambi* “wife’s father; husband’s father” Syn. *kardu*. Also *jambathu* “mother’s father, mother’s father’s sister; harmonic-generation of mother’s father’s patriline” (sense by skewing from *yambi*?). (NE)
- Yukulta *yampiya* “father-in-law (to man or woman); son-in-law (to man)” Also *campathu* “mother’s father; mother’s brother’s son” (sense by skewing from *yampiya*?). (SK)
- Lardil *yembe* “pair of people one of whom is is *kaku* (MoBr, DaHu) to the other” <yembi>. Also *jembe* “mother’s father, mother’s father’s sister; cousin, mother’s brother’s child” (sense by skewing from *yembe*?).

²⁰⁶ With *mp*, it cannot be pPNy in age. JHeath: a loan from Creole.

²⁰⁷ Initial *r on the basis of the Nyangumarta form. If the YY form is not cognate, the pPNy status of the etymon is not supported. PMcC believes the form to have diffused north from Walmajarri to Dhuwal via a number of non-Pama-Nyungan languages in which the +a termination was automatic.

²⁰⁸ Cognation doubtful: source of “uncle” sense is *ka:l* and source of long vowel not clear; see also WNgathan form.

(NgKL)
pTangkic ***yampi-ya**. Also ***campa**. (NE)²⁰⁹

Key: *rirra “tooth” n B
 KYaldirra “tooth” (Hr&Hr)
 Djabugay *dirra* “tooth” (KLH, EP)
 Yidiny *dirra* “tooth; hail; seed; name” (KLH, RMWD A2)
 Dyirbal *tirra* “tooth” (KLH)
pPaman ***tirra** KLH (“Other Paman” list) reconstructs **rirra*. (BA, KLH)
 GBadhun *rirra* “tooth” (PS)
 Bidjara *yira* “tooth”²¹⁰ (GB)
 Margany *irta* “tooth”²¹¹ (GB)
 Gunya *ira* “tooth”²¹⁰ Initial *yi* and *i* are equivalent. (GB)
 Kalkatungu *irra*+ “tooth” (?) Only in *irrangkal* “kangaroo teeth (ornament)” “Teeth” is *artinhth*. (BB)
 Warrgamay *yirra* “tooth” (RMWD)
 Nyawaygi *yirra* “teeth; point; seed”²¹² (RMWD)
 W Bundjalung *dirrang* “tooth”²¹³ (MS, PA)
 Yugambelh *dirrang* “tooth” Var. *jirang*, *diyang*, and poss. *jiyang*. (MS)
 Gumb *di:ra* “tooth”²¹⁴ (DE)
 Yaygir *dira* “tooth” (TC)
pNNSW ***di:ra** (TC)
 Yuwaalaraay *yiya* “tooth”²¹⁵ (CW)
 Yuwaalaraay *yiya* “tooth” (CW)
 Muruwari *thirra* “tooth”²¹⁶ (LFO, PA)
 Yorta Yorta *dirran* “tooth” (B&M)
 Woiwurrung *liyang* “tooth”²¹⁷ (BB)

²⁰⁹ cf also Ungarinyin (Capell and Coate) *rambad*, *rambarr* “mother-in-law”, Bardi *rambarr* “uncle-in-law” (wife’s mother’s brothers). The Bardi term is probably a loan (CB pers. comm.)

²¹⁰ Both the *y* and the glide *r* are regular in these contexts.

²¹¹ Initial *yi* and *i* are equivalent; the *y* is regular in this context; it is not clear whether the *rt* is also.

²¹² Loan (glide *r* is expected intervocally), poss. from Warrgamay.

²¹³ PA assigns to **yirang*.

²¹⁴ Glide < tap/trill, and long V1, are apparently regular.

²¹⁵ Intervocalic *y* < **rr* in this context is regular; initial *y* from an apical is apparently regular.

²¹⁶ Initial laminal from apical is regular; see **ta:ku*. However, LFO also records *tirra*. PA assigns to **yirang*, a different etymon

Werg (Dj)	<i>liya</i> “teeth” Transcription in source is <i>lia</i> . (LH)
Wembawemba (LH)	<i>liya</i> “tooth” Source has <i>lia</i> . Note also <i>dirr</i> “stone tomahawk”.
MM	<i>thi:r</i> “tooth” (MMcD)
Adnyamathanha	<i>ira</i> “tooth” “r” = tap. (Mc&Mc)
Parnkalla	<i>yirra</i> “mouth” (KLH)
Wirangu	<i>irra</i> “mouth” /yi/. (LH)
ECArrente	<i>arrakerte</i> “mouth; opening of the mouth, lips; someone who talks in a particular way” (H&D, HK)
Kaytetye	<i>arre</i> “mouth” (HK)
P-L	<i>rirra</i> “gravelly ground” Used of earth which is covered with fine or coarse gravel. (Hn&Hn)
Western Desert (Warburton)	<i>rirra</i> “hill, rise, a stony ridge” (WD)
Warlpiri	<i>lirra</i> “mouth” (KLH)
Warlmanpa	<i>lirra</i> “mouth; teeth” (DGN)
Mudburra	<i>lirra</i> “mouth; lip; tooth” (RG)
Walmajarri	<i>lirra</i> “mouth; tooth; lips” Also <i>katiti</i> “tooth”. (JHd)
Nyangumarta	<i>rirra</i> “tooth” Alt. <i>yirra</i> , also poss. <i>lirra</i> - in <i>lirrapirtan</i> ‘red-tailed black cockatoo’ (GNOG). ²¹⁸ (GNOG)
Noala	<i>yirra</i> “tooth” (GNOG)
Ngarluma	<i>yirra</i> “tooth; sharp blade or point; firestick” (KLH, GNOG)
Kariyarra	<i>yirra</i> “tooth” (GNOG)
Nyamal	<i>yirra</i> “tooth” (GNOG)
Palyku	<i>yirra</i> “tooth” (GNOG)
Panyjima	<i>yirra</i> “tooth” (GNOG, AD)
Yinytji	<i>yirra</i> “tooth” (GNOG, FW)
Kurrama	<i>yirra</i> “tooth” (GNOG)
Martuth	<i>yirra</i> “tooth; edge; ridge of hill; easterly storm front” GNOG “tooth, mouth”. (GNOG, AD)
pNgayarda	*yirra (GNOG #713)
Bayungu	<i>yirra</i> “tooth” (PA)
Dhalandj	<i>yirra</i> “tooth” (PA)
Burduna	<i>yirra</i> “tooth” (PA)
pKanyara	*yirra (PA #88)
Djiwarli	<i>yirra</i> “tooth” (PA)

²¹⁷ The discrepant reflex of *rr (cf. *carra, *carra-) is possibly conditioned by the preceding *i.

²¹⁸ The alternants make problems for the reconstruction of the initial consonant; cf. *ruwi*- “shoot” < *ruwi/a-.

Djururu	<i>yirra</i> “tooth” (PA)
Wariyangga	<i>yirra</i> “tooth” (PA)
Dhiin	<i>yirra</i> “tooth” (PA)
Dhar (l)	<i>yirra</i> “tooth” (PA)
Dhar (d)	<i>yirra</i> “tooth” (PA)
pMantharta	*yirra (PA #88)
Yingkarta, Nth	<i>yirra</i> “tooth” (PA)
Yingkarta, Sth	<i>yirra</i> “tooth” (PA)
Nhanda	<i>idaji</i> “tooth, teeth; mouth” ²¹⁹ (JB)
Djinang	<i>rdirra-dji-gi</i> “eat, bite, drink” <i>ps</i> : Preverb. Cognate? (BW)
Gupa	<i>rlirra</i> “tooth” (BL-MC)
Djapu	<i>rlirra</i> “tooth” Contrast <i>rliya</i> “head”. (FMo)
Djambarrpuynu	<i>rlirra</i> “tooth” Contrast <i>rliya</i> “head”. (GWVW)
Dhuwal	<i>rlirra</i> “tooth; blade; tip (e.g. of spear)” (JHeath)
Daartiwuy	<i>rlirra</i> “tooth” (MG)
Dhangu	<i>rirra</i> “tooth” (BSch)
Ritharngu	<i>rlirra</i> “tooth; thorn” (JHeath)
pPNy	*rirra and/or *lirra . ²²⁰ (BA)

Key: ***runka-** “cry” vi

Uradhi (At) *runka-* “cry” *ps*: vi, Conj. IV: *runkan* Past, *runkayu* Imperative. (KLH, TC)

Yadhaykenu *yungka-* “cry” *ps*: vi, Conj. IV: *yungkan* Past, *yungayu* Imperative. (TC)

Angkamuthi *yungka-* “cry” *ps*: vi, Conj. IV: *yungkan* Past, *yungayu* Imperative. (TC)

Yinwum *ngkwa-* “cry” (KLH)

Aritinng *ngkwa(-la)-* “cry” (KLH)

Mbiywom *ngku(la)-* “cry” (KLH)

Umpila *ungka-* “cry” (KLH, GNOG)

Dyirbal *tungkarra-* “cry” Compare Mudbura *rlungkarra-kayi-* “to cry”. (KLH)

Girramay *tungkarra-* “cry” Compare Mudbura *rlungkarra-kayi-* “to cry”. (KLH)

pPaman ***runka-** “Other Paman” list has ***runkarra-**.²²¹ (KLH)

²¹⁹ Initial /i/ < *yi (cf. *yipi) < *li.

²²⁰ The Western Desert and Nyangumarta reflexes suggest *rirra; the Yolngu reflexes suggest *lirra.

W. Bundj	<i>dunga-</i> ~ <i>dungga-</i> “cry” Of child or adult. (MS)
Yugambeh	<i>dung-</i> ~ <i>dunga-</i> ~ <i>dungga-</i> “cry, weep” (MS)
Kalkatungu	<i>runka</i> “thunder; lightning” Probably a loan. Also <i>rungulha</i> “thunder”. Cf. YY <i>pay</i> “cry” used of thundering. (BB)
Kalkatungu	<i>rlunga</i> “cry” Probably a loan. (BB)
Wiradjuri	<i>yungga-y</i> “cry” M&H give <i>yu.ngga.y</i> . (PA, M&H)
Ngiyampaa	<i>yunga</i> + “cry” (TD)
Yuwaalaraay	<i>yu-ng</i> “cry” ²²² (CW)
Yuwaaliyaay	<i>yu-ng</i> “cry” ²²³ (CW)
Gumb	<i>du:(ng)-</i> “cry” ²²⁴ (DE)
pCNSW	*yu-ng (PA #121)
Yarluyandi	<i>yungki-</i> “to cry” (PA)
Mithaka	<i>yungki-</i> “to cry” (PA)
Yandruwandha	<i>yingki-</i> “to cry” (PA)
Y’warrka	<i>yingki-</i> “to cry” (PA)
pCKarnic	*yungki- (PA)
Pitta-Pitta	<i>tuñci</i> “cry” <i>ps</i> : vi. Partial cognate? (BB)
Buwandik	<i>lung(g)a</i> “cry” Stop “g” written in only one of several sources. (BB)
Warlmanpa	<i>lu-</i> “ABS cries—of child, cat, goat, donkey, ...—for, over DAT” <i>ps</i> : Conj. 3b: Imp <i>lungka</i> , P <i>lungu</i> , Fut <i>liñi</i> . ²²⁵ (DGN)
Mudburra	<i>lungka-</i> “cry” Also <i>lungkarra-kayi-</i> “to cry”. (RG)
Djaru	<i>lung-</i> “cry” <i>ps</i> : Conj 6, vi: <i>luña</i> P, <i>lungani</i> P Cont, <i>lungan</i> Pres, <i>lunggu</i> Prp, <i>lungi</i> Potential, <i>lungga</i> Imp, <i>lungu</i> Verbid. (TTs)
Walmajarri	<i>lungka</i> “cry” (JHd)
pPNy	*runka- ²²⁶ (BA)

Kayardild	<i>rik-a</i> “cry” A noun. (NE)
Yukulta	<i>rlikarlika</i> “crying” <i>ps</i> : Adjective. (SK)

²²¹ Alpher (1976:91) wrote ***tungka-**, with *t a nonnasal apical not further differentiable as to manner, but also hypothesized that if it was a stop, then Uradhi initial /r/ is the result of lenition. The Yadhaykenu and Angkamuthi initial /y/ seems to be regular.

²²² Initial y from an apical is apparently regular; see *lirra. Reduction of *ngg to g is regular (PA 1997), but it is not clear how the source for *yu* can be *lungka; PA assigns this with all other CNSW forms listed to pCNSW *yu-ng.

²²³ See comments for Yuwaalaraay.

²²⁴ If from *lungka-, evidence of recurrence is needed for the loss of the second syllable.

²²⁵ See comments on Warlmanpa reflex of *wangka- (“speak”).

²²⁶ Initial *r (vs. *l) solely on the basis of the Pitta-Pitta partial cognate.

Lardil *rika* “cry, weep” <rik->. Also a noun: “crying, weeping”.
(NgKL)

pTangkic ***rlik-a** (NE)

*Key: *ruwa-* “damage” vtr

YY *luw* “break it” *ps*: RR conj; Cnt nP *luwrruwrr*.²²⁷

YMel *tuw*, *tuwa+t* “break it” *ps*: RR conj.²²⁷

W. Bundj *duwa-* “dig; bury” (MS)

Yugambah *duwa-* “dig” Var. *juwa-* in one occurrence. (MS)

MM *lu:w-* “break it” *ps*: Transitive. (Meyer, B&B)

Pitta-Pitta *tuwa* “hit with missile” (BB)

ECArrente *we-* “hit with thrown object; (lightning) strike; spin human hair to make string; rub sticks together to make fire; (lightning) strike”
Also *iwe-* “throw something (off, down, around); throw something away, get rid of it; pop something into or onto something, toss them on”. (H&D)

Kaytetye *we-*

Wakaya *luwam* “to split” Also *luwarri* “to crack” (intr?). (GB)

Warlpiri *luwa-* “strike it with a missile thrown—as with boomerang; shoot it—as with gun; strike it—of lightning; spin it—hair into string” *ps*: tV2. (KLH)

Mudburra *luwa* “hit; shoot; do (Respect)” (RG)

Walmajarri *luwa* “hit with thrown implement; grind (as seeds); spin”
(JHd)

Nyangumarta *ruwi-* “hit with missile, shoot” *ps*: Imp *ruwiya*. (GNOG)

pPNy ***ruwa-/i-**

^^^

Wanyi *luwa-nca* “spin” *ps*: vtr. (ML (pers. comm.))

^^^

pre-Warluwarri ***liwa** (“winnow; hit with missile”) (ML (pers. comm.))

*Key: *tawa* (bird sp: frogmouth) n Z, O

WMungknh *taw-taw*, *minh-* “nightjar” *Caprimulgus*; several species.²²⁸
(KPPW)

Pakanh *7awa*, *minh-* “spotted nightjar”²²⁹ (PH #628)

YY *law*, *minh-* “tawny frogmouth, *Podargus strigoides*”

²²⁷ The more local **tumpa-* is another possible source for this.

²²⁸ The initial *t* marks it as a loan or a sound-symbolic word.

²²⁹ Cognate with the forms below?

L	*tawa
Djapu	<i>rdawurtawu</i> “tawny frogmouth” (FMo)
pPNy	*tawa or *tawu (BA)
<hr/>	
<i>Key: *ta:ku</i> “ground” n E	
KKW	<i>laga, lagal</i> “place, region, area; place, house, home, building”
(RJK)	
KLY	<i>la:g, la:ga</i> “island, place” (EB)
WMungknh	<i>a:k</i> “camp, country, ground” (KLH)
WNgathan	<i>a:k</i> “place, site; home; camp; country” (PS)
WMe’nh	<i>a:k</i> “camp, country, ground” (KLH)
WMuminh	<i>agu</i> “camp, country, ground” (KLH)
KUwanh	<i>agu</i> “place; time” (S&J)
Pakanh	<i>7a:ku</i> “country” (BA/LY)
KThaayorre	<i>ra:k, ra:kun</i> “place, area, region, camp, country, ground; world, earth; time, period, season; business, affair; climate, weather; happenings, events; material things” (KLH)
YY	<i>larr</i> “country” etc.
YMel	<i>takrr</i> “country” etc.
HR	<i>gawr</i> “camp, ground” <i>Phon:</i> [vɣáũrv] (KLH, LJ)
Rimangg	<i>iyurr</i> “camp; ground; period of time” Also <i>yu</i> “country” (IG)
ON	<i>ayur</i> “ground” (BA, KLH)
pPaman	*ra:ku (KLH)
pPaman	*ta:kurr ²³⁰ (BA)
Margany	<i>dhaka</i> “dust, ground, dirt” Cognate? (GB)
Wiradjuri	<i>dhagun</i> “ground, country” (PA)
Wbuwan	<i>thakun</i> “earth; dirt, sand; ground” (TD/PA)
Wayilwan	<i>dhagun</i> “ground, country” (PA)
Gamilaraay	<i>dhawun</i> “ground, country” (PA)
Yugambeh	<i>jagun ~ jan ~ ja</i> “country; ground; earth” ²³¹ (MS)
Bandjalang	<i>jagun</i> “ground, country” ²³¹ (MS, PA)
Gumbainggir	<i>jagun</i> “homeground, territory” (PA)
pCNSW	*dhagun ²³² (PA)
Wang (G)	<i>daga</i> “earth” Cognate? Cf. Margany <i>dhaga</i> “ground, soil”.
(M&W)	

²³⁰ Loss of final ***rr** is regular in languages where the reflexes lack it.

²³¹ Not a CNSW language, and other apical-initial (*) etyma continue with initial *d*.

²³² No etymon with initial apical stop is reconstructed for this group.

Diyari	<i>rdaku</i> “sandhill” (PA)
Kaytetye	<i>ayerne</i> “ground” Cognate? (KLH, HK)
ECArrenrte	<i>ayelhe</i> “earth, sand, soil, dirt; flat ground; ground (as opposed to sky etc.); country, land, area, region; the land and the things that grow on it, countryside; world” Cognate? (H&D)
Pitj-Yank (CG)	<i>takurl-takurl(pa)</i> “deep pit, trench (e.g. for roasting game)”
Pintupi	<i>taku</i> “trench” (Hn&Hn)
Warlpiri hole” (KLH)	<i>rdaku</i> “hole in the ground; deep; flesh wound resembling a
Djaru	<i>dagurr</i> “inside” (TTs)
Walmajarri	<i>takurr</i> “inside” <i>ps</i> : Also a preverb. (JHd)
Nhanda	<i>wagurla</i> “hole in the ground; hollow” ²³³ (JB)
pPNy ^^^	*ta:ku
Madhimadhi	<i>la-</i> “camp” <i>ps</i> : Citation form <i>lengi</i> ; <i>larrngay</i> “my camp”, <i>lengin</i> “your camp”, <i>larnu</i> “his/her/its camp; nest of a bird”. (LH)
Werg (Dj)	<i>lar</i> “camp; home” Cognate? ²³⁴ (LH)
Wembawemba	<i>lar</i> “camp, home” 3rd-person possessed form <i>larnug</i> “its home; nest of bird” is constructed regularly (LH 1986: 25). (LH)
^^^	
Gungarakany	<i>lok</i> “camp” (MH)
Kamu	<i>tak</i> “camp” (MH)
Malak-Malak	<i>tek</i> “camp” (MH)
Matngele	<i>tak</i> “camp” (MH)
Umbugarla	<i>rak</i> “camp” (MH)
Wagiman	<i>la7-an</i> “camp” (MH)
Wardaman	<i>rlakkan</i> “camp” (MH)
Mayali	<i>gunak</i> “firewood” < *gun-rak. ²³⁵ (NE)
pGunwinyguan	*rak (MH A1055, B45)

Key: ***ta:rrkal** “clean” nAdj

YY *larrl* “white; clean, clear” “Clean” specifically of fresh water.
Also *larrn* “clean—of sea water”.

²³³ Initial correspondence uncertain; cf. *lalka.

²³⁴ Correspondences not testable.

²³⁵ Note also Iwaidja *gunak* “home, ground, place, camp, country”, likely a loan from Mayali but perhaps preserving an older meaning.

YMel	<i>tarrkvl</i> “white; clean”
P-L	<i>tarrkalpa</i> “clean; clear; used of clean and clear areas and things” Also <i>parra tarrkalmanu</i> “clean the body (heal of sorcery-inflicted illness)” (<i>tarrka</i> here is possibly “bone”). (Hn&Hn)
pPNy	ta:rrkal (BA)

Key: ***tipa** “termite mound” n E

Atampaya	<i>ipan</i> “beehive” (TC)
KThaayorre	<i>ripvn</i> “ant-bed” (AH)
YY	<i>lipn</i> , <i>lipalh</i> “termite mound”
YMel	<i>tipn</i> “termite mound”
KB	<i>trrvpen</i> “termite mound”
UOygangand	<i>iphan</i> “termite mound”
UOlgoLa	<i>ibhan</i> “termite mound”
Yidiny	<i>diban</i> “top of mountain which is clear of vegetation; bald head; roof of house” Tablelands and Coastal dialects. (RMWD, A7 and M2.)
Dyirbal	<i>diban</i> “stone” (KLH)
pPaman	*tipan
Mantjiltjarra	<i>tipa</i> “tall antbed”
Pintupi	<i>ti:pa</i> “ant (white) nest or mound” (Hansen)
pPNy	*tipa
^^^	
Pitta-Pitta	<i>rtipu</i> “hill, stone, money”

Key: ***tiwa+** “green pygmy goose” n Z, B

KThaayorre	<i>riwn</i> , <i>minh-</i> “green pygmy goose” Also <i>minh-riiwun</i> “white-necked duck”. (AH)
YY	<i>lewn</i> , <i>minh-</i> “green pygmy goose”
UOygangand	<i>iwun</i> “green pygmy goose”
UOlgoL	<i>iwun</i> “green pygmy goose”
L	*tiwun ²³⁶
KYal	<i>diwan</i> “scrub turkey” (Hr&Hr)
GYim	<i>diwa:n</i> “scrub turkey” (JHav)
Uradhi (AT,AN,Y)	<i>iwun</i> “mosquito; jabiru” Belongs in this set? (TC)
pPaman	*tiwan

²³⁶ There is poss. contamination or correspondence-mimicry involving *miwun, also a waterfowl.

Ritharrngu	<i>rdiwac</i> “green pygmy goose (duck)” (JHeath)
pPNy	*tiwa+

Yorta Yorta	<i>lowan</i> “scrub turkey; mallee hen” (B&M)

Mudburra	<i>diwarna</i> “wedge-tailed eagle, eaglehawk” Also <i>diwuwarna</i> .
(RG)	
Mudburra	<i>liwirni</i> “white crane (egret spp.)” (RG)

Kayardild	<i>jiwi</i> “whistle duck” NE: irregular loss of final *rli; <i>*jiwiri</i>
expected. (NE)	
Yukulta	<i>ciwirli</i> “whistle duck” (SK)
Lardil	<i>jilwil</i> “whistle duck” Cognate? (NgKL)
pTangkic	*ciwirli (NE)

Key: ***turnu** “together” adverbial n

YY *lon, lono* “with, having; together” *ps*: Postpositional.

YMel *on* “with, having; together” *ps*: Postpositional.

Warlpiri *turnu* “together” Preverb in *turnu-jarri-* (iV1) “assemble, congregate” (syn. *tuurn-ka-*), *turnu-ma-* (tV5) “gather them together, muster them”. Syn. (?) *wungu* “together”.²³⁷ (KLH)

pPNy ***turnu**²³⁸ BA

Key: ***walngka** “belly (inside)” n B

YY *wal7, wal7a* “belly, hollow place”, etc. Also e.g. *thaml-wal7* “sole of foot”.

YMel *walk, walka* “belly” etc.

KB *walngk* “swamp” In *path-walngk* “swamp”.

KThaayorre *werngka* “between, amongst” (AH)

GYim *walngga* “swamp, lagoon” (JHav)

GYim *walngga*: “inside, be inside”; (Resp.) “heart”. (KLH, JHav)

KYalwalngka “swamp” (Hr&Hr)

UO *alngg, alngga-* “belly” Also *alnggay* “in the middle, amidst”, *alngg*

obmong “belly down, flat on face”. (BSm)

Djabugay *walngga* “chest” Also *jina walngka* “sole of foot”. Not in EP,

²³⁷ *rt initially (orthographic “*t”) and after a vowel continued regularly as *rt (orthographic “*t” when initial) when the next consonant was retroflex; elsewhere it became /rd/.

²³⁸ Possibly (KLH, pers. comm.) connected to pPaman *cunu (“one; together”).

- except perhaps as the verb *walngga-l* “to float”. (KLH)
 Yidiny *walngga* “chest” Tablelands; “wind in lungs” in Coastal.
 (RMWD A4,11)
 Warrungu *walngga* “fond of, liking” Ex. *Ngali walngkayi yinun.gu* “we
 are fond of/like/want you”. Cf. use of *ngerr* “belly” for “like, want” in YY;
 also *wawu* in KYal. (TTs)

- pPM** ***walngka**
 Dyirbal *walngga, bala* “breath”. (RMWD)
 Warrgamay *walngga* “air in lungs” As a verb, “float on water”. (RMWD)
 Muruwari *wangka* “nest” Possibly a blend, with *mangka. (LFO)
 Pitta-Pitta *walka* “baby, small child” Cognate? (BB)
 Pitta-Pitta *warlka* “sun, day” Cognate? (BB)
 Wangkumara *warlga* “woman” (GB, GCAL 337)
 Wangkumara (Garlali) *walga* “woman” (M&W)
 Atnya *warlka* “everted animal-skin bag, everted “roo stomach”
 (Mc&Mc)

^^^

- Panyjima *warlka* “womb” (GNOG)
 Yinytji *warka* “womb” (GNOG, FW)
 Kurrama *wartka* “womb” (GNOG)
PNgayarda ***warlka** (GNOG 1966 #203)
 Warriyanga *warlka* “womb” (PA)
 Jiwari *warlka* “afterbirth” (PA)
 Gupa *wa:lk* “umbilical cord” Also *walnga* “life; alive, working well;
 fresh (of fish)”. (BL-MC)

- Dätiwuy *wa:lk* “placenta, afterbirth” (MG)
 Djambarrpuynu *wa:lk* “placenta, after-birth” (GWVW)

- pPNy** ***walngka** (BA)

- Mudburra *warlk* “open, be open” *ps*: coverb.²³⁹ (RG)

- Kayardild *walk-a* “ground oven, cooking trench, kapmari” (NE)
 Yukulta *walk-a* “bush oven” (NE)
 Lardil *walka* “cooking trench” <walk->. (NE)

- pTangic** ***walk-a**²⁴⁰ (NE)

²³⁹ The discrepant treatment of the lateral in this form (cf. *kalmpa) argues against its inclusion in this set.

Pintupi	<i>warlka-</i> “to give birth” <i>ps.</i> : Imp <i>warlkala</i> , P <i>warlkarnu</i> .
(Hn&Hn)	
Wang (G)	<i>warlka</i> “put” /k/ and /g/ distinguished. (M&W)

Key: ***walu** “cheek” n B

YY	<i>wal</i> “cheek, temple” <i>ps.</i> : Specialized oblique form <i>wulu</i> .
YMel	<i>wal</i> “cheek, temple”
WMungknh	<i>wal</i> “cheek” (KLH)
WMe’nh	<i>wal</i> “cheek” (KLH)
WNgathan	<i>wal</i> “cheek” (PS)
KUwanh	<i>walu</i> (“cheek”) Only in <i>walu+manta</i> “cheek”, <i>walu+koko</i>
“jaw”. (S&J.)	
Umpila	<i>walu</i> “cheek” (KLH)
GYim	<i>walu</i> “side, temple, side of face; like, similar, resembling”
(JHav)	
KYalwalu	<i>face</i> Also <i>walurringkal</i> “temple”. (Hr&Hr)
Muluridji	<i>walu</i> “face” (KLH)
Yidiny	<i>walu</i> “temple; side of hill” (RMWD A2)
Djabugay	<i>walu</i> “side, shore; temple” (EP, KLH)
Dyirbal	<i>walu</i> “ear” (KLH; not in RMWD)
pPaman	* walu (KLH)
Nyawaygi	<i>walu</i> “head” (RMWD)
Pintupi	<i>walu</i> “flat rock, horizontal, or roof of cave; concave rock
surface that holds water”	
Warlpiri	<i>walu</i> “head” Syn. <i>jurru</i> . (KLH)
Warlmanpa	<i>walu</i> “head, head hair, top end of object” (DGN)
Mudburra	<i>walu</i> “head” Contrast <i>warlu</i> “fire” < *waru. (RG)
Guurrindji	<i>walu</i> “head”; “tall” Syn. <i>ngalaka</i> . Contrast <i>warlu</i> “fire” <
*waru.	
Gupa	<i>walu</i> “sun; time” ²⁴¹ (BL-MC)
pPNy	* walu

Yorta Yorta	<i>walu</i> “leaf” (B&M)

²⁴⁰ Association with PNy presupposes correspondence of pTangkic *Ik to pPNy *Ingk, but see also *wi:rrngka-. NE compares to Yanyuwa *ngampa-walkitjantjarra* “burning, cooking”.

²⁴¹ Probably not cognate; cf. reflexes of *malu (“shade”), *manu (“neck”).

Key: ***wanta-** “put” vtr

Uradhi	<i>anta-</i> ~ <i>antv-</i> “put, leave it” (KLH)
Mpalitjanh	<i>rnta-</i> “put, leave it” (KLH)
Luthigh	<i>rnta-</i> “put, leave it” (KLH)
Yinwum	<i>ntra-</i> “put, leave it” (KLH)
Linngithigh	<i>ntra-</i> “put, leave it” (KLH)
Alngith	<i>ntra-</i> “put, leave it” (KLH)
Awngthim	<i>ntra-</i> “put, leave it” (KLH)
Ntra’ngith	<i>ntra-</i> “put, leave it” (KLH)
Ngkoth	<i>ntra-</i> “put, leave it” (KLH)
Aritinng	<i>nta-</i> “put, leave it” (KLH)
Mbiywom	<i>nda-</i> “put, leave it” (KLH)
WMungknh	<i>want-</i> “leave it, put it” (KLH)
WMe’nh	<i>want-</i> “leave it, put it” (KLH)
WNgathrr	<i>want-</i> “leave it, put it” (KLH)
WNgathan	<i>wantv-</i> “leave it” (PS)
WMuminh	<i>wanta-</i> “leave it, put it” (KLH)
KUwanh	<i>wanta</i> “leave [it; Tr]” (S&J)
Kaanytju	<i>wana-</i> “leave it, put it” (KLH)
Umpila	<i>wana-</i> “leave it, put it” (KLH)
KB	<i>wa-</i> “leave it” P <i>want</i> , Imp <i>wali</i> . (BA, KLH)
pPaman	*wanta- (KLH)
GBadhun	<i>wanda-</i> “leave something behind” (PS)
Pitj-Yank	<i>wanti-</i> “don’t do anything to it, leave it alone; leave off or stop doing something to it; (food water) not have, or want to have any; neglect, abandon, leave (child, spouse, or other thing that should be cared for)” <i>ps</i> : vtr (Ø). (CG)
Ngarluma	<i>wanti-ku</i> “lose—e.g. money” (KLH)
pPNy	*wanta- ~ *wanti-

Key: ***wanti-** “fall” vi

KThaayorre	<i>want</i> “fall” (KLH)
YY	<i>war</i> ~ <i>wur</i> ~ <i>wir-</i> “fall (of rain, urine)” NH conj. ²⁴²
KB	<i>wantá-</i> “fall” (BA, KLH)
Rimangg	<i>ndi-</i> “fall” IG gives <i>nde</i> . (KLH, IG)
Djabugay	<i>wandi-</i> “fall down” Y conj. (EP, KLH)

²⁴² The *wir* alternant attests **wanti-*; the *wur* alternant attests **wanta-*.

Yidiny	<i>wanta-</i> “fall” (KLH)
pPaman	*wanta- ~ wanti- ²⁴³ (KLH)
Kaytetye	<i>atnte-</i> “to fall down” HK gives <i>atnthe-</i> . (KLH, HK)
Warlpiri	<i>wanti-</i> “fall” <i>ps</i> : iV1: nP <i>wanti(mi)</i> , P <i>wantica</i> , Imp <i>wantiya</i> , Presentational Pres <i>wantiña</i> , Imm Fut <i>wanticu</i> . (KLH)
Warlmanpa	<i>wa-</i> “ABS fall; ABS(head,...) aches; ABS(rain) falls, is raining”. <i>ps</i> : Imp <i>wanta</i> , P <i>wanu</i> , Fut <i>wanmi</i> . (DGN)
Mudburra	<i>wandi-</i> “be; fall” Also <i>wani-</i> “be; fall”. (RG)
Walmajarri	<i>wanti</i> “fall” <i>ps</i> : Class Zero; see p38. (JHd)
pPNy ^^^	*wanti- ~ *wanta-
GBadhun ^^^	<i>wandi-</i> “hang” Queried. (PS)
Panyjima ^^^	<i>warni-ku</i> “fall” (AD)
Martuth	<i>wanti-</i> “lie” vi, Zero conj. (AD)

Key: ***wanci** “sickness” n

WMungknh	<i>weñc</i> “sore” (KLH)
WMe’nh	<i>weñc</i> “sore” (KLH)
WNgathrr	<i>wenhth</i> “sore” (KLH)
WNgathan	<i>wenhth</i> “sore” (PS)
WMuminh	<i>wañci</i> “sore” (KLH)
KUwanh	<i>wanhci</i> “sore” Also <i>wanhcidhani</i> “be sore, ache”. (S&J)
Umpila	<i>wañci</i> “sore”
Pakanh	<i>wanci</i> “sore” /n.c/ probable; cf. <i>muñci</i> “bathe, swim”, <i>kiñca</i> “sun”, <i>wunhthu</i> “rib”, <i>tho:nhtho</i> “big (dog)”. (LY/BA)
KThaayorre	<i>wañc</i> “sick”
YY	<i>wanhth</i> “sick(ness)”
UOygangand	<i>adn.j</i> “sickness” Ex. <i>adnj ilg</i> “sick”. PH writes <i>ajñj</i> . (VH/BA, PH #175,#146)
UOlgol	<i>adñj(i)</i> “sickness” Ex. <i>adñj ilg</i> “sick” (PH #175,#146)
Aghu-Tharr	<i>nthi</i> “bad” Cognate? (LJ)
pPaman	*wañci (KLH)
pPaman	*wan.ci (BA)
Walmatjarri	<i>wan.ji</i> “alive” (JHd)
Djaru	<i>wanci</i> “alive” /nc/ not= /ñc/; contrast <i>wañci</i> ~ <i>wañcu</i> “where”

²⁴³ The Middle Paman list has only the **wanta-* alternant.

	and see pPNy *wañca. (TTs)
pPNy	*wanci (BA)
^^^	
Martuth	<i>winthi</i> “enemy, bad friend” (AD)
<hr/>	
<i>Key: *wañca</i> “where” Interrogative L	
WMuminh	<i>wanhtha-ntu</i> “where to” (KLH)
KThaayorre	<i>wanhtha-n</i> “where” (KLH)
GYim	<i>wanhdha-</i> “where” KLH: <i>wañcarra</i> “where to”, <i>wañca:</i> “where at”, <i>wañcawañca</i> “when”. JHav: <i>wanhdhaa:</i> “where”; <i>wanhda:lga</i> “where to”, <i>wanhdha:lgan</i> “where from”. ²⁴⁴ (KLH, JHav)
Muluridji	<i>wañcapurr</i> “where” Also <i>wañcawañca</i> “when”
CC	<i>wañjapu</i> “where” Also <i>wañcawañca</i> “when”. (KLH)
KYal	<i>wañja</i> “where” Also <i>wañjarr</i> “how, which, how many”; <i>wañja-wañja</i> “when”. (Hr&Hr)
Rimangg	<i>nhdhaw</i> “where” IG gives <i>nhdha</i> . (KLH, IG)
Wagaman	<i>wañja</i> “where”
Djabugay	<i>ca:</i> “where” EP: also “somewhere”. Cognate? (KLH, EP)
Yidiny	<i>wañja:</i> “where” (KLH, RMWD)
Mbabaram	<i>ñja-</i> “where” (RMWD)
pPaman	*wañca (KLH)
Warrungu	<i>wañca</i> “where” <i>ps:</i> Loc <i>wañcangka</i> , Dat <i>wañcawu</i> ; <i>wañcanta</i> . (TTs)
GBadhun	<i>wandha</i> “where” (PS)
Margany	<i>wanhddhardi</i> “how” Also <i>wanhddhañ</i> “when”. (GB)
Gunya	<i>wanhdha</i> “where” Also <i>wanhddhañ</i> “when”. (GB)
pPM	*wañca
Dyirbal	<i>wañja</i> “where” (KLH)
Girramay	<i>wañja</i> “where” (KLH)
Muruwari	<i>wanhthu</i> “when” Not all speakers. (LFO)
ECArrenrte	<i>nhthenhe</i> “where; which, which one; the place where, where [not a question]” SE, C, N; <i>thenhe</i> in NE. Also <i>nhtakenhe</i> (NE <i>thakenhe</i>) “how; what’s up”; the way that, how [not a question]”. (H&D)
Warlmanpa	<i>wañji</i> “where?” (DGN)
Mudburra	<i>wañji</i> ~ <i>wañju</i> “where” (RG)
Djaru	<i>wañcu</i> ~ <i>wañji</i> “where” (TTs)
Walmajarri	<i>wañcu</i> “where” (JHd)

²⁴⁴ With regard to laminal place of articulation cf. *ngañca* < *ngalñca.

Nyangumarta	<i>wañca</i> “where” (GNOG)
Ngarluma	<i>wantharni</i> “how, where, where to” (KLH)
Ngarluma	<i>wañcila</i> “where” ²⁴⁵ (KLH, GNOG)
Yinytji	<i>wanhtha-</i> “where” Also <i>wanhthi-</i> “which”, <i>wanhthila</i> “where (at)”. (FW, GNOG)
Kurrama	<i>wanhthila</i> “where” (GNOG)
Martuth	<i>wanhtha</i> “where” AD: <i>wanhtha(la)</i> . (GNOG, AD)
Ngarla	<i>wanhtha</i> “where” (GNOG)
Kariyarra	<i>wañca</i> “where” (GNOG)
pNgayarda	*wanhtha (GNOG #646)
Bayungu	<i>wanhtha</i> “where; somewhere” (PA)
Dhalandji	<i>wanhtha</i> “where; somewhere” (PA)
Burduna	<i>watha</i> “where; somewhere” (PA)
pKanyara	*wanhtha (PA # 72)
Djiwarli	<i>wanhtha</i> “where; somewhere” (PA)
Wariyangga	<i>wanhtha</i> “where; somewhere” (PA)
Dhar (l)	<i>watha</i> “where; somewhere” (PA)
Dhar (d)	<i>watha</i> “where; somewhere” (PA)
pMantharta	*wanhtha (PA # 72)
Nhanda	<i>wanhtha</i> “where; somewhere” (JB)
Nyungar	<i>wiñca</i> “where” ²⁴⁶ (WD)
Djapu	<i>wanha</i> “where” (FM 55)
Daartiwyu	<i>wanha</i> + “where” In <i>wanhaka</i> “where?”, <i>wanhawal</i> “where to?”. (MG)
Gupa	<i>wanha</i> “where” Var. <i>nganha</i> . (BL-MC)
pPNy ^^^	*wañca
Wakaya	<i>wi:nhth(i)</i> “where; which, what; how” Also <i>wi:nhthamin</i> “when”, <i>winhthinga(rr)</i> “who”. (GB)
Pitta-Pitta	<i>winhtha</i> “where” (BB)
Diyari	<i>winhtha</i> “when” (PA)
Baakandji	<i>wiñja</i> “which, where” Also <i>wiñjarra</i> “where”. (LH)
Madhimadhi	<i>winhdha</i> “where?” <i>ps</i> : ABL <i>winhdhangu</i> “from where?”. (LH)
Woiwurrung	<i>iñdha(rru)</i> “where” (BB)
Wembawemba	<i>wiñja</i> “where?” (LH)

²⁴⁵ Also *wañcilanguru* “where from”; but note *wantharni* “how; where, where to”, with interdental, which is probably the regular reflex.

²⁴⁶ How to account for V1?

Wergaia *wiñja* “where?” (LH)

Key: ***wangka-** “speak” vtr

Diyari *wangka-* “sing” *ps:* vtr 2C. Note: transitive. (PA)

Ngamini *wangka-* “sing” (PA CLE)

Yarluyandi *wangka-* “sing” (PA CLE)

Pitta-Pitta *wanka* “sing” *ps:* vi. Cognation questionable. (BB)

pKarnic ***wangka-** (PA CLE)

ECArrenrte *angke-me* “talk, speak, say; make sound typical of species; thunder” Var. (NE) *ngke-me*.²⁴⁷ (H&D)

Parnkalla *wangkatha* “speak” (KLH)

Wirangu *wangka-* “talk; bark; make a noise” Also a noun: “language, word, speech, noise, message”. (LH)

Karlamayi *tha:* *wangka* “speak” (KLH)

Nyungar *wangkinj* “telling; talking” *ps:* vtr Also *wangk njininj* “converse, talk” (vi). (WD)

Pitj-Yank *wangka-* “talk, speak [vi]; speak in a certain way [vtr]; say, say to, talk about [vtr]; call something by a name [ditransitive]; (insects, birds) sing, call, buzz, chirp; (wind) blow” *ps:* vi & vtr (0). Also *wangka* [n] “what is being said; individual word; way of speaking, speech, language; [in special construction] voice”. (CG)

Warlpiri *wangka-* “speak; make sound characteristic of one’s ilk or species; blow (of wind) P *wangkaja*, nP *wangkami* ~ *wangka*. (KLH)

Warlmanpa *wang-* “speak” *ps:* Conj. Ia: Imp *wangka*, P *wangkañu*, Fut *wanga(mi)*.²⁴⁸ (DGN)

Mudburra *wangka* “corroboree—any corroboree song apart from ceremony” *ps:* n.²⁴⁹ (RG)

Walmajarri *wangki* “language, speech” *ps:* n. Verbs: *mañca* “speak, talk”; *cula* “tell”. (JHd)

Kariyarra *wangka-* “speak” (GNOG)

Ngarluma *wangka-ku* “speak, talk, say, tell to do, call something X, make characteristic noise—as thunder” Also *wangka* (n) “language”. (KLH, GNOG)

Palyku *wangka-* “speak” (GNOG)

²⁴⁷ HK thinks not a regular reflex of *wangka-.

²⁴⁸ The root is possibly a back-formation from the Imperative; see the Warlmanpa reflex of *ña- (“see”).

²⁴⁹ Cf. the senses of reflexes of *yirrka-.

Panyjima AD)	<i>wangka-ku</i> “speak” Also <i>wangka</i> (noun) “language”. (GNOG, AD)
Yinytji	<i>wangka-</i> “speak, talk, say, tell, ask (a question), utter; make characteristic sound” Also <i>wangka</i> (noun) “speech, talk, discussion, story, information; language: word, sentecce” (GNOG, FW)
Kurrama	<i>wangka-</i> “speak” (GNOG)
Ngarla	<i>wangka-</i> “speak” (GNOG)
Martuth	<i>wangka-</i> “speak; talk; emit noise; make species-characteristic sound; say; tell” (GNOG, AD)
Noala	<i>wangka-</i> “speak” (GNOG)
Nyamal	<i>wangka-</i> “speak” (GNOG)
pNgayarda	*wangka- (GNOG #650)
Bayungu	<i>wangka-</i> “speak” (PA)
Dhalandji	<i>wangka-</i> “speak” (PA)
Burduna	<i>waka-</i> “speak” (PA)
pKanyara	*wangka- (PA #75)
Djiwarli	<i>wangka-</i> “speak” (PA)
Djururu	<i>wangka-</i> “speak” (PA)
Wariyangga	<i>wangka-</i> “speak” (PA)
Dhiin	<i>wangka-</i> “speak” (PA)
Dhar (l)	<i>waka-</i> “speak” (PA)
Dhar (d)	<i>waka-</i> “speak” (PA)
pMantharta	*wangka- (PA #75)
Karlamayi	<i>tha: wangka</i> “speak” (KLH)
Nyungar	<i>wangkinj</i> “telling; talking” <i>ps</i> : vtr Also <i>wangk njininj</i> “converse, talk” (vi). (WD)
Yingkarta, Nth	<i>wangka-ñi</i> “say; speak, talk” <i>ps</i> : Intransitive. (PA)
Yingkarta, Sth	<i>wangka-ñi</i> “say; speak, talk” <i>ps</i> : Intransitive. (PA)
Nhanda	<i>wangga-</i> “speak, talk” (JB)
Djinang	<i>wangi-</i> “say, talk to, speak” <i>ps</i> : YPA-Pres <i>wangi</i> , YPA-PRI-Imp <i>wangiyi</i> , TPI-RPI-Nominaliser <i>wanginyiri</i> , TPC-RPC <i>wanginyi</i> , TPA-RPA <i>wanginyi(i)</i> . (BW)
Djinba (Ganalbingu, Dabi)	<i>wanga-</i> “say, talk to, speak” <i>ps</i> : Stem <i>wangi-</i> ; p348. (BW)
Gupa	<i>wanga</i> “talk, speak, tell” (BL-MC)
Djapu	<i>wanga-</i> “talk” (intr), “speak to” (tr) <i>ps</i> : Conj 1 (like <i>nhina-</i> “sit”): Unmarked <i>wanga</i> , Potential <i>wangi</i> , Perfect <i>wangan(a)</i> , P Non-Indicative <i>wanganha</i> . (FM)

Dhuwal	<i>wanga-</i> “speak, talk” (intr), “speak to” (tr) <i>ps</i> : v2 (as for <i>nhi:na-</i> “sit”): Pres-Fut <i>wanga</i> , Fut-Imp <i>wangi</i> , P <i>wangan(a)</i> , P Remote <i>wanganha(r)</i> , Derived Stem <i>wanganha</i> . (JH)
Ritharrngu	<i>wanga-</i> “speak, talk” (intr), “speak to” (tr) <i>ps</i> : v2 (same paradigm as stance v incl <i>nhi:na-</i> “sit”): Pres <i>wanga</i> , P <i>wanganha</i> , F <i>wangi</i> (< <i>wanga-i</i>), P Potential <i>wangiya</i> (< <i>wanga-i-a</i>), Inf <i>wanganharawu</i> , Rfl-Rcp <i>wanganhami-</i> , Caus <i>wanga7mara-</i> , Nominalisation <i>wanganha-</i> . (JH)
pYolngu	* <i>wanga-</i> ~ * <i>wangi-</i> ²⁵⁰
pPNy (?)	* <i>wangka-</i> ²⁵¹

Key: ***wangarr** “γost” n H

KThaayorre *wang* “γost” (etc.) (AH)

YY *wangrr* “γost; devil spp.; white man”

UOygangand *anggar* “γost” Also “sky”. (BA, Φ)

Rimanggudinhma *angar* ~ *angar* “white” Final /r/ doesn’t correspond; see *ta:ku(rr). (IG)

GYimithirr *wangarr* “white man, devil, spirit of dead man” (JHav)

Lamalama *nggar* “devil, white man” (BR)

Walmarri *wangarr* “shadow, essence of person whose shadow it is” (JHd)

Gupapuyngu *wangarr* “totemic ancestors, culture heroes: beings who originally inhabited the earth then changed themselves into animals, birds, etc.” (BL-MC)

pPNy ***wangarr**

Burarra *an-wangarr* “creator spirit” (NE)

Kayardild *wangarr-a* “song; characteristic sound” (NE)

Yukulta *wangarra* “song, corroboree” (NE)

pT ***wangarr-a** (NE)

Karrwa *wangarr* “song” (NE)

Wambaya (*w*)*angarra* “corroboree” (NE)

Yanyuwa *wangarr* “frying; frying ground” (JB/NE)

²⁵⁰ /ng/ < *ngk is regular; see also *yangkara.

²⁵¹ Possibly only Nyungic; no Eastern attestation.

Key: ***wapu** “some” nAdj Q

YY *wap, wupul, wupunn* “some, a few; some other(s)”

YMel *wap* “some”

Yidiny *wabu* “in company with” Prob. syn. *maga* “in company (with other people)”. RMWD 91225, R3

Atnya *wapu* “everything, all”; “altogether” (Schebeck *Texts* 1974:213, #252; MM 1992:113)

ppNy ***wapu**

KYalwubul “many, all” Also “heart”. (Hr&Hr)

KYalwubulku “all” (Hr&Hr)

GYim *wubu:l* “heap, large bunch, pile”

Gugu-Buyun *wubul* “a lot, all of them; four or five” Ex. *bama wubul nadyin* “I saw a big mob”; *wubul dyiya* “four chairs”. KYal dialect. (Holmer 88:62,86)

Wakaya *wapi* “nothing” (GB)

Key: ***warrci** “bad” nAdj

Pakanh *waci* “no good”

KThaayorre *wac, waci* “oversized, baggy” Derivatives: *wachnham* “secret, poison”; *wachwachirr* “in an increasing or improving way”; *wachirr* “right, lawful”; etc.

YY *warre, wirrci+r* “bad; abundant” (etc.) Also *warrcuwrr* “woman” < **warrciwarrci*.

YMel *warre, warrcit* “bad” (etc.).

KNarr *wacvwac* “woman” Not from *warrang* “bad”.

L ***warrci**

Mudburra *waji* “wrong way marriage, not straight” Regular correspondence? (RG)

Yanyuwa *wajiwaji* “unlawful (of marriage), incestuous” (JBr)

Ritharrngu *warre* (n); *warre-mirri* “silly, acting foolishly” Cf. also *wirrcji* “dreaming, totem” (syn. *dha:la*). (JH)

ppNy ***warre(i)**

Yinytji *waci* “bad, no-good; evil; foul; sour” Also *watjikarta* “big,

	large, thick". (GNOG, FW)
Kurrama	<i>waci</i> "bad" (GNOG)
Martuth	<i>waci</i> "bad" Not in AD. (GNOG)
pNgayarda ^^^	*wal'i ²⁵² (GNOG #443)
Mangarrayi	<i>waciwaci</i> "wrong marriage" (MH)
Wardaman	<i>waciwaci</i> "wrong marriage" (MH)
pGunwinyguan	*waciwaci (MH)

Key:	*wa:rlpa "wind" n E
Uradhi (KLH, TC)	<i>alβa</i> "wind" Atampaya, Angkamuthi, & Yadhaykenu. ²⁵³
Wuthathi	<i>a(:)lβa ~ a(:)lwa</i> "wind" LMW-BA
Mpalitjanh	<i>aβa</i> "wind" ²⁵³ (KLH)
Aritinng	<i>alpa</i> "wind" ²⁵³ (KLH)
YY suffix. ²⁵⁴	<i>walw</i> "wind" <i>ps</i> : ERG <i>waluwthalt</i> treats <i>w</i> as derivational
YMel	<i>walp</i> "wind" <i>ps</i> : ERG <i>walvthurr</i> .
pPaman	*wa:lpa Note: KLH reconstructed *ca:lpa. (BA)
Pitj-Yank	<i>walpa</i> "wind, breeze; air (for filling tyres); breath, air" (CG)
Pintupi	<i>warlpa</i> "wind"
Warlpiri	<i>warlpa</i> "wind, turbulent air" (KLH)
Wirangu	<i>warlba</i> "wind, strong wind"
Palyku	<i>warlpa</i> "wind" (GNOG)
pNgayarda	*warlpa (GNOG #860)
pPNy ^^^	*wa:rlpa
Walmajarri	<i>wal'pa</i> "wind" (JHd)

Key:	*wa:ri "who" nInterrogative
Uradhi (At)	<i>a:rri</i> "who" <i>ps</i> : Nom. case-form; ERG <i>a:rriḍu</i> , Dat <i>antuḍiyu</i> , ACC <i>antuḍina</i> . KLH has <i>arri</i> , with short vowel. (TC, KLH)
Angkamuthi	<i>a:rri</i> "who" <i>ps</i> : Nom. case-form; ERG <i>a:rriḍu</i> , Dat <i>a:rriyu</i> , ACC <i>a:rrinha</i> . (TC)

²⁵² With Palyku *wali* & Panyjima *walikarta* (GNOG, AD) "bad". Conceivably belongs with *warri.

²⁵³ KLH gives as attestation of PPaman *ca:lpa.

²⁵⁴ Presumed lenition of *p can only have been conditioned by preceding long vowel.

Yadhaykenu	<i>a:rri</i> “who” <i>ps</i> : Nom. case-form; ERG <i>a:rriδu</i> , Dat <i>a:rriyu</i> , ACC <i>a:rrinha</i> . (TC)
Mpalitjanh	<i>arri</i> - “who” (KLH)
Luthigh	<i>7i</i> - “who” (KLH)
Yinwum	<i>ate</i> - “who” (KLH)
Lin <i>a7i</i> -	“who” (KLH)
Alngith	<i>7ay</i> - “who” (KLH)
Awngthim	<i>7ay</i> - “who” (KLH)
Ntr <i>a7i</i> -	“who” (KLH)
Ngkoth	<i>ati</i> - “who” (KLH)
Ari <i>ati</i> -	“who” (KLH)
Mbiywom	<i>ati</i> “who” (KLH)
WMungknh	<i>we:7</i> “who” (KLH)
WMe’nh	<i>we:7</i> “who” (KLH)
WNgathan	<i>we:7iy</i> “who (Plural)” (PS)
Kaanytju	<i>wa:7i(na)</i> “who” (KLH)
Umpila	<i>wa:7i</i> “who” (KLH)
pPaman	*wa:ri(na) ²⁵⁵ (KLH)
Diyari	<i>wararna</i> “who NOM” <i>ps</i> : ERG <i>warli</i> . (PA)
Ngamini	<i>wara</i> “who” (PA CLE)
Yarluyandi	<i>wara</i> “who” (PA CLE)
Yandrruwantha	<i>wara</i> “who” (PA CLE)
Y’warrka	<i>wara</i> “who” (PA CLE)
Wang	<i>wara</i> “who” <i>ps</i> : ERG <i>waralu</i> . (GB/PA CLE)
Wang (G)	<i>wara</i> - “who” <i>ps</i> : Nom <i>warani</i> , ERG <i>waralu</i> , ACC <i>waranha</i> , Dat <i>waranga</i> . (M&W)
Pitta-Pitta	<i>wara</i> “who” ERG <i>waralu</i> attested p223; + <i>lu</i> is the regular ERG ending for all nouns. (BB)
pKarnic	*wara (PA CLE)
Arabana	<i>wara</i> “who” (LH)
^^^	
Djinang	<i>wari</i> “who” ERG <i>wirli</i> , Obl <i>wirar</i> (44). (BW)
Djinba (Dabi dialect)	<i>wari</i> “who” (BW)
Ritharrngu	<i>wara, warali</i> “who” ERG <i>warali</i> . (JH)
pPNy	*wa:ri ~ *wa:ra <i>ps</i> : ERG in *+ <i>lu</i> . Possibly *wa:r .

Key: ***wirlu** “acacia (sp.)” n P

²⁵⁵ NPaman list has ***wa:ri**.

YY	<i>wel, yo-</i> “ <i>Acacia flavescens</i> ”
Martuth	<i>wirlu</i> “blackheart tree” (AD)
Bayungu	<i>wirlu</i> “acacia (sp.)” (PA)
Dhalandji	<i>wirlu</i> “acacia (sp.)” (PA)
Burduna	<i>wirlu</i> “acacia (sp.)” (PA)
pKanyara	*wirlu (PA #344)
Yingkarta, Sth	<i>wirlu</i> “river gum tree, <i>E. camaldulensis</i> . (PA)
pPNy	*wirlu
Jawony	<i>pirliwirlu</i> “ <i>Acacia holoserica</i> ” (MH)
Mangarrayi	<i>pirliwirlu</i> “ <i>Acacia holoserica</i> ” (MH)
pGunwinyguan	*pirliwirlu (MH)

Key: ***wirni-** “turn” vi

YY	<i>wen</i> “turn; become” <i>ps</i> : L2
Djinang	<i>wirni-ji</i> “return” Note Djinba <i>wirandi-</i> “return”, poss. cognate. (BW 349)
pPNy	*wirni- Very tentative. (BA)

Key: ***wita-** “singe it” vtr

YY	<i>wur</i> (L, tr) “burn it, singe it” <i>ps</i> : L conj, tr. ²⁵⁶
YMel	<i>wut, wutat</i> “burn it, singe it” <i>ps</i> : L conj, tr. ²⁵⁷
Pitj-Yank	<i>wita-</i> “singe, hold in flames; fry, barbecue” <i>ps</i> : Imp. -la. (CG)
P-L	<i>wita-</i> “scorch, singe (hair off)” <i>ps</i> : Imp. -la. Also “shine, illuminate”. (Hn&Hn)
WD (Warburton)	<i>wita-la</i> (Vtr) “singe, singe fur off game” <i>ps</i> : Imp -la. (WD)
pPNy	*wita-

Key: ***wirti** “shell, bivalve (sp.)” n S, M

YY	<i>wert, werte</i> “clam [“mussel”] shell” <i>Geloina</i> sp. Important implement.
YMel	<i>wet, wete</i> “clam [“mussel”] shell” <i>Geloina</i> sp. Important implement.
Payungu (coastal)	<i>wirti</i> “pearl shell; pearl shell pendant” (PA)
Jiwarli	<i>wirti</i> “pearl, pearl-shell” (PA)
Martuth	<i>wirti</i> “pearl shell” (AD)
Yinytji	<i>wirti</i> “bell” Cognate? (FW)

²⁵⁶ Initial *w + short *i > *wu* is apparently regular; cf. *wi:rrngka-.

²⁵⁷ Initial *w + short *i > *wu* is apparently regular; cf. *wi:ya.

pPNy

^^^

***wirti**

Lardil

wi:di “shell sp., like clam” (NgKL)Key: ***wi:ci** “sore” n BSee also ***cici**

YY

wey “sore, pain” Also *we-thaw* “scar”.

YMel

weth “a sore”

KThaayorre

wi:yth [sic] “ulcer, open sore, injury”

WMungknh

weec “sick; to pain, to be sick” *ps*: Transitive personal verb.

KLH, KPPW

Bidyara

widhiñ “a sore” (GB)

Pitta-Pitta

withi “sore, wound” (BB)

Ara.-Wang.

withi “sore” (LH)

Warlpiri

wijini “sore, lesion” (KLH)**pPNy**

^^^

***wi:thi**

Ngarluma

wici “markings on boomerang, grooving” Presumed semantic connection: scar. (KLH)Key: ***wi:rrngka-** “scratch, scrape” vtr

YY

wirr (L, tr) “scratch, scrape” *ps*: Rfl nP *wirrarr+n*.

UOygangand

errngga- (+rr; V1) “scratch, rake up” (PH #1097)

UOlgo

arrngga “scratch, rake up” (PH #1097)

Yidiny

wirrngga:ji- “scrape, scratch, rake, shave” Tablelands and

Coastal dialects. Respect. (RMWD U3)

Dyirbal

wirrngga (Y or L) *ps*: Intr. or trans. Respect. (RMWD)

Kaytetye

errke- “scratch” (VTr); “itch” (VIntr) HK connects thisinstead with Warlpiri *pirrka-* “to scrape”. (HK)

Djapu

wirrktu- “scratch” *ps*: Vtr, N2. (FM)

Dhuwal

wirrkdhu- “to paw ground, to dig into ground” (JHeath)

Gupa

wirrkd, *wirrktun* “scratch” (BL-MC)

Dhangu

wirrkd-thu-n “to scratch” (BSch)**pPNy**

***wi:rrngka-**²⁵⁸ (BA)

Kayardild

wirrnga-ca “scratch; dig in ground” (NE)

²⁵⁸ For the tri-cluster in Yolngu languages, cf. the putative Yolngu reflexes (*wa:lk* “placenta”) of **walngka*. Long **i*: postulated because **wi* > YY /wu/.

Lardil	<i>witnge</i> “scratch; dig in ground; dig up” (NE)
pT * wirrnga-ca ²⁵⁹ (NE)	

Muruwari	<i>wirru-</i> “to scratch” (LFO)
Gun-Djeihmi	<i>wirriwirrkme</i> “scratch all over” (NE)
Burarra	<i>wirrka</i> “scrape, scratch, polish by abrasion” (NE)

Yuwaalaraay	<i>wi:rra-l</i> “shave” (CW)

Key: ***wi:ya** “another” nAdj; particle

See also ***kari**.

Mpalitjanh	<i>iya</i> “another”
Yinwum	<i>iya</i> “another”
Ngkoth	<i>iya</i> “another”
Aritinng	<i>ira</i> “another”
Mbiywom	<i>ija ~ iji</i> “another”
Umpila	<i>wi:ya</i> “one of several” (GNOG)
Umpila	<i>wi:yam ~ wi:yama</i> “another” (DTh)
WMe’nh	<i>wiy</i> “another, other” (KLH)
WNgathan	<i>wi:y(a)</i> “some, a few, others” (PS)
WNgathan	<i>wi:y-wi:y(a)</i> “sometimes, a few, here and there” (PS)
KUwanh	<i>wiya</i> “other” Vowel length neutralized before homorganic glides. (S&J (180))

YirrqYawrrnh (?Wik-Iiyanya) *wiy* “other, foreign”; “not, nothing” Vowel length? (Alpher notes 1966.)

YMel	<i>wiya</i> (Yes/No question marker)
pPaman	* wi:ya ~ wiya ²⁶⁰ (KLH)
Muruwari	<i>wiya</i> (Yes/No question marker) (LFO)
Buwandik	<i>wi</i> “no; not” Also <i>wip</i> “no”. Cognation questionable. (BB)
Pitj-Yank	<i>wiya</i> “no; nothing, none; not, isn’t; not having, without; didn’t, don’t, not doing [w. participle]” (CG)
P-L	<i>wiya</i> “no, nothing” Negative marker; also a bound morpheme. (Hn&Hn)
WD (Warburton)	<i>wiya</i> “none” Adj. (WD)
Wakaya	<i>wiy</i> (question particle) (GB)

²⁵⁹ Association with PNY presupposes correspondence Tangkic ***rrng** to PNY ***rrngk**; but compare ***walngka** data.

²⁶⁰ Short-vowel alternant evidently to account for WMe form.

Martuth	<i>wiya</i> : (<i>particle</i>) “maybe” (AD)
pPNy	*wi:ya ²⁶¹

Yorta Yorta	<i>wiyu</i> “any” (B&M)

Kalkatungu	<i>wi</i> : (= <i>wiyi</i>) (polar interrogative marker) (BB)
Martuth	<i>wi</i> : “maybe; if” (AD)

Mudburra	<i>biya</i> “lest, might” (RG)

Key: ***wunpa-** “put” vtr

WMungknh	<i>wunp-</i> “put” (KLH)
WMe’nh	<i>wunp-</i> “put” (KLH)
WNgathrr	<i>wuñp-</i> “put” (KLH)
WNgathan	<i>wuñpv-</i> “put” (PS)
WMuminh	<i>wunpa-</i> “put” (KLH)
KUwanh	<i>wunpa</i> “put, gather” (S&J)
KThaayorre	<i>wunp</i> “place, lay, put” <i>ps</i> : Past <i>wunparr</i> . (KLH, AH)
pPaman	*wunpa- ~ wuñpa- (KLH)
Nhanda	<i>wunbi-</i> “leave, let be, leave alone” <i>ps</i> : Y Conj.: <i>wunbinu</i> Past Imperfective, <i>wunbiyi</i> Past Perfective, <i>wunbiga</i> Imperative, <i>wunbi</i> : Present. (JB)

pPNy ***wunpa/i-**

Key: ***yalka** “road” n E,T

WNgathan	<i>yelk</i> “road, path” (PS)
YYoront	<i>yalq, yalqalh</i> “road, track”
YMel	<i>yalk</i> “road, track”
Koko-Bera	<i>yalk, yalkvyvmp</i> “road” (BA)
Warrungu	<i>yalga, yalgangga</i> “road” (TTs)

²⁶¹ In view of the well-attested change of intervocalic *rr to y in most of the Wik languages (Hale 1976c: 52), O’Grady (pers. comm.) connects the Wik examples with Warnman *wirrañpa* “other” in an etymon *wi(:)rra. While there is nothing in these data to disprove this claim, note that *wi:ya is nonetheless attested in Cape York Peninsula in Yirrk-Mel *wiya*. Note also that while the semantic connection “not”-‘other’-‘yes/no question marker” is not at present known from a polysemous form in a single language, parts of it are repeated in the *kari attestations (q.v.) and in attestations of another etymon, *wayi, such as Kugu-Uwanh *wayi* “any one”, the interrogative particle *wayi* in the Maric languages, Mudburra *wayi* “let’s; how about” (also a question particle), and Palyku *waya* “nothing”.

Biri	<i>yalga</i> “track” (AT)
GBadhun	<i>yalga</i> “path, road” (PS)
pPM	*yalka
Dyirbal	<i>yalgay</i> “road, track” <i>ps</i> : Neuter (<i>bala-</i>). (RMWD)
Ngadjan	<i>ya:ga</i> “road, track” *Vlk > V:k is regular. (RMWD)
Wargamay	<i>yalgay</i> “road” (RMWD)
Wadharing	<i>yalka</i> “road” (GNOG)
Yanyuwa	<i>a-yalwa</i> “known path, well-defined road/track; Milky Way; song cycle” (JB)

Baagandji	<i>yarn.ga</i> “road, path, small track” Also <i>yudhurru</i> “road, path”, <i>yarlgi</i> “creek, deep crack in the ground”, <i>yalga</i> “mouth”. (LH)

Key: ***yal^u** “flame”ⁿ E

UOygangand	<i>alh</i> , <i>alhul</i> “fire, firewood” (BA, PH)
UOlgo	<i>alhu</i> “fire, firewood” (BA, PH)
Bidyara	<i>yadha</i> “light, daylight” Quality of V2? (GB)
Margany	<i>yacu</i> “flame” (GB)
Gunya	<i>yacu</i> “flame” (GB)
Yugambeh	<i>jalu</i> “fire; smoke” ²⁶² (MS)
Pitta-Pitta	<i>yalu</i> “language” Cognate? (BB)
Adnyamathanha	<i>yalhu</i> “flame” (Mc&Mc)
Alyawarr	<i>lherrme</i> “flame” Ammaroo & McDonald Downs; also Plenty River Arrernte. (KLH)
Warlpiri	<i>yal^u</i> “blood; large blood vessels” Also <i>yal^uuya^u</i> “red”. (KLH)
Noala	<i>yalhuru</i> “tongue” (GNOG)
Ngarluma	<i>yalhuru</i> “tongue” (KLH, GNOG)
Martuth	<i>yalhuru</i> “tongue” (AD)
Palyku	<i>yalhuru</i> “tongue” (GNOG)
Panyjima	<i>yalhuru</i> “tongue” (GNOG, AD)
Kariyarra	<i>yalhuru</i> “tongue” (GNOG)
Nyamal	<i>yalhuru</i> “tongue” (GNOG)
Yinytji	<i>yathu</i> “tongue” FW: <i>yathu-</i> ; <i>yathu</i> : “tongue” < <i>yathu+ru</i> . (GNOG, FW)
Kurrama	<i>yathu</i> “tongue” (GNOG)
pNgayarda	*yalhuru ²⁶³ (GNOG #229)

²⁶² For initial consonant, cf. *calañ, *yangkara. Note lack of final /ng/.

Payungu	<i>yalhuru</i> “flame” (PA)
Thalanyji	<i>yalhuru</i> “flame” (PA)
pKanyara	*yalhuru (PA #356)
pPNy ^^^	*yal’u (GNOG 1987:523 & n.27)
Lardil	<i>yalul</i> “flame, light” Underlying /yalulu/. (KLH/NgKL)
Kayardild	<i>yalulu</i> “flame, light” (NE)
Yukulta	<i>yalalu</i> “dawn” NE: “poss.” (NE)
pTangkic	*yalulu (NE)

Key: ***yangkara** “shin” n B

WMungknh	<i>yangk</i> “shin” (KLH, SIL)
WNgathan	<i>yangk</i> “lower leg” (PS)
KThaayorre	<i>yangkar</i> , <i>yangkvr</i> “shin, leg” (AH, BA)
KYak	<i>yangkar-pup</i> “lower leg” (AH)
YY	<i>ya7ar</i> , <i>ya7r</i> “shin”
YMel	<i>ngkar</i> “shin”
Mbabaram	<i>nggar</i> “whole leg” (RMWD)
Biri (Yilba dialect)	<i>yanggara</i> “leg, calf of leg” AT has “yangara” on the basis of Curr 131 “yungera”. (AT)
pPM	*yangkara
W. Bundj	<i>janggarra</i> “corroboree dance (leg shaking)” In some dialects <i>jangarr</i> ; the verb is <i>jan.garr ba</i> . ²⁶⁴ (MS)
WD (Warburton)	<i>yangkarlpa</i> “hip (bone)”; “hip, thigh; hip joint; hip portion of kangaroo” See note on phonology at *kakara. (WD)
Pintupi	<i>yangkarlpa</i> “buttock area, hips (humans & animals)” See note on phonology at *kakara. (Hn&Hn)
Pitj-Yank	<i>angkarl(pa)</i> “hip; hip section of butchered animal” (CG)
Manjiljarra	<i>yangkarlpa</i> “hip” Var. <i>langkarlpa</i> . (PMcC)
Nyangumarta	<i>yangkarl</i> “pelvis” Also <i>langkarl</i> “hip, hip-bone”. (GG)
Djambarrpuynu	<i>yangara</i> “lower leg; tail on animals” Also <i>yangara7</i> “shaft, handle (of spear, knife, basket, etc.)” (GWVW)
Djapu	<i>yangara</i> “tail” (FM)
Gupa	<i>yangara</i> “lower leg; tail; handle” (BL-MC)

²⁶³ Given as *yalhu.Ru.

²⁶⁴ See also *calañ with regard to the initial consonant.

pYolngu ***yangara**²⁶⁵ (BA)

pPNy ***yangkara** (BA)

^^^

Walmajarri *jangkarla* “lower leg between shin and ankle” (JHd)

Key: ***yapa** “sister (older)” n H, K

See also ***yapu**.

Umpila *ya7a* “older sister” (GNOG)

Kaanytju *ya7a(-nhtha)* “older sister” (KLH)

WMungknh *yap* “older sister” (KLH)

WMe’nh *yap* “older sister” (KLH)

WMuminh *yepa(-n)* “older sister” (KLH)

KThaayorre *ya(:)pa* “older sister” (KLH.)

UwOykangand *eba-ngarr* “older sister” (BA, PH)

UOlgoI *epa-dh* “older sister” (PH)

Aghu-Tharr *paka* “older sister” (LJ)

GYim *yaba* “older brother” (KLH, JHav)

KYalyaba “older brother” Also *yabaju* ~ *yabuju* “younger brother”. (Hr&Hr)

CC *yapa* “older brother” (KLH)

Djabugay *yaba* “elder brother, FaBrSo, MoSiSi” KLH: “brother”. (EP, KLH)

Yidiny *yapa* “brother” (KLH)

pPaman ***yapa** (KLH)

Wunumara *yapa* “elder brother” (GB)

Warlpiri *yapa* “person, human being; Aborigine—as opposed to other peoples” Also (?) *yaparla* “father’s mother”. (KLH)

Warlmanpa *yapa* “child; person, human (as opposed to animal); Aboriginal (as opposed to European, etc.)” (DGN)

Mudburra *yapa* “young man after initiation, newly circumcised” (RG)

Walmajarri *yapa* “baby, child” (JHd)

Djinang *yapak* “sister” Ganalbingu, Manydjalpingu. (BW)

Daartiwuy *yapa* “sister” (MG)

Gupa *yapa* “sister” (BL-MC)

Djapu *yapa* “sister” (to male); “older sister” (to female) (FM)

Dhuwal *yapa* “sister (elder or younger)” (JHeath)

Ritharrngu *yapa* “elder sister” (JHeath)

²⁶⁵ /ng/ < *ngk is regular. Not attested in Dhuwal (JHeath), Ritharrngu (JHeath), Djinang & Djinba (BW), Daartiwuy (MG).

pPNy***yapa²⁶⁶**

Key: ***yapu** “brother (younger)” n H, K

See also ***yapa**.

Yinwum *pyu-y ~ pyu-δ* “younger brother” (KLH)

Muluridji *yapucu* “younger brother” (KLH)

CC *yapucu* “younger brother” (KLH)

KYal *yabuju* “younger brother” Var. *yabaju*. (Hr&Hr)

Dyirbal *yabuju* “younger brother” RMWD: *yabu(ndi)* “mother, mother’s younger sister”. (KLH)

Girramay *yabujcu* “younger brother” RMWD: *yabu(ndi)* “mother, mother’s younger sister”. (KLH)

pPaman ***yapucu²⁶⁷** (KLH)

Kuk-Narr *yibát* “younger brother”²⁶⁸ (GB)

Kuthant *pa:th ~ t-apa:th* “younger brother”²⁶⁸ (PB)

GBadhun *yabu-dhana* “younger brother” Also *yabu* “mother”. (PS)

Bidyara *yabu* “father, father’s brother” (GB)

Margany *yabu* “father” Also *yabunu*, *yaburdi* “father”; *yaburdu* “kinship term”. (GB)

Gunya *yabu* “father” Also *yabunu* “father”; *yaburdu* “kinship term”. (GB)

pPMaric ***yapu**

Warrgamay *yabu* “mother and mother’s younger sister” (RMWD)

Kalkatungu *puwa* “older sister” Cognate? Source gives *pua*. (BB)

^^^

Dalabon *yabok* “sister” (BA, MH)

Mayali *yapok* “sister” (MH)

pGunwinygu ***yapok²⁶⁹** (MH # 1352)

Kayardild *thapuju* “older brother; father’s father (to male); [in discussing taxonomies] nearest taxonomic sister” (NE)

Yukulta *thapucu* “older brother (to male)” (SK, NE)

Lardil *thabu* “older brother; male kinsman of male ego, belonging to same subsection as ego but reckoned as senior to him; cousin’s child,

²⁶⁶ See also ***ma:ri**.

²⁶⁷ “Other Paman” list; NPaman list has ***yapu-cu**.

²⁶⁸ Cognation not demonstrated.

²⁶⁹ Possibly to ***yapa** instead.

(actual or close) child of “cousin mother” <thabuji>. (NgKL)

pTangkic ***thapu-cu** (NE)

Key: ***yarra** “away” nAdvDir

KThaayorre *yarra* “away, further on; separately, apart” (AH)

YY *yarra, yirr* “away”²⁷⁰ Note also *yirr*, *yirra+r* “one, another”.

YMel *yarra, a* “away”²⁷⁰

UOykangand *err* “away” BA, BS, PH

GYim *yarra* “over there, yonder” *ps*: Demonstrative (JHav)

KYalyarra “that way” “This is always accompanied by a gesture.” (Hr&Hr)

GBadhun *yarra* “beyond” Note also *yarru* “this, here”. (PS)

W. Bundj *yirra*: “opposite direction” (MS)

Gumb *yarrang* “there, that” Glide /r/ expected. (DE)

Pitta-Pitta *yarrha* “wide” *Phon*: “rrh” = trill. Cognate? Syn. *tharrha(wa)*.

(BB)

Diyari *yarra* “this way (towards speaker)” Contrast *yarrha* “that way (away from speaker)”²⁷¹ (PA)

Ngamini *yarra* “hither, towards speaker” Contrast *yirra* “that way” (PA; GB 1976:748)

Yarluyandi *yirra* “that way” (PA)

pWK ***yarrha**²⁷² (PA CLE)

Y’warrka *yarra* “this way” (PA CLE)

pCK ***yarra**²⁷³ (PA CLE)

Ara.-Wang. *yarda* “further, again” Correspondence of /rd/ remains to be demonstrated. (LH 1971:100,106)

Kaurna *yerra* [marker of distributivity]²⁷⁴ (T&S)

Manjiljarra *yarra-la* “do something again” v. (PMcC)

WD Warburton *yarralrayarra-la* “become loose, loosen” v. (WD)

Warlmanpa *yarri* “that” (DGN)

pPNy ***yarra ~ *yirra**²⁷⁵

²⁷⁰ Presence of V2 implies a former 3rd syllable.

²⁷¹ Possibly sound symbolism is involved, between the trill /rrh/ and the tap /rr/. The “hither” form, with a tap, evidently regularly continues the protoform; cf. the Diyari attestations of *ngurra (“camp”), *ñurra (“you”), and *carra (“thigh”).

²⁷² “rrh” = trill. Reconstructed from the “away” forms, with trills. The implied *ya > /yi/ change is not remarked on.

²⁷³ The “hither” forms, with tap.

²⁷⁴ Quality of vowel not ascertainable beyond doubt.

²⁷⁵ See Alpher 2000:16-17

^^^

Nyungar *yara ~ yira* “high; up; upright” Also *yarang* “on top, above”²⁷⁶
 (WD)

^^^

Martuth *tharratharra* “separated by death” (AD)
 Jiwarli *tharratharra* “separate, divided” (PA)

Martuth *yarta* “another; other” (AD)

Kalkatungu *yarrka* “far” (BB)

Key: ***yipi** “woman” n H

KLY *ipika* “woman” (EB)

Dyirbal *yipi* “woman” (KLH)

pPaman **yipi** (KLH)

Wirangu *ibi* “breast, milk” /yi/. (LH)

Pitj-Yank *ipi* “breast milk; breast; tiny hard projections found on some
 seeds” (CG)

Nhanda *ibi* “breast, nipple; breast milk”²⁷⁷ (JB)

pPNy ***yipi**

²⁷⁶ Regarding /r/ < intervocalic *rr, see also *kurri (*kor* “behind”); *warra (*war* “bad”).

²⁷⁷ Initial /i/ < *yi is regular.

APPENDIX 5.2

HYPOTHESISED PHONOLOGICAL DEVELOPMENTS IN SOME INDIVIDUAL PAMA-NYUNGAN LANGUAGES OF THE SOUTHEAST

Barry Alpher

Summary lists, for each language, of etyma in Appendix 5.1 include all with an entry for the language in question, regardless of phonological regularity or potential loan status.

Yugambeh (Sharpe 1998). Etyma in Appendix A: *calañ, *cana (“they”), *carra, *ca: (and *ca:nga, *ca:ya), *cina, *curlpi, *kami, *kana (“yamstick”), *ka:-, *ka:la, *kuli, *kuna, *lalka, *luka-, *malu, *miña (“what”), *mi:l, *ngaci, *ngacu, *ngali, *ngama (and *ngamin, *ngamung), *ngaña/i, *ngay, *nga:ni, *ngulu, *ña-, *ñurru, *ñu:ma-, *paca-, *pina, *puka, *pula, *purra/i-, *rirra, *runka-, *ruwa-, *ta:ku, *yaɭu.

Nouns of the form *CVCV acquire a termination *ng* (see Hale 1976d for a hypothesis as to the mechanism): *binang* < *pina, *dirrang* ~ *jirrang* < *rirra, *jarrang* “leg, thigh” < *carra, *jayang* “mouth” < *ca:ya, *jinang* < *cina, *kunang* < *kuna, *kalang* < *ka:la, *malung* < *malu, *miñang* < *miña. There are several sets of exceptions:

Some show evidence of some other augment: *bula(:)* ~ *bulay* (*pula), *kanay* “yamstick” (*kana), *gula:* “anger” (*kuli), *murru(:)* “nose” (pCNSW *mur[ng]), *dulgu(:)* “heart” (*lulku; Yidiny *dulgu* “heart”), *dumirrgan* “chest” (cf. pPaman *tumu; Djabugay *dumu* “chest”), *jagun* < *ta:ku, *janabung* “they” (*cana), *kumarr* “blood” (eastern *kuma; cf. Bidyara *guma* ‘blood’, Diyari *kumarrhi* ‘blood’), *ñangga(rr)* “sun; day” and *ñanggay* “day, daytime, sun time; hot/warm time; hot; heat from sun” (*ñangka; Dardidardi *nhangg* “sun”), *ngama:* “female breast” (*ngama), *ngaña/i* “me” (*ngaña/i), *ngayu(l)* (also *ngay*; see below) “I” (*ngayu), *ngurra(n)* “dingo” (*ngurra; Margany *nguda* “dog”), *bugaw* “stink” (*puka). These behave like nouns for which there is comparative evidence for a *CVCVC(V) origin: *kulan* “possum” (pPaman *kulan), *yalañ* “tongue” (*calañ), *ngamin* “breasts” (*ngamini).

A few appear to have lost *V₂: *jun* “penis, tail” (Paman *cu(:)nV; pKarnic *cun; Wiradjuri *dhun* “penis; tail”), *kung* “water” (*kungu; Awu-Laya *ngo* “water”, Kabi *kung* “water”), *nga:n* ~ *nge:n* (*nga:ni), *ngay* “I” (*ngayu).

A number come through as CVCV, unchanged: *kami* (*kami), *gurri* “Aborigine” (*kurri; Pintupi *kurri* “spouse, mate”), *jalu* “fire, smoke” (*yaɭu), *julba* “belly” (*culpi), *karru* “stone” (*karru; Pintupi *karru* “creek; creek sand”), *mala* “hand” (pPaman *mala), *ñula/e/i* “he” (pPaman *ñula; cf. *ñulagan* “she”), *ngadhu* “I” (*ngacu), *ngali* (*ngali), *yamba* “home” (pPaman *yampa), *yurri* “meat” (*yuri; Bidyara *yurdi* “animal; meat”). Of these, at least some of the nouns are likely loanwords; the pronouns require study in the context of their places in the case and person-number paradigms. Also, it is possible that gender suffixes have created pressure to analyse suffixless forms as vowel-final.

The attestation of vowel length in disyllables is equivocal: *nga:n* ~ *nge:n* “who; someone” (*nga:ni), vs. *jayang* “mouth” (*ca:ya) and *jagun* (*ta:ku).

Initial coronal consonants continue with fluctuation possibly due to dialect variation:

jalañ “neck, throat” and *yalañ* “tongue” (*calañ), but *ja-* “eat, drink” < *ca-, *jana-* “they” < *cana, *jaya* “mouth” < *ca:ya, *jinang* “foot” < *cina, *julba* “belly” < *culpi.

jalu “flame” <? *yaɭu, but *yan-* “go” < *ya(n)-, *yamba* “home” (*yampa; but poss. a loan), *yurri* “meat” (*yuri; poss. a loan).

jirrang ~ *dirrang* ~ *diyang* “teeth” < *rirra, *duwa-* ~ *juwa-* “dig” < *ruwa, but *dung(g(a))-* “cry” < *runga-

dalgay “dry” < *lalka, but *juka-* “swallow” < *luka-

jagun “country” < *ta:ku.

Gumbainggir (Eades1979). Etyma in Appendix A: *calañ, *carra, *cina, *kami, *kana (“yamstick”), *kuna, *mina (“what”), *mi:l, *ngaci, *ña-, *pina, *puka, *pula, *rirra, *runga-, *ta:ku, *yarra.

*CVCV > CV:CV, in *carra (“thigh”), *kuna, *rirra (also *gu:wa* “fog, snow” < *kuwa; Madhimadhi *guwa-* “fog, mist, low cloud”, *ma:la* “hand” < *mala), *ngu:ra* “camp; house” < *ngurra; pNgayarda *ngurra). Residue, possibly loans: *gami* “grandmother” (*kami), *ngaji* “brother-in-law” (*ngaci), *miña* “what; something” (*miña).

*CVCVC > CVCV:C, as in *jala:ñ* “mouth” < *calañ.

*CVCVCV > CVCVC, as in *ganay* “yamstick” < *kana with augment *y(V?), *biñañ* “vagina” < *pina with augment *ñ(V?). The form *yarrang*

“there; that” (< *yarra with augment *ng(V)?) is suspect because *rr is expected to continue as the glide *r* in this position (see below).

*VrrV > VrV, as in *carra (“thigh”), *rirra (also *ngu:ra* “camp” < *ngurra).

Wembawemba (Hercus 1986), with notes on Wergaia, Madhimadhi, and Woiwurrung. Etyma in Appendix A: **Wembawemba:** *calañ, *cana (“they”), *carra-, *ca:ra, *cina, *kuli, *kuna, *micara, *mi:l, *ngali, *ña-, *ñun-, *ñuntu, *ñurra, *panga/i-, *pa:ca-, *pula, *rirra, *ta:ku, *wañca. **Madhimadhi:** *calañ, *cina, *kuli, *micara, *miña (“what”), *mi, *ngali, *ngayu, *ñun-, *ñuntu, *paka-, *panga/i-, *pa:ca-, *pula, *ta:ku, *wañca. **Wergaia:** *calañ, *cana (“they”), *carra-, *cina, *kuli, *mi:l, *ngali, *ña-, *pula, *rirra, *ta:ku, *wañca. **Woiwurrung:** *calañ, *cana (“they”), *carra, *carra-, *kana (“yamstick”), *kuna, *ma:- (*mama-), *mara, *ngali, *ngana, *ñun-, *ñurra, *pula, *rirra, *wañca.

Intervocalic *l remains in *buleja* < *pula, *jali-* < *calañ, (*ng*)*ali* < *ngali.

Syllable-final *l > *r* in *mir* “eye” > *mi:l, *gurngga* “heavy” (pPaman *kulngkul), and possibly also in *darma* “hard” (cf. Yir-Yoront *lalp*, *lalpa* “hard”); With these compare *wil* “curlew” (*wi:rlu, as in Pintupi *wi:rlu*). In Woiwurrung “eye” is reported as *mirn*, and in Madhimadhi “eye” is attested only in its 3rd-person possessed form *mirnu* “his eyes”. If *mir underlies these, and if the form *galg(-i)* “stick” in both languages continues *kalka, as attested in Paman languages meaning “spear”, then there is a discrepancy in the treatment of syllable-final *l*. However, it is likely that the source of *galg(-i)* was not *kalka but a trisyllable of the form *kalakV, as continued in Gippsland *galvg* “stick” and possibly also Kala Lagaw Ya *klak* “spear”, Plural *kælakal*.

Intervocalic *rr > *y* after *i in *liya* < *rirra and remains elsewhere, as in *jerriga* “stand” < *ca(:)rra-. Wergaia, Madhimadhi, and Woiwurrung apparently show the same pattern.

Initial *r > *l* in *liya* < *rirra.

Initial *c, *ñ are alveopalatal, as in *jerriga* < *ca(:)rra-, *jali-* < *calañ, *jina* < *cina, *ñaga* “see” < *ña- (also *ñula* “that one now” < *ñula [Warrgamay *ñula-ngga* “s/he Ergative], *ñaña* “what, how” < *ña(:) [Pintupi *ña:* “what”]). Intervocalic *c is dental, as in *badhema* “taste it” < *pa:ca-, *midha(g)* “rain” < *mica(ra).

Yaraldi (Narrinyeri, Ngarrindjeri; “MM” in Appendix A; McDonald 1977, Meyer 1843, Taplin 1879, Berndt & Berndt 1993). Etyma in Appendix A: *calañ, *carra, *kañc^yi, *kuna, *mangka, *mara, *mayi (“auntie”), *ma:ri,

*miña (“what”), *ngaci, *ngacu, *ngali, *ngana, *ngaña/i, *nga:ni, *nguku, *ngulu, *ña-, *ñuntu, *rirra, *ruwa-.

*CVCV > *CV:C in nouns, i.e. in words with an unsuffixed citation-form, as in *thi:r* “tooth” (if < *rirra), *ma:r* “sister” < *ma:ri, *nga:c* “totem” (if < *ngaci), *ma:y* “grandparent” < *mayi, *ngu:k* “water” < *nguku. A Yaraldi noun with a short vowel and a corresponding *CVCV etymon is suspect as a loan: *kun* “excrement” (*kuna), *mar-* “hand” (given in Taplin as *mari*, i.e. *mar* with singular marker *-i*, and in McDonald as [mara]; *mara), *miñ* “what” (*miña).

*V₁ apparently remains regularly short in reflexes of *CVCVC, as in *thalang* < *cala(ñ), and of *CVCCV, as in *kañc* (length attestation equivocal) “urine” < *kañc^yi, *penhth* “smell (vi)” < *pañci- (Diyari *panhtha-* “smell”), *kayk* “spear” < *kalka (pPaman) or *kalakV, *mangk* “down” (if < *mangka).

Attestation of initial coronal consonants is sparse and equivocal:

*r > *th* in *thi:r* “tooth” < *rirra.

*r (or possibly *t) > *l* in *lak* “spear, pierce” < *taka- (Diyari *daka-*).

*c > *th* in *thalang* < *cala(ñ), *tha-* “eat” < *ca-, but the *t* in *tar-uk* “lower leg”, if < *carra, is unexpected.

Intervocalic *r and *l are preserved in *ma:r* “sister” < *ma:ri and *thalang* “tongue” < *calañ, respectively; but intervocalic *rr becomes a glide in *thir* “tooth” < *rirra.

APPENDIX 6

PROTO-ARANDIC VOCABULARY

Harold Koch

Key:

V	any vowel
O	<i>u</i> or <i>a</i> but not <i>i</i>
E	<i>i</i> or <i>a</i> but not <i>u</i>
C	any consonant
N	a nasal consonant
T	a non-nasal consonant
CY	a palatal consonant
TY	a palatal non-nasal consonant
->	is borrowed as

Table A: *Arandic forms without external cognates*

Gloss	Proto-Arandic	Pre-Arandic	Notes
Verbs			
bite	* <i>utnhe-</i>	* <i>TunhV-</i>	Hale 1962, Koch 2001:83
chase	* <i>ule(rne)-</i>	* <i>CulO-</i>	
copulate with	* <i>Vnte(rne)-</i>	* <i>CVntV-</i>	cf. <i>kulpa-</i> WD, Warlpiri
cut off	* <i>urnte(rne)-</i>	* <i>CurntO-</i>	
get stuck in	* <i>ume(rne)-</i>	* <i>NumO-</i>	
go about (in search of)	* <i>u(t)nthe-</i>	* <i>CunthV-</i>	
insert	* <i>uke(rne)-</i>	* <i>CukV-/*wakV-</i>	
make, fix	* <i>umpare -</i>	* <i>CumpV+CarV-</i>	
manipulate in coolamon?	* <i>aynpe- / *arnpe-</i>	* <i>Ca(r)npi-</i>	
pluck, clear of feathers	* <i>althe-</i>	* <i>CalthV-</i>	
put (down)	* <i>arre(rne)-</i>	* <i>CVrrV-</i>	
put foot down, move off	* <i>arnpe-</i>	* <i>CarnpO-</i>	
put high	* <i>utye(rne)-</i>	* <i>CYutyV-?</i>	
return	* <i>alpe-</i>	* <i>CalpO-?</i>	
see	* <i>are-</i>	* <i>miira-?</i>	
shine (on)	* <i>arrtye-</i>	* <i>CVrrtyV-</i>	
sing	* <i>ayle-</i>	* <i>Ca(r)li-</i>	
swallow	* <i>uke(rne)-</i>	* <i>CukV-/*wakV-</i>	
tie	* <i>irrttye-</i>	* <i>CVrrtyV-</i>	

Gloss	Proto-Arandic	Pre-Arandic	Notes
Body parts and products			
armpit	<i>*ilhenpe</i>	<i>*CilhVnpV</i>	Koch 2001:83
blood	<i>*arrknge</i>	<i>*CVrrngV</i>	Koch 2001:83
brain	<i>*ake+urrnge</i>	<i>*kaka+CurrngV</i>	
breast	<i>*atye</i>	<i>*CatyV</i>	Koch 2001:83
egg	<i>*ukarte</i>	<i>*muka+artV</i>	
face	<i>*inngerre</i>	<i>*NinngVrrV</i>	
fat	<i>*antere</i>	<i>*NantOrV</i>	Hale 1962:#6, Koch 2001:76
hand, finger	<i>*iltye</i>	<i>*miltyV</i> “claw”	Koch 2001:77
nasal mucus	<i>*yungkel</i>	<i>*CYungkVl</i>	
sweat	<i>*anytyeye</i>	<i>*CantyVyV</i>	
tendon	<i>*alurrnge</i>	<i>*CalO+CurrngV</i>	
thigh	<i>*uylepere</i>	<i>*warli+pVrV</i>	Warumungu warli
throat	<i>*ahentye</i>	<i>*CaakVntyV</i>	
Human			
man	<i>*urte</i>	<i>*CurtO</i>	Koch 2001:77
person, woman?	<i>*arelhe</i>	<i>*CarVlhV</i>	
female	<i>*amarle</i>	<i>*ngama+arlV</i>	
dreaming	<i>*altyerre</i>	<i>*CaltyVrrV</i>	
camp	<i>*apmere</i>	<i>*TamVrV</i>	
single men’s camp	<i>*arnkentye</i>	<i>*CarnkVntyV</i>	-> Pintupi (y)arnkinytji
single women’s camp	<i>*arlwekere ?</i>	<i>*CurIVkVrV/*wa-</i>	-> Pintupi yarlukuru
Kin			
father’s father	<i>*arrange</i>	<i>*CarrVngV</i>	
father-in-law	<i>*ahenterre</i>	<i>*CaakVntVrrV</i>	
mother’s father	<i>*atye, itye</i>	<i>*CEtyV</i>	
cousin (female)	<i>*altyele</i>	<i>*CaltyVlV</i>	
cousin (male)	<i>*a(t)inkele</i>	<i>*CankOlV</i>	
sister-in-law (of f?)	<i>*arntenge</i>	<i>*NarntOngV</i>	
Artefacts			
axe	<i>*ilepe</i>	<i>*CilOpV</i>	
digging stick	<i>*atneme</i>	<i>*kana+m(p)V</i>	
spindle	<i>*ante *unte</i>	<i>*CuntO</i>	
rabbit bandicoot tail-tip	<i>*alpiyte?</i>	<i>*CalpV+CV(r)ti</i>	

Gloss	Proto-Arandic	Pre-Arandic	Notes
Natural world			
ant bed	*ungepeye	*munka+pV̥yV	
burrow	*ulhenge	*ngulha+ngV	
cave	*inteye	*CintV̥yV	
cliff	*arnke	*CarnkV	
coals	*(a)perrke	*CapVrrkV	
delicacy, honey	*ungkarle	*NungkaarV	-> Pintupi ngungkarli
flame	*inthe	*CinthV	
gap	*utatye	*CutaatyV/*wa-	
ground	*ahe-	*CaakV-	
rainbow	*umperlarre	*CumpVrrV-	
road	*iyteye	*Ci(r)tiyV	
rock hole	*arnerre	*NarnOrrV	
sun	*aherrke	*CaakVrrkV	
Direction			
east	*Vkngerre	*kangarra !	cognates have form *kakarra
west	*alte-	*CaltO-	
far	*arlenge	*CarlOngV	
down, under, inside	*ukene	*CukVnV/*wa-	
Plants			
<i>Euc. opaca</i> desert bloodwood	*arrke	*CarrkV	
<i>Euc. coolibah</i>	*ankerre	*CankOrrV	
green grass	*atherrke	*CathVrrkV	
<i>Ac. aneura</i> mulga	*artetye	*CartOtyV	
<i>Ventilago viminalis</i> supplejack	*atnyere	*TanyVrrV	
<i>Ficus platypoda</i> wild fig	*wityerrke/*yu-	*wityVrrkV /*CŸu-	
<i>Canthium latifolium</i> native currant	*ahakeye	*CaakaakV̥yV	Hale n.d.:#181
<i>Ac. kempeana</i> witchetty bush	*atnyeme	*TanyVmV	
<i>Ac. ligulata</i> umbrella bush	*arterrke	*CartOrrkV	
<i>Ac. tetragonophylla</i> dead finish	*arlketyerre	*CarlkOtyVrrV	
<i>Ac. victoriae</i> acacia bush	*urlepe?, *arlepe	*COrrOpV	
<i>Atalaya hemiglauca</i> whitewood	*arlperre	*CarlpOrrV	
<i>Boerhavia</i> spp. tar vine	*ayepe	*CayVpV	
<i>Grevillea striata</i> beefwood	*iytlentye	*Ci(r)ltintyV	
<i>Hakea chordophylla</i> northern corkwood	*untye	*CuntV̥yV/*wa-	

Gloss	Proto-Arandic	Pre-Arandic	Notes
Animals			
dingo	<i>*urtnerē</i>	<i>*TurnOrV</i>	
Jew lizard	<i>*ankerte</i>	<i>*CankOrtV</i>	
kangaroo	<i>*aherre</i>	<i>*CaakVrrV</i>	
Birds			
crested pigeon	<i>*apelkere /-ure?</i>	<i>*CapVlkVrV</i>	
Insects			
honey ant	<i>*yerr+ampe?</i>	<i>*CIyVrrV+</i>	
termites, white ants	<i>*interrke</i>	<i>*CintOrrkV</i>	
Properties			
blind	<i>*upenge</i>	<i>*CupVngV / *wa-</i>	
dangerous	<i>*ahe+</i>	<i>*CaakV-</i>	
dried out, desiccated	<i>*aynterrke</i>	<i>*Ca(r)ntirrkV</i>	
empty	<i>*urlte</i>	<i>*CurltV</i>	
frightened	<i>*atere</i>	<i>*CatOrV</i>	
knowing	<i>*akaltye</i>	<i>*kaka+CaltyV</i>	= “head”+
point	<i>*arriylpe</i>	<i>*Rirra+Ci(r)lpi</i>	= * “tooth”+
raw	<i>*arletye</i>	<i>*CarlOtyV</i>	
sick, be in pain	<i>*arnte-</i>	<i>*CarntO-</i>	
sleep	<i>*u(t)nke</i>	<i>*CunkO / *wa-</i>	
smooth	<i>*alyelke</i>	<i>*CalyVlkV</i>	

Table B: *Arandic forms with external cognates*

Gloss	Proto-Arandic	Pre-Arandic	Reference
back	* <i>artepe</i>	* <i>tartapa</i>	cogs Warluwarric
black	* <i>urrperle</i>	* <i>wurrparla</i>	cog Pintupi ?
black cockatoo	* <i>irrarnte</i>	* <i>thirraarntV</i>	cogs WA lgs
bone	* <i>ungkerne</i>	* <i>n(h)ungkarn</i>	cogs Warluwarric
budgerigar	* <i>atetherre</i>	* <i>ngatatharri</i>	cogs Warumungu, Ngumpin-Yapa
burn	* <i>ampe-</i>	* <i>kampa-</i>	ppN * <i>ka(a)mpa-</i>
butterfly, moth	* <i>intelyapelyape</i>	* <i>pinta+</i>	cognates in WA languages
father's mother	* <i>aperle</i>	* <i>kaparli</i>	cogs WA lgs
fly	* <i>amenge</i>	* <i>nyimu+ngV</i>	cognates in WQld languages
galah	* <i>ilentye</i>	* <i>kilantyV</i>	cogs Karnic
<i>Ipomea costata</i> bush	* <i>anatyē</i>	* <i>manaatyī</i>	cogs Wru, Wakaya
potato, desert yam			
night	* <i>unge</i>	* <i>munga</i>	cogs WA lgs
north	* <i>ayerrere</i>	* <i>kayirra-</i>	cogs Ngumpin
sky	* <i>alkere</i>	* <i>yilkari</i>	cogs WD
snake	* <i>upme</i>	* <i>wama</i>	cogs SA lgs
soakage	* <i>angentye</i>	* <i>paangintya ?</i>	cf. <i>ange-</i> dig
speak	* <i>a(k)ngke-</i>	* <i>TangkV-</i>	cf. <i>wangka-</i> !
spear	* <i>irrtyarte</i>	* <i>kurrtyartV</i>	cogs WA lgs
spines (of anteater)	* <i>iylike</i>	* <i>thilika</i>	cogs SA lgs
two	* <i>atherre</i>	* <i>kutharra</i>	ppN
willie wagtail	* <i>Vrtetyeretyerre</i>	* <i>CVrtO+tyirrit</i>	cognate in Bidjiri
		<i>yirri</i>	

APPENDIX 8.1

THURA-YURA BIRTH ORDER NAMES

Jane Simpson and Luise Hercus

Notes on the Table:

¹ Wyatt (1879), glossed as second son.

² WARROOYOO from Wyatt (1879), WARRIARTO from Eyre (1845:324), both glossed as second daughter.

³ Compare KAU MARRUTYA, MARRUATO, glossed as sixth child.

Table A: *Simplified table of birth-order names*

	PROTO-	BNG	ADN/ KUY	NUK	NGD	NAR	KAU
1st if male	pTY * <i>pirdi</i> cf WIR <i>birdiya</i>	PIRI	<i>virdaya</i>	<i>piriya</i>		BIDIYA	KARTAMMERU
female	pcTY * <i>kariV-</i>	KARTANYE	KUY <i>pirdiya</i> <i>arranyinha</i> KUY <i>karranyi</i>	<i>kartinya</i>		GADIDU	KARTANYA
2nd if male	pTY * <i>warri</i> cf WIR <i>warriya</i>	WAR(R)I	<i>warriyanha</i> KUY <i>warriya</i>	<i>warriya</i>	WARRIA	WARIA	WARRITYA, YERRAICHA ¹
female		WAYURU	<i>warrika</i>	<i>warriku</i> , <i>warrartu</i>		WARIDU	WARRIARTO WARROOYOO ²
3rd if male	pTY * <i>kunV</i> cf WIR <i>guni</i>	KUNNI	<i>una</i> KUY <i>kunaya</i>	<i>kuni</i>	GUNAIA	MUNIA	KUDNUTTYA
female		KUNTA	<i>unaka</i>	<i>kunartu</i>		MUNADU	KUDNATO
4th if male	pcTY * <i>munV</i>	MUNNI	<i>marru</i>	<i>muniya</i>		MILAJA	MUNNAITYA
female		MUNNAKA	<i>marruka</i>			MILADU	MUNATO
5th if male	pcTY * <i>marry</i> ³	MARRI	<i>muna</i>	<i>marriya</i>		WANGWIYA	MIDLAITYA
female		MARRUKO	<i>munaka</i>	<i>marritu</i>		WANGUDU	MIDLATO

APPENDIX 8.2

THURA-YURA COMPARATIVE VOCABULARY

Jane Simpson and Luise Hercus

This appendix contains correspondence sets for TY languages ordered by English gloss (words taken from the IAD sourcebook list (Menning and Nash 1981)). We have included some preliminary reconstructions for TY languages, as discussion-starters, rather than as solid claims. Many are likely to be areal, and so we have included comparisons with proposed pPN etyma, and with neighbouring languages.

We have posited forms for core TY languages (pcTY) if forms are attested with similar meanings in both a southern language (Narangga or Kaurna) and a northern language (Barngarla, Adnyamathanha, Kuyani), and preferably in at least three languages. Since the data on Ngadjuri and Nukunu are scanty, we use these as supporting evidence rather than as evidence of either northern or southern affiliation.

We have posited forms for the greater TY group if forms are attested in both Wirangu and the core TY languages. However we have included some forms attested only in Wirangu and a southern language, on the grounds that these are less likely to have resulted from recent borrowing. In listing correspondences, we give first the proposed reconstructions, then forms common to northern TY languages and southern TY languages, then sample forms from neighbouring languages, then forms in the TY languages from west to east to south.

We use the spelling systems of the sources where possible. For Narangga, Black and Tindale both use italics to represent sounds that are probably retroflexes. We have converted their italics to upper case.

For writing reconstructions, we use upper-case letters for sounds whose place or manner of articulations cannot be determined: R rhotic, L lateral, LH laminal lateral, C consonant, V vowel, N nasal, NH laminal nasal, T non-peripheral stop, TH laminal stop, D uncertain pre-stopping. We have blurred over whether there were non-homorganic apical-laminal clusters, writing *nth* and *lty*, rather than *nhth* and *lyty*. We have not determined if the ancestral language made a distinction between the alveolar flap *r* and the alveolar trill *rr*, but write both. Table 5 from our chapter is repeated here as Table 2.

Sources for proto Pama-Nyungan (pPN) etyma are given in the sets. O’Grady (1990) refers to papers by O’Grady in O’Grady and Tryon (1990).

Table 1: *Thura-Yura languages and sources*

language	abbr.	main source	other source(s)	
Kaurna	KAU	Teichelmann and Schürmann 1840	T1857	Teichelmann 1857
Ngadjuri	NGD	Berndt and Vogelsang 1941, Berndt 1987		
Nukunu	NUK	Hercus 1992	JV BH SL	Valentine 1886 Hack in Taplin 1879 LeBrun in Curr 1886
Narangga	NAR		JB WK EM GO NT ES	Black 1920 Kühn 1886 McEntire 1879 O’Grady 1958 Tindale 1936 Snell in Griffiths and Platt 1988
Barngarla	BNG	Schürmann 1844 (CS)	GO	O’Grady 2001
Adnyamathanha	ADN	Schebeck 2000a,b	DT	Tunbridge 1991
Kuyani	KUY	Hercus n.d.-a		
Wirangu	WIR	Hercus 1999	GO JMB	O’Grady notes Black 1917

Table 2: *Spelling conventions*

Sound	Our spelling	WIR	BNG	KUY	ADN	NUK
alveolar tap	r	r		r	d	r
alveolar trill	rr		rr	rr	rr	rr
retroflex glide	ɭ	R	r	R	r	ɭ
retroflex tap	rd			rd	rd	
indeterminate	R					
rhotic		Hercus (1999)	O’Grady (2001)	Hercus (n.d.-a)	Schebeck (2000a)	Hercus (1992)

Table 3: *Other languages and sources*

ARB	Arabana	Hercus 1994
ARR	Arrente	Henderson and Dobson 1994
DIY	Diyari	Austin 1981, 1990a
KUK	Kukata	Platt 1972
MAL	Malyangapa	Hercus notes
MRN	Mirninny	O'Grady n.d.
NNG	Ngaiawang	Moorhouse 1846
PAA	Paakantyi	Hercus 1993
PCK	proto Central Karnic	Austin 1990a
PK	proto Karnic	Austin 1990a
PCNSW	proto Central NSW	Austin 1997b
RAM	Ramindjeri	Meyer 1843
YNK	Yankuntjatjara	Goddard 1995, 1992
YRD	Yardliyawara	Hercus n.d.-b

Proposed cognate sets, ordered by English gloss¹

Gloss	“all”
northern TY	wapu
pPN	*wapu (some) (Alpher, this volume, chapter 5)
WIR	yabu, yaburdu
BNG	warpuru (all, the whole)
ADN	wapu
Gloss	“all”
northern TY	kurru
WIR	gudu (all the time)
BNG	kurrunnu
KUY	kurru
ADN	urru
Gloss	“all, many, big”
pTY	*marna
WIR	marna
BNG	manna (much, plentiful, large)
KUY	marnarta (big, big lot)
NUK	marna (many)
NAR	maRna, maRNa (much) (JB), mana’tjena (tremendous, big) (NT)
Gloss	“ashes”
pcTY	*muru
pNPN	*murru (O’Grady 1990:88)
BNG	murru (sand, ashes)
KUY	muru (coal)
ADN	artla mudu (hot ashes to cook in)
NUK	muru (cold ashes)
KAU	murro (ashes, dust)

¹ Note that verbs are ordered under “to X”.

Gloss	“ashes”
northern TY	thimpa
BNG	tyimba, tyimballa
ADN	artla impa (ash after bushfire)
Gloss	“ashes (charcoal)”
northern TY	piirla
WIR	garlabirl (charcoal)
BNG	pila (charcoal)
ADN	virla (charcoal)
NUK	piirla (coals)
NGD	be:la (embers)
Gloss	“bad”
pcTY	*wadLV
MRN	walyi
KUY	wardlapu
NUK	wadlucki (SL)
NAR	waRLina (JB), wadleena (EM), wollinoo (WK)
KAU	wa:dli ~ wadli (bad, incorrect)
Gloss	“bad (without)”
pcTY	*wakV-Na
BNG	wakka (without, suffix)
KUY	wakanha (without)
ADN	wakanha (without, suffix)
NUK	wakanha (without, suffix), ngarnta-wakanha
KAU	wakkinna (bad, wicked)
Gloss	“bark”
pcTY	?*yulti
RAM	yorle
BNG	yulti (dry bark)
KAU	yulti (stringybark tree)
Gloss	“beard”
northern TY	ngaNka

southern TY	yaNka
pPN	*ngarnka (Alpher, this volume, chapter 5)
pPN	*nganka (Koch 1997c)
WIR	ngangga
BNG	ngarnka
KUY	nganka
ADN	ngarnka
NUK	ngarnka
NAR	joengka (JB), janka, jankari (NT), yanka (WK), yanka (GO), yenga (ES)
KAU	yernka (North dial.)
Gloss	“beard, cheek, hair”
pTY	*maLTa
WIR	malta (hair) (JMB)
ADN	marlta (cheek)
NUK	mulda (JV)
NAR	maldalja (foreign speech) (NT)
KAU	malta
Gloss	“belly”
southern TY	munthu
MRN	muntu (chest)
NUK	munthu
NAR	munthu (GO)
KAU	munto
Gloss	“belly”
northern TY	warna
BNG	worna
KUY	warnaka (sated)
ADN	warna (sole of foot, palm of hand)
Gloss	“belly (abdomen)”
pcTY	?*TiDLi²

² The ? results from there being only two attestations.

BNG	idli (abdomen part)
KAU	tidli
Gloss	“big”
northern TY	ngarla
BNG	ngallanniti (become large, grow)
KUY	ngarla(a)ka
ADN	ngarla, ngarlaaka
Gloss	“bird”
northern TY	THirta
MRN	jirta
WIR	dyirda
BNG	irta
KUY	thirta
ADN	irta
NUK	yirta
Gloss	“black”
northern TY	ma<u>ru</u>
pNPN	*mArun (O’Grady 1990)
WIR	maRu
BNG	mau-urru (dark, black), marru (black paint)
ADN	maru (dark-skinned)
NUK	ma <u>ru</u> (black, black ochre)
NGD	murunga (black ochre)
Gloss	“blood”
pcTY	?*ka<u>aru</u>
KUY	karintyi
NUK	ka <u>aru</u>
NGD	garu
NAR	gerra (EM), ga:ro (NT), garroo (WK), karu (GO)
KAU	karro
Gloss	“blood”
pcTY	*karti

YRD	karti
BNG	kartintye (blood, sap, juice)
KUY	karintyi
ADN	arti
KAU	karti (human blood)

Gloss	“body: muscle, sinew”
pTY	*THiltya
pcTY	*thiltya
WIR	dyildya
BNG	iltya
KUY	thiltya
ADN	iltya
NUK	di:ltja (Tindale)
NGD	ildja
NAR	diltja (NT)
KAU	tiltya

Gloss	“bone”
pTY	*waLpu
pcTY	*waLpu
northern TY	warlpu
ARB	warlpu
WIR	warlbu
BNG	walbo (bone, strong)
KUY	walpu
ADN	warlpu
NUK	warlpu
NGD	walpu (bone needle), jadna’walpu (back-bone of a fish)
NAR	worlpoo (WK), wulbo (ES)
KAU	worpo

Gloss	“breast”
pTY	*ngamV
pPN	*ngamun (breast), *ngama (mother, breast) (Alpher, this volume, chapter 5)
BNG	ngamma (female breast, milk)

KUY	ngama
ADN	ngama
NUK	ngami
NGD	ngama
NAR	ngami (JB), am:i (also mother) (NT), ngammi (milk) (GO), ammey, ammey rue (milk) (ES)
KAU	ngammi
Gloss	“camp (house)”
pcTY	*wardli
pCNSW	*walaay
KUY	wardli (house)
ADN	wartli(pa)
NUK	wartli
NGD	wadli
NAR	waRLi (JB), wurlie (EM), wadli (NT), wodlee (WK)
KAU	worli
Gloss	“camp (house, ?from “join”)”
pTY	*karrpa
pcTY	*karrpa
WIR	garba (house)
BNG	karpa (inside, room, European house)
KAU	karpa (support, prop)
Gloss	“camp (hut)”
northern TY	karnku
WIR	garn.gu
BNG	karnko
KUY	kanku
ADN	anku, arngu
Gloss	“chest”
pcTY	*kuntu
MRN	kurntu (breast)
ADN	untu (old word)
NUK	kuntu

NGD	kundu
NAR	guntu (NT)
KAU	kundo
Gloss	“child, baby”
southern TY	wa(L)kuwa(L)ku
NUK	wolkalko (baby) (JV)
NAR	wakak:o (young of wallaby) (NT), voccacoo (baby) (WK)
KAU	wakwakko, wakowako (child, offspring)
Gloss	“child, small”
northern TY	yakaCV
KUY	yakala
ADN	yakarti
NUK	yakarla (small)
Gloss	“child, small”
northern TY	waNi
WIR	wanyi (girl)
KUY	wanhi-wanhi- (chop into small pieces)
ADN	watni, watnhi, vartni (small)
Gloss	“child, voice of infant”
pcTY	*kunga
BNG	kunga kunga (cry of an infant)
NUK	kungapa (child), kungunya, kungurti (baby)
NAR	gu:nga, gunganja, gu:nganja (JB), gunganja, kunganja (NT), guanetti (children) (WK)
Gloss	“child, small”
pTY	*kitya
pNPN	*kaajung (son, child) (O’Grady 1990:100)
WIR	gidya
BNG	kaitya
NAR	gidja (small), tu:gudja (small intensive) (JB)
KAU	tokutya ~ tukkutya (child, small)

Gloss	“cloud”
pcTY	*ma(L)ku
NNG	makkurr (rainy, cold)
MRN	makuru (wind)
BNG	malko
KUY	mapinya
NUK	maku (high cloud)
NGD	malku (heavy white cloud)
NAR	maku (JB), makoo (EM), mak:o (NT), maccoo (WK), maku (GO)
KAU	makko
Gloss	“cloud (low, fog)”
pcTY	*putyi
ADN	vutyi (fog, low cloud)
NUK	putchie (BH)
NGD	butji
KAU	putyilyulo (drizzling rain, fog)
Gloss	“cold (cough)”
pcTY	*kuLTV-
BNG	kolutu (to cough)
NUK	kurdi (phlegm)
NAR	coulty (to cough) (ES)
KAU	gurlte (cold, cough)
Gloss	“cold, frost”
pcTY	*pakaDla
pPN	*paka (frost) (O’Grady 1990:224: P27)
BNG	bakkalla (hoarfrost)
KUY	pakala
ADN	vakala (frost, ice)
KAU	bakkadla (cold, chilly)
Gloss	“cold (in head)”
northern TY	(y)urrkV-
WIR	urgarda

BNG	yurkuru (nose mucus, cold)
ADN	yurrka-pa- (to cough)
Gloss	“cold (weather)”
pTY	*paya-
northern TY	payala (Probably derived from “to bite”)
WIR	bayala (Gawler Ranges)
BNG	pai alla
NUK	payala (cold weather)
KAU	manyapaianna (cold, chilly)
Gloss	“cold (weather)”
pTY	*mVnyV
pcTY	*manya
pPN	*minya (Alpher, this volume, chapter 5)
WIR	minyuru, minyura
BNG	minyara, kauo-manyartini (rainwater)
NUK	manya
NAR	manjatu, manja (rain) (JB), munyertoo (EM), manjatu (NT), manartoo (WK)
KAU	manya
Gloss	“come here!”
pTY	*paNi
WIR	banyiwa
BNG	pardni (hither, this way)
NUK	patnhi manhani
NAR	paRni bamani (JB), burnee, bumenee (EM), barni ‘bamani (NT), bernie, bornatcha (come on) (WK)
KAU	parni
Gloss	“come here!”
pTY	*ka
pcTY	*kawayi
WIR	ga! (come on!)
KUY	kawai (come on)
ADN	avia

NUK gubbi (come on) (JV), kareung (come on) (SL)
KAU kauwai, kawai

Gloss “dog”
pTY ***wiLka**
northern TY **wiLka (domestic dog)**
WIR ilga, wilka (domesticated) (JMB)
BNG wilga (domesticated)
KUY wilka
ADN wilka, wirlka
NUK wilka (native dog, dingo), nyilka
NGD wilka
KAU wirka (T1857)

Gloss “dog”
southern TY **kadli (domestic dog)**
PAA karli
RAM ke:li
NNG kedlu
NUK katli
NAR kadli (JB), kuddelee (EM), kadli (NT), kadle (WK), colley (ES)
KAU kadli

Gloss “down, below”
pcTY **?*warta-³**
northern TY **wartathi**
BNG wortatti (south east coast and country)
KUY wartathi
ADN wartithi (down), wartathi (low)
NGD watate (under)
KAU worta (that which is behind), wortara (after)

Gloss “dry”
pcTY ***muDLa**

³ The ? relates to the distance in meaning of the Kaurna form “behind”.

northern TY

pNPN

BNG

NUK

KAU

Gloss

pcTY

pCK

DIY

NNG

KUY

ADN

KAU

murdla

*murla (O'Grady 1990)

mulla, murdla (dry, dry land)

murtla (dried up, no good)

mulla

“dry, dust”

***puthV-RV**

*puthurru

putha (ash)

putto (dust (-storm))

puthurru

vutha

buturro (dry, dry wind)

Gloss

pTY

PAA

WIR

BNG

KUY

ADN

NUK

KAU

“ear”

***yuri**

yuRi

yuRi

yurre

yuRi

yuri

yuri

yurre

Gloss

pcTY

BNG

KUY

ADN

NUK

NGD

NAR

KAU

“earth”

***yarta**

yerta (land, country)

yarta

yarta

yarta (ground, dry earth)

jata

yaRta (JB), yerta (EM), ‘jerta (NT), gerta (WK), yarta (GO)

yerta

Gloss

southern TY

“egg”

muka

pNPN	*muka (O’Grady 1987)
NUK	muka
NAR	mok:a (NT), mokka (WK)
KAU	muka
Gloss	“egg”
northern TY	pipi
KUY	pipi
YRD	pipi
WIR	bibi
BNG	bebi (egg, jelly)
KUY	pipi
ADN	vipi
Gloss	“elbow”
pcTY	*thiDNngi
PAA	thiingki, thiin.ki (knee)
KUY	thidni
NUK	thinghkitji warlpu
NAR	didnngi (JB), dinny (ES)
KAU	tidngi
Gloss	“elbow”
northern TY	K/NGuNaN-⁴
MRN	ngurnan
WIR	gurnarn (LAH), kurnan ~ wurnarn (GO)
BNG	kurnunnu
KUY	ngunani (inner elbow)
ADN	nguna urtu (hollow inside elbow), nguna (arm)
Gloss	“eye”
pTY	*mii-na
pPN	*mi:l (Alpher, this volume, chapter 5)
WIR	mil, mina (Gawler Ranges)
BNG	mena, mialla

⁴ The *k/ng* alternation is unexplained, but others have been found, cf. “fire” and “burn”.

KUY	mina
ADN	mina, minaaka
NUK	miina
NGD	mena
NAR	mi:na (JB), midna (EM), mena, mina (NT), minna (WK), minna (GO), mena (ES)
KAU	mena, me- [initial in compounds]

Gloss	“eyebrow”
pcTY	*piiku
PAA	piku (forehead)
BNG	beku
ADN	viku (eyebrow)
NUK	piku
NAR	bi:ku (JB), buckey, beko (eyebrow) (ES)
KAU	piko (eyebrow)

Gloss	“far (stranger)”
northern TY	yampa
WIR	yamba, yambaga (far, stranger)
BNG	yambarra (out of sight)
KUY	yampa (stranger)
ADN	yampa (outsider)

Gloss	“fat”
pTY	*mVrnV
pcTY	*marni
pK	*marni
WIR	mirnu
BNG	marni (fat, grease)
KUY	marni
ADN	marni
NUK	marni
NGD	mang’i (grease)
NAR	man:i, marni murrn-nee (fat, caul fat) (NT), mernie (WK)
KAU	marni ~ marnitti

Gloss	“feather”
pTY	?* paDLu ⁵
ADN	vartlu
KAU	padlo (hair, plumage of birds)
Gloss	“fingernail”
pTY	* pirri
pCK	*pirrhi
MRN	pirri
WIR	birri
BNG	birri
KUY	pirri
ADN	virri
NUK	mara-pirrinya, pirrintyi
NGD	beringi
NAR	maRa biRi (JB), mar:a piri (NT), murra bree (ES)
KAU	birri
Gloss	“fire”
pTY	* karDla
MRN	karla
WIR	garla
BNG	gadla
KUY	kardla
ADN	artla
NUK	kartla
NGD	gadla
NAR	kaRLa (JB), kudla (EM), kadla (NT), gurdla (WK), cudla (wood) (ES)
KAU	garla ~ gadla
Gloss	“fish”
pTY	* kuya
pPN	*kuya/u (Alpher, this volume, chapter 5)
pCNSW	*guya (fish)

⁵ The ? relates to there being only two attestations.

WIR	guya
BNG	kuya
NUK	kuya
NGD	guja
NAR	kwi:ja (JB), kooya (EM), ‘kuja [sometimes applied to butterflyfish] (NT), guya (WK), quea (ES)
KAU	kuya
Gloss	“fly”
pcTY	*thapu
pPN	*TapV (Hendrie 1990)
ADN	yapu (bush fly)
NAR	dabap:o (NT), dadaboo (WK), thapupu (GO), tebbab (ES)
KAU	tappo
Gloss	“fly (big fly)”
pTY	*thumpV-Ca
MRN	umpara
WIR	umbara, yumbara
BNG	yumbarra
KUY	thumpaRa
ADN	urlkamparra (March Fly)
NUK	thupa
NAR	tumbula (marchfly) (NT), dumboola (horsefly) (WK)
Gloss	“fly (big fly)”
pcTY	*thupV(-Ra)
ADN	yuvudavuda/yuvurd-uvurda (blowfly)
NUK	thupa
NAR	duboora (blowfly) (WK)
KAU	tuburra
Gloss	“food”
pTY	*mayi
pPN	*mayi (Alpher, this volume, chapter 5)
pNPN	*mayi (O’Grady 1990)
WIR	ma, maa (GO)

BNG	mai (vegetable)
KUY	mayi
ADN	mayi
NUK	mayi (vegetable)
NAR	mayi ~ maiji ~ maji (esp. vegetable) (JB), mai ~ maji (esp. vegetable) (NT), miei (bread) (WK), mayi (GO)
KAU	mai
Gloss	“foot”
pTY	*THiDna
pcTY	*thidna
pPN	*cina (Alpher, this volume, chapter 5)
WIR	dyina
BNG	idna
KUY	thidna
ADN	itna
NUK	thitna
NGD	tidna, idna
NAR	tidna (JB), thidna (EM), didna (NT), didna (WK), thitna (GO), deena (ES)
KAU	tidna
Gloss	“good”
pcTY	*wayV-
BNG	wayeriti (to be in good health)
KUY	wayiri (good, soft of food)
KAU	waiarnda ~ waiarngarnda (very good, very able)
Gloss	“hair, feather”
pTY	*puthi
BNG	putti ~ butti (hair, fur)
NUK	kakarti-puthi (hair of head)
NGD	bidnu’buti (armpit hair)
NAR	mina-buti (eyelashes) (JB), mena-buti (eyebrow), put:i, but:i (hairy) (NT), puthi (hair of leg) (GO)
KAU	puti (hairy)

Gloss	“hand”
pTY	*<u>ma</u>ra
pPN	*mara (Alpher, this volume, chapter 5)
WIR	maRa
BNG	marra (hand, finger)
KUY	maRa
ADN	maRa
NUK	<u>ma</u> ra
NGD	mura
NAR	maRa (JB), murra (EM), mar:a (NT), mirra (WK), murra (ES)
KAU	marra

Gloss	“head”
pTY	*<u>ka</u>ka
YRD	kakapati
WIR	gaga
BNG	kakka
KUY	kaka(rta)
ADN	akarti [used in Blinman area]
NUK	kakarti, kokulli (JV)
NGD	akadi, akuri
NAR	kaka, gaga (JB), kukaa (EM), kak:a (NT), kakka (WK), kaka (GO), kuka (ES)
KAU	kakka-ngatpandi (head-enter is dive)

Gloss	“heart”
northern TY	thur<u>l</u>ku
pPN	*lulku (Alpher, this volume, chapter 5)
BNG	yulgo
KUY	thulku-kaka
ADN	yurikaaka
NUK	yuriku
NGD	yulku

Gloss	“hungry”
northern TY	karn<u>p</u>a

WIR	garnba
BNG	karnba
KUY	kanpa
ADN	arnpa

Gloss	“knee”
pTY	?* pur _V ⁶
northern TY	pura
WIR	buRa
BNG	purra
ADN	vuRa
NUK	pura [rare]
NGD	bura
KAU	purilya (kneecap) (T1857)

Gloss	“knee”
pcTY	* mampa
BNG	mamba
KUY	mampa
ADN	mampa
NUK	mampu
KAU	mamba

Gloss	“knee (kneecap)”
pcTY	* maTa
pNyungic	*mata (O’Grady 1990:83)
YRD	mataka
ADN	mataka
NUK	matha (kneeball, kneecap)
NAR	mata (JB), mat:a (NT), mattoo (WK), mata (GO), mutta (ES)
KAU	matta

Gloss	“leaf”
northern TY	karlpi

⁶ The ? relates to the possibility that the Kaurna form relates to “stone” instead.

YNK	kalpi
WIR	garlbi
BNG	kalbi
ADN	arlpi

Gloss	“liver”
pcTY	*Tangka
northern TY	thangka
MAL	thangka
PAA	thangkunya
BNG	yangkakularriti (to be frightened)
ADN	yangka
NUK	thangka
NAR	dangka (NT)
KAU	tangka, tangkarronendi (to take a severe fright)

Gloss	“liver”
northern TY	ngaLTi
MRN	ngarlti
NNG	ngaldkur
WIR	ngaldi (LAH), ngarlti (GO)
BNG	ngalli
KUY	ngalti

Gloss	“louse”
pTY	*kuDLu
pcTY	*kuDlu
pPN	*kulu/i (Alpher, this volume, chapter 5)
WIR	gurlu
BNG	kudlu
KUY	kudlu
ADN	udlu
NUK	kutlu
NGD	gudlu
NAR	gudlu (NT), cooloo (ES)
KAU	kudlo

Gloss	“man (boy after circumcision)”
northern TY	pardnaapa
WIR	bardnaba (boy after circumcision)
BNG	pardnapa
KUY	pardnapa
ADN	vartnaapa (initiaand)
NUK	partnapa (first stage of initiation)
NGD	vad’napa (boy after circumcision)
Gloss	“man (companion)”
pcTY	*Nipu
ADN	nhuu (companion)
NAR	nippu (blackfellow) (JB), nip:u (black man) (NT), niporie (blacks pl.) (WK)
KAU	nepo (companion)
Gloss	“man (grown-up)”
pcTY	*miru (grownup man)
NNG	meru
BNG	miyerta (man of mature age), mirru (large, grown-up)
KUY	miRu (male)
ADN	miRu
NUK	miru (male)
NGD	meru
NAR	merroo (EM)
KAU	meyu
Gloss	“man (husband)”
northern TY	marni
KUY	maarni (husband)
ADN	marni (husband)
NGD	mani (husband)
Gloss	“man (initiaand)”
pcTY	?*ngulta ⁷

⁷ The ? relates to there being only two attestations.

BNG	ngultapa (youth)
KAU	ngulta (final initiate)
Gloss	“man (initiant)”
pTY	?*wilya- <u>ru</u> ⁸
WIR	wilyaru
BNG	wilyalkinye (CS)
KUY	wilyaRu
ADN	wilyaru (DT)
NUK	wilya <u>ru</u>
NGD	wilyaru
NAR	willeru (operation after circumcision) (WK)
KAU	wilyakundarti (beaten with young branches; the first stage of initiation with the male natives), wilya:ru (one who has gone through all the initiatory ceremonies; a fully grown-up man)
Gloss	“man (male, husband)”
pcTY	*yar <u>Dli</u>
MAL	yarli
BNG	yerdli (husband)
KUY	yardli (male)
ADN	yartli (male)
NUK	yartli (husband)
NAR	jaRLi ~ jERLi (JB), yerdlee (EM), njingkali (your father) (NT), balka gerlie (old man), bindirie yerlie (white man) (WK)
KAU	yerli (male generally)
Gloss	“man (person)”
pcTY	?*Tu <u>ra</u> ⁹
northern TY	*th <u>u</u> ra
BNG	yura (male)
KUY	thura
ADN	yuRa

⁸ The ? relates to the likelihood that terms for initiation diffused.

⁹ The ? relates to the distance in meaning of the Karna form “shade, likeness”.

NUK	thura (person), doora (name of group) (JV)
NGD	yuri, yuru, yura
NAR	turra (name of group) (WK)
KAU	turra (shade, shadow, likeness)
Gloss	“meat”
pTY	*paRu
WIR	baRu
BNG	paru (meat, animal, game)
KUY	parlu, parru (bony bream, gen. word for fish)
ADN	varlu, varru (fish)
NUK	partu ~ paru, paarlu (matrilineal totem)
NAR	paRu (JB), baro, baru (NT), baroo (WK), partu (GO)
KAU	paru
Gloss	“meat, flesh, heart”
pTY	*puLTHA
pcTY	*puLTHa
northern TY	*pultha
WIR	buldya (flesh)
BNG	bulta (flesh, meat, the pulse)
ADN	vultha (flesh, muscle)
KAU	bulta (heart)
Gloss	“moon”
pTY	*pira
pPN	*pira (Alpher, this volume, chapter 5)
WIR	biRa
BNG	pirra
KUY	piRa
ADN	viRa
NUK	pira
NGD	bera
NAR	biRa (JB), bigha (EM), ‘pira (NT), birra (WK), pira (GO), beera (ES)
Gloss	“mouth”

pTY	*Taa
pPN	*ca: (Alpher, this volume, chapter 5)
pNPN	*jaarung (O'Grady 1990:89)
MRN	thangkarn
NNG	taa:ko
KUK	jaa
WIR	dha- (in fixed locutions)
BNG	ya
KUY	thaya
ADN	yaya
NUK	thaaka
NGD	yaga
NAR	RDavara, RDa:bara (JB), thunbira (EM), da:bara (NT), dabara (WK), tapura (GO), dah, davalva (lips) (ES)
KAU	ta, taiappa
Gloss	“mouth, lip”
northern TY	Nimi
pK	*mimi
WIR	nyimi (lip)
BNG	nemi (lip)
NGD	ngimi (lip)
Gloss	“name”
pcTY	*mityi
BNG	metye
KUY	mityi
ADN	mityi
NUK	mityi
NAR	mitji (NT)
KAU	mityi
Gloss	“nape, neck”
northern TY	ngurnti, nhurnti
WIR	ngurndi
BNG	nurni (neck, nape)
ADN	nhurnti (nape)

NUK	ngurnti
NGD	ngundi (nape); nundi-walpu (small bone located at the back of the head)

Gloss “nape, neck”

northern TY **wakarra**

BNG wakarra

KUY wakarra

ADN wakarra (neck)

NUK wakarra (nape, back of neck)

Gloss “neck”

pcTY ***waLTu**

BNG wallu (space between two objects)

NUK waltu (fish trap)

NAR waRLtu (JB), walto, werlto (neck, throat) (NT), waldo (ES)

KAU waltu (nape, neck, every space between two things)

Gloss “night”

pcTY ***nguLTi**

ADN nguldhu (dull fire, dark, lights out), ngulhi-ngulhi- (to get dark)

NUK nolta (BH)

KAU ngulti

Gloss “night”

northern TY **maLTi**

WIR maldhi

BNG malti, marlti (GO)

Gloss “night, yesterday”

pTY ***wilya**

WIR wildyara (a long time ago)

BNG wilyarra (yesterday)

KUY wilya

ADN wilytya, wilyawilyada (evening)

NUK wilya

NGD	wildja
NAR	wiltja (EM), wiltja, wiltjalu, wiltja:lo (nighttime) (NT), wilcha (dark) (WK)
Gloss	“north wind, hot weather”
pTY	*pukarra
WIR	bugara (hot weather)
BNG	bukarra (fine weather)
ADN	vukarra (north wind)
NUK	pukurta (north wind)
NGD	bakara (north wind)
KAU	bokarra (northwesterly wind which is very hot during the summer and indicates storm)
Gloss	“north-east wind”
northern TY	ngarnara
southern TY	karnaRa¹⁰
WIR	ngarnara (hot weather)
BNG	ngannara (north-east wind)
KUY	ngarnara (hot wind)
NAR	kaRnada, gaRnara (hot wind, north wind) (JB), kanara, ‘kunara (north, north wind) (NT)
Gloss	“nose”
pTY	*muDlha
pcTY	*mudlha
pPN	*mulha (Koch 1997c)
WIR	mulha, mulya
BNG	mudla
KUY	mudlha
ADN	muthlha
NUK	mutlha
NGD	mudla
NAR	mudla (JB), mudla (NT), mudla (WK), mutlha, mudla (GO), mullah (ES)

¹⁰ Note the *ng/k* correspondence with Narangga.

KAU	mudla
Gloss	“not, do not”
pcTY	*madLa
northern TY	mardla
BNG	madla (no, none)
KUY	madla (no)
ADN	martla (a little bit, not much, low)
NUK	martlaka (no)
KAU	madlanna
Gloss	“not, do not”
northern TY	kuta
WIR	guda
BNG	kutta
KUY	kuta (not), kutha (no, don’t)
ADN	uta(na)
Gloss	“now”
pTY	*kaRi
PAA	karingki (tomorrow)
WIR	gari, gaRi
BNG	kari (gradually, bye and bye)
KUY	karindi, kari
ADN	adi (before, still, later)
NAR	gerrie (also, today) (WK)
Gloss	“now, again”
pcTY	?*nhaTa¹¹
KUY	nhathali (again)
ADN	nhata
KAU	natta, narta
Gloss	“now, morning”
pTY	?*panyi¹²

¹¹ The ? relates to the distance in meaning.

¹² The ? relates to the distance in meaning.

WIR	banyi (right now)
NAR	banji, buntée (morning, this morning), ‘panjawoRta (daylight) (NT)
KAU	panyiworta (morning), painingga (formerly)

Gloss “now, soon”

northern TY

	yatha
WIR	idha (just recently)
BNG	yatta, yattanyarru (today)
KUY	yatha
ADN	yatha
NUK	yatta (JV)

Gloss “old man”

pTY ***puLka**

pPN	*purlka (big) (Alpher, this volume, chapter 5)
YNK	pułka (big, important)
NNG	bukkul (aged)
WIR	burlga
BNG	bulka
ADN	vu(r)lka
NUK	purlkari
NAR	buRka (JB), bulka (NT), balka gerlie (old man) (WK)
KAU	burka

Gloss “one”

pTY ***kuma**

pPN	*kuma (Alpher, this volume, chapter 5)
WIR	guma
BNG	kuma, kubmanna (one, alone, sole)
KUY	kubma, kumanha
ADN	upma(nhaka)
NUK	kupmana
NAR	gaoma (EM)
KAU	kuma, koma

Gloss “other, another, the rest”

pTY	*kutyu
YNK	kutyu (one)
WIR	gudyu (other)
BNG	kutyu (another)
KUY	kutyu (other, different)
ADN	utyu(nha) (another)
NUK	kutyu (other, different)
NAR	kutju (NT), gootchoo (another) (WK)
KAU	kutyu (little, few, the rest)
Gloss	“penis”
pcTY	*waRi
BNG	worri
KUY	waRi
NUK	wa _{ri}
NGD	wari
KAU	worti, worri (tip, tail), worri parti (circumcised)
Gloss	“pigface, plant food type (? <i>Mesembrianthemum</i> sp.)”
pTY	?*kaCkaLa¹³
pcTY	*karrkaLa
WIR	galgala (wild banana), karlkala (<i>Mesembrianthemum equilaterale</i>) (Tindale)
BNG	karkalla (kind of cactus, native fig)
ADN	arrkarla (pigface, edible root)
NAR	karkala (pigface) (NT)
Gloss	“red”
pTY	?*TVLTV-¹⁴
pcTY	*TaLTHa-
northern TY	thaltha-
WIR	ilduru
BNG	yallurko (reddish, brown)
KUY	thalthatyi

¹³ The ? relates to the unexplained *l-rr* correspondence in Wirangu.

¹⁴ The ? relates to the loss of initial consonant in Wirangu, which suggests it may be a borrowing from Barngarla after initial lenition in Barngarla.

ADN yaltha-[tyi]
KAU taltarni

Gloss “red ochre”
pcTY ***miLTi**
NNG milti
BNG milti
KUY milthalta
NUK milthi
NGD mildi
KAU milte

Gloss “red ochre”
pcTY ***karrku**
DIY karku
KUY karku
ADN arrku
NUK karku (yellow ochre)
KAU karko

Gloss “rib”
pcTY ***TiNinyV**
NNG tennir
BNG inninye
ADN ininya/i
NAR tintey (ES)
KAU tinninya

Gloss “rib, side, flank”
pTY ***pantyi**
pPN *panja (O’Grady 1990)
pCK *pangki (rib)
WIR bandyi
KUY pantyi
ADN vantyi (flank of body)
NGD yadna-bandji (fleshy part of backbone)
KAU pantyi (side)

Gloss	“road”
pTY	?* Tapa ¹⁵
pcTY	* Tapa
northern TY	thapa
PAA	thina-putana-yapa
WIR	yabadingarn (sneak up on game)
BNG	yappariti (walk softly, steal on)
KUY	thidna-yapa
ADN	yapa
KAU	tappa
Gloss	“root”
NorthernTY	* kangV
WIR	gangu (tree: red mallee, root)
BNG	kangu (edible kind of root)
NGD	gunga (water-bearing mallee root)
Gloss	“rotten, bad-smelling”
pcTY	* thungkV
pK	* thungka
PAA	thungka-thungka
NNG	tungko
KUY	thungka-thungka
ADN	yungka
NUK	thungka
NAR	dunka (bad smell) ?thoongka (NT)
KAU	tungki
Gloss	“rotten, bad-smelling”
pTY	?* puka ¹⁶
pPN	*puka (Alpher, this volume, chapter 5)
PAA	puka-warta

¹⁵ The ? relates to the distance in meaning of “sneak up” in the Barngarla and Wirangu, as well as to the initial lenition in Wirangu.

¹⁶ The ? relates to the lack of k-w alternation within core TY (although they do exist between Wirangu and other TY languages, cf “stand”).

MRN	puka
WIR	bunggara, bugara
BNG	buka (old, rotten, putrefy)
KAU	pua (disagreeable smell, stench)
Gloss	“shit, faeces”
pTY	*kuDna
pcTY	*kudna
pPN	*kuna (Alpher, this volume, chapter 5)
WIR	guna
BNG	kudna
KUY	kudna
ADN	udna
NUK	kutna
NGD	gudna
NAR	goodnarie (WK)
KAU	kudna
Gloss	“shoulder”
northern TY	piLpi-
ARB	pilpiri
WIR	bilbi
KUY	pilpiri
ADN	viripiri
Gloss	“shoulder, wing”
pcTY	*wiri
BNG	wirri
ADN	wiri (wing)
NUK	wiri (shoulder, wing)
NAR	wiRi (JB), wirree (ES)
KAU	wirri (back part of shoulder)
Gloss	“sick, ill”
pTY	?*ngaNDa-N¹⁷

¹⁷ The ? results from there being only two attestations.

MRN	ngarntany (sick)
WIR	ngarndarn (feel pain), ngantha (GO)
KAU	ngandanna, ngandandi (be sick)

Gloss	“sick, wound”
pTY	*mingka
pK	*mingka (hole)
WIR	mingga
BNG	mingka
ADN	mingka (sore)
NUK	mingka (sick, bad)
NGD	mingga
KAU	mingka (wound, rent)

Gloss	“skin”
pcTY	?*paLpa¹⁸
southern TY	paLpa
ADN	varlpa (put on clothes), varlpa-ka- (to be shy with)
NUK	parlpa
NAR	parpari (premature child) (NT), bulba (skin of man) (ES)
KAU	parpa (skin, foreskin)

Gloss	“skin”
northern TY	piyi
YNK	pii
BNG	piyi, piyipyi-rriti (blush, be shy)
KUY	piyi
NGD	wari’bi (fore-skin)

Gloss	“skin, clothes”
pTY	*palhtha
PAA	balhdha
MAL	palatha
WIR	baldha
BNG	palta (clothing)

¹⁸ The ? relates to the distance in meaning of “put on clothes”, and “be shy” in Adnyamathanha, but compare Barngarla /piyi/.

KUY	paltha (skin, clothes)
ADN	valtha (clothes, fur)
NGD	bilda'palda (opossum rug)
NAR	bilta-balta (opossum rug) (JB), itjina balta (boot) (NT)
KAU	tidnabalta (shoe or boot), yerkobalta (stocking)

Gloss	“sky”
pcTY	*NayirrV ¹⁹
PAA	ngayarra
MAL	ngayiri
BNG	naieri
ADN	ngairri
NUK	ngayirri, nhayirri
KAU	ngaiera

Gloss	“sky”
northern TY	iLkaRV
YNK	ilka _{ri}
WIR	igari (Hercus notes)
BNG	ilkari (sky or ether)
NUK	yirka-multi
NGD	ikara

Gloss	“sky, cloud and dust”
pcTY	?*wirra ²⁰
WIR	wira
BNG	wirra (air, ether, rain)
ADN	wirrawarlpanha (duststorm)

Gloss	“smoke”
pTY	*puyu
YNK	puyu
MRN	puya
WIR	buyu
BNG	puyu

¹⁹ The N relates to the alternation between /ng/ and /nh/.

²⁰ The ? relates to the distance in meaning between sky and dust.

KUY	puyu
ADN	vuyu- (blow with mouth, smoke out)
NUK	puyu
NAR	buju (JB), bee-yoo (NT), booyoo (WK), beo (steam) (ES)
KAU	puiyo

Gloss	“smoke (stuff for producing smoke)”
pTY	?*Tumpu²¹
PAA	thumpu
pK	*thupu
BNG	yumbu [no gloss given but linked with fire]
KUY	thupu
ADN	yumpurru (sandalwood)
KAU	tumbo (stuff to produce smoke)

Gloss	“snake”
pTY	?*TuDNu²²
WIR	dyunu (general term)
KAU	turno (grey snake), tudno, tudnoununya (small snake)

Gloss	“snake”
northern TY	wapma
BNG	wabma
KUY	wabma
ADN	wapma
NUK	wapma (carpet snake)

Gloss	“snake, carpet snake”
northern TY	muDLV-
WIR	mulyana
BNG	mudlannu
KUY	mudlana
ADN	murdlu
NGD	mudlu

²¹ The ? relates here to the lack of a gloss given to the Barngarla form.

²² The ? results from there being only two attestations.

Gloss	“south and south wind”
pTY	*parrpa
BNG	parpa
ADN	varrpa (south wind)
NUK	patputta (south) (SL)
KAU	patpa ~ padba ~ pardba (south)
Gloss	“southerly wind”
pTY	*walypi
pPN	*wa:rlpa (Alpher, this volume, chapter 5)
pK	walpa-ngkarrha (north)
MAL	milawalpa (west)
YNK	walpa (wind)
WIR	warlba (strong wind)
ADN	walypi wadi (south west wind), walypi varrpa (south wind)
NUK	way[i]tpi (south wind)
NGD	wailpi wari (south wind)
KAU	waitpi (wind)
Gloss	“spear (large)”
pTY	*wiNTa
northern TY	wirnta
WIR	wirnda
BNG	winna
NUK	wirnta (fighting spear)
NGD	winda
NAR	winta (JB), winta (NT), durdla winta (WK)
KAU	winda (large spear, thrown by hand)
Gloss	“spear (small)”
pTY	*kVya
pTY	*kaya
RAM	kaike
NNG	kaieko
WIR	giya
BNG	kaya
KUY	kaya

ADN	aya (play-stick)
NAR	giea (WK)
KAU	kaya (spear thrown with spear-thrower)

Gloss	“spit”
northern TY	ngapalya
ARR	pelhe
BNG	ngappalya (saliva)
ADN	ngapalya
NUK	ngapalya (spit, scum)

Gloss	“spit”
pTY	*THaDlhi
pcTY	*THadlhi
pNPN	*jaalyam (O’Grady 1990)
MRN	thali
WIR	dyalyi (LAH), ilyja (GO), thalhi (GO)
BNG	tadli (spittle)
NAR	tulley (to spit) (ES)
KAU	tadli

Gloss	“spit”
northern TY	ngalytya
pK	*ngaltja “saliva”
WIR	ngaldya (LAH), ilyja (GO)
KUY	ngalytya
ADN	ngalytya
NGD	ngalga (expectorate), ngaldja

Gloss	“star”
pcTY	*purDli
PAA, MAL	purli
NNG	pedli
BNG	purdli, purli
KUY	purdli
ADN	vurdli, purdli
NUK	putli

NGD	budli
NAR	buRLi (JB), boorlee (EM), bool-lee, budli (NT), burlie (WK)
KAU	purle

Gloss	“stone, adze”
northern TY	THurdla
YNK	tju _l arka (stone knife)
WIR	dyurla (stone knife)
BNG	yurdla (quartz, flint)
KUY	thurdla (stone adze)
ADN	yurdla (flintstone)
NUK	thurtla
NGD	yudla-gadna (white quartz used to make chisels)

Gloss	“stone, cooking stone”
pcTY	?*kaDnya²³
PAA	kanya (cooking stone)
BNG	kanya, kanyalla (pebble)
KUY	kadnya
ADN	adnya
NUK	katnya
NGD	gunja, gunja’buri (seed grinding stone)
KAU	kanyandi (to stew or steam in a native oven)

Gloss	“stone, hill, grinding stone, kneecap”
pcTY	*puRi
BNG	purri (hill, mountain)
ADN	vurri (any big hill), vuri (cotton-ball, stone)
NGD	gunja’buri (seed grinding stone)
KAU	pure

Gloss	“stone, limestone”
pTY	*parnta
pPN	*parnta (Koch 1997c)

²³ The ? relates here to the lack of a cognate in southern TY languages except in the verb “to cook in an oven”.

MRN	purntangu
WIR	barnda
BNG	parndalla (lime), purnda (round stone)
KUY	parnda (pebbles)
ADN	varnta (limestone pebble, cooking stones, oven)
NAR	baRNda, baRnta (JB), burnta (EM), paRnda (NT), bernta (WK), parnta (GO), bunda (ES)
KAU	parnda (limestone)

Gloss “stone, quartz-like stone, ice”

pcTY *makV

NNG	ma:a:ko (flint, crystal)
BNG	mako (piece of quartz on spear-thrower used as knife)
NUK	makuli (slate)
KAU	makki (glass)

Gloss “sun”

pTY *THirntu

pcTY *thirntu

YNK	tjintu
MRN	jirntu
WIR	dyirndu
BNG	yurno
KUY	thirntu, thuntu (day), yurndu
ADN	yurntu
NUK	thirntu
NGD	jandu, djendu, dendu
NAR	dintu (JB), deentoo (EM), tin-too, tjindu (NT), tintoo (WK), thirntu (GO)
KAU	tindo

Gloss “tail”

northern TY kaDLHa

WIR	galya
BNG	kadla
KUY	gadlha
ADN	adlha

NGD	wilka-adla (dog tail)
Gloss	“testicles”
pTY	*kaDLu
pcTY	*kadLu
northern TY	kardlu
YNK	ka <u>l</u> u (penis)
WIR	garlu
BNG	kadlo, kadlo bebi (testicle egg)
KUY	kartlu
NUK	karlu
NGD	gadlu
KAU	kadlomuka (k. egg), kadloadlo (the posterior parts of the thigh)
Gloss	“that (near)”
pTY	*pa-
pcTY	*pa-
northern TY	pa-nha
pPN	*pa (O’Grady 1990)
WIR	bala (3sg), banhi (this one)
BNG	panna/padlo agent (third person sing.)
KUY	panha (this) palu (agent)
ADN	vanha (3 sg), valu (agent)
KAU	pa-
Gloss	“that (remote)”
pcTY	*ngu-
northern TY	ngunha
BNG	ngunna
KUY	ngunha
ADN	ngunha
NUK	ngunyi, ngunhi
KAU	ngu-, ngurlo (that, yon)
Gloss	“thigh”
pTY	*kaNTHi

pcTY	*kaNTHi
northern TY	kanthi
MRN	kantha
WIR	gandyi
BNG	kanti (thigh, shank)
KUY	kanthi
ADN	anthi
NUK	kanthi
NGD	gunti
NAR	kanti (NT), gantee (WK), kanthi (GO), cundey (ES)
KAU	kanti
Gloss	“thigh, flank, groin”
pTY	?*paLTi²⁴
WIR	barldi (inner thigh)
KAU	palti (flank, groin)
Gloss	“this (nearest)”
pTY	*iNHa
WIR	inha, nha
BNG	inna
KUY	inha, thinha
ADN	inha, inhanta
NUK	kinhi
KAU	ia-, inna (here)
Gloss	“throat”
pcTY	*yurDni
MRN	yurntarn
BNG	yurne
KUY	yurdni
ADN	yurtni
NUK	yurtni
NGD	judni
KAU	yurne

²⁴ The ? results from there being only two attestations.

Gloss	“to bite”
pcTY	*paya-
pPN	*pacya- or *paca (Alpher, this volume, chapter 5)
MRN	patha-
WIR	badyarn
BNG	paiaata
KUY	paya, piya
ADN	vaya-
NUK	payatya
KAU	paiaandi (to bite, to understand)

Gloss	“to burn tr.”
pTY	*kampa-
pPN	*ka:mpa (Alpher, this volume, chapter 5)
pPN	*kampa- (Koch 1997c)
MRN, YNK	kampa
WIR	gambarn (cook)
BNG	kambata (cook)
KUY	kampa- (cook)
ADN	ampa- (cook)
NUK	kampatya (cook)
NAR	kambarni (burn scrub or ripen) (NT)
KAU	kambandi (roast)

Gloss	“to burn intr.”
pcTY	*ngaDLi-
YRD	ngadliri (to cook)
BNG	ngalliti (burn, take fire)
KUY	ngardli-
ADN	ngarli[i]- (boil, burn, cook)
KAU	ngadlendi (burn intr.)

Gloss	“to climb”
pTY	?*warnta- ²⁵

²⁵ The ? relates here to the distance of the meaning of the Kaurna form.

WIR	warndarn
BNG	worni-[i]kkiti (to fall, climb)
KUY	warnta (to hang up, to lift)
ADN	warnda-rta- (to hang, suspend), warntai (fly)
KAU	worndandi (soar, hover)
Gloss	“to come”
pcTY	?*puDNa- ²⁶
BNG	budnata (to come, return)
KAU	budnandi (to come, to return)
Gloss	“to cry, call”
pcTY	*kaLTa-
WIR	galdarn (bring a person or thing)
BNG	kallata
KUY	karlda (cry out)
ADN	arlda (call out)
KAU	karltandi (cry, shout)
Gloss	“to cry, tears”
northern TY	*muLka
BNG	mulka (tear, cry, lamentation)
NGD	mulka (to talk)
NAR	muRgadja (crying, weeping) [/ɾ/ hard to read] (JB), murugadja (NT), moorkanoo (WK), molka (ES)
KAU	murkandi (cry, weep)
Gloss	“to cry, to scream”
northern TY	*ngaTV-
BNG	ngattutu (to weep, cry, howl)
KUY	ngatu-
KAU	ngartarendi (cry, scream)
Gloss	“to cut”
pcTY	?*waNi- ²⁷

²⁶ The ? results from there being only two attestations.

²⁷ The ? relates to the reliability of the one southern TY attestation.

BNG	warniti (cut off or through)
KUY	warni-
NAR	wineora/wincora (ES)

Gloss	“to die”
northern TY	thinta-
DIY	thintha- (lose, spill)
BNG	inda (bloody, wounded)
ADN	inta-

Gloss	“to die”
pTY	*paDLu- ²⁸
northern TY	padlu-
pPN	*palu (O’Grady 1990)
pK	*pali-
WIR	balurn
BNG	padlutu (die, be extinguished)
KUY	padlu
ADN	vadlu (be almost dead)
NUK	parlunta
NGD	thintatya
NAR	baRLudja ~ baRLidja (died) (JB), barloona (EM), parluni (death) (NT), barluna (dead) (WK)
KAU	padlondi

Gloss	“to die, dead”
pcTY	*kuDnyu
BNG	kunyu (dead)
ADN	udnyu (dead)
KAU	kuinyo (death)

Gloss	“to die, dead”
northern TY	kupa
YRD	kupa
PAA	kupatya (white gypsum) ²⁹

²⁸ The alternation between retroflex and alveolar is unexplained.

²⁹ The connection is through the white gypsum used in mourning.

BNG	kupa (dead)
KUY	kupa (white)
ADN	upa (white)
NUK	kupa (corpse)

Gloss	“to dig”
pcTY	*paNi-
northern TY	pani-
BNG	paniti
KUY	pani-
ADN	vani-
NAR	bernite (to bury) (WK)

Gloss	“to dig”
pcTY	?*paka- ³⁰
pPN	*paka- (Alpher, this volume, chapter 5)
pK	*paku
ARB	paka-
BNG	bakkanbata (dig round)
KAU	bakkandi (dig with tool)

Gloss	“to drink, to kiss, to manipulate with mouth”
pTY	*THapa-
pcTY	*Tapa-
northern TY	thapa-
pK	*thapa
MAL	thapa-
WIR	dyabarn (kiss)
BNG	yappata (suck, kiss, drink)
KUY	thapa
ADN	yapa-
NUK	thapatya
NAR	dabbanie (WK), jee tupperrua (ES)
KAU	tappande (kiss)

³⁰ The ? results from there being only two attestations.

Gloss	“to eat”
pTY	*ngaLku-
pPN	*nga- (Koch 1997c)
YNK	ngalku-ni
WIR	ngalgurn, ngaal
BNG	ngalgutu
KUY	ngalku-
ADN	ngalku-, ngarlku-
NUK	ngalkutya
NAR	argooroo (WK), yerko (ES)
KAU	ngarkondi (eat, drink, enjoy)
Gloss	“to enter”
pcTY	*ngaLpa-
YRD	ngalparita
BNG	ngalbata (to enter, go down)
KUY	ngalpa-
ADN	ngarlpa-
KAU	ngatpandi
Gloss	“to fall”
pTY	*wardni-
pPN	*wanti- ~ *wanta- (Alpher, this volume, chapter 5)
MRN	warni- (throw)
YNK	wani-nyi (throw away)
WIR	warnirn, warn
BNG	worniti
KUY	wardni-
ADN	wartni-
NUK	wartnitya
NAR	woneidja (NT)
KAU	wordnendi, wornendi
Gloss	“to get”
pcTY	*manku-
pPN	*ma:- (Alpher, this volume, chapter 5)
YRD	mankunyi

BNG	mankutu (take, receive)
KUY	mangku-
ADN	manku- (grab)
NUK	mangkutya (pick up in one's hand)
NGD	mangguga, mangkukal, manggugala
NAR	manggwidja (carrying off) (JB), munkoon (hold, pick up) (ES)
KAU	mankondi, mangkondi
Gloss	“to get, pick up, lead, bring”
pTY	*kaNka-
pcTY	*kangka-
pCNSW	*gaa-ng
WIR	gan.garn (pick up)
BNG	kanggata (drive, lead)
KUY	kangka- (bring)
ADN	angka- (take)
KAU	kanggandi (lead)
Gloss	“to get, take away”
pTY	*mama-
pCK	*mama (take back)
KUY	mama- (take away)
ADN	mama- (take away)
KAU	mamandi (tie up, take)
Gloss	“to give”
pTY	*yungkV-
YNK	yungk-, yung-
MRN	yu-
WIR	yunggarn
KUY	yungku-
NUK	yungkatya
NAR	junggwidja, junggo (JB), ungooroo (EM)
KAU	yunggondi
Gloss	“to give”

northern TY	nhungku-
pPN	*nhu-nya (Koch 1997c)
BNG	nungkutu
ADN	nhungku-
Gloss	“to go”
pTY	?*wiNV- ³¹
pPN	*wiri- (turn) Very tentative. (Alpher, this volume, chapter 5)
NNG	wainyan
WIR	winarn/wirn
NGD	wun'ma'mara! (go back!), wandata (I am going)
KAU	wenendi (Rapid Bay dialect)
Gloss	“to go”
northern TY	nguka-
BNG	ngukata (go, walk)
KUY	nguka- (go, walk)
ADN	nguka-
Gloss	“to go, walk”
pTY	?*padNV- ³²
pPN	*paana+ (come, arrive) (O'Grady 1990:235 P73)
BNG	padnata
KAU	padnendi
Gloss	“to hear”
pcTY	*yuri- See “ear”.
BNG	yurriti
KUY	yuRiya
ADN	yuri ngathi
NAR	ungroo (EM), yooringoоро (WK), urey (ES)
KAU	yurre kaityandi
Gloss	“to hit w/ hand”

³¹ The ? results from there being only two reliable attestations.

³² The ? results from there being only two attestations.

pTY	*paLTa-
NNG	parldkun
WIR	barldarn, barldirn
BNG	paltata (knock, thrust, beget)
KUY	palta (make a hole)
ADN	varlta- (hit at)
KAU	paltandi
Gloss	“to hit w/ missile”
pTY	*ngurV-
northern TY	ngura-
MRN	wura
WIR	nguRarn
BNG	ngurata (turn around, throw waddy, grind, draw water)
KUY	nguRa- (knock over, throw down)
ADN	ngura-
NUK	nguratya (let go, hurl)
NAR	ooreroo (EM)
KAU	ngurrendi (to throw with throwing-stick)
Gloss	“to hit, cause break in material integrity”
pcTY	*pungku-
pPN	*pu- (Capell 1956:92 ‘Common Australian’)
YNK	pung-, pungk,
MRN	pu-
BNG	pungkutu (stab, bite, wound, kill)
ADN	vunggu- (tear apart)
KAU	punggondi
Gloss	“to hit, kill”
pTY	*kuNTa-
northern TY	kurnta-
YRD	kurnta-
WIR	gurndarn
BNG	kundata (strike, beat, kill), kunmata (kill)
KUY	kurnta-
ADN	urnta-

NUK kurntatya (hit, beat)
KAU kundandi

Gloss “to know, see”
pTY ***THiLka-**
pcTY ***thiLka-**
MAL, YRD thilka- (know)
WIR dyilgarn (to stare)
BNG yilkata (to gaze)
KUY thilka-
ADN ilka/irlka- (think)
KAU tirkandi (know, understand)

Gloss “to leave it”
pTY ***wVNTV-**
pcTY ***waNTa-**
northern TY **wanthV-**
pPN *wanta- ~ *wanti- (Alpher, this volume, chapter 5)
pPN *wantha- (Koch 1997c)
MRN wanta-, YNK wanti
WIR windyirn, windhirn
BNG wondata (to let be, alone)
KUY wanta-
ADN wanta-
NUK wantatya (leave off)
KAU wondandi
YNK wanti-

Gloss “to lie down”
pcTY ***waNTi-**
northern TY **wanti-**
NNG wondoan
BNG wanniti
KUY wanti-
ADN wanti-
NUK wantitya

NAR	wandidja (lying down) (JB), wondinie (to sleep), wondini (awake) (WK), wandey (ES)
KAU	wandendi (lie down)
Gloss	“to put, to get used to”
northern TY	ila-
WIR	ilarn
KUY	ila-ma- (put up with)
ADN	ilai- (get used to)
Gloss	“to see”
pTY	*nhaku-
pPN	*nya(:)- (Alpher, this volume, chapter 5)
MRN	nya-ng/k, nha-
RAM	nakk-in
WIR	nhagarn, nhagurn
BNG	nakkuttu
KUY	nhaku-
ADN	nhaku-
NUK	nhakutya
NGD	nakuka'idla (look), nakun
NAR	nagudja ~ nagwidja, naguru (JB), nagooroo (EM), nayoung (WK)
KAU	nakkondi
Gloss	“to sit”
pcTY	*Tika-
northern TY	thika-
NNG	tikkin (put into)
BNG	ikkata
KUY	thika-
ADN	ika-
NUK	thikatya
NGD	ikanga
NAR	tikadja, digani (JB), tergoonee (EM), teigani (NT), dikkanie (WK)
KAU	tikkandi, tirendi (sit, squat)

Gloss “to sleep, asleep”

pTY *miya

YRD miyu

WIR miya ngarbirn

BNG meya wanniti

KUY miya

ADN miya

NUK miya wantatya

NGD meja’wanti

NAR meah (ES)

KAU medo³³

Gloss “to speak”

pTY *wangka-

pPN *wangka (Alpher, this volume, chapter 5)

WIR wangga-rn

BNG wanggata

KUY wangka-

ADN wangka-

NUK wangkatya

NAR wonggana, wonggani (JB), wongkani (NT)

KAU wonggandi

Gloss “to spear”

northern TY wiTi-

WIR widyirn (throw a weapon)

BNG wittiti (spear, pierce)

ADN withi-, wirti-, witi-

Gloss “to stand”

pcTY *yuwa-

MRN yuka

WIR yugarn

BNG yuwata

³³ The Kaurna *d* is unexplained.

KUY	yuwa-
ADN	yuwa-, yiwa-
NUK	yuwatya
NGD	iwana
KAU	yuwandi
Gloss	“to throw”
pcTY	*paTV-
northern TY	patha-
pPN	*paca- RR conj. (to hit) (Alpher, this volume, chapter 5)
BNG	bathu-bathutu (shake out, empty a bag)
ADN	vatha-vatha (shake out as bag or rug)
NUK	pathatya
KAU	battendi
Gloss	“to tie, support, build”
pTY	?*karrpV-³⁴
northern TY	karrpV-
pPN	*karrpi- ~ *karrpa- (Alpher, this volume, chapter 5)
WIR	garbirn
BNG	karpata (join, sew, build)
KUY	karpa (mend, sew)
ADN	arrpa (sew)
KAU	karpa (support, prop)
Gloss	“tomorrow”
pcTY	?*TarrkV-³⁵
ADN	yarrkii (go early, come or go first thing in morning)
NUK	tokilou (JV)
NAR	takari, darga’ri (NT), dargerrie (WK), tull cary (ES)
KAU	yella tarkari, tarkarlyelo
Gloss	“tongue”
pTY	*THa(a)LiN
northern TY	tha(a)rli

³⁴ The ? relates to the fact that the only Southern attestation is as a noun.

³⁵ The ? relates here to the distance in meaning of the Adnyamathanha form.

southern TY

pPN	tha(d)lVnya *calany (Alpher, this volume, chapter 5)
MRN	thaalany
YNK	tjaliny
PAA	tharlinya
RAM	tallangge
WIR	dyarling, dharling
BNG	yarli
KUY	tharli
ADN	yarli
NUK	yaarli
NGD	jali
NAR	talinja (JB), thalinya (EM), dallange (WK)
KAU	tadlanya

Gloss

“tooth”

northern TY**yira****southern TY****Tiya**

pPN *rirra and/or *lirra (Alpher, this volume, chapter 5)

pCNSW *yirang

MAL thiya

YRD thiRa

RAM tu:re

WIR yira (mouth)

BNG ira

KUY ira

ADN ida

NUK yiira (teeth)

NGD era

NAR di:ja (set of teeth) (JB), teeya (EM), da, dia (NT), tea (WK),
deah (teeth) (ES)

KAU tia

Gloss

“tree”

pcTY***wadLa****northern TY****wardla**

BNG wadlata, wadla (tree, fallen timber)

ADN	wartlatha (spear)
NAR	wadelang (EM), wuddly (branch) (WK)
KAU	wadla (tree lying on ground, block)
Gloss	“tree”
pcTY	*wira
BNG	wirra (scrub, bush)
KUY	wira (River Red Gum)
ADN	wida (River Red Gum)
NUK	wita (general)
NAR	wira, wirra (scrub) (JB), WIR:a (gum tree, forest) (NT)
KAU	wirra (wood, forest, bush)
Gloss	“two”
pcTY	*puLa
northern TY	puDla
southern TY	purla
pPN	*pula (Alpher, this volume, chapter 5)
PAA	pula
BNG	pudlanbi (they two, husband and wife)
NUK	pulanha
NGD	budla-bila (two spirits)
NAR	buRLai (JB), bulli (EM), buRLai (NT), bulli (WK)
KAU	purla
Gloss	“two”
northern TY	kalypilV
WIR	kalbelli (Gawler Ranges)
BNG	kalbelli (two, a pair)
KUY	kalypila
ADN	alypili
Gloss	“up, above”
pTY	?*kaNka³⁶
northern TY	kanka

³⁶ The ? relates to the distance in meaning of the Kaurna form.

WIR	gan.gaRa, gan.garda
BNG	karnkarra
ADN	ankatha (uphill)
KAU	karnkandi (raise, lift)

Gloss	“up, above, high”
pTY	*karra
BNG	karra
KUY	karra
ADN	arra
NGD	aru’watung (top, upright part of fire-drill)
KAU	karra

Gloss	“urine, piss”
pTY	*kumpu
pPN	*kumpu (Alpher, this volume, chapter 5)
WIR	gumbu
BNG	kumbu
KUY	kumputha
ADN	umpu
NUK	kumpu
NGD	kumbu
KAU	kumbo

Gloss	“warm (weather)”
pTY	*warlta
RAM	walde
NNG	woutte
ADN	warlta
NUK	walta (heat)
NAR	waRLta (JB), woolta (EM), walta, werltau (NT)
KAU	worlta

Gloss	“water”
pTY	*kawi
WIR	gawi
BNG	kauo

KUY	kawi
ADN	awi
NUK	kawi
NGD	galwi
NAR	kawi (NT), kawi (GO), cowey (ES)
KAU	kauwe

Gloss	“water”
pTY	*kapi
pNPN	*kaping (O’Grady 1990:101)
WIR	gabi
BNG	kapi
NGD	marra-gabi (fresh water)
NAR	kabee (EM), gabi (NT), kabie (WK)

Gloss	“west”
pTY	*wangka
BNG	wangaru (westerly wind)
NUK	wangkartaki, wangkarta
NAR	‘wonggara (bad wind, west wind) (NT)
KAU	wongga

Gloss	“what (how many)”
pcTY	*-miNV
northern TY	[-]minha
pPN	*minya (Alpher, this volume, chapter 5)
pK	*minha
RAM	me:ke, miny-ar (pl)
MRN	minya (that)
BNG	namminni
KUY	nhaminha
ADN	nhaminha
KAU	wamminna (what)

Gloss	“what?”
-------	---------

pcTY	*Na-, ?*Nawi³⁷
RAM	nauwe (whose)
BNG	nauwe (who, what)
KUY	nhanga
ADN	nhangartanha, nhata
KAU	nauwe (how many)
Gloss	“when?”
pcTY	*nhaDLa-TV
KUY	nhadlatha, nhadla-nhadla
ADN	nhatlhatha
KAU	nallaalatti
Gloss	“where?”
pTY	?*wa-THa³⁸
pcTY	*wa-(nha)
pPN	*wanyca (Alpher, this volume, chapter 5)
WIR	dhala, indhala
BNG	wana (which, what, where), watha (where), watharu (whither)
KUY	wananga, wanha
ADN	wanha(ngu)
NUK	wanhanga
NAR	wanti (where, which way) (JB), wunna (EM), wonna (WK)
KAU	wa, wanti (whither), wa:da(na) (which, where, used when another person has stated something referring to a locality)
Gloss	“white”
pTY	*paLkV
pcTY	*paLka
northern TY	paLka-ra
ARR	mperlkere
NNG	palgarinyi, pallapalko
WIR	balgu-balgu

³⁷ The ? relates to there being only two attestations of this form.

³⁸ The ? relates to the /NTH/ of Wirangu, which is close to the pPN form, but is not attested elsewhere in the TY languages.

BNG	palkarra, palkanyalla
KUY	palkaRa
ADN	valka/varlka (white), va[r]lkara (bright, shiny, white)
NUK	parlka
NGD	mena-palkara (crow)
KAU	perkanna (bright)

Gloss	“who? (Ergative, Instrumental)”
pTY	*ngaNTu
RAM	ngande (by whom)
WIR	nganangu
BNG	ngannunga, ngannunge
KUY	nganhangku, nganthungku, ngandangku
KAU	ngando, ngannarlo

Gloss	“who? (Nominative)”
pTY	*ngaNa
pcTY	*ngaNa
pPN	*nga:ni (what) (Alpher, this volume, chapter 5)
WIR	ngana[nha]
BNG	nganna
KUY	nganhanha
ADN	nganha(nha)
NUK	ngana
NAR	unnee (EM)
KAU	nganna

Gloss	“who? (Possessive)”
pTY	*ngaNku
WIR	nganagu
BNG	ngankuru
KUY	nganharu
ADN	nganharu
KAU	ngangko

Gloss	“wind”
pTY	*wari

YNK	wari (cold)
WIR	wari
BNG	warri
KUY	wari
ADN	wadi
NUK	wari (cold wind)
NGD	wailpi wari (south wind)
NAR	wari (west wind) (JB), worrie (WK)
KAU	warri
Gloss	“woman”
pcTY	*pa(a)rla
pPN	*paarla (O’Grady 1990)
BNG	pallara
NUK	paarla (woman, female)
NAR	baRLa (used contemptuously) (JB)
Gloss	“woman”
southern TY	ngangki
NAR	ngangki, angki (JB), unkee (man - must be typo) (EM), angki (NT), ankie (WK), angki (GO)
KAU	ngangki (female generally)
Gloss	“woman, girl”
pcTY	*mankarra
pCK	*manka-rrha (girl)
ADN	mankarra
NAR	manggara (girl) (JB)
KAU	mankarra (girl, maid)
Gloss	“woman, mother, female”
pcTY	*ngamV-THV
NNG	ngammaityu
PAA	ngamaka (mother, female animal)
BNG	ngammi (mother), ngammaityu (mother)
ADN	ngami (mother, female), ngamitha (female of animal)
NUK	ngamatya (old woman)

KAU	ngammaitya
Gloss	“woman, wife”
pcTY	*kartu
WIR	gardu (man)
BNG	karteti (wife)
ADN	artu
NUK	kartu (wife)
NGD	atuni
NAR	gaRtu, kaRtu, gaTu (wife) (JB)
KAU	karto (wife)
Gloss	“yam, edible root, plant food type”
pcTY	*ngampa
BNG	ngampa (edible root)
ADN	ngampa (Yam Daisy, <i>Microseris scapigera</i>)
NGD	ngumpa
KAU	ngampa (kind of native vegetable)
Gloss	“yesterday”
pcTY	*puki
MRN	pukulu
MAL	pukani
BNG	bukkininye (of old, ancient)
ADN	vukalha (always, often)
NUK	bokilou (JV)
NAR	bucciloo (WK)
KAU	bukkilyelo ~ bukilyelo
Gloss	“young one”
northern TY	papa
WIR	baba (dog)
BNG	pappa (young one)
KUY	papa (young one)
ADN	vapa (young)
NUK	paapa kumarti (little child)
NGD	vapa

APPENDIX 9

YARLI COMPARATIVE VOCABULARY

COMPARATIVE TABLE OF THE YARLI LANGUAGES WITH ADNYAMATHANHA (THURA-YURA), WANGKUMARA (KARNIC) AND PAAKANTYI

Luise Hercus and Peter Austin

The words of this table in bold type indicate cases where the Yarli languages differ from all the surrounding languages.

Re Wadikali words: Most of the entries for Wadikali are from the 1934 manuscript notes of N.B.Tindale, which is in phonetic script. This has been adapted to the practical orthography used for the other languages. The same could not be done for the entries from A.W. Morton (1886), which have the random spelling of many of the nineteenth century word lists. These entries have therefore been left in their original spelling, but in capitals.

English	Adnyamathanha	Yardiyyawara	Wadikali	Malyangapa	Wangkumara	Paakanyti
arm, upper	<i>nguna</i>	<i>palka</i> <i>wilpuru</i> ‘ampit’	<i>taiyabalka</i>	<i>wilparru</i> wanyu	<i>nguna</i> <i>wanyi</i> <i>mipa</i>	<i>wanyi</i> <i>wanykaraa</i> <i>thulaka</i>
bad, no good ¹	<i>virdni</i>	wanyu	WYONOO		Pirlatapa <i>wanyu</i>	
beard big ²	<i>ngarnga</i> <i>ngarlaka</i>	<i>nganku</i> <i>pirna</i>	<i>nganku</i> <i>pirna</i> , PINA	<i>ngankuRu</i> <i>pirna</i>	<i>nganka</i> <i>nhuga</i>	<i>waka-pulyki</i> <i>kumpatya</i>
bird	<i>yirta</i>	<i>thirta</i>	yu:li	yurli	<i>Diyari pirna</i> <i>marranga</i> <i>thili</i> (small bird)	no general term
bite ³	<i>vaya</i>	thatya		thatya-	<i>patya</i>	<i>parta</i> Pantiykali <i>thatya</i> <i>kaantaRa</i>
blood	<i>arti</i>	<i>karti</i>		<i>karti</i>	<i>pandalya</i>	<i>pirrma</i>
bone	<i>muku</i> , <i>warlpu</i>	<i>muku</i>		<i>muku</i>	<i>muku</i>	<i>wana</i>
boomerang	<i>wadna</i>	<i>wana</i>	<i>wana</i>	<i>wana</i>	<i>pakaranyi</i>	<i>marli-parlu</i>
boy	<i>mambarna</i>	<i>yarli-patha</i>	<i>yali pata</i>	<i>yarli-patha</i>	<i>kangu</i>	
breast, milk	<i>ngama</i>	<i>ngama</i>	<i>ngama</i>	<i>ngama</i>	<i>ngama</i>	<i>watu</i>
bring	<i>angga-</i>	pardu		pardu-	<i>waltha</i>	<i>warna</i>
burn	<i>nhara-</i>			<i>thingka-</i>	<i>marri</i>	<i>yapara</i>
camp	<i>arngu</i>	ngatyara	ngatyara	ngatyara	<i>ngura</i>	<i>witu-witu</i>
catch, chase	<i>yurdlu</i>	<i>yakanda</i>		<i>yaka-</i>	<i>yaka</i>	<i>puna</i>
chest ⁴	<i>undu</i> (old word) <i>ukarta</i>		<i>munakadra</i>	<i>munapiri</i>	<i>murna</i>	

English	Adnyamathanha	Yardliyawara	Wadikali	Malyangapa	Wangkumara	Paakantyi
cook	<i>amba</i>	<i>marripi</i>		<i>maripa</i>	<i>kukala</i>	<i>nguwa</i>
creek	<i>vaRi</i>	<i>paRi</i>	<i>pa: i</i>	<i>paRi</i>	<i>marrpa</i> to grill	<i>panti</i>
crow	<i>wakarla</i>	<i>wakarla</i>	<i>wak:ala</i>	<i>kawulka</i>	<i>nguku</i>	<i>waku</i>
cry	<i>ngalhu-</i>	<i>ngaluri</i>		<i>thumi-</i>	<i>wakarati</i>	<i>yanna</i>
dig	<i>vani</i>	<i>pungganyi</i>		<i>pika-</i>	<i>kanguri</i>	<i>thampa</i>
dog	<i>wilka</i>	<i>kunyu</i>	<i>kunnu</i>	<i>kunyu</i>	<i>nganbi, wirrpa</i>	<i>karli</i>
drink	<i>yapa</i>	<i>thapa</i>	TAPA-ETA	<i>thapa-</i>	<i>thithi</i>	<i>witiya</i>
dry	<i>vidla</i>	<i>thurdlu</i>		<i>purna</i>	<i>tapa</i>	<i>tharla</i>
ear	<i>vidla</i>	<i>yuRi</i>	<i>yuri</i>	<i>yuRi</i>	<i>mugu</i> to be dry	<i>tharla</i>
eat	<i>ngar'gu</i>	<i>thadli-</i>		<i>thala-</i>	<i>ngakamanda</i>	<i>yuRi</i>
egg	<i>vipi</i>	<i>pipi</i>	KARPI	<i>kapi</i>	<i>thalha</i>	<i>thayila</i>
emu	<i>warratyi</i>	<i>warratyi</i>	<i>kalarli</i>	<i>kapi</i>	<i>kapinya</i>	<i>parti</i>
euro	<i>yuru</i>		<i>wanguru</i>	<i>karlityi</i>	<i>kulbara</i>	<i>kalthi</i>
eye ⁵	<i>mina</i>	<i>milpa</i>	<i>melpa</i>	<i>wanguru</i>		<i>yuururu</i>
fall down	<i>wardna</i>	<i>pardala</i>	<i>pure-</i>	<i>milpa</i>	<i>puldru</i>	<i>miiki</i>
father	<i>vapi</i>	<i>kumari</i>	KOOMARDE	<i>puirdi-</i>	<i>puli-</i>	<i>paatha</i>
fire	<i>ardla</i>	<i>kardla</i>	<i>kal: a</i>	<i>kuma</i>	<i>ngaritya</i>	<i>kampitya</i>
fly (n) ⁶	<i>yapu</i>	<i>yulpuru</i>	ULBERU	<i>wiyi</i>	<i>wiyi</i>	<i>kanika</i>
fly (n)		<i>minthu</i>	<i>mundu</i>	<i>yulpuru</i>	<i>muguntya</i>	<i>win nguru</i>
food, vegetable	<i>mayi</i>	<i>marnu</i>	<i>man: u</i>	<i>marnu</i>	<i>Diyari muntyu</i>	<i>marnu</i>
foot	<i>idna</i>	<i>thina</i>	<i>ten: a</i>	<i>thina</i>	<i>kunga</i>	<i>thina</i>

English	Adnyamathanha	Yardiyyawara	Wadikali	Malyangapa	Wangkumara	Paakantyi
girl	<i>marngarra</i> <i>ardhi</i>	<i>mankarra</i>	<i>mankara</i>	<i>mankarra</i>	<i>nayi</i> Diyari <i>mankarra</i>	<i>nhunggu-parlu</i>
give	<i>nhunggu</i>	<i>nguki</i>		<i>nguki-</i>		<i>nguka</i>
go	<i>nguka</i>	<i>paka</i>	<i>paka</i>	<i>paka</i>	<i>yan-ga</i>	<i>pari</i>
good	<i>warndu</i>	<i>mingku</i>	MINKO	<i>mingku</i>	<i>tharli</i>	<i>paliira</i>
ground, soil ⁷	<i>yarta</i>	<i>nharti</i>	<i>nat:i</i>	<i>nharti</i>	<i>thaka</i>	<i>marni</i> <i>nharti</i> <i>maRa</i> <i>thartu</i>
hand	<i>maRa</i>	<i>maRa</i>	<i>mara</i>	<i>maRa</i>	<i>maRa</i>	
head	<i>aka</i> (old word) <i>vapardla</i>	<i>kakapati</i>	<i>kak:arti</i>	<i>kakamintha</i>	<i>kuka</i>	
hear	<i>yuruku</i>	<i>ngaRa</i>		<i>ngaRa</i>	<i>ngaRa</i>	<i>thalti</i>
hit with a stick	<i>urnda</i>	<i>kurnda</i>		<i>pumi-</i>	<i>kalka</i>	<i>palka</i>
hungry ⁸	<i>arnba-ni</i>	<i>puRama</i>	PURRA- KARKINDA	<i>puRa kaki</i>	<i>parndi</i> <i>kunga-ngantya</i>	<i>wilka-wilka</i>
kangaroo	<i>urdlu</i>	<i>kurdlu</i>	<i>kol:ɔ</i>	<i>thar-la</i>	<i>thaldra</i>	<i>thar-la</i>
know	<i>irka</i>	<i>thilka</i>		<i>thilkaia-</i>	<i>ngalka</i>	<i>waanta</i>
leg		<i>mangka</i>		<i>mangka</i>	<i>warta</i>	<i>yalku</i>
lie down	<i>wandi</i>	<i>ngurna</i>	UNANGI	<i>ngurna</i>	<i>waga</i>	<i>(ng)ima</i>
little	<i>muthuru,</i> <i>wanhi</i>	<i>patha</i>	<i>patha</i>	<i>patha</i>	<i>wayiwa</i>	<i>kayiluku</i>
look	<i>nhaku</i>	<i>thita</i>	PUMPA	<i>pumpatha</i> thita	<i>nhadya</i>	<i>pami-la</i>

English	Adnyamathanha	Yardiya	Wadikali	Malyangapa	Wangkumara	Paakantyi
man	yuRa	yardli	yali	yarli	karna	wimpanya
male	yardli	wanka	wanka	wanka	nguthi	warn.ga
meat	varlu	pitali	pitali	pitali	mirkaRinyi	paatyuka
moon	viRa	ngama		ngama	ngamatya	ngamaka
mother	ngami			walinti	kawali	wakaty
mother's brother ⁹	ngamarna	thaya	WOLENBETI	thaya	thaya	yalka
mouth	yaya	kuraRa	taia, teia	ngawu	ngawu	thungka
night, dark	wilya	kutli	OWOO	kurri	walya	ngaaiha
no	ng-ng	mudlha	minaria	mini	mulha	mintoolu
nose	mudlha		mul:anat:a			
old man	yuntyura		KAROO	karrukarru	karrukarru	maria
	pinarru				Diyari pinarru	
old woman	vurka					
one	virikutha	nguyaka pilkutha	koralai	walka nhuka	walka nhuka	nhuunggu
	ubmanaka	kudlartu	KOOLA	kula	walyu,	ngitya
			walyuka		walyuwarli	
possum	virlda	pilta	pilta	pilta	maRaharra	pilta
put down	yunthu	ipa		yipa, kungi-	kalawarri	yarranyi
	ipa= to put in					(ng)ipi
rain ¹⁰	awi					
return	vari	kulpi	kulpi	kulpi	pirta	makara
	warnara	wadnari		kami-	thika	thika
sandhill			dandindya	pamparra	kukithi	pamparra

English	Adnyamathanha	Yardiya	Wadikali	Malyangapa	Wangkumara	Paakantyi
see	<i>nhaku-</i>	thiya-		thiha-	<i>nhadya-</i>	<i>pami-</i>
sit	<i>ika-</i>	<i>nhinha</i>		<i>nhinha-</i>	<i>kula</i>	<i>ngingga</i>
skin	<i>vanyina</i>	<i>paltha</i>	<i>tupintya</i>	<i>palatha</i>	<i>mana</i>	<i>paltha</i>
speech	<i>wangga</i>	kulki		kulki-	<i>yandha</i>	<i>kalpi</i>
star	<i>yurdi</i>	<i>purdli</i>	<i>pul:i</i>	<i>purli</i>	<i>diyi</i>	<i>purli</i>
steal	<i>mama</i>			<i>thingma-</i>	<i>mama</i>	<i>kamma</i>
stick	<i>wirti</i>	thudlu	TULA	thulu	<i>makura</i>	<i>yarra</i>
stomach ¹¹	<i>warla</i>	yurnta	yunta	yurnta	<i>ngayimala</i>	<i>kuntu</i>
stone	<i>adnya</i>	<i>yarnia</i>	<i>yanda</i>	<i>yarnia</i>	<i>yaldra,</i> <i>yandra</i>	<i>karnu</i> <i>yarnia</i>
					pebbles, money	pebbles, money
swan	<i>uti</i>		<i>kuturu</i>	<i>kutuRu</i>	<i>kutaRa</i>	<i>yungkuli</i>
take	<i>angga</i>	<i>waltha</i>		<i>mani-</i>	<i>waltha</i>	<i>malka</i>
teeth	<i>ira</i>	<i>thiRa</i>	<i>teia</i>	<i>thiya</i>	<i>draya</i>	<i>kamma</i>
throw away	<i>wiya</i>	purkata		pulkata	<i>winbi</i>	<i>nganti</i>
water	<i>awi</i>	<i>ngapa</i>	<i>ngap:a</i>	<i>ngapa</i>	<i>ngaka</i>	<i>pingki, malpa</i>
what	<i>nhangartanha</i>	<i>minha</i>		<i>minha</i>	<i>minha</i>	<i>ngaku</i>
where	<i>wanha</i>	wantha	WONDA	wantha	<i>ngala</i>	<i>minha</i>
who	<i>nganha</i>	<i>waRa</i>		<i>waRa(nha)</i>	<i>ngala</i>	<i>wintyara</i>
wind	<i>wari (old word)</i>	<i>yartu</i>	<i>yat:u</i>	<i>yartu</i>	<i>waRa</i>	<i>wintyika</i>
	<i>milyaru</i>				<i>kugathari</i>	<i>yartu</i>

English	Adnyamathanha	Yardliyawara	Wadikali	Malyangapa	Wangkumara	Paakantyi
woman, wife	<i>artu</i>	<i>nguyaka</i>	<i>kumbaka</i>	<i>kumpaka</i>	<i>warlga</i>	<i>nhuungku</i>
word, language	<i>yawara</i>	<i>yawara</i>		<i>yawara</i>	<i>nhubatya</i> <i>yawara</i>	<i>kumpaka</i> <i>palku</i>
yes	<i>nhaku</i>		<i>ankanyi</i>	<i>ngaga</i>	<i>nanthina</i> <i>kawu</i>	

Notes on the table:

¹ The word *wanyu* is found in the limited data we have on Pirlatapa, but in the restricted meaning of ‘bad news, news of a death’ (Austin 1990b:39). The word is not found in other Karnic languages. This limited distribution in Karnic and the narrowing of meaning point to *wanyu* being a borrowing from the Yarli languages, probably from Wadikali, into Pirlatapa.

² This word is not attested for Wadikali in Tindale’s list, but deduced from the placename *Witha-pirna* “Big Stick” or “Big Back-bone” Wittabrinna Ck.

³ *thatya* is found only in the Paakantyi language Pantyikali, which is immediately adjacent to Malyangapa to the east, and whose speakers had close social ties with Malyangapa people. George Dutton was a speaker of Pantyikali and Malyangapa (see 2.2.above).

⁴ *muna* is wide-spread in Karnic

⁵ *milpa*, an expanded form of the Proto-Pama-Nyungan **mil*, is found in a number of languages in the Northern Territory, but is not found in any of the languages anywhere in the vicinity of the Yarli subgroup.

⁶ It is just possible that the Yarli words for “fly” are cognate with the corresponding words in Thura-Yura languages other than Adnyamathanha. These are *yumbarra* (Wirangu and Parnkalla), *yumparra* and *thumpara* in Kuyani.

⁷ *nharti* is found in only one Paakantyi dialect, Wilyakali, and is probably a borrowing from Malyangapa.

⁸ The Yarli words *puRama-* and *puRa-karki* are stative verbs, based on a word *puRa* “food”, *karki-* means “to want”.

⁹ The Wadikali term was written down by A.P. Elkin, MS Field Notes, reference courtesy of Sarah Martin (Field Notes of A.P. Elkin, Box 9).

¹⁰ *kulpi* “cloud” and *urlpi* ‘cloud’ are found in Thura-Yura but only in Nukunu and Adnyamathanha respectively. These words could well represent a borrowing from *kulpi*, the word for “rain” in the Yarli languages, particularly from Yardliyawara.

¹¹ *yurnta* is cognate with words for ‘stomach’ in some Karnic languages and Paakantyi (*kuntu*) but the lenited initial is a joint innovation of the Yarli languages.

APPENDIX 10.1

COMPARATIVE LIST OF NGARNA NOMINALS

Gavan Breen

The table on the following page gives a selected list of cognates between Ngarna languages, with the Proto-Ngarna reconstruction where possible.

	Warluwarra	Bularnu	Yinjilanjji	Western Wakaya	Yanyuwa	proto-Ngama
man	dhawa	dhawayi	ngari	ngarru, bulku	mirningiya	
woman	yarrayana	girriya, giringulu	kirriir	kirriir, wumngi	nhanawaya	
head	gunuguru	gunugu	kula	layi	wulaya	*kulaya (?)
eye	nganga	nhabumu	minngi	minngi	mi, ami	
nose	ngutu	ngurru	ngurru	ngurr	ngurru	*ngurru
ear		binali	binali	bineld	arnma,	
	mamkaru				mankawurru	*mamkawurru
mouth	lira	mulu	mulu	thar	mulu	*mulu
tongue	ngathala	ngathali	ngandhali	ngenthel(d)	nganthal	*nganthala
stomach	gunabarta	wardulu	wardaali	wurdeld	wurdu	*wardulu
hand	marrikana	mudhu	labi	labi	marliji	
foot	bamarra	yakiyi	lukami	jina	mamda	
camp	ngurrimni	yapayi	yarrba	yiriba	alanji	
fire	manhala	manhali	manhali	menheld	buyuka	
meat	garla	garla	kalarli	kilyarl	warnyi	
tucker	ngadharrwa	wardumuga	nganngi	ngengnarnd, yilinjji	ngarra	
axe	dalaridala, ngambaa	ngabanyi	kuluwu	kulewi	lama	
dog	warrawurla	warayi	wara	wera	wukuku	
egg	bapu	wirtpi	maakulu	wijbu	wujbi	*wVjbV
stick, tree	yughu	witpirri	kumdu	werirr	wumda	*kumdu
water	wuku	ngulibi	nguka	yuka	wabuda	
creek, river	yarra	yilaga	yilki	yileki	yala	*yala(ki)
stone	wata	ganarri	burngu	burnngi	janyka	
sun	bumatha	bumadha		yurrngi	kamba	
moon	bilimurndungu	bangamadhapa	ngakali	ngekarl	ngakarla	*ngakarli
one	yarrghulu	yakulu	yakungu	yukenngu/i	arikula	*yarrkulu
two	guija	guijiya	kijjiwi	kijjiwi	kanymarda	
big	barta	yartpuga	bardiibi	berdiibu/i	walkurra	
small	dhawiri	guny'igi, dhabugurdu	thabukarra	thabekulyu/ri(d)	buyi, yumbu	
black	wannani	wannayini	wuthu(n)ngu	wuthernu/i	wungkuwungku	
white	buma	buma	burnangkara	bernangka(rr)	burnalkarra	*burna+

APPENDIX 10.2

COMPARATIVE LIST OF NGARNA VERBS

Gavan Breen

	Warluwarra	Bularnu	Yinjilanji	Western Wakaya	Yanyuwa	proto- Ngarna
sit, stay	nyinayidha	yiwarra	yuwurrarri	yuwerrerdij	anmantharra	
stand	garriyidja	garridjarra	karrijirri	kirrerdij	alarrinjarra	
go	natamadha	bagarra	ba(r)n(g)karri	benkerdiy	wingkayarra	*banka (?)
eat (meat)	dhangumayidha	larrugadharra	larrukuthurru	wutherdiy	thantharra	*wutha
eat (tucker)	matjamayidha	mardarra	mandi + ?	mernderdiy	rarrmantharra	
drink	gutjarriyidha	ngudhalidjarra	kunjarri	kunjerdij	wunjayarra	*kunja
see	yangayidha	yangadharra	yanginthirri	yingerndiy	ngantharra	*yanga
hear	larriyidja	larridjarra	larrijirri	larrerdiy	nykarrinjarra	
speak	djarnmarriyidja	yidjamarridjarra	winyarridjirri	marrerdiy	wukanyinjarra	
hit	matharriyidha	matharra	manthirri	marndiy	ramantharra	

Note that the stem of the verb “to go” in Yinjilanji may be *banki*, *barnki* or *bangki*. Yanyuwa *wingka* may not be cognate.

APPENDIX 10.3

COMPARATIVE LIST OF NGARNA PERSONAL PRONOUNS

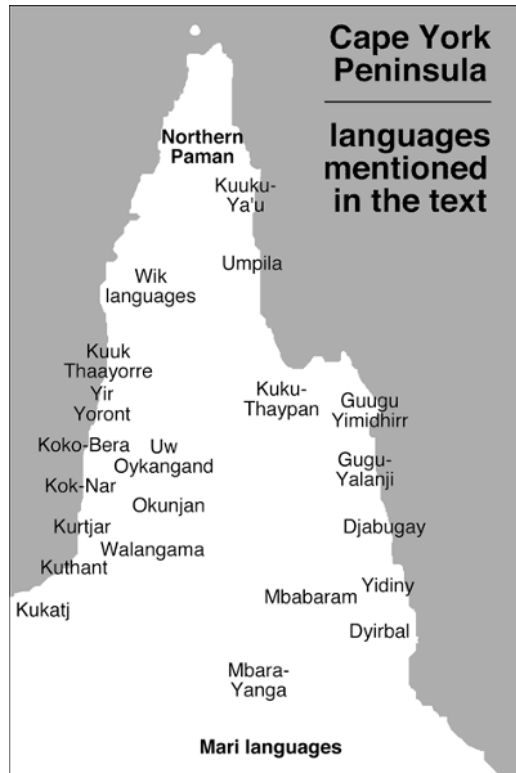
Gavan Breen

	Warluwarra	Bularnu	Yinjilanji	Western Wakaya	Yanyuwa	proto-Ngarna
1sg	<i>ngarna</i>	<i>ngarna</i>	<i>ngarni</i>	<i>ngurninj, -arn</i>	<i>ngarna</i>	*ngarna
2sg	<i>yipa</i> DAT <i>yinda</i>	<i>yiba</i> DAT <i>yida</i>	<i>yimbi</i> GEN <i>yinda</i>	<i>yimb</i> GEN <i>yinda</i>	<i>yinda</i>	*yinda
3sg	<i>yiwa</i>	<i>yiwa</i>	<i>yambi, yulu</i>			
3sg.m				<i>yuwu, -u</i>	<i>yiwa</i>	*yiwa
3sg.nm,f				<i>yambiy, -amb</i> <i>ERG yande-bik</i>	<i>anda</i>	*yanda
1du.in	<i>ngali</i>	<i>ngali</i>	<i>ngali (?)</i>	<i>ngal, -al</i>	<i>ngali</i>	*ngali
1du.ex	<i>ngayarra</i>	<i>ngaliya</i>	<i>ngaliyi(?)</i>	<i>ngaliy, -aliy</i>	<i>ngatharra</i>	*ngatharra
2du	<i>yipala</i>	<i>yibala</i>	<i>yibili</i>	<i>yibul</i>	<i>yimbala</i>	*yimbala
3du	<i>wula</i>	<i>bula</i>	<i>yawulu</i>	<i>yawul, -awul</i>	<i>ula</i>	*(ya)bula (?)
1pl.in	<i>ngapala</i>	<i>ngabala</i>	<i>ngambili(?)</i>	<i>ngambel, -abel</i>	<i>ngambala</i>	*ngambala
1pl.ex	<i>nganu</i>	<i>nganu</i>		<i>nganiy, -aniy</i>	<i>nganu</i>	*nganu
2pl	<i>wurru</i>	<i>wurru</i>	<i>yurru</i>	<i>yirr</i>	<i>yirru</i>	*yurru
3pl	<i>yanu</i>	<i>yalu</i>	<i>yalu</i>	<i>yal, -al</i>	<i>alu</i>	*yalu

APPENDIX 11

MAP OF CAPE YORK LANGUAGES

Paul Black



APPENDIX 12.1

RESIDUE COMPARATIVE VOCABULARY

Claire Bowern

(1) ***diilba** “kidney”

Ba. *diilba* Nyl. *delb* Nim. *delb* Jb. *delb* Nyik. *dilbi*

Kara. *delmi*; *dolmor*, *mur*

(2) ***-jambalu** “foot”

Jw. *nimbal* Jw. *-mbala* Ba. *-jambal(a)*, *jambal* (hind flippers of turtle) Nyl. *nabala*, *djambel* (hind flippers of turtle) Nim. *-mbal* Ngum. *-(ya)mbalu* Jb. *nimbala*, *-mbal*, *djambel* (hind flippers of turtle) Juk. *jina* Juk. *nimbal* Nyik. *niyambalu* Warr. *-yambala*

Kara. *jina* Ngar. *belaro* Ungg. *-njardingga*, *-yamblarrungga* Kij. *thamparlam*, *thengam*

(3) ***-janggalany** “tongue”

Jw. ‘*neeingalla*’, *niyangarra* Ba. *niyangal(a)*, *niyangarra* Nyl. *-(a)ngarl* Nim. *ningal* Ngum. *nijangalang*, *niyangala* Jb. *niyangala* Yaw. *jalany* Juk. *nengul* Nyik. *niyangalany*, *jalany*, Warr. *-yangalany*, *niyangarlany*, *jalan* (archaic)

Kara. *jalany* Jar *jalany* Bun. *thilANJI* Goon. *thalanyi* Kij. *tharlarlam* Ungg. *-nthalema*

(4) ***-lirr** “mouth” PPN ***lirra** “mouth” (Capell 1956)

Jw. *nilerr* Ba. *nilirr* Nyl. *-lirr* Nim. *nilirr* Ngum. *nilirr* Jb. *nilirr*; *-lerr* Yaw. *nilirr*, *niliyirr* (careful speech) Juk. *nilirr* Nyik. *nilirr* Warr. *-lirr*

Bun. *lirri* (guts) Goon. *lirri* (guts) Jar. *lirra* Yawij. *wulurr*

(5) ***-marla** “hand” (pE ***-marrangka**) PPN ***mara(ng)** (Capell 1956)

Jw. ‘*nemalla*’, ‘*ninialla*’ (arm), *-marla* (arm) Ba. *nimarl(a)* Nyl. *-mala* Nim. *-marl* Ngum. *nimala* Jb. *nimarla*; *-mal* Yaw. *nimarla*, *nimarrangka* Juk. *nimarrangg(a)*, (*galbur wonbargunda*), *nimarrangg(a)*, Juk. *neemala* Nyik. *nimarrangga* Warr. *-mala*

Goon. *marla* Ngar. *-rnamala* Umi. (*air-dun-ee*) Ungg. *-rnanangga* Kij. *marlam* Jar *marla*

(6) ***-mbarr(a)m(b)a** “armpit”

Nyl. *-mbarrm* Nim. *ninganyburr* Ngum. *nimarremba* Jb. *nimarremba* Yaw. *garlnguyny*, *garlguny* Nyik. *galnguny* Warr. *nimbarrma*, *-(m)barrma* Kara. *kalnginy* ~ *kalnguny* Goon. *galnginy* Ungg. *malambarrma* Ngar. *marlambarr*

(7) ***ngamarna** “breast” PPN ***ngama**

Jw. *neemarra*, *numana*, *ngaman* Ba. *ngamarna* Nim. *ngamarn* Jb. *ngaman*, *ngamana* Yaw. *ngamarna* Nyik. *ngamarna* Warr. *ngamarn*, *ngamarna* Bun. *ngamu* Kara. *ngamarna* Ungg. *ngamungga*

(8) ***?** “brains” (pE ***gunyguny(?)**) (pW ***bula**)

Ba. *maandu*, *bul* Nyl. *bu:l*; *pol* Nim. *bu:l* Jb. *bu:l* Warr. *gunyguny* Yaw. *gamarna* (“head”); *ngunynguny* (“thinking”) Nyik. *gunyguny* Bun. *gunygunyu*

APPENDIX 12.2

NYULNYULAN INDIRECT OBJECT DATA AND RECONSTRUCTIONS

Claire Bowern

	1m	1+2m	2m	3m
Ba	<i>-jan(a)</i>	<i>-jow</i>	<i>-jiy</i>	<i>-jin(a)</i>
Nyl	<i>-jan</i>	<i>-jay</i>	<i>-ji</i>	<i>-jin</i>
Yaw	<i>-janu</i>	<i>-jaw</i>	<i>-jiya</i>	<i>-jina</i>
Nyk	<i>-janu</i>	<i>-jaw(u)</i>	<i>-jiya</i>	<i>-jina</i>
Warr	<i>-jana</i>	<i>-jawu</i>	<i>-jiya</i>	<i>-jina ~</i> <i>-yina</i>
PN	*-janu	*-jayu	*-jiya	*-jina
Bun	<i>nkarragi</i>		<i>nkanggi</i>	<i>nhi, nhu</i>
Goon	<i>nkarragi</i>		<i>nkaanggi</i>	<i>nhuwu</i>
Ngar	<i>-ngi</i>		<i>-ni</i>	<i>-nangga</i>
	1a	1+2a	2a	3a
Ba	<i>-jard</i>	<i>-jard</i>	<i>-jugarra</i>	<i>-jirr(a)</i>
Nyl	<i>-jarrad</i>	<i>-jarrad</i>	<i>-jungkarr</i>	<i>-jirr</i>
Yaw	<i>-jarra</i>	<i>-jayrda</i>	<i>-junggarra</i>	<i>-jirra</i>
Nyk	<i>-jarra</i>	<i>-jayida</i>	<i>-junggarra</i>	<i>-jirra</i>
Warr	<i>-jarra</i>	<i>-jadirr</i>	<i>-junggarra/</i> <i>-junggurra</i>	<i>-jirra</i>
PN	*-jarra-	*-jayirda?	*-junggarra	*-jirra
Bun	<i>ngiyirrangi</i>	<i>yarrangi</i>		<i>biyirrangi</i>
Goon	<i>yarrangi</i>	<i>nkirranki</i>		<i>birrangi</i>
Ngar	<i>-nyarruna</i>	<i>-ngarruna</i>		<i>-yiduga</i>

APPENDIX 12.3

NYULNYULAN CASE MARKERS

Claire Bowern

Table A: *Core Cases*

	ERG	NOM	DAT
*pN	*-ni(-ma) ¹	*-∅	*-ji
Bardi	-nim	-∅	(-ji ~ -yi)
Nyulnyul	-ni	-∅	(-ji ~ -yi)
Jabirr-Jabirr	-in	-∅	
Yawuru	-ni	-∅	-yi, -ji
Nyikina	-ni	-∅	-ji, -yi
Warrwa	-na, -ni, -rni, -nma, -ma	-∅	-yi
Bunuba	-ingga		-(g)u
Gooniyandi	-ngga		-yu ~ -wu
Ngarinyin			-gu
Unggumi			-ginyi ~ -ginye

¹ I reconstruct -ma as an optional increment to the ergative (perhaps with the functions of a focus marker); this explains its appearance in Bardi and Warrwa but not in the other languages, where a phonological change cannot be invoked to account for the absence of an *m*.

Table B: *Nyulnyulan case markers: Locational Cases*

	INST	LOC	ABL	SOURCE	ALL
*pN	*-ngany	*-gun(a)	*-gabu	*-junu	*-ngana
Bardi	-ng(a)	-gun	-go	-jun, -yun	-ngan
Nyulnyul	-ang, ,-ingk -amb	-uk, ,-ik	(-i)gun	-(i)jun	-ung
Jabirr-Jabirr	-ang		-gong?		
Yawuru	-ngany	-gun	-gabu		-ngana
Nyikina	-ngany	-(g)an	-gabu	-junu	-marru
Warrwa	-ngany	-(a)n(a) -kan,-wan	-(n)kawu	-junu -yunu	-ngana
Bunuba		-yuwa ~ -juwa	-nhi(ngi)		-yawu ~ -jawu
Gooniyandi		-ya	-nhingi -yangga		-yirra -yayi
Ngarinyin	-nyine ~ -nyinengga	-ra ~ -(r)da			-biyny
Unggumi					-ngurruma
Worrorra			-ngurru		- ^k waal
Karajarri					

Table C: *Nyulnyulan case markers: Other Cases*

	PER	SEMBL	COMIT ₁	COMIT ₂
*pN	-marru	-ngarrV		*-nyarri
Bardi	(-marr)	-marr		-nyarr
Nyulnyul	-(i)mirr	-girr		-(i)nyirr
Jabirr-Jabirr				-nyirr
Yawuru		-ngarr(u)	-barri	
Nyikina			-barri	
Warrwa	-marru	-ngarru	-barri	-nyarri
			-warri	
Bunuba			-guda, -nkarri	
Gooniyandi			-nkarri	
Ngar.			-gurde	
Unggumi			-gurde	
Worrorra				
Karajarri			-barri	

APPENDIX 14

FURTHER RELATIONSHIPS WITHIN GUNWINYGUAN

Brett Baker

Here, I examine some further correspondence sets among Gunwinyguan languages outside the Jala group. In §1, I examine the evidence for subgrouping together Ngandi and Wubuy as a subgroup ‘Eastern Gunwinyguan’ (EGN), on the same basis as Ngalakgan and Rembarnga viz., the nature of stems in nonpast inflections of verb roots. The evidence suggests that these two languages are indeed more closely related to each other than either is to any other language, though the relationship is not so close as that between Rembarnga and Ngalakgan, indicating a greater time depth for the former. In §2, I consider the proposal in AEH that these four languages form a subgroup within GN, with Dalabon and BGW forming another subgroup (‘Central Gunwinyguan’). I reject this proposal on two bases, negative and positive. Firstly, there is a lack of demonstrable shared innovation in the inflectional morphology of BGW and Dalabon to suggest subgrouping them. There is a similar lack of evidence (from verbal morphology) to subgroup Jala and Ngandi-Wubuy. On the contrary, there is evidence from the formation of the Irrealis inflections which suggests that Dalabon has retained the original Irrealis formation, while BGW has innovated separately from other daughter languages, a pattern which cannot be easily explained if both are descended from a single ancestor. Finally, in §3, I consider the apparent similarities between Ngandi and Ngalakgan, which have led some researchers to propose a closer relationship between these two languages than they in fact have.

1. The ‘Eastern Gunwinyguan’ subgroup

This section examines the verb paradigms in Ngandi and Wubuy, showing that they share significant irregularities suggestive either of shared innovation, or shared retention from a common ancestor.

1.1 *The MA-augment class.*

This is the class containing *bu* ‘hit’ as its major member.

Table 1: *The MA-class in EGN*

		PR	FUT	POT
“hit”	Ngdi	<i>bu-ma-na</i>	<i>bunung</i>	<i>bo-mi-ni</i>
“hit”	Wby	<i>bu-ma-na</i>	<i>biny</i>	<i>bu-ma-ngun</i>

The factor which unites these two languages is in sharing the augment *-ma-* for the PR and POT. Other GN languages do not in general make use of augments, except in the case of the stative stance verbs, but they are a consistent feature of EGN. Similar forms are found in other NPN languages (Green 2001).

1.2 The NGA-augment class.

Three verbs from the NGA-augment class in EGN are shown in Table 2.

Table 2: *The NGA-class in EGN*

		PR	FUT	POT
<i>yo</i> “put”	Ngdi	<i>yo-nga-na</i>	<i>yi-ya-ng</i>	<i>yo-ngi-ni</i>
<i>yu</i> “make”	Wby	<i>yu-nga-na</i>	<i>ya-ng</i>	<i>yu-nga-ngun</i>
<i>ba</i> “bite”, <i>na</i> “burn”	Ngdi	<i>ba-nga-na</i>	<i>bi-ya-ng</i>	<i>ba-ngi-ni</i>
<i>ba</i> “bite”, <i>na</i> “burn (tv)”	Wby	<i>ba-nga-na</i>	<i>ba-ng</i>	<i>ba-nga-ngun</i>

This class is similar to the MA-augment class (*bu*), in both the PR and POT, except that the augment is *-nga-* rather than *-ma-*. In both cases, the augment is presumably derived from the PP form of the verb: e.g. Ngandi *bo:m* “hit” PP, *bang* “bite” PP. EGN is the only GN group in which the PP acts as a stem for other inflectional categories. This may have been an innovation in pEGN.

The conjugation class containing the verbs “to get” and “chop” is similar in using the *-nga-* augment in the Potential, though not in the Present.

Table 3: *The “get” and “chop” class in EGN*

		PR	FUT	POT
“pick up”	Ngandi	<i>ma-ni</i>	<i>mi-yang</i>	<i>ma-ngan</i>
“pick up/get”	Wubuy	<i>ma-ni</i>	<i>ma-ng</i>	<i>ma-ngan</i>
“chop”	Ngandi	<i>dho-ni</i>	<i>dho-ng</i>	<i>dho-ngan</i>
“chop”	Wubuy	<i>lha-ni</i>	<i>lhi-ny</i>	<i>lha-ngan</i>

The Present and Potential forms are identical in Ngandi and Wubuy, allowing for regular changes (such as Ngandi *dh:* Wubuy *lh*). The Future forms (which are the erstwhile pGN Present/NP forms) are distinct, with Wubuy

showing an anomalous ending *-ny* for the “chop” verb (also found in the FUT of “hit”).

1.3 *ga* “take”

Table 4 shows the forms of the “take” verb in EGN languages.

Table 4: *The “take” verb in EGN*

	PC	PR	FUT	POT
Ngandi <i>ga-</i> “carry”	<i>ga-ndi</i>	<i>ga-ntjini</i>	<i>ga-n</i>	<i>ga-ntjan</i>
Wubuy [war] <i>ga-</i> “take”	<i>ga-ndi</i>	<i>ga-ntji:</i>	<i>ga-ng</i>	<i>ga-ntjan</i>

I show the PC forms here since this form *gandi* is not shared by other GN languages, though similar forms are found in other NPN languages such as Marra (which has *ganɟi*). This again would indicate a very old split between EGN and the rest of GN. The POT forms are identical, and the PR forms are also cognate, with irregular lenition of intervocalic *n* in Wubuy (a correspondence also found in other inflectional forms). The Future forms are distinct. The NP form in pGN was **gan*, which is the form found in Ngandi. Wubuy appears to have generalised the Future *-ng* ending found in other conjugations.

1.4 *The JA-augment class*

This class includes the roots *nga* “hear”, *na* “see”, *wo* “give”, and *ngu* “eat” in EGN. In other GN languages, these are N-theme conjugation verbs. In EGN, they acquire an augment **-ji-* ~ **-ja-* in the Present and Potential inflections.

Table 5: *The JA-class in EGN*

Root	Language	PR	FUT	POT
<i>nga</i> “hear”	Ngandi	<i>nga-tjji-ni</i>	<i>nga-n</i>	<i>nga-tjja-n</i>
	Wubuy ¹	<i>-nga-yi:</i>	<i>-nga-ng</i>	<i>-nga-ya-n</i>
<i>na</i> “see”	Ngandi	<i>na-tjji-ni</i>	<i>na-n</i>	<i>na-tjja-n</i>
	Wubuy	<i>na-yi:</i>	<i>na-ng</i>	<i>na-ya-n</i>
<i>ngu</i> “eat”	Ngandi	<i>ngu-tjji-ni</i>	<i>ngu-nu-ng</i>	<i>ngu-tjja-n</i>
	Wubuy	<i>nga-yi:</i>	<i>nga-ng</i>	<i>nga-ya-n</i>
<i>wo</i> “give”	Ngandi	<i>wo-tjji-ni</i>	<i>wo-nu-ng</i>	<i>wo-tjja-n</i>
	Wubuy	<i>[y]u-yi</i>	<i>[y]u-ny</i>	<i>[y]u-ya-n</i>

¹ The cognate Wubuy verb root is *yanga-*, an old compound transparently derived from *yang* “speech” + *nga-* (Heath 1984).

I assume here that the pEGN augment was **-ja-*, which has undergone independent changes in each daughter language. In Ngandi, it underwent fortition, becoming a geminate. This is a common, but largely unpredictable, process at morpheme boundaries in Ngandi, Ngalakgan and Rembarrnga (Baker 1999). In Wubuy, the augment was lenited to *-y-*, a process which affected simple stops generally in Wubuy. In addition, the onset of the PR ending *-ni* found in Ngandi was elided in Wubuy, as in the apparently cognate PR inflection of the “take” verb, shown above.

If the augment is assumed instead to be a geminate, the lenition in Wubuy seems unlikely. Under the assumption that the geminate in Ngandi results from fortition, we have a *prima facie* case that the verb root and the augment derive from an old compound. Fortition in Ngandi applied historically to the initial stops of some suffixes and roots, when these were preceded by a stem. Fortition in the verb paradigm here implies that the morpheme boundary, at one time, was analysable, that is, that the augment had an identifiable meaning. The only likely candidate for such a morpheme in this position is another inflecting verb root, suggesting that some monomorphemic forms were historically compounds (cf. Merlan 1980), as with some of the disyllabic roots in the NG-conjugation of Jala.

Although this discussion of Wubuy and Ngandi is necessarily brief, it is evident that these two languages share a substantial amount of irregular morphology in the verb paradigms. Some of this irregularity may be a retention from older levels (as suggested by R. Green’s work on Maningrida languages: *in press*). The bulk of this irregularity, however, is found only in these two languages and should therefore be considered innovations defining these two languages as a subgroup also, “Eastern GN”. It is also evident that EGN lacks the forms which make Jala a subgroup: the paradigm reshaping that led to the highly regular N, NG, and stative stance conjugation classes. The innovated paradigms found in EGN are not, by and large, regular, and must be considered to be much older developments than those found in Jala, which have the appearance of recent paradigmatic levelling.

2. Further relationships

AEH claim that GN can be internally subgrouped into a ‘Central’ group (Bininj Gun-wok, Dalabon) as opposed to an ‘Eastern’ group (Ngalakgan, Rembarrnga, Ngandi, Wubuy), though they do not explicitly provide evidence

for this claim. I will briefly address this issue, examining in particular the Irrealis paradigm and dative clitics. Lack of space and research into this issue preclude a fuller treatment here.

On the one hand, there is little in the way of evidence linking Biniñ Gun-wok and Dalabon as a ‘Central GN’ subgroup, to the exclusion of other nearby languages such as Rembarrnga and Ngalakgan. Biniñ Gun-wok and Dalabon share no formal verb categories that can be shown to be an innovation unique to these two languages, to the exclusion of other GN languages. The issue is complicated by the lack, in Biniñ Gun-wok, of a Future category. The formal categories present in Biniñ Gun-wok seem simply to be those inherited from pGN. Dalabon however, has innovated a Future category. This fact alone would suggest that, in fact, Biniñ Gun-wok and Dalabon do *not* form a subgroup.

Nor is there much evidence linking Jala to Ngandi and Wubuy as an ‘Eastern’ group, on the other hand. This question relates to the issue of the supposed relationship of Ngalakgan and Ngandi, which I will address separately below. There is likewise no evidence that Biniñ Gun-wok, Dalabon, Ngalakgan and Rembarrnga form a subgroup, despite some broad similarities. The evidence for subgrouping Ngalakgan and Rembarrnga comes from the behaviour of the nonpast categories, in particular the Future and Irrealis. The clinching difference here is that in Biniñ Gun-wok and Dalabon, the Irrealis is sometimes based on the root, sometimes on the NP stem, while in Jala it is always based on the NP stem, never on the root. Since in Ngandi and Wubuy the descendent of the Irrealis generally follows the same pattern as (non-contiguous) Dalabon, this indicates the Jala pattern is an innovation. This innovation was not shared by Biniñ Gun-wok, Dalabon, Ngandi or Wubuy, hence none of these languages can be subgrouped with Ngalakgan and Rembarrnga, at least at the stage where this form of the category was innovated. Further, the Jala Future is an entirely new formation, not found in this form in other GN languages. Likewise, the Dalabon Future appears to be unique to Dalabon, among GN languages. I examine the Irrealis category in detail here since it seems in general to preserve some important differences in the daughter languages.

2.1 *The Irrealis*

The forms of the Irrealis category in Dalabon are closer to those in Ngandi than they are to Biniñ Gun-wok. Like Ngandi, Dalabon has two major forms of the

Irrealis: forms in *-y ~ -yi*, and forms in *-ngi*. The first corresponds mostly to Irrealis forms in *-ni* in Jala (the N-conjugation), with the exception of the root *ma-* “to get”, the second to forms in *-ngi* in Jala (the NG-conjugation) or *-ngVni* (the stative stance conjugation). The major irrealis forms in the languages concerned are shown in the following tables.

Table 6: *Irrealis forms in the GN N-conjugation*

	“take”	“cry”	“see”	“eat”	“give”	“hit”
Ngkn	<i>gani</i>	<i>runi</i>	<i>nani</i>	<i>nguni</i>	<i>wuni</i>	<i>buni</i>
Ngdi	<i>gayi</i>		<i>nayi</i>	<i>nguyi</i>	<i>woyi</i>	<i>buyi</i>
Dlbn	<i>gey</i>	<i>ruy</i>	<i>ney</i>	<i>nguy</i>	<i>woy</i>	<i>buy</i>
BGW	<i>kayi(nj)</i>		<i>nayi(nj)</i>	<i>nguyi</i>	<i>woyi(nj)</i>	<i>buninj</i>

Table 7: *Irrealis forms in the GN NG-conjugation*

	“get”	“bite”	“burn”	“put”	“growl”	“stand”
Ngkn	<i>mangi</i>	<i>bengi</i>	<i>rungi</i>	<i>yengi</i>		<i>-jingi</i> (tv)
Ngdi	<i>mayi</i>	<i>bangi</i>		<i>yongi</i>	<i>?dhu</i>	<i>dhingi</i>
Dlbn	<i>mey</i>	<i>bangi</i>	<i>rungi</i>	<i>yungi</i>	<i>dungi</i>	<i>dangi</i>
BGW	<i>mayi</i>	<i>bayemeninj</i>	<i>ruyi(nj)</i>		<i>duyi(nj)</i>	<i>dangemeninj/diwirrinj</i>

Table 8: *Irrealis forms in the GN stance conjugation*

	“sit”	open class	INCH	“go”
Ngkn	<i>nangani</i>		<i>meni</i>	<i>raboni</i>
Ngdi	<i>ningi</i>	<i>[yi]mi</i>		
Dlbn	<i>ningi</i>	<i>mi</i>	<i>meni</i>	<i>boni</i>
BGW	<i>niwirrinj</i>	<i>meninj</i>	<i>meninj</i>	

Unlike all the other languages, Bininj Gun-wok has no Irrealis forms in *-ngi*. It appears that the Bininj Gun-wok Irrealis paradigms have been reshaped to a large extent. Some Irrealis forms correspond to pGN PC forms, e.g. *buninj*, other Irrealis forms have an extrinsic suffix *-meninj*, *-wirrinj*. In the Irrealis forms which do appear to have been retained in Bininj Gun-wok, we see contrasts with Dalabon, Ngandi and Jala. The Bininj Gun-wok Irrealis of “burn” for instance is *ruyi(nj)* rather than the form *rungi* we find in Dalabon and Ngalakgan.

There are at least two ways of accounting for this pattern. One possibility is that an early split in pGN divided Ngandi, Wubuy, Ngalakgan, Rembarrnga, and Dalabon from Bininj Gun-wok (and others?). The other is that Dalabon and Ngandi preserve the essential details of the Irrealis category from pGN, which has become reshaped in various daughter languages such as Bininj Gun-wok and the Jala group. Given that Dalabon and Ngandi are non-contiguous,

and there is no other evidence suggesting a closer relationship between them, the latter hypothesis appears the most likely. Further, if the Irrealis forms of Ngandi and Dalabon preserve the essential details of the pGN system, and given that the Irrealis was an inflectional category present at the break-up of pGN, it is difficult to imagine how Dalabon and BGW could descend from a common ancestor more recent than pGN. In any case, the Irrealis paradigm suggests that Dalabon and Bininj Gun-wok have undergone a period of separate development sufficient to result in quite separate paradigms for this category.

As to evidence linking Ngalakgan, Rembarrnga, Ngandi and Wubuy, I have provided evidence which strongly suggests that Ngandi and Wubuy form a subgroup. The inflectional forms which constitute this evidence are quite distinct from those put forward for Jala. There are no innovations linking pJ and pEGN, apart from the *-ngi* Irrealis form (if this is indeed an innovation and not an archaism).

2.2 Dative clitics in GN

I now consider the evidence of dative pronouns, shown in Tables 9 and 10. We have seen that Dative clitics preserve some apparently ancient elements of gender morphology in Rembarrnga – a language which is otherwise without a functioning grammatical category of gender for the most part. Only Ngalakgan, Rembarrnga, Dalabon and Ngandi have a true class of dative enclitics. The Bininj Gun-wok paradigm has been largely reshaped according to the prefixal paradigm, and shows little in the way of significant retentions, with some exceptions in the singulars. The Wubuy forms are entirely analogous to the independent forms and do not really belong here; I include them for completeness.

Table 9: *Minimal forms of GN dative pronouns*

	1min	12min	2min	3m	3f
BGW	<i>ngarduk(ki)</i>	<i>ngarrgu</i>	<i>ngudda ~</i> <i>nguddanggi ge (E),</i> <i>(ng)ungke</i>	<i>nuye</i>	<i>ngarre</i>
Dlbn	<i>ngan</i>	<i>nyong</i>	<i>ngu</i>	<i>no</i>	
Ngkn	<i>ngini</i>	<i>yikgi</i>	<i>nggi</i>	<i>nowi</i>	<i>ngoji</i>
Rmba	<i>ngvrv</i>	<i>yvkv</i>	<i>ngkv</i>	<i>nawv</i>	<i>ngadv</i>
Ngdi	<i>nginangi</i>	<i>nyakguy</i>	<i>nukguy</i>	<i>nayi</i>	<i>ngutdhayi</i>
Wby	<i>ngaya</i>	<i>nagawi</i>	<i>nugawi</i>	<i>nigawi</i>	<i>ngigawi</i>

Table 10: *Augmented forms of GN dative pronouns*

	1aug	12aug	2aug	3aug
BGW	<i>ngadberre</i>	<i>gadberre</i>	<i>ngudberre</i>	<i>bedberre</i>
Dlbn	<i>nyelng</i>	<i>ngogorrng</i>	<i>nogolng</i>	<i>bulng</i>
Ngkn	<i>yerre</i>	<i>nggorre</i>	<i>nunggorre</i>	<i>borre</i>
Rmba	<i>yarrv</i>	<i>ngagorrv</i>	<i>nagorrv</i>	<i>barrv</i>
Ngdi	<i>nyirrayi</i>	<i>ngurrgurrayi</i>	<i>nukgurrayi</i>	<i>burrayi</i>
Wby	<i>nurraa</i>	<i>ngagurraa</i>	<i>nugurraa</i>	<i>wugurraa</i>

In short, the dative pronouns do not provide compelling evidence for subgrouping of any kind, beyond that already claimed for Ngalakgan and Rembarrnga. On the one hand, the Kune ('E') dialect of Bininj Gun-wok appears to share the distinctive 2nd minimal form found in Ngalakgan and Rembarrnga, but Dalabon does not, having instead an anomalous form not found in the other languages (unless it is related to the initial portion of Kune (*nglungke*).² Conversely, all of the languages *except* Bininj Gun-wok have what appear to be related forms for the 1st person augmented incl and excl. and 2nd augmented categories, allowing for the regular correspondence (in pronominal paradigms, not in lexemes) Ngandi, Dalabon *ny-* (12aug) : Rembarrnga, Ngalakgan *y-* : Wubuy *n-*.

Ngandi has similar forms to Jala for the 3min Feminine form. The base in Ngandi *-ngutdha* corresponds well with Ngalakgan *-ngoji* and Rembarrnga *-ngadv*, but the vowel correspondence in both syllables is not regular. The stem ending in *-yi* appears to be a Ngandi innovation in the dative clitic paradigm. Since the Ngandi Feminine NC prefix is *na-*, this again suggests that the dative clitics represent ancient retentions, rather than innovations specific to pJ.³ The gender-marked 3minimal possessive suffixes in Ndjébbana are rather similar to the forms we examine here: 3min masculine *-na*, 3minimal feminine *-ngaya*. The feminine prefix otherwise in Ndjébbana is *nya-*, while the masculine form

² A form *-ngka* (i.e. [-ŋkə]) for the 2min dative suffix in Ndjébbana suggests that this form is probably a retention from a deeper level. As with the languages discussed here, the Ndjébbana form is anomalous when compared with forms of the 2min category in other pronominal paradigms.

³ Indeed, a brief survey of NPN languages on the eastern side of the Stuart Highway suggests that Dative suffixal pronouns in general may preserve some of the oldest pronominal morphology. E.g. Alawa 2sg suffix *-manja* ~ *-minji* and Yanyuwa 2sg Pres suffix *-mu*, with no analogs elsewhere in the pronominal morphology of either language. (I am not suggesting these forms are related, merely that they are ancient in each language.)

varies. This is further evidence suggesting the dative clitic paradigms of many NPN languages conserve archaisms not otherwise found in the language.

3. Other issues: the false similarity between Ngandi and Ngalakgan

Authors (such as AEH) have on several occasions proposed a closer relationship between Ngandi and Ngalakgan than is warranted by the evidence.⁴ The above discussion has shown that such a proposal cannot be maintained in the face of substantial differences in the organisation of verb paradigms and the form of inflections. So why do people persist in regarding Ngandi and Ngalakgan as being closely related? The features which seem to stand out are these (and compare the similar list relating these two and Rembarrnga in Merlan, 1983:v):

1. Segment inventory: 5 vowels, “two series of consonants”
2. Degemination and delaryngealisation rules
3. Noun classes
4. Case affixes, including the ergative case
5. Adverbial/derivational prefixes
6. Pronominal prefixes

I address these briefly in turn, suggesting that none of them constitute evidence of a subgrouping relationship. We can therefore regard these features as ‘false friends’: the kind of evidence to avoid when deciding on possible genetic relationships.

1. Ngandi and Ngalakgan have similar segmental inventories; but so do Ngalakgan and Rembarrnga, Ngalakgan and Bininj Gun-wok. Indeed, Ngandi is again more similar to Wubuy in this regard: these are the only two GN languages with a laminal contrast. Ngandi and Ngalakgan both have a singleton:geminate opposition, but this is also a feature of many languages of Arnhem Land, related or not. Phonemic inventories are well-known to be subject to areal influence (e.g. the apical contrast in Indo-Aryan languages of the subcontinent, under the influence of Dravidian: Comrie 1998).

2. Degemination and delaryngealisation rules are found in Ngalakgan, Rembarrnga, and Ngandi, to date. It is true these rules are fundamentally of the

⁴ For example, Merlan (1983:v) states ‘Of Arnhem languages for which we possess descriptions, Ngalakgan appears most closely related to [Rembarrnga] (McKay 1975) and Ngandi (Heath 1978a)’.

same type, and lenite geminates and glottal stops at a distance following a preceding geminate or stop cluster. These rules are conditioned by the prosodic structure of complex words (Baker 1999), and are presumably related to the fact that these three languages have undergone extensive fortition and laryngealisation at morpheme boundaries (as have Dalabon, Ndjébbana, Nakkara, and many other languages, to a lesser extent). It points to a long period of association between the three languages. However, phonological rules (particularly prosodic ones) should not be regarded as evidence of a genetic relationship. Again, this is probably an areal phenomenon.

3. Ngandi and Ngalakgan both have noun classes, while they are lacking in Rembarnga and Dalabon. There are differences between them though: Ngalakgan has 4, Ngandi has 5. Wubuy also has 5 noun classes, and in this case they appear to be cognate with Ngandi. Ngalakgan noun classes appear to derive from a different source in at least one case (FEM *ju-*), and in this case the closest cognate is found in the relic lexicalised form *da-* in Rembarnga. The existence, by itself, of noun classes in these two languages cannot be taken as evidence of a close relationship.

4. Both Ngandi and Ngalakgan have a similar array of case suffixes, including an Ergative case. Wubuy lacks an Ergative case. However, many of these same case forms are found in other GN languages, and in other non-GN languages nearby. The Ngandi Ergative *-dhu* ~ *-tdhu* for example appears to have been borrowed from Ritharrngu - a Pama-Nyungan language to the north (Heath 1978b: 76). Therefore, case forms alone cannot be used as evidence of a genetic relationship. Case suffixes are typically syllabic, have fairly consistent meanings and forms. For all these reasons, as Heath noted (Heath 1978b), they are more borrowable than verbs, which come with an attached baggage of non-syllabic and mostly unpredictable inflectional forms.

5. Ngandi and Ngalakgan share a number of derivational verb prefixes, such as *bak-*, *re-*, *bartda-* (Applicatives), *meleh-* “lest” (forms the Evitative category with Ngandi Evitative/Ngalakgan Irrealis), *na-* “still”, *birditj-* “nearly”, *garra-* “many”, and *namulu-* “really”. Again, these items tend to have a very wide range of occurrence. The Ngalakgan prefix *warna-* “still, yet” for instance is also found in Jawoyn, which is only distantly related but was spoken in a contiguous area. The form *guh-* “raw” is also found in both languages as a prefix. Perhaps more significantly, the prefix *birditj-* “nearly” at least is also found as an independent adverb in the neighbouring but unrelated

Yolngu language Ritharrngu, with the same meaning. These kinds of prefixes appear to be subject to the same proviso as case suffixes.

6. The pronominal prefix forms of Ngandi have some broad correspondences with Ngalakgan. But they are no more than might be expected between any two GN languages. In particular, Ngandi lacks the object allomorph forms which are a consistent feature of Rembarrnga and Ngalakgan. In short, none of these characteristics argues convincingly for a systematic correspondence between Ngandi and Ngalakgan, of the order that we have seen for, on the one hand, Rembarrnga and Ngalakgan, and on the other, Ngandi and Wubuy. It appears that the only subgroups that are warranted based on the evidence presented here from shared irregularities are, on the one hand, the subgroup consisting of Ngalakgan and Rembarrnga, and on the other, Ngandi and Wubuy.

APPENDIX 15

SOURCES CONSULTED IN THE COMPILATION OF APPENDICES 5.1 AND 5.2 BUT NOT CITED IN THE MAIN PAPER

Barry Alpher

- Alpher, Barry. 1982. "Dalabon dual-subject prefixes, kinship categories, and generation skewing". Heath, Merlan, & Rumsey. 19–30.
- Amery, Rob. 1998. Sally and Harry: insights into early Kurna contact history. *History in portraits: Biographies of nineteenth century South Australian Aboriginal people* (Aboriginal History Monograph 6), ed. by Simpson, Jane, and Luise Hercus, 49–87. Sydney: Southwood Press.
- Austin, Peter. 1981. *A grammar of Diyari, South Australia*. Cambridge: Cambridge University Press.
- _____. 1992a. *A dictionary of Payungu, Western Australia*. Melbourne: La Trobe University, Department of Linguistics.
- _____. 1992b. *A dictionary of Thalanyji*. Melbourne: La Trobe University, Department of Linguistics.
- _____. 1992c. *A dictionary of Warriyangga*. Melbourne: La Trobe University, Department of Linguistics.
- _____. 1992d. *A dictionary of Tharrgari*. Melbourne: La Trobe University, Department of Linguistics.
- _____. 1992e. *A dictionary of Jiwarli*. Melbourne: La Trobe University, Department of Linguistics.
- _____. 1994. *A dictionary of Gamilaraay, northern New South Wales*. Bundoora: La Trobe University Department of Linguistics.
- Bani, Ephraim. 1987. "Garka a ipika: masculine and feminine grammatical gender in Kala Lagaw Ya". *Australian Journal of Linguistics* 7: 189–201.
- Bani, Ephraim, and Terry J. Klokeid. 1971. Mabuiag grammar. Papers on the Western Island Language of Torres Strait, ed. by Ephraim Bani & Terry J. Klokeid. Final Report to the Australian Institute of Aboriginal Studies. Canberra.

- Berndt, Ronald M., and Catherine H. Berndt, with John E. Stanton. 1993. *A world that was: the Yarlaldi of the Murray River and the lakes*. Melbourne: Melbourne University Press at the Miegunyah Press.
- Blake, Barry J. 1979b. "Pitta-Pitta". Dixon & Blake 1979. 183–242.
- _____. 1991. "Woiwurrung, the Melbourne Language". Dixon & Blake 1991. 30–122.
- _____. n.d. The Buwandik language of the Mount Gambier Region. Unpublished MS.
- Blake, Barry J., and J.G. Breen. 1971. *The Pitta-Pitta dialects*. Linguistic Communications 4. Melbourne: Monash University.
- _____. 1990. "Guwa". Breen 1990. 109–144.
- Blevins, Juliette. 2001. *Nhanda: an Aboriginal language of Western Australia*. Oceanic Linguistics Special Publication No. 30. Honolulu: University of Hawai'i Press.
- Bowe, Heather, and Stephen Morey. 1999. *The Yorta Yorta (Bangerang) language of the Murray Goulburn, including Yabula Yabula*. Pacific Linguistics C-154. Canberra: Australian National University.
- Bradley, John. n.d. Yanyuwa dictionary. ASEDA 0382
- Breen, J. Gavan. 1974. Wakaya. ASEDA 0047. Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies.
- _____. 1976a. "Gugadj and Gog-Nar: a contrastive sketch". Sutton 1976. 151–164.
- _____. 1976b. "An introduction to Gog-Nar". Sutton 1976. 243–259.
- _____. 1981a. *The Mayi languages of the Queensland Gulf Country*. Canberra: Australian Institute of Aboriginal Studies.
- _____. 1981b. "Margany and Gunya". Dixon & Blake 1981. 274–393.
- _____. 1990. *Salvage Studies of Western Queensland Aboriginal Languages*. Pacific Linguistics B-105. Canberra: Australian National University.
- _____. 1992. "Some problems in Kukatj phonology". *Australian Journal of Linguistics* 12: 1–43.
- _____. n.d. Wangkumara. Typescript; AIATSIS Library catalogue number pMs 3616.
- Dench, Alan. 1991. "Panyjima". Dixon & Blake 1991. 124–243.
- _____. 1998. *Yingkarta*. Languages of the World/Materials 137. München: Lincom Europa.
- Dixon, R.M.W. 1972. *The Dyirbal language of North Queensland*. Cambridge Studies in Linguistics, 9. Cambridge: Cambridge University Press.
- _____. 1991b. *Words of our country*. St. Lucia: Queensland University Press.

- Donaldson, Tamsin. 1980. *The Ngiyambaa language of the Wangaaybuwan*. Cambridge Studies in Linguistics, 29. Cambridge: Cambridge University Press.
- _____. 1994. "Ngiyampaa". Thieberger & McGregor 1994. 23–40.
- _____. 1997. *Ngiyampaa wordworld 1: thipingku yuwi, maka ngiya—names of birds and other words*. Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies.
- Douglas, W.H. 1988. *An introductory dictionary of the Western Desert Language*. Institute of Applied Language Studies, Western Australian College of Advanced Education.
- Eades, Diana. 1979. "Gumbaynggir". Dixon & Blake 1979. 244–361.
- Evans, Nicholas. 1992b. *Kayardild dictionary and thesaurus*. Melbourne: University of Melbourne, Department of Linguistics and Language Studies.
- _____. 1992c. "Macassan loanwords in Top End Languages". *Australian Journal of Linguistics* 12: 45–91.
- Foote, Tom, and Allen Harry Hall. 1992. *Kuuk-Thaayorre dictionary: Thaayorre/English*. Toowong: Jollen Press.
- Galpagalpa, J., D. Wanymuli, L. de Veer, and M. Wilkinson. 1984. *Dhuwal Djambarrpuynu dhäruk mala ga mayali': Djambarrpuynu wordlist*. Yirrkala: Yirrkala Community School Literature Production Centre.
- Ganambarr, Merrkiyawuy. 1994. "Därtiwuy". Thieberger & McGregor 1994. 234–265.
- Geytenbeek, Brian, and Helen Geytenbeek. 1991. Nyangumarta-English dictionary, with English-Nyangumarta finder list. ASEDA 0127. Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies.
- Goddard, Cliff. 1987. *A basic Pitjantjatjara/Yankunytjatjara to English dictionary*. Alice Springs: Institute for Aboriginal Development.
- Godman, Irene. 1993. A sketch grammar of Rimanggudinhma: a language of the Princess Charlotte Bay region of Cape York Peninsula. Unpublished BA (honours) thesis, University of Queensland.
- Green, Rebecca. n.d. Mudburra lexicon. Computer file.
- Hale, H.M., and N.B. Tindale. 1933–1934. "Aborigines of Princess Charlotte Bay, North Queensland". *South Australian Museum, Records* 5: 63–172.
- Hale, Kenneth. 1962. "Internal relationships in Arandic of Central Australia". *Some linguistic types in Australia [Handbook of Australian languages, Part 2]*, by Arthur Capell, 171–183. Oceania Linguistic Monographs No. 7. Sydney: University of Sydney.

- _____. 1965. Warlpiri. Unpublished MS, containing 'An introduction to Warlpiri vocabulary [known under the title "Warlpiri domains"]' and 'Warlpiri phoneme inventory'. Library, Australian Institute of Aboriginal and Torres Strait Islander Studies.
- _____. 1974. An elementary dictionary of the Warlpiri language. Dittoed.
- _____. 1997. "A Linngithigh vocabulary". Tryon & Walsh 1997. 209–246.
- _____. n.d. a. Wik–Mungknh wordlist. Unpublished MS.
- _____. n.d. b. Ngarluma vocabulary. Unpublished computer printout.
- Hamilton, Philip. 1996. Top End languages: Oykangand, Olgol & Pakanh—a dictionary. MS: draft report to A.I.A.T.S.I.S.
- _____. 1998. Uw Oykangand and Uw Olkola multimedia dictionary. www.geocities.com/Athens/Delphi/2970/
- Hansen, K.C., and L.E. Hansen. 1977. *Pintupi/Luritja Dictionary*. Berrimah, NT: Summer Institute of Linguistics, Australian Aborigines Branch. [2nd edition, Alice Springs: Institute for Aboriginal Development.]
- Haviland, John B. 1972. Guugu Yimidhirr word list. Cyclostyled.
- Heath, Jeffrey. 1978. *Linguistic diffusion in Arnhem Land*. Canberra: Australian Institute of Aboriginal Studies.
- _____. 1982. *Nunggubuyu dictionary*. Canberra: Australian Institute of Aboriginal Studies.
- Heath, Jeffrey, Francesca Merlan, and Alan Rumsey, eds. 1982. *Languages of kinship in Aboriginal Australia*. Oceania Linguistic Monographs 24. Sydney: University of Sydney.
- Henderson, John, and Veronica Dobson. 1994. *Eastern and Central Arrernte to English dictionary*. Alice Springs: IAD Press.
- Hercus, Luise. 1999. *A grammar of the Wirangu language from the West Coast of South Australia*. Pacific Linguistics C-150. Canberra: Australian National University.
- Hershberger, Henry D., and Ruth Hershberger. 1986. *Kuku-Yalanji dictionary*. Work Papers of SIL-AAB B-7. Darwin: Summer Institute of Linguistics.
- Hey, N. 1903. *An elementary grammar of the Nggerikudi language*. North Queensland Ethnography: Bulletin No. 6. Brisbane: Government Printer.
- Hudson, Joyce and Eirlys Richards. n.d. Walmajarri list, ASEDA 0167. Broome: ms.
- Jolly, Lesley. 1989. Aghu Tharrnggala: a language of the Princess Charlotte Bay region of Cape York Peninsula. Unpublished BA (honours) thesis, University of Queensland.
- Kennedy, R.J. n.d. Kalaw Kawaw Ya/English dictionary. Printout of draft.

- Kilham, Christine, Mabel Pamulkan, Jennifer Pootchemunka, and Topsy Wolmby. 1986. *Dictionary and source book of the Wik-Mungkan language*. Darwin: Summer Institute of Linguistics, Australian Aborigines Branch.
- Klokeid, Terry. 1969. *Thargari phonology and morphology*. Pacific Linguistics B-12. Canberra: Australian National University.
- Laves, Gerhardt. n.d. Notes on Mayi-Thakurti. Australian Institute of Aboriginal and Torres Strait Islander Studies, archive MS, pages 6674–6723.
- Lowe, Beulah, and Michael Christie. n.d. [acquired 1977]. Temporary Gupapuyngu dictionary. Cyclostyled. Milngimbi.
- McConvell, P. 1980. Manjiljarra Wangka: Manjiljarra-English dictionary. Darwin: Strelley Literature Centre and School of Australian Linguistics.
- _____. 1982. "Neutralisation and degrees of respect in Gurindji." Heath, Merlan, & Rumsey. 86–106.
- _____. 1997b. "Semantic shifts between fish and meat and the prehistory of Pama-Nyungan". Tryon & Walsh. 303–325.
- McDonald, Maryalyce. 1977. A study of the phonetics and phonology of Yaraldi and associated dialects. M.A. thesis, Australian National University.
- McDonald, M., and S.A. Wurm. 1979. *Basic materials in Wankumara (Galali): grammar, sentences, and vocabulary*. Pacific Linguistics, Series B, No. 65. Canberra: Research School of Pacific Studies, ANU.
- McEntee, John, and Pearl McKenzie. 1992. *Adnya-math-nha English dictionary*. Adelaide: The Authors. (ISBN 0959664432)
- McNicol, Sally, and Dianne Hosking. 1994. "Wiradjuri". Thieberger & McGregor 1994. 79–99.
- Merlan, Francesca. 1982. *Mangarayi*. Lingua Descriptive Studies Vol. 4. Amsterdam: North-Holland.
- _____. 1983. *Ngalakan grammar; texts and vocabulary*. Pacific Linguistics B-89. Canberra: Australian National University.
- Meyer, H.A.E. 1843. *Vocabulary of the language spoken by the Aborigines of the southern and eastern portions of the settled districts of South Australia*. Adelaide: James Allen.
- Nash, David. 1979a. A preliminary vocabulary of the Warlmanpa language. Typescript, dated May 1979; MIT Linguistics Department, Cambridge, Mass.

- _____. 1979b. Warlmanpa verbs. Typescript, dated 11 May 1979; MIT Linguistics Department, Cambridge, Mass.
- Ngakulmungan Kangka Leman. 1997. *Lardil dictionary*. Gununa: Mornington Shire Council.
- Oates, Lynette F. 1988. *The Muruwari language*. Pacific Linguistics C-108. Canberra: Australian National University.
- Oates, William, and Lynette Oates. 1964. "Gugu-Yalanji vocabulary". *Gugu-Yalanji and Wik-Munkan Language Studies* (Occasional papers in Aboriginal Studies No. 2), edited by William and Lynette Oates, Hank Hershberger, Ruth Hershberger, Barbara Sayers, and Marie Godfrey, 79–146. Canberra: Australian Institute of Aboriginal Studies.
- O'Grady, Geoffrey N. 1964. *Nyangumata grammar*. Oceanic Linguistic Monographs no. 9. Sydney: University of Sydney.
- _____. 1976. "Umpila historical phonology". Sutton 1976. 61–67.
- _____. 2001. "Two southern Australian vocabularies: Parnkalla (Barngarla) and Karlamayi". Simpson et al. 292–303.
- Patz, Elizabeth. 1991. "Djabugay". Dixon & Blake 1991. 244–347.
- Rumsey, Alan. 1999. "Bunuba". Dixon & Blake 1999b: 23–152.
- Schebeck, B. 1973. Dhangu-English vocabulary (first draft). Typescript. MS 9455; Australian Institute of Aboriginal and Torres Strait Islander Studies Library.
- _____. 1974. *Texts on the social system of the Atnyamathanha people, with grammatical notes*. Pacific Linguistics D-21. Canberra: Australian National University.
- Sharpe, Margaret, ed. 1992. *Gumbih nguyay baygalnahnu, Gumbi gurgun baygalnahnu: dictionary of Western Bundjalung including Gidhabal and Tabulam Bundjalung*. Armidale: University of New England.
- _____. 1998. *Dictionary of Yugambeh including neighbouring dialects*. Pacific Linguistics C-139. Canberra: Australian National University.
- _____. n.d. [2002]. *Dictionary of Coastal Bundjalung*. Draft MS.
- Sommer, Bruce A. 1969. *Kunjen phonology: synchronic and diachronic*. Pacific Linguistics B-11. Canberra: Australian National University.
- Sutton, Peter. 1973. Gugu-Badhun and its neighbours: a linguistic salvage study. Unpublished M.A. thesis, Macquarie University.
- _____. 1995. *Wik-Ngathan dictionary*. Adelaide: Caitlin Press.
- Taplin, G., ed. 1879. *The folklore, manners, customs, and languages of the South Australian Aborigines*. Adelaide: Government Printer (reprint 1967, Johnson Reprint Company, New York).

- Terrill, Angela. 1998. *Biri*. Languages of the World/Materials 258. München: Lincom Europa.
- _____. n.d. Biri wordlist. Computer file.
- Thieberger, Nick, and William McGregor, eds. 1994. *Macquarie Aboriginal words*. Macquarie University: The Macquarie Library Pty. Ltd.
- Thompson, David A. 1976. "A phonology of *Kuuku-Ya'u*". Sutton 1976. 213–235.
- Tryon, D.T. 1970. *An introduction to Maranungku (Northern Australia)*. Pacific Linguistics B-15. Canberra: Linguistic Circle of Canberra.
- Tsunoda, T.G. 1974. A grammar of the Warungu language, North Queensland. Unpublished MA Thesis, Monash University, Melbourne.
- Waters, Bruce. 1989. *Djinang and Djinba—a grammatical and historical perspective*. Pacific Linguistics C-114. Canberra: Australian National University.
- Watson, F.J. 1944. *Vocabularies of 4 representative tribes of South Eastern Queensland*. Supplement to *Journal of the Royal Geographical Society of Australasia (Queensland)*, No. 34, Vol. 48, Session 1943–1944.
- West, LaMont. 1965. Tapes of Tom Warren speaking Wuthathi. AIATSIS Archive Tapes 1459b and A1460a. Transcription 1975 by Barry Alpher. Australian Institute of Aboriginal and Torres Strait Islander Studies.
- Williams, Corinne J. 1980. *A grammar of Yuwaalaraay*. Pacific Linguistics B-74. Canberra: Australian National University.
- Wilson, Stephen, and Mark Harvey. 1999. *Wagiman online dictionary*. www.aiatsis.gov.au/lbry/dig_prgm/e_access/digital/a339234/home.html
- Wordick, Frank. 1982. *The Yindjibarndi language*. Pacific Linguistics C-71. Canberra: Australian National University.
- Yallop, Colin. 1975. "The Narinjari language 1864–1964". Part I of *Narinjari: an outline of the language studied by George Taplin, with Taplin's notes and comparative table*. Oceania Linguistic Monographs 17. Sydney: University of Sydney.
- _____. 1977. *Alyawarra*. Canberra: Australian Institute of Aboriginal Studies.

CURRENT ISSUES IN LINGUISTIC THEORY

E. F. K. Koerner

Zentrum für Allgemeine Sprachwissenschaft, Typologie
und Universalienforschung, Berlin

The *Current Issues in Linguistic Theory* (CILT) series is a theory-oriented series which welcomes contributions from scholars who have significant proposals to make towards the advancement of our understanding of language, its structure, functioning and development. CILT has been established in order to provide a forum for the presentation and discussion of linguistic opinions of scholars who do not necessarily accept the prevailing mode of thought in linguistic science. It offers an alternative outlet for meaningful contributions to the current linguistic debate, and furnishes the diversity of opinion which a healthy discipline must have. A complete list of titles in this series can be found on the publishers website, www.benjamins.com

- 222 **HERSCHENSOHN, Julia, Enrique MALLÉN and Karen ZAGONA (eds.):** Features and Interfaces in Romance. Essays in honor of Heles Contreras. 2001. xiv, 302 pp.
- 223 **FANEGO, Teresa, Javier PÉREZ-GUERRA and María José LÓPEZ-COUZO (eds.):** English Historical Syntax and Morphology. Selected papers from 11 ICEHL, Santiago de Compostela, 7–11 September 2000. Volume 1. 2002. x, 306 pp.
- 224 **FANEGO, Teresa, Belén MÉNDEZ-NAYA and Elena SEOANE (eds.):** Sounds, Words, Texts and Change. Selected papers from 11 ICEHL, Santiago de Compostela, 7–11 September 2000. Volume 2. 2002. x, 310 pp.
- 225 **SHAHIN, Kimary N.:** Postvelar Harmony. 2003. viii, 344 pp.
- 226 **LEVIN, Saul:** Semitic and Indo-European. Volume II: Comparative morphology, syntax and phonetics. 2002. xviii, 592 pp.
- 227 **FAVA, Elisabetta (ed.):** Clinical Linguistics. Theory and applications in speech pathology and therapy. 2002. xxiv, 353 pp.
- 228 **NEVIN, Bruce E. (ed.):** The Legacy of Zellig Harris. Language and information into the 21st century. Volume 1: Philosophy of science, syntax and semantics. 2002. xxxvi, 323 pp.
- 229 **NEVIN, Bruce E. and Stephen B. JOHNSON (eds.):** The Legacy of Zellig Harris. Language and information into the 21st century. Volume 2: Mathematics and computability of language. 2002. xx, 312 pp.
- 230 **PARKINSON, Dilworth B. and Elabbas BENMAMOUN (eds.):** Perspectives on Arabic Linguistics. Papers from the Annual Symposium on Arabic Linguistics. Volume XIII-XIV: Stanford, 1999 and Berkeley, California 2000. 2002. xiv, 250 pp.
- 231 **CRAVENS, Thomas D.:** Comparative Historical Dialectology. Italo-Romance clues to Ibero-Romance sound change. 2002. xii, 163 pp.
- 232 **BEYSSADE, Claire, Reineke BOK-BENNEMA, Frank DRIJKONINGEN and Paola MONACHESI (eds.):** Romance Languages and Linguistic Theory 2000. Selected papers from 'Going Romance' 2000, Utrecht, 30 November–2 December. 2002. viii, 354 pp.
- 233 **WEIJER, Jeroen van de, Vincent J. van HEUVEN and Harry van der HULST (eds.):** The Phonological Spectrum. Volume I: Segmental structure. 2003. x, 308 pp.
- 234 **WEIJER, Jeroen van de, Vincent J. van HEUVEN and Harry van der HULST (eds.):** The Phonological Spectrum. Volume II: Suprasegmental structure. 2003. x, 264 pp.
- 235 **LINN, Andrew R. and Nicola McLELLAND (eds.):** Standardization. Studies from the Germanic languages. 2002. xii, 258 pp.
- 236 **SIMON-VANDENBERGEN, Anne-Marie, Miriam TAVERNIERS and Louise J. RAVELLI (eds.):** Grammatical Metaphor. Views from systemic functional linguistics. 2003. vi, 453 pp.
- 237 **BLAKE, Barry J. and Kate BURRIDGE (eds.):** Historical Linguistics 2001. Selected papers from the 15th International Conference on Historical Linguistics, Melbourne, 13–17 August 2001. Editorial Assistant: Jo Taylor. 2003. x, 444 pp.
- 238 **NÚÑEZ-CEDENO, Rafael, Luis LÓPEZ and Richard CAMERON (eds.):** A Romance Perspective on Language Knowledge and Use. Selected papers from the 31st Linguistic Symposium on Romance Languages (LSRL), Chicago, 19–22 April 2001. 2003. xvi, 386 pp.
- 239 **ANDERSEN, Henning (ed.):** Language Contacts in Prehistory. Studies in Stratigraphy. Papers from the Workshop on Linguistic Stratigraphy and Prehistory at the Fifteenth International Conference on Historical Linguistics, Melbourne, 17 August 2001. 2003. viii, 292 pp.

- 240 **JANSE, Mark and Sijmen TOL (eds.):** Language Death and Language Maintenance. Theoretical, practical and descriptive approaches. With the assistance of Vincent Hendriks. 2003. xviii, 244 pp.
- 241 **LECARME, Jacqueline (ed.):** Research in Afroasiatic Grammar II. Selected papers from the Fifth Conference on Afroasiatic Languages, Paris, 2000. 2003. viii, 550 pp.
- 242 **SEUREN, Pieter A.M. and Gerard KEMPEN (eds.):** Verb Constructions in German and Dutch. 2003. vi, 316 pp.
- 243 **CUYCKENS, Hubert, Thomas BERG, René DIRVEN and Klaus-Uwe PANTHER (eds.):** Motivation in Language. Studies in honor of Günter Raddden. 2003. xxvi, 403 pp.
- 244 **PÉREZ-LEROUX, Ana Teresa and Yves ROBERGE (eds.):** Romance Linguistics. Theory and Acquisition. Selected papers from the 32nd Linguistic Symposium on Romance Languages (LSRL), Toronto, April 2002. 2003. viii, 388 pp.
- 245 **QUER, Josep, Jan SCHROTEN, Mauro SCORRETTI, Petra SLEEMAN and Els VERHEUGD (eds.):** Romance Languages and Linguistic Theory 2001. Selected papers from 'Going Romance', Amsterdam, 6–8 December 2001. 2003. viii, 355 pp.
- 246 **HOLISKY, Dee Ann and Kevin TUIITE (eds.):** Current Trends in Caucasian, East European and Inner Asian Linguistics. Papers in honor of Howard I. Aronson. 2003. xxviii, 426 pp.
- 247 **PARKINSON, Dilworth B. and Samira FARWANEH (eds.):** Perspectives on Arabic Linguistics XV. Papers from the Fifteenth Annual Symposium on Arabic Linguistics, Salt Lake City 2001. 2003. x, 214 pp.
- 248 **WEIGAND, Edda (ed.):** Emotion in Dialogic Interaction. Advances in the complex. 2004. xii, 284 pp.
- 249 **BOWERN, Claire and Harold KOCH (eds.):** Australian Languages. Classification and the comparative method. 2004. xii, 377 pp. (incl. CD-Rom).
- 250 **JENSEN, John T.: Principles of Generative Phonology. An introduction. 2004. xii, 324 pp.**
- 251 **KAY, Christian J., Simon HOROBIN and Jeremy J. SMITH (eds.):** New Perspectives on English Historical Linguistics. Selected papers from 12 ICEHL, Glasgow, 21–26 August 2002. Volume I: Syntax and Morphology. 2004. x, 264 pp.
- 252 **KAY, Christian J., Carole HOUGH and Irené WOTHERSPOON (eds.):** New Perspectives on English Historical Linguistics. Selected papers from 12 ICEHL, Glasgow, 21–26 August 2002. Volume II: Lexis and Transmission. 2004. xii, 273 pp.
- 253 **CAFFAREL, Alice, J.R. MARTIN and Christian M.I.M. MATTHIESSEN (eds.):** Language Typology. A functional perspective. xiii, 690 pp. + index. *Expected Fall 2004*
- 254 **BALDI, Philip and Pietro U. DINI (eds.):** Studies in Baltic and Indo-European Linguistics. In honor of William R. Schmalstieg. 2004. xlv, 302 pp.
- 255 **MEULEN, Alice ter and Werner ABRAHAM (eds.):** The Composition of Meaning. From lexeme to discourse. 2004. vi, 230 pp.
- 256 **BOK-BENNEMA, Reineke, Bart HOLLEBRANDSE, Brigitte KAMPERS-MANHE and Petra SLEEMAN (eds.):** Romance Languages and Linguistic Theory 2002. Selected papers from 'Going Romance', Groningen, 28–30 November 2002. 2004. viii, 273 pp.
- 257 **FORTESCUE, Michael, Eva Skafte JENSEN, Jens Erik MOGENSEN and Lene SCHØSLER (eds.):** Historical Linguistics 2003. Selected papers from the 16th International Conference on Historical Linguistics, Copenhagen, 11–15 August 2003. x, 315 pp. + index. *Expected Fall 2004*
- 258 **AUGER, Julie, J. Clancy CLEMENTS and Barbara VANCE (eds.):** Contemporary Approaches to Romance Linguistics. Selected Papers from the 33rd Linguistic Symposium on Romance Languages (LSRL), Bloomington, Indiana, April 2003. With the assistance of Rachel T. Anderson. viii, 404 pp. *Expected Fall 2004*
- 259 **CARR, Philip, Jacques DURAND and Colin J. EWEN (eds.):** Headhood, Elements, Specification and Contrastivity. Phonological papers in honor of John Anderson. 430 pp. *Expected Winter 04-05*
- 260 **NICOLOV, Nicolas, Ruslan MITKOV, Galia ANGELOVA and Kalina BONTCHEVA (eds.):** Recent Advances in Natural Language Processing III. Selected papers from RANLP 2003. ca. 400 pp. *Expected Winter 04-05*
- 261 **KAY, Christian J. and Jeremy J. SMITH (eds.):** Categorization in the History of English. ca. 260 pp. *Expected Winter 04-05*
- 262 **VAJDA, Edward J. (ed.):** Languages and Prehistory of Central Siberia. ca. 280 pp. *Expected Winter 04-05*