In Wubuy, a highly endangered polysynthetic language from northern Australia, there are a number of morphosyntactic phenomena that can manipulate how verbal arguments are realised, including causative, affectedness and conjunctive constructions. However, the reasons why these sometimes vary in their effect on argument realisation are unclear, as are the ways they are distributed and constrained. In fact, there are very few descriptions of languages with multiple valency-changing processes that provide detailed accounts of them and how they interact with each other. This is a problem because it means that when we take a given verb, we are unable to predict how (or even if) it can participate in such constructions, nor can we predict what the range of possible interpretations will be.

Through a reconsideration of the current corpus and the collection of new data, this thesis uses empirical description and analysis to investigate the distribution and constraints of causative, affectedness and conjunctive constructions in a number of ways, including: considering how a verb's transitivity, semantic subclass and argument-structure influences its interaction with derivational morphology and the morphosyntactic realisation of arguments; extending investigations past the current (and crosslinguistically) predominant focus on morphological constructions to also include lexical and syntactic ones; and approaching similar construction types in a unified way (e.g. comparing verb agreement strategies in coordinative, comitative and reciprocal contexts of conjunction). In doing so, this thesis not only clarifies the constraints and interactions mentioned above, it also discovers several construction types that were previously undescribed for Wubuy, some of which are also underdescribed in the broader Australian, polysynthetic and crosslinguistic contexts.
I declare that:

a. This thesis comprises only my original work towards the degree of Doctor of Philosophy;

b. Due acknowledgement has been made in the text to all other material used;

c. Full ethics procedures and guidelines have been followed;

d. The thesis is fewer than 100,000 words in length exclusive of tables, figures, maps, foreign language examples, references and appendices.

Kate Horrack
My research received support from a variety of organisations and projects. Fieldwork in 2012 was funded by the Australian Research Council (ARC) project ‘Doing great things with small languages’ (DP0984419), which is led by Dr. Nick Thieberger and Dr. Rachel Nordlinger, and funding for my second field trip in 2014 was gained via the University of Melbourne PhD Fieldwork Grant Scheme. Ethics approval for my fieldwork was obtained via the research project ‘A new grammar of Wubuy’, which is led by Dr. Brett Baker and funded by grants from the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) and the University of Melbourne. My PhD candidature was also supported by an Australian Postgraduate Award (APA) that is funded by the Australian Government, as well as a Graduate School of Humanities and Social Sciences (GSHSS) PhD Top Up Scholarship from the University of Melbourne.
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The writing of this thesis was not a simple matter of stringing together a bunch of words into a series of sentences to form a stack of pages. Every element has been influenced and shaped by the inspiration, advice, support and motivation I received from others. So when the final word was typed on the final page to complete this thesis, the moment of triumph and relief that followed is not something that belongs only to me, the author. It also belongs to all the people who have inspired, advised, supported and motivated me since the first word was written.

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# Table of Contents

Abstract iii  
Declaration v  
Preface vii  
Acknowledgements ix  
Contents xv  
List of maps, tables and figures xxi  
List of abbreviations xxix  

**Part 1: Preliminaries................................................................. 1**  

**Chapter 1: General overview and background**  
1.1 Introduction 3  
1.2 Research questions 15  
1.3 Methodology 15  
  1.3.1 Fieldwork and data 15  
  1.3.2 Analytical approach 19  
    1.3.2.1 Thematic roles, thematic hierarchy and mapping to grammatical functions 21  
1.4 Previous work on Wubuy 23  
1.5 Overview of thesis 25  

**Chapter 2: Overview of Wubuy**  
2.1 Introduction 27  
2.2 The speakers 28  
  2.2.1 History 28  
  2.2.2 Present situation 28  
2.3 The language 30  
  2.3.1 Genetic position 30  
  2.3.2 Phonology 32  
  2.3.3 Morphosyntax 33  
    2.3.3.1 Verbs 35  
    2.3.3.2 Nouns 41  
  2.3.4 Grammatical functions 51
2.4 Argument realisation in basic clauses 53
  2.4.1 Basic intransitive clauses 54
  2.4.2 Basic transitive clauses 56
  2.4.3 Basic ditransitive clauses 57
2.5 Conclusion 59

PART 2: INTRODUCING NEW CORE ARGUMENTS.......................... 61

Chapter 3: Causative constructions 63
  3.1 Introduction 63
  3.2 Brief overview: definitions and tendencies 67
    3.2.1 Direct causation vs indirect causation 68
    3.2.2 Predominant focus on morphological causatives 71
  3.3 Causative constructions in Wubuy 75
    3.3.1 Morphological causative constructions 75
      3.3.1.1 Direct causative function 78
      3.3.1.2 Indirect causative function 82
      3.3.1.3 Summary 88
    3.3.2 Syntactic causative constructions 89
      3.3.2.1 Sequential causatives 91
      3.3.2.2 Purposive causatives 101
    3.3.3 Defeasibility of Wubuy causative constructions 114
  3.4 Conclusion 116

Chapter 4: Affectedness constructions 119
  4.1 Introduction 119
  4.2 Brief overview: definitions and tendencies 126
    4.2.1 External possession as an affectedness construction 127
  4.3 Affectedness constructions in Wubuy 130
    4.3.1 Lexical affectedness constructions 130
    4.3.2 Morphological affectedness constructions 135
      4.3.2.1 Verbs of emotion, speech, attention or transfer 137
      4.3.2.2 Other verbs 142
    4.3.3 Summary 151
PART 4: INTERACTIONS

Chapter 7: Combining valency-changing derivations

7.1 Introduction

7.2 Restriction on the RECIPROCAL taking derived inputs

7.3 Derivations on one side of the Wubuy verb stem

7.3.1 Prefixes: AFFECTEE APPLICATIVE and COMITATIVE derivation

7.3.1.1 COMITATIVE rule (a.) followed by AFFECTEE APPLICATIVE rule (b.)

7.3.1.2 COMITATIVE rule (b.) followed by AFFECTEE APPLICATIVE rule (b.)

7.3.1.3 AFFECTEE APPLICATIVE rule (a.) followed by COMITATIVE rule (b.)

7.3.2 Suffixal roots: CAUSATIVE and RECIPROCAL derivations

7.3.2.1 CAUSATIVE rule (a.) followed by the RECIPROCAL rule

7.3.2.2 CAUSATIVE rule (b.) followed by the RECIPROCAL rule

7.3.2.3 CAUSATIVE rule (c.) followed by the RECIPROCAL rule

7.4 Derivations on both sides of the Wubuy verb stem

7.4.1 AFFECTEE APPLICATIVE prefix and CAUSATIVE suffixal root

7.4.1.1 AFFECTEE APPLICATIVE rule (a.) followed by CAUSATIVE rule (a.)

7.4.1.2 AFFECTEE APPLICATIVE rule (a.) followed by CAUSATIVE rule (b.)

7.4.1.3 AFFECTEE APPLICATIVE rule (b.) followed by CAUSATIVE rule (a.)

7.4.1.4 AFFECTEE APPLICATIVE rule (b.) followed by CAUSATIVE rule (b.)

7.4.1.5 CAUSATIVE rule (a.) followed by AFFECTEE APPLICATIVE rule (b.)

7.4.1.6 CAUSATIVE rule (b.) followed by AFFECTEE APPLICATIVE rule (b.)

7.4.1.7 CAUSATIVE rule (c.) followed by AFFECTEE APPLICATIVE rule (b.)

7.4.2 AFFECTEE APPLICATIVE prefix and RECIPROCAL suffixal root

7.4.2.1 AFFECTEE APPLICATIVE rule (a.) followed by the RECIPROCAL rule

7.4.2.2 AFFECTEE APPLICATIVE rule (b.) followed by the RECIPROCAL rule
7.4.3 COMITATIVE prefix and CAUSATIVE suffixal root 331
  7.4.3.1 COMITATIVE rule (a.) followed by CAUSATIVE rule (a.) 334
  7.4.3.2 COMITATIVE rule (a.) followed by CAUSATIVE rule (b.) 337
  7.4.3.3 COMITATIVE rule (b.) followed by CAUSATIVE rule (a.) 339
  7.4.3.4 COMITATIVE rule (b.) followed by CAUSATIVE rule (b.) 340
  7.4.3.5 CAUSATIVE rule (a.) followed by COMITATIVE rule (b.) 341
  7.4.3.6 CAUSATIVE rule (c.) followed by COMITATIVE rule (a.) 343

7.4.4 COMITATIVE prefix and RECIPROCAL suffixal root 346
  7.4.4.1 COMITATIVE rule (b.) followed by the RECIPROCAL rule 348
  7.4.4.2 RECIPROCAL rule followed by COMITATIVE rule (a.) 350

7.5 Conclusion 353

PART 5: CONCLUSIONS................................................................. 355

Chapter 8: Conclusions 357
  8.1 Summary of thesis contributions 357
  8.2 Direction for future work 360

APPENDICES.................................................................................. 363

Appendix A: Key for elicited examples 365
Appendix B: Summary of valency-changing rules 369

REFERENCES............................................................................... 365
**LIST OF MAPS, TABLES AND FIGURES**

<table>
<thead>
<tr>
<th>Map/Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Map 2.1</td>
<td>Main locations of Wubuy speakers</td>
<td>29</td>
</tr>
<tr>
<td>Map 2.2</td>
<td>The Gunwinyguan languages</td>
<td>31</td>
</tr>
<tr>
<td>Map 3.1</td>
<td>Languages with morphological causative identified</td>
<td>72</td>
</tr>
<tr>
<td>Map 3.2</td>
<td>Languages with both morphological and syntactic causative identified</td>
<td>72</td>
</tr>
<tr>
<td>Map 6.1</td>
<td>AND- vs. WITH- languages</td>
<td>205</td>
</tr>
<tr>
<td>Table 2.1</td>
<td>Consonant phonemes of Wubuy</td>
<td>33</td>
</tr>
<tr>
<td>Table 2.2</td>
<td>Vowel phonemes of Wubuy</td>
<td>33</td>
</tr>
<tr>
<td>Table 2.3</td>
<td>Interactions between verb agreement, TAM and polarity marking</td>
<td>35</td>
</tr>
<tr>
<td>Table 2.4</td>
<td>Glosses for TAM inflections</td>
<td>36</td>
</tr>
<tr>
<td>Table 2.5</td>
<td>Valency-changing verb derivations in Wubuy</td>
<td>38</td>
</tr>
<tr>
<td>Table 2.6</td>
<td>Gender categories (human) in Wubuy</td>
<td>42</td>
</tr>
<tr>
<td>Table 2.7</td>
<td>Noun class categories (nonhuman) in Wubuy</td>
<td>42</td>
</tr>
<tr>
<td>Table 2.8</td>
<td>Relational noun class forms in Wubuy</td>
<td>48</td>
</tr>
<tr>
<td>Table 2.9</td>
<td>Semantic cases in Wubuy</td>
<td>49</td>
</tr>
<tr>
<td>Table 2.10</td>
<td>Encoding of grammatical functions in Wubuy</td>
<td>52</td>
</tr>
<tr>
<td>Table 6.1</td>
<td>Animate vs. inanimate subjects of underived intransitive motion verbs</td>
<td>232</td>
</tr>
<tr>
<td>Table 7.1</td>
<td>Number of predicted application orders per verb type for valency-changing interactions involving two prefixes or two suffixal roots</td>
<td>270</td>
</tr>
<tr>
<td>Table 7.2</td>
<td>Predicted rule interactions between affectee applicative and comitative prefixes</td>
<td>272</td>
</tr>
<tr>
<td>Table 7.3</td>
<td>Predicted rule interactions between causative and reciprocal suffixal roots</td>
<td>284</td>
</tr>
<tr>
<td>Table 7.4</td>
<td>Number of predicted application orders per verb type for valency-changing interactions involving a prefix and a suffixal root</td>
<td>296</td>
</tr>
</tbody>
</table>
Table 7.5  Predicted rule interactions between affectee applicative prefix and causative suffixal root .......................... 300
Table 7.6  Predicted rule interactions between affectee applicative prefix and reciprocal suffixal root .......................... 322
Table 7.7  Predicted rule interactions between comitative prefix and causative suffixal root .......................... 333
Table 7.8  Predicted rule interactions between comitative prefix and reciprocal suffixal root .......................... 348

Figure 1.1  Change in argument realisation due to causative derivation in (1-2) ......................................................... 5
Figure 1.2  Change in argument realisation due to affectee applicative in (1-8) ......................................................... 8
Figure 1.3  Heath’s (1984, p. 543) “conjunctive concord rule” (f) .................. 11
Figure 1.4  Heath’s (1984, p. 543) “conjunctive concord rule” (e) .................. 13
Figure 1.5  Research questions 1, 2 and 3 ........................................... 15
Figure 1.6  Formalised analysis of argument realisation in (1-20) ...... 20
Figure 1.7  Definition of thematic roles used in this thesis ................. 21
Figure 1.8  Thematic hierarchy in Wubuy ........................................ 22
Figure 1.9  Rules for mapping thematic roles to grammatical functions in Wubuy ........................................ 22
Figure 2.1  Heuristic division of the Gunwinyguan family .................. 31
Figure 2.2  Addition of reflexive -i followed by VV contraction .......... 39
Figure 2.3  Alternative accounts of dhida ‘x to close up y’/ dhidi ‘y to be closed up’ ..................................................... 41
Figure 2.4  The Animacy Hierarchy ................................................. 47
Figure 2.5  Heath’s (1986, p. 379) demonstration of ‘sloppy’ zero case 49
Figure 2.6  ‘Sloppy’ zero case with coreferential juxtaposed nominals 50
Figure 2.7  ‘Sloppy’ zero case with runggal ‘big’ and wurugu ‘pond’ .... 51
Figure 2.8  Analysis of argument realisation with unergative verb in (2-30) ..................................................... 56
Figure 2.9  Analysis of argument realisation with unaccusative verb in (2-31) ..................................................... 56
Figure 2.10 Analysis of argument realisation with transitive verb in (2-32)………………………………………………………… 57
Figure 2.11 Analysis of argument realisation with ditransitive verb in (2-33)………………………………………………………… 59
Figure 3.1 Crosslinguistic comparison of syntactic causatives in descriptions of languages with a morphological causative 73
Figure 3.2 Lexical rule CAUSA……………………………………………………………………………………………………………………… 79
Figure 3.3 Analysis of CAUSA applying in (3-16)…………………………………………………………………………………………………… 80
Figure 3.4 Analysis of CAUSA applying in (3-19)…………………………………………………………………………………………………… 81
Figure 3.5 Analysis of CAUSA applying in (3-20)…………………………………………………………………………………………………… 81
Figure 3.6 Lexical rule CAUSB…………………………………………………………………………………………………………………………… 85
Figure 3.7 Analysis of CAUSB applying in (3-22)…………………………………………………………………………………………………… 86
Figure 3.8 Analysis of CAUSB applying in (3-23)…………………………………………………………………………………………………… 87
Figure 3.9 Analysis of CAUSB applying in (3-26)…………………………………………………………………………………………………… 87
Figure 3.10 Preliminary lexical entry for -jga ~ -jgi and TAM paradigm shift…………………………………………………………………… 88
Figure 3.11 Cognitive structure of causation……………………………………………………………………………………………………………… 89
Figure 3.12 Rule for sequential syntactic causative in Wubuy………………………………………………………………………………………… 97
Figure 3.13 Analysis of sequential causative in (3-42)………………………………………………………………………………………………… 98
Figure 3.14 Analysis of sequential causative in (3-43)………………………………………………………………………………………………… 98
Figure 3.15 Rule for purposive syntactic causative in Wubuy………………………………………………………………………………………… 111
Figure 3.16 Analysis of purposive causative in (3-79)………………………………………………………………………………………………… 112
Figure 3.17 Analysis of purposive causative in (3-81)………………………………………………………………………………………………… 112
Figure 3.18 Distribution of causative forms and constructions in Wubuy………………………………………………………………………… 117
Figure 4.1 Lexical rule for inalienable EPCs……………………………………………………………………………………………………………… 132
Figure 4.2 Revised lexical rule for inalienable EPCs………………………………………………………………………………………………………… 134
Figure 4.3 Analysis of INALEP applying in (4-19)………………………………………………………………………………………………………… 134
Figure 4.4 Lexical rule AFFA………………………………………………………………………………………………………………………………… 139
Figure 4.5 Analysis of AFFA applying to emotion verb in (4-26)…………………………………………………………………………………….. 140
Figure 4.6 Analysis of AFFA applying to speech verb in (4-27)…………………………………………………………………………………….. 140
Figure 4.7 Analysis of AFFA applying to attention verb in (4-28)…………………………………………………………………………………….. 141
Figure 4.8  Analysis of AFFA applying to transfer verb in (4-29)....... 141
Figure 4.9  Analysis of AFFA applying to transfer verb in (4-30)....... 142
Figure 4.10  Lexical rule AFFB................................................................. 148
Figure 4.11  Analysis of AFFB applying to unergative verb in (4-21).... 149
Figure 4.12  Analysis of AFFB applying to unaccusative verb in (4-46) 149
Figure 4.13  Analysis of AFFB applying to transitive verb in (4-37)...... 150
Figure 4.14  Analysis of AFFB applying to ditransitive verb in (4-39)..... 150
Figure 4.15  Analysis of AFFB applying to ditransitive verb in (4-40).  151
Figure 4.16  Lexical entry for aG- ~ waaG-............................................. 152
Figure 4.17  Analysis of AFFB with purposive adjunct in (4-54)......... 157
Figure 4.18  Analysis of INALEP with purposive adjunct in (4-49)...... 158
Figure 4.19  Analysis of IPC + AFFB with transitive verb in (4-55)..... 160
Figure 4.20  Analysis of IPC + PURP with transitive verb in (4-56).... 160
Figure 5.1  Heath’s (1984, p. 543) “conjunctive concord rules” ...... 173
Figure 5.2  Stassen’s (2003, pp. 763-764) definition of NP conjunction......................................................... 177
Figure 5.3  Revised definition of nominal conjunction ......................... 179
Figure 5.4  Prototypical properties of coordination............................. 180
Figure 5.5  Heath’s (1984, p. 543) concord rule for person.................. 182
Figure 5.6  Multiple antecedent agreement in Wubuy: person............. 183
Figure 5.7  Heath’s (1984, p. 543) concord rules relating to number...  184
Figure 5.8  Multiple antecedent agreement in Wubuy: number.......... 185
Figure 5.9  Heath’s (1984, p. 543) concord rules relating to gender and noun class.......................................................... 186
Figure 5.10 Multiple antecedent agreement in Wubuy: gender and noun class (version 1)............................................. 186
Figure 5.11 Multiple antecedent agreement in Wubuy: gender and noun class (version 2)............................................. 187
Figure 5.12 Multiple antecedent agreement in Wubuy: gender and noun class (version 3)............................................. 188
Figure 5.13 Multiple antecedent agreement in Wubuy: gender and noun class (version 4)............................................. 190
Figure 5.14  Multiple antecedent agreement in Wubuy: gender and noun class (version 5) .............................................. 192
Figure 5.15  Multiple antecedent agreement in Wubuy (version 1) ...... 194
Figure 6.1  Revised definition of nominal conjunction ......................... 202
Figure 6.2  Prototypical properties of conjunctive strategies .................... 204
Figure 6.3  Recasting of event in (6-10) ............................................. 208
Figure 6.4  Double linking of participants and roles in (6-11) ................. 209
Figure 6.5  Lexical rule COMA .......................................................... 221
Figure 6.6  Analysis of COMA applying in (6-16) ................................ 222
Figure 6.7  Analysis of COMA applying in (6-17) ................................ 222
Figure 6.8  Lexical rule COMB ............................................................. 223
Figure 6.9  Analysis of COMB applying in (6-21) ................................ 224
Figure 6.10 Analysis of COMB applying in (6-24) ................................ 224
Figure 6.11 Lexical entry for aynji- ...................................................... 225
Figure 6.12 Lexical rule CAUSC for causative derivations ..................... 234
Figure 6.13 Analyses of CAUSC applying in (6-38) ............................... 235
Figure 6.14 Analysis of CAUSC applying in (6-40) ............................... 235
Figure 6.15 Lexical entry for -jga ~ -jgi and TAM paradigm shift (final version) ......................................................... 236
Figure 6.16 Lexical entry for comitative use of suffix -mirri ................... 243
Figure 6.17 Lexical entry for reciprocal derivation ................................. 251
Figure 6.18 Analysis of RECIPI applying in (6-85) ............................... 252
Figure 6.19 Analysis of RECIPI applying in (6-87) ............................... 252
Figure 6.20 Multiple antecedent agreement in Wubuy: gender and noun class (version 6) .............................................. 258
Figure 6.21 Multiple antecedent agreement rules in Wubuy (final version) ........................................................................ 259
Figure 7.1  Analysis of COMA applying before AFFB with unergative motion verb in (7-10) ................................................. 275
Figure 7.2  Analysis of COMB applying before AFFB with transitive verb in (7-11) ............................................................. 277
Figure 7.3  Analysis of AFFA applying before COMB with unaccusative emotion verb (using unverified constructed example) ................................................................. 280
Figure 7.4  Analysis of AFFA applying before COMB with unergative speech verb (using unverified constructed example)........ 280
Figure 7.5  Analysis of CAUSA applying before RECIP with unaccusative verb in (7-24)................................................................. 286
Figure 7.6  Analysis of CAUSA applying before RECIP with unaccusative verb in (7-25)................................................................. 287
Figure 7.7  Analysis of CAUSA before RECIP with unaccusative emotion verb (using unverified constructed example)...... 288
Figure 7.8  Analysis of CAUSB applying before RECIP with general unergative verb in (7-26)................................................................. 290
Figure 7.9  Analysis of CAUSB applying before RECIP with general transitive verb in (7-27)................................................................. 290
Figure 7.10 Analysis of CAUSB applying before RECIP with ditransitive verb (using unverified constructed example).. 292
Figure 7.11  Analysis of CAUSC applying before RECIP with unergative motion verb in (7-28)................................................................. 293
Figure 7.12  Analyses of AFFA applying before CAUSA with unaccusative emotion verb in (7-37).......................... 303
Figure 7.13  Analysis of AFFA applying before CAUSB with unergative speech verb (using unverified constructed example) ................................................................. 304
Figure 7.14  Analysis of AFFA applying before CAUSB with transitive transfer verb (using unverified constructed example)..... 305
Figure 7.15  Analysis of AFFB applying before CAUSA with unaccusative verb (using unverified constructed example) ................................................................. 306
Figure 7.16  Analysis of AFFB applying before CAUSA with transitive emotion verb (using unverified constructed example)..... 307
Figure 7.17  Analysis of AFFB applying before CAUSB with general unaccusative verb in (7-38)................................................................. 309
Figure 7.18  Analysis of AFFB applying before CAUSB with transitive verb (using unverified constructed example).................. 310
Figure 7.19  Analysis of AFFb applying before CAUSB with ditransitive verb (using unverified constructed example)  311

Figure 7.20  Analysis of CAUSα applying before AFFb with general unaccusative verb in (7-39)..........................  314

Figure 7.21  Analysis of CAUSB applying before AFFb with general unaccusative verb in (7-40)..........................  314

Figure 7.22  Analysis of CAUSB applying before AFFb with unergative attention verb in (7-43)..........................  316

Figure 7.23  Analysis of CAUSB applying before AFFb with transitive verb (using unverified constructed example)...............  317

Figure 7.24  Analysis of CAUSB applying before AFFb with ditransitive verb (using unverified constructed example)  318

Figure 7.25  Analysis of CAUSc applying before AFFb with unergative motion verb in (7-44)..........................  320

Figure 7.26  Analysis of AFFa applying before RECIP with unaccusative emotion verb in (7-48).........................  324

Figure 7.27  Analysis of AFFa applying before RECIP with unergative speech verb in (7-49)..............................  325

Figure 7.28  Analysis of AFFa applying before RECIP with unergative transfer verb in (7-50)............................  325

Figure 7.29  Analysis of AFFa applying before RECIP with transitive transfer verb in (7-51)............................  326

Figure 7.30  Analysis of AFFb applying before RECIP with general transitive verb in (7-52)............................  328

Figure 7.31  Analysis of AFFb applying before RECIP with general transitive verb in (7-53)............................  328

Figure 7.32  Analysis of AFFb applying before RECIP with unergative verb (using unverified constructed example)........  329

Figure 7.33  Analysis of AFFb applying before RECIP with ditransitive verb (using unverified constructed example)....  330

Figure 7.34  Analysis of AFFb applying before RECIP with transitive emotion verb (using unverified constructed example)......  331

Figure 7.35  Analysis of COMa applying before CAUSα with unaccusative emotion verb in (7-58).........................  336

Figure 7.36  Analysis of COMa applying before CAUSα with general unaccusative verb in (7-59).............................  336
Figure 7.37  Analysis of COMA applying before CAUSB with unergative motion verb in (7-61) ........................................ 338
Figure 7.38  Analysis of COMB applying before CAUSA with transitive emotion verb (using unverified constructed example) ................................................................. 340
Figure 7.39  Analysis of COMB applying before CAUSB with general transitive verb (using unverified constructed example) ................................................................. 341
Figure 7.40  Analysis of CAUSA applying before COMB with general unaccusative verb in (7-64) ................................................................. 343
Figure 7.41  Analysis of CAUSC applying before COMA with unergative motion verb in (7-65) ................................................................. 345
Figure 7.42  Analysis of COMB applying before RECIP with general transitive verb in (7-69) ................................................................. 350
Figure 7.43  Analysis of RECIP applying before COMA with general transitive verb in (7-70) ................................................................. 352
Figure 7.44  Analysis of RECIP applying before COMA with general transitive verb in (7-71) ................................................................. 352
Figure A.1  Key for type of elicited data in elicited examples ............ 365
Figure A.2  Lexical entry for AFFECTEE APPLICATIVE aG- ~ waaG-...... 369
Figure A.3  Lexical entry for COMITATIVE aynji-..................................... 369
Figure A.4  Lexical entry for CAUSATIVE -jga ~ -jgi and TAM paradigm shift ................................................................. 370
Figure A.5  Lexical entry for RECIPROCAL -ynji ..................................... 370
**List of Abbreviations**

* unacceptable example

[ ] nonthematic argument

1 first-person

2 second-person

3 third-person

A A series agreement prefix

ABL ablative

ABS absolute

ACT actual

ADJ adjunct

ADV adverbial (demonstrative)

AFF affectee derivation

[Aff] affectee

[Ag] agent

AL alienable

ALL allative

ANAPH anaphoric

ANIM animate

[Arg] argument

B B series agreement prefix

[Ben] beneficiary

BP body part

CAUS causative derivation

COLL collective noun class

COM comitative derivation

CONC concrete

COND conditional

CONTR contrastive

DAT dative

DIST distant

DU dual number

EMPH emphatic

EVIT evitative

EVITNEG negative evitative

[Ex] experiencer

EXCL exclusive

F female gender

FC future continuous

FEM feminine noun class

FNEG future negative

FPOT future potential

GEN genitive

[Go] goal

HUM human

IMM immediate

INAL inalienable

INCL inclusive

INSTR instrumental

LOC locative

M male gender

MASC masculine noun class

MULT multiple

NEG negative

NEUT neuter noun class

NONHUM nonhuman

OBJ primary object

OBJ₂ secondary object

OBL oblique

ORIG originative

PC past continuous

PERG pergressive

PL plural number

PNEGACT past negative actual

PNEGPOT past negative potential

POSS possessor

PP past punctual

PPOT past potential

PRES present

Present

PRESNEG present negative

PRO pronoun

PROP propositus

PROX proximate

[Pt] patient

PURP purposive

RDP reduplication

RECIPI reciprocal derivation

REFL reflexive derivation

REL relative

RESID residual noun class

RPERG retrospective pergressive

SG singular

SIM simulative

[So] source

SUBJ subject

[Th] theme

TOP topic

VEG vegetable noun class
Part 1

preliminaries
Chapter 1: General overview and background

1.1. Introduction

This thesis begins with a problem: although Wubuy,¹ a highly endangered language from northern Australia, has a number of morphosyntactic phenomena that can manipulate how verbal arguments are realised, such as causative, affectedness and conjunctive constructions, the reasons why these sometimes vary in their effect on argument realisation are unclear, as are the ways they are distributed and constrained. In fact, there are very few descriptions of languages with multiple valency-changing processes that consider them, or how they interact, in any great detail. This is a problem because it means that when we take a given verb, we are unable to predict with certainty how this verb will interact with these constructions. For example, will the verb’s argument-structure be affected? Will verbal arguments be mapped onto different grammatical functions? Will the expression of verbal arguments in the morphosyntax change? Will the use of a particular construction be unacceptable with certain verbs, and if so, why? What are the alternative means of expressing the desired concept when this happens? Based on current descriptions of Wubuy, these are all questions that we are presently unable to answer. Indeed, they are questions that often remain unanswered in the broader contexts of Indigenous Australian languages and polysynthetic languages more generally.

For a more concrete demonstration of the problem outlined above, we can briefly consider constructions that affect a verb’s argument-structure by adding a new core argument. Previous accounts of Wubuy have identified two verb derivations that can do this: the CAUSATIVE derivation and the AFFECTEE APPLICATIVE (the latter of which is referred to in former accounts as the ‘BENEFACTIVE’). However, although both have been documented and

¹ Wubuy is also referred to in the literature as ‘Nunggubuyu’ (Heath, 1980, 1982, 1984, 1986). ‘Nunggubuyu’ literally means ‘the people who speak Wubuy’, and this term is used in relation to both the people and the language by most of the neighbouring groups. The Nunggubuyu people, however, refer to their own language as ‘Wubuy’.
described, their descriptions are brief, and there is little discussion of why they appear to have different functions in different contexts.

Beginning with the CAUSATIVE derivation, this is described as a valency-increasing construction that typically introduces a causal agent as subject (Heath, 1984, pp. 393-395), and this can be seen occurring in the data below. In the constructed example in (1-1), the intransitive input verb rabi ‘y to fall down’ occurs in its underived form and licenses a patient as its sole argument. This patient belongs to the NEUTER noun class and triggers verb agreement as an intransitive subject, as indicated by the intransitive agreement prefix *wu*-. However, when rabi ‘y to fall down’ undergoes the CAUSATIVE derivation in (1-2), a FIRST-PERSON PLURAL agent is introduced as subject, leaving the patient ‘tree (NEUT)’ to be realised as primary object instead. This change in argument realisation is reinforced by the fact that the verb agreement prefix *nirri-* ~ *nii-* agrees with a FIRST-PERSON PLURAL referent as subject, rather than ‘it [tree (NEUT)]’, which controls object verb agreement:

(1-1)  

wu-rabi-ini  
NEUT,-fall.down-PC  
‘It [tree (NEUT)] fell down’  
(Heath, 1980, p. 118)

(1-2)  
nirri-madha-madharra-ngi nii-rabi:jga-a  
1PL/NEUT,,-RDP-chop-PC 1PL/NEUT,-fall.down-CAUS-PC  
‘We (1PL) chopped it [tree (NEUT)] and made it fall down’  
(Heath, 1980, p. 467)

Figure 1.1 provides a representation of how the CAUSATIVE derivation has affected the realisation of these verbal arguments above. To the left of the arrow, the realisation of the patient licensed by rabi ‘y to fall’ in (1-1) is visualised, where it can be seen mapping from argument-structure onto the grammatical function of subject and realised in the morphosyntax via the

---

Note that the single argument of an intransitive verb is glossed as *x* for unergatives and *y* for unaccusatives.
intransitive verb agreement prefix *wu*-. To the right of the arrow, on the other hand, the realisation of verbal arguments licensed by the CAUSATIVE derived verb *rabi-jga* ‘x to make y to fall down’ in (1-2) is demonstrated, where the agent and patient map from argument-structure onto the grammatical functions of subject and primary object respectively, and where both of these are realised in the morphosyntax via the transitive verb agreement prefix *nirri*-. Figure 1.1. Change in argument realisation due to CAUSATIVE derivation in (1-2)

<table>
<thead>
<tr>
<th><em>rabi</em></th>
<th>‘y to fall’</th>
<th>→</th>
<th><em>rabi-jga</em></th>
<th>‘x to cause y to fall’</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJ</td>
<td>&lt; [Pt] &gt;</td>
<td></td>
<td>SUBJ</td>
<td>&lt; [Ag]x [Pt] &gt;</td>
</tr>
<tr>
<td>‘it [tree (NEUT)]’</td>
<td></td>
<td></td>
<td>‘we (1PL)’</td>
<td>‘it [tree (NEUT)]’</td>
</tr>
<tr>
<td><em>wu-</em></td>
<td>NEUT*</td>
<td></td>
<td><em>nirri-</em></td>
<td>1PL/NEUT*</td>
</tr>
</tbody>
</table>

Thus, the earlier description of the CAUSATIVE derivation as typically introducing a causal agent as subject would seem to provide a sufficient account of the causative construction in (1-2).

Nonetheless, it turns out that this description is unable to predict all the functions and interpretations that the CAUSATIVE derivation can have. For example, in (1-2), the FIRST-PERSON PLURAL agent that is introduced is interpreted as physically and directly causing the patient ‘it [tree (NEUT)]’ to fall by chopping it down. However, in (1-4) below, the CAUSATIVE derivation introduces *na-doctor* ‘doctor (3MSg)’ as subject, and this subject is interpreted as simply telling the FEMALE causee to cough. Constructed example (1-3) is provided to demonstrate the underived clause:

---

3 See Appendix A for a key explaining how information about elicited data is represented below examples.
This time, the causer is not physically involved in causing an event; instead, he is interpreted as causing something to happen indirectly.

In (1-6), we see yet another kind of interpretation of a CAUSATIVE derived verb where both the subject and object are interpreted as being jointly involved in the action of the verb, with (1-5) exemplifying the underived verb form:

(1-5)  
\text{ni-ngama-yn}  
3MSG$_g$-swim-PP  
‘He (3MSG) swam’  
\text{(S1 / E1 / 20140404)}

(1-6)  
\text{ngarra-mani-nyung ngunu-ngami-jga-yn na-yiwanggu-nyung}  
F-woman-HUM.SG 3FSG$_g$/3MSG$_g$-swim-CAUS-PP M-old.man-HUM.SG  
‘The woman (3FSG) swam with the old man (3MSG)’ (i.e. she took him while swimming)  
\text{(S1 / E2 / 20140404)}  
\text{(S2 / E1$_v$ / 20140226)}  
\text{(S3+S4 / E1$_v$ / 20140226)}

This is quite different to what we see in the previous examples of the CAUSATIVE derivation: the subject was not interpreted as falling in (1-2), nor was it interpreted as coughing in (1-4), but in (1-6), both the object \textit{and} the subject are interpreted as swimming.

Similarly, the derivation called 'BENEFACTIVE' in Heath (1984, pp. 377-381), which I label the 'AFFECTEE APPLICATIVE', has a number of functions that are not captured by current accounts. Former accounts describe this as a construction that increases valency by introducing an additional argument as
primary object in DATIVE case (see Heath, 1984, pp. 377-381; Horrack, 2010, pp. 49-53), as demonstrated in the data below. In the constructed example in (1-7), the underived intransitive verb yaalibu ‘x to cough’ can license either an agent or patient as its sole argument (depending on whether or not the action is volitional), which is ngarra-mani-nyung ‘woman (3FSg)’ here. This argument is realised as intransitive subject, as indicated by the intransitive verb agreement prefix ngi-, which agrees with the THIRD-PERSON, FEMALE and SINGULAR morphosyntactic feature values of ngarra-mani-nyung ‘woman (3FSg)’. In (1-8), however, the same verb takes the AFFECTEE APPLICATIVE prefix aG- ~ waaG-, which introduces na-doctor ‘doctor (3MSG)’ as a beneficiary that is realised as primary object and takes the ALLATIVE-DATIVE case suffix -wuy. This increase in valency is reflected by the transitive verb agreement prefix ngunu-, which encodes ngarra-mani-nyung ‘woman (3FSg)’ as transitive subject and na-doctor ‘doctor (3MSG)’ as primary object:

(1-7) ngarra-mani-nyung ngi-yaalibu-man
F-woman-HUM.SG 3FSg-x-cough-PRES
‘The woman (3FSg) coughs’
(unverified constructed example)

(1-8) ngarra-mani-nyung nguna-a-yaalibu-man a-doctor-wuy
F-woman-HUM.SG 3FSg/3MSG-x-AFF-cough-PRES M-doctor(English)-DAT
‘The woman (3FSg) coughs for the doctor (3MSG)’
(S1 / E1 /20140328)

The way in which the realisation of verbal arguments is affected by the AFFECTEE APPLICATIVE above is represented in the Figure 1.2 below.4 To the left of the arrow, the realisation of the agent licensed by yaalibu ‘x to cough’ in (1-7) is shown, where it maps from argument-structure to the grammatical function of subject and is represented in the morphosyntax by the nominal ngarra-mani-nyung ‘woman (3FSg)’ and the intransitive verb agreement prefix ngi-. To the right of the arrow, a demonstration of how the AFFECTEE APPLICATIVE in (1-8) affects this argument realisation is provided, where the

4 To keep the discussion brief at this point, the thematic role of beneficiary has been used in Figure 1.2. However, this will later be revised to affectee (see Chapter 4 for further details).
agent and beneficiary licensed by *a-jaalibu ‘x to cough for y’* map from argument-structure onto the grammatical functions of subject and primary object respectively. The former is realised in the morphosyntax as *ngarra-mani-nyung ‘woman (3FSG)’* and the latter as *na-doctor-wuy ‘for the doctor (3FSG)’*, and both are crossreferenced on the verb by the agreement prefix ngunu-

**Figure 1.2. Change in argument realisation due to AFFECTEE APPLICATIVE in (1-8)**

The reason why I deviate from former accounts of Wubuy by calling this derivation the ‘AFFECTEE APPLICATIVE’, rather than the ‘BENEFACTIVE’, is because in addition to beneficiaries, it can also introduce a range of other argument types (Heath, 1984, pp. 377-381; Horrack, 2010, pp. 49-53). This is demonstrated by the examples below, where the THIRD-PERSON MALE SINGULAR argument appears to have been introduced as a goal in (1-9) (someone who is shouted to), a source in (1-10) (someone who is stolen from), and a possessor of *ana-wubiiba ‘paper (NEUT)’* in (1-11):

(1-9) *ngarrubagi waayin nguna-ag-ada-ngi*
that.3FSG,ANAPH emu 3FSG/3MSG,.-AFF-shout-PC

‘That emu [woman] (3FSG) was shouting to him (3MSG)’

(Heath, 1980, p. 30)

---

5 Note that for the purposes of this thesis, the morphological complexity of demonstratives, pronouns and kinship terms are generally not represented, as can be seen in this example. See Heath (1984) for descriptions and morphological analysis of these.

6 There is a significant amount of variation within the linguistics literature regarding how thematic roles are used and defined. See section 1.3.2.1 for an outline of how it is done in this thesis.
We have now seen that both the CAUSATIVE derivation and the AFFECTEE APPLICATIVE can have a range of different interpretations. This then raises the question of how listeners decide on what the appropriate interpretation is. One possibility is that such examples are simply ambiguous, with context making one interpretation more likely. Another possibility is that some combinations of verbs with derivational morphology are lexicalised with particular interpretations. A further possibility, explored in detail in the following chapters, is that a combination of the semantic subclass and argument-structure of input verbs, together with a particular derivation’s set of possible effects on argument-structure, make certain interpretations more likely than others.

Furthermore, as noted by many in the crosslinguistic literature, it is rare for morphological derivational processes such as these to be completely productive (e.g. see Bauer, 2001, p. 126; Plag, 1999, pp. 11-12; Song, 2013b), and indeed, there are examples of the Wubuy CAUSATIVE and AFFECTEE APPLICATIVE derivations that were deemed unacceptable by language consultants. These include (1-12) below, where the intransitive verb amaja ‘x to thieve’ was judged to be an unacceptable input for the CAUSATIVE derivation, as well as (1-13), where the irregular ditransitive verb yi ‘x to give y to z’ with the AFFECTEE APPLICATIVE prefix was judged as acceptable when it introduced na-walyi-nyung ‘man (3MSG)’ without a case marker but as
unacceptable when it had the **ALLATIVE-DATIVE** suffix, which should be acceptable according to Heath (1984, p. 378):\(^7\)

(1-12)  
```plaintext
*nguna-amajangi-jga-na
3FSg/3MSG₄-thieve-Caus-Pres

'She (3FSg) is making him (3MSg) thieve'
(S1 / E1 / 20140317)
```

(1-13)  
```plaintext
ana-marrya wunguna-a-ja-yn ngarra-manum-baa
RESID.TOP-food 3FDU/3MSG₄-AFF-give-PP F-woman-Du

na-wal-yi-nyung *(guy) warra-mijburraayung-guy
M-man-HUM.SG -DAT Pt-children-DAT

'Two women (3FDU) gave food (RESID) to the man's (3MSG) children (3PL)'
*Two women (3FDU) gave food (RESID) to the children (3PL) for the man (3MSG)'
(S1 / E1 / 20140314-GM)
```

Therefore, since there are contexts where these derivations are unacceptable, we would expect Wubuy to also have other methods for expressing causation and affectedness. However, once again, current descriptions of Wubuy have nothing to say about this, and this lack of discussion about what the alternatives are when a morphological derivation cannot apply is relatively common in linguistic accounts, both crosslinguistically and within the context of Australian language description.

The problem outlined at the start of this chapter can also be observed when we consider how Wubuy handles multiple antecedent agreement in conjunctive constructions. That is, current descriptions of Wubuy do not adequately explain why strategies of agreement vary when a verb must agree with a conjoined set of nominals instead of just one, nor does it fully explore how these agreement strategies are distributed and constrained. For example, in (1-14) below, we can see that the nonhuman nominals *ngadugu* ‘rope (VEG)’ and *dhumbala* ‘sail (FEM)’ have been conjoined by the coordinator *marri* ‘and’. As these nominals belong to different noun classes, with the former being **VEGETABLE** and the latter **FEMININE**, the verb agreement system

\(^7\) As we will see later, the appropriate case marker for *na-wal-yi-nyung* ‘man (3MSG)’ in this example is actually **GENITIVE** *-yinyung.*
is faced with the challenge of dealing with a set of nominals that have conflicting morphosyntactic feature values. Here, the problem is avoided through default verb agreement, which treats the entire nominal set as belonging to the RESIDUAL noun class, as demonstrated by the transitive verb agreement prefix *wurru*- (presented in bold), which agrees with a RESIDUAL primary object even though neither of the primary object nominals belong to the RESIDUAL noun class:

(1-14) *mana-ngadugu marri ngaa-dhumbala wurra-arra-yarraa-ni*

`VEG.TOP-rope and FEM.TOP-sail 3PL/RESID-A-RDP-throw-PRES`

‘They (3PL) throw the rope (VEG) and sail (FEM) [overboard]’

(Nunggubuyu People, 2014, Acts 27.19)

In Heath’s (1984, p. 543) Wubuy grammar, it is proposed that a “conjunctive concord rule” can predict this agreement strategy, as presented below:

**Figure 1.3. Heath’s (1984, p. 543) “conjunctive concord rule” (f)**

| two or more nonhumans of different noun class inconsistently but often act like a noun of ANA class [NEUT or RESID], especially ANA₀ [RESID]. |

However, notice that this rule is described as applying “inconsistently”, which means we should find other verb agreement strategies in the same kind of context. Indeed we do, as demonstrated by (1-15), where this time the coordinated nonhuman nominals *ålirr* ‘sun (FEM)’ and *ålabama* ‘moon (MASC)’ receive FEMININE object agreement, not RESIDUAL:

(1-15) *waari ambirringa-ngaynbanda-ng ngarra-ålirr marri na-labama*

`NEG 3PL/FEMs-want-PRES.NEG FEM.TOP-sun and MASC.TOP-moon`

‘They (3PL) do not need (lit. want) the sun (FEM) and moon (MASC)’

(Nunggubuyu People, 2014, Revelation 21.23)

Nonetheless, examples like this have remained unexplored and unexplained, leaving the description and analysis of multiple antecedent agreement in this language incomplete.

In addition to this, Heath’s (1984, p. 543) concord rules are primarily aimed at accounting for basic examples of nominal coordination, and multiple
antecedent agreement is not discussed at all in relation to comitative constructions, one of which can be seen demonstrating a coordinative function in (1-16) below. Here, the COMITATIVE derivational prefix ayngi- appears to be involved in coordinating the nonhuman nominals landhurrng ‘dog (COLL)’ and bujigan ‘cat (RESID)’ rather than creating a typical comitative construction, as both nominals are interpreted as being dragged by the subject nominal ngarra-mani-nyung ‘woman (3FSG)’, which suggests they have been jointly assigned the thematic role of patient and together form a single constituent:

(1-16) ngarra-mani-nyung, wangi-iynji-nima-na, warra-landhurrng
F-woman-HUM.SG 3FSG/COLL.-COM-drag-PRES  COLL.TOP-dog
ana-bujigan-mirri
RESID.TOP-cat-INTR
‘The woman (3FSG) drags the dog (COLL) with/and the cat (RESID)’
(S1 / E1 / 20140324)

However, note that although both of the conjuncts above are once again nonhuman, the verb agreement strategy does not follow Health’s (1984, p. 543) concord rule presented in Figure 1.3, as although they belong to different noun classes, the verb does not resort to default RESIDUAL object agreement as expected. Thus, we have examples of comitative constructions relevant to the discussion of multiple antecedent agreement in Wubuy that are not only undescribed, but are also not predicted by Heath’s (1984, p. 543) concord rules.

The investigation of multiple antecedent agreement in reciprocal constructions is similarly incomplete, as it seems to have been assumed that this will simply follow the same rules that apply to basic coordinative examples. However, (1-17) below shows that this does not, in fact, always happen. Here, it appears that Heath’s (1984, p. 543) concord rule (f) for

---

8 As we will see in Chapter 6, when the COMITATIVE derivational prefix ayngi- attaches to a transitive input verb, it typically introduces a comitative referent that is understood as being carried by the primary object, but this is not what we see in (1-16).
nonhuman nominals (see Figure 1.3 above) is being used, even though one of
the conjuncts is human:

(1-17) ngarra-manji-nyung marri warra-langdhurrng wu-warra-harrma-ynji-ina  
F-woman-HUM.SG and COLL.TOP-dog RESID3-MULT-chase-RECIP-PRES  
‘The woman (3FSG) and the dog (COLL) are chasing each other’  
(S1 / E1 / 20140314)  
(S2+S5 / E1 / 20140304)

If this example were actually following Heath’s (1984, p. 543) rules, then the
verb would take the agreement prefix wingi- to agree with A THIRD-PERSON
FEMALE DUAL subject as stipulated in Figure 1.4 below:

**Figure 1.4. Heath’s (1984, p. 543) “conjunctive concord rule” (c)**

| human FSg plus other FSg or one nonhuman is FDu. |

The fact that the example above does not follow Heath’s (1984, p. 543) rules
demonstrates that reciprocal constructions, in addition to comitative
constructions, deserve their own investigation in an account of multiple
antecedent agreement in Wubuy.

Thus, there are many elements of causative, affectedness and conjunctive
constructions in Wubuy that are currently unclear, and when we are unable
to account for the distribution and constraints of individual constructions,
this makes it incredibly difficult to understand what is happening when they
interact with one another. Some examples of such interactions are presented
below, where the CAUSATIVE derivation and AFFECTEE APPLICATIVE are shown
co-occurring with different verbs and resulting in significantly different kinds
of interpretations:

(1-18) ngarra-manji-nyung nguna-a-jalilibi-jga-na na-wirri-nyung  
F-woman-HUM.SG 3FSG/3MSG,M-AFF-cough-CAUS-PRES M-child-HUM.SG

na-doctor-wuy  
M-doctor-DAT  
‘The woman (3FSG) tries to make the boy (3MSG) cough for the doctor (3MSG)’
(i.e. by telling him to)  
(S1 / E2 / 20140328)
In (1-18), the interaction of the CAUSATIVE derivation and the AFFECTEE APPLICATIVE appears to result in the introduction of indirect causative semantics (i.e. she tells him to cough) and a beneficiary (na-doctor ‘doctor (3MSG)’), while in (1-19), the interaction of these derivations seems to introduce comitative semantics (i.e. she jumps down with the food) and a possessor (landhurrg ‘dog (COLL)’). However, without a clear account of the distribution and constraints of each of these derivations in isolation, we cannot even begin to understand how or why they can interact in such different ways.

We have now seen that although causative, affectedness and conjunctive constructions can manipulate the realisation of verbal arguments in Wubuy, sometimes even simultaneously, we are unable to predict what effect they will have, how they are distributed, or how they are constrained. In response to this problem, I set out to broaden the investigation of these constructions by not only considering how they affect argument realisation, but also when they affect argument realisation. Furthermore, when they cannot be used, I consider why not and what the alternatives are. This will not only enrich the current descriptions and analyses of these constructions in Wubuy, it will also inform the broader literature on Australian languages and polysynthetic languages more generally: as far as I am aware, there is no other account of argument realisation in an Australian or polysynthetic language that is as comprehensive or unified as this, particularly in relation to verb derivational processes, multiple antecedent agreement, and the interactions between constructions that fall into either or both of these categories.
1.2. Research questions

Following from the discussion above, the key research questions of this project can be specified as follows:

Figure 1.5. Research questions 1, 2 and 3

1. How and when can causative, affectedness and conjunctive constructions manipulate argument realisation in Wubuy?
2. When the use of certain causative, affectedness and conjunctive constructions is unacceptable, why is this and what are the alternatives?
3. How can argument realisation in Wubuy inform, or be informed by, the broader Australian and crosslinguistic literature?

That is, this thesis will consider the ways in which causative, affectedness and conjunctive constructions can alter or change the realisation of verbal arguments in Wubuy, as well as the contexts in which their use is acceptable (question 1). When the use of these constructions is deemed unacceptable, there must be a reason for this, and searching for alternative ways of expressing the desired concept can help us figure out the boundaries of the relevant construction and any constraints that may be restricting it (question 2). Also, considering general tendencies of argument realisation in the broader Australian and crosslinguistic literature can help us understand what is happening in Wubuy, or perhaps even point out methods of argument realisation in this language that are either unique or underdescribed (question 3).

1.3. Methodology

1.3.1. Fieldwork and data

As previously outlined, the current corpus of Wubuy data and description has limitations in relation to causative, affectedness and conjunctive constructions, particularly regarding the distribution and constraints of valency-changing verb derivations, as well as multiple antecedent agreement in comitative and reciprocal contexts. Therefore, the collection of new original data was an essential part of this research project. Over the course of about six months of fieldwork split across two field trips (May to August 2012 and
February to April 2014), I spent time working with a principal language consultant who was living in Darwin and working with Wubuy speakers in Numbulwar. All consultants speak Wubuy as their first language and most are also literate in Wubuy thanks to the efforts of missionaries. Furthermore, all consultants were taught English by the Numbulwar Mission when it was operating in the 1950s, and they also have a range of competence in other Indigenous languages including Kriol and Enindhilyakwa (see §2.2 for further details on the current language ecology of Numbulwar). In total, I collected about 100 hours of data, including both naturalistic texts and targeted elicitation sessions, with most of this recorded using both audio and video recorders. Thus, a significant research outcome of this thesis relates to language documentation, with the contribution of a large body of new data on a highly endangered and underdescribed language.

In this thesis, data is drawn from Heath’s (1980, 1982, 1984) volumes on Wubuy, Wubuy translations of The Bible (Nunggubuyu People, 2014), certain examples from fieldnotes taken by my supervisor Brett Baker (2007, Apr, and 2018, Jan), some examples that I constructed but which were kindly tested by Brett during his fieldwork in January, 2018, as well as my own extensive elicitation sessions during the field trips mentioned earlier. Most of these elicitation sessions were aimed at clarifying the productivity, distribution and constraints of morphosyntactic phenomena that affect the expression of verbs and verbal arguments, with a specific focus on interactions involving verb derivational processes, as well as syntactic alternatives to these. Elicitation tasks included requesting acceptability judgments from speakers about constructed examples, requesting translations of English sentences, and discussing the broader usage of certain lexemes and grammatical forms. When presenting elicited data in this thesis, I indicate the speaker(s) with which it was tested, the elicitation task used, as well as the date of the elicitation session. A key explaining how this is represented is provided in Appendix A.
In the literature on language documentation and description, several well-known and valid concerns are raised regarding the reliability of elicited data. For example, McGregor (1990, pp. 33-36) explains that during his own fieldwork, “[i]t was frequently the case that speakers would, on different occasions give three or four distinct translation equivalents to a single English prompt” and that “in more than one instance in which a speaker had firmly rejected an invented example, he later used the same construction himself”. In relation to acceptability judgements, Mithun (2001, p. 48) notes that “[s]entences invented by a non-speaker may be deemed incorrect for a wide variety of reasons, from mispronunciation to inappropriate lexical choice to the pragmatic incompatibility of co-occurring syntactic structures” (see also Bolinger, 1968; Dimmendaal, 2001; Quirk & Svartvik, 1966; Schütze, 1996). Despite these issues, data elicited via acceptability judgements and translations of English sentences were essential to the investigation of argument realisation in Wubuy presented here. As argued by Matthewson (2004, p. 376), relying solely on data from texts has its own problems, such as “poverty (in terms of quantity) of the data”:

A texts-only approach relies on the assumption that we are capable of extracting all relevant information about a language merely from a set of texts, even though the amount of data we can gather by this method is a fraction of the amount a child hears while acquiring a language. Children are continuously surrounded by primary linguistic data for five years before their grammars are essentially complete. They are thus exposed to vastly more input than is contained in any corpus collected for an Amerindian language (Matthewson, 2004, p. 376).

Indeed, the examination of Wubuy texts in isolation would yield insufficient data for addressing the research questions posed in §1.2, especially since they are concerned with clarifying the distribution and constraints of certain construction types, which necessitates a consideration of contexts of unacceptability and what the more acceptable alternatives are.

Therefore, the investigation of argument realisation in Wubuy presented here uses data from both existing Wubuy texts and targeted elicitation sessions. To mitigate some of the problems noted above about elicited data, elicitation
tasks were generally performed with several different language consultants in separate elicitation sessions with the assumption that the more consensus there is on a particular Wubuy form or sentence, the more reliable that data is. Wherever possible, I have based my analysis on data that is verified by more than one language consultant and/or is consistent with the existing texts.

This careful consideration of both existing Wubuy texts and my own elicited data has allowed me to make many new discoveries about Wubuy that were not in previous descriptions, including new observations about verbs, argument-structure, multiple antecedent agreement, valency-changing derivations and their syntactic alternatives, to name a few. This also shows the importance of exploring detailed grammatical topics in endangered languages while there are still speakers, both for the sake of the academic community (e.g. significance of findings for crosslinguistic typological and theoretical accounts) and for members of the Nunggubuyu community who wish to maintain or revitalise their language.

In relation to data management and morphological analysis, audio files from elicitation sessions have been transcribed in ELAN (Wittenburg, Brugman, Russel, Klassmann, & Sloetjes, 2006).9 Although the morphological analysis of most examples presented in this thesis has been done individually (i.e. as needed), once audio files are fully transcribed, they are time-coded and imported into FieldWorks, 10 where the digitised version of the Wubuy dictionary has been entered to assist with interlinearisation. All data from this project will be stored with the Pacific and Regional Archive for Digital Sources in Endangered Cultures (Paradisec). This includes any audio and video files, digital versions of fieldnotes, and program files from ELAN and

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9 ELAN is a freeware available from Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands (https://tla.mpi.nl/tools/tla-tools/elan/).

10 FieldWorks is a freeware available from SIL International (http://software.sil.org/fieldworks/).
FieldWorks. This is to ensure that access to these materials is available to both the Nunggubuyu community and to other linguists and academics.

1.3.2. Analytical approach

The analytical approach used in this thesis is primarily empirically-based. Although analyses are occasionally formalised somewhat, this is purely for the sake of capturing generalisations in a succinct manner and there is no strict adherence to any particular theoretical framework. Analyses are, however, informed by theories of implicational hierarchies, such as the thematic hierarchy (e.g. Bresnan & Kanerva, 1989; Fillmore, 1968; Grimshaw, 1990) and the animacy hierarchy (e.g. Comrie, 1981; Croft, 1988; Silverstein, 1976), and as there is considerable variation in the literature regarding the former, I set out the thematic roles and hierarchy used in this thesis in §1.3.2.1 below.

It should also be noted from the outset that I use the term ‘argument realisation’ in a narrow way. Levin and Rappaport Hovav (2005, p. 3) define argument realisation as encompassing “all facets of the syntactic expression of arguments of verbs, including the range of options for the grammatical relation they may bear, their syntactic category, and their surface morphosyntactic expression”. For the purposes of this thesis, I interpret this as involving the ways in which verbal arguments in argument-structure are mapped onto grammatical functions and realised in the morphosyntax. I am not, however, presently concerned with the ways in which arguments are realised within and throughout the wider discourse context.

With this definition in mind, consider the data in (1-20) and the analysis of its argument realisation in Figure 1.6. In (1-20), the verb is the underived irregular ditransitive yi ‘x to give y to d, and the uninflected form of this verb as well as its gloss are presented on the first line in Figure 1.6. This verb licenses three arguments at argument-structure as shown in the second line of Figure 1.6: an agent (Ag) that does the giving (manum-baa ‘two women
(3FDU’), a goal (Go) to whom something is given (walyi-nyung ‘man (3MSG)’), and a theme (Th) that is the entity being given (marrya ‘food (RESID)’). These arguments are presented with subscripts to demonstrate how they relate to the participants in the gloss (i.e. x, y, d), and they are ordered according to the thematic hierarchy outlined in §1.3.2.1 below, which plays a key role in determining how arguments are mapped to grammatical functions. The third line in Figure 1.6 presents this mapping, with the agent realised as subject (SUBJ), the goal as primary object (OBJ), and the theme as secondary object (OBJ2). The fourth and sixth lines in Figure 1.6 present the language data from the entire example to which the analysed verb belongs, with any independent nominals corresponding to the arguments above presented in square brackets with the relevant subscripts (i.e. x, y, d). Lastly, the morphological glosses for the language data are shown in the fifth and seventh lines of Figure 1.6, and the eighth line presents the translation of the example, with subscripts again used to demonstrate how participants correspond to the arguments above.

(1-20) ana-marrya wungunu-ya-yn ngarra-maŋum-baa na-walyi-nyung-guy
RESID,Top-food 3FDU/3MSG₃-give-PP F-woman-DU M-man-HUM.SG-DAT

‘The two women (3FDU) gave food (RESID) to the man (3MSG)’

(S1 / E1 / 20140314)
(S2 / E1 / 20140226)
(S3+S4 / E1 / 20140226)

Figure 1.6. Formalised analysis of argument realisation in (1-20)

<table>
<thead>
<tr>
<th>yi</th>
<th>‘x to give y to d’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; [Ag]ₓ [Go]ₜ [Th]ₜ &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
<td>OBJ</td>
</tr>
<tr>
<td>‘The two womenₜ (3FDU) gave foodₜ (RESID) to the manₜ (3MSG)’</td>
<td></td>
</tr>
</tbody>
</table>

The style of analysis presented above can be found in most lexical and syntactic rules and analyses throughout this thesis.
1.3.2.1. Thematic roles, thematic hierarchy and mapping to grammatical functions

In the literature on thematic roles (also referred to as ‘theta roles’ or ‘semantic roles’), there is considerable variation in how they are defined and ranked. As noted by Newmeyer (2010, p. 689), “[l]iterally dozens have been proposed over the years, and nothing approaching a consensus has been achieved in terms of delineating the set that are needed for natural language semantics”. However, for the most part, this thesis deals with data examples where the thematic roles involved are relatively well-established and understood in the literature (aside from ‘affectee’, which is a more recent addition coined by Smith (2005)). For current purposes, I draw on others in the literature (such as Riemer (2010, p. 338), Carnie (2007), Smith (2005)) to define the thematic roles used in this thesis as follows:

Figure 1.7. Definition of thematic roles used in this thesis

<table>
<thead>
<tr>
<th>Thematic Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affectee (Aff)</td>
<td>An entity that is beneficially or maleficially affected without actually undergoing the action of the verb. This subsumes the sub roles of Beneficiary and Maleficiary.</td>
</tr>
<tr>
<td>Agent (Ag)</td>
<td>The entity that initiates the action of the verb. Typically animate and volitional.</td>
</tr>
<tr>
<td>Experiencer (Exp)</td>
<td>The entity that feels or perceives something.</td>
</tr>
<tr>
<td>Goal (Go)</td>
<td>The entity towards which the action of the verb is directed. This subsumes the subroles of Recipient and Addressee.</td>
</tr>
<tr>
<td>Patient (Pt)</td>
<td>The entity that undergoes the action of the verb.</td>
</tr>
<tr>
<td>Source (So)</td>
<td>The entity from which motion or transfer takes place.</td>
</tr>
<tr>
<td>Theme (Th)</td>
<td>The entity that is experienced or perceived, or which is in a state or position.</td>
</tr>
</tbody>
</table>

With regard to how thematic roles at argument-structure are linked to grammatical functions, Riemer (2010, pp. 339-340) observes that standard generativist accounts typically approach this by “rank[ing] the different roles in an order which shows their relative accessibility to subject position”, and this is commonly referred to as the Thematic Hierarchy. However, he also notes that after many years of crosslinguistic investigation, researchers have been unable to come up with a single version of the hierarchy that works across all languages (Riemer, 2010, p. 342). This is echoed by Newmeyer
(2002, p. 65), who states that “[t]here is reason for strong doubt that there exists a Thematic Hierarchy provided by UG [Universal Grammar]. That seems to be the best explanation for the fact that after over three decades of investigation, nobody has proposed a hierarchy of theta-roles that comes close to working”. Therefore, since there does not appear to be a version of the Thematic Hierarchy that works for all languages crosslinguistically, I propose the following language-specific hierarchy for Wubuy that will be used to determine how thematic roles are assigned grammatical functions in this language:

**Figure 1.8. Thematic hierarchy in Wubuy**

| Agent > Experiencer > Affectee > Source > Goal > Patient/Theme |

In relation to how this hierarchy informs the assignment of thematic roles to grammatical functions, I propose the following mapping rules for Wubuy, which draw upon and simplify more formal theoretical approaches in frameworks such as Lexical-Functional Grammar (Bresnan, Asudeh, Toivonen, & Wechsler, 2016; Bresnan & Kanerva, 1989; Falk, 2001):

**Figure 1.9. Rules for mapping thematic roles to grammatical functions in Wubuy**

1. Highest ranked argument on the thematic hierarchy (see Figure 1.8) is mapped to subject (SBJ).
2. Second highest ranked argument on the thematic hierarchy (see Figure 1.8) is mapped to primary object (OBJ).
3. If not already assigned a grammatical function, Patient/Theme is mapped to secondary object (OBJ2).
4. Any remaining arguments are mapped to an oblique function (OBLΘ).

For example, if we reconsider Figure 1.6, we can see that the mapping of the agent, goal and theme licensed by yi ‘x to give y to d’ follows these rules: the agent is the highest ranked argument and is mapped to subject (as per rule 1); the goal is the second highest argument and is mapped to primary object

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11 In Figure 1.8, source is ranked ahead of goal due to the behaviour of the AFFECTEE APPLICATIVE with divalent inputs, which introduces an affectee that is interpreted as the possessor of the highest ranked argument after source (see section 4.3.2.2 for details).
(as per rule 2); and since the theme is not already assigned a grammatical function, it is mapped to secondary object (as per rule 3).

Lastly, it should be noted that the definitions, thematic hierarchy and mapping rules in this section were formulated purely to explain the Wubuy data dealt with in this thesis. Extending this approach to other areas of the Wubuy grammar and to similar phenomena in other languages is left to future research.

1.4. Previous work on Wubuy

Currently, the only published grammar of Wubuy is Heath’s (1984) *Functional Grammar of Nunggubuyu*. This is accompanied by a dictionary (1982) and a book of texts (1980), the latter of which is comprised of transcriptions and translations of Wubuy stories Heath collected during fieldwork. Haiman (1986) provides a review of these works. Other major sources of published Wubuy data are a dictionary (1971) and texts (1969, 1970) by Hughes and an early word list and grammar by Capell (1942). Aside from his grammar, dictionary and text volumes, Heath has also made reference to Wubuy in a book on linguistic diffusion in Arnhem Land (1978a), as well as in papers on nonconfigurationality (1986), coordination (2004) and clausal boundary marking devices (2010).

More recent publications about Wubuy morphosyntax and/or argument realisation that are based on data from original fieldwork include:\(^\text{12}\) Baker (2008a), which explores the distribution and functions of Wubuy noun class prefixes; Baker and Nordlinger (2008) and Baker (2014) which discuss incorporation; Baker, Horrack, Nordlinger and Sadler (2010) and Horrack (2010), which investigate the interaction of a number of morphosyntactic phenomena, such as possession, noun incorporation, and coordination; and Horrack (2014), which explores morphological and syntactic ways of expressing causation.

This thesis builds upon the foundation of the works above by broadening the investigation of argument realisation in Wubuy in a number of ways. For example, I expand previous descriptions of causative and affectedness constructions by considering lexical and syntactic constructions in addition to morphological derivations. In relation to multiple antecedent agreement, I further generalise Heath’s (1984) concord rules and expand the investigation of agreement strategies to include comitative and reciprocal contexts, where previously undescribed methods of coordination and agreement resolution are discovered. I also provide further clarification to the distribution and constraints of the CAUSATIVE, AFFECTEE APPLICATIVE and COMITATIVE derivations by considering the semantic subclass and argument-structure of input verbs, which can often be used to predict the way in which a given verb will interact with one or more valency-changing derivations (as mentioned earlier).

\(^{12}\) There have also been a number of recent publications on speech perception, phonology and language acquisition in Wubuy, including: Best et al. (2014); Bundgaard-Nielsen & Baker (2014, 2015); Bundgaard-Nielsen, Baker, Harvey, Best & Kroos (2012); Bundgaard-Nielsen, Baker, Kroos, Harvey & Best (2012, 2015); Bundgaard-Nielsen, Kroos, Baker, Best & Harvey (2016); Bundgaard-Nielsen, Kroos, Harvey, Best & Baker (2010); Kroos, Bundgaard-Nielsen, Goldstein & Best (2010); Proctor et al. (2010).
1.5. Overview of thesis

This thesis is presented in five parts. Part 1 contains two introductory chapters: the current chapter (Chapter 1) and the following chapter, which provides a general overview of the Wubuy language (Chapter 2). Part 2 looks at how argument realisation can be affected by the introduction of a new core argument, as found in causative (Chapter 3) and affectedness (Chapter 4) constructions. Part 3 considers how argument realisation is affected by conjunctive constructions, where there are multiple referents that share (or can be interpreted as sharing) the same thematic role(s), as can be found in basic coordinative constructions (Chapter 5) as well as comitative and reciprocal constructions (Chapter 6). Part 4 explores how multiple valency-changing verb derivations can interact in Wubuy and the ways in which the nature of these interactions can be predicted based on lexical rules developed in previous chapters (Chapter 7). Finally, Part 5 summarises and ties together the new findings made throughout the thesis and provides some direction for future work (Chapter 8).
Chapter 2: Overview of Wubuy

2.1. Introduction

Wubuy is a non-Pama-Nyungan language from the East Arnhem region in the north-eastern part of the Northern Territory, Australia. As a polysynthetic, nonconfigurational and headmarking language, it has a complex morphosyntax and relatively free word order, with independent nominals typically being non-obligatory and clauses often consisting of just a single fully inflected verb, as demonstrated in the following data:

\[(2-1) \text{ ngu-rulbu-\textit{wanaga-yn}\n}\]
\[3\text{MSG/FEM}_v\text{-back-hold-PP}\]

‘He (3MSG) held it [the python (FEM)] by the back (VEG)’

(Heath, 1980, p. 21)

In this example, the verb stem is \textit{wanaga} ‘to hold’. It takes the pronominal prefix \textit{ngu}-, which tells us that the subject is \textsc{third-person}, \textsc{male} and \textsc{singular} and that the object belongs to the \textsc{feminine} noun class. The verb also inflects for tense, aspect and mood (TAM), which in this instance is \textsc{past} \textsc{punctual}, and there is an incorporated nominal attached to the verb stem, \textit{rulbu} ‘back’, which specifies the location where the object is being held (see §2.3.3.1 for more discussion of noun incorporation). Thus, unlike languages like English, which rely on configurational phrase structures to express grammatical relations, Wubuy can encode a lot of this information directly on the verb without needing the presence of independent nominals to be grammatical.

Wubuy presents an interesting choice for an investigation into argument realisation, as it has a very rich verb agreement system that usually allows us to identify with certainty which of several referents is controlling agreement as subject or (if present) primary object. Furthermore, non-core arguments can take overt case markers, which can also be used to determine the case and grammatical functions of referents. Both features distinguish
Wubuy from other Gunwinyguan languages like Bininj Gun-wok (Evans, 2003a), which have much more impoverished agreement and case systems.

However, before delving into the specifics of argument realisation in Wubuy, it is useful to first gain a general understanding of the language itself, including a background of the speakers and a brief overview of how the language works. This is provided in the following sections.

2.2. The speakers

2.2.1. History

The Nunggubuyu people were formerly hunters and gatherers from a part of the Gulf of Carpentaria that is directly west of Groote Eylandt, in the north of Australia (Heath, 1984, p. 1). In 1952, the majority of the Nunggubuyu people settled around Rose River Mission (also known as ‘Numbulwar Mission’), which was founded by local Indigenous people and the Anglican Church Missionary Society (Heath, 1984, p. 1; Remote Area Health Corps, 2010, p. 5). Prior to this, many of the residents were living around the Roper River Mission (now ‘Ngukurr’), further south (Bundgaard-Nielsen & Baker, 2016, p. 180). Community control of Numbulwar was passed over to the Numbulwar Numburindi Community Council in 1976 (Remote Area Health Corps, 2010, p. 5).

2.2.2. Present situation

These days, Wubuy is mainly spoken around Numbulwar, a small remote community in south-east Arnhem Land, Northern Territory, but there are also some speakers living in Darwin and on Groote Eylandt. These locations are shown on the following map of Australia:
A permit is required for non-Indigenous people to enter Nunggubuyu land, and access to Numbulwar is via one of two four-wheel-drive tracks (which are closed in the wet season for up to five months) or via charter plane. There is also a barge that visits once every two weeks and supplies the community with food and equipment.

Although there are roughly 600 people living in the Numbulwar area, there are now only about sixty first-language speakers of Wubuy, the youngest of whom are currently in their late 40s, and it appears that children in the community are no longer acquiring Wubuy as a first language (Bundgaard-Nielsen et al., 2016). Wubuy is taught to students at the local school in Numbulwar; however, the younger generations in Numbulwar are acquiring Kriol (an English-lexified creole) as their first language, and their proficiency in Wubuy varies (Baker et al., 2010, p. 65).
Indigenous people living in and around Numbulwar are “from a range of clans and traditional owners, including groups from Ngukurr up to Blue Mud Bay (South of Nhulunbuy) and over to Groote Eylandt and Bickerton Island” (Remote Area Health Corps, 2010, p. 5). The local council is comprised of representatives of each of these clan groups, and it meets on a monthly basis to coordinate the administration of community services (Remote Area Health Corps, 2010, p. 5).

2.3. The language

2.3.1. Genetic position

Although Wubuy was originally classified as a family-level isolate in the O’Grady et al. (1966) classification, based primarily on vocabulary comparison, it has been more recently re-classified as a member of the Gunwinyguan family by Alpher et al. (2003), based on a comparison of verbal suffixal paradigms. The map in Map 2.2 shows the Gunwinyguan languages shaded in grey (Wubuy can be found to the far right). This map is based on the classification of Gunwinyguan languages by Alpher, Evans and Harvey (2003) and adapted from Harvey’s (2008) map of the Top End.

Although the Gunwinyguan family is “one of the better-established genetic groupings within the residual category of non-Pama-Nyungan Australian languages”, there is still debate over internal subgroups and the inclusion or exclusion of certain languages (Baker, 2008b, p. 3). For example, Alpher et al. (2003, pp. 308-309) argue that the Gunwinyguan family can be internally divided into western, central and eastern branches, with Wubuy being a member of the eastern group alongside Ngandi, which was spoken around Upper Rose River but is now extinct, as well as Rembarrnga and Ngalakgan, traditionally spoken in the Roper River area, although Ngalakgan is also now extinct. These languages can be found to the west of Wubuy in Map 2.2. Figure 2.1 shows the structure of the Gunwinyguan family according to the Alpher et al. (2003, pp. 308-309) classification.
Contrary to Alpher et al. (2003, pp. 308-309), Heath (1984, p. 638) claims that Wubuy forms a subgroup with Ngandi and Enindhilyakwa, the latter being...
mainly spoken on Groote Eylandt (to the east of Wubuy). Baker (2004, p. 339) supports Heath in considering Wubuy and Ngandi as a genetic subgroup and disagrees with Alpher et al., stating that “there is no evidence to suggest that Ngandi (with or without Wubuy) is more closely related to Ngalakgan and Rembarrrnga than it is to other GN [Gunwinyguan] languages”. Van Egmond (2012, p. 310) also shows that there is a close genetic relationship between Wubuy and Enindhilyakwa based on both shared vocabulary and systems of verbal suffixal paradigms.

2.3.2. Phonology

Wubuy’s phonology is quite typical for Australian languages. It has six places of articulation for stops and nasals (bilabial, lamino-dental, apico-alveolar, apico-retroflex, lamino-alveopalatal, and velar), and voicing is not contrasted phonemically (with stops varying in their voice onset time). Wubuy is rather unusual, however, in that it employs a very rare four-way coronal stop contrast (apico-alveolar, apico-retroflex, lamino-dental and lamino-alveopalatal) in word-initial position, as well as the more standard word-medial position (Bundgaard-Nielsen et al., 2015). Most Australian languages neutralise the apical contrast word-initially (Hamilton, 1996). There are also three laterals (lamino-dental, apico-alveolar and apico-retroflex), an apico-alveolar tap, three semivowels (/w/, /ɻ/ and /j/), and three vowels (/a/, /u/ and /i/) which have a phonemic length contrast (/aː/, /uː/ and /iː/). However, while fairly standard for an Australian language (Butcher, 2006; Dixon, 2002; Fletcher & Butcher, 2014; Yallop, 1982), Wubuy is very unusual for a Gunwinyguan one. Most Gunwinyguan languages have two series of stops, lack a lamino-dental series, and typically have five-vowel systems (Harvey, 2003).

The phonemic inventory for Wubuy is given in Table 2.1 and Table 2.2 below. Below each IPA symbol, the corresponding orthographic symbol is presented in parentheses. Throughout this thesis, I will be using the orthographic symbols in data examples rather than the IPA symbols, as this is the
community orthography used by Wubuy speakers and in literature using Wubuy language such as school books and the Wubuy translation of The Bible.

Table 2.1. Consonant phonemes of Wubuy

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Lamino-dental</th>
<th>Apico-alveolar</th>
<th>Apico-retroflex</th>
<th>Lamino-alveopalatal</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>p (b)</td>
<td>t̪ (dh)</td>
<td>t (d)</td>
<td>t (d)</td>
<td>c (j)</td>
<td>k (g)</td>
</tr>
<tr>
<td>Nasal</td>
<td>m (m)</td>
<td>n (nh)</td>
<td>n (n)</td>
<td>n̄ (n̄)</td>
<td>n̄ (ny ~ yn)</td>
<td>n̄ (ng)</td>
</tr>
<tr>
<td>Lateral</td>
<td>ɭ (lh)</td>
<td>ɭ (l)</td>
<td>ɭ (l̄)</td>
<td>ɭ (l̄)</td>
<td>ɭ (rr)</td>
<td></td>
</tr>
<tr>
<td>Tap</td>
<td>w (w)</td>
<td></td>
<td>j (y)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.2. Vowel phonemes of Wubuy

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Mid</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i / i:</td>
<td>u / u:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i / ii)</td>
<td>(u / uu)</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>a / a:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a / aa)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wubuy also has a complex morphophonology, which will not be discussed here (see Heath (1984) for details). For the purposes of this thesis, I generally present data examples in their surface form, without explicitly mentioning any morphophonological processes.

2.3.3. Morphosyntax

In Wubuy, words often consist of several morphemes, including (but not limited to) pronominal agreement prefixes, verb derivational affixes, incorporated nominals, and tense, aspect and mood (TAM) suffixes with

---

13 /nh/ seems to only be used with loan words from neighbouring languages.
verbs, as well as gender or noun class prefixes and case suffixes with nominals. In addition, word order is quite flexible and discontinuous expressions common, allowing coreferential elements to be scattered throughout the clause (Heath, 1984, p. 2). Consider the following data, where the noun *liira* ‘blue-tongue lizard’ and a coreferential pronoun *wugurru* are presented in bold. Notice how they occur on either side of the verb *budha* ‘x to cook y’ (literally translated as ‘x to cover y with fire’):\(^{14}\)

14 Heath (1984, p. 78) observes that within certain contexts, the topic form of the COLLECTIVE and FEMININE noun class prefixes, which are *warra-* and *ngarra-* respectively, optionally undergo a morphophonological process that deletes the final /rra/ sequence and leads to compensatory lengthening on the preceding vowel, resulting in *ngaa-* and *waa-*. I believe this is what has happened to the COLLECTIVE noun class prefix in (2-2). However, as Heath (1984, p. 78) notes, the oblique form of the COLLECTIVE noun class prefix is also *waa-* which means that in many textual occurrences, it is often unclear whether the prefix is in topic or oblique form.

\[(2-2) \quad \text{mana-ngangga-wala} \quad \text{wugurru} \quad \text{aba} \quad \text{yaanuu-wuy} \quad \emptyset \text{-buddhangi} \]
\[\text{VEG.TOP-dragonfly-ABL. it.COLL then there-ALL ANIM/ANIM-cook.PC} \]
\[\text{waa-liira-guy} \]
\[\text{COLL.TOP-blue.tongue-DAT} \]

‘Then the dragonfly (VEG) covered the blue-tongue lizard (COLL) with fire (lit. cooked it)’

(Heath, 1980, p. 200)

These nonconfigurational characteristics make it difficult to justify syntactic units such as noun phrase, verb phrase and clause (Heath, 1984, p. 2). In fact, Heath (2004, p. 69) suggests that in Wubuy, “there is no hierarchical phrase structure beyond word level, although words (particularly verbs) may have considerable internal morphological structure”. This raises implications for argument realisation: as Wubuy does not use configurational phrase and clause structure to encode grammatical relations, we need to look at morphosyntactic phenomena, such as agreement prefixes and derivational affixes on verbs, as well as case markers and gender or noun class markers on nouns (if present), for insights into a verb’s argument-structure (i.e. the arguments that it licenses).
2.3.3.1 Verbs

In Wubuy, a basic verb consists of a stem with a pronominal prefix and a suffix marking tense, aspect and mood (TAM). Pronominal prefixes code the noun class (for nonhumans) or person, number and gender (for humans) of certain core grammatical functions, depending on the verb’s transitivity and derivation. Although there is a certain amount of neutralisation, each different combination of subject and object indexing generally corresponds to a different pronominal prefix. In some cases, these combinations are relatively transparent, while in others, they are opaque (portmanteau) to varying degrees. In addition, the pronominal prefixes can be classified into two sets, called the ‘A’ and ‘B’ series by Heath (1984, p. 349), whose distribution is determined by the TAM and polarity of the clause. Table 2.3 (adapted from Wilkinson (2002), which is based on Heath (1984)) sets out the ways in which TAM distinctions are made in Wubuy through interactions between verb agreement, TAM and polarity marking:

<table>
<thead>
<tr>
<th>TAM inflection</th>
<th>Prefix series</th>
<th>Negative words</th>
<th>Meaning</th>
<th>Example of rough English equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past 1</td>
<td>A</td>
<td>-</td>
<td>Past Punctual</td>
<td>‘I put it down’</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>waari</td>
<td>Past Negative Actual</td>
<td>‘I did not put it down’</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>yagi</td>
<td>Past Negative Potential</td>
<td>‘I would not have put it down’</td>
</tr>
<tr>
<td>Past 2</td>
<td>B</td>
<td>-</td>
<td>Past Continuous</td>
<td>‘I was putting it down’</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>-</td>
<td>Past Potential</td>
<td>‘I could have put it down’</td>
</tr>
<tr>
<td>Nonpast 1</td>
<td>B</td>
<td>-</td>
<td>Future Potential</td>
<td>‘I will put it down’</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>waari</td>
<td>Present Negative</td>
<td>‘I do not put it down’</td>
</tr>
<tr>
<td>Nonpast 2</td>
<td>B</td>
<td>-</td>
<td>Future Continuous</td>
<td>‘I will be putting it down’</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>-</td>
<td>Present</td>
<td>‘I am putting it down’</td>
</tr>
<tr>
<td>Nonpast 3</td>
<td>A</td>
<td>yagi</td>
<td>Future Negative</td>
<td>‘I will not put it down’</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>magi</td>
<td>Evitative</td>
<td>‘If I had put it down (I would have broken it)’</td>
</tr>
<tr>
<td>Evitative</td>
<td>A</td>
<td>-</td>
<td>Evitative</td>
<td>‘Lest it be put down’</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>yagi</td>
<td>Negative Evitative</td>
<td>‘Lest it not be put down’</td>
</tr>
</tbody>
</table>

To simplify data examples, I present the glosses of TAM inflections on verbs as abbreviations of the ‘Meaning’ column in Table 2.3, rather than the ‘TAM inflection’ column. Glosses for these are presented in Table 2.4 below:
Table 2.4. Glosses for TAM inflections

<table>
<thead>
<tr>
<th>TAM category</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Punctual</td>
<td>PP</td>
</tr>
<tr>
<td>Past Continuous</td>
<td>PC</td>
</tr>
<tr>
<td>Past Negative Actual</td>
<td>PNEGACT</td>
</tr>
<tr>
<td>Past Negative Potential</td>
<td>PNEGPO</td>
</tr>
<tr>
<td>Past Potential</td>
<td>PPOT</td>
</tr>
<tr>
<td>Future Potential</td>
<td>FPOT</td>
</tr>
<tr>
<td>Present Negative</td>
<td>PRESNEG</td>
</tr>
<tr>
<td>Future Continuous</td>
<td>FC</td>
</tr>
<tr>
<td>Present</td>
<td>PRES</td>
</tr>
<tr>
<td>Future Negative</td>
<td>FNEG</td>
</tr>
<tr>
<td>Evitative</td>
<td>EVIT</td>
</tr>
<tr>
<td>Negative Evitative</td>
<td>EVITNEG</td>
</tr>
</tbody>
</table>

In addition to the complexity of the interaction between verb agreement, TAM and polarity in Wubuy, each verb belongs to one of 26 inflection classes (including irregular verbs like ya ‘x to go’), which differ according to the TAM suffixes they take (Heath, 1984, pp. 407-411). Furthermore, some verbs can shift to a different inflection class for derivational purposes without taking additional derivational morphology, although it is currently unclear what the extent of this is. For example, in §3.3.1 we will see that certain intransitive verbs can be causativised by simply shifting to another inflection class, rather than taking the CAUSATIVE derivational root -jga ~ -jgi.

Like many polysynthetic languages, Wubuy has productive incorporation of nominals into verb stems. Nordlinger (2014, p. 234) points out that this is a morphosyntactic characteristic of many polysynthetic languages in Australia, including: Gunwinyguan languages such as Ngalakgan, Bininj Gun-Wok, Ngandi, Rembarrnga, Dalabon, Warray and Enindhilyakwa; Daly languages such as Murrinh-Patha, Ngan'gityemerri and Marrithiyel; and Tiwi.\textsuperscript{15} She also notes that while all incorporating languages in Australia can incorporate body parts, there are some where this is the only kind of nominal that can be incorporated (i.e. they do not incorporate generic nominals) (Nordlinger, 2014, p. 236). While only the Daly languages above are mentioned as being of this

\textsuperscript{15} Noun incorporation is not, however, found in all polysynthetic languages of Australia, as there are some polysynthetic languages in northern Western Australia that do not have it (McGregor, 2004; Nordlinger, 2014, p. 234).
type here (Nordlinger, 2014, p. 236), Wubuy is another language that typically only allows the productive incorporation of body parts (Horrack, 2010, pp. 19-20). For example, consider the following Wubuy data, where (2-3) shows yarrga ‘flipper’ occurring as an independent nominal, and (2-4) shows it incorporating into the verb nagi ‘cook’. The data in (2-5) shows lanarr ‘nail’ occurring as both an incorporated and independent noun. The incorporable nouns have been presented in bold:

(2-3) ngawu-nagi-ina ana-yarrga yii-ngarragalij-inyung
1SG/NEUT-cook-PRES NEUT.TOP-flipper FEM.OBL-dugong-GEN

‘I (1SG) am cooking the flipper (NEUT) of the dugong (FEM)’
(Horrack, 2010, p. 10).

(2-4) ngawu-yarrga-nagi-ina yii-ngarragalij-inyung
1SG/NEUT-flipper-cook-PRES FEM.OBL-dugong-GEN

‘I (1SG) am cooking the flipper (NEUT) of the dugong (FEM)’
(Horrack, 2010, p. 10).

(2-5) na-lanarr ngayawi-nyinyung ngani-lanarr-wawayuwa-a
MASC.TOP-nail 1SG.OBL.PRO-GEN 1SG/MASC-nail-cut-PC

‘I (1SG) was cutting off my nails (MASC)’
(Baker et al., 2010, p. 66)

Noun incorporation in Wubuy has recently been the topic of description and analysis within the literature. Horrack (2010) and Baker et al. (2010) show how productive noun incorporation in Wubuy fits the ‘Classifier’ type according to typologies by Mithun (1984) and Rosen (1989) (although it does not really classify semantically). Essentially, this means that Wubuy noun incorporation exhibits the following three characteristics:

- It does not affect the valency of the verb (notice that the verb agreement in (2-4) and (2-5) still code the body parts yarrga ‘flipper (NEUT)’ and lanarr ‘nail (MASC)’ as object, despite their incorporation into the verb);

- The incorporated noun may be doubled by a semantically linked independent noun (notice in (2-5) that lanarr ‘nail (MASC)’ occurs as both an incorporated noun and an independent doubling noun);
External modifiers may be “stranded” (notice in (2-4) that head noun *yarrga* ‘flipper (NEUT)’ has incorporated into the verb and left behind a possessive modifier, *ngarrugalij* ‘dugong (FEM)’).

Horrack (2010) and Baker et al. (2010) also discuss how noun incorporation interacts with other morphosyntactic phenomena in Wubuy, such as verb agreement, noun class and gender marking, case marking, possession, and coordination, and Baker et al. (2010) presents a formal analysis of these interactions couched in Lexical Functional Grammar (this analysis is discussed further in §4.3.1). Baker (2014) further clarifies the constraints on noun incorporation in Wubuy by considering the range of grammatical functions and discourse functions of incorporated nominals.

There are also several valency-changing verb derivations in Wubuy that are of particular relevance to this thesis, as they clearly affect the argument-structure of the verb and influence the morphosyntactic realisation of verbal arguments. These are listed in Table 2.5 below, although it should be noted that this thesis does not deal explicitly with the REFLEXIVE (the reason for this is explained at the end of this section):

**Table 2.5. Valency-changing verb derivations in Wubuy**

<table>
<thead>
<tr>
<th>Derivation Name</th>
<th>Gloss</th>
<th>Affix/Root</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affectee Applicative</td>
<td>AFF</td>
<td>aG- waaG-</td>
</tr>
<tr>
<td>Causative</td>
<td>CAUS</td>
<td>-jga -jgi OR TAM paradigm shift</td>
</tr>
<tr>
<td>Comitative</td>
<td>COM</td>
<td>aynji-</td>
</tr>
<tr>
<td>Reciprocal</td>
<td>RECIP</td>
<td>-ynji</td>
</tr>
<tr>
<td>Reflexive</td>
<td>REFL</td>
<td>-i</td>
</tr>
</tbody>
</table>

Although Heath (1984, pp. 633, 635) describes the COMITATIVE prefix *aynji-* as being etymologically obscure, he notes that the rest are cognate with similar derivational morphology in other Gunwinyguan languages, particularly Ngandi. The AFFECTEE APPLICATIVE *aG- waaG-* (from *-bak-*) has cognates in Ngandi, Ngalakgan and Rembarrnga (which is the basis for the Alpher, Evans & Harvey (2003) classification in Figure 2.1 earlier). Heath (1984, p. 635) proposes that the CAUSATIVE *-jga -jgi* is a combination of
FACTITIVE -wa- (<*ga-*) together with the now unproductive abstractive nominaliser *-j as a stem-former. The FACTITIVE root is a verbaliser that is typically added to adjectival nouns to derive verbs (Heath, 1984, p. 398), and it appears to be related to the CAUSATIVE roots in related languages such as Ngandi -guba- and Ngalakgan and Rembarrnga ga- (which is also the root for the ‘take’ verb). Lastly, the RECIPROCAL -ynji and REFLEXIVE -i are cognate with Ngandi -ydhi and Ngandi -i- or -yi- respectively. This demonstrates that the derivational morphology above is a genetic characteristic that is not unique to Wubuy, although there are notable differences in the way some of these behave in Wubuy compared to related languages according to the available descriptions.

As noted above, the current investigation of argument realisation in Wubuy does not include the REFLEXIVE derivation. This is mainly due to difficulties in determining whether instances of the REFLEXIVE derivation attested by Heath (1982, 1984) are truly REFLEXIVE derivations or just basic underived intransitive verbs that can then undergo CAUSATIVE TAM paradigm shift to achieve the transitive form. According to Heath (1984, p. 389), the REFLEXIVE suffix -i derives intransitive stems with a TAM category of I₁ that are either REFLEXIVE, PASSIVE or ANTIPASSIVE. The suffix -i is then usually deleted by his phonological rule of VV contraction, leaving a surface form that appears to have simply undergone TAM paradigm shift (Heath, 1984, p. 389). This is visualised below in Figure 2.2:

**Figure 2.2. Addition of REFLEXIVE -i followed by VV contraction**

<table>
<thead>
<tr>
<th>Vv</th>
<th>Vi-i</th>
<th>Vi</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘x to V y’</td>
<td>‘x to V self’</td>
<td>‘x to V self’</td>
</tr>
<tr>
<td>OR ‘y to be V’</td>
<td>OR ‘y to be V’</td>
<td>OR ‘x to V’</td>
</tr>
<tr>
<td>Underived verb stem (V) with stem final vowel (v)</td>
<td>addition of REFLEXIVE -i</td>
<td>VV contraction</td>
</tr>
<tr>
<td>TAM changes to I₁</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For example, following Heath’s (1984, p. 389) account with the data below: the transitive input verb *wuldha* ‘x to cut y’ in (2-6) takes the derivational
suffix -i and then undergoes VV contraction to become the intransitive REFLEXIVE wuldh ‘x to cut x-self’, where the agent and patient now refer to the same referent; the transitive verbs wada ‘x to break y’ and dhida ‘x to close up y’ in (2-7) undergo the same process to become the PASSIVE intransitives wadi ‘y to break’ and dhidi ‘y to close’, where the agent has been removed; and the transitive verb wanbi ‘x to do something to y’ in (2-8) becomes the ANTIPASSIVE intransitive wanbi ‘x to do something’, where the patient has been removed.

(2-6)  ngam-buldhi-yn
1SGn.cut.REFL-FPOT
‘I (1St) will cut myself’
(Heath, 1982, p. 242)

(2-7)  adaba ma-wadi-yn ma-gara-wawalha-ngi-yinyung,
then VEG,break.REFL-PP VEG,be.open-PC-REL
ma-dhidi-ini
VEG,close.REFL-PC
‘Then the opening of the hole collapsed and closed up the hole’
(lit. ‘Then the hole that was open (VEG) broke. It closed.’)
(Heath, 1980, p. 230)

(2-8)  ni-yañbi-yn niwu-lhangarma-yn, ana-wunbunji
3MSGn.do.it.to.REFL-PP 3MSG/NEUT,reach-PP NEUT,Top-wunbunji
‘He (3MSG) did it. He (3MSG) reached Wunbunji (NEUT)’
(Heath, 1980, p. 138)

However, most of the ‘REFLEXIVE’ derived verbs in Heath’s dictionary (1982) and texts (1980) do not actually demonstrate reflexive semantics, with the PASSIVE function (as in (2-7)) in fact appearing to be the most common function of this derivation. Furthermore, most of the ‘transitive’ input verbs that demonstrate the PASSIVE function of -i (including both verbs in (2-7)) belong to the TAM inflection class of A1, A2 or I2, all of which are involved in deriving CAUSATIVE verb forms (see §3.3.1 and §6.3.1.2 for details). This means that some instances of the REFLEXIVE derivation noted by Heath (1982, 1984) may in fact be intransitive verbs from the I1 inflection class that can undergo TAM paradigm shift to become CAUSATIVE-derived transitives (i.e. where < [Pt] > becomes < [Ag] [Pt] >). For example, the underived form of
"dhida ‘x to close up y’ from (2-7) may actually be dhidi ‘y to be closed up’ from the I1 inflection class, which can undergo CAUSATIVE TAM paradigm shift to become dhida ‘x to close up y’ (or ‘x to make y close up’) from the A2 inflection class. The difference between these two approaches is visualised below:

Figure 2.3. Alternative accounts of dhida ‘x to close up y’ / dhidi ‘y to be closed up’

<table>
<thead>
<tr>
<th>Heath’s (1984, p. 389) approach:</th>
<th>dhida → dhidi-i → dhidi</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘x to close up y’</td>
<td>‘y to be closed up’</td>
</tr>
<tr>
<td>Underived verb stem</td>
<td>addition of REFLEXIVE -i</td>
</tr>
<tr>
<td>TAM = A2</td>
<td>TAM changes to I1</td>
</tr>
<tr>
<td>Alternative approach:</td>
<td>dhidi</td>
</tr>
<tr>
<td></td>
<td>‘y to be closed up’</td>
</tr>
<tr>
<td>Underived verb stem</td>
<td>CAUSATIVE TAM paradigm shift</td>
</tr>
<tr>
<td>TAM = I1</td>
<td>TAM changes to A2</td>
</tr>
</tbody>
</table>

For now, I leave the clarification of this issue to future research.16

2.3.3.2 Nouns

A basic noun in Wubuy consists of a stem with a gender or noun class prefix and a case suffix, both of which can be realised as zero (Heath, 1984, p. 151). I propose that in Wubuy, there are two gender categories used to classify humans, which are MALE (M) and FEMALE (F). There are also six noun class categories that exhaustively classify nonhumans (i.e. no nonhumans are unclassified). In this thesis, I label the classes MASCULINE (MASC), FEMININE (FEM), COLLECTIVE (COLL), NEUTER (NEUT), RESIDUAL (RESID) and VEGETABLE (VEG). The nominal prefixes associated with these classification systems are presented below in Table 2.6 and Table 2.7. Note that the use of these prefixes is typically optional, and the MALE and FEMALE gender prefixes have the same form as the ‘topic’ forms of the MASCULINE and FEMININE noun class prefixes respectively. Furthermore, the MALE and FEMALE gender prefixes are only

---

16 Also note that the problem of needing to know which is the ‘base’ form and which is the ‘derived’ form is an artefact of the derivational approach used in this thesis.
used with human nominals that are SINGULAR or DUAL; when a human nominal has PLURAL number, it takes the human PLURAL prefix warra-instead, which is homophonous with the ‘topic’ form of the nonhuman COLLECTIVE noun class prefix.\textsuperscript{17}

Table 2.6. Gender categories (human) in Wubuy

<table>
<thead>
<tr>
<th>Gloss</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>na-</td>
<td>ngarra-</td>
</tr>
</tbody>
</table>

Table 2.7. Noun class categories (nonhuman) in Wubuy\textsuperscript{18}

<table>
<thead>
<tr>
<th>Topic</th>
<th>Masculine</th>
<th>Feminine</th>
<th>Collective</th>
<th>Neuter</th>
<th>Residual</th>
<th>Vegetable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss</td>
<td>MASC.TOP</td>
<td>FEM.TOP</td>
<td>COLL.TOP</td>
<td>NEUT.TOP</td>
<td>RESID.TOP</td>
<td>VEG.TOP</td>
</tr>
<tr>
<td>Form</td>
<td>na-</td>
<td>ngarra-</td>
<td>warra-</td>
<td>ana-</td>
<td>mana-</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oblique</th>
<th>Masculine</th>
<th>Feminine</th>
<th>Collective</th>
<th>Neuter</th>
<th>Residual</th>
<th>Vegetable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss</td>
<td>MASC.OBL</td>
<td>FEM.OBL</td>
<td>COLL.OBL</td>
<td>NEUT.OBL</td>
<td>RESID.OBL</td>
<td>VEG.OBL</td>
</tr>
<tr>
<td>Form</td>
<td>yii-</td>
<td>waa-</td>
<td>a-</td>
<td>ama-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although the terms ‘gender’ and ‘noun class’ are often used interchangeably within the field of linguistics (e.g. Aikhenvald (2000), Corbett (1991); cf. Corbett & Fedden (2016), Fedden & Corbett (2017)), I follow van Egmond’s (2012, pp. 94-95) approach to Enindhilyakwa (which in turn follows Sands (1995)) by differentiating the two. This is based on an animacy distinction between ‘human’ and ‘nonhuman’ verb and noun agreement that suggests gender and noun class are better treated as two separate nominal classification systems in Wubuy, as discussed below.

Firstly, while human nominals have only one series of gender prefixes available to them (as in Table 2.6), nonhuman nominals can take either a ‘topic’ or ‘oblique’ form of noun class prefix (as in Table 2.7).\textsuperscript{19} Baker (2008a, pp. 136-142) proposes that in Wubuy (as well as related languages Ngalkagkan and Marra), alternations in noun class prefix forms correlate to differences in

\textsuperscript{17} Note that human PLURAL and nonhuman COLLECTIVE are distinguished by having different non-predicative demonstrative pronouns (Heath, 1984, pp. 274-275).

\textsuperscript{18} Although the NEUTER and RESIDUAL classes take the same headmarking prefixes, they differ in verbal agreement marking, which is why they have been presented as separate classes here.

\textsuperscript{19} The topic and oblique series of noun class prefixes are referred to by Heath (1984) as ‘continuous’ and ‘punctual’ respectively.
discourse-linked interpretations, such that topic noun class prefixes typically mark discourse topics, absence of a noun class prefix usually indicates an item under focus or contrast, while the oblique noun class prefixes (in Wubuy and Marra only) are used in specific case roles. For example: in (2-10), the nonhuman nominal *marrya* ‘food (RESID)’ takes the topic form of RESIDUAL noun class prefix (*ana-*) as the discourse topic of a polarity question; in (2-11), it takes no noun class prefix while in some kind of focus function; and in (2-12), it takes the oblique form of RESIDUAL noun class prefix (*a-*) as a purposive adjunct:

(2-10) *ana-marrya num-banaga-na?*
    RESID.Top-food 2SG/RESID,have-PRES
    ‘Have you (2SG) got any food (RESID)?’
    (Baker, 2008a, p. 142)

(2-11) *ngaya nga-ngu-yii marrya*
    1SG.Pro 1SG/RESID,eat-PRES food
    ‘I’m (1SG) going to eat [some] food (RESID)’
    (Baker, 2008a, p. 143)

(2-12) *nga-yaa-rrri a-marrya-wuy*
    1SG,go-PRES RESID,OBL-food-DAT
    ‘I’m (1SG) going for food (RESID)’
    (Baker, 2008a, p. 143)

Human nominals, on the other hand, have only one overt series of gender prefixes available to them. This is typically used for marking discourse topics, with the absence of a gender prefix again indicating some kind of focus function (Heath, 1984, p. 608). In other words, human nominals do not have an oblique form of gender prefix. For example, in the data below, the nominal *mani-nyung* ‘woman (3FSG)’ takes the same form of FEMALE gender prefix (i.e. *ngarra-*) as a discourse topic in (2-13) and as a comitative adjunct in (2-14), while in (2-15) it takes no prefix in a focus function:20

---

20 However, note that it is not clear based on Heath (1984) whether human nominals are more likely to take an overt or zero gender prefix when in an oblique function.
(2-13) ngarra-mani-nyung ngi-wayama-ni warra-mijburraayung-mirri
F-woman-HUM.SG 3FSG.-keep.going-PRES  PL-children-INSTR
‘The woman (3FSG) continues along with the children (3PL)’
(S2 / E3 / 20140227)

(2-14) ngarra-mani-nyung-mirri wurru-wayama-ni warra-mijburraayung
F-woman-HUM.SG-INSTR 3PL.-keep.going-PRES PL-children
‘The children (3PL) continue along with the woman (3FSG)’
(S2 / C: (6-67) / 20140227)

(2-15) aynjaabu-nyung mani-nyung, wangi-nana-na-niiii
one-HUM.SG woman-HUM.SG 3FSG/3PL.-RDP-see-PC
‘One woman (3FSG), she saw them (3PL)’
(Heath, 1980, p. 319)

Thus, the data presented above demonstrates how an animacy distinction correlates with the kinds of prefixes that nominals may take: for humans, there is only one series of overt gender prefixes, and for nonhumans, there are two series of noun class prefixes (topic and oblique).

Another animacy distinction can be found in number marking on nouns and number agreement on verbs: while nominals referring to humans can take markers or trigger verb agreement that differentiate between SINGULAR and PLURAL, nonhumans do not have a grammatical category of number, so any morphology agreeing with them is typically only interpreted in terms of noun class and grammatical function (Baker, 2008a, p. 149). For example, in the following data, the human nominal walya ‘male, man’ takes the MALE gender prefix na- and the HUMAN SINGULAR suffix -yung ~ -jung ~ -nyung in (2-16), and both its MALE gender and SINGULAR number are encoded by the intransitive subject agreement prefix ni-. In (2-17), on the other hand, the same nominal uses reduplication and the human PLURAL prefix warra- to indicate PLURAL number, which is encoded by the intransitive subject agreement prefix wurrur-:
In comparison to this, morphology agreeing with nonhumans typically does not distinguish between SINGULAR and PLURAL. This is demonstrated in the data below, where the nonhuman ngarragalij ‘dugong (FEM)’ is understood as being singular in (2-18) and the nonhuman yaag ‘meat ant (FEM)’ is understood as being plural in (2-19), but they both take the same FEMININE noun class prefix ngarra-. In addition to this, agreement prefixes on verbs and predicative adjectives only agree with their FEMININE noun class, as can be seen by comparing the use of the intransitive subject agreement prefix ngi- on the intransitive verb ngama ‘x to swim’ in (2-18) and on the predicative adjective yarrawindi ‘x to be many’ in (2-19):

(2-16)  *adaba ni-ya-nggi, nuubagiyung, na-walyi-nyung*

then 3MSG.GO-PC that.MSG.ANAPH.ABS M-man-HUM SG

‘Then he went, that man (3MSG)’

(Heath, 1980, p. 122)

(2-17)  *warra-walya-walya wurru-wululj-i-ni*

PL-RDP-man 3PLP-paint-REFL PC

‘The men (3PL) painted themselves’

(Heath, 1980, p. 271)

Furthermore, while many human nominals can alternate between MALE and FEMALE genders according to biological sex, most nonhuman nominals can only take morphology appropriate to their lexically specified noun class. For example, in the data below, the adjectival nominal wirri ‘small, child’ can take
the FEMALE gender prefix *ngarra-* in (2-20) and the MALE gender prefix *na-* in 
(2-21):

(2-20)  
*ngarra-wirri-nyung*  
ningu-marang-ba-ng  
a-n-murrarbu  
F-child-HUM.SG  
NEUT/3FSG,-hand-bite-PP  NEUT.TOP-mud.crab  

*ngi-nyung*  
rangag marri  
na-n-murrarbu  
3FSG/NEUT,-get-PP  stick and  
3FSG/NEUT,-hit-PP  NEUT.TOP-mud.crab  

‘The crab (NEUT) bit the girl; (3FSG) and she; got a stick (NEUT) and hit the crab’  
(S3+S4 / E3 / 20140304)

(2-21)  
*ni-rugiyn*  
niga  
*na-wirri-nyung*  
3MSG,-cry.PP  MSG.PRO  M-child-SG  

‘The boy (3MSG) cried’  
(Heath, 1984, p. 226)

With nonhuman nominals, such alternations are typically not possible, 
although there are some exceptions with higher animate nonhumans that can 
sometimes take human number and gender morphology, usually when they 
refer to domestic pets or protagonists in mythological texts that demonstrate 
human-like behaviour (Heath, 1984, pp. 178-179). For example, *landhurrgr* 
‘dog (COLL)’ belongs to the COLLECTIVE noun class, but in the data below, it 
takes MALE gender and SINGULAR number affixes that are usually restricted 
to human nominals:

(2-22)  
*ngarra-manum-baa*  
wungunu-rabali-ina  
*na-landhurrgr- jung*  
F-woman-DU  
3FDU/3MSG,-come.out.CAUS-PRES  M-dog-HUM.SG  

‘Two women (3FDU) come out with the dog (3MSG)’  
(i.e. they take the dog out)  
(S3+S4 / E1 / 20140303)

(2-23)  
*na-wirri-nyung*  
marri  
*na-landhurrgr-jung*  
wini-wanga-ynji-yn  
M-child-HUM.SG and  
M-dog-HUM.SG  
3MDU,-bite-RECIPE-PP  

‘The boy (3MSG) and the dog (3MSG) bit each other’  
(S3+S4 / E3 / 20140304)

The animacy distinction between human and nonhuman is also reflected by 
the use of different verb agreement prefixes when agreeing with a MALE 
human or a MASCULINE nonhuman as primary object. Consider the following 
data, where the pronominal prefix *nganu-* agrees with a THIRD-PERSON MALE 
SINGULAR primary object, which is human:
Now, reconsider (2-5), reproduced below as (2-25), where primary object agreement is with *lanarr* 'nail (MASC)', which belongs to the nonhuman MASCULINE noun class, and the use of a different pronominal prefix, *ngani-* reflects this difference in animacy:

(2-25)  
\[
\begin{array}{llll}
  & na-lanarr & ngayawi-nyinyung & ngani-lanarr-wawayuwa-a \\
\text{MASC.TOP-nail} & \text{1SG.OBL.PRO-GEN} & \text{1SG/MASC.-nail-cut-PC}
\end{array}
\]

‘I (1SG) was cutting off my nails (MASC)’

(Baker et al., 2010, p. 66)

We have now seen several ways in which verb and noun agreement in Wubuy behave differently with human and nonhuman nominals, particularly in relation to number marking and agreement, which lends support for a grammatical differentiation between gender categories (human) and noun class categories (nonhuman). This is also supported by crosslinguistic observations regarding the Animacy Hierarchy, an implicational hierarchy that has a wide application in linguistics (Corbett, 2011, p. 200):

Figure 2.4.  The Animacy Hierarchy  
(Corbett, 2011, p. 56, following Smith-Stark, 1974)

\[
\begin{array}{c}
\text{speaker} > \text{addressee} > 3\text{rd person} > \text{kin} > \text{human} > \text{animate} > \text{inanimate}
\end{array}
\]

This hierarchy has been used by linguists to describe number marking constraints in many languages. Corbett (2011, p. 198) asserts that “[a]s we move rightwards along the Animacy Hierarchy, the likelihood of number being distinguished will decrease monotonically (i.e. with no intervening increase)”. He claims that in a number of languages, not all nominals can distinguish number (Corbett, 2011, p. 198). For example, in the Austronesian language Muna, verbs only agree with the plurality of animates, such as humans and animals, not with inanimates (Corbett, 2011, pp. 198-199). This is reminiscent of Wubuy, as well as other Gunwinyguan languages, such as
Enindhilyakwa (van Egmond, 2012), Bininj Gun-wok (Evans, 2003a), Ngalakgan (Merlan, 1983) and also in (non-Gunwinyguan) Marra (Heath, 1981), where animacy distinctions similarly affect verb and/or noun agreement.

In addition to the human gender and nonhuman noun class prefixes presented in Table 2.6 and Table 2.7 earlier, there is also a set of ‘relational’ noun class derivations that can change the noun class of an inalienable nominal so that it agrees with the noun class of its (nonhuman) possessor.21 These are presented below:

**Table 2.8. Relational noun class forms in Wubuy**

<table>
<thead>
<tr>
<th>Relational</th>
<th>Noun class of the possessor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Masculine</td>
</tr>
<tr>
<td>Gloss</td>
<td>MASC.DER</td>
</tr>
<tr>
<td>Form</td>
<td>ngi-</td>
</tr>
</tbody>
</table>

To demonstrate how this works, consider (2-26), where although the noun class of *manjarr* ‘leaves (NEUT)’ is lexically specified as NEUTER, it takes a relational noun class prefix to agree with the noun class of its possessor:

(2-26)  *niinima*-yirr-mangi  *mana-wuluru*  *mana-ma-manjarr-gadhuwa*  
1MDU/EX/VEG-foliage-get.PC  VEG.TOP-acacia.sp  VEG.TOP-VEG.DER-leaves-new

‘We two (1MDU/EX) got new leaves (NEUT) of the acacia species (VEG)’

(Baker et al., 2010, p. 66)

In this example, the possessor *wuluru* ‘acacia species (VEG)’ has VEGETABLE noun class, so *manjarr* ‘leaves (NEUT)’ takes the VEGETABLE relational noun class prefix *maG*-. As *manjarr* ‘leaves (NEUT)’ now has a derived noun class of VEGETABLE, it can also take a normal VEGETABLE noun class prefix, which in this case is the topic form *mana*-.  

Regarding case, it is important to note that subjects and secondary objects typically take unmarked DIRECT case. Primary objects in transitive clauses

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21 Based on the current Wubuy corpus, relational noun class derivation only appears to be used when the possessor is nonhuman.
also usually occur without an overt case marker (see §2.3.4 below for definitions of grammatical functions in Wubuy). This is demonstrated in (2-27) below, where both the subject ngaya ‘1SG.PRO’ and the primary object ngujija ‘fish (RESID)’ take unmarked DIRECT case:

(2-27) ngaya nga-gudi-yn ana-ngujija ngadugu-mirri
1SG.PRO 1SG/RESID-catch-PP RESID.TOP-fish rope-INST
‘I (1SG) caught fish (RESID) with a hand reel (VEG) (lit. rope)’
(S1 / E3 / 20140314)

Wubuy also has several semantic case suffixes, which are presented in Table 2.9 below. Heath (1986, p. 379) notes that these are frequently omitted ‘sloppily’, but their presence is often implied by use of the oblique noun class prefix forms (see Table 2.7). He provides examples with wurugu ‘pond (VEG)’ to demonstrate this, which are presented in Figure 2.5 below.

<table>
<thead>
<tr>
<th>Case category</th>
<th>Gloss</th>
<th>Citation form</th>
<th>Variants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genitive</td>
<td>GEN</td>
<td>-yinyung</td>
<td>-jinyung ~ -nyinyung</td>
</tr>
<tr>
<td>Locative</td>
<td>LOC</td>
<td>-rrij</td>
<td>-rij ~ -aj</td>
</tr>
<tr>
<td>Allative / Dative</td>
<td>ALL/DAT</td>
<td>-wuy</td>
<td>-guy</td>
</tr>
<tr>
<td>Instrumental / Comitative</td>
<td>INSTR</td>
<td>-mirri</td>
<td></td>
</tr>
<tr>
<td>Purposive</td>
<td>PURP</td>
<td>-yungguyung</td>
<td>-jungguyung</td>
</tr>
<tr>
<td>Abilative</td>
<td>ABL</td>
<td>-wala</td>
<td>-gala ~ -ala ~ -yala</td>
</tr>
<tr>
<td>Pergressive</td>
<td>PERG</td>
<td>-waj</td>
<td>-baj</td>
</tr>
<tr>
<td>Retrospective Pergressive</td>
<td>RPERG</td>
<td>-waj</td>
<td>-gaj ~ -aj ~ -yaj</td>
</tr>
<tr>
<td>Originative</td>
<td>ORIG</td>
<td>-mirraadhu</td>
<td></td>
</tr>
<tr>
<td>Simulative</td>
<td>SIM</td>
<td>-yii</td>
<td>-jii</td>
</tr>
</tbody>
</table>

Table 2.9. Semantic cases in Wubuy

Figure 2.5. Heath’s (1986, p. 379) demonstration of ‘sloppy’ zero case

a. wurugu ‘pond’ (focus form with no noun-class prefix)
b. mana-wurugu ‘pond’ (typical subject or direct object form)
c. ama-wurugu-wuy ‘to the pond’ (ALLATIVE form)
d. ama-wurugu ‘to/from/in/of the pond’ (‘sloppy’ zero case)

In Figure 2.5 above, ama- is the oblique prefix form for the VEGETABLE noun class which is usually used with nonzero cases, as can be seen in (c.) (Heath, 1986, p. 379). Therefore, (d.) “is usually interpreted as a nonzero case form

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22 This thesis uses a primary vs secondary approach to objects (see Dryer, 1986; Haspelmath, 2005), rather than the direct vs indirect approach used in previous accounts of Wubuy. This is due to the pattern of object verb agreement in this language (see section 2.3.4 for details).
despite the omission of the case suffix”, whereas (b.) and (a.) are usually subjects or direct objects (Heath, 1986, p. 379).23

Heath (1986, p. 379) also notes that case marking in Wubuy seems to apply separately to coreferential juxtaposed nominals, rather than to all nominals belonging to a particular grammatical function.24 To demonstrate this, he presents the list of surface possibilities for implied or explicit nonzero case shown in Figure 2.6. Here, X and Y represent coreferential juxtaposed nominals, with ‘sloppy’ case omission occurring with Y in (b.), with X in (c.), and with both in (d.). Below this, Figure 2.7 provides a more concrete demonstration using the adjectival nominal rungal ‘big’ and the noun wurugu ‘pond (VEG)’, where the nominals in ‘sloppy’ zero case are presented in bold. Heath (1986, p. 379) claims that such uses of ‘sloppy’ zero case indicate that there is no strong evidence in Wubuy “for a ‘percolation’ model by which case is attached first to the head of the NP and then spreads to other segments, and there is no possibility of a rule attaching case once to the whole NP”.

Figure 2.6. ‘Sloppy’ zero case with coreferential juxtaposed nominals
(Heath, 1986, p. 379)

<table>
<thead>
<tr>
<th></th>
<th>a. X\textsubscript{i} - CASE Y\textsubscript{i} - CASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.</td>
<td>X\textsubscript{i} - CASE Y\textsubscript{i}</td>
</tr>
<tr>
<td>c.</td>
<td>X\textsubscript{i} Y\textsubscript{i} - CASE</td>
</tr>
<tr>
<td>d.</td>
<td>X\textsubscript{i} Y\textsubscript{i}</td>
</tr>
</tbody>
</table>

23 Heath (1986, p. 379) notes that “[t]his is oversimplified but basically correct for positive utterances”. The reason for the qualification to ‘positive’ is because, under the scope of negation, nouns take the topic form (Heath, 1984, p. 163), as well as in interrogative and some other contexts (Baker, 2008a).

24 In Australianist linguistics, ‘nominal’ is generally used as a cover term for anything that can be referential, including demonstratives, adjectives and nouns (following Hale, 1983). Nonetheless, there are morphological differences between these categories in Wubuy. For example, like verbs, adjectives can take pronominal agreement prefixes and incorporate nouns, while nouns cannot do this.
It should also be noted that when demonstratives and other nominal modifiers take any overt markers for case, gender or noun class, these typically agree with the noun they are modifying via concord. This is demonstrated earlier in (2-19), where the demonstrative *ngarragi* ‘this (FEM)’ agrees with the FEMININE noun class of *yaag* ‘meat ant (FEM)’.

### 2.3.4. Grammatical functions

One part of investigating how argument realisation works in a language is establishing how thematic roles at argument-structure map onto grammatical functions, but before we can do this, we need an understanding of how that language encodes grammatical functions in the morphosyntax. In this thesis, the grammatical functions we are primarily concerned with are subject, primary object, secondary object, oblique, and adjunct. Table 2.10 below provides a summary of how these can typically be identified in Wubuy. However, in relation to nonhuman noun class prefixes, it should be noted that these are statistical tendencies and further research is needed on the distribution of prefix forms (Heath, 1984). Furthermore, although nonhumans usually take an oblique noun class prefix when they are an adjunct or oblique function, some exceptions to this are instruments, which tend to take no prefix, genitives, which tend to take a topic prefix form, and locatives, which tend to take either no prefix or a topic prefix form.
### Table 2.10. Encoding of grammatical functions in Wubuy

<table>
<thead>
<tr>
<th>grammatical function</th>
<th>licensed by the verb</th>
<th>verb agreement</th>
<th>case marking (if present)</th>
<th>nonhuman noun class prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>subject (SUBJ)</td>
<td>yes</td>
<td>subject</td>
<td>DIRECT</td>
<td>topic or zero</td>
</tr>
<tr>
<td>primary object (OBJ)</td>
<td>yes</td>
<td>primary object</td>
<td>DIRECT in transitive clauses; semantic case marker (e.g. DATIVE, GENITIVE) in ditransitive clauses</td>
<td>topic or zero</td>
</tr>
<tr>
<td>secondary object (OBJ₂)</td>
<td>yes</td>
<td>none</td>
<td>DIRECT</td>
<td>topic or zero</td>
</tr>
<tr>
<td>oblique (OBL₀)</td>
<td>yes</td>
<td>none</td>
<td>semantic case marker</td>
<td>usually oblique</td>
</tr>
<tr>
<td>adjunct (ADJ)</td>
<td>no</td>
<td>none</td>
<td>semantic case marker</td>
<td>usually oblique</td>
</tr>
</tbody>
</table>

With regard to terminology, this thesis deviates from former accounts of Wubuy by differentiating between primary and secondary objects, rather than direct and indirect objects. Dryer (1986, p. 808) defines a primary object as being equivalent to both the direct object in a transitive clause and the indirect object in a ditransitive clause. Secondary object, on the other hand, is equivalent to the direct object in a ditransitive clause (Dryer, 1986, p. 808). In Wubuy, object verb agreement follows the primary/secondary distinction (also referred to as ‘secundative’ alignment by Haspelmath (2005)), with primary objects receiving agreement ahead of secondary objects. For example, consider the data below, where the transitive verb ngu ‘x to eat y’ assigns object agreement to the argument corresponding to the ‘direct object’ (i.e. primary object) marrya ‘food (RESID)’ in (2-28), while the ditransitive verb yi ‘x to give y to z’ in (2-29) encodes the ‘indirect object’ (i.e. primary object) na-wirri-nyung ‘boy (3MSG)’ as object, rather than the ‘direct object’ (i.e. secondary object) muwaj ‘name (NEUT)’:

(2-28) ngaya nga-ngu-yii marrya
1Sg.PRO 1Sg/RESID-eat-PRES food
‘I (1Sg) am going to eat [some] food (RESID)’

(Baker, 2008a, p. 143)
(2-29) ana-muwaŋ anu-bani nganu-miŋ-gi-yn,
          NEUT.TOP-name   that.NEUT.ANAPH 1SG/3MSG-nom-name-give-FPOT
yuuguni adaba nuwa-yuŋ-gi-ung na-wirri-nyuŋ-guy
          that.DIST-DAT   then that.MSG.ANAPH.ABS M-child-SG-DAT

‘I (1SG) will give that name (NEUT) to that boy (3MSG)’
(Heath, 1980, p. 344)

Nonetheless, although verb agreement in Wubuy follows the primary/secondary object distinction, case marking generally does not, since the argument corresponding to ‘direct object’ usually takes unmarked direct case in both transitive and ditransitive clauses (as demonstrated by marrya ‘food (RESID)’ in (2-28) and muwaŋ ‘name (NEUT)’ in (2-29)), while the ‘indirect object’ often takes a semantic case marker (as seen in (2-29), where na-wirri-nyuŋ ‘boy (3MSG)’ takes the ALLATIVE-DATIVE case suffix -wuŋ ~ -guŋ). Therefore, case marking in Wubuy would appear to follow a direct/indirect object distinction (also referred to as ‘indirective’ alignment by Haspelmath (2005)).

Following these observations, it is clear that Wubuy does not strictly follow either a primary/secondary object distinction or a direct/indirect object distinction, and it instead has a mixed system of argument marking (this is also the case in the closely related languages Ngandi (Heath, 1978b, p. 42) and Enindhilyakwa (van Egmond, 2012, pp. 150-151, 282)). However, due to the ‘sloppy’ zero case discussed in the previous section, verb agreement is often a more reliable means of differentiating between multiple objects in a clause, which is why I have adopted the primary/secondary object approach in this thesis.

2.4. Argument realisation in basic clauses

Now that we have a general overview of the Wubuy language, we are ready to consider how argument realisation works in basic clauses. This will involve:

- determining the argument-structure of underived verbs (i.e. determining the types of thematic roles they license);
• determining how thematic roles map from a verb’s argument-structure onto grammatical functions (e.g. subject, primary object, secondary object, oblique, etc.);

• determining how grammatical functions are expressed in the morphosyntax (i.e. their syntactic category, case-marking, verb agreement, etc.).

As mentioned earlier, the fact that Wubuy does not use configurational phrase and clause structure to encode grammatical relations means that morphosyntactic phenomena, such as agreement prefixes and derivational affixes on verbs, as well as case markers and gender or noun class markers on nouns (if present), must be considered in order to understand how argument realisation works in Wubuy. Often, it is necessary to consider how all of these phenomena may be working together to express verbal arguments and grammatical relations, as it is often impossible to figure this out when considering them in isolation.

For the purposes of this work, I define a ‘basic clause’ as one whose verb has no morphosyntactic processes affecting its argument-structure. This, therefore, includes underived verb forms, and it excludes any verbs that have been affected by verb derivational processes or other morphosyntactic phenomena adding or suppressing arguments. There are (at least) three basic (i.e. underived) verbal clause types in Wubuy: intransitive, transitive and ditransitive. The following subsections will provide descriptions of each of these and present analyses of the argument realisation involved using the analytical approach outlined in §1.3.2.

2.4.1. Basic intransitive clauses

Basic intransitive clauses contain an underived intransitive verb that licenses a single core argument in subject function. In Wubuy, as in most languages, there are two kinds of intransitive verbs: unergatives, which license an agent, and unaccusatives, which do not. This distinction becomes
important when considering the distribution and constraints of derivational
processes, as we will see in later chapters. Nonetheless, unergative and
unaccusative verbs are undifferentiated in Wubuy morphology: both take the
same series of intransitive agreement prefixes and any overt subjects take
direct (unmarked) case. This is demonstrated below, where the verb
agreement prefixes are presented in bold:

(2-30) \textit{wingi-igi-yn}
\hspace{1cm} 3FDU,s-shout-PP
‘They (3FDu) shouted’
(Heath, 1980, p. 90)

(2-31) \textit{anubani \textit{ana-lhuuyyn,} \textit{wu-rabi-ini}}
\hspace{1cm} that.NEUT.ANAPH \hspace{1cm} NEUT.TOP-stringybark \hspace{1cm} NEUT.,fall-PC
‘That stringybark tree (NEUT), it fell’
(Heath, 1980, p. 118)

Above, both \textit{ada} ‘\(\chi\) to shout’ and \textit{rabi} ‘\(\gamma\) to fall’ agree with only a subject, which
suggests they are monovalent. As there are no derivational affixes attached
to the verb stem, these verbs must be underived intransitives. However,
based on the semantics of each verb, it would be expected that they license
different thematic roles. In (2-30), the subject initiates the action of shouting
and is both animate and volitional, which suggests it has been assigned the
thematic role of agent and that this is an unergative verb. In (2-31), on the
other hand, the subject undergoes the action of falling and is nonvolitional,
which suggests it is a patient and that this verb is unaccusative (see Figure
1.7 in §1.3.2.1 for definitions of thematic roles used in this thesis).

Analyses of the argument realisation in each of the examples above are
presented below. In each case, the verb licenses only one argument at
argument-structure, which means that this argument automatically qualifies
as the highest ranked on the thematic hierarchy and is mapped to subject (see
Figure 1.9 in §1.3.2.1 for mapping rules). In the morphosyntax, this results in
the verb taking an intransitive prefix that agrees with the person, gender and
number of the subject in (2-30) (since it is human) and with the noun class of
the subject in (2-31) (since it is nonhuman). In (2-31), we also see the subject occurring as independent nominals anubani ‘that (NEUT.ANAPH)’ and lhuuyn ‘stringybark tree (NEUT)’, both of which take DIRECT case and with the latter also taking the topic form of the NEUTER noun class prefix (ana-), which is consistent with the realisation of subjects in Wubuy (see Table 2.10 in §2.3.4).

Thus, the analyses above demonstrate that although underived unergative and unaccusative verbs behave the same in the morphosyntax (i.e. their arguments are both agreed with as intransitive subject), they are differentiated at argument-structure (i.e. unergatives license an agent, whereas unaccusatives do not).

2.4.2. Basic transitive clauses

Basic transitive clauses contain an underived transitive verb that licenses two core arguments in subject and primary object functions, as demonstrated by the following example:

(2-32) mana-nuga,  nirrima-lalaga-a VEG.TOP-stone,   1PL/VEG.-lift-PC

‘We (1Pl) were lifting the stone (VEG)’
(Heath, 1980, p. 507)
Here, the verb *lalaga* ‘x to lift y’ directly licenses two thematic roles: x, which is an agent by virtue of its initiation of the action of lifting, and y, which is a theme that undergoes a change in position by being lifted (see Figure 1.7 in §1.3.2.1 for a discussion of thematic roles). This is reflected in the verb agreement prefix, which agrees with a FIRST-PERSON PLURAL subject and a primary object with VEGETABLE noun class. As there are no derivational affixes attached to the verb stem, the verb in (2-32) serves as an example of an underived transitive.

An analysis of the argument realisation in this example is presented below, where it can be seen that the two thematic roles at argument-structure, agent and theme, are ranked according to the thematic hierarchy presented earlier in §1.3.2.1 (see Figure 1.8). As the agent is the highest ranked argument, it is mapped to subject, leaving the theme to be mapped to primary object since it is the argument with the second highest rank (see Figure 1.9 in §1.3.2.1 for mapping rules). In the morphosyntax, this results in the verb taking a transitive prefix that agrees with the person and number of the human subject and the noun class of the nonhuman primary object. The primary object also occurs as the independent nominal *nuga* ‘stone (VEG)’, which takes the topic form of the VEGETABLE noun class prefix (*mana-*) and no case marker, and this is consistent with the realisation of primary objects in transitive clauses (see Table 2.10 in §2.3.4).

**Figure 2.10. Analysis of argument realisation with transitive verb in (2-32)**

<table>
<thead>
<tr>
<th><em>lalaga</em> ‘x to lift y’</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJ</td>
<td>Obj</td>
</tr>
<tr>
<td>DATA:</td>
<td></td>
</tr>
<tr>
<td>[mana-<em>nuga</em>], <em>nirrima-lalaga-a</em></td>
<td></td>
</tr>
<tr>
<td>VEG.TOP:stone 1Pl/VEG -.lift-PC</td>
<td></td>
</tr>
<tr>
<td>‘We, (1Pl) were lifting the stone, (VEG)’</td>
<td></td>
</tr>
</tbody>
</table>

### 2.4.3. Basic ditransitive clauses

Basic ditransitive clauses contain an underived ditransitive verb that licenses three core arguments in subject, primary object and secondary object
functions. Heath (1984, p. 347) remarks that there are only a few underived verbs in Wubuy that directly license three arguments. One of these is presented below, with the pronominal agreement presented in bold:

(2-33)  
\[
\begin{array}{llll}
\text{ana-muwaj} & \text{anubani} & \text{nganu-mij-gi-yn}, \\
\text{Neut.Top-name} & \text{that.Neut.Anaph} & \text{1SG/3MSG имени-name-give-FPOT} \\
\text{yuuguni} & \text{adaba} & \text{nuubagiyung} & \text{na-wirri-nyung-guy} \\
\text{that.Dist.Dat.Adv} & \text{then} & \text{that.MSG.Anaph.Abs} & \text{M-child-SG-DAT} \\
\end{array}
\]

'I (1SG) will give that name (Neut) to that boy (3MSG)'  
(Heath, 1980, p. 344)

Above, the irregular verb \( yi \) ‘to give \( y \) to \( d \)’ licenses three arguments: an agent \( (x) \) which initiates the action of giving, a theme \( (y) \) which undergoes a change in position via the action of giving (i.e. transfer), and a goal \( (d) \) toward which the action of giving is directed. However, although the semantics of the verb tells us there are three core arguments, only two of these are encoded via verb agreement: the FIRST-PERSON SINGULAR agent and the THIRD-PERSON MALE SINGULAR goal, which receive subject and primary object agreement respectively. As there are no derivational affixes attached to the verb stem, and as one of the primary object nominals, \( na-wirri-nyung \) ‘boy (3MSG)’, takes a semantic case marker (which in this case is the ALLATIVE-DATIVE case suffix \( -wuy \sim -guy \)), the verb in (2-33) serves as an example of an underived ditransitive.

Figure 2.11 below presents an analysis of the argument realisation in this example. In the argument-structure, the agent, goal and theme are ranked according to their position on the thematic hierarchy (see Figure 1.8 in §1.3.2.1). The agent is mapped to subject as the highest ranked argument and the goal is mapped to primary object as the second highest, leaving the theme to be mapped to secondary object (see Figure 1.9 in §1.3.2.1 for mapping rules). In the morphosyntax, this results in the verb taking a transitive prefix that agrees with the person and number of the subject and the person,

\footnote{In this example, \( yuuguni \) is a demonstrative adverb referring to the goal (more specifically, the recipient) argument of ‘give’ (Heath, 1984, p. 304).}
number and gender of the primary object (as both are human). The primary object also occurs as the independent nominals *nuubagiung* ‘that (MSG.ANAPH.ABS)’ and *na-wirri-nyung* ‘boy (3MSG)’, the latter of which takes the ALLATIVE-DATIVE case suffix -wuy ~ -guy, and as noted above, this is consistent with the realisation of primary objects in ditransitive clauses (see Table 2.10 in §2.3.4). Lastly, the secondary object, which is unmarked on the verb, occurs as the independent nominals *muwaj* ‘name (NEUT)’ and *anubani* ‘that (NEUT.ANAPH)’, both of which have no overt case marking and take the topic form of nonhuman noun class marking, and this is consistent with the realisation of secondary objects in Wubuy (see Table 2.10 in §2.3.4).

![Figure 2.11. Analysis of argument realisation with ditransitive verb in (2-33)](image)

2.5. Conclusion

In this chapter, I have provided a brief overview of the Wubuy language, including its morphosyntactic characteristics and how these can provide an insight into argument realisation in basic clauses. With this background knowledge, we are now ready to move on to constructions that can affect argument realisation in various ways, beginning with the addition of new core arguments in Part 2.
Part 2

introducing new core arguments

In the previous chapter, we saw how argument realisation with basic underived verbs works in Wubuy. For example, the ways in which intransitive, transitive and ditransitive verbs differ with regard to the thematic roles they license were demonstrated, as was the way in which they are mapped onto grammatical functions and expressed in the morphosyntax.

In Part 2 of this thesis, we will consider how all of these factors may influence, or be influenced by, the introduction of a new core argument via one of two different construction types: causative and affectedness constructions. Although each of these has been discussed in the crosslinguistic literature, often the research focus has been predominantly on morphological derivations, particularly when it comes to Australian and polysynthetic languages. This has indeed been the case for Wubuy, with Heath (1984, pp. 393-395, 377-381) identifying only verb derivations in relation to causative and affectedness constructions in his grammar of the language (which he refers to as the ‘CAUSATIVE’ and ‘BENEFACTIVE’ respectively). However, Heath’s (1984) description of each verb derivation is brief, and he does not have much to say in relation to patterns in their distribution or any constraints that may influence this; that is, the contexts in which these derivations are acceptable or unacceptable, as well as the reasons for any difference in acceptability, has remained unclear. Furthermore, as noted by many in the crosslinguistic literature (e.g. see Bauer, 2001, p. 126; Plag, 1999, pp. 11-12; Song, 2013b), it is rare for morphological derivational processes such as these to be completely productive, so we would expect Wubuy to also have other methods for expressing causation and affectedness.

Part 2 of this thesis addresses these issues in several ways. Firstly, by considering the transitivity and semantic subclass of input verbs and
comparing this to the acceptability of each verb derivation and the effect they have on argument realisation, a number of distributional patterns are observed in Wubuy that allow certain constraints and lexical rules to be proposed. For example, it is found that the CAUSATIVE derivation can have three different functions depending on the input verb: a comitative function available to intransitive motion verbs, a direct causative function available to agentless verbs, and a restricted indirect causative function available to verbs that license an agent (see §3.3.1 for further details). In relation to the AFFECTEE APPLICATIVE, on the other hand, it is found that it introduces a goal or source argument with certain emotion, speech, attention and transfer verbs, but with all other verbs it introduces an affectee argument, which is interpreted as an alienable external possessor of another argument when the input verb has a valency higher than one (see §4.3.2 for further details).

Secondly, by extending the focus of enquiry past verb derivations to include other methods of expressing causation and affectedness, it is found that Wubuy does, in fact, have additional means of expressing these notions, such as the use of periphrastic indirect speech and ‘make’ constructions to express causation and the use of purposive constructions to express affectedness (see §3.3.2 and §4.3.3). As we will see, some of these constructions are relatively underdescribed in the broader Australian and polysynthetic contexts, which demonstrates the benefits of adopting a broader approach to the forms considered when investigating such constructions in these languages.

In-depth investigations of causative and affectedness constructions in Wubuy are provided in the following chapters. Each chapter begins with a brief overview of relevant definitions and generalisations observed in the crosslinguistic and Australian literature, which is then followed by discussions and analyses of the Wubuy data.
Chapter 3: Causative constructions

3.1. Introduction

Causation is often acknowledged as a fundamental cognitive category, as “every human language seems to possess a means of expressing the notion of causation” (Shibatani, 2001a, p. 1). This means that not only is any grammatical description incomplete without a discussion of causative constructions, but an investigation into expressions of causation can also lead to interesting insights about language universals and crosslinguistic variation (Shibatani, 2001a, p. 1). However, although the last thirty years have seen causatives and causation as a recurrent topic of interest within linguistics research, the focus has been largely on morphological methods of expressing causation, with many language descriptions discussing “only the nonperiphrastic [i.e. morphological] causative without even indicating whether or not a periphrastic [i.e. syntactic] causative construction is in use as well” (Song, 2013a, 2013b). This has indeed been the case within the context of Australian and polysynthetic language description, where the focus has been predominantly on morphological causative forms, often with little (if any) consideration of whether a given language also utilises syntactic strategies.

As previously mentioned, the only discussion of causatives in relation to Wubuy (aside from my own recent work in this area (see Horrack, 2014)) is Heath’s (1984, pp. 393-395) description of a morphological derivational process. This process is demonstrated in the following data, where the CAUSATIVE derivational root -jga ~ -jgi is presented in bold:

(3-1) nirri-madha-madharra-ngi  nii-rabi-jga-a
1PL/NEUT-RDP-chop-PC  1PL/NEUT-fall.down-CAUS-PC
‘We (1Pl) chopped it [tree (NEUT)] and made it fall down’
(Heath, 1980, p. 467)
In each of the examples above, the root -jga ~ -jgi attaches to an intransitive verb to derive a transitive morphological CAUSATIVE by introducing a causal agent, with the verb rabi ‘y to fall down’ becoming rabi-jga ‘x to make y fall down’ in (3-1) and the verb wanggirra ‘y to wake up’ becoming wanggirrangi-jga ‘x to make y wake up’ in (3-2).

However, as noted earlier, Heath’s (1984, pp. 393-395) description of the CAUSATIVE verb derivation is brief, and constraints relating to its distribution have remained unclear, such as the types of verbs to which it can or cannot apply. Nonetheless, through a re-examination of the Wubuy corpus and the collection of new data, several distributional patterns can be observed regarding the transitivity and semantic subclass of the input verb and the way in which this influences the effect of the CAUSATIVE derivation on argument realisation. It is found that the CAUSATIVE derivation can have: a direct causative function with unaccusative input verbs (as in (3-3)); an indirect causative function as a restricted and uncommon option for verbs that already license an agent (as in (3-4)); and a comitative function with intransitive motion input verbs, where a comitative referent is introduced as primary object (as in (3-5)). The following data demonstrates each of these functions, where (3-3) has been reproduced from (3-1):

(3-3) nirri-madha-madharra-ngi nii-rabi-jga-a
1PL/NEUT.-RDP-chop-PC 1PL/NEUT.-fall.down-CAUS-PC
‘We (1Pl) chopped it [tree (NEUT)] and made it fall down’
(Heath, 1980, p. 467)

(3-4) ngunu-warranggi-jga-yn na-wulmurr-inyung ama-madhalag-guy
3FSG/3MSG.-look-CAUS-PP M-boy-HUM.SG VEG.OBL-beach-ALL
‘She (3FSG) indirectly caused the boy (3MSG) to look at the beach (VEG)’
(e.g. by pointing and telling him to look)
(S2+S5 / C: (A-2) / 20140304)
(S2 / E1r / 20140303)
In each of the examples above, the CAUSATIVE root \( jga \sim jgi \) has attached to an intransitive verb stem. In (3-3), this intransitive verb is unaccusative, \( rabi \) ‘y to fall’, and the CAUSATIVE derivation increases valency by introducing a FIRST-PERSON PLURAL causal agent as subject that is understood as directly causing the pre-existing NEUTER patient argument to fall (i.e. by chopping it down). In (3-4), on the other hand, the intransitive input \( warrangga \) ‘x to look’ already licenses an agent, and a sense of indirect causation is instead expressed. Lastly, in (3-5), the intransitive verb \( ngama \) ‘x to swim’ belongs to the semantic subclass of motion verbs, which allows the CAUSATIVE derivation to instead have a comitative function with the interpretation ‘x to swim with k’, where the comitative referent \( yiwanggu-nyung \) ‘old man (3MSG)’ has been introduced as primary object and is interpreted as being taken along by the pre-existing agent \( mani-nyung \) ‘woman (3SG)’ while she swims. As I treat this function of the CAUSATIVE derivation as comitative and not causative, the majority of its discussion and analysis is presented later in Chapter 6 alongside the other comitative constructions in Wubuy.

Something else that has similarly remained unclear is the possibility for Wubuy to express causation using methods other than the CAUSATIVE verb derivation. However, by investigating how Wubuy speakers express causation in contexts where morphological causatives are dispreferred or unacceptable, it has been discovered that Wubuy does, in fact, have syntactic mechanisms for expressing causation, as demonstrated in the data below:
Examples (3-6) and (3-7) above demonstrate two different periphrastic constructions that Wubuy speakers can use to express causation. The construction in (3-6) consists of an indirect speech construction, which appears to be the preferred method of expressing causation when an input verb already licenses an agent. Here, the derived verb yami-jga ‘x to say (something) to d’ introduces a ‘causing event’ such that its subject is the causal agent and its primary object is the goal/causee, the latter of which is coreferential with the agent of the ‘caused event’ represented by juluba ‘x to hide y’ (that is, d in yami-jga is coreferential with x in juluba). The construction in (3-7) introduces a ‘causing event’ in much the same way, except that this time the causal predicate is maandha ‘w to make x’. As mentioned earlier and discussed in greater detail in §3.2.2, discussions of syntactic expressions of causation are often absent from language descriptions (Song, 1996, 2013b), particularly for polysynthetic languages but also in the Australian and crosslinguistic contexts. This leaves us with the question of whether periphrastic causatives truly do not exist in these languages or if they would actually be discovered during a broader investigation of causation, as is the case for Wubuy (as well as some other Australian and polysynthetic languages sampled by Song (1996, 2013b)).

Lastly, I find that in Wubuy, ‘direct causation’ is typically expressed with the morphological derivation and ‘indirect causation’ with a periphrastic construction, and this supports observations in the literature that
crosslinguistically, a semantic continuum of causation typically reflects a pattern of grammaticalisation/lexicalisation (see Comrie, 1981; Jones, 1996; Nolan, 2012; Shibatani, 1976b; Shibatani & Pardeshi, 2001).

Before delving too much further into this, however, it is necessary to clarify what is meant by ‘causation’ and the ‘causative construction’, as well as to give a brief overview of the tendencies observed about causative constructions in the crosslinguistic, Australian and polysynthetic contexts.

3.2. Brief overview: definitions and tendencies

Due to considerable variation in how causation is expressed across the world’s languages, crosslinguistic accounts often struggle to provide a general definition of causative constructions according to formal characteristics. Instead, this challenge is often addressed by defining them in relation to the kind of situation or event they express. For example, Shibatani (1976a, pp. 1-2) proposes that the following two conditions must be met for the combination of two events to constitute a causative situation:

(3-8) Shibatani’s (1976a) conditions for the ‘causative situation’

a. The relation between the two events is such that the speaker believes that the occurrence of one event, the “caused event,” has been realized at \( t_2 \), which is after \( t_1 \), the time of the “causing event”.

b. The relation between the causing and the caused event is such that the speaker believes that the occurrence of the caused event is wholly dependent on the occurrence of the causing event; the dependency of the two events here must be to the extent that it allows the speaker to entertain a counterfactual inference that the caused event would not have taken place at that particular time if the causing event had not taken place, provided that all else had remained the same.

Comrie (1981, p. 158) likewise claims that “[a]ny causative situation involves two component situations, the cause and its effect (result)”, and Song (2013a) similarly defines the causative construction as:

a linguistic expression which denotes a complex situation consisting of two component events... (i) the causing event, in which the causer does or initiates something; and (ii) the caused event, in which the causee carries out an action, or undergoes a change of condition or state as a result of the causer's action (Song, 2013a).
As a demonstration of this concept, consider the following Wubuy data, which has been reproduced from (3-2):

(3-9)  alarmclock    ngangi-wanggirrangi-jiga-na    ngaya
         alarm.clock(English)   FEM/1SG.wake.up-CAUS-PRES  1SG.PRO

‘The alarm clock (FEM) makes me (1SG) wake up’
(S2 / E1 / 20140228)
(S3+S4 / E1, / 20140303)

Here, the causing event is the alarm clock going off, with the resulting event being that I woke up. The causative situation then is that the alarm clock made me wake up, which is what we see being expressed in (3-9). According to Comrie (1981, p. 158), the cause and the effect both constitute their own individual micro-situations, but together they form a single complex macro-situation, ‘the causative situation’.

Crosslinguistically, constructions that express this kind of causative situation have often been formally classified into three main types: lexical, morphological, and syntactic. These are usually conceptualised as points along a continuum, as “[a]lthough there are many instances in languages that instantiate these ideal types, or come very close to doing so, there are also many constructions that fall between the adjacent types of the continuum.” (Comrie, 1981, p. 161). Furthermore, the distribution of causative forms within a given language is often predictable once a correlation between this formal continuum and the semantic continuum described in the following subsection is taken into account (see Comrie, 1981; Jones, 1996; Nolan, 2012; Shibatani, 1976b; Shibatani & Pardeshi, 2001).

3.2.1. Direct causation vs indirect causation

The semantic notion of causation is often conceptualised as a continuum with the subtypes ‘direct causation’ and ‘indirect causation’ at each end, and crosslinguistically, it has been observed that this semantic continuum typically reflects a pattern of grammaticalisation/lexicalisation (see Comrie, 1981; Jones, 1996; Nolan, 2012; Shibatani, 1976b; Shibatani & Pardeshi, 2001). The primary defining feature of each subtype is “the spatiotemporal
configuration of the entire causative event” (Shibatani & Pardeshi, 2001, p. 90). Beginning with direct causation, this is typically conceptualised as a single event involving an agentive causer and a patientive causee. Essentially, “[w]hen the causee is patientive, the execution of the caused event is wholly dependent on the causer’s action”, which generally “entails a spatiotemporal overlap of the causer’s activity and the caused event, to the extent that the two relevant events are not clearly distinguishable” (Shibatani & Pardeshi, 2001, p. 89). Consider the following Wubuy data:

\begin{verbatim}
(3-10)  manjarr      nganggu-wagiwa-ng    lhuuyn
       branch.with.leaves 1SG/NEUTr-break-FPOT   stringybark

       nganggu-wagiwa-ng
       1SG/NEUTr-break-FPOT

'I (1S) will break off some branches (NEUT), I will break off stringybark (NEUT)'

(Heath, 1980, p. 288)
\end{verbatim}

Here, the transitive verb *wagiwa* ‘x to break (off) y’ demonstrates an example of a lexical causative, as the sense of causation is included in the verb’s lexical semantics, rather than being introduced by a morphological derivation or a syntactic construction. That is, the verb licenses an agent (which is the FIRST-PERSON SINGULAR referent) and a patient (which is *manjarr* ‘branch with leaves (NEUT)’ in the first instance and *lhuuyn* ‘stringybark (NEUT)’ in the second), and the agent’s activity is interpreted as causing a change of state in the patient. Furthermore, the FIRST-PERSON SINGULAR causal agent’s activity of breaking off the patient (branches/stringybark) is not clearly distinguishable from the caused event of the patient being detached from the tree, and this spatiotemporal overlap indicates this is also an example of direct causation.

In comparison to this, indirect causation typically expresses a situation “involving two agentive participants, one an agentive causer and the other an agentive causee” (Shibatani & Pardeshi, 2001, p. 89). This often results in a conceptualisation of indirect causation as consisting of two sub-events, a causing event and a caused event, because “when the causee is an agent with its own volition, a degree of autonomy is accorded to the caused event”
Furthermore, as “the caused event has its own agent, it may have its own spatial and temporal profiles distinct from those of the causing event” (Shibatani & Pardeshi, 2001, p. 89). For example, consider the Wubuy data below:

\[(3-11) \quad \text{ngarra-man}i\text{-nyung} \quad \text{ngunu-ma}ndh-i \quad \text{ni-garraj}i\text{-i} \]
\[\text{F-woman-HUM.SG} \quad \text{3FSG/3MSG, make-PRES} \quad \text{3MSG, jump-PRES} \]

‘The woman (3FSG) makes him (3MSG) jump’ (e.g. by telling him to)

\[(S1 / E1 / 20140328)\]

Above we see an example of a syntactic causative where the expression of the causative situation occurs across two clauses. Here, the causing event is expressed by \textit{maandha} ‘\textit{w} to make \textit{x}’ while the caused event is represented by the intransitive verb \textit{garraja} ‘\textit{x} to jump’, which licenses an agent. Due to the agentivity and interpreted volitionality of the \textsc{third-person male singular} causee (i.e. the referent that jumps), the causing event is somewhat distinguishable from the caused event. That is, the causal agent \textit{mani-nyung} ‘woman (3FSG)’ is interpreted as doing some kind of activity (i.e. telling the causee to do something) after which the agentive causee jumps. Thus, due to the relative discreteness of the causing and caused events, this data example is more typical of indirect causation.

Considering the above, it is perhaps unsurprising that crosslinguistically, direct causation is more aligned with unanalysable lexical units while indirect causation is generally expressed with productive syntactic constructions (see Comrie, 1981; Jones, 1996; Nolan, 2012; Shibatani, 1976b; Shibatani & Pardeshi, 2001). That is, as direct causation is usually conceptualised as a single event, we might expect single clause constructions to be a more typical method of expression. Along the same lines, as indirect causation is usually interpreted as comprising multiple events, this would seem to lend itself to being expressed by a multi-clause syntactic construction. As discussed further in §3.2.2 and §3.3.2, this crosslinguistic tendency for the formal continuum of lexical > syntactic causatives to reflect the semantic continuum of direct > indirect causation appears to be underutilised in
Australian and polysynthetic language descriptions (and crosslinguistically more generally): while Song (1996, 2013a, 2013b) identifies many Australian and polysynthetic languages that have no descriptions of periphrastic expressions of causation, some of these languages (including Wubuy) have since been described as having syntactic causatives that are typically used to express indirect causation (e.g. the Australian dialects Pitjantjatjara and Yankunytjatjara (Pyle, 2015) and the polysynthetic languages Cora (Soto, 2002, p. 233), Guaraní (Velázquez-Castillo, 2002, p. 531) and Macushi (Dixon, 2000, p. 36, citing Abbott, 1991, p. 40)). This suggests that broader investigations of causation, where the expression of indirect causation is considered more specifically, could yield the periphrastic causative constructions that Song (1996, 2013a, 2013b) noted as being underrepresented in his language sample.

3.2.2. Predominant focus on morphological causatives

The overwhelming focus on morphological derivations in the crosslinguistic literature on causation is demonstrated in Song (1996, 2013a, 2013b), who takes a sample of 310 languages from around the world and investigates the types of causative constructions they are described as having. He finds that out of these 310 languages, 278 (about 90%) were identified as having a morphological causative, as shown in the map below:\textsuperscript{26}

\textsuperscript{26} All maps based on Song (2013a, 2013b) have been generated via the Interactive Reference Tool available from the World Atlas of Language Structures Online (Dryer & Haspelmath, 2013).
However, out of these 278 languages, only 92 (about 33%) were also identified as having a syntactic causative. This is represented below:

When we zoom in on the Australian context, the tendencies in language description follow those observed crosslinguistically: out of the 28 Australian languages sampled, 24 (about 86%) were described as having a morphological causative, and out of these 24, only 8 (about 33%) also had a syntactic causative identified. When we look at polysynthetic languages, the number

27 Australian languages sampled by Song (2013a, 2013b) are: Alyawarra, Diyari, Djaru, Gooniyandi, Guugu Yimidhirr, Kalkatungu, Kayardild, Mangarrayi, Margany, Martuthunira, Maung, Ngalakgan, Ngiyambaa, Nunggubuyu (i.e. Wubuy), Paakantyi,
of languages identified with a syntactic causative drops even further: out of 76 polysynthetic languages sampled, 73 (about 96%) were described as having a morphological causative, and out of these 73, only 12 (about 16%) also had a syntactic causative identified. ²⁸ The graph below summarises these observations:

Figure 3.1. Crosslinguistic comparison of syntactic causatives in descriptions of languages with a morphological causative (based on Song, 2013a, 2013b)


²⁸ I have identified languages sampled by Song (2013a, 2013b) as polysynthetic based on their discussion in volumes such as Fortescue, Mithun and Evans (2017b), as well as their identification as such in individual language descriptions. Due to varying definitions of polysynthesis within the general literature, it is likely that certain accounts would exclude some languages that I have included, or include others that I have not. However, even if there are a few differences, I believe this would not dramatically change the observations made here. Languages in Song (2013a, 2013b) I have identified as polysynthetic are: Abkhaz, Ainu, Alamblak, Apurinã, Aymara (Central), Biloxi, Blackfoot, Burushaski, Cahuila, Campa (Aixinca), Carib, Carrier, Choctaw, Chukchi, Comanche, Coos (Hanis), Cora, Cree (Plains), Cuiba, Fijian, Greenlandic (West), Guarani, Haida, Hixkaryana, Huitoto (Minica), Kalispel, Karok, Ket, Kiowa, Koasati, Kutenai, Lakhota, Macushi, Makah, Mapudungun, Maricopa, Menomini, Miwok (Southern Sierra), Mixtec (Chalcatongo), Mundari, Nahuatl (Tetelcingo), Navajo, Nez Perce, Ngalakan, Nivkh, Nunggubuyu (i.e. Wubuy), Ojibwa (Eastern), Oneida, Passamaquoddy-Maliseet, Paumari, Pawnee, Pipil, Pomo (Southeastern), Sahaptin (Northern), Sarcee, Shipibo-Konibo, Shuswap, Slave, Sora, Squamish, Tiwi, Tlingit, Tonkawa, Tsimshian (Coast), Tümpisa Shoshone, Tunic, Tuscarora, Uruñá-Kaapor, Wichi, Wichita, Yagua, Yimas, Yuchi, Yup’ik (Central), Yupik (Siberian) and Zuni.
So why is it so interesting that about 67% of Australian languages and about 84% of polysynthetic languages which are described as having a morphological causative are not also identified as having a syntactic causative? As previously mentioned, morphological derivational processes are rarely completely productive (e.g. see Bauer, 2001, p. 126; Plag, 1999, pp. 11-12; Song, 2013b), which means that “most of the languages shown as employing only the morphological type may also have other means of expressing causation” (Song, 2013a). For example, Dixon (2002, p. 204) notes that most Australian languages only allow intransitive verbs to undergo morphological causative derivations, so we would expect them to have another means of expressing causative situations for transitive verbs. Fortescue, Mithun and Evans (2017a, p. 3) also note that languages with polysynthetic constructions usually offer speakers analytic alternatives, meaning that most of the polysynthetic languages listed as having only a morphological causative by Song (2013a) should also be able to express causation with some kind of periphrastic construction.

As it turns out, Wubuy, which is both Australian and polysynthetic, is one of the languages identified by Song (1996, 2013a, 2013b) as having just a morphological causative (based on Heath, 1984). However, as noted earlier (and discussed in greater detail in §3.3.2), Wubuy actually does have syntactic methods of expressing causation, and these are preferred in contexts of ‘indirect causation’, as opposed to when a speaker wishes to express a sense of ‘direct causation’, where the morphological causative is typically used. This kind of discovery has also been made in relation to other languages that were listed in Song’s (2013a, 2013b) database as having only morphological causatives (see §3.3.2 for further details), which supports the observations above that languages with a morphological causative will usually also have a syntactic means of expressing causation.
3.3. **Causative constructions in Wubuy**

As was already demonstrated in §3.2.1, Wubuy exhibits all three of the main formal causative categories: lexical, morphological and syntactic. As lexical expressions of causation in Wubuy are essentially transitive verbs in their underived form, I assume that they can be accounted for by using the kind of analysis presented in §2.4.2, so I will not discuss them in more detail here.

With regard to morphological causatives, Wubuy has two verb derivational processes: the root *jga ~ jgi*, as well as a process of TAM paradigm shift, both of which are described briefly by Heath (1984, pp. 393-395). I find that these are most typically used to express direct causation with agentless input verbs, although there are a few examples of them being used to express indirect causation as a restricted option. There are also two syntactic causatives that I have identified in Wubuy: a sequential causative that uses the verb *maandha ‘w* to make *x*’ and a purposive causative that uses indirect reported speech, both of which are preferred over morphological causatives for expressing situations of indirect causation.\(^{29}\)

The following subsections will describe the Wubuy morphological and syntactic constructions in more detail, demonstrating how a consideration of semantic notions such as direct and indirect causation can assist in identifying patterns and constraints in the distribution of causative forms, as well as lead to the documentation of previously undescribed constructions, such as syntactic causatives.

3.3.1. **Morphological causative constructions**

Morphological causatives are generally defined as single clause constructions where a sense of causation is added via a morphological verb derivation (e.g. see Comrie, 1981, p. 160; Dixon, 2000, pp. 33-34; Song, 1996, pp. 21-26; Song, 2013a). Also, as morphological causatives typically introduce a causal agent

\(^{29}\)These sequential and purposive subtypes are from Song (1996, 2013b). See section 3.3.2 for further details.
as subject, their valency is usually one higher than that of the corresponding non-causative (Comrie, 1981, p. 168). Following Song (2013a), I use these two additional defining characteristics to assist in determining whether or not a particular derivation constitutes a morphological causative construction: firstly, the causer must have a status that is more grammatically ‘prominent’ than the causee (e.g. the causer is subject, while the causee is object); and secondly, “the expression of the causer’s action, be it an affix or a separate verb, should be without specific meaning” (Song, 2013a). That is, it should only express the notion of causation (Song, 2013a).

With regard to Wubuy, there are two derivational processes that have functions fitting the definition of morphological causatives outlined above. The first uses the root \(-jga \sim -jgi\) while the second involves TAM paradigm shift. Heath (1984, pp. 393-394) describes these as most commonly taking intransitive input verbs and introducing a causal/permissive agent as subject. For example, first consider the examples below:

(3-12) \(\text{anubani ana-lhuuyn, wu-rabi-ini}\)
\(\text{that.NEUT,ANAPH NEUT.TOP-stringybark NEUT,\text{-}fall\text{-}down-PC}\)
‘That stringybark (NEUT), it fell down’
(Heath, 1980, p. 118)

(3-13) \(\text{bagu wu-burra-ngayn}\)
\(\text{there.ANAPH NEUT,\text{-}sit-PP}\)
‘It (NEUT) sat there’
(unverified constructed example, based on Heath, 1984)

In (3-12) and (3-13) we have the underived intransitive verbs \(\text{rabi ‘y to fall down’ and burra ‘y to sit’}\) respectively, both of which license a single argument. This is evidenced by the intransitive verb agreement prefix \(\text{wu-}\), which indicates subject agreement with \(\text{lhuuyn ‘stringybark (NEUT)’}\) in (3-12) and with a \text{NEUTER} referent in (3-13).

Now compare these to the data below, where we can see two different morphological methods being used to express a causative situation. Example (3-14) has been reproduced from (3-1):
(3-14) nirri-madha-madharra-ngi nii-rabi-jga-a
1PL/NEUT.-RDP-chop-PC 1PL/NEUT.-fall.down-CAUS-PC
‘We (1PL) chopped it [tree (NEUT)] and made it fall down’
(Heath, 1980, p. 467)

(3-15) bagu niwu-burri-yn ana-amadharrngga
there.ANAPH 3MSG/NEUT.-sit.CAUS-PP NEUT.TOP-barracuda
‘He (3MSG) put a barracuda (NEUT) down there’ (lit. he caused it to sit there)
(Heath, 1980, p. 79)

In (3-14), a morphological causative is created via the derivational root -jga, which attaches to the same verb from (3-12), rabi ‘y to fall down’, to create rabi-jga ‘x to cause y to fall down’. In (3-15), on the other hand, the verb from (3-13), burra ‘y to sit’, becomes a morphological causative through TAM paradigm shift. Recall that in Wubuy, every verb falls into a specific verb class that determines the form of its TAM suffixes (see Heath (1984, pp. 407-411) for details). For example, the intransitive verb burra ‘y to sit’ belongs to the NGA\textsubscript{1} verb class. This means that in its underived form it takes the suffix -ngayn to indicate past punctual TAM, which is what we see in (3-13). Heath (1984, p. 393) notes that rather than taking the derivational root -jga ~ -jgi, some intransitive verbs from the NGA\textsubscript{1} verb class shift their inflectional suffixation paradigm to that of the A\textsubscript{2} verb class to become a derived CAUSATIVE.\textsuperscript{30} This is what we see happening in (3-15), where the intransitive burra ‘y to sit’ from the NGA\textsubscript{1} verb class undergoes TAM paradigm shift to become burra ‘x to put y (somewhere)’ of the A\textsubscript{2} verb class. This shift in TAM paradigm is evidenced by the use of the suffix -yn rather than -ngayn to indicate past punctual TAM and is comparable to English alternates such as fall ~ fell (i.e. ‘y to fall’ vs ‘x to make y fall’).

Thus, in both (3-14) and (3-15) we see causation expressed via morphological means: the former via the derivational root -jga ~ -jgi and the latter via TAM paradigm shift. In each case, this morphological process increases the valency

\textsuperscript{30} Note that the derivational suffixes -jga and -jgi derive verbs of the A\textsubscript{1} and I\textsubscript{1} TAM classes respectively (Heath, 1984, p. 393), so to some extent they could also be described as involving TAM paradigm shift. The key difference between these morphological processes is that one uses an overt derivational suffix while the other does not.
of an intransitive verb by introducing a causal agent as subject, as indicated through the use of a transitive rather than intransitive verb agreement prefix. Furthermore, the input verb’s original argument (described by Heath (1984, p. 394) as “the underlying downstairs subject”) is interpreted as the causee and reassigned to primary object function (Heath, 1984, p. 394).

As previously mentioned, these morphological causative processes received only brief descriptions in Heath (1984, pp. 393-395), and their distribution and constraints have remained relatively unclear. However, by considering the argument-structure and semantic subclass of input verbs and comparing this to how they interact with the morphological causative derivations, a number of distributional patterns can be observed that allow us to identify certain constraints which can be captured formally via lexical rules.

3.3.1.1. Direct causative function

The first causative function of the morphological derivations presented above (i.e. derivational root -jga ~ -jgi and TAM paradigm shift) is one that is used to express direct causation, and this is available to verbs that do not already license an agent. This is by far the most productive function of these derivations, with the following examples representing just a small sample of them occurring in my data. Below, (3-20) has been reproduced from (3-2):

(3-16)  
\[ \text{wangi-walarrangi-jga-yn} \quad \text{warra-landhurr} \]  
3FSG/COLL-\_be.full-CAUS-PP \quad \text{COLL.Top-dog}  

‘She (3FSG) makes the dog (COLL) full’ (i.e. by feeding it)  
(S1 / E1 / 20140331)

(3-17)  
\[ \text{ngiwu-bulbayi-jga-yn} \]  
3FSG/NEUT\_boil-CAUS-PP  

‘She (3FSG) boils it (NEUT)’ (e.g. water)  
(S1 / E1 / 20140317)

(3-18)  
\[ \text{ngunu-ngayngayi-jga-yn} \]  
3FSG/3MSG\_breathe-CAUS-PP  

‘She (3FSG) makes him (3MSG) breathe’ (i.e. through CPR)  
(S1 / E1 / 20140317)
The dust (NEUT) was making her (3FSG) cough

The alarm clock (FEM) wakes me (1SG) up

Each of the morphological causative examples above takes an intransitive input verb that is prototypically agentless and introduces a causal agent into its argument-structure. This results in the derived verb form licensing an agentive causer and a patientive causee. As mentioned earlier, crosslinguistically, these kinds of causative situations are typically interpreted as direct causation, where “the execution of the caused event is wholly dependent on the causer’s action” and there is “a spatiotemporal overlap of the causer’s activity and the caused event, to the extent that the two relevant events are not clearly distinguishable” (Shibatani & Pardeshi, 2001, p. 89). Indeed, these are the kinds of interpretations we see in the examples above.

Therefore, using the observations above that a causal agent is introduced when an agentless verb undergoes a morphological causative, and also that this typically results in a sense of direct causation, we can create a lexical rule to formally capture this:

**Figure 3.2. Lexical rule CAUSa**

<table>
<thead>
<tr>
<th>CAUSa: direct causative with agentless verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.  V = ‘y to V ...’</td>
</tr>
<tr>
<td>&lt; [Ex/Pr/Th]y ... &gt;</td>
</tr>
<tr>
<td>\hline SUBJ \hline \hline INPUT</td>
</tr>
<tr>
<td>ii. V-CAUS = ‘x to cause y to V ...’</td>
</tr>
<tr>
<td>&lt; [Ag]x [Ex/Pr/Th]y ... &gt;</td>
</tr>
<tr>
<td>\hline SUBJ \hline OBJ \hline OUTPUT</td>
</tr>
</tbody>
</table>
Causative rule (a.) (Caus_a) above states that with agentless input verbs, the causative derivations introduce a causal agent that is realised as subject, and this results in any experiencer, patient or theme argument being reassigned to primary object function. Also note that the rule specifies that the causative situation created is one of direct causation, where the introduced agent directly causes the experiencer, patient or theme to undergo the action of the input verb. Lastly, the ellipsis (...) in this rule allows additional arguments to occur to the right edge of the argument-structure. Although we will not see need for this here (as so far, the only underived agentless verbs documented as undergoing causative rule (a.) are unaccusative), its necessity becomes apparent when we consider interactions between multiple verb derivations in Part 4 of this thesis.

Analyses of causative rule (a.) applying in examples (3-16), (3-19) and (3-20) are presented below, and these demonstrate intransitive input verbs that license a theme, patient and experiencer respectively.

**Figure 3.3. Analysis of Caus_a applying in (3-16)**

```
1. Input: walarrra  'y to be full'
   < [Th], >
   l Subj

2. Caus_a: walarrra-ngi-jga 'x to cause y to be full'
   < [Ag], [Th], >
   l Subj  Obj

3. Output: walarrra-ngi-jga 'x to cause y to be full'
   < [Ag], [Th], >
   l Subj  Obj

4. Data: wangi-walarrangi-jga-yn [warra-landhurr],
   3FSG/COLL-be.full-Caus-PP COLL.TOP-dog
   'She, (3FSG) makes the dog, (COLL) full' (i.e. by feeding it)
```
Figure 3.4. Analysis of CAUS\textsubscript{a} applying in (3-19)

1. INPUT: yaalibu ‘y to cough’
   \[
   \begin{array}{c}
   \text{SUBJ} \\
   \text{[Pt]}_x > \\
   \end{array}
   \]
2. CAUS\textsubscript{a}: yaalibi-jga ‘x to cause\textsubscript{a} y to cough’
   \[
   \begin{array}{c}
   \text{SUBJ} \\
   \text{[Ag]}_x | \text{[Pt]}_y > \\
   \text{OBJ} \\
   \end{array}
   \]
3. OUTPUT: yaalibi-jga ‘x to cause\textsubscript{a} y to cough’
   \[
   \begin{array}{c}
   \text{SUBJ} \\
   \text{[Ag]}_x | \text{[Pt]}_y > \\
   \text{OBJ} \\
   \end{array}
   \]
4. DATA: [ana-lhagabunulg\textsubscript{x}] nginggu-yaalibi-jga-ngi
   NEUT/TOPI-left NEUT/3FSG\textsubscript{x}-cough-CAUS-PC
   ‘The dust\textsubscript{x} (NEUT) was making her\textsubscript{y} (3SG) cough’

Figure 3.5. Analysis of CAUS\textsubscript{a} applying in (3-20)

1. INPUT: wanggirra ‘y to wake up’
   \[
   \begin{array}{c}
   \text{SUBJ} \\
   \text{[Ex]}_x > \\
   \end{array}
   \]
2. CAUS\textsubscript{a}: wanggirra-ngi-jga ‘x to cause\textsubscript{a} y to wake up’
   \[
   \begin{array}{c}
   \text{SUBJ} \\
   \text{[Ag]}_x | \text{[Ex]}_y > \\
   \text{OBJ} \\
   \end{array}
   \]
3. OUTPUT: wanggirra-ngi-jga ‘x to cause\textsubscript{a} y to wake up’
   \[
   \begin{array}{c}
   \text{SUBJ} \\
   \text{[Ag]}_x | \text{[Ex]}_y > \\
   \text{OBJ} \\
   \end{array}
   \]
4. DATA: [alarmclock\textsubscript{x}] ngangi-wanggirrangi-jga-na [ngaya\textsubscript{y}]
   alarm.clock(English) FEM/1SG\textsubscript{x}-wake.up-CAUS-PRES 1SG.PRO
   ‘The alarm clock\textsubscript{x} (FEM) wakes me\textsubscript{y} (1SG) up’

The analyses above demonstrate how CAUSATIVE rule (a.) can account for interactions between morphological causatives and agentless verbs in Wubuy. However, this rule is unable to account for examples of input verbs that already license an agent undergoing a morphological CAUSATIVE derivation. As previously mentioned, it has been discovered that in such contexts, there are two possible functions that could be in use: a comitative function that is the prototypical reading when the derivations apply to intransitive inputs belonging to the semantic subclass of motion verbs, as
discussed in Chapter 6; or an indirect causative function that has limited productivity, which is outlined below.

3.3.1.2. Indirect causative function

In Wubuy, the indirect causative function of the derivational root \( \text{-jga} \sim \text{-jgi} \) and TAM paradigm shift is available as a restricted option to some verbs that license an agent. Compare the following examples, where (3-21) is reproduced from (3-19):

(3-21) \( \text{ana-} \text{lhagabun} \text{ul} \text{g} \text{ngu-yaalibi-} \text{jga-} \text{ngi} \)
\( \text{NEUT TOP dust NEUT/3FSG COUGH CAUS PC} \)

‘The dust (NEUT) was making her (3FSG) cough’

(S1 / E1 / 20120810)
(S2 / E1 / 20120723)

(3-22) \( \text{na-} \text{doctor ngu-yaalibi-} \text{jga-} \text{ngi} \)
\( \text{M doctor (English) 3MSG/3FSG COUGH CAUS PC} \)

‘The doctor (3MSG) was making her (3FSG) cough’

(S1 / E1 / 20120810)
*(S2 / E1 / 20120723)

In both examples, the input of the CAUSATIVE derivation is the intransitive verb yaalibu ‘y to cough’ which is prototypically unaccusative, licensing a nonvolitional patientive argument. Thus, we would expect CAUSATIVE rule (a.) to apply and introduce a causal agent with a sense of direct causation. In (3-21), we see this happening without any problems: the CAUSATIVE root \( \text{-jga} \sim \text{-jgi} \) introduces the inanimate referent lhagabunulg ‘dust (NEUT)’ as subject, which is understood as directly causing the THIRD-PERSON FEMALE SINGULAR referent to cough without volition, presumably because it was somehow in the air she breathed.\(^{31}\) Comparing this to (3-22), the animate referent doctor ‘doctor (3MSG)’ is instead introduced, and the acceptability of this to Wubuy speakers varied. While all speakers rejected this sentence when it was

\(^{31}\) While it might seem odd to treat lhagabunulg ‘dust (NEUT)’ as an agent here, there is precedent in the literature for inanimate agents. For example, Lowder and Gorden (2015) explain how natural forces (e.g. tornadoes, earthquakes) are processed like animate referents during online sentence processing, suggesting that ‘perceived agency’ may be more appropriate than ‘animacy’ when explaining many cognitive and linguistic phenomena (cf. Fauconnier, 2012; Kittilä, 2005; Malchukov, 2006; Næss, 2007).
initially presented to them, some found it acceptable once a context of indirect causation was provided, such as the doctor telling her to cough, in which case she was interpreted as coughing volitionally as an agent. This not only suggests that some unaccusative verbs in Wubuy also have the (less prototypical) option of an unergative argument-structure, it also demonstrates that the CAUSATIVE derivations can sometimes be accepted with verbs that already license an agent to express a sense of indirect causation.

This is further demonstrated by a few instances of CAUSATIVE derived intransitive motion verbs being accepted by Wubuy speakers as having both comitative and indirect causative readings as possibilities:

(3-23) \textit{ngunu-rulmurrdi-jga-na}  
3FSG/3MSG$_g$-run-CAUS-PRES  
‘She [woman (3FS)] runs with him [boy (3MSG)]’  
OR ‘She [woman (3FS)] tells him [boy (3MSG)] to run’  
(S1 / E1 / 20140319)

(3-24) \textit{ngunu-rumi-jga-na}  
3FSG/3MSG$_g$-go-CAUS-PRES  
‘She [woman (3FS)] takes him [boy (3MSG)]’  
OR ‘She [woman (3FS)] tells him [boy (3MSG)] to go’  
(S1 / E1 / 20140319)

(3-25) \textit{ngunu-yalgarrwi-jga-yn}  
3FSG/3MSG$_g$-crawl-CAUS-PP  
‘She (3FS) crawled with him (3MSG)’  
OR ‘She (3FS) told him (3MSG) to crawl’  
(S2 / E1 / 20140226)  
(S3+S4 / E1 / 20140226)

In these examples, the fact that the causative interpretation involves an introduced causal agent (realised as subject) telling the original agent (realised as primary object) to do something is indicative that this is indirect causation, since the causing event (the telling) and the caused event (the motion) have distinct spatiotemporal profiles.

I have also identified a few instances of CAUSATIVE verb derivations in Wubuy being accepted with transitive inputs, one of which is presented below:
The underived form of the verb in (3-26) is jura ‘x to shove y’, where x is an agent that would be realised as subject, and y is a patient that would occur as primary object. By adding the derivational root -jga ~ -jgi, a causal agent w is introduced and realised as subject, creating juri-jga ‘w to cause x to shove y’, where x appears to have been reassigned to primary object and y to either secondary object or an oblique function. Furthermore, the translation provided by the language consultant suggests that the spatiotemporal profiles of the causing and caused event have been conceptualised as relatively distinct, which fits with an analysis of this as indirect causation. However, since the causation in the construction above is physical, this is somewhat different to the earlier examples where the causee was interpreted as being verbally instructed.

Nonetheless, although we have seen that some verbs with an agent can undergo this indirect causative function of the causative derivations, it is a restricted option and generally dispreferred, as demonstrated by the following examples:

(3-27) *ngu-lha-wuynji-jga-na
3MSG/3FSGx-mouth-suck-CAUS-PRES
‘He (3MSG) makes her (3FSG) kiss (someone)’
(S1 / E1 / 20120820, 20140314)
(S2 / E1 / 20140227)
(S3+S4 / E1 / 20140227)

(3-28) *nguna-amajangi-jga-na
3FSG/3MSGx-thieve-CAUS-PRES
‘She (3FSG) is making him (3MSG) thieve’
(S1 / E1/ 20140317)

In (3-27) and (3-28), the inputs are the transitive verb lha-wuynja ‘x to kiss y’ and the intransitive verb amaja ‘x to thieve’ respectively, both of which license an agent. However, Wubuy speakers rejected both of these as inputs for a
morphological causative, instead preferring a periphrastic means of expressing the causative situation (see §3.3.2). This suggests that although there are a few examples of morphological causatives being used to express indirect causation, they are more closely aligned with direct causation. This supports the tendencies noted in the crosslinguistic literature (see Comrie, 1981; Jones, 1996; Nolan, 2012; Shibatani, 1976b; Shibatani & Pardeshi, 2001).

With the insight that CAUSATIVE verb derivations can, in restricted circumstances, introduce a causal agent with input verbs that already license an agent, as well as the fact that this is interpreted as expressing indirect causation, where the causing and caused events have distinct spatiotemporal profiles, a lexical rule can be created to capture this as follows:

Figure 3.6. Lexical rule CAUSb

| CAUSb: indirect causative with verbs that have an agent (restricted option) |
|-------------------|-------------------------------|
| i. V = ‘x to V …’< [Ag]… > | INPUT |
| SUBJ |
| ii. V-CAUS = ‘w to CAUSEindix x ‘x to V …’’< [Ag]w [Pt/Go]x < [Ag]… > > | OUTPUT |
| SUBJ | OBJ |

CAUSATIVE rule (b.) (CAUSb) above states that with verbs that license an agent, the CAUSATIVE derivations create a complex predicate such that a causal predicate licensing a causal agent and a patient or goal argument fuses with the predicate of an input verb that licenses an agent. This results in the argument structure of the input verb being contained within the argument structure of the causal predicate (i.e. < [Ag] [Pt/Go] < [Ag] … > >). Furthermore, the patient or goal of the causal predicate is coreferential with the agent of the input verb, both of which are jointly interpreted as the causee. This draws on other accounts of causatives in the literature that analyse causative derivations as complex predicates (e.g. see Alsina, 1992, 1996, 1997; Alsina & Joshi 1991; Austin, 2005). However, I draw a distinction between
direct and indirect causation when using this complex predicate analysis. That is, as direct causation is typically interpreted as a single event, I find an analysis in which there is a single predicate to be more appropriate. On the other hand, as indirect causation is typically treated as consisting of two events, then a complex predicate analysis that combines a causal predicate with the caused predicate makes sense. With regard to grammatical functions, the arguments of the outer causal predicate are mapped first, with the causal agent becoming subject and the patient or goal (which is also understood as the agent of the input predicate) becoming primary object. This leaves any addition arguments licensed by the input verb to be realised according to the mapping rules set out in §1.3.2.1. The following analyses demonstrate CAUSATIVE rule (b.) applying in examples (3-22), (3-23) and (3-26):

Figure 3.7. Analysis of CAUS₃ applying in (3-22)

<table>
<thead>
<tr>
<th></th>
<th>Input:</th>
<th>yaalibu</th>
<th>‘x to cough’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt; [Ag], &gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SUBJ</td>
</tr>
<tr>
<td></td>
<td>Caus:</td>
<td>yaalibi-jga</td>
<td>‘w to causeₜₜx x to cough’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt; [Ag]w [Go]x &lt; [Ag]x &gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td></td>
<td>Output:</td>
<td>yaalibi-jga</td>
<td>‘w to causeₜₜx x to cough’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt; [Ag]w [Go]x &lt; [Ag]x &gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td></td>
<td>Data:</td>
<td>[na-doctor]w ngu-yaalibi-jga-ngi</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>M-doctor(English)  3MSG/3FSGₜₓ-cough-CAUS-PC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘The doctorₜₓ (3MSG) was making herₜₓ (3FSG) cough’</td>
<td></td>
</tr>
</tbody>
</table>
The analyses above demonstrate how CAUSATIVE rule (b.) can account for the few instances of CAUSATIVE derivations where an underived input already licenses an agent and a sense of indirect causation is created. This includes input verbs that are prototypically unaccusative but allow an unergative interpretation (as in (3-22)), intransitive motion verbs (as in (3-23)), and transitive (as in (3-26)). However, as we will see in §3.3.2, the preferred method of expressing indirect causation in Wubuy is via syntactic
constructions that represent the causing and caused events in separate clauses.

### 3.3.1.3. Summary

Based on the observations outlined above, derivations involving the derivational root \(-jga \sim -jgi\) and TAM paradigm shift appear to have two causative functions: a productive direct causative function and a more restricted indirect causative function. A preliminary lexical entry for these derivations follows; however, this will be updated in Chapter 6 to include the additional comitative function that was mentioned earlier.

**Figure 3.10. Preliminary lexical entry for \(-jga \sim -jgi\) and TAM paradigm shift**

<table>
<thead>
<tr>
<th>CAUSₐ: direct causative with agentless verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.  (V) = ‘y to (V) …’</td>
</tr>
<tr>
<td>([\text{Ex/Pr/Th}]_y \ldots &gt;)</td>
</tr>
<tr>
<td>(\text{SUBJ} \quad \text{INPUT})</td>
</tr>
<tr>
<td>ii. (V\cdot\text{CAUS}) = ‘(x) to cause (y) to (V) …’</td>
</tr>
<tr>
<td>([\text{Ag}]_x \quad [\text{Ex/Pr/Th}]_y \ldots &gt;)</td>
</tr>
<tr>
<td>(\text{SUBJ} \quad \text{OBJ} \quad \text{OUTPUT})</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAUSᵦ: indirect causative with verbs that have an agent (restricted option)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.  (V) = ‘(x) to (V) …’</td>
</tr>
<tr>
<td>([\text{Ag}]_x \ldots &gt;)</td>
</tr>
<tr>
<td>(\text{SUBJ} \quad \text{INPUT})</td>
</tr>
<tr>
<td>ii. (V\cdot\text{CAUS}) = ‘(w) to (\text{CAUSE}_{\text{indiv}}) (x) ‘(x) to (V)…”’</td>
</tr>
<tr>
<td>([\text{Ag}]_w \quad [\text{Pt/Go}]_x \quad [\text{Ag}]_y \ldots &gt;)</td>
</tr>
<tr>
<td>(\text{SUBJ} \quad \text{OBJ} \quad \text{OUTPUT})</td>
</tr>
</tbody>
</table>

As previously mentioned, however, it is rare for morphological derivational processes to be completely productive (Bauer, 2001, p. 126; Plag, 1999, pp. 11-12; Song, 2013b), and polysynthetic languages usually also provide syntactic methods of expression (Fortescue et al., 2017a, p. 3). Above, we have found that while direct causation can be regularly expressed via \textit{CAUSATIVE} rule (a.), the expression of indirect causation with \textit{CAUSATIVE} rule (b.) is restricted and significantly less common. This seems to indicate that in Wubuy, speakers prefer it when verbs license no more than one agent, and due to this, we would
also expect there to be other constructions in Wubuy for expressing indirect causation. As it turns out, when we go looking for these, we find syntactic causatives.

### 3.3.2. Syntactic causative constructions

Syntactic causatives (also referred to in the literature as ‘periphrastic’ and ‘analytic’ causatives) are generally defined as biclusal constructions where the causing event is expressed in a different clause from that of the caused event (e.g. see Comrie, 1981, p. 160; Song, 2013b). Once again following Song (2013b), I observe the additional conditions that in a syntactic causative, the causer and the predicate of cause must be more ‘prominent’ or ‘foregrounded’ than the causee and the predicate of effect, and “the expression of the causer’s action should be without specific meaning” (Song, 2013b).

As a means of also defining certain subtypes of syntactic causatives, Song (1996, pp. 142, 146) conceptualises the cognitive structure of causation as consisting of three major components, as presented below:

**Figure 3.11. Cognitive structure of causation**  
(based on Song, 1996, pp. 142, 146)

<table>
<thead>
<tr>
<th>(i) GOAL</th>
<th>(ii) EVENT</th>
<th>(iii) RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>perception of some desire or wish</td>
<td>deliberate attempt to realise the desire or wish</td>
<td>accomplishment of desire or wish</td>
</tr>
</tbody>
</table>

[‘→’ = progression of time]

Using this, Song (1996, 2013b) identifies two subtypes of syntactic causative constructions that I take into consideration here: the sequential and the purposive.\(^{32}\) Both of these are biclusal, with the EVENT (ii) component indicated by a clause expressing the causer’s activity ([Scause]) (Song, 1996, p. 142). They differ, however, in that the clause expressing the causee’s

---

\(^{32}\) The terminology used in Song (1996) differs, where ‘the AND type’ and ‘the PURP type’ are used to refer to the sequential and purposive types respectively.
activity or change of state ([Seffect]) represents the RESULT (iii) component in sequential causatives but the GOAL (i) component in purposive causatives (Song, 1996, p. 142).

With regard to formal characteristics, Song (1996, p. 142; 2013b) stipulates that [Scause] and [Seffect] in sequential causatives “are juxtaposed strictly in that order, with or without a linking element between them” and with neither subordinate to the other. He also posits that “[t]his particular type of causative construction presses the temporal sequence of [Scause] and [Seffect] into service to express causation”, and “the physical linear sequence of the clauses... contributes to the interpretation of temporal sequence” (Song, 1996, pp. 35-36). In purposive causatives, however, [Scause] is the main clause and takes [Seffect] as a subordinate clause of purpose (Song, 1996, p. 142), and the notion of purpose or goal “can be signalled by (i) verbal markings such as future tense, irrealis, subjunctive mood, incompletive aspect, etc., (ii) dative, allative or purposive case markers or (iii) purposive particles” (Song, 2013b).

In relation to Wubuy, I identify two syntactic constructions that can be used to express causative situations. One of them, for which there is currently limited data, seems to fit Song’s (1996, 2013b) sequential type and uses the verb ma-andha ‘w to make x’ as [Scause], and this is consistently followed by the [Seffect] (although as of yet, there is no negative evidence demonstrating that the opposite order is unacceptable). The data for this construction is limited insofar as the examples in my own data are provided by a single Wubuy speaker, but I have also identified instances of it occurring in the Wubuy translation of The Bible (Nunggubuyu People, 2014), which suggests that its usage may be somewhat more widespread. There is also a construction in Wubuy that uses indirect reported speech and meets Song’s (1996, 2013b) purposive type of syntactic causative.
3.3.2.1. Sequential causatives

Beginning with the possible sequential causative in Wubuy, consider the example below, which demonstrates the use of *maandha* ‘*w* to make *x*’ as a basic verb of creation:

(3-29) *adaba nima-maandha-ngi nigaa-yung mana-aynbaj*

then 3MSG/Veg.-make-PC 3MSG.Pro-Contr Veg.Top-other

*mana-wingil*

Veg.Top-wooden.pronged.spear

‘Then he (3MSG) was making another wooden-pronged spear (Veg)’

(Heath, 1980, p. 78)

Here, we have a single clause where the THIRD-PERSON MALE SINGULAR subject of *maandha* ‘*w* to make *x*’ is interpreted as physically creating the primary object *wingil* ‘wooden-pronged spear (Veg)*’.

Now compare this to the data below, where examples (3-31), (3-33) and (3-35) (the latter of which is reproduced from (3-22)) demonstrate morphological causatives where Wubuy speakers found an interpretation of indirect causation to be unacceptable or of varying acceptability. Examples (3-30), (3-32) and (3-34), on the other hand, demonstrate syntactic causatives that were all judged to be acceptable for expressing the situations of indirect causation. Predicates involved in expressing causation are presented in bold:

(3-30) *ngarra-mangi-nyung ngunu-maandhi-i ni-ngama-na*

F-woman-Hum.Sg 3FSg/3MSG,-make-Pres 3MSG,-swim-Pres

‘The woman (3FSg) makes him (3MSG) swim’

(i.e. while she does not necessarily swim; e.g. by telling him)

(S1 / E1 / 20140331)

(3-31) *ngunu-ngami-jga-yn*

3FSg/3MSG,-swim-Caus-PP

*‘She (3FSg) made him (3MSG) swim’

(i.e. while she does not swim)*

(S2 / E1v / 20140226)

(S3+S4 / E1v / 20140226)
In (3-30), (3-32) and (3-34), the verb *maandha* ‘w to make x’ contributes a sense of causation by expressing the EVENT (ii) component from Figure 3.11, rather than expressing a sense of creation as in (3-29) earlier. That is, *maandha* ‘w to make x’ is the [Scause] expressing the causer’s activity, which is their “deliberate attempt to realize the desire or wish” (Song, 1996, p. 142). These examples also have a verb that already licenses an agent in their [Seffect] expressing the causee’s volitional activity, which is the unergative *ngama* ‘x to swim’ and *yaalibu* ‘x to cough (volitionally)’ in (3-30) and (3-34) respectively, and the transitive *wanaga* ‘x to hold y’ in (3-32).

Nonetheless, there are also a few examples of the *maandha* ‘w to make x’ syntactic causative expressing direct causation, such as those presented below:

```
(3-32) na-walyi-nyung ngarra-mani-nyung ngu-maandhi-i
       M-man HUM.SG F-woman-HUM.SG 3MSG/3FSG.- make-PRES

ngiuw-wanaga-na ana-wubiiba
       3FSG/NEUT.-hold-PRES NEUT.TOP-paper

‘The man (3MSG) makes the woman (3FSG) hold a book (NEUT)’
(S1 / E3 / 20140404)

(3-33) *ngu-wanagi-jga-na ngarra-mani-nyung na-walyi-nyung
       3MSG/3FSG.-hold- CAUS-PRES F-woman-HUM.SG M-man- HUM.SG

ana-wubiiba
       NEUT.TOP-paper

‘The man (3MSG) makes the woman (3FSG) hold a book (NEUT)’
(S1 / E1 / 20140404)

(3-34) ngarra-nurse ngu-nu-ndi ni-yaalibu-manana
       F-nurse 3FSG/3MSG.-make-PRES 3MSG.-cough-PRES

‘The nurse (3FSG) makes him (3MSG) cough (volitionally)’ (e.g. by telling him)
(S1 / E1 / 20140328)

(3-35) na-doctor ngu-yaalibi-jga-ngi
       M-doctor(English) 3MSG/3FSG.-cough-CAUS-PC

‘The doctor (3MSG) was making her (3FSG) cough (volitionally)’
(S1 / E1 / 20120810)
*(S2 / E1 / 20120723)
```
In each of the examples above, there is an unaccusative verb in the [Sffect] expressing the change of state in a nonvolitional causee. This verb is *mawuraada* ‘y to be cold’, which licenses an experiencer, and *burra* ‘y to stay’, which licenses a theme, in (3-36) and (3-37) respectively. Thus, in both cases, we have an agentive causer and a patientive causee, resulting in an interpretation of direct causation where there is a spatiotemporal overlap between the causer’s activity and its effect on the causee.

However, despite the few examples expressing direct causation, there does appear to be a preference for the *maandha* ‘w to make x’ syntactic causative to express indirect causation, as demonstrated by the following data:

In example (3-38), we see the same verb from (3-34) earlier, *yaalibu* ‘y to cough’, being used to express the [Sffect]. This time, however, the causer is *lhagabunulg* ‘dust (NEUT)’, and this is judged to be unacceptable by the Wubuy language consultant, who provides the morphological causative in (3-38) as an acceptable alternative. As discussed earlier in relation to
morphological causatives, the use of *lhagabunulg* ‘dust (NEUT)’ as the causer when *yaalibu* ‘y to cough’ is the predicate of effect in a causative situation typically results in an interpretation of the causee (i.e. the referent that is coughing) as being a nonvolitional patient, and this results in an interpretation of direct causation (as opposed to the unergative use of this verb in (3-34), which results in an interpretation of indirect causation). However, such an interpretation of direct causation appears to be incompatible with the *maandha* ‘w to make x’ syntactic causative in (3-38).

It is a similar case in the data below, where the intransitive verb *rabi* ‘y to fall’, which prototypically licenses a patient, is used to express the causee’s activity or change of state. Example (3-41) has been reproduced from (1-2):

(3-40) *ngarra-manji-nyung ngiweu-maandhi-i wu-rabi-ina ana-rangag*
F-woman-HUM.SG 3FSG/NEUT.-make-PRES NEUT.-fall-PRES NEUT.TOP-tree
‘The woman (3FSG) made the tree (NEUT) fall (nonvolitionally)’
(S1 / E1/ 20140328)

(3-41) nirri-madha-madharra-ngi nii-rabi-jga-a
1PL/NEUT.-RDP-chop-PC 1PL/NEUT.-fall.down-CAUS-PC
‘We (1Pl) chopped it [tree (NEUT)] and made it fall down’
(Heath, 1980, p. 467)

(3-42) *ngarra-manji-nyung ngunu-maandhi-i ni-rabi-ina na-walyi-nyung*
F-woman-HUM.SG 3FSG/3MSG.-make-PRES 3MSG.-fall-PRES M-man-HUM.SG
‘The woman (3FSG) makes the man (3MSG) fall (volitionally)’ (e.g. by telling him to during a game)
*The woman makes the man fall (nonvolitionally)’ (e.g. by tripping him)
(S1 / E1 / 20140328)

In (3-40) and (3-41), the causee is the inanimate referent *rangag* ‘tree (NEUT)’, which is only capable of falling nonvolitionally as a patient, and this is judged to be unacceptable in the *maandha* ‘w to make x’ syntactic causative of (3-40) but acceptable in the morphological causative of (3-41). In contrast to this, the causee in the *maandha* ‘w to make x’ syntactic causative of (3-42) is the animate referent *walyi-nyung* ‘man (3MSG)’, which can fall both volitionally as an agent and nonvolitionally as a patient. As can be seen, the volitional interpretation is judged to be acceptable, while the nonvolitional one is not.
Thus, the examples above demonstrate a preference for the causee of a *maandha ‘w to make x’* syntactic causative to be volitional and agentive, which supports the observation that this construction is typically used to express indirect causation. This, in turn, supports the observation in the crosslinguistic literature that indirect causation is typically aligned with syntactic causatives more generally (Comrie, 1981; Shibatani, 1976b; Shibatani & Pardeshi, 2001).

With regard to whether the *maandha ‘w to make x’* syntactic causative in Wubuy fits Song’s (1996) sequential or purposive type, we can make a few observations in favour of it being classified as a sequential causative. Firstly, Song (1996, p. 35) notes that for sequential causatives, “the order of the two clauses is fixed”, with [Scause] always preceding [Seffect]. In all instances of the *maandha ‘w to make x’* syntactic causative that have been identified in Wubuy so far, this is indeed the case, with the verb *maandha ‘w to make x’* belonging to the [Scause] and followed by the [Seffect], which usually contains an intransitive verb licensing an agent. Secondly, Song (1996, pp. 35-36) claims that in the prototypical sequential causative, the clause boundary between the [Scause] and [Seffect] “is made distinct by means of an element coordinating the two”, although in reality this is not always overt. Instead, when an overt linking element is present, it “facilitate[s] the iconic interpretation of the linearity of [Scause] and [Seffect]” (Song, 1996, pp. 35-36). Although all the examples of the *maandha ‘w to make x’* syntactic causative presented so far have not had such a linking element present, I have identified one example which demonstrates this:

(3-43) *ngarramaani-nyung ngunu-maandhi-yn* *adaba ni-garraji-yn*
F-woman-HUM.SG 3FSG/3MSG, make-PP then 3MSG, jump-PP

‘The woman (3FSG) made him (3MSG) then he jumped’ (e.g. by telling him)
(S1 / E1 / 20140328)

In (3-43), the particle *adaba ‘then’* occurs between *maandha ‘w to make x’* in the [Scause] and *garraji ‘x to jump’* in the [Seffect]. Heath (1984, p. 425) describes the basic meaning of *adaba* as being “temporal immediacy” (close
sequence) linking the present clause (or rather, the event it describes) with the preceding clause”, and this fits Song’s (1996, pp. 35-36) description of the linking element in a sequential causative. Lastly, Song (1996, p. 36) notes that the formal fusion between [Scause] and [Seffect] is much stronger when the tense marking in one clause has scope over the whole construction, as opposed to each clause being able to take its own markings (which is more typical of the purposive causative type). As can be seen when reviewing all the examples of the maandha ’w to make x’ syntactic causative presented earlier, it appears that in Wubuy, this syntactic causative might require the [Scause] and [Seffect] to share the same TAM category. The following examples provide further evidence in support of this observation, although further testing needs to be done before it can be argued that this is indeed a constraint of the maandha ‘w to make x’ syntactic causative in Wubuy:

(3-44) ngarra-manį-nyung ngunu-maandhi-i ni-garraį-i
   F-woman-HUM.SG 3FSG/3MSGv-make-PRES 3MSGΓ-jump-PRES
   ’The woman (3FSG) makes him (3MSG) jump’ (e.g. by telling him)
   (S1 / E1 / 20140328)

(3-45) ngarra-manį-nyung ngunu-maandhi-yn ni-garraį-yn
   F-woman-HUM.SG 3FSG/3MSGv-make-PP 3MSGΓ-jump-PP
   ’The woman (3FSG) made him (3MSG) jump’ (e.g. by telling him)
   (S1 / E1 / 20140328)

(3-46) *ngarra-manį-nyung ngunu-maandhi-yn ni-garraja-ngi
   F-woman-HUM.SG 3FSG/3MSGv-make-PP 3MSGΓ-jump-PC
   ’The woman (3FSG) made him (3MSG) [and] he was jumping’
   (S1 / E1 / 20140328)

(3-47) *ngarra-manį-nyung ngunu-maandhi-yn ani-garraja-ngi
   F-woman-HUM.SG 3FSG/3MSGv-make-PP 3MSGb-jump-PPOT
   ’The woman (3FSG) made him (3MSG) [and] he could have jumped’
   (S1 / E1 / 20140328)

(3-48) *ngarra-manį-nyung ngunu-maandhi-yn ani-garraį-i
   F-woman-HUM.SG 3FSG/3MSGv-make-PP 3MSGb-jump-FC
   ’The woman (3FSG) made him (3MSG) [and] he will be jumping’
   (S1 / E1 / 20140328)
In the first two examples, both of which are found to be acceptable, *maandha* ‘*w* to make *x*’ from [Scause] and *garraja* ‘*x* to jump’ from [Seffect] inflect for the same TAM category, which is **PRESENT** in (3-44) and **PAST PUNCTUAL** in (3-45). On the other hand, in the final three examples, the verb *maandha* ‘*w* to make *x*’ from [Scause] is inflected for **PAST PUNCTUAL** but the verb in the [Seffect] is inflected for a different TAM category (**PAST CONTINUOUS** in (3-46), **PAST POTENTIAL** in (3-47) and **FUTURE CONTINUOUS** in (3-48)), and in each case, this is deemed to be unacceptable. This, in addition to the other observations made above, suggests that the *maandha* ‘*w* to make *x*’ syntactic causative fits within the sequential subtype as set out by Song (1996).

Thus, using the insight that the verb *maandha* ‘*w* to make *x*’ in Wubuy can function as the causative verb in a sequential syntactic causative, we can create a rule to capture the argument realisation as follows:

**Figure 3.12. Rule for sequential syntactic causative in Wubuy**
(building on Song (1996))

<table>
<thead>
<tr>
<th>S</th>
<th>[Scause [maandha]] (AND) [Seffect [Veffect]]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘<em>w</em> to make <em>x</em>’</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]w [Pt]x &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
<td>OBJ</td>
</tr>
<tr>
<td></td>
<td>‘<em>x</em> to V <em>...</em>’</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]x <em>...</em> &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
</tr>
</tbody>
</table>

The rule in Figure 3.12, states that for a particular sentence to constitute a sequential causative in Wubuy, it must have an [Scause] containing the verb *maandha* ‘*w* to make *x*’, and this [Scause] must co-occur with an [Seffect] that licenses an agent. It is also stated that this agent in the [Seffect] must be coreferential with the patient of *maandha* ‘*w* to make *x*’. Furthermore, as this is a sequential causative, *maandha* ‘*w* to make *x*’ and the [Veffect] are optionally separated by a linking device (represented here as AND) as set out by Song (1996, pp. 35-36). Lastly, the ellipses in the argument-structure of the [Veffect] allows for additional arguments to follow, which are mapped onto grammatical functions according to the mapping rules set out in §1.3.2.1.

---

33 Note that I am treating the few earlier instances of *maandha* ‘*w* to make *x*’ being used to express direct causation as exceptions to the rule.
The following analyses demonstrate this argument-structure rule applying in examples (3-42) and (3-43):

**Figure 3.13. Analysis of sequential causative in (3-42)**

<table>
<thead>
<tr>
<th>S</th>
<th>[Scause [maangdha]]</th>
<th>[Seffect [rabi]]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘w to CAUSE x’</td>
<td>‘x to fall’</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]_w [Pt]_x &gt;</td>
<td>&lt; [Ag]_x &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
<td>OBJ</td>
<td>SUBJ</td>
</tr>
<tr>
<td>DATA:</td>
<td>ngarra-man-i-nyung]_w ngunu-maandhi-i ni-rabi-ina</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-woman-HUM.SG</td>
<td>3FSG/3MSG-a-make-PRES 3MSG-a-fall-PRES</td>
</tr>
</tbody>
</table>

'‘The woman\(_w\) (3FSG) makes the man\(_x\) (3FSG) fall (volitionally)’
(e.g. by telling him to during a game)

**Figure 3.14. Analysis of sequential causative in (3-43)**

<table>
<thead>
<tr>
<th>S</th>
<th>[Scause [maangdha]]</th>
<th>adaba [Seffect [garraja]]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘w to CAUSE x’</td>
<td>‘then’ ‘x to jump’</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]_w [Pt]_x &gt;</td>
<td>&lt; [Ag]_x &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
<td>OBJ</td>
<td>SUBJ</td>
</tr>
<tr>
<td>DATA:</td>
<td>ngarra-man-i-nyung]_w ngunu-maandhi-yn adaba ni-garraji-yn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-woman-HUM.SG</td>
<td>3FSG/3MSG-a-make-PP then 3MSG-a-jump-PP</td>
</tr>
</tbody>
</table>

'‘The woman\(_w\) (3FSG) made him\(_x\) (3MSG) jump’ (e.g. by telling him)

Regarding the broader Australian and polysynthetic contexts, it was mentioned earlier that Song (1996, pp. 39-40; 2013a, 2013b) lists 8 (out of 28) Australian languages and 12 (out of 76) polysynthetic languages as having descriptions of both a morphological and a syntactic causative. Of these, only 1 Australian and 3 polysynthetic languages were identified as having the sequential type of syntactic causative, which suggests they may be somewhat uncommon in these kinds of languages. The Australian language is Diyari, and Austin (1981 [2013], pp. 165, 204-205) notes a similar distribution of causatives to what is found in Wubuy, with the transitiviser -ipa- usually applying to unaccusative or intransitive motion verbs and resulting in an interpretation of ‘manipulative’ causation (i.e. through direct physical action
or force),\textsuperscript{34} while ‘directive’ causation (i.e. through indirect telling or ordering) is generally expressed with a sequential periphrastic construction that uses the causative verb nganka ‘to make/cause’ and involves implicated clauses via switch reference markers (which equate to the ‘linking elements’ typical of sequential causatives, as discussed earlier). These constructions are demonstrated below in (3-49) and (3-50) respectively, where the verbs used to express the causative situation are presented in bold:

\[(3-49)\]  

\[
\begin{array}{llll}
\text{nhulu} & \text{karna-li} & \text{nhinha} & \text{kupa} \\
3\text{SGNF.ERG} & \text{person-ERG} & 3\text{SGNF.ACC} & \text{child.ACC} \\
\end{array}
\text{thanka-IPA-yi} \\
\text{stand-TR-PRES}
\]

‘The man stands the child up’
(Diyari: Austin (1981 [2013], p. 165))

\[(3-50)\]  

\[
\begin{array}{llll}
\text{nhulu} & \text{karna-li} & \text{nganka-yi} & \text{nhawu} \\
3\text{SGNF.ERG} & \text{person-ERG} & \text{cause-PRES} & 3\text{SGNF.NOM} \\
\text{kupa} & \text{thanka-rnanthu} \\
\text{child.NOM} & \text{stand-IMPL.DS}
\]

‘The man makes the child stand’ (i.e. by telling the child)
(Diyari: Austin (1981 [2013], p. 165))

One way in which Diyari differs from Wubuy, however, is that morphological causatives only allow intransitive inputs, whereas in Wubuy, it is possible for both intransitive and transitive verbs licensing an agent to undergo the morphological causative with an interpretation of indirect causation, albeit as a restricted option. Nonetheless, this is somewhat similar to what is found in Yimas, one of the polysynthetic languages identified by Song (1996, 2013b) as having a sequential periphrastic causative.\textsuperscript{35} Foley (1991, p. 291) demonstrates that Yimas has two CAUSATIVE derivational roots: tal- is used for direction causation, as demonstrated in (3-51), and tmi- expresses indirect causation, as demonstrated in (3-52) and (3-53). However, he notes that the use of a transitive input, as in (3-53), is rare, since transitive verbs “can only be causativised with tmi- and even then only sporadically and with great

\textsuperscript{34} Austin (1981 [2013], pp. 75-76) notes that -ipa- only applies to two kinds of verb roots: 1B roots, which are intransitive verbs of rest or motion; and 1C roots, many of which license an experiencer argument. He also identifies another morphological causative using -ma-, but it does not appear to be productive, as it is listed as only occurring with the class of 1E roots, which has just five members (see Austin, 1981 [2013], p. 80).

\textsuperscript{35} Other polysynthetic languages identified with the sequential type are: Passamaquoddy-Maliseet and Wichí (Song, 2013b).
difficulty” (Foley, 1991, p. 292). Instead, causation involving transitive inputs is usually expressed syntactically, using a jussive complement as in (3-54) or a sequence of clauses as in (3-55) (Foley, 1991, p. 292). In (3-54), the jussive complement meets Song’s (1996, 2013b) characterisation of sequential causatives due to the ordering of the [Vcause] before the [Veffect], the linking element mnta ‘then’ and the matching perfective aspect in both clauses, while the sequence of clauses in (3-55) fits his description of purposive clauses due to the ordering of the [Veffect] before the [Vcause] and the nonfinite marking on the [Veffect] (see §3.3.2.2 for further information on purposive causatives):

(3-51)  
kalakn na-n-tal-iray  
boy.1.SG 3SG.O-3SG.A-CAUS-cry  
‘He made the boy cry’ (by hitting him)  

(3-52)  
kalakn irpm-un na-mpu-tmi-wapal  
boy.1.SG coconut.palm.IV.SG-OBL 3SG.O-3PL.A-CAUS-climb  
‘They made the boy climb the tree’ (by telling him)  

(3-53)  
tpuk ku-ka-na-tmi-am-nt-akn  
sago.pancake.X.SG X.SG.O-1SG.A-DEF-CAUS-eat-PRES-3SG.D  
‘I made him eat a sago pancake’ (by telling him)  

(3-54)  
talk.T.1PL.A-tell-PERF-3PL.D then 3PL.S-sit-PERF  
‘I told them, and they stayed’  
(Yimas: Foley (1991, p. 453))

(3-55)  
 talk.T.1PL.A-1SG.D-tell  
‘He told me to eat sago’  
(Yimas: Foley (1991, p. 398))

Thus, while Yimas and Wubuy both generally have transitive inputs as a restricted option for CAUSATIVE derivations, their reasons for this are slightly different: Yimas has different derivational roots tal- and tmi- for expressing direct and indirect causation respectively, with transitive inputs being a
restricted option for the latter, while; Wubuy can express both types of causation with the same derivational process, with the restricted option being for verbs that license an agent, irrespective of transitivity.

As we will see in the following section, another way in which Wubuy is similar to Yimas is the fact that in addition to having the sequential type of periphrastic causative, it also has the purposive type. Out of all the Australian and polysynthetic languages sampled by Song (1996, 2013b), Yimas was the only one he identified as having descriptions of both, which makes the documentation and description of both types in Wubuy particularly significant.36

3.3.2.2. Purposive causatives

Moving on to the purposive syntactic causative in Wubuy that uses indirect reported speech, consider the data below. Examples (3-56) and (3-58) (which are reproduced from (3-22) and (3-27) respectively) demonstrate instances where a verb that already licenses an agent has undergone a morphological CAUSATIVE process and either received varied acceptability judgements from Wubuy speakers (as in (3-56)) or was consistently deemed unacceptable (as in (3-58)). Examples (3-57) and (3-59), on the other hand, were presented as (more) acceptable alternatives.

36 Pyle (2015) also identifies both periphrastic causative types in the Western Desert dialects Pitjantjatjara and Yankunytjatjara from Australia, which were likewise listed by Song (1996, 2013b) as having no descriptions of syntactic causatives. However, he uses a Role and Reference Grammar approach and adopts a broader definition of causation and causative constructions than is used here. For example, he presents the following as an example of a purposive causative construction, asserting that the “verbs of cause and effect [are] both in the one verb payamilaningi” (Pyle, 2015, p. 419). However, in my approach, payamilaningi would simply be a regular transitive verb.

Ka-ya tjana puŋkara mukuri-ngani munu tjana payamila-ningi
And-3PL 3PL.NOM really like-PRES and 3PL.NOM buy-PRES

‘And they really liked them and were buying them’
(Goddard, 1996, p. 130)
(3-56) **na-doc**tor **ngu-yaalib**i-jga-**ngi**  
M-doc(English) 3MSG/3FSG\textsubscript{a}-cough-CAUS-PC  
‘The doctor (3MSG) was making her (3FSG) cough’  
(S1 / E1 / 20120810)  
*(S2 / E1 / 20120723)

(3-57) **na-doc**tor **ngu-mag**a-**n**a  
M-doc 3MSG/3FSG\textsubscript{a}-tell-PRES 3FSG\textsubscript{a}-cough-FPOT  
‘The doctor (3MSG) tells/asks her (3FSG) to cough’  
(lit. he tells her she will cough)  
(Stimulus: the doctor makes her cough so that he can listen to it)  
(S2 / E3 / 20120723)

(3-58) **ngu-lha-wuynj**i-jga-**na**  
3MSG/3FSG\textsubscript{a}-mouth-suck-CAUS-PRES  
‘He (3MSG) makes her (3FSG) kiss (someone)’  
(S1 / E1 / 20120820, 20140314)  
(S2 / E1 / 20140227)  
(S3+S4 / E1 / 20140227)

(3-59) **na-wal**yi-nyung  
M-man-HUM.SG 3MSG/3FSG\textsubscript{a}-tell-PRES  F-woman-HUM.SG  
**ngarra**-man-nyung  
3FSG.ANAPH 3FSG/COLL\textsubscript{a}-mouth-suck-FPOT COLL.TOP-dog  
‘The man (3MSG) tells that woman (3FSG) to kiss the dog (COLL)’  
(lit. he tells her she will kiss the dog)  
(Stimulus: The man makes the woman kiss the dog)  
(S1 / E3 / 20140314)

In both (3-57) and (3-59), it can be seen that instead of expressing the causative situation within a single clause, it is spread across two using an indirect reported speech construction. This is not only interesting due to the use of a syntactic construction to express causation, but also because many Indigenous languages within the Australian context, including Wubuy, have been described as only having direct reported speech, with the indirect type said to be relatively nonexistent (Aikhenvald, 2011, p. 299; Heath, 1984, p. 559; McGregor, 1994, p. 71).\textsuperscript{37} However, as we will see, indirect speech does

\textsuperscript{37} The following are some examples of Australian languages described as having only a direct type of reported speech: Dyirbal (Dixon, 2008), Mangarayi (Merlan, 1982), Murriny-Patha (Blythe, 2009), Ngalakan (Merlan, 1983), and Ngarinyin (Rumsey, 1990). Some exceptions that have been described as also having an indirect type of reported speech are: Gooniyandi (McGregor, 1994), Pitjantjatjara (Bowe, 1990), and Wardaman (Merlan, 1994).
exist in Wubuy and it can be used as both a typical reported speech construction and as a means of expressing indirect causation.

Within the literature, ‘reported speech’ is generally defined as encompassing all methods by which a given utterance represents other utterances (cf. McGregor, 1994, p. 64; Vološinov, 1973, p. 112). ‘Direct speech’ and ‘indirect speech’ are the two main subtypes of reported speech that are discussed, and these are typically distinguished according to the ‘perspective’ or ‘point of view’ from which they represent the reported utterance (cf. Coulmas, 1986a; De Roeck, 1994; Evans, 2012; Hirose, 1995; McGregor, 1994). Following Evans (2012, pp. 68-70), I treat canonical direct speech as involving utterances that are reported from the point of view of the original speaker in the ‘reported speech event’ (RSE). Evans (2012, pp. 68-70) notes that this point of view is represented by the fact that all features of the reported utterance “retain the deictic and other relevant values they would have in the RSE”. For example, consider the following Wubuy data:

(3-60) "maduwa manaama ma-yaa-rrii ngaambu-jarrarri-i", tide this.VEG.PROX VEG-go-PRES 1INCLPL_go-move-PC
wuu-yami-jga-ynji-ini
3Pla-say-CAUS-RECIP-PC

"This tide (VEG) is going. We (1INCLPl) will move quickly", they; (3Pl) were telling each other'
(Heath, 1980, pp. 128-129)

Above, the point of view of the RSE is represented in several ways. Firstly, different persons are used when referring to the same referent in the reported utterance and in the RSE: in the reported utterance, the verb agreement prefix ngaambu- on the verb jarrarra ‘x to move’ expresses FIRST-PERSON, while in the RSE, the prefix wuu- on the reporting verb yami-jga ‘x to say to d’ indicates THIRD-PERSON. Secondly, the verbs ya ‘x to go’ and jarrarra ‘x to

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38 There is also a discussion in the literature about the lack of a clear-cut distinction between direct and indirect speech, which results from descriptions of reported speech types that fall somewhere in between these extremes (see Coulmas, 1986a; De Roeck, 1994; Evans, 2012; Haberland, 1986). As noted in Horrack (2014, pp. 4, fn. 4), it is unclear whether these other types of reported speech exist in Wubuy due to currently limited data.
move' in the reported utterance inflect for PRESENT and FUTURE CONTINUOUS TAM respectively. This clearly reflects the deictic reference of the RSE, as the reporting verb differs in its TAM, inflecting for PAST CONTINUOUS. Lastly, the demonstrative used in relation to maduwa ‘tide’ is PROXIMATE instead of ANAPHORIC. If the discourse were indirect, the latter type of demonstrative would be more likely to occur (see Heath, 1984, p. 559). Thus, the construction in (3-60) above is typical of direct reported speech.

Canonical indirect speech, on the other hand, is described by Evans (2012, pp. 68-70) as depicting the point of view of the reporting speaker in the ‘primary speech event’ (PSE), such that all of these deictic features in the reported utterance are “recast with the values they would have if calculated from the PSE”. The examples below demonstrate the presence of indirect speech constructions in Wubuy, contrary to Heath’s (1984, p. 559) claims that Wubuy has “no well-defined indirect discourse construction of the English type (that complementiser, here-and-now oriented pronominal and tense usage)”:

(3-61) ngarra-man-yung ngo-na-ngana ana-marrya
F-woman-HUM.SG 3FSG/NEUT,-roast-PRES RESID.TOP.food
ngunu-maga-na
3FSG/3MSG,-tell-PRES
‘The woman (3FSG) tells him (3MSG) she is cooking food (RESID)’
(Stimulus: There is a woman cooking food for her husband at home. The husband is still at work, and he calls the woman with his mobile phone. The woman tells him she is cooking food.)
(S1 / E1 / 20140317)

(3-62) anga-wuy ni-ilgii-na na-walyi-ngung ngu-maga-na
camp-ALL 3MSG,-return-PRES M-man-HUM.SG 3MSG/3FSG,-tell-PRES
‘The man (3MSG) tells her (3FSG) he is coming home’
(Stimulus: There is a woman cooking food for her husband at home. The husband is still at work, and he calls the woman with his mobile phone. The woman tells him she is cooking food. The husband tells her he is coming home now.)
(S1 / E1 / 20140317)

It should be noted that there are terminological differences in the literature with regard to what Evans (2012) calls the ‘primary speech event’ (PSE) and the ‘reported speech event’ (RSE), (e.g. McGregor (1994) uses ‘speech situation’ (SS) and ‘referent speech situation’ (RSS) to refer to PSE and RSE respectively).
In each of the examples above, the point of view of the reporting speaker in the ‘primary speech event’ (PSE) is represented by recasting the person and TAM of the reported utterance (what Heath (1984, p. 559) refers to as “here-and-now oriented pronominal and tense usage”). That is, all of the verb agreement prefixes inflect for THIRD-PERSON, rather than using FIRST-PERSON and SECOND-PERSON in the reported utterance, and the tense used in the reported utterance matches the tense used on the reporting verb (PRESENT in (3-61) and (3-62), and PAST in (3-63)). Thus, the constructions in these examples are typical of indirect reported speech.

As mentioned earlier and discussed in Horrack (2014), this indirect speech construction is utilised by Wubuy speakers as the preferred way to express situations of indirect causation. Consider the following examples, where the verbs from the RSE and reported utterance are presented in bold. Examples (3-64) and (3-68) have been reproduced from (3-57) and (3-59) respectively:

(3-64) na-doctor ngu-maga-na angi-yaali-bi-yn
M-doctor 3MSG/3FSG₃₅₆-tell-PRES 3FSG₃₅₆-cough-FPot
‘The doctor (3MSG) tells her (3FSG) to cough (volitionally)’
(lit. he tells her she will cough)
(Stimulus: the doctor makes her cough so that he can listen to it)
(S2 / E3 / 20120723)

(3-65) nganggu-maga-a ngan-jaa-rrii
NEUT/1SG₃₅₆-tell-PC 1SG₃₅₆-go-FC
‘It [letter (NEUT)] was telling me (1SG) to go [to Centrelink]’
(lit. it was telling me I will be going to Centrelink)
(Stimulus: the letter made me go to Centrelink)
(S3+S4 / E1 / 20140303)
In each of these examples, a situation of indirect causation has been expressed using a biclausal indirect speech construction. We can tell that this is indirect speech due to the use of third-person agreement prefixes and pronouns throughout, as well as the use of anaphoric demonstratives in (3-68) and (3-69), which Heath (1984, p. 559) suggests indicates partial indirect discourse in a reported thought construction that he identifies.
In terms of how this indirect speech construction expresses indirect causation, the reporting verb, such as maga ‘x to tell y’ or yami-jga ‘x to say to d’, appears to represent the EVENT (ii) component from Figure 3.11. That is, the reporting verb belongs to the [Scause] and expresses the causer’s activity, which is their “deliberate attempt to realize the desire or wish” (Song, 1996, p. 142). Here, the causer is the agentive subject while the causee is the goal argument (more specifically the addressee) that is realised as primary object. The reported utterance, on the other hand, contains a verb that already licenses an agent: intransitives yaalibu ‘x to cough (volitionally) in (3-64), ya ‘x to go’ in (3-65) and garraja ‘x to jump’ in (3-66); transitives juluba ‘x to hide y’ in (3-67) and lha-wuynja ‘x to kiss y’ in (3-68); and the CAUSATIVE derived burra ‘x to make y sit’ (from burra ‘y to sit’) in (3-69), which has gained an agent through CAUSATIVE rule (a.) using TAM paradigm shift (as discussed in §3.3.1.1). In each case, this verb in the reported utterance appears to be the [Seffect] representing the GOAL (i) component from Figure 3.11. That is, it seems to express the causer’s “perception of some desire or wish” that involves the causee doing something of their own volition (Song, 1996, p. 142). Here, the agentive subject is actually the causee, which means that the agent of the [Seffect] in the reported utterance is coreferential with the goal argument of the reporting verb in the [Scause]. Thus, this construction fits with both the indirect type of causation as well as Song’s (1996, 2013b) purposive type of syntactic causative constructions.

The classification of this construction as a purposive causative is even more convincing when comparing the TAM inflections of the reporting verb and the verb in the reported utterance. Notice that in each example above, the verb in the reported utterance inflects for FUTURE tense, CONTINUOUS (i.e. incomplete) aspect and/or POTENTIAL (i.e. irrealis) mood, regardless of whether or not this differs from the TAM of the reporting verb. In fact, when indirect speech is being used to express causation and the reported utterance occurs in PRESENT or PAST PUNCTUAL TAM, it is typically judged to be
unacceptable. This is demonstrated by the following data, where the TAM suffix in the reported utterance is presented in bold:\textsuperscript{40}

\begin{align*}
\text{(3-70) } &\text{*wingini-maga-na } \text{ni-rabali-i} \\
&\text{3FDU/MASC.,-tell-PRES MASC.,-come.out-PRES} \\
&\text{‘They (3FDU) tell it [gecko (MASC)] to come out’} \\
&\text{(lit. they tell it, it comes out)} \\
&\text{(Stimulus: they make the gecko come out)} \\
&\text{(S1 / E1 / 20140321)}
\end{align*}

\begin{align*}
\text{(3-71) } &\text{*ngunu-yami-jga-yn } \text{ni-garraji-ina} \\
&\text{3FSG/3MSG.,-say-CAUSS-PP 3MSG.,-jump-PRES} \\
&\text{‘She (3FSG) told him (3MSG) to jump’} \\
&\text{(lit. she told him he is jumping)} \\
&\text{(Stimulus: she made him jump)} \\
&\text{(S1 / E1 / 20140317)}
\end{align*}

\begin{align*}
\text{(3-72) } &\text{*ngunu-yami-jga-na } \text{ni-garraji-yn} \\
&\text{3FSG/3MSG.,-say-CAUSS-PRES 3MSG.,-jump-PP} \\
&\text{‘She (3FSG) tells him (3MSG) to jump’} \\
&\text{(lit. she tells him he jumped)} \\
&\text{(Stimulus: she makes him jump)} \\
&\text{(S3+S4 / E1 / 20140226)}
\end{align*}

\begin{align*}
\text{(3-73) } &\text{*ngunu-yami-jga-yn } \text{ni-garraji-yn} \\
&\text{3FSG/3MSG.,-say-CAUSS-PP 3MSG.,-jump-PP} \\
&\text{‘She (3FSG) told him (3MSG) to jump’} \\
&\text{(lit. she told him he jumped)} \\
&\text{(Stimulus: she makes him jump)} \\
&\text{(S2 / E1 / 20140228)}
\end{align*}

Instead, when creating acceptable alternatives for the above, Wubuy speakers changed the verbal inflections so that FUTURE tense, CONTINUOUS aspect and/or POTENTIAL mood were being used. This is shown in the following examples, where: (3-74) and (3-75) were presented as acceptable alternatives for (3-70); (3-76) and (3-77) were presented as acceptable alternatives for (3-71); and (3-78) and (3-79) were presented as acceptable alternatives for (3-72) and (3-73) respectively:

\textsuperscript{40} Recall that the same TAM inflectional suffix can express different TAM categories depending on which series of verb agreement prefix is used (see section 2.3.3.1 for details).
Thus, it would seem that in order for indirect speech to express causation in Wubuy, there are two criteria that need to be met: (i) the object of the reporting verb needs to be coreferential with an agentive subject in the reported utterance; and (ii) the TAM used in the reported utterance needs to
express FUTURE tense, CONTINUOUS aspect and/or POTENTIAL mood. Also, although this difference that can occur between the TAM inflections of the reporting verb and the verb in the reported utterance does not fit with canonical indirect speech, it does fit with Song’s (1996, 2013b) purposive type of syntactic causatives, where the notion of purpose or goal can be indicated by “verbal markings such as future tense, irrealis, subjunctive mood, [and] incomplete aspect”. Furthermore, it is possible for the [Scause] and [Seffect] to occur in different orders, as demonstrated by the data below, where [Scause] precedes the [Seffect] in (3-80) (reproduced from (3-59)) but follows the [Seffect] in (3-81):

(3-80) na-wal|y|i-nyung ngu-maga-na ngarra-manj|i-nyung
M-man-HUM.SG 3MSG/3FSGt-tell-PRES F-woman-HUM.SG
ngarrubagi ambangi-lha-wuynja-ng waa-landhurr
that.FSG.ANAPH 3FSG/COLLm-mouth-suck-FPOT COLL.TOP-dog
‘The man (3MSg) tells that woman (3FSg) to kiss the dog (COLL)’
(lit. he tells her she will kiss the dog)
(Stimulus: The man makes the woman kiss the dog)
(S1 / E3 / 20140314)

(3-81) ngiga ambangi-lha-wuynja-na waa-landhurr
3FSg.PRO 3FSg/COLLm-mouth-suck-FC COLL.TOP-dog
ngu-maga-na
3MSG/3FSGt-tell-PRES
‘He (3MSg) tells her (3FSg) to kiss the dog (COLL)’
(lit. he tells her she will be kissing the dog)
(Stimulus: The man makes the woman kiss the dog)
(S1 / C: (A-3) / 20140314)

Thus, the fact that the order of clauses can be reversed reinforces the classification of this construction as a purposive causative, rather than a sequential one.

Using the insights about how indirect reported speech in Wubuy can function as a purposive syntactic causative, we can create a rule for the argument realisation as follows:
Figure 3.15. Rule for purposive syntactic causative in Wubuy (building on Song (1996))

\[
S \rightarrow \text{[Scause [Vcause]]} , \quad \text{[Seffect [Veffect-TAM*]]} \\
\quad \text{‘x to tell/say to d’} \quad \text{‘d to V ...’} \\
\quad \langle [Ag]_x \quad [Go]_d \rangle \quad \langle [Ag]_d \quad ... \rangle \\
\quad \text{SUBJ OBJ} \quad \text{SUBJ}
\]

*TAM must include FUT, CONT and/or POT

The rule in Figure 3.15, states that for a particular sentence to constitute a purposive causative in Wubuy, it must have an [Scause] containing a reporting verb as its verb of cause (Vcause), and this [Scause] must co-occur with an [Seffect]. It is also stated that the [Veffect] in the [Seffect] must license an agent that is coreferential with the goal argument of the reporting verb in the [Scause]. Thus, this only allows the purposive causative in Wubuy to be used for expressing indirect causation, which is supported by empirical evidence as discussed earlier. Furthermore, as this is a purposive causative, the comma in between the [Scause] and [Seffect] represents that these can occur in any order, as is set out by Song (1996, 2013b). Once again, the ellipses in the argument-structure of the [Veffect] allows for additional arguments to follow, which are mapped onto grammatical functions according to the mapping rules set out in §1.3.2.1. Lastly, the specification “TAM must include FUT, CONT and/or POT” states that the [Veffect] must have FUTURE tense, CONTINUOUS aspect and/or POTENTIAL mood. Furthermore, the use of “must include” in this restriction allows for other TAM categories to co-occur with these, such as PAST tense (e.g. PAST CONTINUOUS TAM), as seen in (3-69) earlier.

The following analyses demonstrate this argument-structure rule applying in examples (3-79) and (3-81):
Purposive causatives are by far the most common type of syntactic causative in both Australian and polysynthetic languages, and Song (1996, pp. 61-62) notes the use of reported speech for expressing causation in other Australian languages, such as Ngarinyin (Rumsey, 1982, pp. 157-166), Wik-Munkan (Sayers, 1976, p. 85), Yidiny (Dixon, 1977, p. 314) and Yuwaalaraay (Williams, 1980, p. 122). There are also two languages that were identified by Song (1996, 2013a, 2013b) as only having a morphological causative but have since been shown to use reported speech (in addition to other methods) to express causation syntactically: the Western Desert (Australia) dialects Pitjantjatjara and Yankunytjatjara (Pyle, 2015, pp. 406-407) and the

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41 Out of the 8 Australian and 12 polysynthetic languages identified by Song (1996, 2013a, 2013b) as having both morphological and syntactic causatives: 7 Australian and 8 polysynthetic languages were identified with the purposive type only; 1 Australian and 3 polysynthetic languages were identified with the sequential type only; and 1 polysynthetic language was identified with both types.

42 Note that only the last two of these are included in Song’s (2013b) sample.
polysynthetic language Guaraní (Velázquez-Castillo, 2002, p. 531). Examples from all of these languages are presented below, where the verbs expressing the causative situation are presented in bold:

(3-82) warmaḷa yal njuminda gudmarari
desert-ALL FEM.3SG.FUT.take 2PL.do.PST.DUAL
‘You two made him/her/me take her to the desert’
(Ngarinyin: Rumsey (1982, pp. 157-166))

(3-83) pam thawin ngant minh nhinhanak iiyan thantang
man said.they.Pl us.to protein pig.for go.we.Pl.FUT them.with
‘The man made us go for pigs with them’
(lit. The man said for us to go for pigs with them)
(Wik-Munkan: Sayers (1976, p. 85))

(3-84) ngnyany ngunydu:nɡ budi:nɡ mangaa-na
1SG.OBJ that.SUB tell.PST laugh-FUT
‘That (person) told me to laugh’
(Stimulus: X made me laugh)
(Yidiny: Dixon (1977, p. 314))

(3-85) gi:rnu: guwacy biralidu:lu nama ma:da:y gigirma:lu
3SG.SUB say-NFUT child.DIM.ERG the dog-ABS kick.FUT.PURP
‘She told the child to kick the dog’
(Stimulus: She made the child kick the dog)
(Yuwaalaraya: Williams (1980, p. 122))

(3-86) Mama-ngku untal watja-nu, mai yu-ngkunytjaku
father-ERG daughter.ABS tell-PST food give-PURP.DS
‘The father told the daughter to give food’

(3-87) Ha’e chupe o-ho haguã
1.Ac-tell to=him 3.Ac-go PURP
‘I told him to go’
(Guarani: Velázquez-Castillo (2002, p. 531))

In each of the examples above, the verb in the reported utterance is interpreted as licensing an agent, which creates a sense of indirect causation:

43 Other polysynthetic languages listed by Song (1996, 2013a, 2013b) that have since been shown to have the purposive type of syntactic causative include Cora (Soto, 2002, p. 233), which uses taʔáih ‘send’ as the [Vcause], and Macushi (Dixon, 2000, p. 36, citing Abbott, 1991, p. 40), which uses the causative verb emapu’ti as the [Vcause].
njuminda ‘x will take her’ in (3-82); iiyan ‘we will go’ in (3-83); manggaa-na ‘x will laugh’ in (3-84), gigirmaligu ‘x will kick y’ in (3-85), yu ‘x to give y (to someone)’ in (3-86); and ho ‘x to go’ in (3-87). Furthermore, in the first four examples, this verb in the reported utterance occurs in FUTURE tense, regardless of what tense the reporting verb has. In relation to the Ngarinyin example in (3-82), Rumsey (1982, pp. 157-166) asserts that if the [Seffect] is not in FUTURE tense, it can only be interpreted as reported speech without causation (i.e. ‘You two said that he/she/I took her to the desert’), which resembles the FUTURE tense, CONTINUOUS aspect and/or POTENTIAL mood requirement for purposive causatives in Wubuy. Thus, it seems possible that the use of reported speech to express situations of indirect causation could be more widespread throughout Australian languages (and perhaps also polysynthetic languages) than is currently discussed in the literature.44

3.3.3. Defeasibility of Wubuy causative constructions

In the literature on causation, one of the tests that is often used to determine if a construction is a true causative is whether or not the sense of causation is entailed (Shibatani, 2001b, pp. 3-4). That is, if the caused result can be annulled, then this is typically viewed as evidence that it is not, in fact, a true causative construction. However, Song (1996, p. 136) points out that while this is typically true of morphological and sequential syntactic causatives, the implicativity of purposive syntactic causatives may “range from nil to 100 per cent” crosslinguistically. In fact, he argues that implicativity is the key distinguishing feature between the sequential and purposive types of syntactic causatives.

Interestingly, in Wubuy, there is some evidence to suggest that all causative constructions might be defeasible, even the sequential and morphological

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44 Song (1996, pp. 72, fn. 18) states that he also has anecdotal evidence from Barry Blake of reported speech being used to express causation in the Australian language Kalkatungu, and Dixon (2000, p. 63) notes that the same should also be possible in the Australian languages Kayardild and Uradhi, which were also sampled by Song (1996, 2013b).
ones. For example, consider the following data, where the verbs expressing the causative situation have been presented in bold:

(3-88) ngarra-maninya ngunu-maandhi-yn ni-garrajayn yagu
F-woman-HUM.Sg 3FSG/3MSGr-make-PP 3MSGr-jump,PP but
waari ani-garrajayngi
NEG 3MSGr-jump-PNEGACT

‘The woman (3FSG) made him (3MSG) jump, but he didn’t jump’

(S1 / E1 / 20140328)

(3-89) ngunu-yami-jga-yn ani-garrajai yagu waari
3FSG/3MSGr-say-CAUS-PP 3MSGr-jump-FC but NEG

wani-garrajai-ngi
3MSGr-jump-PNEGACT

‘She (3FSG) made him (3MSG) jump (i.e. by telling him), but he didn’t jump’

(lit. ‘She told him he will be jumping, but he didn’t jump’)

(S1 / E1 / 20140314)
(S2 / E1 / 20140228)
(S3+S4 / E1 / 20140303)

In (3-88) and (3-89), you can see the syntactic constructions that were previously classified as a sequential causative and purposive causative respectively, and in both cases, they can be followed by a NEGATIVE clause with PAST ACTUAL TAM that appears to cancel the causation. Based on these examples, many approaches in the literature on causation would treat such constructions as not being ‘true’ causative constructions.

However, consider the examples below, where morphological causatives can be successfully defeated in much the same way:

(3-90) ana-rangag ngiuu-rabi-jga-yn yagu waari anggu-rabi-ini
NEUT.TOP-tree 3FSG/NEUTr-fall-CAUS-PP but NEG NEUTr-fall-PNEGACT

‘She (3FSG) made the tree (NEUT) fall down, but it didn’t fall’

(S1 / E1 / 20140314)
(S3+S4 / E1 / 20140303)

(3-91) ana-rangag ngiuu-laadhi-jga-yn yagu waari
NEUT.TOP-tree 3FSG/NEUTr-catch.fire-CAUS-PP but NEG

anggu-laadha-ngi
NEUTr-catch.fire-PNEGACT

‘She (3FSG) made the tree (NEUT) catch on fire, but it didn’t catch on fire’

(S3+S4 / E1 / 20140303)
The fact that these morphological causatives in Wubuy also seem to be non-entailing is not unheard of in the literature, with Song (1996, p. 104) noting other languages such as Malagasy and Kammu which similarly have morphological causatives that can be defeated. This suggests that the defeasibility of constructions used to express causation in these languages is not necessarily an adequate means of determining whether or not they are ‘true’ causatives. Nonetheless, this is something that still requires more exhaustive testing in the field for Wubuy.

3.4. Conclusion

In conclusion, by extending our investigation of causative constructions to include syntactic constructions and by also considering semantic subtypes of causation, such as direct vs indirect and sequential vs purposive, many new observations can be made about how causation is expressed in Wubuy. Firstly, it has been found that when the input verb (or the verb in [Sffect]) is agentless, the semantics of the causative situation is direct, which is a context where morphological causatives are generally used. On the other hand, when the input verb (or the verb in [Sffect]) already licenses an agent, the possibility for it to gain causative semantics by undergoing a morphological causative process is highly restricted: for motion verbs, this usually results in a comitative interpretation rather than a causative one (see Chapter 6 for details), whereas for other verbs with an agent, this often results in an unacceptability judgement. The reason for this appears to be a general preference in Wubuy for a single verb to license no more than one agent, which means that situations of indirect causation, where there is an agentive causer and an agentive causee, generally cannot be expressed via morphological causative processes.
Instead, when Wubuy speakers wish to express a situation of indirect causation, they typically turn to one of two periphrastic constructions: a sequential syntactic causative that uses the causative verb *maandha* ‘to make’ or a purposive syntactic causative that involves indirect reported speech. While the former appears to allow direct causation to be expressed as a restricted option, the latter can only have an interpretation of indirect causation. That is, even when the purposive causative that uses indirect speech has a verb in its [Seffect] that is prototypically agentless (e.g. ‘to cough (nonvolitionally)’), the construction is only found acceptable if the action of this verb is interpreted as being done by a volitional agent (e.g. ‘to cough (volitionally)’).

Thus, we can represent the distribution of causative forms and constructions in Wubuy as follows:

**Figure 3.18. Distribution of causative forms and constructions in Wubuy**

<table>
<thead>
<tr>
<th>Direct causation</th>
<th>Indirect causation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexical</td>
<td>Syntactic</td>
</tr>
<tr>
<td>Morphological</td>
<td></td>
</tr>
</tbody>
</table>

*Transitive V with causative semantics ::jga ~ -jgi & TAM paradigm shift*  
Sequential causative: *maandha* ‘to make’  
Purposive causative: *indirect reported speech*

*Allows interpretation of indirect causation as a restricted option  
#Allows interpretation of direct causation as a restricted option

In addition to visualising the distribution of causatives in Wubuy, Figure 3.18 above also demonstrates that Wubuy follows the crosslinguistic tendencies observed in the literature for direct causation to be more aligned with unanalysable lexical units and for indirect causation to be expressed with syntactic constructions (see Comrie, 1981; Jones, 1996; Nolan, 2012; Shibatani, 1976b; Shibatani & Pardeshi, 2001).
In relation to the significance of this chapter for the Australian and polysynthetic contexts, we have seen how an investigation of the ways a given language expresses different semantic subtypes of causation, such as direct vs indirect and sequential vs purposive, can lead to the discovery of constructions previously described as being rare or uncommon. As discussed in §3.2.2, Song (2013a, 2013b) identifies only 33% of Australian languages and 16% of polysynthetic languages with descriptions of a morphological causative as also having a syntactic causative described. Wubuy is one of the languages that was identified as only having a morphological causative, but as we have just seen, this language actually has two periphrastic causatives: a sequential causative that uses the causative verb maandha ‘w to make’ and a purposive causative that uses indirect reported speech, with the latter also described as being uncommon for an Australian language (Aikhenvald, 2011, p. 299; Heath, 1984, p. 559; McGregor, 1994, p. 71). This, in addition to recent descriptions of syntactic causatives in other Australian and polysynthetic languages listed by Song (1996, 2013b) as having only morphological causatives, suggests that (at least in some cases) their absence from previous grammatical descriptions may be due to the aforementioned predominant focus on morphological causatives, as opposed to true rarity, and it highlights the importance of employing a broader approach to both the form and semantics of causative constructions when investigating causation in a given language.

45 However, note that recent work on Ainu (Bugaeva, 2015), one of the polysynthetic languages sampled by Song (1996, 2013b), suggests that it truly does not have formal periphrastic causative constructions, even though nonperiphrastic causatives may have developed from them diachronically.
Chapter 4: Affectedness constructions

4.1. Introduction

In the previous chapter, we saw how argument realisation can be affected by the introduction of a causal agent (or an [Scause]), and it was shown that the distribution of causative forms and constructions is largely influenced by the argument-structure of the input verb (or the verb in the [Seffect]). In this section, we will consider how the introduction of a different kind of argument can affect argument realisation: the affectee.

Radetsky and Smith (2010, p. 98) propose that “[as] human beings, we can construe a particular event as being fortunate or unfortunate, and we have the option of overtly including this interpretation in an utterance”. That is, events can be interpreted as affecting someone or something beneficially or maleficially, and it is possible for this to be encoded in the grammar of a language. However, crosslinguistically, grammatical language descriptions often make no reference to constructions that express benefaction or malefaction, and even when mention is made, it is usually only about the benefactive (Kittilä & Zúñiga, 2010, p. 5; Radetsky & Smith, 2010, p. 116). Furthermore, most studies do not treat benefactive and malefactive constructions in a unified way (Smith, 2005, p. 2).

One exception to this is Smith’s (2005, p. 2) crosslinguistic study,46 where the term ‘affectedness constructions’ is coined to accommodate both benefactive and malefactive constructions and where it is argued that “affectedness constructions form a natural category semantically, and this is proven by the fact that they are sometimes formally realised by a single category, or their formal realizations overlap each other”. This is explored further by Radetsky and Smith (2010), who find that languages generally tend to encode

affectedness in one of two ways. In ‘Option 1’, a generic ‘affectedness construction’ collapses the distinction between benefaction and malefaction, which means that the affected entity (the ‘affectee’) is “underspecified as to whether it has been affected beneficially or maleficially”, with this instead being interpreted according to the discourse context (Radetsky & Smith, 2010, p. 98). In comparison to this, ‘Option 2’ utilises different grammatical constructions to encode different kinds of affectedness, which means that “a discourse context is not needed to determine whether the event is benefactive or malefactive” (Radetsky & Smith, 2010, p. 99).

However, Radetsky and Smith (2010) focus only on languages from Europe and Asia, and although they briefly note that most Australian languages appear to collapse the distinction between benefaction and malefaction (i.e. ‘Option 1’), they provide no further details or evidence to corroborate this. Furthermore, since only languages from Europe and Asia are discussed, this also leaves the vast majority of polysynthetic languages unconsidered by their account, as these languages are concentrated in other areas such as northern Australia (Evans, 2017; Nordlinger, 2014, pp. 232-237), North America (Jany, 2017; Mithun, 2017), the Arctic and Sub-Arctic (Fortescue, 2017), Lowland Amazonia (Aikhenvald, 2017), and New Guinea (Foley, 2017). To the best of my knowledge, there are currently no crosslinguistic accounts that consider how affectedness is expressed across Australian or polysynthetic languages in a unified way. Therefore, since Wubuy is both Australian and polysynthetic, it is an interesting choice for an investigation of affectedness constructions because it can provide an insight into how affectedness might be expressed in these languages more generally.

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47 Kittilä and Zúñiga (2010, p. 21) suggest that this kind of polysemy between benefaction and malefaction is possibly due to the fact that they are subjective notions.

48 Some Australian languages that appear to use Option 1 are: Bininj Gun-Wok (Evans, 2003a), Kalkatungu (Blake, 1979a), Ngalakgan (Merlan, 1983), Ngandi (Heath, 1978b), and Pitta-Pitta (Blake, 1979b).
Currently, the only descriptions of affectedness constructions in relation to Wubuy are of a valency-increasing morphological derivational process: the AFFECTEE APPLICATIVE (referred to as the ‘BENEFACTIVE’ in previous accounts), which is described as expressing “a range of dative meanings”, including beneficiary and maleficiary (among others) (see Heath, 1984, pp. 377-381; Horrack, 2010, pp. 49-53). This is demonstrated in the data below, where the AFFECTEE APPLICATIVE prefix aG- ~ -waaG (presented in bold) introduces a beneficiary in (4-1) and a maleficiary in (4-2):

(4-1) warra-aynbaj warra-mulguru wuu-wala-ngi warra-a-gayigii-ni
    Pl-other  Pl-stranger  3PlL-arrive-PP  3PlL/3PlL-AFF-dance-PP
    ‘Strangers (3Pl) arrived [and] [the local people (3Pl)] danced for them’
    (Heath, 1980, p. 313)

(4-2) ana-nuga nga-a-mi-yn
    NEUT.TOP-stone  FEM/FEML-AFF-take-PP
    '[Emu (FEM)] took the stone (NEUT) from [Brolga (FEM)]'
    (Heath, 1980, p. 52)

Based on this, it would seem that Wubuy is a language that uses Radetsky and Smith’s (2010) Option 1 (i.e. by collapsing the distinction between benefaction and malefaction), which fits with their claim about Australian languages above. Nonetheless, they also note that languages which use Option 1 typically also use Option 2 to specify different kinds of affectedness when needed, although “in these languages, the Option 1 strategies are much more grammaticalized, while their Option 2 strategies are usually periphrastic” (Radetsky & Smith, 2010, p. 99). However, whether or not Wubuy can formally distinguish different affectee types has remained unexplored. Furthermore, as previously discussed in relation to causative constructions (see §3.2.2), morphological derivational processes are rarely entirely productive (e.g. see Bauer, 2001, p. 126; Plag, 1999, pp. 11-12; Song, 2013b), so we would expect Wubuy to also have other methods of expressing affectedness.
As it turns out, Wubuy is, in fact, able to formally differentiate affectee types. For example, the types of arguments introduced by the AFFECTEE APPLICATIVE can be distinguished using a combination of verbal semantics and case markers or particles. Consider the following data, where the AFFECTEE APPLICATIVE prefix $aG- \sim waaG-$ is used in every example but in each case the case suffix or particle marking the introduced argument is different.\textsuperscript{49} The AFFECTEE APPLICATIVE prefix, case markers and particles are presented in bold:\textsuperscript{50}

\begin{itemize}
  \item[(4-3)] $\text{ngarra-man}\text{-}nyung \text{ nguna-a-jaalibu-mana} \text{ na-doctor-wuy}$
    \begin{tabular}{llll}
      & F-woman-HUM.SG & 3FSG/3MSG\text{-}AFF-cough-PRES & M-doctor(English)-DAT \\
    \end{tabular}
    \begin{itemize}
      \item 'The woman (3FSG) coughs for the doctor (3MSG)'
    \end{itemize}
    (S1 / E1 / 20140328)
  
  \item[(4-4)] $\text{ngarra-man}\text{-}nyung \text{ nguna-a-jaalibu-mana} \text{ na-doctor-yungguyung}$
    \begin{tabular}{llll}
      & F-woman-HUM.SG & 3FSG/3MSG\text{-}AFF-cough-PRES & M-doctor(English)-PURP \\
    \end{tabular}
    \begin{itemize}
      \item 'The woman (3FSG) coughs for the doctor (3MSG)'
    \end{itemize}
    (S1 / E1 / 20140328)
  
  \item[(4-5)] $\text{anaani} \text{ ngana-a-jura-ngi} \text{ ana-mamanunggu} \text{ ana-lhaawu}$
    \begin{tabular}{llll}
      & this.NEUT.PROX & 1/2PL\text{-}AFF-take-PC & NEUT.TOP\text{-}good & NEUT.TOP\text{-}story \\
    \end{tabular}
    \begin{itemize}
      \item $\text{nugurri-wuy}$
      \begin{tabular}{cl}
        & 2PL.PRO\text{-}ALL \\
      \end{tabular}
      \item 'I/we (1) were taking this good news (NEUT) to you (2Pl)'
    \end{itemize}
  
  \item[(4-6)] $\text{nguna-a-gamaji} \text{ na-wal-yi-nyung-gala}$
    \begin{tabular}{llll}
      & 3FSG/3MSG\text{-}AFF-thieve.PC & M-man-ABL \\
    \end{tabular}
    \begin{itemize}
      \item 'She (3FSG) was thieving from the man (3MSG)'
    \end{itemize}
    (S2+S5 / E1 / 20140304)
\end{itemize}

\textsuperscript{49} The archiphoneme /G/ in the AFFECTEE APPLICATIVE derivational prefix $aG- \sim waaG-$ can trigger a number of phonological rules, such as hardening or ngu-insertion when preceding certain consonants, making derived verbs quite distinct from the corresponding base verbs (see Heath, 1984, pp. 377-378 for details).

\textsuperscript{50} Previous descriptions of this derivational prefix, such as Heath (1984) and Horrack (2010), gloss it as BEN for 'BeneFACTIVE'. However, this thesis will use the gloss AFF to stand for 'affectee' applicative, which better represents the variation in the semantics that it can express.
In each of these examples, the derivational prefix $aG - \sim -waaG$- has been attached to the verb stem, introducing a new argument as primary object. I have found that although the AFFECTEE APPLICATIVE prefix itself can express a range of affectedness situations, the case marking on the argument that is introduced varies depending on what type of argument is introduced. This runs contrary to Heath (1984, pp. 202, 378), who claims that the only case marking available to indirect and benefactive objects is the ALLATIVE-DATIVE suffix -$wuy \sim -guy$. For example, in (4-3) and (4-4), the situation of affectedness is one of benefaction, and the introduced argument takes the ALLATIVE-DATIVE suffix -$wuy$ in the former and the PURPOSESIVE suffix -$yungguyung$ in the latter. In (4-5) and (4-6), on the other hand, the inputs belong to the semantic subclass of transfer verbs, and a goal with the ALLATIVE-DATIVE -$wuy$ and a source with ABLATIVE -$wala$ have been introduced respectively. Even more interesting, however, is what happens in (4-7). Here, it is an alienable external possessor that is introduced as primary object by the AFFECTEE APPLICATIVE, as indicated by the GENITIVE case suffix -$yinyung$, and this serves to highlight the affectedness of the possessor in this situation. This is interesting because crosslinguistically, external possessor constructions (EPCs) tend to align more with inalienable possessive relations (Payne & Barshi, 1999a, p. 14; Uehara, 1999, p. 50), rather than the alienable relations demonstrated in example (4-7).51

Another finding discussed in this chapter is that Wubuy also has syntactic mechanisms for expressing affectedness, although they do not meet the

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51 This alienable external possessor construction in Wubuy has similarities to constructions observed in other Australian languages, such as the ‘oblique possession’ construction in Biliarrara (Meakins & Nordlinger, 2014, p. 213; 2017), as well as a similar use of the BENEFACTIVE in Dalabon (Ponsonnet, 2013) and Bininj Gun-wok (Evans, 2003a).
formal requirements of affectedness constructions per se. For example, consider the data in (4-8):

(4-8)  
ana-marrya  wungunu-ya-yn  ngarra-manum-baa  na-walyi-nyung-guy  
Resid.Top-food  3FDU/3MSG.  give-PP  F-woman-DU  M-man-Hum.SG-Dat  
‘The two women (3FDU) gave food (Resid) to the man (3MSG)’

(S1 / E1 / 20140314)  
(S2 / E1 / 20140226)  
(S3+S4 / E1 / 20140226)

Here, we have an underived example of the irregular ditransitive verb yi ‘x to give y to d’, which licenses three arguments. One of these is the goal argument (more specifically, the recipient) walyi-nyung ‘man (3MSG)’, which takes the ALLATIVE-DATIVE case marker -wuy ~ -guy. Now consider the examples below, where the same verb has been combined with the AFFECTEE APPLICATIVE:52

(4-9)  
*ana-marrya  wunguna-a-ja-yn  ngarra-manum-baa  
Resid.Top-food  3FDU/3MSG.  Aff-give-PP  F-woman-DU  
na-walyi-nyung-guy  warra-mijburraayung-guy  
‘Two women (3FDU) gave food (Resid) to the children (3Pl) for the man (3MSG)’

(S1 / E1 / 20140314)  
(S2 / E1 / 20140226)  
(S3+S4 / E1 / 20140227)

(4-10)  
ana-marrya  wunguna-a-ju-ni  ngarra-manum-baa  
Resid.Top-food  3FDU/3MSG.  Aff-give-PC  F-woman-DU  
na-walyi-nyung-jinyung  warra-mijburraayung-guy  
M-man-Hum.SG-Gen  Pl-children-DAT  
‘Two women (3FDU) were giving food (Resid) to the man’s (3MSG) children (3Pl)’

(S1 / C: (4-9) / 20140314)

In (4-9), the use of the ALLATIVE-DATIVE case suffix on the introduced affectee argument walyi-nyung ‘man (3MSG)’ was deemed unacceptable by Wubuy speakers, who offered (4-10), which switches the ALLATIVE-DATIVE case suffix for the GENITIVE one, as an acceptable alternative. However, this means that the combination of the ditransitive verb yi ‘x to give y to d’ with the AFFECTEE

52 Note that (4-10) is a spontaneous correction offered by the language consultant because she did not like the case marking used in (4-9). The change in TAM suffix does not appear to be significant.
APPLICATIVE results in an interpretation of alienable external possession (i.e. where the introduced affectee is both an argument of the verb and understood as being the possessor of another verbal argument). When speakers actually want to indicate an affectedness situation in which the man benefits from the women giving the children food without actually being in a possessive relationship with the children, they produce examples such as those found in (4-11) and (4-12):

(4-11) ngarra-manum-baa waangi-ya-yn ana-marrya warra-mijburraayung
F-woman-DU 3FDU/3Plα,give-PP RESID,Top-food Pl-children

na-walyi-nyung-ungguyung ni-walaŋarri-yn
M-man-HUM.SG-PURF 3MSGα,be.happy-PP

'Two women (3FDU) gave food (RESID) to the children (3Pl) for the man (3MSG) to be happy'

(Stimulus: two women give food to the children for the man (it was already established that the children do not belong to the man))

(S1 / E3 / 20140314)

(4-12) ngarra-wula-waa ngarra-manum-baa waangi-ya-yn ana-marrya
F-two-DU F-woman-DU 3FDU/3Plα,give-PP RESID,Top-food

warra-mijburraayung nguynju na-wal yi-nyung
Pl-children so.that M-man-HUM.SG

wungunu-wurrij-galaŋarri-jga-yn
3FDU/3MSGα,emotions-be.happy-CAUS-PP

'Two women (3FDU) gave food (RESID) to the children (3Pl) to make the man (3MSG) happy'

Stimulus: two women give food to the children for the man (it was already established that the children do not belong to the man))

(S1 / E3 / 20140314)

Here, we see the use of the suffix -yungguyung in (4-11) and the particle nguynju in (4-12) as purposive subordinators, which enables the beneficial affectedness of walyi-nyung 'man (3MSG)' to be expressed, albeit in a different clause. This is interesting not only because speakers utilise periphrastic constructions to express certain situations of affectedness, but also due to the similarities and overlaps this has with the expression of causation (as discussed further in §4.3.3.2).
Thus, while the \textsc{affectee applicative} in Wubuy appears to collapse the distinction between different kinds of affectedness (since it can introduce a range of different affectee types), Wubuy has other less grammaticalised mechanisms for specifying the type of affectedness when needed. This fits with Radetsky and Smith's (2010, p. 116) characterisation of languages that primarily express affectedness using Option 1, and it supports their claim that most Australian languages are of this type.

Before delving too much further into the findings outlined above, however, it is necessary to clarify what is meant by ‘affectedness’ and the ‘affectedness construction’.

\subsection*{4.2. Brief overview: definitions and tendencies}

As was the case with causation (§3.2), the considerable variation in how affectedness is expressed across the world’s languages has seen crosslinguistic accounts struggling to define affectedness constructions, as well as the benefactive and malefactive subtypes, according to formal characteristics. Instead, definitions usually describe the type of situation or event that is expressed. For example, following the lines of Wierzbicka (1988, pp. 210-223), Smith (2005, p. 15) defines affectedness constructions as follows:

\begin{quote}
...an affectedness construction (hereafter AC) expresses that an event is either ‘good’ or ‘bad’ for some participant(s), which I shall call the “affectee”. When an AC expresses that an event is ‘good’, it is a benefactive construction, and when it expresses that an event is ‘bad’, it is an adversative [i.e. malefactive] construction (Smith, 2005, p. 15).
\end{quote}

This definition of affectedness constructions also points to a similar tendency for the benefactive and malefactive subtypes to be defined according to the type of event they capture.

As a demonstration of these concepts, consider the following Wubuy data, where (4-3) and (4-6) have been reproduced as (4-13) and (4-14) respectively:
In the examples above, the AFFECTEE APPLICATIVE prefix *aG- ~ waaG- has attached to an intransitive verb: *yaalibu ‘x to cough (volitionally)’ in (4-13) and *amaja ‘x to thieve’ in (4-14). However, although this introduces a THIRD-PERSON MALE SINGULAR affectee as primary object in both cases, the way in which the event of affectedness is interpreted differs. In (4-13), the woman coughs for the benefit of the doctor (i.e. so that he can do his job), whereas in (4-14), the THIRD-PERSON FEMALE SINGULAR subject steals from the man, seemingly to his detriment. Thus, following the general definitions in the literature, we would refer to the former as a benefactive situation and the latter as a malefactive.

4.2.1. External possession as an affectedness construction

Another type of construction that is often discussed as expressing affectedness is ‘external possession’. Following Deal (2017, p. 2), I define this as “a phenomenon where a nominal is syntactically encoded as a verbal dependent but semantically understood as the possessor of one of its co-arguments” (cf. Payne & Barshi, 1999a, p. 3). That is, a possessor nominal is a syntactic dependent of the verb, but it is a semantic dependent of a possessum nominal. This contrasts with ‘internal possession’, where the possessor nominal is both a syntactic and semantic dependent of the possessum nominal (Deal, 2017, p. 2). For a demonstration of these two construction types, consider the following Wubuy data:

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53 This is also referred to as ‘possessor raising’ and ‘possessor ascension’ in the literature.
In (4-15), it is the inalienable possessum yarrga ‘flipper (NEUT)’ that receives object verb agreement as primary object, with its possessor nominal ngarrugalij ‘dugong (FEM)’ taking the oblique FEMININE noun class prefix wii- and the GENITIVE case suffix -yinyung. Thus, the possessor ngarrugalij ‘dugong (FEM)’ behaves like a syntactic dependent of the possessum yarrga ‘flipper (NEUT)’, which is indicative of an internal possessor construction (IPC). In (4-16), on the other hand, it is the possessor ngarrgu ‘kangaroo (RESID)’ that is agreed with as primary object, while the inalienable possessum lhuganda ‘shin (NEUT)’ takes the oblique NEUTER noun class prefix a- and the LOCATIVE suffix -rruj. Here, the possessor ngarrgu ‘kangaroo (RESID)’ actually behaves more like an argument of the verb, rather than a syntactic dependent of the possessum, which is indicative of an external possessor construction (EPC).

The relevance of external possessor constructions to affectedness constructions is in how the external possessor is typically understood as being a beneficiary or affectee, with “the intuition being that the possessor must be affected for the external possession construction to be semantically appropriate” (Deal, 2017, p. 8). In fact, in many languages, external possessors are polysemous with (or receive the same formal treatment as) beneficiaries or affectees, and Kittilä & Zúñiga (2010, p. 20) suggest that this can be accounted for as follows: “Actions targeted at entities in my possession affect me in a more direct fashion, and usually in more ways, than actions that are only carried out instead of me.” For example, if I am supposed to
change the dressing on a leg injury and somebody else does that for me, I am affected more directly when I am the owner of that leg.

This affectedness of the external possessor also explains a certain crosslinguistic tendency for external and internal possessor constructions to line up with different kinds of possessive relations. Payne and Barshi (1999a, p. 14) assert that “it appears non-controversial that there is a universal semantic hierarchy constraining accessible possessa in EPCs. Most broadly, this is inalienable < alienable”. That is, alienable possessive relations, where the relationship is “of a less permanent and inherent type” (Chappell & McGregor, 1995a, p. 4), are typically restricted to internal possessor constructions. On the other hand, inalienable possessive relations, where there is “an indissoluble connection between two entities” (Chappell & McGregor, 1995a, p. 4), can often be expressed with an external possessor construction (Uehara, 1999, p. 50). Thus, the more inalienable a possessive relation, the more affected the possessor is likely to be perceived, which in turn makes it more likely for an external possessor construction to be used.

For the most part, this tendency seems to hold true in the Australian context, with alienable possessors typically occurring as a dependent of the possessum and often taking an oblique suffix such as GENITIVE or DATIVE (Dixon, 2002, p. 138; Morphy, 1983, p. 122). Inalienable possessors, by contrast, are frequently expressed with an external possessor construction that treats the possessor as an argument of the clause, and this often involves apposition of the possessor and possessum (Dixon, 2002, p. 138; Meakins & Nordlinger, 2014, pp. 205-206; Morphy, 1983, p. 122). Interestingly, however, Wubuy appears to be an exception to this tendency. As we will see, new data shows that Wubuy actually has two external possessor constructions: one for inalienable relations (see §4.3.1) and one for alienable relations (see §4.3.2).
4.3. Affectedness constructions in Wubuy

In Wubuy, there are both lexical and morphological constructions that express affectedness while adhering to Smith’s (2005, p. 16) requirement that an affectedness construction should express the notion of affectedness (e.g. benefit, adversity) grammatically, and not strictly via lexical meaning. This includes a lexical inalienable external possessor construction (§4.3.1), as well as morphological methods such as the AFFECTEE APPLICATIVE verb derivation and PURPOSIVE markers on nominals (§4.3.2), which can be used independently or together. Although no syntactic construction has been identified that meets Smith’s (2005, p. 16) requirement above, there are periphrastic methods of expressing situations of affectedness as the desired outcome in a subordinate purposive clause, and this has certain overlaps with the purposive syntactic causatives outlined in the previous chapter on causation. These overlaps will be discussed in §4.3.3.

As mentioned earlier and demonstrated throughout this section, Wubuy appears to be a language that tends towards collapsing the distinction between benefaction and malefaction in its affectedness constructions (Radetzky and Smith’s (2010, p. 99) Option 1). Nonetheless, whether an event has a beneficial or adverse effect on the affectee can sometimes be determined via verbal semantics, and it can also often be reinforced through the use of certain case markers.

4.3.1. Lexical affectedness constructions

There is one construction in Wubuy that appears to be a lexical affectedness construction. This is the inalienable external possessor construction (INALEPC) that was briefly mentioned earlier. In Wubuy, inalienable (body) parts can occur in both internal possessor constructions (IPCs) and INALEPCs, but in the latter, the possessor of the (body) part is coded as an argument of the verb (rather than as a modifier of the (body) part possessum)
Beginning with IPCs, consider the data below, where (4-18) is reproduced from (4-15) and verb agreement prefixes and noun class markers of the possessum are presented in bold:

(4-17) \(\text{anaani} \quad \text{ana-wanja} \quad \text{wu-warra-gayi-yn} \quad \text{ngayawi-nyinyung}\)
\hspace{1cm} this,NEUT.PROX \hspace{1cm} NEUT.TOP-arm \hspace{1cm} NEUT,\text{-DUMMY}-ache-PP \hspace{1cm} 1SG.PRO-GEN

\text{‘This arm (NEUT) of mine (1SG) ached/was sore’}

(Baker et al., 2010, p. 67)

In each of these examples, a body part nominal has been agreed with as a core argument of the verb: in (4-17), \textit{wanja} ‘arm (NEUT)’ receives subject agreement, while in (4-18), \textit{yarrga} ‘flipper (NEUT)’ is agreed with as primary object. Their inalienable possessors, on the other hand, are marked with GENITIVE case, and in (4-18), the possessor \textit{ngarragalij} ‘dugong (FEM)’ can also be seen taking the oblique form of FEMININE noun class prefix, indicating its status as a modifier of the possessum.

Now compare these to the following examples of the inalienable external possessor construction in Wubuy, where (4-19) is reproduced from (4-16). This time, the noun class markers of possessors (instead of possessums) have been presented in bold:

(4-19) \(\text{ana-ngarrgu} \quad \text{nga-ra-ng} \quad \text{a-huganda-rruj}\)
\hspace{1cm} RESID.TOP-kangaroo \hspace{1cm} 1SG/RESID,\text{-spear}-PP \hspace{1cm} NEUT.OBL\text{-shin}-LOC

\text{‘I (1SG) speared the kangaroo (RESID) in the lower leg (NEUT)’}

(Baker et al., 2010, p. 67)

---

54 I follow Baker et al. (2010, pp. 72, fn. 12) in viewing this construction as a lexically governed argument-structure alternation.
Above, it can be seen that the possessors ngarrgu ‘kangaroo (RESID)’ and a third-person female singular referent in (4-19) and (4-20) respectively have been agreed with as primary object instead of the inalienable possessums lhuganda ‘shin (NEUT)’ and rulbu ‘back (VEG)’. Furthermore, the possessums both take locative case and the oblique form of noun class prefix, which indicates their status as oblique, rather than core, arguments.

Building on earlier syntactic analyses of external possessor constructions within the framework of Lexical-Functional Grammar (LFG) (i.e. Laczkó, 1995, 1997; Lødrup, 2009; Schrock, 2007), Baker et al. (2010, pp. 71-72) use a lexical rule to capture the alternation between IPCs and INALEPCs observed above. This rule is presented below:

**Figure 4.1. Lexical rule for inalienable EPCs (Baker et al., 2010)**

<table>
<thead>
<tr>
<th></th>
<th>INPUT</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>(↑ PRED) = '&lt;(SUBJ)(OBJ)&gt;'</td>
<td>(↑OBJ) = (↑OBJ)</td>
</tr>
<tr>
<td>b.</td>
<td>(↑ PRED) = '&lt;(SUBJ)(OBL)&gt;(OBJ)'</td>
<td>(↑OBL.Poss) = (↑OBJ)</td>
</tr>
</tbody>
</table>

In this rule, the inalienable possessum occurs as primary object at (a.), but it is demoted to an oblique function in (b.) due to the promotion of its possessor to primary object.\(^{55}\) The specification “(↑OBL.Poss) = (↑OBJ)” is used to capture the structure sharing between this new primary object and the possessor function within the part/possessum (Baker et al., 2010, pp. 71-72). Furthermore, Baker et al. (2010, pp. 71-72) follow Schrock (2007) by assuming that the new primary object/possessor at (b.) is nonthematic, which is why it is presented outside the angle brackets. This means that they do not treat it as a semantic argument of the verb itself, although they state that “nothing

\(^{55}\) Note that Baker et al. (2010) differ in their use of terminology when it comes to objects in Wubuy: they refer to direct vs indirect objects, whereas I use primary vs secondary object.
in the analysis hinges on this particular assumption” (Baker et al., 2010, p. 71).

However, new data suggests that the possessor in Wubuy’s inalienable external possession is, in fact, thematic. In §4.3.3.1, we will see interactions between the inalienable EPC described above and an alienable EPC (ALEPC) involving the AFFECTEE APPLICATIVE, and it appears that when the inalienable EPC applies, this blocks the AFFECTEE APPLICATIVE from introducing an affectee argument. I propose the reason for this is that the inalienable EPC has itself already introduced an affectee, and the AFFECTEE APPLICATIVE can no longer apply due to a restriction on the number of affectees a single verb can license. This also supports an analysis of the LOCATIVE-marked body part in the inalienable EPC as an argument of the verb, rather than a modifier of the primary object; since there is an increase in valency that results in the possessor being assigned a new affectee role and realised as primary object, the patient role must still be assigned to the body part, which means that it is still a verbal argument.56

Based on the observations above, I revise Baker et al.’s (2010, p. 72) lexical rule for inalienable EPCs in Wubuy as shown in Figure 4.2. This revised rule states that transitive inputs can undergo a lexical rule that introduces an affectee argument as primary object. The original arguments of the transitive input are underspecified as [Arg1] and [Arg2] to allow for differences in the types of arguments that are licensed. It is also specified that [Arg2] must be a body part, which is reassigned from primary object to an oblique locative

56 While it might seem strange for a patient to be assigned to an oblique locative function, in Wubuy inalienable EPCs, the patient will always be a body part, and part terms lend themselves naturally to expressing locations, both on the body and more generally (e.g. Brugman, 1983; Mendoza, 2006; Roy, 2006). This realisation of a patient as an oblique function does not, however, follow the rules for mapping thematic roles to grammatical functions as outlined in section 1.3.2.1. For now, I assume that the mapping of patients to oblique locatives is restricted to body part terms and lexically specified by the inalienable EPC rule in Figure 4.2. Whether or not the realisation of patients as oblique functions can be found in other areas of the Wubuy grammar, I leave to future research.
function. Lastly, the possessive relation between [Arg2] and the introduced affectee is represented by the specification “[Aff]z = [Arg2]z POSS”.57

**Figure 4.2. Revised lexical rule for inalienable EPCs**

<table>
<thead>
<tr>
<th>i. V</th>
<th>‘x to V yz’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; [Arg1]z, [Arg2]z, &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td></td>
<td>[Arg2]z = body part (BP)</td>
</tr>
<tr>
<td></td>
<td>INPUT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ii. V</th>
<th>‘x to V z on/at yz’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; [Arg1]z, [Aff]z, [Arg2]z, &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ OBLLOC</td>
</tr>
<tr>
<td></td>
<td>[Aff]z = [Arg2]z POSS</td>
</tr>
<tr>
<td></td>
<td>OUTPUT</td>
</tr>
</tbody>
</table>

The following analysis demonstrates this lexical rule applying in (4-19):

**Figure 4.3. Analysis of INALEP applying in (4-19)**

1. INPUT: *ra ‘x to spear yz’*  
   < [Ag]z, [Pt]z, >  
   | SUBJ OBJ |
   | [Arg2]z = body part (BP) |

2. INALEP: *ra ‘x to spear z on/at yz’*  
   < [Ag]z, [Aff]z, [Pt]z, >  
   | SUBJ OBJ OBLLOC |
   | [Aff]z = [Arg2]z POSS |

3. OUTPUT: *ra ‘x to spear z on/at yz’*  
   < [Ag]z, [Aff]z, [Pt]z, >  
   | SUBJ OBJ OBLLOC |
   | OBLLOC POSS |

4. DATA: *[ana-ngarrgu]z, nga-ra-ng [a-lhuganda-rruj]z, RESID.TOP-kangaroo 1SG/RESID-.spear-PP NEUT.OBL-shin-LOC*  
   ‘I (1SG) speared the kangaroo: (RESID) in the lower leg, (NEUT)’

Due to the fact that this inalienable external possessor construction introduces an affectee into the input verb’s argument-structure and affects

57 This differs from Baker et al. (2010, p. 72), who instead use grammatical functions, as shown in Figure 4.1. I have updated this to arguments here to allow for possible interactions with other valency-changing processes, as well as to make this inalienable EPC rule more consistent with the alienable EPC rule proposed in section 4.3.2.2, where arguments are similarly used to specify the possessive relation.
the realisation of arguments in ways that are reflected via different case marking and verb agreement, I argue that it qualifies as an affectedness construction, since the affectedness is not expressed “strictly via lexical meaning” (Smith, 2005, p. 16).

4.3.2. Morphological affectedness constructions

Moving on to morphological affectedness constructions in Wubuy, the only construction discussed in the current Wubuy literature is the AFFECTEE APPLICATIVE, which is a high-frequency derivational process that increases valency by attaching the prefix aG- ~-waaG to the verb stem. This introduces a new affectee argument to the clause that is realised as primary object. The derivational affix itself does not appear to carry semantic information regarding the type of affectedness situation it creates, with derived verb stems described by Heath (1984, p. 380) as expressing:

...a range of dative meanings, including beneficiary, adverse beneficiary (i.e., who is hurt rather than helped), source (as in ‘take from’, usually associated with adverse beneficiary), addressee (‘to shout at’), owner or possessor (of implicit direct object), and object of emotion (‘be afraid of’, ‘be suspicious of’, etc.) (Heath, 1984, p. 380).

For example, consider the following data, where the AFFECTEE APPLICATIVE introduces a beneficiary in (4-21), a possessor (of marrya ‘food (RESID)’) in (4-22), a maleficiary or source in (4-23), and goals in (4-24) and (4-25) (what Heath (1984, p. 380) calls an “addressee” and “object of emotion” respectively).

The AFFECTEE APPLICATIVE prefix and independent nominals that represent the introduced affectee have been presented in bold:

(4-21) warra-aynbaj warra-mulguru wuu-wala-ngi warra-a-gayigii-ni
     Pt-other Pt-stranger 3Pl-arrive-PP 3Pl/3Pl-\AFF-dance-PP

‘Strangers (3Pl) arrived [and] [the local people (3Pl)] danced for them’
(Heath, 1980, p. 313)
This derivation frequently occurs without expression of the introduced affectee as an independent noun (see (4-23) and (4-25)), and even when this does happen, the affectee noun often has no overt case marker (see (4-22)). Indeed, the only case marker Heath (1984, pp. 202, 378) identifies as occurring on arguments introduced by the AFFECTEE APPLICATIVE is the ALLATIVE-DATIVE suffix -wuy ~ -guy, and he only identifies three instances of this occurring in his corpus. Thus, the AFFECTEE APPLICATIVE prefix aG- ~ -waaG leaves the way in which the introduced argument is affected (i.e. beneficially or maleficially) underspecified, which means that the interpretation of the derived verb must normally either be lexically specified by verbal semantics or determined by the discourse context. This fits with Radetsky and Smith’s (2010, p. 98) Option 1 (see section §4.1).

However, although the AFFECTEE APPLICATIVE itself does not specify whether the affectedness is beneficial or maleficial for the argument it introduces, new data shows that Wubuy speakers can often distinguish between the types of
arguments that it introduces (i.e. goals, sources and affectees), and this is achieved through a combination of verbal semantics and case marking. Furthermore, under some circumstances, it appears that the AFFECTEE APPLICATIVE can only have an interpretation of benefaction, irrespective of the discourse context.

4.3.2.1. Verbs of emotion, speech, attention or transfer

Beginning with instances where a goal or source is introduced, this occurs when the input of the AFFECTEE APPLICATIVE is an intransitive verb of emotion, speech or attention, where a goal is introduced as the entity toward which the action of the verb is directed, and verbs of transfer, where a goal or source is introduced according to verbal semantics. This is demonstrated in the examples below, where a goal is introduced with the unaccusative emotion verb *miynjalda* ‘to be suspicious’ in (4-26) (reproduced from (4-25)), the unergative speech verb *ada* ‘to shout’ in (4-27) (reproduced from (4-24)), the unergative attention verb *wawanggi* ‘to listen’ in (4-28), and the transitive transfer verb *yura* ‘x to take y’ in (4-29), while a source is introduced with the transitive transfer verb *yari* ‘x to take y’ in (4-30) and the unergative transfer verb *amaja* ‘x to thieve’ in (4-31). Below, the AFFECTEE APPLICATIVE prefix and the introduced argument (if overtly expressed) are presented in bold:

(4-26)  
\[ \text{nguna}-\text{-a-miynjaldh-yn} \]  
3FSg/3MSg-Aff-be.suspicious-PP  
‘She (3FSg) was suspicious of/toward him (3MSg)’  
(S1 / E1 / 20140321)  
(S3+S4 / E1 / 20140305)

(4-27)  
\[ \text{ngarrubagi } \text{waayin } \text{nguna-ag-ada-ngi} \]  
that.3FSg.ANAPH emu 3FSg/3MSg-AFF-shout-PC  
‘That emu [woman] (3FSg) was shouting to him (3MSg)’  
(Heath, 1980, p. 30)

(4-28)  
\[ \text{anubani } \text{ngayawi-wuy } \text{ngambi-i-gawanggii-na} \]  
that.NEUT.ANAPH 1SG.Pro-ALL 3Pl/1SG,-AFF-listen-PRES  
‘They (3Pl) listen to me (1SG)’  
(Nunggubuyu People, 2014, 1 Timothy 5.21)
In each of these examples, valency is increased via the introduction of a goal or source argument that triggers verb agreement as primary object (this is the THIRD-PERSON MALE SINGULAR referent in (4-26), (4-27) and (4-31), the FIRST-PERSON SINGULAR referent in (4-28), the SECOND-PERSON PLURAL referent in (4-29), and the SECOND-PERSON SINGULAR referent in (4-30)). In the examples with a transitive input, this results in the theme argument being reassigned to secondary object position (this is lhaawu ‘story’ in (4-29) and wiri ‘life’ in (4-30)). Also of note is the use of the ALLATIVE-DATIVE case suffix -wuy on the introduced goals in (4-28) and (4-29) versus the ABLATIVE suffix -wala on the sources in (4-30) and (4-31). Not only does this act as a formal means of differentiating the two kinds of arguments, the presence of -wala here also demonstrates that arguments introduced by the AFFECTEE APPLICATIVE can take case markers other than the ALLATIVE-DATIVE -wuy ~ -guy. In fact, with certain verbs, the use of -wuy ~ -guy is unacceptable, as in (4-32) (which was corrected to (4-31) with ABLATIVE -gala by language consultants), reinforcing the idea that whether the AFFECTEE APPLICATIVE
introduces a goal or source argument with transfer verbs is determined by their lexical semantics.

Following from the discussion above, we can create a lexical rule to capture the interaction between the AFFECTEE APPLICATIVE and verbs of emotion, speech, attention or transfer as follows:

Figure 4.4. Lexical rule AFFa

<table>
<thead>
<tr>
<th>AFFa; verbs of emotion, speech, attention or transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = ‘x to V (y)’</td>
</tr>
<tr>
<td>&lt; [Ag/Ex]x</td>
</tr>
<tr>
<td>SUBJ</td>
</tr>
<tr>
<td>(Th),*</td>
</tr>
<tr>
<td>OBJ</td>
</tr>
<tr>
<td>*[Th] must belong to a transfer verb</td>
</tr>
<tr>
<td>INPUT</td>
</tr>
<tr>
<td>ii. AFF-V = ‘x to V (y) toward/from d’</td>
</tr>
<tr>
<td>&lt; [Ag/Ex]x</td>
</tr>
<tr>
<td>SUBJ</td>
</tr>
<tr>
<td>[Go/So]d</td>
</tr>
<tr>
<td>OBJ</td>
</tr>
<tr>
<td>OBJ2</td>
</tr>
<tr>
<td>OUTPUT</td>
</tr>
</tbody>
</table>

AFFECTEE APPLICATIVE rule (a.) above states that when the input is a verb of emotion, speech, attention or transfer, the AFFECTEE APPLICATIVE increases valency by introducing either a goal or source argument as primary object, which reassigns any theme argument that may be present to secondary object position. In relation to introduced goal arguments, these are understood as being the entity toward which the emotion, speech, attention or act of transfer is directed, while with some transfer verbs, a source argument is introduced that is understood as the entity from which something is taken.58 As previously noted, whether a goal or source is introduced with a transfer verb appears to be determined by verbal semantics. The following analyses demonstrate AFFECTEE APPLICATIVE rule (a.) applying in examples (4-26) to (4-30):

---

58 Although I treat the thematic role goal as including the arguments introduced with all of these input verbs, Heath (1984, p. 380) uses different terminology. He describes the argument introduced with an emotion verb as an “object of emotion”, the one introduced with a speech verb as an “addressee”, the one introduced with a transfer verb as a “recipient”, and he does not label those introduced with attention verbs at all.
Figure 4.5. Analysis of AFF<sub>a</sub> applying to emotion verb in (4-26)

1. **INPUT:** miynjal’da ‘x to be suspicious’
   < [Ex]<br>
   l SUBJ

2. **AFF<sub>a</sub>:** a-miynjal’dha ‘x to be suspicious toward d’
   < [Ex]<br>
   l [Go]<br>
   l l SUBJ OBJ

3. **OUTPUT:** a-miynjal’dha ‘x to be suspicious toward d’
   < [Ex]<br>
   l [Go]<br>
   l l SUBJ OBJ

4. **DATA:** nguna-a-miynjal’dhi-yn<br>3FSG/3MSG<sub>a</sub>-AFF-be.suspicious-PP
   ‘She<sub>x</sub> (3FSG) was suspicious of/toward him<sub>d</sub> (3MSG)’

Figure 4.6. Analysis of AFF<sub>a</sub> applying to speech verb in (4-27)

1. **INPUT:** ada ‘x to shout’
   < [Ag]<br>
   l SUBJ

2. **AFF<sub>a</sub>:** ag-ada ‘x to shout at/toward d’
   < [Ag]<br>
   l [Go]<br>
   l l SUBJ OBJ

3. **OUTPUT:** ag-ada ‘x to shout at/toward d’
   < [Ag]<br>
   l [Go]<br>
   l l SUBJ OBJ

4. **DATA:** [ngarrubagi]<br>that.3FSG.ANAPH [waayin]<br>emu 3FSG/3MSG<sub>a</sub>-AFF-shout-PC
   ‘That emu<sub>x</sub> [woman] (3FSG) was shouting to him<sub>d</sub> (3MSG)’
Figure 4.7. Analysis of \( \text{AFF}_a \) applying to attention verb in (4-28)

1. **INPUT:** \( \text{wawanggi} \) ‘x to listen’
   \[
   < \text{[Ag]}_x > \text{[Go]}_d > \\
   \text{SUBJ} \quad \text{OBJ}
   \]

2. **AFF:** \( \text{a-gawanggi} \) ‘x to listen to d’
   \[
   < \text{[Ag]}_x > \text{[Go]}_d > \\
   \text{SUBJ} \quad \text{OBJ}
   \]

3. **OUTPUT:** \( \text{a-gawanggi} \) ‘x to listen to d’
   \[
   < \text{[Ag]}_x > \text{[Go]}_d > \\
   \text{SUBJ} \quad \text{OBJ}
   \]

4. **DATA:** \( \text{anubani} \text{[ngayawi-wuy]}_d \text{ ngambi-i-gawanggii-na} \)
   \( \text{that.NEUT.ANAPH} \text{ 1SG.PRO-ALL} \text{ 3Pl/1SG.AFF-listen-PRES} \)
   ‘They, (3Pl) listen to me\(_d\) (1SG)’

---

Figure 4.8. Analysis of \( \text{AFF}_a \) applying to transfer verb in (4-29)

1. **INPUT:** \( \text{yura} \) ‘x to take y’
   \[
   < \text{[Ag]}_x > \text{[Th]}_y > \\
   \text{SUBJ} \quad \text{OBJ}
   \]

2. **AFF:** \( \text{a-jura} \) ‘x to take y to d’
   \[
   < \text{[Ag]}_x > \text{[Go]}_d > \text{[Th]}_y > \\
   \text{SUBJ} \quad \text{OBJ} \quad \text{OBJ2}
   \]

3. **OUTPUT:** \( \text{a-jura} \) ‘x to take y to d’
   \[
   < \text{[Ag]}_x > \text{[Go]}_d > \text{[Th]}_y > \\
   \text{SUBJ} \quad \text{OBJ} \quad \text{OBJ2}
   \]

4. **DATA:** \( \text{anaani} \text{ngana-a-jura-ngi} \text{[ana-mamanunggu]}_y \)
   \( \text{this.NEUT.PROX} \text{ 1/2PlA.AFF-take-PC} \text{ NEUT.TOP-good} \)
   \( \text{[ana-lhaawu]}_y \) \( \text{[nugurri-wuy]}_d \)
   \( \text{NEUT.TOP-story} \text{ 2Pl.PRO-ALL} \)
   ‘I/we\(_x\) (1) were taking this good news\(_y\) (NEUT) to you\(_d\) (2Pl)’
Figure 4.9. Analysis of AFF\_a applying to transfer verb in (4-30)

<table>
<thead>
<tr>
<th></th>
<th>INPUT:</th>
<th>AFF_a:</th>
<th>OUTPUT:</th>
<th>DATA:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>\textit{yari}</td>
<td>\textit{a-jari}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>\textit{yari}</td>
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4.3.2.2. Other verbs

With all other verbs in Wubuy, the AFFECTEE APPLICATIVE introduces an affectee argument. When the input is intransitive, this affectee is typically understood to be a beneficiary and can take either the ALLATIVE-DATIVE suffix -\textit{wuy} \sim -\textit{guy} or the PURPOSES suffix -\textit{yungguyung}. This is demonstrated in the following examples, where (4-33) has been reproduced from (4-3), and where the AFFECTEE APPLICATIVE prefix and the introduced affectee are presented in bold:

(4-33) \textit{ngarra-manj-nyung nguna-a-jaalibu-mana na-doctor-wuy}
F-woman-HUM.SG 3FSG/3MSG\_AFF-cough-PRES M-doctor(English)-DAT

‘The woman (3FSG) coughs for the doctor (3MSG)’
(S1 / E1 / 20140328)

(4-34) \textit{ngarra-manj-nyung nguna-a-jaalibu-mana na-doctor-yungguyung}
F-woman-HUM.SG 3FSG/3MSG\_AFF-cough-PRES M-doctor(English)-PURP

‘The woman (3FSG) coughs for the doctor (3MSG)’
(S1 / E1 / 20140328)

(4-35) \textit{nagang na-ninyarra marri ngaya anaani,}
2SG.PRO M-father.PROP2 and 1SG.PRO this.NEUT.PROX
\textit{nguna-a-galhagalharrma-ngi nugawi-wuy}
1ExPl/2SG\_AFF-go.search-PC 2SG.OBL.PRO-DAT

‘Your father and I (1ExPl) were searching for you (2SG)’
ngarrani-i-ngawii-yn ngagurra-yungguyung  
3MSG/1PLv-AFF-die-PP 1INPL.OBL-PURP  
‘He (3MSG) died for us (1Pl)’  
(Nunggubuyu People, 2014, Ephesians 5.25)

In each of the examples above, an intransitive verb undergoes the AFFECTEE APPLICATIVE and this introduces an affectee as primary object that is understood to be a beneficiary. This affectee can be seen taking the ALLATIVE-DATIVE case suffix -wuy in (4-33) and (4-35) and the PURPOSIVE suffix -yungguyung in (4-34) and (4-36). This is interesting not only because these suffixes appear to be interchangeable (as seen in examples (4-33) and (4-34), which are identical aside from the different choice of suffix on the affectee nominal), but also because this demonstrates yet another suffix that can be used on arguments introduced by the AFFECTEE APPLICATIVE aside from the ALLATIVE-DATIVE -wuy ~ -guy.

Moving on to transitive and ditransitive verbs as inputs of the AFFECTEE APPLICATIVE, an investigation into the semantics of this combination and the case suffixes that can be used results in a somewhat surprising discovery: AFFECTEE APPLICATIVE derivations with transitive and ditransitive inputs appear to have an interpretation of alienable external possession where the affectedness of the introduced argument is being emphasised. This is demonstrated in the following examples, where the AFFECTEE APPLICATIVE and the introduced affectee are presented in bold:

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59 Heath (1984, p. 208) describes the PURPOSIVE suffix -yungguyung as being more commonly used on verbs to create purposive clauses but as occurring moderately often with nouns. When occurring on nouns, he suggests that in some cases “we might want to consider the purposive NPs as the surface vestige of some fuller complement clause”, but he admits that “there are no strong syntactic arguments for this analysis, and it is doubtful that it could be justified for all of the exx. [examples] mentioned” (Heath, 1984, p. 208).

60 Nonetheless, when we look to the crosslinguistic literature, the use of PURPOSIVE markers to express affectedness is not surprising. For example, Rice and Kabata (2007, p. 481) propose that “when one acts for the benefit or another (or out of malevolence), he or she is usually acting purposefully”. This is supported by Schmidtke-Bode (2009, p. 101), who claims that “benefaction implicates the notion of purpose” and demonstrates overlaps between benefactive and purposive constructions in a number of languages around the world (see also Luraghi, 2016; Schmidtke-Bode, 2010).
(4-37) nguna-\textit{ag}-iynga-na  \textit{na-wirri-nyung-jinyung}  ana-wubiiba  
3FSG/3MSG,\text{AFF-finish-PRES}  M-child-HUM.SG-GEN  NEUT.Top-paper  
'She (3FSG) finishes the homework (lit. paper (NEUT)) of the boy (3MSG)'
(S1 / C: (4-41) / 20140321)

(4-38) aadanu  yagi  ngirri-i-ngu-jambrrggi  
that.NEUT.\text{IMM.\text{CONC}}  N\text{EG}  2Pl/1s-\text{AFF-O-believe.FNEG}  
\textit{ngayawi-nyinjung}  ana-lhaawu  
1SG.OBL.PRO-GEN  NEUT-story  
'You (2Pl) will not believe the story (NEUT) of mine (1SG)'
(Nunggubuyu People, 2014, John 5.47)

(4-39) ana-marrya  wunguna-a-gu-ni  ngarra-mayum-baa  
RESID.Top-food  3FDU/3MSG,\text{AFF-give-PC}  F-woman-DU  
\textit{na-walji-nyung-jinyung}  warra-mijburraayung-guy  
M-man-HUM.SG-GEN  PL-children-DAT  
'Two women (3FDU) were giving food (NEUT) to the children (3PL) of the man (3MSG)'
(S1 / C: (4-9) / 20140314)

(4-40) ana-marrya  wunguna-a-marraga-a  ngarra-mayum-baa  
RESID.Top-food  3FDU/3MSG,\text{AFF-take-PP}  F-woman-DU  
\textit{na-walji-nyung-jinyung}  warra-mijburraayung-gala  
M-man-HUM.SG-GEN  3Pl-children-ABL  
'Two women (3FDU) were taking the food (NEUT) of the man (3MSG) from the children (3PL)'
(S1 / C: (4-43) / 20140314)

In each of these examples, a transitive verb (as in (4-37) and (4-38)) or a ditransitive verb (as in (4-39) and (4-40)) has undergone the AFFECTEE APPLICATIVE, but instead of just introducing an affectee as primary object, it appears to have additionally specified it as an alienable possessor of another referent in the clause. In (4-37) and (4-38), the input verbs are transitive, and the alienable possessums are understood to be the patiентive arguments \textit{ana-wubiiba} ‘paper (NEUT)’ and \textit{ana-lhaawu} ‘story (NEUT)’ respectively, both of which have been reassigned to secondary object position. Similarly, in (4-40), it is the theme argument \textit{marrya} ‘food (RESID)’ of the ditransitive verb \textit{marraga} ‘x to take y from d’ that is understood as being the alienable possessum. In (4-39), on the other hand, the input verb is the irregular ditransitive verb \textit{yi} ‘x to give y to d’, and the alienable possessum is
interpreted as being the goal argument *mijburraayung* ‘children’, which is the
original primary object of the underived verb. This goal argument takes the
**ALLATIVE-DATIVE** case suffix *-wuy ~ -guy*, and the application of the **AFFECTEE APPLICATIVE** in (4-39) appears to have resulted in it being reassigned to an oblique function marked by the **ABLATIVE** case suffix *-wala ~ -gala*. This alienable possessive relation that is created with transitive and ditransitive inputs is indicated both via the translations provided by the Wubuy language consultant as well as the fact that the affectee nominal takes the **GENITIVE** case suffix *-yinyung*, which again demonstrates that the argument introduced by the **AFFECTEE APPLICATIVE** is not restricted to **DATIVE** case (contrary to Heath (1984, pp. 202, 378)).

In fact, use of the **ALLATIVE-DATIVE** case suffix *-wuy ~ -guy* to mark the introduced affectee is typically found to be unacceptable, as demonstrated in the examples below, where (4-41), (4-42) and (4-43) can be compared to (4-37), (4-39) and (4-40) respectively:

(4-41) *nguna-ag-iynga-na na-wirri-nyung-guy ana-wubiiba*
3FSg/3MSG.α-AFF-finish-Pres M-child-HUM.SG-DAT NEUT.TOP-paper

'She (3FSg) finishes the homework (lit. paper (NEUT)) of the boy (3MSG)'

(S1 / E1 / 20140321)

(4-42) *ana-marrya wunguna-a-ja-yn ngarra-manum-baa*
RESID.Tor-food 3FDU/3MSG.α-AFF-give-PP F-woman-Du

**na-walji-nyung-guy** *warra-mijburraayung-guy*
M-man-HUM.SG-DAT Pl-children-DAT

'Two women (3FDU) gave food (RESID) to the children (3Pl) for the man (3MSG)'

(S1 / E1 / 20140314)

(S2 / E1 / 20140226)

(S3+S4 / E1 / 20140227)

(4-43) *ana-marrya wunguna-a-marraga-a ngarra-manum-baa*
RESID.Tor-food 3FDU/3MSG.α-AFF-take-PP F-woman-Du

**na-walji-nyung-guy** *warra-mijburraayung-gala*
M-man-HUM.SG-DAT 3Pl-children-ABL

'Two women (3FDU) were taking the food (NEUT) from the children (3Pl) for the man (3MSG)'

(S1 / E1 / 20140314)
This further supports an analysis of the AFFECTEE APPLICATIVE as resulting in a possessive construction with transitive and ditransitive inputs, as it does not appear possible to express benefaction without possession by using DATIVE case.

It is, however, possible to use the PURPOSIVE suffix -yungguyung or the PURPOSIVE clitic yadhu to mark the affectee nominal introduced with transitive and ditransitive inputs, but this does not seem to affect the interpretation of possession. For example, consider the data below, where the AFFECTEE APPLICATIVE prefix and the introduced affectee are presented in bold:

(4-44) \textit{ana-computer} \textit{ngangga-ag-arrarri-i} \textit{ana-wumari}
\text{RESID.Top-computer(English)} \text{RESID/1SG$_3$-AFF-write-PRES} \text{NEUT.Top-mark}
\textit{ngayawi-yungguyung}
\text{1SG.PRO-PURP}

‘The computer (RESID) writes my letter (NEUT) for me: (1SG)’
(S1 / E3 / 20140324)

(4-45) \textit{ngarra-man-i-nyung} \textit{nga-a-jarrbuma-na} \textit{na-wulmurr-inyung}
\text{F-woman-HUM.SG} \text{3FSG/3FSG$_3$-AFF-wash-PRES} \text{M-boy-HUM.SG}
\textit{ngarr-ibiyung yadhu}
\text{F-mother.PROP$_3$ for}

‘The woman (3FSG) washes the mother’s, boy (3MSG) for her, (3FSG)’
(S1 / E1 / 20140331)

Here, -yungguyung and yadhu appear to emphasise the sense of benefaction in (4-44) and (4-45) respectively, but the introduced affectee is still interpreted as being the external possessor of the secondary object (which is \textit{wumari} ‘mark (NEUT)’ in (4-44) and \textit{na-wulmurr-inyung} ‘boy (3MSG)’ in (4-45)).

Before moving on to formulating a lexical rule for the AFFECTEE APPLICATIVE, it is worth noting that although all the examples presented thus far have involved input verbs that license an agent, this is not necessarily a prerequisite for the AFFECTEE APPLICATIVE to be able to introduce an affectee. For example, consider the data below, where the unaccusative verb
mawuraada ‘x to feel cold’, which licenses an experiencer, undergoes the AFFECTEE APPLICATIVE to introduce the affectee na-wirri-nyung ‘boy (3MSG)’:

\[(4-46)\] nguna-a-mawuraadi-yn \hspace{1em} na-wirri-nyung-guy \hspace{1em} wini-igi-yn \\
3FSG/3MSG,\_AFF-feel.cold-PP \hspace{1em} M-child-HUM.SG-DAT \hspace{1em} 3MDU,\_come.back-PP \\
madhalag-gala \\
beach-ABL \\
‘She (3FSG) felt cold for the boy (3MSG), [so] they (3MDU) came back from the beach (VAG)’ (i.e. she was feeling the cold on behalf of the boy who she thought didn’t notice it) \\
(S1 / E1 / 20140328)

Nonetheless, it does not appear to be the case that just any unaccusative verb can undergo the AFFECTEE APPLICATIVE to introduce an affectee, as demonstrated by the examples below, where the use of rirra ‘y to become dry’ and walarra ‘y to be full’, both of which license a theme argument, was found to be unacceptable:

\[(4-47)\] *nguna-a-dirra-ngayn \hspace{1em} na-walyi-nyung-guy \\
3FSG/3MSG,\_AFF-become.dry-PP \hspace{1em} M-man-HUM.SG-DAT \\
‘She (3FSG) became dry for him (3MSG)’ \\
(E1-S1-20140331)

\[(4-48)\] *nguna-a-balarra-ngayn \\
3FSG/3MSG,\_AFF-be.full-PP \\
‘She (3FSG) was full for him (3MSG)’ \\
(E1-S1-20140331)

For present purposes, I assume that the AFFECTEE APPLICATIVE can introduce an affectee with verbs licensing at least an agent or experiencer; however, there is currently limited data testing this function of the derivation with agentless verbs, so this assumption may need to be revised following future research.

Based on the new discoveries about the AFFECTEE APPLICATIVE outlined in this section, we can formulate a lexical rule to capture the ways in which this

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61 However, note that it is currently unclear if these are grammatically or semantically ruled out.
derivation interacts with verbs that are not transitive transfer verbs or intransitive verbs of emotion, speech, attention or transfer:

**Figure 4.10. Lexical rule AFF₅**

<table>
<thead>
<tr>
<th>AFF₅: other verbs</th>
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<tbody>
<tr>
<td>i. V = ‘x to V ...’</td>
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<td>&lt; [Ag/Ex], ... &gt;</td>
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<td>SUBJ</td>
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<tr>
<td>ii. AFF-V = ‘x to V ...’</td>
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<tr>
<td>&lt; [Ag/Ex], [Aff], ... &gt;</td>
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<tr>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td>[Aff] = POSS of highest ranked argument out of: [Go] &gt; [Pt/Th] &gt; [ ]</td>
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</table>

AFFECTEE APPLICATIVE rule (b.) above states that when the input is any verb licensing at least an agent or experiencer (aside from an intransitive emotion, speech, or attention verb, or an intransitive or transitive transfer verb, which would all undergo AFFECTEE APPLICATIVE rule (a.)), the AFFECTEE APPLICATIVE increases valency by introducing an affectee argument as primary object. The ellipsis (...) allows additional arguments to occur to the right edge of the argument-structure, and these arguments would be assigned grammatical functions according to the mapping rules set out earlier in §1.3.2.1. Lastly, the specification “[Aff] = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]” states that the affectee argument is understood as being the possessor of the goal if one is present, otherwise the possessor of the patient or theme if one is present, otherwise the possessor of the nonthematic comitative argument if one is present (although we have not come across comitative arguments yet, the inclusion of them in this specification becomes necessary when we consider interactions between AFFECTEE APPLICATIVE rule (b.) and comitative lexical rules in Chapter 7). This therefore accounts for why the oblique goal is understood as being the possessum with certain ditransitive inputs, while it is the patientive secondary object with transitive verbs and ditransitive verbs that license a source argument. Furthermore, since AFFECTEE APPLICATIVE rule (b.) requires the input verb to always license either an agent or experiencer, this also means the possessive interpretation
will only be triggered by verbs with at least two arguments (e.g. agent and patient, or experiencer and goal, etc.).

The following analyses demonstrate AFFECTEE APPLICATIVE rule (b.) applying in examples (4-21), (4-37), (4-39), (4-40) and (4-46):

**Figure 4.11. Analysis of AFFb applying to unergative verb in (4-21)**

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<td>1.</td>
<td>INPUT:</td>
<td><strong>wayigi</strong></td>
<td>‘x to dance’</td>
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<td>2.</td>
<td><strong>AFFb:</strong></td>
<td><strong>a-gayigi</strong></td>
<td>‘x to dance for z’</td>
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<td>3.</td>
<td>OUTPUT:</td>
<td><strong>a-gayigi</strong></td>
<td>‘x to dance for z’</td>
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‘Strangers, (3Pl) arrived [and] [the local people, (3Pl)] danced for them.’

**Figure 4.12. Analysis of AFFb applying to unaccusative verb in (4-46)**

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<tr>
<td>1.</td>
<td>INPUT:</td>
<td><strong>mawuraada</strong></td>
<td>‘x to feel cold’</td>
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<td>2.</td>
<td><strong>AFFb:</strong></td>
<td><strong>a-mawuraada</strong></td>
<td>‘x to feel cold for z’</td>
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<tr>
<td>3.</td>
<td>OUTPUT:</td>
<td><strong>a-mawuraada</strong></td>
<td>‘x to feel cold for z’</td>
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‘She, (3FSG) felt cold for the boy, (3MSG), [so] they, (3MDU) came back from the beach (VEG)’ (i.e. she was feeling the cold on behalf of the boy who she thought didn’t notice it)
Figure 4.13. Analysis of AFF$_b$ applying to transitive verb in (4-37)

<table>
<thead>
<tr>
<th>Input: iynga' 'x to finish y'</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{INPUT:} \quad \text{iynga' 'x to finish y'}$</td>
</tr>
<tr>
<td>$&lt; [\text{Ag}]_x \quad [\text{Pt}]_y &gt;$</td>
</tr>
<tr>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td>SUBJ OBJ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AFF$_b$: ag-iynga' 'x to finish y of z'</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{AFF$_b$:} \quad \text{ag-iynga' 'x to finish y of z'}$</td>
</tr>
<tr>
<td>$&lt; [\text{Ag}]_x [\text{Aff}]_z [\text{Pt}]_y &gt;$</td>
</tr>
<tr>
<td>SUBJ OBJ OBJ</td>
</tr>
<tr>
<td>OBJ$_2$ POSS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output: ag-iynga' 'x to finish y of z'</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{OUTPUT:} \quad \text{ag-iynga' 'x to finish y of z'}$</td>
</tr>
<tr>
<td>$&lt; [\text{Ag}]_x [\text{Aff}]_z [\text{Pt}]_y &gt;$</td>
</tr>
<tr>
<td>SUBJ OBJ OBJ</td>
</tr>
<tr>
<td>OBJ$_2$ POSS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATA: nguna-ag-iynga-na</th>
<th>na-wirri-nyung-jinyung]$_z$</th>
</tr>
</thead>
<tbody>
<tr>
<td>3FSG/3MSG$_a$ AFF-finish-PRES</td>
<td>M-child-HUM.SG-GEN</td>
</tr>
</tbody>
</table>

| 'She$_x$ (3FSG) finishes the homework$_y$ (lit. paper (NEUT)) of the boy$_z$ (3MSG)' |

Figure 4.14. Analysis of AFF$_b$ applying to ditransitive verb in (4-39)

<table>
<thead>
<tr>
<th>Input: wu' 'x to give y to d'</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{INPUT:} \quad \text{wu' 'x to give y to d'}$</td>
</tr>
<tr>
<td>$&lt; [\text{Ag}]_x \quad [\text{Go}]_d \quad [\text{Pt}]_y &gt;$</td>
</tr>
<tr>
<td>SUBJ OBJ OBJ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AFF$_b$: a-gu' 'x to give y to d of z'</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{AFF$_b$:} \quad \text{a-gu' 'x to give y to d of z'}$</td>
</tr>
<tr>
<td>$&lt; [\text{Ag}]_x [\text{Aff}]_z [\text{Go}]_d [\text{Pt}]_y &gt;$</td>
</tr>
<tr>
<td>SUBJ OBJ OBL$_\text{GOAL}$ OBJ</td>
</tr>
<tr>
<td>OBL$_\text{GOAL}$ POSS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output: a-gu' 'x to give y to d of z'</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{OUTPUT:} \quad \text{a-gu' 'x to give y to d of z'}$</td>
</tr>
<tr>
<td>$&lt; [\text{Ag}]_x [\text{Aff}]_z [\text{Go}]_d [\text{Pt}]_y &gt;$</td>
</tr>
<tr>
<td>SUBJ OBJ OBL$_\text{GOAL}$ OBJ</td>
</tr>
<tr>
<td>OBL$_\text{GOAL}$ POSS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATA: ana-marrya]$_y$ wunguna-a-gu-ni</th>
<th>ngarra-manum-baa]$_x$</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESID.TOP-food</td>
<td>3FDU/3MSG$_a$ AFF-give-PC</td>
</tr>
</tbody>
</table>

| 'Two women$_y$ (3FDU) were giving food$_y$ (NEUT) to the children$_d$ (3PL) of the man$_z$ (3MSG)' |

150
Figure 4.15. Analysis of $\text{AFF}_b$ applying to ditransitive verb in (4-40)

| 1. INPUT: | marraga | ‘x to take y from d’ |
|           |         | $< [\text{Ag}]_x \ [\text{So}]_d \ [\text{Pt}]_y >$ |
|           |         | SUBJ OBJ OBJ$_2$ |
| 2. AFF$_b$: | a-marraga | ‘x to take y of z from d’ |
|           |         | $< [\text{Ag}]_x \ [\text{Aff}]_z \ [\text{So}]_d \ [\text{Pt}]_y >$ |
|           |         | SUBJ OBJ OBJ$_2$ POSS |
|           |         | OBJ$_2$ POSS |
| [Aff]$_{z}$ = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ] |
| 3. OUTPUT: | a-marraga | ‘x to take y of z from d’ |
|           |         | $< [\text{Ag}]_x \ [\text{Aff}]_z \ [\text{So}]_d \ [\text{Pt}]_y >$ |
|           |         | SUBJ OBJ OBJ$_2$ POSS |
| 4. DATA: | [ana-marrya]$_z$ wunguna-a-marraga-a [ngarra-manum-baa]$_z$ | RESID.TOP-food 3FDU/3MSG$_z$-AFF-take-PP F-woman-DU |
| ‘Two women$_x$ (3FDU) were taking the food$_y$ (NEUT) of the man$_z$ (3MSG) from the children$_d$ (3PL)’ |

4.3.2.3. Summary

Thus, the AFFECTEE APPLICATIVE derivation in Wubuy appears to have two main functions: it introduces a goal or source with transfer verbs and intransitive verbs of emotion, speech and attention; and it introduces an affectee with all other verbs, which is interpreted as an alienable external possessor when the input is transitive or ditransitive. A lexical entry summarising this follows:
Figure 4.16.  Lexical entry for aG- ~ waaG-

<table>
<thead>
<tr>
<th>AFF&lt;sub&gt;i&lt;/sub&gt;: verbs of emotion, speech, attention or transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.  V = ‘x to V (y)’</td>
</tr>
<tr>
<td>&lt; [Ag/Ex]&lt;sub&gt;i&lt;/sub&gt; (Th)&lt;sub&gt;*&lt;/sub&gt; &gt;</td>
</tr>
<tr>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td><em>[Th]&lt;sub&gt;</em>&lt;/sub&gt; must belong to a transfer verb</td>
</tr>
<tr>
<td>ii. AFF-V = ‘x to V (y) toward/from d’</td>
</tr>
<tr>
<td>&lt; [Ag/Ex]&lt;sub&gt;i&lt;/sub&gt; [Go/So]&lt;sub&gt;i&lt;/sub&gt; (Th)&lt;sub&gt;*&lt;/sub&gt; &gt;</td>
</tr>
<tr>
<td>SUBJ OBJ OBJ&lt;sub&gt;2&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

AFF<sub>b</sub>: other verbs

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>i.  V = ‘x to V ...’</td>
</tr>
<tr>
<td>&lt; [Ag/Ex]&lt;sub&gt;i&lt;/sub&gt; ... &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
</tr>
<tr>
<td>ii. AFF-V = ‘x to V ...’</td>
</tr>
<tr>
<td>&lt; [Ag/Ex]&lt;sub&gt;i&lt;/sub&gt; [Aff]&lt;sub&gt;i&lt;/sub&gt; ... &gt;</td>
</tr>
<tr>
<td>SUBJ OBJ</td>
</tr>
</tbody>
</table>

Nonetheless, as this is a morphological derivation, we would expect it to not be fully productive (Bauer, 2001, p. 126; Plag, 1999, pp. 11-12; Song, 2013b). As it turns out, when we investigate interactions between the AFFECTEE APPLICATIVE and the lexical affectedness construction outlined in §4.3.1, we find an apparent restriction on Wubuy verbs whereby they can license no more than one affectee (similar to what we saw with agents in the previous chapter). Therefore, we would expect Wubuy speakers to employ some other means of adding additional affectees to a given clause. Furthermore, we have seen above that when the AFFECTEE APPLICATIVE interacts with a transitive or ditransitive input, the affectee is introduced as an alienable external possessor. However, how do Wubuy speakers express simple affectedness with these verbs without adding a sense of possession? Interestingly, when we go looking for the answers to each of these questions, we find purposive constructions.
4.3.3. Expressing affectedness with purposive constructions

Earlier, we saw that Wubuy speakers can use the PURPOSIVE suffix -yungguyung and the PURPOSIVE clitic yadhu to mark affectees introduced by the AFFECTEE APPLICATIVE (see §4.3.2.2). As it turns out, these PURPOSIVE markers serve a wider function in the expression of affectedness in this language, as they can be used to introduce an additional affectee into a clause when there is already an affectee licensed by the verb, and they can also be used to express simple affectedness with transitive and ditransitive verbs (which would gain possessive semantics by undergoing the morphological AFFECTEE APPLICATIVE) by either introducing an affectee as an adjunct nominal or introducing a subordinate clause describing a desired outcome for an additional referent.

4.3.3.1. Adding an additional affectee

Beginning with the use of PURPOSIVE markers to introduce an additional affectee, consider the following data, where the transitive verbs yarrbu ‘x to wash y’ and balhu ‘x to cut y’ can be seen occurring in inalienable EPCs. Recall from §4.3.1 that the fact that these are inalienable EPCs can be determined by the assignment of object verb agreement to the inalienable possessor affectee (na-wulmurr-inyung ‘young man (3MSG)’ in (4-49) and ngarrugalij ‘dugong (FEM)’ in (4-50)) ahead of the possessum (yilhal ~ yi- ‘face (NEUT)’ in (4-49) and arrdha ‘tail (NEUT)’ in (4-50)). They are also characterised by the reassignment of the possessum to an oblique locative function, which is demonstrated by the LOCATIVE case suffix -rruj in (4-50). Below, the verb agreement prefix and affectee receiving object verb agreement are presented in bold:

(4-49) ngarra-man-i-nyung ngunu-yi-yarrbu-mana na-wulmurr-inyung
F-woman-HUM.SG 3FSG/3MSGx-face-wash-PRES M-young.man-HUM.SG
ngarr-ibiyung-yungguyung
F-mother.PROP-PURP
‘The woman (3FSG) washes the boy (3MSG) on the face (NEUT) for his mother (3FSG)’
(Stimulus: the woman cleaned the boy’s face for his mother)

(S1 / E3 / 20140331) INALEPC + PURP
In addition to containing inalienable EPCs, the examples above also have another referent marked with the PURPOSIVE suffix -yungguyung, which is ngarr-ibiyung ‘(his) mother (3FSG)’ in (4-49) and ngarra-ngarrinayung ‘(his) wife (3FSG)’ in (4-50), and this referent is understood as being someone for whose benefit the action of the verb is conducted. However, unlike the inalienable possessor affectees na-wulmurr-inyung ‘young man (3MSG)’ and ngarrugalij ‘dugong (FEM)’, which are introduced by the inalienable EPC as verbal arguments, the affectees marked by the PURPOSIVE suffix do not control verb agreement, and since the AFFECTEE APPLICATIVE is not present to indicate that an additional affectee has been introduced into the verb’s argument-structure, we can assume that -yungguyung is being used here to introduce ngarr-ibiyung ‘(his) mother (3FSG)’ in (4-49) and ngarra-ngarrinayung ‘(his) wife (3FSG)’ in (4-50) as adjuncts.

Interestingly, it actually appears to be unacceptable to use inalienable EPCs in conjunction with the alienable EPC function of the AFFECTEE APPLICATIVE (i.e. AFFECTEE APPLICATIVE rule (b.) with a transitive or ditransitive input), as demonstrated by the following data, where attempts to construct examples of these two EPC types co-occurring with the transitive input verb balhu ‘x to cut y’ in (4-51) and (4-52) were rejected by the Wubuy language consultant. Example (4-53) presents the acceptable alternative of the alienable EPC co-occurring with a regular IPC.
In (4-51), it appears that it is unacceptable to have AFFECTEE APPLICATIVE rule (b.) apply after the inalienable EPC. This is based on the fact that both the inalienable possessor ngargualij ‘dugong (FEM)’ and its possessum arrdha ‘tail (NEUT)’ are presented in oblique functions, as demonstrated by the oblique noun class prefix yii- on the former and the LOCATIVE suffix -rruj on the latter. If this application order were to be acceptable, then we would expect arrdha ‘tail (NEUT)’ to become oblique following the introduction of ngargualij ‘dugong (FEM)’ as primary object by the inalienable EPC, after which ngargualij ‘dugong (FEM)’ would become oblique following the introduction of ngarrinayung ‘(his) wife (3FSG)’ as primary object by AFFECTEE APPLICATIVE rule (b.) (based on the mapping rules in 1.3.2.1). However, this was rejected by the Wubuy language consultant.

Example (4-52) shows that it is also unacceptable for ngargualij ‘dugong (FEM)’ to take the topic form of FEMININE noun class prefix ngarra- here, which suggests that this argument also could not have been reassigned to
secondary object with the application order above (in the event that the mapping rules in 1.3.2.1 require updating). It also suggests that the opposite application order is not possible, since the verb agreement prefix *ngu*- (which changes to *nga*- when followed by the AFFECTEE APPLICATIVE derivational prefix) can agree with either a nonhuman FEMININE (FEM) or human THIRD-PERSON FEMALE SINGULAR (3FSg) primary object, which means that it could potentially be agreeing with *ngarrugalij* ‘dugong (FEM)’, which is what we would expect if the inalienable EPC were to apply after AFFECTEE APPLICATIVE rule (b.). However, this was also rejected by the Wubuy language consultant.

As mentioned earlier, I propose that the reason why the alienable and inalienable EPCs cannot be used together in examples (4-51) and (4-52) is because it is only possible to introduce one affectee into a verb’s argument-structure. If there is indeed such a restriction, this would mean that Wubuy speakers would need to treat any additional affectee referents as adjuncts, which is why we see the PURPOSIVE suffix *-yungguyung* used in examples (4-49) and (4-50) earlier. This appears to be supported by examples in which PURPOSIVE markers are used to introduce an additional beneficiary when an affectee has already been introduced by the AFFECTEE APPLICATIVE. Consider the following example, where the verb agreement prefix and the affectee receiving object verb agreement are once again presented in bold:

\[(4-54)\]  
ngarra-*man-i-nyung* ngi-*ya-nggii* nguna-*a-galima-yn guugu  
F-woman-HUM.SG 3FSg-go-PP 3FSG/3MSG-AFF-go.get.water-PP water  
na-*walyi-nyung-guy* ama-*muung-yungguyung*  
M-man-HUM.SG-DAT VEG.OBL-hair-PURP  
‘The woman (3FSg) went and got water for the man (3MSG) for his hair (VEG) (which was burning)’  
(S1 / E1 / 20140328) AFFb (INTRANS) + PURP

Here, the AFFECTEE APPLICATIVE prefix *aG*- ~ *waaG*- has attached to the intransitive verb *walima* ‘x to go get water’ and introduced the affectee

---

\[62\] The same is not true in (4-51), since the oblique noun class prefix on *ngarrugalij* ‘dugong (FEM)’ means that it cannot be primary object.
na-walyi-nyung ‘man (3MSG)’, which receives object verb agreement and takes the ALLATIVE-DATIVE case suffix -wuy ~ -guy (as per AFFECTEE APPLICATIVE rule (b.) for intransitive inputs – see §4.3.2.2). Notice that there is also an inalienable possessive relation between the possessor na-walyi-nyung ‘man (3MSG)’ and the possessum muung ‘hair (VEG)’, but since the former has already been introduced as an affectee by the AFFECTEE APPLICATIVE, this means that the additional affectedness to the latter can no longer be expressed by increasing the verb’s valency, leaving it to be introduced as an adjunct with the PURPOSIVE suffix -yungguung instead.

Analyses of how the differences in the expression of inalienable possessive relations in (4-54) and (4-49) are provided below for the sake of comparison, where it can be seen that the AFFECTEE APPLICATIVE in (4-54) introduces the possessor as a purposive adjunct, while the inalienable EPC in (4-49) treats the possessor as an oblique argument of the verb.\(^{63}\)

**Figure 4.17. Analysis of AFF\(_b\) with purposive adjunct in (4-54)**

<table>
<thead>
<tr>
<th>1. <strong>INPUT:</strong></th>
<th><em>walima</em></th>
<th>‘x to go get water’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[Ag] \textsuperscript{\textsubscript{x}}</td>
<td></td>
</tr>
<tr>
<td><strong>SUBJ</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. <strong>AFF(_b):</strong></td>
<td><em>a-galima</em></td>
<td>‘x to go get water for z’</td>
</tr>
<tr>
<td></td>
<td>[Ag] \textsuperscript{\textsubscript{x}} [Aff] \textsuperscript{\textsubscript{z}}</td>
<td></td>
</tr>
<tr>
<td><strong>SUBJ</strong></td>
<td></td>
<td><strong>OBJ</strong></td>
</tr>
<tr>
<td>3. <strong>OUTPUT:</strong></td>
<td><em>agalima</em></td>
<td>‘x to go get water for z’</td>
</tr>
<tr>
<td></td>
<td>[Ag] \textsuperscript{\textsubscript{x}} [Aff] \textsuperscript{\textsubscript{z}}</td>
<td></td>
</tr>
<tr>
<td><strong>SUBJ</strong></td>
<td></td>
<td><strong>OBJ</strong></td>
</tr>
<tr>
<td>4. <strong>DATA:</strong></td>
<td>[ngarra-mangi-nyung] * nga-ya-nggii nguna-agalima-yn*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-woman-HUM.SG 3FS\textsubscript{G\textsubscript{c}}-go-PP 3FS\textsubscript{G\textsubscript{c}}-3MS\textsubscript{G\textsubscript{c}}-AFF-go.get.water-PP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[na-walyi-nyung-guy] * [ama-muung-yungguung] *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>water M-man-HUM.SG-DAT VEG.OBL-hair-PURP</td>
<td></td>
</tr>
<tr>
<td>‘The woman (3FS\textsubscript{G}) went and got water for the man (3MSG) for his hair (VEG) (which was burning)’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{63}\) Recall from §2.3.3.1 that noun incorporation in Wubuy is optional and does not affect valency, so the incorporation of yi ‘face’ in Figure 4.18 is not obligatory for this construction.
Figure 4.18.  Analysis of INALEP with purposive adjunct in (4-49)

<table>
<thead>
<tr>
<th></th>
<th>INPUT:</th>
<th>yarrbu ‘x to wash yse’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt; [Ag]x [Pt]y &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ</td>
</tr>
<tr>
<td></td>
<td>[Arg2] = body part (BP)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>INALEP:</th>
<th>yarrbu ‘x to wash z on/at yse’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt; [Ag]x [Aff]z [Pt]y &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ</td>
</tr>
<tr>
<td></td>
<td>[Aff] = [Arg2]. Poss</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>OUTPUT:</th>
<th>yarrbu ‘x to wash z on/at yse’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt; [Ag]x [Aff]z [Pt]y &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>DATA:</th>
<th>[ngarra-maní-nyung]x ngunu-yi-yarrbu-mana</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F-woman-HUM.SG  3FSG/3MSG, face-wash-PRES</td>
</tr>
<tr>
<td></td>
<td>[na-wulmurr-inyung]-</td>
<td>[ngarr-ibiyung-yungguyung]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M-young.man-HUM.SG  F-mother.PROP3-PURP</td>
</tr>
</tbody>
</table>

‘The woman (3FSG) washes the boy (3MSG) on the face (NEUT) for his mother (3FSG)’

4.3.3.2. Expressing affectedness without possession

As mentioned earlier, it is also possible to use PURPOSIVE markers in transitive and ditransitive clauses to express simple affectedness, as opposed to expressing alienable possessive relations, which is what would occur through use of the AFFECTEE APPLICATIVE. For example, consider the data below, where (4-55) (which is reproduced from (4-53)) shows the referent ngarrinayung ‘(his) wife (3FSG)’ being introduced as an alienable external possessor by the AFFECTEE APPLICATIVE, while (4-56) demonstrates the same referent being introduced as a simple beneficiary affectee (i.e. without use of the AFFECTEE APPLICATIVE):

(4-55) na-walýi-nyung nga-a-ngu-balhu-u yii-ngarrugalíj-inyung
M-man-HUM.SG  3MSG/3FSG, cut-PC  FEM.OBL-dugong-GEN

arrdha ngarra-ngarrinayung-jinyung
tail  F-wife.PROP3-GEN

‘The man (3MSG) was cutting off the dugong’s (FEM) tail (NEUT) of the wife (3FSG)’

(S1 / E1 / 20140331)  IPC + AFFb (ALEPC)
(4-56) **niwu-balhu-u yii-ngarragalij-inyung arrdha**

3MSG/NEUT.\-cut-PC FEM.OBL-dugong-GEN tail

**ngarra-ngarrinayung-yungguyung**

F.\-wife.PROP-PURP

‘He (3MSG) was cutting off the dugong’s (FEM) tail (NEUT) for his wife (3FSG)’

(S1 / E1 / 20140331) IPC + PURP

In both examples, the nominals *arrdha* ‘tail (NEUT)’ and *ngarragalij* ‘dugong (FEM)’ occur in a regular IPC, with the latter serving as a possessive modifier of the former. This is indicated through the oblique noun class prefix in combination with the GENITIVE case suffix on *ngarragalij* ‘dugong (FEM)’. In (4-55), this IPC occurs as secondary object to the transitive verb *balhu* ‘x to cut y’ due to the use of the AFFECTEE APPLICATIVE, which introduces *ngarrinayung* ‘(his) wife (3FSG)’ as a primary object that is understood to be the alienable external possessor of *yii-ngarragalij-inyung arrdha* ‘dugong’s (FEM) tail (NEUT)’. In (4-56), on the other hand, the AFFECTEE APPLICATIVE is not in use, which means that the IPC *yii-ngarragalij-inyung arrdha* ‘dugong’s (FEM) tail (NEUT)’ is left in primary object position and is not understood as being alienably possessed by *ngarrinayung* ‘(his) wife (3FSG)’. Instead, *ngarrinayung* ‘(his) wife (3FSG)’, which occurs as an adjunct that is unmarked on the verb and takes the PURPOSIVE suffix -*yungguyung*, is understood as being a referent for whose benefit the dugong’s tail was cut off, without the additional implication that she owns the dugong’s tail. The following analyses visualise these differences between (4-55) and (4-56):
Figure 4.19. Analysis of IPC + AFF, with transitive verb in (4-55)

1. **INPUT:** 
   
   balhu 
   
   ‘x to cut y’
   
   < [Ag]x [Pt]y >
   
   SUBJ OBJ

2. **AFF:** 
   
   a-balhu 
   
   ‘x to cut y of z’
   
   < [Ag]x [Aff]y [Pt]z >
   
   SUBJ OBJ OBJ2
   
   OBJ2 POSS
   
   [Aff] = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]

3. **OUTPUT:** 
   
   a-balhu 
   
   ‘x to cut y of z’
   
   < [Ag]x [Aff]y [Pt]z >
   
   SUBJ OBJ OBJ2
   
   OBJ2 POSS

4. **DATA:** 
   
   [na-wa]yi-nyung], nga-a-ngu-balhu-u
   
   M-man-HUM.SG 3MSG/3FSG-cut-PC
   
   
   FEM.OBL-dugong-GEN tail F-wife.PROP-GEN
   
   ‘The man x (3MSG) was cutting off the dugong’sp (FEM) taily (NEUT) of the wifez (3FSG)’

Figure 4.20. Analysis of IPC + PURP with transitive verb in (4-56)

balhu 

‘x to cut y’

< [Ag]x [Pt]y >

SUBJ OBJ


3MSG/NEUT-cut-PC FEM.OBL-dugong-GEN tail

[ngarra-ngarrinayung-yungguyung]p

F-wife.PROP-PURP

‘He x (3MSG) was cutting off the dugong’sp (FEM) taily (NEUT) for his wifez (3FSG)’

In addition to introducing an affectee as a nominal adjunct, PURPOSE markers in Wubuy can also introduce a subordinate clause to introduce a desired outcome, and this can be utilised by Wubuy speakers to express an additional situation of affectedness periphrastically when it cannot be done morphologically. For example, reconsider the following examples, which have been reproduced from (4-39) and (4-42):
In (4-57), the ditransitive irregular verb *yi ‘x to give y to d’ has undergone the AFFECTEE APPLICATIVE to introduce the affectee *walyi-nyung ‘man (3MSG)’ as an alienable external possessor of the goal argument mijburraayung ‘children (3Pl)’. However, when an interpretation is desired where the man does not possess the children but still somehow benefits from the event, it is not possible to use the AFFECTEE APPLICATIVE to express benefaction by simply marking walyi-nyung ‘man (3MSG)’ with DATIVE case instead of GENITIVE, as shown by (4-58).

Instead, when Wubuy speakers wish to express a situation of affectedness with transitive and ditransitive verbs without also expressing a possessive relation, they often express the affectedness as a subordinate purposive clause using PURPOSIVE markers such as the suffix -yungguyung and the clitics nguynju and yadh. This is demonstrated in the following examples, where the subordinate clause is presented in bold:
In each of these examples, the main clause contains an underived or derived verb form that already licenses more than one argument, and a subordinate clause has been used to express the way in which the event of the main clause affects another referent. The type of affectedness is expressed through the
verb *walalarra* ‘y to be happy’, which indicates a beneficial effect, and this verb has additionally undergone the CAUSATIVE derivational process in the last three examples to become *walalarri-jga* ‘x to make y be happy’. In examples (4-59) and (4-60), the subordinate clause is introduced by attaching the PURPOSIVE suffix *-yungguyung* to the affected referent *walyi-nyung* ‘man (3MSG)’ and the subordinate verb *walalarri-jga* ‘x to make y be happy’ respectively. In (4-61) and (4-62), on the other hand, it is introduced by the PURPOSIVE clitic *nguynji* and *yadhu* respectively. Importantly, in all of the examples above, the subordinate clause expresses the way in which the additional referent is affected without also indicating a possessive relationship between this referent and an argument of the main clause. This is something that the AFFECTEE APPLICATIVE in Wubuy seems unable to do when its input is a general transitive (i.e. not a transfer verb) or ditransitive verb. However, although these purposive subordinate clauses are utilised by Wubuy speakers to represent affectedness in these contexts, the notion of affectedness itself is simply expressed through the lexical semantics of the subordinate verb, so following Smith (2005, p. 16), they do not qualify as formal affectedness constructions.

This use of purposive clauses to express affectedness also has certain overlaps with the purposive type of syntactic causative as discussed earlier in §3.3.2.2. That is, although these purposive clauses also do not meet Song’s (2013b) requirement that in a causative construction, “the expression of the causer’s action should be without specific meaning”, they do express the GOAL (i) component from Song’s (1996, pp. 142, 146) cognitive structure of causation in Figure 3.11. Indeed, Wubuy speakers will sometimes use such purposive clauses when translating causative situations, as demonstrated below, where the subordinate clause is presented in bold:64

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64 Note that the use of *aŋirr* ‘sun (FEM)’ here instead of the stimulus ‘alarm clock’ is due to the consultant’s wish to use a Wubuy word instead.
Nonetheless, such overlaps in the expression of affectedness, causation and purpose in Wubuy are not particularly surprising, since they are well-attested crosslinguistically (Luraghi, 2016; Rice & Kabata, 2007, p. 481; Schmidtke-Bode, 2009, p. 101; 2010).

4.4. Conclusion

In conclusion, by extending our investigation of affectedness constructions in Wubuy past morphological verb derivations and by also considering the distribution of affectee types according to the semantics of the input verb, many new observations can be made about how affectedness is expressed. For example, it has been found that the type of argument introduced by the AFFECTEE APPLICATIVE is somewhat predictable once the semantic subclass and transitivity of the input verb are taken into account: with intransitive and transitive transfer verbs and intransitive verbs of emotion, speech and attention, a goal or source is introduced (which is lexically determined); and with all other verbs, an affectee is introduced, and this affectee is additionally understood as an alienable external possessor of another verbal argument when the input is transitive or ditransitive. This is a particularly interesting discovery, since crosslinguistically, external possession is typically associated with inalienable possessive relations, rather than alienable ones (Payne & Barshi, 1999a, p. 14; Uehara, 1999, p. 50).

Two additional constructions have also been identified as affectedness constructions: the inalienable external possessor construction, which I propose affects valency by introducing an affectee argument as an inalienable external possessor; and PURPOSIVE nominal markers, which can introduce a beneficiary affectee as a nominal adjunct or introduce a subordinate clause.
that expresses the way in which an additional referent is affected by the event in the main clause (although the latter of these does not meet the requirements of a formal affectedness construction according to Smith (2005, p. 16)).

Furthermore, interactions between the different affectedness constructions in Wubuy reveal an apparent restriction at argument-structure, such that a single verb can only license one affectee. This means that transitive and ditransitive verbs can undergo either the inalienable EPC or the AFFECTEE APPLICATIVE, but not both. Instead, when a verb is already using one of these constructions and a Wubuy speaker wishes to express the affectedness of an additional referent, they can do so by using a PURPOSIVE suffix or clitic to introduce it as either a nominal adjunct or as an argument of a new subordinate clause that expresses the way in which this referent is affected.

Lastly, in relation to the broader crosslinguistic context, it is found that valency-changing affectedness constructions in Wubuy (i.e. the AFFECTEE APPLICATIVE and the inalienable EPC) usually collapse the distinction between benefaction and malefaction, which fits with Radetsky and Smith’s (2010, p. 116) characterisation of languages that express affectedness using Option 1, as well as their assertion that most Australian languages belong to this type. Nonetheless, Wubuy can also specify the type of affectedness when needed via case suffixes and purposive constructions, which is also typical of languages that use Option 1.
Part 3

resolving and avoiding agreement

In Part 2 of this thesis, we saw how argument realisation can be affected by the introduction of a new core argument. All the constructions considered so far, however, have involved the introduction of a referent as an additional argument or adjunct with its own distinct thematic role and grammatical function. In Part 3, we will consider a set of constructions where there are multiple referents that share (or can be interpreted as sharing) the same thematic role(s): conjunctive constructions. These constructions are of particular interest within the area of agreement research as they create contexts of ‘multiple antecedent agreement’. As discussed in the following chapters, such contexts can result in a system of agreement having to deal with a set of nominals that contains conflicting morphosyntactic feature values (e.g. both FEMININE and MASCULINE noun class), and this sometimes makes it impossible to encode all members of the set. Crosslinguistically, languages employ strategies of agreement resolution or avoidance to deal with such a problem. For example, in Wubuy, agreement with conflicting person and number values typically resolves according to the speaker’s intended reference, while agreement with conflicting gender and/or noun class values is much less straightforward and depends on several different factors, such as the animacy of conjuncts and the type of conjunctive construction in use.

The majority of research on multiple antecedent agreement, however, has been focussed on the basic coordination of nominals, often with little (if any) consideration of other construction types that are also relevant to multiple antecedent agreement, such as comitatives and reciprocals. Within the context of Australian language description, Heath’s (1984) grammar of Wubuy presents one of the few discussions of multiple antecedent agreement. However, similarly to what is observed in the crosslinguistic literature, Heath’s
(1984, p. 543) “conjunctive concord rules” are primarily aimed at accounting for basic nominal coordination, and it has remained unclear whether they adequately capture the patterns of verb agreement found with other conjunctive constructions. Furthermore, Heath (1984, p. 543) himself admits that these rules do not capture all the agreement strategies that can be used in Wubuy, particularly when coordination is between multiple nonhuman nominals that differ in noun class.

Part 3 of this thesis addresses these issues in a number of ways. Firstly, by comparing multiple antecedent agreement in Wubuy to the crosslinguistic context, it is found that ‘nearest conjunct agreement’ is often used when coordinated nonhuman nominals have different noun classes (see §5.3.1.3). Secondly, by extending the investigation of multiple antecedent agreement past basic coordinative constructions to also include comitatives and reciprocals, some new observations can be made about agreement resolution and avoidance in Wubuy. In relation to comitatives, it is found that they can have two functions: introducing a comitative referent that either triggers verb agreement as primary object or does not trigger verb agreement as an oblique or adjunct (see §6.3.1), or; coordinating two nonhuman referents with different noun classes, resulting in the use of coordinative agreement resolution and avoidance strategies (see §6.3.2). With regard to reciprocals, it is found that while they usually follow Heath’s (1984, p. 543) rules, they have a unique strategy of agreement avoidance when there is a difference in the noun class and animacy of reciprocal referents (see §6.4.2). These new observations about agreement resolution and avoidance in Wubuy demonstrate the benefits of treating all conjunctive constructions in a unified way when considering multiple antecedent agreement – an approach that is currently underutilised in the Australian and crosslinguistic literature.

In-depth investigations of multiple antecedent agreement in Wubuy are presented in the following chapters, with the first discussing basic nominal coordination and the second considering comitatives and reciprocals. Each
chapter begins with an overview of relevant definitions and crosslinguistic tendencies, followed by discussions and analyses of the Wubuy data.
Chapter 5: Basic coordinative constructions

5.1. Introduction

Crosslinguistically, all languages appear to have methods of coordinating nominals to express situations where there are multiple participants sharing the same role in an event (Haspelmath, 2007, p. 1; Payne, 1985; Zhang, 2009, p. 1). Within the area of agreement research, these coordinative constructions are known for creating contexts of multiple antecedent agreement, where instead of agreeing with just one nominal, languages are faced with the task of agreeing with a set of nominals that have been conjoined together. In such contexts, an agreement mismatch is often produced where the agreement system does not (or is unable to) encode the morphosyntactic feature values of all members of the set. For example, consider the following data from Wubuy, where the conjuncts have been presented in curly brackets and the verb agreement prefix has been presented in bold:\(^{65}\)

\(\text{(5-1)}\)  
\(\{\text{na-ninyarrayung}\} \text{ marri} \{\text{ngarr-ibiyung}, \text{ yuuguni}\)  
M-father.PROP\(_3\) and F-mother.PROP\(_3\) that.DIST.ALL.ADV  
\(\text{wini-ya-nggi} \text{ a-lagu}\)  
3MD\(_{UA}\)-go-PC RESID.OBL-honey  
\(\text{‘(her) father (3MSG) and (her) mother (3FSG) had gone away over that way, (looking) for honey (RESID)’}\)  
(Heath, 1980, p. 172)

Here, the nouns na-ninyarrayung ‘(her) father (3MSG)’ and ngarr-ibiyung ‘(her) mother (3FSG)’ have been coordinated by the particle marri ‘and’, which occurs between them. Both of these nominals are THIRD-PERSON and SINGULAR, differing only in their gender, which is MALE and FEMALE respectively. However, as can be seen, the irregular intransitive verb ya ‘x to go’ takes the agreement prefix wini-, which typically encodes an intransitive subject that is THIRD-PERSON, MALE, and DUAL. Since na-ninyarrayung ‘(her) father (3MSG)’ and ngarr-ibiyung ‘(her) mother (3FSG)’ both have SINGULAR

\(^{65}\) The possessor in this example is understood as being a THIRD-PERSON FEMALE SINGULAR referent; however, the propositus marking itself only indicates that the possessor of the kin term is THIRD-PERSON (Heath, 1984, p. 222).
morphosyntactic number values, this suggests that the wini- is agreeing with the semantic number of referents here rather than the morphosyntactic number value that is shared by both nominals (Corbett, 1983, pp. 177-178; Johnson, 2014, p. 56). Furthermore, it also appears that wini- may be defaulting to MALE gender as a way of resolving agreement with conjuncts that have conflicting morphosyntactic gender values.66

Corbett (2006, p. 175) argues that such mismatches in agreement are integral to understanding the mechanics of an agreement system as they reveal its limitations. However, as noted by Nordlinger and Sadler (2005, p. 11), descriptions of multiple antecedent agreement are severely lacking in the literature on Australian languages. Furthermore, within the broader linguistics literature, much of the research on this topic is exclusively focussed on basic nominal coordinative constructions, which means that strategies of agreement resolution and avoidance in other contexts of conjunction,67 such as with comitatives and reciprocals, are often overlooked and left undescribed. Although the focus of this chapter is predominantly on multiple antecedent agreement in examples of basic nominal coordination in Wubuy, we will explore how this works in other conjunctive contexts in Chapter 6.

66 These kinds of agreement patterns in nominal classifying languages from northern Australia (such as Wubuy) have also been described as resulting from superclassing, where agreement rules typically work on the basis of the semantic reference of the noun phrase, with neutralisations of distinctions at various points (e.g. Evans, 1997; Harvey, 1997).

67 Like others in the literature on multiple antecedent agreement (e.g. Corbett, 1991; Hock, 2007, 2009; Johnson, 2013, 2014), I use ‘resolution’ to refer to agreement strategies that primarily draw on semantic information to reflect the speaker’s intended reference, irrespective of the morphosyntactic feature values of each conjunct (e.g. using DUAL number to agree with two referents, even if these are realised in the morphosyntax as separate nominals with SINGULAR number), while ‘avoidance’ is used to refer to agreement strategies that primarily draw on morphosyntactic methods of circumventing the need to agree with conflicting morphosyntactic feature values (e.g. agreeing with the conjunct that is closest to the verb stem). However, note that it does not necessarily follow that the former is not informed by morphosyntax and the latter by semantics. For example, resolution rules are language-specific and stipulated in the grammar, while avoidance rules can be influenced by semantic information, such as the animacy of conjuncts (Johnson, 2014, p. 7).
Unlike the majority of grammars on Australian languages, Heath’s (1984) grammar of Wubuy actually does discuss contexts of multiple antecedent agreement (Nordlinger & Sadler, 2005, p. 11). He sets out the following rules “for pronominal concord, especially for subject- and object-markers in the verbal pronominal prefix when the subject or object is a conjunction of nouns/pronouns” (Heath, 1984, p. 543):

**Figure 5.1. Heath’s (1984, p. 543) “conjunctive concord rules”**

<table>
<thead>
<tr>
<th>Rule</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>pronominal person rule is that first exclusive includes speaker but not addressee, first inclusive includes speaker and addressee, second person includes addressee but not speaker, third person excludes speaker and addressee;</td>
</tr>
<tr>
<td>b)</td>
<td>human MSg plus one other referent (including FSg), human or nonhuman, is MDu;</td>
</tr>
<tr>
<td>c)</td>
<td>human FSg plus other FSg or one nonhuman is FDu;</td>
</tr>
<tr>
<td>d)</td>
<td>total of three or more referents including at least one human is Pl (except for optional 1InMTr and 1InFTr categories);</td>
</tr>
<tr>
<td>e)</td>
<td>two nonhumans of same noun class are treated as a noun of the same noun class (no pluralisation);</td>
</tr>
<tr>
<td>f)</td>
<td>two or more nonhumans of different noun class inconsistently but often act like a noun of ANA class [NEUT or RESID: KH], especially ANA[RESID: KH].</td>
</tr>
</tbody>
</table>

With this set of rules, Heath (1984, p. 543) effectively predicts the verb agreement prefix used in the majority of Wubuy examples where the verb must agree with a set of coordinated nominals. However, these rules are quite specific and have overlapping elements of commonality, which suggests they could be simplified and further generalised. Also, there are certain elements of multiple antecedent agreement in basic coordinative constructions that have remained unclear or unpredicted. For instance, Heath (1984, p. 543) suggests that his rule (f) above is not always followed. In those cases, what determines the agreement pattern used by speakers?

This chapter addresses these research gaps by comparing patterns of multiple antecedent agreement in basic Wubuy coordinative constructions to the

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68 Other Australian languages with descriptions of multiple antecedent agreement include Mawng (Singer, 2006) and Diyari (Austin, 1981 [2013]).

69 Note that Heath’s (1984, p. 543) use of “conjunctive” here only includes coordinative constructions, which is a common approach to this term within the linguistics literature (cf. Stassen, 2000, 2001, 2003, 2013).
tendencies and strategies of agreement resolution and avoidance discussed in the crosslinguistic literature. In doing so, it is found that person and number resolution typically just follow the crosslinguistic tendency for person and number to resolve according to the speaker’s intended reference (Corbett, 1983, pp. 175-178). This is demonstrated in the following example of standard verb agreement in Wubuy, where the coordinated referents are presented in curly brackets and the verb agreement prefix is presented in bold:

(5-2) \{ngaya\} marri \{na-baba\} nĩi naani-yaa-rri wugurri-wuy
1SG.PRO and M-father.PROF1 1EXMDU.PRO 1EXMDU-go-FC 3PL.PRO-ALL
‘I (1SG) and my father (3MSG), we (1EXMDU) will go to them (3PL)’
(Nunggubuyu People, 2014, John 14.23)

Here, there is coordination between the pronoun ngaya ‘I (1SG)’ and the noun baba ‘(my/our) father (3MSG)’, and since the speaker is represented as one of the coordinated referents, person agreement resolves to FIRST-PERSON to reflect the speaker’s point-of-view. Furthermore, as the coordinated nominals are both SINGULAR, number agreement resolves to DUAL to reflect that there are two semantic referents.

However, although person and number agreement in basic Wubuy coordinative constructions is relatively straightforward, the same cannot be said for gender and noun class. As it turns out, there are a range of different agreement resolution and avoidance strategies for gender and noun class that are utilised in Wubuy. Nonetheless, although Heath (1984, p. 543) uses six different rules to capture these strategies (rules (b) to (f)), I find that this can be condensed somewhat by identifying certain redundancies in his rules and also comparing his rules to crosslinguistic tendencies of gender and noun class agreement in contexts where there are multiple antecedents. For example, consider the following data:

(5-3) \{James\} marri \{John\}, wini-yanggi nigawi-wuy
James and John 3MDU-go-PC 3MSG.PRO-ALL
‘James (3MSG) and John (3MSG) were going to him (3MSG)’
(Nunggubuyu People, 2014, Mark 10.35)
\((5\text{-}4)\)  \{ngarra-Martha\} marri \{ngarra-Mary\}  \text{wingi-wawanggi-yn}  
F-Martha and F-Mary 3FDU-\text{-listen-PP}  

'Martha (3FSG) and Mary (3FSG) listened'  
(Nunggubuyu People, 2014, John 11.20)  

\((5\text{-}5)\)  \text{arrbidi-wugij nirimna-ngu-yii} \{mana-binang\} marri 
anyway-only 1EXPL/VEG-\text{-eat-PRES} VEG,\text{TOP-wattle.sp.} and 
\{mana-wurrgala\}  
VEG,\text{TOP-wattle.sp.}  

'We (1EXPl) eat the (gum of) binang (VEG) and wurrglala (VEG) anyway'  
(Heath, 1980, p. 435)  

To account for the examples above using Heath’s (1984, p. 543) rules, we would have to say that rule (b) applies in (5-3), rule (c) applies in (5-4), and rule (e) applies in (5-5). However, all that is really happening in each example is agreement resolving to the gender or noun class that happens to be shared by both coordinated nominals, which is a common method of agreement in such contexts crosslinguistically (Corbett, 1994, p. 1351). Therefore, it makes sense to use a single rule to capture this observation, rather than spreading it across three. As we will see in §5.3.1, we can use this kind of approach to condense Heath’s (1984, p. 543) conjunctive concord rules further.  

Lastly, by comparing strategies of noun class agreement in Wubuy to the crosslinguistic context, we are able to identify what is happening in examples that meet the criteria of Heath’s (1984, p. 543) rule (f) above but do not actually follow it: in such contexts, ‘nearest conjunct agreement’ is typically being used. Although nearest conjunct agreement is not mentioned by Heath (1984) as a potential solution to agreement feature clash, it is a strategy of agreement avoidance that has been widely attested crosslinguistically (e.g. Arnold, Sadler, & Villavicencio, 2007; Bennamoun, Bhatia, & Polinsky, 2009; Camacho, 2003; Corbett, 1991; Kiss, 2012; Marusic, Nevins, & Badecker, 2015; McCloskey, 1986; Moosally, 1999; Sadler, 1999; Yatabe, 2004). Essentially, this agreement strategy simply encodes the relevant morphosyntactic feature values of whichever conjunct is closest to the verb stem, as demonstrated by the following Wubuy data, where the transitive verb ngaynbanda ‘x to want y’ agrees with the conjunct that is closest to it,
which is *alirr* ‘sun (FEM)’. Below, coordinated nominals have been presented in curly brackets and bold font is used to highlight the relevant verb agreement prefix and the nominal *alirr* ‘sun (FEM)’ with which it agrees as primary object:

(5-6) \[ \text{waari ambirringa-ngaynbanda-ng \{ngarra-alirr\} marri \{na-\text{jabama}\}} \]
\[ \text{NEG 3PL/FEM-want-PresNEG FEM.TOP-sun and MASC.TOP-moon} \]
‘They (3Pl) do not need (lit. want) the sun (FEM) and moon (MASC)’
(Nunggubuyu People, 2014, Revelation 21.23)

Interestingly, this avoidance strategy of nearest conjunct agreement does not appear to be restricted to environments involving only nonhuman conjuncts. This is demonstrated by the following example, where the nonhuman nominal *barrawu* ‘boat (VEG)’ is agreed with as the closest conjunct even though it is coordinated with the human nominal *ninyarrayung* ‘(their) father (3MSG)’:

(5-7) \[ \text{nga aqaba \text{winima-arru-yn} \{mana-barrawu\} marri} \]
\[ \text{and then 3MDU/VEG,-leave.behind-PP VEG.TOP-boat and} \]
\[ \text{[na-ninyarrayung]} \]
\[ \text{M.father.PROP3} \]
‘And then they (3MDU) left the boat (VEG) and their father (3MSG) behind’
(Nunggubuyu People, 2014, Matthew 4.22)

According to Heath’s (1984, p. 543) rule (b), the coordination of nominals in this example should result in agreement resolving to the gender of *ninyarrayung* ‘(their) father (3MSG)’ due to the fact that it is a MALE human while *barrawu* ‘boat (VEG)’ is a VEGETABLE nonhuman. Thus, it appears that in addition to making the application of Heath’s (1984, p. 543) concord rule (f) inconsistent with coordinated nonhumans of different noun classes, nearest conjunct agreement appears to do the same with some of his rules relating to human referents.

Before going into the details of multiple antecedent agreement strategies in Wubuy any further, however, it is useful to define some of the terminology used in relation to coordinative constructions.
5.2. **Brief overview: definitions**

From the outset, it should be noted that in this thesis, I use the terms ‘coordination’ and ‘conjunction’ with different but related meanings. Following Stassen (2000, 2001, 2003, 2013), I treat nominal *coordination* as a subtype of nominal *conjunction*. Beginning with the superordinate category of conjunction, Stassen (2003, pp. 763-764) proposes the following definition:

**Figure 5.2. Stassen’s (2003, pp. 763-764) definition of NP conjunction**

A sentence contains a case of NP conjunction

a. if it describes a single occurrence of an event (action, state, process, etc.),

b. and if this event is predicated simultaneously of two (and no more) participant referents, which are conceived of as separate individuals.

As he explains, this delimits the range of constructions to be considered in a number of ways. Firstly, the specification in (b.) rules out clauses where the multiplicity of referents is indicated solely through the use of DUAL, PLURAL or COLLECTIVE nouns or pronouns that are not conjoined to another nominal, since this does not represent the participant referents as separate individuals (Stassen, 2003, p. 764). For example, the following data from Wubuy does not qualify as an example of noun phrase conjunction, since *nuubini na-wulmurr-waa* ‘those two boys (3MDU)’ simply uses DUAL marking to indicate that there are multiple referents:

(5-8) bagu wini-ngamba-ngambi-ini *nuubini* na-wulmurr-waa
there.ANAPH 3MDU,r.RDP-bathe-PC those.3MDU.ANAPH M-boy-DU

‘Those two boys (3MDU) were bathing there’

(Heath, 1980, p. 17)

Secondly, the specification at (a.) rules out instances of clausal or sentential conjunction such as what can be seen in the Wubuy data below, where the relevant clauses are presented in curly brackets:
(5-9)  \{jambirri nima-thi-yn\}, \ ngijang anubagaala, \{dhirrikayu, jambirri 3MSG/VEG.-chop-PP more from.there Dhirrikayu
3MSG/VEG.-chop-PP

‘Jambirri (3MSG) chopped them [trees for dugout canoe (VEG)] down, and after that
Dhirrikayu (3MSG) chopped them [trees for dugout canoe (VEG)] down’
(Heath, 1980, p. 532)

In relation to examples such as this, Stassen (2003, p. 764) explains that
although it is true that they ascribe “the same event type to two different
participants” and have “a possible simultaneous reading”, such sentences do
not meet the requirement in (a) because they do not describe “a single
occurrence of an event”, instead describing “two occurrences of the same
event-type”. In later sections, however, we will see that although this kind of
recasting does not qualify as noun phrase conjunction, it is often used as a
strategy of agreement avoidance.

Thirdly, the specification at (b.) rules out enumerations (i.e. a listing of more
than two participants) by stating that the number of conjuncts in a noun
phrase conjunction is “two (and no more)” (Stassen, 2003, p. 764). Stassen’s
(2003, pp. 764-766) definition, then, would not consider the second clause in
the following Wubuy example to constitute an example of noun phrase
conjunction. The relevant clause is presented in bold, and conjuncts are
presented in curly brackets:

(5-10)  \{ngi\wu-ma-\ngi\ murrarbu marri ngima-\ma-ngi\ \{mungulu\}
3FSG/NEUT.-get-PC mud.crab and 3FSG/VEG.-get-PC seaweed

\{ng\uji\ja\} marri \ngalaali\gi\ gaga\lang\}
fish and green.turtle egg

‘She was getting mud crabs (NEUT) and she was getting seaweed (VEG), fish
(RESID) and green turtle eggs (RESID)’
(Stimulus: She collected some crabs, seaweed, fish and turtle eggs)
(S1 / E3 / 20140319)

Stassen’s (2003, pp. 764-765) reason for excluding such examples from his
account of noun phrase conjunction is because in many languages,
enumerations and “participant pairs” are encoded and marked differently:
Several languages have a specific marker which indicates that the enumeration given need not be exhaustive and hence creates a sort of “etcetera”-reading. In all the relevant languages this marker cannot be employed in constructions with two participants... Furthermore, in many languages the use of the coordinating particle is different if more than two participants are involved... English has the possibility of restricting the use of the conjuncor and in enumerations to the last member of the series, while the other NPs are juxtaposed. This juxtapositional strategy is not an option for a “two participant” sentence (Stassen, 2003, pp. 764-765).

Due to differences such as this, Stassen (2003, p. 765) argues that “there is good reason to assume that NP conjunctions with three or more members form a special case”, and based on this he excludes enumerations from his typology to avoid complicating it beyond necessity. Despite this stance, however, he admits that it is not possible to know if this is the correct approach, noting that “[i]t may turn out later that the formal properties exhibited by enumerations are of key importance to our understanding of the typology of NP conjunction as a whole” (Stassen, 2003, p. 765).

Due to this uncertainty, as well as the fact that Wubuy does not appear to exhibit any of the formal differences between enumerations and participant pairs observed by Stassen (2003, pp. 764-765), I include constructions involving more than two conjuncts in my consideration of noun phrase conjunction in Wubuy and revise Stassen’s (2003, pp. 763-764) definition as follows:

Figure 5.3. Revised definition of nominal conjunction (based on Stassen, 2003)

A sentence contains a case of nominal conjunction
a. if it describes a single occurrence of an event (action, state, process, etc.),
b. and if this event is predicated simultaneously of two or more participant referents, which are conceived of as separate individuals.

By changing the wording above in (b.) from “two (and no more) participant referents” to “two or more participant referents”, this revised definition will allow for enumerations.

Within the category of nominal conjunction, Stassen (2000, 2001, 2003, 2013) identifies two semantic subtypes: coordination and comitativity. For the
purpose of this chapter, we are primarily concerned with coordination, so I leave the discussion of how comitativity fits into his crosslinguistic approach for the following chapter (see §6.2.1). In relation to coordinative constructions, Stassen (2003, p. 780) proposes the following prototypical properties:

Figure 5.4. Prototypical properties of coordination
(Stassen, 2003, p. 780)

<table>
<thead>
<tr>
<th>Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPs have same structural rank</td>
</tr>
<tr>
<td>Unique coordinative particle</td>
</tr>
<tr>
<td>NPs form a constituent</td>
</tr>
<tr>
<td>Plural/dual agreement on verbs</td>
</tr>
</tbody>
</table>

These properties are demonstrated by the following Wubuy data, where conjuncts are presented in curly brackets, the coordinator is presented in bold, and example (5-11) has been reproduced from (5-1):

(5-11) \{na-ninarrayung\} marri \{ngarr-ibiyung\}, yuuguni

M-father.PROP\text{3} and F-mother.PROP\text{3} that.DIST.ALL.ADV

wini-ya-nggi a-lagu
3MDU,\text{-go-PC} RESID.OBL-honey

‘(her) father (3MSG) and (her) mother (3FSG) had gone away over that way, (looking) for honey’

(Heath, 1980, p. 172)

Above, the balanced syntactic and semantic relationship between \textit{na-ninarrayung} ‘(her) father (3MSG)’ and \textit{ngarr-ibiyung} ‘(her) mother (3FSG)’ in (6-7) is demonstrated by the fact that they “have the same semantic role and together form a larger constituent” (Haspelmath, 2013). That is, as coordinated nominals they together form a noun phrase where they are co-heads and are thereby jointly assigned the thematic role of agent.

Now that coordination as a subcategory of conjunction has been outlined, we are ready to move on to a discussion of the Wubuy data.

5.3. Coordinative constructions in Wubuy

In Wubuy, the normal way of coordinating nominals is with a monosyndetic construction, which according to Stassen (2013) is by far the most common
method of marking noun phrase coordination crosslinguistically. Such constructions involve the use of a single overt coordinator that occurs between two noun phrases (Stassen, 2013), as demonstrated in the following Wubuy data, where the two nominals Jiwiyn and Duula have been coordinated by the particle marri ‘and’, which occurs between them. Here, marri is presented in bold and the nominal conjuncts are presented in square brackets:

\[(5-12)\] ambuu-yarra-ya-rrii adaba nuubini warra-yami-jga-na 3PlRd-go-FC then 3Mdu:Pro 3Pl/3Mdu:say-Caus-Pres

\{na-Jiwiyn\} marri \{na-Duula\} “nimbiniwa-ar-wudi-yn”
M-Jiwiyn and M-Duula 2Mdu/Neut\textsubscript{a}-water-dig.for-FPOT

“They (3PL) will go, then they tell those two (3Mdu) Jiwiyn (3MSG) and Duula (3MSG) “You two dig for water!””

(Heath, 1980, p. 285)

It is also possible to coordinate nominals in Wubuy via asyndeton, where coordinated items are simply juxtaposed without a coordinator (Stassen, 2013). This is demonstrated in the following data, where the nominals marang ‘hand’ and muun ‘foot’ are juxtaposed instruments:

\[(5-13)\] nirri-yaarri-jgi-ini, \{a-maram-baa\} \{a-muun-baa\}
1Expl/Neut\textsubscript{a}-go-Caus-PC Neut.Obl-hand-Du Neut.Obl-foot-Du

“We (1Expl) were lugging it [lumber (Neut\textsubscript{a})], with both hands (Neut\textsubscript{Du}) and both feet (Neut\textsubscript{Du}).”

(Heath, 2004, p. 76)

Although Stassen (2013) describes this kind of juxtaposition as a “minor strategy” of nominal conjunction crosslinguistically that is rarely obligatory, Sadler and Nordlinger (2010, p. 417) claim that it is in fact the most common method of nominal coordination in Australian languages. In fact, for many Australian languages, juxtaposition is “the only possible (and therefore obligatory) strategy for NP coordination” (Nordlinger & Sadler, 2005, p. 2).

\(\text{70}\) However, examples such as the following suggest that juxtaposition may not always be an acceptable method of nominal conjunction to current Wubuy speakers:

ajiga na-Mick marri na-Brett? / *ajiga na-Mick na-Brett

where M-Mick and M-Brett where M-Mick M-Brett

‘Where are Mick and Brett?’

(Baker, 2007, Apr)
As seen in earlier examples, Wubuy is an exception to this, as it also has the coordinative particle marri ‘and’. Another exception is Ngalakgan (Merlan, 1983), a close relative of Wubuy, which has the coordinative particle añji ‘and’ that is identical in form to the COMITATIVE derivational prefix aynji- in Wubuy (both /ɑɲɟi/).

As discussed earlier, coordinative constructions are interesting because they create a situation where the verb must agree with a set of nominals, rather than a single nominal. An investigation of how Wubuy verb agreement is resolved and avoided with basic nominal coordination is presented in the following subsection, which presents a new analysis of Heath’s (1984, p. 543) “conjunctive concord rules”.

5.3.1. Resolution and avoidance in basic coordinative constructions

5.3.1.1. Person

Beginning with strategies of multiple antecedent agreement for person, Heath (1984, p. 543) provides the following rule:

Figure 5.5. Heath’s (1984, p. 543) concord rule for person

| a) pronominal person rule is that first exclusive includes speaker but not addressee, first inclusive includes speaker and addressee, second person includes addressee but not speaker, third person excludes speaker and addressee; |

However, although this rule is accurate, it can be simplified by relating it to broader crosslinguistic tendencies. When comparing person resolution in Wubuy to the crosslinguistic context, we can see that Heath’s (1984, p. 543) rule is actually just describing a general tendency for person resolution to follow the real-world point-of-view of the speaker, where preference for verb agreement is generally given to FIRST-PERSON referents, followed by SECOND-

71 Although it is unlikely that aynji- in Wubuy was originally borrowed from Ngalakgan and then grammaticalised into a verb derivation, since there was no contact between these languages historically. Nonetheless, it is possible that Wubuy aynji- and Ngalakgan añji are both independent survivals of a proto-language form, but this would be difficult to prove.
PERSON and then THIRD-PERSON (Corbett, 1983, pp. 175-176; Johnson, 2014, p. 56). Therefore, we can reformulate the person rule in Wubuy as follows:

**Figure 5.6. Multiple antecedent agreement in Wubuy: person**

Person agreement resolves according to the hierarchy: 1IN > 1EX / 2 > 3

This rule states that person agreement will first try to resolve to FIRST-PERSON INCLUSIVE (1IN), which would require at least one FIRST-PERSON referent and one SECOND-PERSON referent. Next, it will try to resolve to FIRST-PERSON EXCLUSIVE (1EX) or SECOND-PERSON (2), which would require at least one FIRST-PERSON referent or one SECOND-PERSON referent respectively. The reason for placing FIRST-PERSON EXCLUSIVE and SECOND-PERSON on the same level of the hierarchy is because they do not compete with one another (i.e. if there were both FIRST-PERSON and SECOND-PERSON referents, agreement would have already resolved to FIRST-PERSON INCLUSIVE). Lastly, when there are only THIRD-PERSON referents, agreement simply resolves to THIRD-PERSON (3). Examples of the rule in Figure 5.6 producing each of these outcomes can be found below, where: (5-14) demonstrates how subject agreement with the emphatic FIRST-PERSON and SECOND-PERSON pronouns ngaya-waj and nuga-waj resolves to FIRST-PERSON INCLUSIVE; (5-15) (which has been reproduced from (5-2)) demonstrates how subject agreement with the FIRST-PERSON pronoun ngaya and the THIRD-PERSON nominal na-baba ‘(my) father (3MSG)’ resolves to FIRST-PERSON EXCLUSIVE; (5-16) demonstrates how subject agreement with the SECOND-PERSON pronoun nagang and the THIRD-PERSON nominal warra-mijbaruuyung ‘children (3PL)’ resolves to SECOND-PERSON; and (5-17) demonstrates how object agreement with walji-nyung ‘man (3MSG)’ and mani-nyung ‘woman (3FSG)’ resolves to THIRD-PERSON:

(5-14) ądaba {ngaya-waj} marri {nuga-waj}, naadaguu
now 1SG.PRO-EMPH and 2SG.PRO-EMPH this.3MSG
nana-a-damarr-ngu-burra-a, naga-waj-dhangu
1INCLDU/3MSG-AFF-emotion-O-be-PRES 1INCLDU.PRO-EMPH-EMPH.PL
‘Now you (2SG) and I (1SG), we (1INCLDU) are fond of this [man (3MSG)]’
(Nunggubuyu People, 2014, Philemon 1.16)
(5-15) \{ngaya\} marri \{na-baba\} nini naani-yaa-rri wugurri-wuy
1SG.Pro and M-father.PRO1 1EXMDU.PRO 1EXMDU\_go-FC 3PL.PRO-ALL
‘I (1SG) and my father (3MSG), we (1EXMDU) will go to them (3PL)’
(Nunggubuyu People, 2014, John 14.23)

(5-16) numburr\_yaa-rri ama-barrawu-wuy, \{nagang\} marri
2PL\_go-FC VEG.OBL-boat-ALL 2SG.PRO and
\{nugawi-nyinyung warra-mijburraayung\}
2SG.PRO-GEN PL-children
‘You (2PL) will go to the boat (VEG), you (2SG) and your children (3PL)’
(Nunggubuyu People, 2014, Genesis 7.1)

(5-17) wani-mapdha-ngi \{walyi-nyung\} marri \{ma\_nyung\}
3MSG/3MDU\_make-PC man-HUM.SG and woman-HUM.SG
‘He (3MSG) was making a man (3MSG) and a woman (3FSG)’
(Nunggubuyu People, 2014, Genesis 5.2)

5.3.1.2. Number

Moving on to number, Heath (1984, p. 543) does not have a specific rule that
deals with this, instead spreading it across several rules:

**Figure 5.7.** Heath’s (1984, p. 543) concord rules relating to number

| b | human MSg plus one other referent (including FSg), human or nonhuman, is MDu; |
| c | human FSg plus other FSg or one nonhuman is FDu; |
| d | total of three or more referents including at least one human is Pl (except for optional 1InMTr and 1InFTr categories); |
| e | two nonhumans of same noun class are treated as a noun of the same noun class (no pluralisation); |

However, although these rules are once again accurate, they can also be
simplified and generalised further. Essentially, so long as at least one of the
referents is human, number in Wubuy generally resolves according to the
semantic number of referents. That is, two SINGULAR referents will resolve to
DUAL, and any more referents than this will result in PLURAL agreement (with
trial as an additional option when there are three referents). This is a typical
strategy of number resolution crosslinguistically (Corbett, 1983, pp. 177-178;
Johnson, 2014, p. 56). However, in addition to this, nonhuman referents do
not have a grammatical category of number (as discussed in §2.3.3.2), which
means that none of the morphology that is sensitive to number will show
agreement for nonhuman referents (Baker, 2008a); in other words, verb agreement only differentiates number when there is at least one human referent (as discussed in §2.3.3.2).

Based on these observations, we can capture multiple antecedent agreement strategies for number in Wubuy with a simpler set of rules as follows:

**Figure 5.8. Multiple antecedent agreement in Wubuy: number**

i. If all referents are nonhuman, there is no number agreement. Otherwise,
ii. Number agreement resolves according to the semantic number of referents.

An example of rule (i.) (which corresponds to Heath’s (1984, p. 543) rule (e)) is presented in (5-18) below, where the number of nonhuman referents comprising the primary object is not encoded on the verb. Rule (ii.) from Figure 5.8 applies in examples (5-19), (5-20) and (5-21) below (which correspond to Heath’s (1984, p. 543) rules (b), (c), and (d) respectively):

(5-18) *arrbidi-wugij nirrima-ngu-yii {mana-binang} marri
anyway-only 1EXPL/VEG,eat-PRES VEG,Top-wattle.sp. and
{mana-wurrgala}
VEG,Top-wattle.sp.
'Ve (1ExPl) eat the (gum of) * binang (VEG) and wurrgala (VEG) anyway'
(Heath, 1980, p. 435)

(5-19) *{James} marri *{John}, wini-yanggi nigawi-wuy
James and John 3MDU,go-PC 3MSG,PRO-ALL
'James (3MSG) and John (3MSG) were going to him (3MSG)'
(Nunggubuyu People, 2014, Mark 10.35)

(5-20) *{ngarra-Martha} marri *{ngarra-Mary} wingi-wawanggi-yn
F-Martha and F-Mary 3FDU,listen-PP
'Martha (3FSg) and Mary (3FSg) listened'
(Nunggubuyu People, 2014, John 11.20)

(5-21) nga ngiga wangi-na-yn *{landhurrg} {bujigan} marri
and 3FSG,Pro 3FSG/3PL,see-PP dog cat and
{wulmurr-inyung}
boy-HUM.SG
'And she (3FSG) saw a dog (COLL), a cat (RESID) and a boy (3MSG)'
(S1 / E3 / 20140321)
5.3.1.3. Gender and noun class

Lastly, with regard to gender and noun class, Heath (1984, p. 543) once again spreads this across several rules:72

Figure 5.9. Heath’s (1984, p. 543) concord rules relating to gender and noun class

<table>
<thead>
<tr>
<th>Rule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>b)</td>
<td>human MSg plus one other referent (including FSg), human or nonhuman, is MDu;</td>
</tr>
<tr>
<td>c)</td>
<td>human FSg plus other FSg or one nonhuman is FDu;</td>
</tr>
<tr>
<td>d)</td>
<td>total of three or more referents including at least one human is Pl (except for optional 1InMTr and 1InFTr categories);</td>
</tr>
<tr>
<td>e)</td>
<td>two nonhumans of same noun class are treated as a noun of the same noun class (no pluralisation);</td>
</tr>
<tr>
<td>f)</td>
<td>two or more nonhumans of different noun class inconsistently but often act like a noun of ANA class [NEUT or RESID], especially ANAø [RESID].</td>
</tr>
</tbody>
</table>

As can be seen, the correlation between semantics and the morphosyntactic category chosen is less transparent when resolving and avoiding gender or noun class, which is common crosslinguistically (Corbett, 2006; Johnson, 2014). However, there are still a number of ways that these rules can be simplified and built-upon to provide a better picture of how gender and noun class resolution works in Wubuy.

The first thing that can be noted is that Heath’s rule (d) essentially just indicates that gender and noun class are neutralised when number resolves to PLURAL. Therefore, we can begin by simply stating this as follows:

Figure 5.10. Multiple antecedent agreement in Wubuy: gender and noun class (version 1)

<table>
<thead>
<tr>
<th>Rule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>If number resolves to PLURAL (Pl), gender and noun class are neutralised (i.e. there is no gender or noun class agreement)</td>
</tr>
</tbody>
</table>

An example of this neutralisation is demonstrated in (5-21) above, where the verb does not encode noun class for the PLURAL transitive object.

Next, when comparing Heath’s (1984, p. 543) rules (b), (c) and (e), an element of commonality can be seen. According to rule (b), a human MALE noun plus

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72 Note that Heath’s (1984, p. 543) rule (a.) does not relate to gender or noun class, which is why it is not listed here.
another human MALE noun will result in resolution to MALE gender. Similarly, rule (c) states that agreement will resolve to FEMALE gender when there is a human FEMALE noun plus another human FEMALE noun. Finally, rule (e) states that “two nonhumans of [the] same noun class are treated as a noun of the same noun class” (Heath, 1984, p. 543). Thus, irrespective of animacy, if all referents share the same gender or noun class, then agreement will resolve to that gender or noun class, and we can revise our multiple antecedent agreement rules as follows, where the new rule has been presented in italic:

Figure 5.11. Multiple antecedent agreement in Wubuy: gender and noun class (version 2)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i. When number resolves to PLURAL (Pl), gender is neutralised (i.e. there is no gender or noun class agreement). <em>Otherwise,</em></td>
<td></td>
</tr>
<tr>
<td>ii. <em>If the gender or noun class value is the same for all referents, agreement resolves to that gender or noun class.</em></td>
<td></td>
</tr>
</tbody>
</table>

This new rule (ii.) in Figure 5.11 can be seen applying in examples (5-18), (5-19) and (5-20) earlier, which correspond to Heath’s (1984, p. 543) rules (e), (b) and (c) respectively.

Moving on to contexts where there is a mismatch in the gender or noun class of referents (and where it is not neutralised), this is where things start to get interesting. Firstly, by comparing Heath’s (1984, p. 543) rules (b) and (c) in Figure 5.9, it can be seen that when there is at least one human referent, preference is given to MALE gender over FEMALE gender,73 which is relatively common crosslinguistically (Hellinger & Bußmann, 2001a). Therefore, instead of spreading this observation across two rules, we can simply state that agreement resolves to M > F when there is at least one human referent (although recall that there is new evidence showing that the verb can also agree with a nonhuman nominal as closest conjunct in such contexts, which is discussed further below). This approach is captured by the following

---

73 Another way of conceptualising this would be to say that human gender receives agreement ahead of nonhuman noun class, and when conjuncts have a mismatch in morphosyntactic gender values, gender distinctions are neutralised and agreement defaults to the MALE superclass (Harvey, 1997).
revision of our multiple antecedent agreement rules, where the new rule is again presented in italic:

Figure 5.12. Multiple antecedent agreement in Wubuy: gender and noun class (version 3)

| i. When number resolves to PLURAL (PL), gender is neutralised. (i.e. there is no gender or noun class agreement). Otherwise, |
| ii. If the gender or noun class value is the same for all referents, agreement resolves to that gender or noun class. Otherwise, |
| iii. If there is at least one human referent, agreement resolves to the highest ranked gender, such that $M > F$. |

Some examples of rule (iii.) from Figure 5.12 applying are presented below:

(5-22) \textit{wani-mandha-ngi} {walyi-nyung} marri {mani-nyung} \\
3MSG/3MDU-<make>-PC man-HUM.SG and woman-HUM.SG \textup{‘He [God (3MSG)] was making a man (3MSG) and a woman (3FSG)’} \\
(Nunggubuyu People, 2014, Genesis 5.2)

(5-23) {na-walyi-nyung} marri {ana-ngurudhu} \textit{winiwu-rawu-manu} \\
M-man-HUM.SG and RESID.TOP-bird 3MDU/NEUT.-<sing>-PRES \textup{‘The man (3MSG) and bird (RESID) are singing [a song (NEUT)]’} \\
(S3+S4 / E3 / 20140305)

(5-24) \textit{ana-winyig, aba ngi-warrgu-rriyin} yaanuu-wuy, \\
RESID.TOP-child then 3FSG/RESID.-<carry.on>back-PP there.PROX-ALL \textit{ngi-warrgu-rri-yn} \textit{wingi-yangga-ya-nggi} \\
3FSG/RESID.-<carry.on>back-PP 3FDU-<RDP>-go-PC \textup{‘Then she [emu (3FSG)] carried the child$_i$ (RESID) on her back to there, she$_i$ (3FSG) carried it$_i$ (RESID) on her back [and] they$_{i+j}$ (3FDU) were going’} \\
(Heath, 1980, pp. 31-32)

In (5-22), which is reproduced from (5-17), the primary object is comprised of the human conjuncts \textit{walyi-nyung} ‘man (3MSG)’ and \textit{mani-nyung} ‘woman (3FSG)’, but the verb only encodes the MALE gender of the former. Similarly, in (5-23), the verb encodes the MALE gender of the human conjunct \textit{walyi-nyung} ‘man (3MSG)’ rather than the RESIDUAL noun class of the nonhuman conjunct \textit{ngurudhu} ‘bird (RESID)’. I have so far been unable to identify an example with overt coordination between a human FEMALE conjunct and a conjunct that is not a human MALE or human FEMALE nominal.
However, there is an example in Heath (1980, p. 32) of the humanised referent ‘emu (3FSG)’ and the referent ana-winyig ‘child (RESID)’ being agreed with together as THIRD-PERSON FEMALE DUAL, where the FEMALE gender of the former is given preference over the RESIDUAL noun class of the latter, as demonstrated in (5-24). Although this example does not demonstrate an overt coordination of nominals, I assume for now that if they were realised with an overt coordinative construction, multiple antecedent agreement would still pattern in the same way.

Next, in relation to conjunctive contexts with only nonhuman referents that have mismatching noun classes, Heath (1984, p. 543) notes in his rule (e) that verbs often just encode the noun class as RESIDUAL (the Ø class). This is demonstrated in the data below. Example (5-25) shows RESIDUAL object agreement with two conjuncts, neither of which have RESIDUAL noun class, (5-26) shows RESIDUAL object agreement with three conjuncts, all of which actually have either FEMININE or MASCULINE noun class, while (5-27) shows RESIDUAL subject agreement with four conjuncts, where only one of them (not the closest conjunct) has RESIDUAL noun class:

(5-25) {mana-ngadugu} marri {ngaa-dhumbala} wurra-arra-yarraa-ni
Veg.Top-rope and Fem.Top-sail 3Pl/Resid.:Mult-throw-Pres
‘They (3Pl) throw the rope (VEG) and sail (FEM) [overboard]’
(Nunggubuyu People, 2014, Acts 27.19)

(5-26) na-walyi-nyung ni-ra-ni {ngarrugalija} {harragula} marri
M-man-Hum.Sg 3MsG/Resid.-spear-PC dugong crocodile and
{ngalaaligi} turtle
‘The man (3MsG) was spearing a dugong (FEM), crocodile (FEM) and turtle (MASC)’
(Stimulus: he kills a dugong, a turtle and a crocodile)
(S1 / E3 / 20140319)
Thus, we can update our multiple antecedent agreement rules in Wubuy by adding a rule that RESIDUAL is used as a default noun class for agreeing with nonhuman referents that have mismatched noun classes:

Figure 5.13. Multiple antecedent agreement in Wubuy: gender and noun class (version 4)

i. When number resolves to PLURAL (PL), gender is neutralised (i.e. there is no gender or noun class agreement). Otherwise,

ii. If the gender or noun class value is the same for all referents, agreement resolves to that gender or noun class. Otherwise,

iii. If there is at least one human referent, agreement resolves to the highest ranked gender, such that M > F. Otherwise,

iv. Agreement resolves to RESIDUAL (RESID) as the default class (requires all referents to be nonhuman).

However, as we will see in §6.4.2, this new rule (iv.) will need to be updated to allow for human referents in reciprocal constructions.

In relation to his conjunctive concord rule (e), Heath (1984, p. 543) also notes that it is applied “inconsistently”, which means that there must be some other strategy of multiple antecedent agreement when there are nonhumans with different noun classes. As it turns out, new data demonstrates that this strategy is ‘nearest conjunct agreement’, which has not previously been described for Wubuy but is widely attested crosslinguistically (e.g. Arnold et al., 2007; Benmamoun et al., 2009; Camacho, 2003; Corbett, 1991; Kiss, 2012; Marusic et al., 2015; McCloskey, 1986; Moosally, 1999; Sadler, 1999; Singer, 2006; Yatabe, 2004). For example, consider the data below, where coordinated

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74 Harvey (1997) notes that this use of the unmarked (i.e. Ø) noun class as the default class (or ‘superclass’) can also be found in a number of other nominal classifying languages of northern Australia, such as Ngalakgan, Ngandi and Warndarrang.
nominals are presented in curly brackets and bold font is used to highlight both the relevant object verb agreement features and the nominal with which this agrees:75

\[
(5-28) \text{ngiwu-ma-ngi murrarbu marri ngima-ma-ngi } \{\text{mungulu}\} \\
3\text{FSG/NEUT, get-PC mud.crab and } 3\text{FSG/VEG, get-PC seaweed} \\
\{\text{ngujija} \text{ marri } \{\text{ngalaaligi gagalang}\} \\
\text{fish and green.turtle egg} \\
\text{‘She (3FSG) was getting mud crabs (NEUT) and she (3FSG) was getting seaweed (VEG), fish (RESID) and green turtle eggs (RESID)’} \\
\text{(Stimulus: She collected some crabs, seaweed, fish and turtle eggs)}
\]

(5-29) \text{nga ngu-ra-ng } \{\text{ngarruga} \text{lij}\} \{\text{ngalaaligi}\} \text{ marri } \{\text{lharrugu} \text{laj}\} \\
\text{and } 3\text{MSG/FEM, spear-PP dugong green.turtle and crocodile} \\
\text{‘And he (3MSG) speared a dugong (FEM), green turtle (MASC) and crocodile (FEM)’} \\
\text{(Stimulus: he kills a dugong, a turtle and a crocodile)}

(5-30) \text{waari ambirringa-ngaynbanda-ng } \{\text{ngarra-a} \text{ljir}\} \text{ marri } \{\text{na} \{\text{jabama}\} \\
\text{NEG 3PL/FEM, want-PRESNEG FEM.TOP-sun and MASC.TOP-moon} \\
\text{‘They (3PL) do not need (lit. want) the sun (FEM) and moon (MASC)’} \\
\text{(Nunggubuyu People, 2014, Revelation 21.23) }
\]

In all of these examples, there is an object comprised of multiple coordinated nonhumans that have different noun classes (this is the object of the second instance of \text{ma} ‘to get’ in (5-28)). In each case, Heath’s (1984, p. 543) prediction does not play out, as none of the verbs encode these coordinated nominals using default \text{RESIDUAL} agreement.76 Nonetheless, there is an element of commonality across these examples: the noun class that is agreed with matches the noun class of the coordinated nominal that is closest to the verb stem.

Interestingly, there is evidence that this strategy of agreement avoidance may not be strictly limited to contexts involving only nonhuman conjuncts. In

\[\text{75 In the first example, the first instance of marri ‘and’ is functioning as a clausal coordinator.}\]

\[\text{76 In Wubuy, transitive agreement prefixes with a } \text{RESIDUAL} \text{ primary object have the same form as intransitive prefixes (i.e. nga- ‘1SG,’ and nga- ‘1SG/RESID,’) (Heath, 1984, p. 357).}\]
the following examples, the transitive verb *aarru* ‘to leave behind’ encodes the closest conjunct as object, which is the nonhuman *vegetable* noun *barrawu* ‘boat’ (*veg*) and *naynja* ‘fishnet’ (*veg*) in (5-31) and (5-32) respectively. This is despite the fact that the other conjunct is a MALE human, which according to Heath (1984, p. 543) (and my own rule (iii.) above) should be prioritised for verb agreement:

(5-31)  
\[
\text{nga agaba winima-arru-} \{\text{mana-barrawu}\} \text{ marri}
\]

and then \(3\text{MDU/VEG}._x\text{-leave-PP VEG.TOP-boat}\) and

\[
\{na-ninyarrayung\}
\]

M-father.\text{PROP}_3

‘And then they (3MDU) left the boat (VEG) and their father (3MSg) behind’

(Nunggubuyu People, 2014, Matthew 4.22)

(5-32)  
\[
\text{manubama-yung winima-arru-} \{\text{mana-naynja}\} \text{ marri}
\]

that.\text{VEG.ANAPH-ABS} \(3\text{MDU/VEG}._x\text{-leave-PP VEG.TOP-fishnet}\) and

\[
\{na-ninyarrayung \text{ na-Zebedee}\}
\]

M-father.\text{PROP}_3 \ M-Zebedee

‘They (3MDU) left those fishnets (VEG) and their father (3MSg) behind’

(Nunggubuyu People, 2014, Mark 1.20)

Although there are currently limited data examples of nearest conjunct agreement with a nonhuman occurring when there is also a human conjunct present (and all of these occur in primary object position), it seems safe to say that it is acceptable in certain circumstances. Therefore, we can revise our agreement rules as follows:

**Figure 5.14. Multiple antecedent agreement in Wubuy: gender and noun class (version 5)**

<table>
<thead>
<tr>
<th>Rule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>When number resolves to PLURAL (Pl), gender is neutralised (i.e. there is no gender or noun class agreement). Otherwise,</td>
</tr>
<tr>
<td>ii.</td>
<td>If the gender or noun class value is the same for all referents, agreement resolves to that gender or noun class. Otherwise,</td>
</tr>
<tr>
<td>iii.</td>
<td>If there is at least one human referent, agreement resolves to the highest ranked gender, such that M &gt; F. Or,</td>
</tr>
<tr>
<td>iv.</td>
<td>Agreement resolves to RESIDUAL (RESID) as the default class (requires all referents to be nonhuman). Or,</td>
</tr>
<tr>
<td>v.</td>
<td>Agreement is with the closest conjunct only.</td>
</tr>
</tbody>
</table>
All types of agreement resolution and avoidance discussed so far have been either semantic or morphological. However, there is also a syntactic method of avoidance that is worth noting: recasting. This can be used when there is any kind of mismatch in noun class (irrespective of animacy) and it simply involves repeating the same clause, each time with a different agreement prefix that agrees with the noun class of one of the relevant referents (Heath, 1984, p. 543). For example, consider the following data, where clausal conjuncts are presented in curly brackets, and verb agreement prefixes and the nominal with which it agrees (if present) are presented in bold:

(5-33) \{manubami-yung mana-wulang ma-dhilila-ngi\} marri that.Veg.anaph-abs Veg.top-blood Veg.,be.spilt-PC and
\{ana-guugu wu-dhilila-ngi\} baga-ala Neut.top-water Neut.,be.spilt-PC there.anaph-abl
‘That blood (Veg) was being spilt and water (Neut) was being spilt from there’
(Nunggubuyu People, 2014, John 19.34)

(5-34) \{warra-wi-ni\} \{wani-wi-ni\}
Coll/Coll,kill-PC 3msg/Coll,kill-PC
‘They [dogs (Coll)] were killing it [goanna (Coll)] (and) he [man (3msg)] was killing it [goanna (Coll)]’
(Heath, 1980, p. 167)

In (5-33), instead of using default or nearest conjunct agreement to avoid agreeing with the nonhuman referents wulang ‘blood (Veg)’ and guugu ‘water (Neut)’ as a set, the verb dhilila ‘y to be spilt’ is instead repeated twice, each time with a different referent as subject. Similarly, in (5-34), instead of resolving number to PLURAL to neutralise the noun class difference between the non-overt subject referents landhurrg ‘dog (Coll)’ and walyi-nyung ‘man (3msg)’, the verb wu ‘x to kill y’ is repeated twice, once with a COLLECTIVE subject and once with a THIRD-PERSON MALE SINGULAR subject.

Since this kind of recasting involves the conjunction of clauses rather than nominals, I do not treat this as multiple antecedent agreement (although it is a method of agreement avoidance). Therefore, we do not need to update our multiple antecedent agreement rules at this point.
5.4. Conclusion

By comparing Wubuy to tendencies in the crosslinguistic context, we are able to both simplify and further generalise Heath’s (1984, p. 543) conjunctive concord rules. This approach also allows us to discover a new agreement avoidance strategy in Wubuy, nearest conjunct agreement, which is what makes the application of Heath’s (1984, p. 543) rule (e) inconsistent. This avoidance strategy has also been shown to apply with human referents, which raises further questions about when and how to apply multiple antecedent rules in Wubuy since some of them are clearly in conflict, and this requires further research.

Figure 5.15 below summarises the new and revised multiple antecedent agreement rules that have been developed in §5.3:

**Figure 5.15. Multiple antecedent agreement in Wubuy (version 1)**

1) **Person**
   Person agreement resolves according to the hierarchy: 1IN > 1EX / 2 > 3

2) **Number**
   i. If all referents are nonhuman, there is no number agreement. Otherwise,
   ii. Number agreement resolves according to the semantic number of referents.

3) **Gender and noun class**
   i. When number resolves to PLURAL (Pl), gender is neutralised (i.e. there is no gender or noun class agreement). Otherwise,
   ii. If the gender or noun class value is the same for all referents, agreement resolves to that gender or noun class. Otherwise,
   iii. If there is at least one human referent, agreement resolves to the highest ranked gender, such that M > F. Or,
   iv. Agreement resolves to RESIDUAL (Resid) as the default class (requires all referents to be nonhuman). Or,
   v. Agreement is with the closest conjunct only.

Now that we have a relatively comprehensive overview of how multiple antecedent agreement works in basic Wubuy coordinative constructions, we are ready to consider multiple antecedent agreement in other conjunctive contexts. As we will see in the next chapter, the addition of nearest conjunct
agreement to our set of rules enables us to identify a new coordinative function of the COMITATIVE derivational prefix aynji- in Wubuy. It will also be found that the multiple antecedent rules presented above need to be revised again to account for certain reciprocal constructions.
6.1. Introduction

Most of the world’s languages have methods of expressing accompaniment and reciprocity (Evans, Levinson, Gaby, & Majid, 2011b, p. 2; Gerner, 2012, p. 137; Maslova & Nedjalkov, 2013; Stolz, Stroh, & Urdze, 2006, p. 1), typically via comitative and reciprocal constructions respectively. However, although these construction types create contexts of nominal conjunction and are therefore highly relevant to investigations of multiple antecedent agreement, they are often overlooked and left undescribed, with most research on this topic being exclusively focussed on basic nominal coordination. In fact, to the best of my knowledge, there are currently no investigations of multiple antecedent agreement in comitative and reciprocal constructions within the context of Australian language description. Even Heath (1984), who provides one of the few accounts of multiple antecedent agreement in an Australian language (as discussed in the previous chapter), does not consider whether his rules also sufficiently account for verb agreement in comitative and reciprocal contexts.

This chapter addresses these gaps in the literature by including comitative and reciprocal constructions in the investigation of conjunctive constructions and multiple antecedent agreement, and in doing so, several new findings can be made about strategies of agreement resolution and avoidance in Wubuy. Within the Wubuy literature, the only discussion of comitative and reciprocal constructions are some brief descriptions by Heath (1984, pp. 381-383, 391-393) of two verb derivational processes. These derivations are presented in the following examples, one of which is from my own data, with the relevant affixes presented in bold:
(6-1) *ngi-ynji-ngama-a*  *ngarra-ngarrugalij*  *warra-mijburraayung*
FEM.-Com-swim-PC  FEM.TOP-dugong  PL-children

‘The dugong (FEM) was swimming with the children (3PL)’
(i.e. the children were sitting on the dugong’s back)

(S1 / E1 / 20140319)
(S2 / E1 / 20140228)
(S3+S4 / E1 / 20140228)

(6-2) *aba  wini-wi-ynji-yn*
then  3MDU-hit-RECIP-PP

‘Then they [emu (3MSG) and gecko (3MSG)] hit each other (i.e. had a fight)’

(Heath, 1980, p. 46)

In each of the examples above, the verb derivation results in multiple referents being interpreted as participating in the event in a similar way (at least to some extent). In (6-1), the COMITATIVE derivational prefix *aynji-* attaches to the intransitive verb *ngama* ‘x to swim’ and introduces the comitative referent *mijburraayung* ‘children (3PL)’, which is interpreted as accompanying the subject *ngarrugalij* ‘dugong (FEM)’ by sitting on its back (which suggests it may be less volitional). In (6-2), on the other hand, the RECIPROCAL derivational root *-ynji* attaches to the transitive verb *wu* ‘x to hit y’ and decreases valency by linking the original subject and object arguments together while adding reciprocal semantics.

In relation to the verb agreement strategy used with these verb derivations, Heath (1984) provides only brief notes, and there are many questions that have remained unanswered. For example, regarding the COMITATIVE derivation, he stipulates that the referent introduced “is not pronominally cross-referenced in the verb, though it may occur as an independent NP (in zero, i.e., Nominative case) in the larger clause”, but his investigation is limited in that he only has examples of intransitive input verbs (with only one clear exception), and he does not actually discuss the grammatical status of the comitative referent. That is, does it not control verb agreement because it is an oblique argument of the verb, because it is a dependent of another argument in the clause, or because it forms a set with another nominal and a strategy of argument resolution or avoidance is being used? Furthermore, for
the RECIPROCAL derivation, Heath (1984, p. 544) simply states that “by
deinition, the morphological subject must be conjunctive” and follows by
assuming that the verb agreement strategy used is the same as what was
outlined in Figure 5.1 earlier. However, he does not provide a detailed account
of multiple antecedent agreement in reciprocal contexts, so whether or not
this is indeed always the same as in basic coordinative examples has
remained unclear.

As it turns out, both the COMITATIVE and RECIPROCAL derivations in Wubuy
have strategies of multiple antecedent agreement that have not been
previously identiﬁed. For example, new data shows that the COMITATIVE
prefix aynji- typically introduces a comitative referent with proprietive
semantics (see §6.3.1.1 for details), but it also has an additional function that
creates a nominal coordinative construction between two nonhuman referents
belonging to different noun classes. Consider the examples below, where
(6-3) demonstrates the proprietive function of aynji- with the transitive verb
yarrbu ‘x to wash y’, while (6-4) shows the coordinative function with the
transitive verb nima ‘x to drag y’:

(6-3) wunguna-aynji-yarrbu-mana, ngarra-manum-baa [warra-gujuju]
3FDU/3MSG.-COM-wash-PRES F-woman-DU 3Pl.-baby
{na-walyi-nyung-mirri}
M-man-HUM.SG-INSTR
‘Two women (3FDU) wash the babies (3Pl) with the man (3MSG)’
(i.e. the man is holding the babies but he is not washing them or being washed)
(S1 / E1 / 20140317)

(6-4) ngarra-mani-nyung, wangi-ijnji-nima-na [waa-{andhurr-g-mirri}]
F-woman-HUM.SG 3FSG/COLL.-COM-drag-PRES COLL.TOP-dog-INSTR
{ana-bujigan}
RESID.TOP-cat
‘The woman (3FDU) drags the dog (COLL) with/and the cat (RESID)’
(S1 / E1 / 20140324)

In (6-3), the comitative referent walyi-nyung ‘man (3MSG)’ is introduced as
primary object (and therefore controls verb agreement, contrary to Heath
(1984, p. 381)) and is understood as carrying the patientive argument gujuju
‘baby (3Pl)’, which is reassigned to secondary object. This is the typical change in argument realisation for transitive verbs that take the COMITATIVE prefix aynji- (see §6.3.1.1 for a discussion of intransitive inputs). Now compare this to (6-4), where this time the referent receiving object verb agreement, which here is landhurr ‘dog (COLL)’, is not interpreted as carrying the other non-subject nominal, bujigan ‘cat (RESID)’. Instead, both referents are interpreted as being dragged by the subject mani-nyung ‘woman (3FSG)’, suggesting they have been jointly assigned the thematic role of patient, in which case we would expect them to be conjoined, forming a single constituent. The question then is whether this conjunction is a comitative construction, where one conjunct is the head and the other a dependent, or a coordinative construction, where the two conjuncts are co-heads that compete for verb agreement. As discussed in §6.3.2 and demonstrated with further examples, the fact that the verb always agrees with the closest conjunct in such instances suggests that we are dealing with a type of coordinative construction, as strategies of multiple antecedent agreement are typically only used with co-heads of a constituent that have differences in their morphosyntactic feature values.

As mentioned above, reciprocal constructions also demonstrate a strategy of multiple antecedent agreement that has not been accounted for by previous accounts of Wubuy. It is found that while they do follow Heath’s (1984, p. 543) “conjunctive concord rules” in the majority of contexts, they have a different agreement strategy when the coordinated reciprocal referents are a mix of human and nonhuman referents belonging to different genders and noun classes. In this context, the verb agrees with RESIDUAL as a default noun class for the coordinative construction as a whole (similar to Heath’s rule (f) in Figure 5.1 as well as rule 3(iv) in Figure 5.15), and it also obligatorily takes a MULTIPLE prefix such as warra- to create a sense of plurality. This is

77 Note that it is also possible that THIRD-PERSON PLURAL object agreement has been triggered in (6-4). Although number agreement typically only occurs when at least one of the referents is human (as stated in Figure 5.15), DUAL and PLURAL agreement can also be used as exceptional options for higher animate nonhumans.
demonstrated in the examples below, where the coordinants *wulmurr-inyung* ‘boy (3MSG)’ and *landhurr* ‘dog (COLL)’, which do not have the same noun class or animacy, are presented in curly brackets, and the agreement and multiple verb prefixes are presented in bold:\textsuperscript{78}

(6-5) \[ \{na-wulmurr-inyung\} \text{marri} \{waa-landhurr\} \text{wu-warra-na-ynji-ini} \]
\[
\text{M-boy-HUM.SG} \quad \text{and} \quad \text{COLL.TOP-dog} \quad \text{RESIDAL-MULT-see-RECIP-PC}
\]

‘The boy (3MSG) and the dog (COLL) were seeing each other’

(S1 / E3 / 20140314)

(6-6) \[ *\{na-wulmurr-inyung\} \text{marri} \{waa-landhurr\} \text{wu-na-ynji-ini} \]
\[
\text{M-boy-HUM.SG} \quad \text{and} \quad \text{COLL.TOP-dog} \quad \text{RESIDAL-see-RECIP-PC}
\]

(S1 / E1 / 20140314)

The reason for the MULTIPLE prefix being obligatory in this context is most likely because there is a general requirement that verbs in Wubuy agree with the number of referents when there is at least one human (as represented in Heath’s (1984, p. 543) concord rules), but the RESIDUAL noun class is normally only used for nonhuman referents, which are unspecified for number in verb agreement prefixes. That is, the MULTIPLE prefix is used to create a sense of plurality or multiplicity of referents that is not otherwise provided by the RESIDUAL verb agreement prefix.\textsuperscript{79} This strategy of multiple antecedent agreement is surprising, since we would expect speakers to just use a DUAL or PLURAL prefix when there is a mix of human and nonhuman conjuncts (as is typically the case in other coordinative contexts; see §5.3.1), rather than defaulting to a nonhuman noun class.

Before getting into the specifics of these findings, however, it is useful to take a step back and define some of the terminology used in relation to conjunctive

\textsuperscript{78} Although we cannot really tell if this is RESIDUAL or NEUTER agreement, as these are neutralised in the intransitive prefix. However, I assume that it is RESIDUAL since this is already used as a method of default agreement elsewhere.

\textsuperscript{79} Heath (1984, p. 385) notes that the MULTIPLE prefix warra- can indicate “multiplicity or quantity of nonvolitional (mostly inanimate) entity” or “spatial distribution (‘all around’)”. Since this prefix is obligatory in these reciprocal contexts, it is more likely that the multiplicity function is being used to reflect the plurality of reciprocal referents, even though the subjects contain a human (and often volitional) referent.
constructions, as well as to consider any tendencies observed in the crosslinguistic literature, as this will provide some insights that help explain the Wubuy data.

6.2. Brief overview: definitions and tendencies

As mentioned in the previous chapter, I follow Stassen (2000, 2001, 2003, 2013) by treating nominal coordination as a subtype of nominal conjunction for the purposes of this thesis. The revised version of his definition of nominal conjunction used in this thesis is reproduced below from Figure 5.3:

Figure 6.1. Revised definition of nominal conjunction (based on Stassen, 2003)

<table>
<thead>
<tr>
<th>A sentence contains a case of nominal conjunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. if it describes a single occurrence of an event (action, state, process, etc.),</td>
</tr>
<tr>
<td>b. and if this event is predicated simultaneously of two or more participant referents, which are conceived of as separate individuals.</td>
</tr>
</tbody>
</table>

In §5.2, the ways in which this definition delimits the range of constructions to be considered was discussed. However, of particular interest to this chapter is the fact that in addition to excluding certain constructions, Stassen’s (2003, pp. 763-764) definition also allows the inclusion of a construction type that is not traditionally considered to belong to the category of noun phrase conjunction: comitatives. Essentially, while traditional definitions of conjunction typically emphasise the balanced syntactic (and often semantic) relationship between conjuncts (Drellishak, 2004, p. 2), Stassen (2003, pp. 763-764) leaves this underspecified, which allows comitatives to fall into the same domain as coordinative constructions.

For example, compare the following examples from Wubuy, where conjuncts are presented in curly brackets, conjunctors (i.e. affixes or particles linking units in a conjunctive construction) are presented in bold, and example (6-7) has been reproduced from (5-1):
As discussed in §5.2, the balanced syntactic and semantic relationship between na-ninyarrayung ‘(her) father (3MSG)’ and ngarr-ibiyung ‘(her) mother (3FSG)’ in (6-7) is demonstrated by the fact that they share the semantic role of agent and are co-heads of the same noun phrase. In (6-8), on the other hand, the syntactic relationship between ngarruga\_l\_ij ‘dugong (FEM)’ and mijburraayung ‘children (3PL)’ is not as balanced: they do not appear to form a constituent, as ngarruga\_l\_ij ‘dugong (FEM)’ receives agreement as a core argument of the verb while mijburraayung ‘children (3PL)’ seems to occur as an oblique. Nonetheless, the semantic relationship between them is still quite close: although the conjunct ngarruga\_l\_ij ‘dugong (FEM)’ is “more emphatically the agent” of ngama ‘x to swim’, the conjunct mijburraayung ‘children (3PL)’ still also swims (Drellishak, 2004, p. 2; Stolz, Stroh, & Urdze, 2009, p. 602).

Thus, while traditional approaches to noun phrase conjunction generally do not include comitative examples like (6-7) due to the imbalanced relationship between conjuncts, Stassen’s (2000, 2001, 2003, 2013) approach does, as he leaves this underspecified. He proposes that since comitative constructions describe a single event and have a necessary “together”-interpretation, his definition of noun phrase conjunction allows comitatives and coordinatives to be treated in a unified way (Stassen, 2003, p. 765). Such a unified approach is useful when considering conjunction in Wubuy, as comitatives in this language sometimes function more like coordinative constructions, and when this happens, the same strategies of agreement resolution and avoidance
appear to be used. This is something that would not necessarily be discovered when considering multiple antecedent agreement using the traditional classification of noun phrase conjunction. Furthermore, as discussed in the following section, a unified account of coordinative and comitative constructions is also important from a crosslinguistic perspective, as many languages do not make a formal distinction between coordination and comitativity.

6.2.1. AND-languages vs WITH-languages

By treating coordination and comitativity in a unified way, Stassen (2000, 2001, 2003, 2013) is able to capture a crosslinguistic tendency for languages to fall into one of two types. The first language type maintains a formal distinction between coordination and comitativity, realising each with different conjunctive strategies. Stassen (2000, 2001, 2003, 2013) calls these “AND-languages”, and he refers to the two different conjunctive strategies as the ‘coordinative strategy’ and the ‘comitative strategy’. The prototypical properties of these two strategies are presented in Figure 6.2 below.

Figure 6.2. Prototypical properties of conjunctive strategies
(Stassen, 2003, p. 780)

<table>
<thead>
<tr>
<th>COORDINATIVE STRATEGY</th>
<th>COMITATIVE STRATEGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPs have same structural rank</td>
<td>NPs differ in structural rank</td>
</tr>
<tr>
<td>Unique coordinative particle</td>
<td>Unique comitative marker</td>
</tr>
<tr>
<td>NPs form a constituent</td>
<td>NPs do not form a constituent</td>
</tr>
<tr>
<td>Plural/dual agreement on verbs</td>
<td>Singular agreement on verbs</td>
</tr>
</tbody>
</table>

Wubuy, for example, is a language that falls into the category of “AND-languages”, as demonstrated by the data in (6-7) and (6-8) where a formal distinction between coordination and comitativity is demonstrated. Nonetheless, Stassen (2003, pp. 780-781) stresses that “in quite a few languages, a differentiation between these two strategies cannot be stated with a razor-sharp precision”, and they “must be regarded as a formulation of the extreme, and focal, positions on a continuum”. This is something that will be explored further in §6.3.2 in relation to Wubuy, where comitative constructions are sometimes seen to behave more like coordinative ones.
In contrast to AND-languages, “WITH-languages” collapse the formal distinction between coordination and comitativity, using a single strategy to realise both (Stassen, 2000, 2001, 2003, 2013). An example of a language like this is Nkore-Kiga (a Bantu language from Uganda), as demonstrated by the following data:

(6-9) \( n-ka-za yo \) \( na \) \textit{Mugasho}  
1SG-REC.PST-go-there and/with Mugasho  
‘Mugasho and I went there/ I went there with Mugasho’  
(Nkore-Kiga: Taylor (1985, p. 58))

Stassen (2013) notes that the conjunctor \( na \) can be translated as either ‘and’ or ‘with’ since this language does not formally differentiate semantic subtypes of conjunction.

Within the crosslinguistic context, there appears to be a roughly balanced distribution of “AND-languages” and “WITH-languages”, as demonstrated in the following map from Stassen (2013), who uses a sample of 234 languages from around the world and identifies 131 as AND-languages (about 56%) and 103 as WITH-languages (about 44%):

Map 6.1. AND- vs. WITH- languages  
(Stassen, 2013)
However, it should be noted that the stability of these two language types does not appear to be equal, as noted by Stassen (2013):

In general, AND-languages can be said to be stable diachronically and “pure” in their synchronic state: there is a sharp delineation between the two available strategies. On the other hand, “pure” instances of WITH-languages are relatively rare (Stassen, 2013).

He claims that for many WITH-languages, a process of “diachronic drift” of the comitative strategy can be attested, with the general outcome being that there is a shift from having one conjunctional strategy to two (Stassen, 2013). This shift usually results in one strategy that is still purely comitative and another that is a hybrid of the comitative strategy and a coordinative one (Stassen, 2013). However, since the conjuctor for the comitative and coordinative constructions in these “shift”-languages is the same, Stassen (2013) codes them as WITH-languages for the purpose of his map. This crosslinguistic tendency for WITH-languages to shift toward AND-languages is something that will be discussed later in relation to Wubuy, where there is potential evidence for a shift from the INSTRUMENTAL/COMITATIVE suffix -mirri to the coordinative particle marri.

In relation to the general Australian context, there appears to be a prevalence of AND-languages with different strategies used to express coordination and comitativity (Stassen, 2013). The tendencies of how nominal coordination is encoded in Australian languages were discussed in the previous chapter (in essence, juxtaposition is the most common strategy – see §5.3 for further details). With regard to encoding comitativity in Australian languages, Dixon (2002, p. 170) notes a prevalence of case markers, and Polinksy (2013) claims that applicatives are also common. Furthermore, although the majority of Australian languages tend to differentiate comitative and instrumental referents formally via separate marking strategies (Stolz, Stroh, & Urdze, 2013), in the general area where Wubuy is spoken, languages frequently express COMITATIVE, INSTRUMENTAL and often ERGATIVE case with the same suffix. Such languages include Ngalakgan (Merlan, 1983) and Rembarrnga.
(McKay, 1975). As mentioned earlier and discussed further in §6.3.1.3, new data also demonstrates a certain level of identity between COMITATIVE and INSTRUMENTAL marking in Wubuy, contrary to Heath (1984, pp. 210-211), who claims that the suffix -mirri can only have an instrumental interpretation.

Nonetheless, although there is a certain level of discussion about strategies of nominal conjunction within the context of Australian language description, considerations of multiple antecedent agreement strategies are rare (Nordlinger & Sadler, 2005, p. 11), as was previously mentioned. Furthermore, even when this is considered, the discussion usually focuses exclusively on basic nominal coordination without considering other conjunctive contexts. As demonstrated by Stassen (2000, 2001, 2003, 2013), treating comitative and coordinative constructions in a unified way is important, since for many languages these are encoded in the same way or have overlapping functions. However, there is another context that is often overlooked or underdescribed in accounts of multiple antecedent agreement: reciprocals.

6.2.2. Reciprocals as a context for multiple antecedent agreement

As previously mentioned, another type of construction that is relevant to a discussion of multiple antecedent agreement is reciprocals. The reason for this is that prototypical reciprocals have a “semantic component involving joint activity, coordination, and/or mutual feedback” (Evans, Gaby, & Nordlinger, 2007, p. 542), as they involve “symmetrical relations defined over a set of actors” (Evans et al., 2011b, p. 8). This makes them a natural context for nominal coordination, which similarly involves symmetrical relations between conjuncts. With reciprocal constructions, however, the symmetrical relations are generally described as being created by a complex overlapping of at least two propositions within a single clause, such that “[t]he thematic roles of the participants in these events are permuted, and as a result, there is a double linking of participants to thematic roles” (Evans, 2008, p. 34). That is, “each participant is linked to both thematic roles... and each thematic role
is linked to both participants” (Evans, 2008, p. 34). Compare the following examples from Wubuy, where nominal and clausal conjuncts are presented in curly brackets and the **RECIPROCAL** root is presented in bold (if present):

(6-10) \{ngiga ngangi-yarra-ng\} \{ngaya ngangu-yarra-ng\}

FEM.PRO FEM/1SG.-smell-PP 1SG.PRO 1SG/FEM.-smell-PP

‘It [crocodile (FEM)] smelt me (1FSG) [and] I (1FSG) smelt it [crocodile (FEM)]’

(Stimulus: the crocodile and I smell each other)

(S3+S4 / E3 / 20140305)

(6-11) \{ngaa-lharragula\} marri \{ngaya\} niingi-yarra-\textit{ynji}.\textit{yn}

FEM-crocodile and 1SG.PRO 1ExFDu.-smell-RECIP-PP

‘The crocodile (FEM) and I (1FSG) smelt each other’

(Stimulus: the crocodile and I smell each other)

(S3+S4 / E3 / 20140305)

In (6-10), the verb \textit{yarra} ‘x to smell y’ occurs twice, once with a **FEMININE** referent (understood as ‘crocodile’) as subject and a **FIRST-PERSON SINGULAR** referent as object and once vice versa, with a **FIRST-PERSON SINGULAR** subject and a **FEMININE** object. Thus, rather than double linking participants within the same clause, the reciprocal nature of the situation is expressed by recasting the entire event, as visualised in Figure 6.3 below:

**Figure 6.3. Recasting of event in (6-10)**

<table>
<thead>
<tr>
<th>ngiga</th>
<th>ngangi-yarra-ng</th>
<th>(ngaya)</th>
</tr>
</thead>
<tbody>
<tr>
<td>It</td>
<td>smell</td>
<td>me</td>
</tr>
<tr>
<td>SUBJ</td>
<td>V</td>
<td>OBJ</td>
</tr>
<tr>
<td></td>
<td>Experiencer</td>
<td>Theme</td>
</tr>
<tr>
<td></td>
<td>The one smelling</td>
<td>The one being smelled</td>
</tr>
<tr>
<td></td>
<td>crocodile</td>
<td>I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ngaya</th>
<th>ngangu-yarra-ng</th>
<th>(ngigo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>smell</td>
<td>it</td>
</tr>
<tr>
<td>SUBJ</td>
<td>V</td>
<td>OBJ</td>
</tr>
<tr>
<td></td>
<td>Experiencer</td>
<td>Theme</td>
</tr>
<tr>
<td></td>
<td>The one smelling</td>
<td>The one being smelled</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>crocodile</td>
</tr>
</tbody>
</table>
In (6-11), on the other hand, the RECIPROCAL derivational root -ynji attaches to the same verb, which results in an overlapping of the propositions we saw in (6-10) such that the participants lharragula ‘crocodile (FEM)’ and ngaya ‘I (1SG)’ are double linked to the thematic roles of experiencer and theme. This both reduces the verb’s valency and allows the two participants to be jointly realised as subject. Figure 6.4 provides a visualisation of this, which has been adapted from Evans (2008, p. 34):

**Figure 6.4. Double linking of participants and roles in (6-11)**

As previously mentioned, reciprocals act as a natural context for nominal coordinative constructions, and the reason for this is that they share many of the same prototypical properties: reciprocal referents typically have the same structural rank, form a constituent, and trigger PLURAL/DUAL agreement on verbs, all of which are similarly typical of nominal conjuncts in a coordinative construction (see Figure 6.2 for comparison). Therefore, reciprocal environments would seem an obvious place to consider when investigating multiple antecedent agreement, especially since most of the world’s languages have some kind of reciprocal construction (Evans et al., 2011b, p. 2; Gerner, 2012, p. 137; Maslova & Nedjalkov, 2013). However, within the area of agreement research, there is little work that specifically looks at patterns of agreement resolution and avoidance in reciprocal

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80 However, recall that verb agreement in Wubuy does not typically encode DUAL or PLURAL when all conjuncts are nonhuman (see section 5.3.1.2).
constructions. One possible reason for this may be that there is a widespread assumption that the resolution and avoidance strategies used by a given language in reciprocal contexts should just match those it uses in basic nominal coordination constructions. However, as we will see with Wubuy in §6.4.1, such assumptions can result in unique strategies of multiple antecedent agreement remaining undescribed.

6.3. Comitative constructions in Wubuy

Now that we have a brief overview of the tendencies and gaps in the broader crosslinguistic literature, we can move on to considering how multiple antecedent agreement works in comitative and reciprocal constructions in Wubuy. Beginning with the former, it was mentioned earlier that Wubuy is an AND-language, which means it has different grammatical constructions for expressing nominal coordination and comitativity (Stassen, 2000, 2001, 2003, 2013). Although in previous accounts of Wubuy, the only comitative construction identified is the verb derivational prefix aynji- (Heath, 1984, pp. 381-383), new data demonstrates that the INSTRUMENTAL suffix -mirri and the CAUSATIVE derivations (-jga ~ -jgi and TAM paradigm shift) can also be used to express accompaniment. Consider the following examples, where (6-12) and (6-13) are reproduced from (6-1) and (6-8) respectively, conjuncts are presented in curly brackets with a subscript indicating the comitative

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81 One exception is Soltan (2007, pp. 193, 201), who describes how in Standard Arabic, first conjunct agreement is “obligatory in VS orders where the subject is a conjoined DP”, but that this is not possible when there is “an element that inherently denotes semantic plurality”, such as reciprocals.

82 Heath (1984, p. 382) notes that there are also a few verbs stems that lexically specify a sense of accompaniment or comitativity, such as the one found in the following example:

```
nuubagi-yung  nga  ngu-rana-rani-yinyung  wuna-adalagaagandi
that.3MSG-ABS  then  3MSG/FEM.-RDP-spear.PC-REL  3PL/3MSG.-go.with.PC
```

‘Then they (3Pl) went with he (3MSG) who speared it’

(Heath, 1980, p. 363)

As such lexical expressions are simply transitive verbs in their underived form, however, I assume that the analysis presented in section 2.4.2 is sufficient to account for them.
referent, and the COMITATIVE and CAUSATIVE affixes (if present/overt) are presented in bold:\textsuperscript{83}

(6-12) \textit{ngi-\textit{iny}j\textit{-ngama-a} \{ngarra-ngurr\textit{gali}j\} \{warra-mij\textit{burraayung}\}_{\text{Com}} FEM.,-COM-swim-PC FEM.TOP-dugong Pl.-children

`The dugong (FEM) was swimming with the children (3Pl)`
(i.e. the children were sitting on the dugong’s back)
(S1 / E1 / 20140319)
(S2 / E1 / 20140228)
(S3+S4 / E1 / 20140228)

(6-13) \textit{ngi-\textit{n}g\textit{ama-yn} \{ngarra-ngurr\textit{gali}j\} \{warra-mij\textit{burraayung-mirri}\}_{\text{Com}} \textit{wugurr}\textit{u} FEM.,-swim-PP FEM.TOP-dugong Pl.-children-INSTR 3Pl.PRO

`The dugong (FEM) swam with the children (3Pl)`
(i.e. the children are swimming along beside the dugong)
(S1 / E2 / 20140319)

(6-14) \{\textit{warra-mij\textit{burraayung-mirri}}\}_{\text{Com}} \textit{ngi-\textit{iny}j\textit{-ngama-a} \{ngarra-ngurr\textit{gali}j\}} 3Pl.-children-INSTR FEM.,-COM-swim-PC FEM.TOP-dugong

`The dugong (FEM) swam with the children (3Pl)`
(i.e. the children were sitting on the dugong’s back)
(S3+S4 / E1 / 20140228)

(6-15) \{\textit{ngarra-mani-nyung} \textit{ngunu-ngami-j\textit{ga-yn} \{na-yi\textit{wanggu-nyung}\}}_{\text{Com}} F-woman-HUM.SG 3FSG/3MSG,,-swim-CAUS-PP M-old.man-HUM.SG

`The woman (3FSG) swam with the old man (3MSG)`
(i.e. she took him while swimming)
(S1 / E2 / 20140404)
(S2 / E1, / 20140226)
(S3+S4 / E1, / 20140226)

In each of these examples, the verb is \textit{ngama} `x to swim’, which licenses an agent as subject that is understood as having FEMININE noun class (\textit{ngarr\textit{gali}j} `dugong (FEM)` in (6-12) to (6-14)) or FEMALE gender (\textit{mani-nyung} `woman (3FSG)` in (6-15)). In (6-12), the comitative referent \textit{mij\textit{burraayung} `children (3Pl)`} is introduced via the verb derivational prefix \textit{\textit{iny}j\textit{i-}, while in} (6-13), this same referent is marked by the INSTRUMENTAL suffix \textit{-mirri}. In both cases, the valency of the verb appears unaffected, as it still takes an intransitive agreement prefix. However, there does appear to be a difference

\textsuperscript{83} Note that the THIRD-PERSON PLURAL pronoun \textit{wugurr\textit{u}} in (6-13) appears to be optional, as constructions like this with other intransitive motion verbs but without a PLURAL pronoun were are also judged as acceptable (see section 6.3.1.2).
in the semantics of each construction, with the derivational prefix *aynji*- in (6-12) expressing a more proprietive type of comitativity (i.e. the children are being carried), whereas the suffix *-mirri* in (6-13) expresses pure comitativity (i.e. both the subject and comitative referent are accompanying each other while moving independently). Example (6-14) demonstrates that in addition to occurring independently, these constructions can also co-occur, with the proprietive semantics of *aynji*- receiving precedence over the pure comitative semantics of *-mirri*. Lastly, in (6-15), the same verb takes the CAUSATIVE derivational root *-jga ~ -jgi*, which increases valency by introducing the comitative referent *yiwanggu-nyung* ‘old man (3MSG)’ as primary object, which is indicated by the fact that it receives object verb agreement (as discussed in §6.3.1.2, this function of the CAUSATIVE derivation is only available to intransitive motion verbs).

Interestingly, new data demonstrates that the division between these comitative constructions and the coordinative constructions discussed in the last chapter is not so clear cut. In addition to functioning as comitative constructions, it appears that the verb derivational prefix *aynji*- and the INSTRUMENTAL suffix *-mirri* can co-create a coordinative construction in certain contexts (as discussed in §6.3.2), in which case the multiple antecedent agreement rules from Figure 5.15 apply.

Before getting into this, however, it is useful to provide a general overview of how comitative constructions work in Wubuy, especially since Heath’s (1984, pp. 381-383) description of the derivational prefix *aynji*- is limited and the ability of suffixes *-mirri* and *-jga* to realise comitative relations has, until now, been unidentified. Furthermore, it should be noted that following Hurst (2010, p. 297), I treat comitative constructions as introducing a referent into the clause that is not assigned a thematic role by the verb (cf. Rákosi, 2003; 2008), and this is captured by representing comitative arguments with empty square brackets (i.e. [ ] ) at argument-structure. Instead, the participation of the comitative referent in the event being described is understood as being
similar to that of another referent (Hurst, 2010, pp. 297-298). As we will see in Chapter 7, by treating comitative arguments as nonthematic, we are able to account for an interaction between the COMITATIVE derivational prefix *aynji* and the comitative function of CAUSATIVE derivations that would not otherwise be predicted (see §7.4.3.6).

**6.3.1. Verb derivations and case suffixes expressing comitativity**

**6.3.1.1. COMITATIVE derivational prefix *aynji***-

According to Heath (1984, p. 381), the derivational prefix *aynji-* “means ‘with’ in the accompanying, rather than instrumental, sense”, and it introduces a comitative referent that “is not pronominally cross-referenced in the verb”. However, as previously mentioned, new data shows that the semantics of this prefix is somewhat closer to that of a proprietive construction, as it typically requires that the introduced referent be interpreted as somehow in contact with another participant, usually by carrying or being carried by another verbal argument. This new data also demonstrates that whether or not the comitative referent triggers verb agreement depends on the transitivity of the input verb.

Beginning with intransitive inputs, consider the following examples, where (6-17) is reproduced from (6-1), conjuncts are presented in curly brackets with a subscript indicating which is the comitative referent, and the verb agreement prefix and nominal with which it agrees are in bold:

(6-16)  
{mana-rangag} ma-aynji-rijbi-yn {warra-mijburraayung}com  
VEG.TOP-canoe VEG.,-COM-float-PP PL-children  
‘The canoe (VEG) floated with the children (3Pl)’  
(i.e. the children were in the canoe)  
(S3+S4 / C: (A-9) / 20140228)

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84 However, unlike Hurst (2010), I do not treat comitative entities as argument-adjuncts, since I argue that in Wubuy, the relevant verb derivations introduce them as arguments (see §6.3.1.1 and §6.3.1.2), and there is currently no evidence to suggest they should be treated as argument-adjuncts rather than just adjuncts when introduced by the INSTRUMENTAL suffix -*mirri* (see section 6.3.1.3).
In the first example, the input of the COMITATIVE derivation is an unaccusative verb that agrees with a nonhuman VEGETABLE subject, while in the following three examples, the input is an unergative motion verb that agrees with a nonhuman FEMININE subject in (6-17) and a human FEMALE subject in (6-18) and (6-19). In each case, the use of aynji- results in the introduction of a comitative referent that does not trigger verb agreement (mijburraayung ‘children (3Pl)’ in (6-17), manjarr ‘leaves’ in (6-18), and wulmurr ‘boy’ in (6-19)), and which is interpreted as being carried by the intransitive subject. Example (6-20) demonstrates that it is actually unacceptable to use a transitive agreement prefix when an intransitive input is derived with the COMITATIVE verb prefix aynji (this differs from the
comitative function of CAUSATIVE derivations in §6.3.1.2, which introduces a comitative entity as primary object with intransitive inputs).

Although Heath (1984, pp. 381-383) makes no claims about the grammatical function of the referent introduced by aynji- in Wubuy, we can make some observations about what this might be in the intransitive examples above. The fact that the comitative referent does not receive object verb agreement in these contexts suggests that:

(a.) it could be occurring as a coordinated co-head within the intransitive subject (i.e. [the mother] and [the boy])$_{\text{SUBJ went to school}}$;

(b.) it could be occurring as an adjunct either within the intransitive subject (i.e. [the mother [with the boy]]$_{\text{ADJ SUBJ went to school}}$) or at the clausal level (i.e. [the mother]$_{\text{SUBJ went to school [with the boy]}}$$_{\text{ADJ}}, or;

(c.) it could be occurring as an oblique verbal argument (i.e. [the mother]$_{\text{SUBJ went to school [with the boy]}}$$_{\text{OBL}}$)

We can begin by ruling option (a.) as unlikely, since if the two conjuncts were coordinated and jointly realised as subject, we would expect the semantics of accompaniment to be more balanced and the verb to agree with a DUAL or PLURAL subject (as discussed in §6.2 and §6.2.1). More specifically, based on the multiple antecedent rules presented earlier in Figure 5.15 (see §5.4), we would expect the agreement prefixes on the intransitive verbs ngama ‘x to swim’ in (6-17), wayama ‘x to continue along’ in (6-18) and ya ‘x to go’ in (6-19) to resolve to THIRD-PERSON PLURAL (i.e. wurru-), THIRD-PERSON FEMALE DUAL (i.e. wingi-) and THIRD-PERSONAL MALE DUAL (i.e. wini-) respectively. Instead, we find that the verb only agrees with the conjunct interpreted as carrying the other (and in (6-19), agreement is not with a conjunct directly next to the verb stem, ruling out the possibility of closest conjunct agreement), which reinforces the unequal nature of the conjuncts’ participation in the
event: the agentive subject is clearly in control of the comitative referent, which does not need to be animate or volitional. Therefore, it seems much more likely that the comitative referent is introduced as some kind of oblique or adjunct (as in options (b.) and (c.) above). As we will see later, aynji-introduces the comitative referent as primary object with transitive inputs, so it is likely that the comitative referent is also introduced as a verbal argument with intransitive inputs, but in an oblique (rather than core) function (i.e. option (c.) above).

Although Heath (1984, p. 382) notes that the vast majority of input verbs in his corpus are intransitive motion or stance verbs (with only one clear example of a transitive input), new data shows that the COMITATIVE verb derivation can apply relatively productively to transitive inputs. As with intransitive inputs, aynji- typically results in proprietive semantics when combined with transitive inputs. However, instead of the subject being interpreted as carrying the comitative referent, the comitative referent is realised as primary object and is itself interpreted as carrying the argument that would have been the primary object of the underived verb. Consider the following data, where conjuncts are in curly brackets with a subscript indicating the comitative referent, and the verb agreement prefix and nominal with which it agrees as object are in bold:85

(6-21) nguna-aynji-ragenma-na {warra-gujuju} {na-walyi-nyung}com
3FSG/3MSG-Com-head.toward-PRES Pl.-baby M-man-HUM.SG

‘She (3FSG) runs towards the babies (3Pl) with the man (3MSG)’ (e.g. she is excited to see the babies)
(i.e. the man is holding the babies and she runs towards them)

(S1 / E1 / 20140317)

85 In addition to these, we also see the COMITATIVE prefix aynji- apply to transitive CAUSATIVE derived verbs, as demonstrated in §7.4.3.3 and §7.4.3.6.
(6-22) **nguna-aynji-adhuga-na**
3FSg/3MSGs-Com-stab-Pres

‘She (3FSg) gives an injection to them [the babies (3Pl)] with him (3MSG)’
(i.e. he is holding the babies and she stabs the babies with an injection needle)
(S1 / E1 / 20140324)

(6-23) **nguna-aynji-yarrbu-manu**
3FSg/3MSGs-Com-wash-Pres

‘She (3FSg) washes them [babies (3Pl)] with him (3MSG)’
(i.e. he is holding the babies and she washes the babies)
(S1 / C (A-8) / 20140324)

(6-24) **wunguna-aynji-yarrbu-manu ngarra-manum-baa {warra-gujuju}**
3FDu/3MSGs-Com-wash-Pres F-woman-DU Pl-baby {na-walyi-nyung}Com
M-man-HUM.SG

‘The two women (3FDu) wash the babies (3Pl) with the man (3MSG)’
(i.e. the man is holding the babies and the two women wash the babies)
(S1 / C: (A-8) / 20140317)

In each of these examples, the derivational prefix *aynji-* attaches to a transitive stem. In (6-21), the verb *raganma* ‘*x* to head toward *d*’ licenses an agent and goal argument, with the goal argument understood as being *warra-gujuju* ‘babies (3Pl)’, while the verbs *adhuga* ‘*x* to stab *y*’ and *yarrbu* ‘*x* to wash *y*’ in (6-22), (6-23) and (6-24) both license an agent and patient, where the patient in each case is also understood as being *warra-gujuju* ‘babies (3Pl)’. When the derivational prefix *aynji-* is attached to the transitive verbs above, this introduces a THIRD-Person MALE singular referent that receives object verb agreement and is understood as holding the goal or patient argument. Thus, as the comitative referent is encoded as object but is not actually interpreted as the goal in (6-21) or the patient in (6-22), (6-23) and (6-24) above, it seems safe to assume that when the COMITATIVE derivational prefix *aynji-* applies to a transitive input verb, this increases the verb’s valency by introducing a comitative referent as a separate argument that is
realised as primary object, while the goal or patient is realised as an oblique or secondary object respectively.\textsuperscript{86}

The ways in which the COMITATIVE derivational prefix \textit{aynji}- interacts with intransitive and transitive inputs in Wubuy bears certain similarities to the COMITATIVE derivational prefix \textit{yi-} $\sim$ \textit{re-} in Bininj Gun-wok, a related Gunwinyguan language. Evans (2003a, pp. 432-433) describes this derivation as introducing an argument that is understood as being with the intransitive subject or transitive object, which is also what we see in Wubuy.\textsuperscript{87} According to him:

\begin{quote}
[t]he introduced argument is never construed as accompanying a transitive subject: it cannot be used to express, for example, ‘we chopped down the tree with the youths’ (on the reading that they are helping us; on the reading that they are in the tree the comitative is possible) (Evans, 2003a, p. 432).
\end{quote}

He also discusses the unbalanced nature of the relationship between the comitative referent and the argument to which it is linked, stating that with intransitive inputs, “the subject is always implied to be in control... or at least to have been in control at some point... of the comitative argument” (Evans, 2003a, p. 433). This is demonstrated below in (6-25), where the comitative referent is interpreted as being carried on the subject’s shoulders:

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
Element & Description \\
\hline
\end{tabular}
\end{table}

\textsuperscript{86} This resembles the alienable external possessor construction we saw occurring with transitive inputs of the AFFECTEE APPLICATIVE in section 4.3.2.2. However, with the COMITATIVE derivation \textit{aynji}-, ownership does not appear to be implicit. For example, in relation to (6-24), the consultant noted that the babies do not have to be the man’s children.

\textsuperscript{87} However, the grammatical function assigned to the comitative argument in Bininj Gun-wok is different to what happens in Wubuy. With intransitive inputs, the comitative referent typically triggers verb agreement as primary object and/or is crossreferenced on the verb with an incorporated nominal (Evans, 2003a, pp. 391, 432), while in Wubuy it is introduced as an oblique function that does not trigger verb agreement. With transitive inputs, on the other hand, the comitative referent in Bininj Gun-wok appears to be realised as primary object (and triggers verb agreement) when its animacy is higher than the original primary object of the underived verb, but as secondary object (and crossreferenced via noun incorporation when appropriate) when its animacy is lower than the original primary object of the underived verb (Evans, 2003a, pp. 391-392, 432). This differs from Wubuy, where with transitive inputs, the comitative referent appears to always be introduced as primary object and needs to be interpreted as capable of carrying another (non-subject) participant in the event.
With transitive inputs, on the other hand, Evans (2003a, p. 433) describes the association with ‘control’ as being less strong, since with some inputs “there is no necessary implication that the object is in control of the COMitative”, as in (6-26), while with others it is implicit, as in (6-27):

(6-26)  *Aban-yi-bekka-n*
1/3Pl-COM-hear-NP
‘I hear them with him/her’
(Bininj Gun-wok (Gun-djeihmi): Evans (2003a, p. 433))

(6-27)  *Nga-kole-yi-kurrme-ng*
1/3-spear-COM-put.down-PP
‘I left the spear with him’
(Bininj Gun-wok (Kunwinjku): Evans (2003a, p. 433))

Nonetheless, Evans (2003a, p. 433) notes that the comitative object and the linked underlying object must always be located in the same place, and this sometimes leads to occasional instrumental interpretations where the two referents are understood as being in contact, as in (6-28) below:

(6-28)  *Gun-yarl ba-yi-dukga-ng*
IV-STRING 3/3L-COM-tie.up-PP
‘He tied it up with string’
(Bininj Gun-wok (Manyallaluk Mayali): Evans (2003a, p. 434))

He also explains that such uses of the COMITATIVE derivation are unsuitable when the ‘instrument’ is not in physical contact with the underlying object, such as in ‘hunting kangaroos with a gun’, where a case suffix must be used instead of the COMITATIVE derivation (Evans, 2003a, p. 434).

Thus, Bininj Gun-wok is also similar to Wubuy by requiring physical contact between the comitative referent and another argument in certain contexts. However, in Wubuy, this requirement appears to be more general. For example, consider the Wubuy data below, where the intransitive verb

---

**Kabi-yi-barndi-O**
3/3H-COM-climb(hill)-NP
‘He climbed a hill with him (on his shoulders)’
(Bininj Gun-wok (Kunwinjku): Evans (2003a, p. 432))
agreement is switched to agreeing with the smaller or weaker referent as subject:

(6-29) \{'ngarra-ngarrugali\}'\text{com} \{warra-mijburraayung\} \ wurra-aynji-ngama-yn
\text{FEM-dugong} \quad \text{Pt.-children} \quad \text{3Pl.-COM-swim-PP}

\text{‘The children (3Pl) swam with the dugong (FEM)’}

(i.e. the dugong is dead and the children carry it in pieces or drag it in a net)

(S1 / E1 / 20140319)
(S2 / E1 / 20140228)
(S3+S4 / E1 / 20140228)

(6-30) \{*ana-manjarr\} \ wa-aynji-wayama-ni \ \{ngarra-manji-nyung\}\text{com}
\text{NEUT.TOP-leaves} \quad \text{NEUT.-COM-keep.going-PRES} \quad \text{F-woman-HUM.SG}

\text{‘The leaves (NEUT) keep going with the woman (3FSg)’}

(S1 / E1 / 20140314)
(S2 / E1 / 20140227)
(S3+S4 / E1 / 20140227)

Each of these examples was initially judged as unacceptable by language consultants due the fact that the referent encoded as subject was perceived as being somehow incapable of carrying the comitative referent. Example (6-29) initially received responses such as ‘if the dugong is alive, she is too strong’, but it was deemed to be acceptable if the dugong was dead and either cut up into pieces or being dragged in a net. Similarly, (6-30) was rejected because it was not plausible that leaves could carry a woman, with responses such as ‘the woman should be holding the leaves’. This kind of judgement by consultants, where it is unacceptable for a verb with \text{aynji-} to encode a smaller or weaker referent as intransitive subject ahead of a bigger or stronger referent, is relatively consistent, which suggests that the notion of the introduced referent being in contact with another referent is somewhat intrinsic to this derivational affix.

The observations made above about how the COMITATIVE prefix \text{aynji-} in Wubuy interacts with intransitive and transitive inputs can be captured via lexical rules. Firstly, since with underived intransitive inputs, \text{aynji-} introduces a comitative argument as an oblique that is understood as being carried by the intransitive subject, we can create a lexical rule as in Figure 6.5. In Chapter 7, we will find that this rule also needs to include the
possibility for the input to already license a nonthematic comitative argument
due to interactions with the comitative function of Wubuy CAUSATIVE
derivations (see §6.3.1.2 for discussion of the comitative function of CAUSATIVE
derivations and §7.4.3.6 for discussion of the interaction). Therefore,
allowable inputs are better characterised as ‘verbs that license only one
thematic argument’, as is used below. I have also included the elements
needed in Figure 6.5. to accommodate the extra comitative argument
mentioned above, but they are presented in italic and grey for now so that we
can focus on the parts of the rule that are relevant to this chapter:

Figure 6.5. Lexical rule COMa

<table>
<thead>
<tr>
<th>Verbs licensing only one thematic argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = ‘x to V (j)’</td>
</tr>
<tr>
<td>&lt; [Arg1]x    (f    j) &gt;</td>
</tr>
<tr>
<td>SUBJ    OBJ   INPUT</td>
</tr>
<tr>
<td>ii. COM-V = ‘x to V (j) carrying k’</td>
</tr>
<tr>
<td>&lt; [Arg1]x    (f    j)    [    ]k &gt;</td>
</tr>
<tr>
<td>SUBJ    OBJ    OBL   OUTPUT</td>
</tr>
<tr>
<td>[    ]k is carried by the next highest argument</td>
</tr>
</tbody>
</table>

COMITATIVE rule (a.) (COMa) above states that with verbs licensing only one
thematic argument (e.g. underived intransitive inputs), the derivational
prefix aynji- introduces a nonthematic comitative argument in an oblique
function. It also specifies a semantic requirement that this comitative
argument should be interpreted as being carried by the next highest
argument at argument-structure, which in all of the examples encountered
so far is the underspecified argument realised as subject (although in §7.4.3.6,
we will see that it is understood as being carried by the nonthematic
comitative argument introduced by CAUSATIVE rule (c.), which is proposed in
§6.3.1.2). Figure 6.6 and Figure 6.7 present analyses of COMITATIVE rule (a.)
applying in examples (6-16) and (6-17) respectively:
With transitive inputs, on the other hand, we saw that the derivational prefix *aynji-* instead introduces a comitative argument as primary object that is understood as carrying the underlying primary object (i.e. the patient, theme or goal argument), and we can create a lexical rule for this as follows:
Figure 6.8. Lexical rule COMb

<table>
<thead>
<tr>
<th>Verbs licensing two thematic arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>i.</strong> ( V = 'x \text{ to } V \ y' )</td>
</tr>
<tr>
<td>(&lt; \text{[Ag/Ex]: } \text{[Go/Pt/Th]:} &gt; )</td>
</tr>
<tr>
<td>( \text{SUBJ} \quad \text{OBL}_{1}/\text{OBJ} )</td>
</tr>
<tr>
<td><strong>INPUT</strong></td>
</tr>
<tr>
<td><strong>ii.</strong> ( \text{COM-V} = 'x \text{ to } V \ y \text{ carried by } k' )</td>
</tr>
<tr>
<td>(&lt; \text{[Ag/Ex]: } \text{[Go/Pt/Th]:} [ ]_k &gt; )</td>
</tr>
<tr>
<td>( \text{SUBJ} \quad \text{OBL}_{1}/\text{OBJ}_2 \quad \text{OBJ} )</td>
</tr>
<tr>
<td><strong>OUTPUT</strong></td>
</tr>
<tr>
<td>( [ ]_k \text{ carries the next highest argument} )</td>
</tr>
</tbody>
</table>

Above, COMITATIVE rule (b.) (COMb) states that with verbs that license two thematic arguments, the derivational prefix \( \text{aynji-} \) introduces a nonthematic comitative argument as primary object, which results in any goal, patient or theme argument being realised in an oblique function or as secondary object. As discussed in Chapter 7, the fact that this rule accepts inputs with two thematic arguments means that it also predicts interactions with intransitive verbs that have already been derived by the AFFECTEE APPLICATIVE or by the direct causative function of the CAUSATIVE derivation (although only the latter is currently documented; see §7.3.1.3 and §7.4.3.3). COMITATIVE rule (b.) also specifies a semantic requirement that the comitative argument should be interpreted as carrying the next highest argument at argument-structure (i.e. the goal, patient or theme), which captures the observation made earlier that the introduced comitative referent is typically understood as carrying the oblique goal or secondary object when the input verb is an underived transitive. Figure 6.9 and Figure 6.10 below present analyses of this rule applying in examples (6-21) and (6-24):
Figure 6.9. Analysis of COMb applying in (6-21)

1. INPUT: raganma ‘x to run towards d’
   < [Ag]x [Go]d >
   
   SUBJ OBJ

2. COMb: aynji-raganma ‘x to run towards d carried by k’
   < [Ag]x [Go]d [ ]k >
   
   SUBJ OBLGOAL OBJ
   [ ] carries the next highest argument

3. OUTPUT: aynji-raganma ‘x to run towards d carried by k’
   < [Ag]x [Go]d [ ]k >
   
   SUBJ OBLGOAL OBJ

4. DATA: nguna-aynji-raganma-na {warra-gujuju}d {na-walyi-nyung}k
   3FSg/3MSGa-COM-head.toward-PRES PL-baby M-man-HUM.SG
   ‘Shex (3FSg) runs towards the babiesy (3Pl) with the manz (3MSg)’ (e.g. she
   is excited to see the babies)
   (i.e. the man is holding the babies and she runs towards them)

Figure 6.10. Analysis of COMb applying in (6-24)

1. INPUT: yarrbu ‘x to wash y’
   < [Ag]x [Pt]y >
   
   SUBJ OBJ

2. COMb: aynji-yarrbu ‘x to wash y carried by k’
   < [Ag]x [Pt]y [ ]k >
   
   SUBJ OBL2 OBJ
   [ ] carries the next highest argument

3. OUTPUT: aynji-yarrbu ‘x to wash y carried by k’
   < [Ag]x [Pt]y [ ]k >
   
   SUBJ OBL2 OBJ

4. DATA: wunguna-aynji-yarrbu-mana {ngarra-manum-baa}x {warra-gujuju}y
   3FDu/3MSGa-COM-wash-PRES F-woman-DU 3Pl-baby
   {na-walyi-nyung}k
   M-man-HUM.SG
   ‘The two womenx (3FDu) wash the babiesy (3Pl) with the manz (3MSg)’
   (i.e. the man is holding the babies and the two women wash the babies)

Thus, we can account for the variation in the grammatical function assigned
to comitative referents introduced by the derivational prefix aynji- through
lexical rules that consider the transitivity of the input verb. These are
summarised in the lexical entry for aynji- below:
Figure 6.11. Lexical entry for ayjni-

<table>
<thead>
<tr>
<th>COMa: verbs licensing only one thematic argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.  V = 'x to V (j)'</td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>ii. COM-V = 'x to V (j) carrying k'</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>COMb: verbs licensing two thematic arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.  V = 'x to V y'</td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>ii. COM-V = 'x to V y carried by k'</td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

However, as we will see later in §6.3.1.3 and §6.3.2, ayjni- can co-occur with comitative uses of the INSTRUMENTAL suffix -mirri, and in certain contexts this combination of affixes appears to result in a construction more reminiscent of coordination.

6.3.1.2. Comitative function of CAUSATIVE derivations

As previously mentioned, the CAUSATIVE derivations in Wubuy can have a comitative function when they take an intransitive motion verb as their input. Consider the following examples, where the CAUSATIVE derivational root -jga ~ -jgi introduces a comitative referent in (6-31) to (6-36), while TAM paradigm shift does the same in (6-37) and (6-38):88, 89

88 In (6-40), the nonhuman nominal na-landhurrg-jung 'dog (3MSg)' has been humanised (it belongs to the COLLECTIVE noun class, where it usually takes noun class prefix warra- and does not inflect for number). This humanisation is typically only available to nonhumans with higher animacy, as discussed in §2.3.3.2.

89 It should be noted that the TAM paradigm shift that occurs in (6-37) and (6-38) is from the A2 to I1 conjugational verb class. This differs from the examples of TAM paradigm shift we saw in Chapter 3 (§3.3.1), where unaccusative verbs from the NGA1 verb class shift to the A2 verb class to introduce a causal agent. Nonetheless, it similarly increases the verb's valency.
(6-31) {ngarra-man吾-nyung} ngiwu-wayami-jga-na
F-woman-HUM.SG 3FSG/NEUT.-continue.along.CAUS-PRES NEUT.TOP-knife
‘The woman (3FSG) continues along with the knife (NEUT)’
(i.e. she takes the knife)
(S1 / E2 / 20140319)

(6-32) ngunu-rararbi-jga-yn
FEM/3MSGt-go.down.to.water.CAUS-PP
‘It [crocodile (FEM)] went down into the water with him [sleeping man (3MSG)]’
(i.e. it pulled/took him down into the water)
(S1 / E1 / 20140319)

(6-33) wangi-igulhaynji-jga-yn
3FSG/3PL-move.swiftly.CAUS-PP
‘She [woman (3FSG)] ran along with them [children (3PL)]’
(i.e. she took them somewhere)
(S2 / E1 / 20140228)

(6-34) wunu-wali-jga-yn
3PL/3MSG.-arrive.CAUS-PP
‘They [children (3PL)] arrived with him [man (3MSG)]’
(i.e. they brought him)
(S2 / E1 / 20140228)
(S3+S4 / E1 / 201403228)

(6-35) ngunu-limi-jga-yn
3FSG/3MSG.-change.direction.CAUS-PP
‘She [woman (3FSG)] changed direction with him [boy (3MSG)]’
(i.e. she took him aside/in a different direction)
(S2 / E1 / 20140228)

(6-36) ngunu-lhawadbi-jga-a
3FSG/3MSG.-jump.out.into.open.CAUS-PC
‘She (3FSG) came out into the open with him (3MSG)’
(i.e. she brought him out)
(S2 / E1 / 20140228)

by introducing a new argument, as indicated through the use of transitive verb agreement prefixes. Here, however, this new argument is a comitative referent, not a causal agent.
Each of the inputs above is an intransitive motion verb that licenses an agent, and instead of introducing a new causal agent as subject, the CAUSATIVE derivation introduces a comitative referent as primary object. For example, in (6-31), the input verb *wayama* ‘x to continue along’ becomes *wayami-jga* ‘x to continue along with k’, where x is the agentive subject *mani-nyung* ‘woman (3FSg)’ and k is the comitative referent *maragi* ‘knife (NEUT)’, which has been introduced as primary object and is interpreted as being taken along by the agent. In each example, although both the subject and the introduced referent are interpreted as being in motion, the former is interpreted as being in control of the event and the latter as somehow having less volition (e.g. by being carried and/or taken).

90 This somewhat resembles a similar usage of *-jga ~ -jgi* identified by Heath (1984, p. 394) which he called the “promotion-to-object usage” but for which the ‘applicative’ label is also appropriate:

In this usage, there is an underlying intrans. verb with just an agent in its case frame; the derived Caus form keeps this NP as agent but adds a direct object (the pronominal prefix before the Caus verb stem must now be transitive) (Heath, 1984, p. 394).

However, Heath (1984, pp. 394-395) does not address the distribution and constraints of this “promotion-to-object” usage aside from the observation that it occurs with some intransitive verbs that license an agent. Furthermore, he only identifies three clear examples, none of which are motion verbs. These verbs are *wannga* ‘x to dance’ (which becomes *wanngi-jga* ‘x to dance [totemic dance] of y’, *yama* ‘x to say (something)’ (which becomes *yami-jga* ‘x to say (something) to y’, and *yaminggarri* ‘x to do what?’ (which becomes *yaminggarri-jga* ‘x to do what to y’ (Heath, 1984, pp. 394-395).
Although it is not necessarily typical of non-Pama Nyungan languages to use the same derivation for both causative and applicative functions, there are other Australian languages that demonstrate this kind of polysemy. In his account of transitivity alternations in a number of Australian languages, Austin (2005, p. 2) claims that many Australian languages demonstrate a split between two types of intransitive verbs: those that become causatives when transitivised, and those that become applicatives. This split is widespread in central and north-eastern Australian languages, with all languages reported as showing this split belonging to the Pama-Nyungan group save one, Rembarrnga, which is related to Wubuy and spoken in eastern Arnhem Land, north-west of the Nunggubuyu (Wubuy speaking) area. Austin (2005, pp. 3-4) notes that some languages have separate affixes for each of these functions, whereas other languages have a single affix that can be used for both. Wubuy appears to be a member of the latter group of languages, with a split between intransitive verbs of motion and all other intransitive verbs such that motion verbs can have either a comitative or indirect causative interpretation when the derivational root \(-jga ~ -jgi\) or TAM paradigm shift is used, whereas all other verbs can only have a causative meaning.

The comitative function of the \(-jga ~ -jgi\) and transitivising derivations differs from the direct causative function not only by introducing a comitative referent instead of a causal agent, but also by expressing a sense of ‘joint-involvement’. That is, instead of a situation where an agent causes an event that only affects a patientive argument, we have a situation where the agent is also involved in the event it instigates. For a clearer demonstration of this, consider the data below, where (6-39), (6-40) and (6-41) are reproduced from (3-16), (6-15) and (3-23) respectively:

(6-39) \textit{wangi-walarrangi-jga-yn} \textit{warra-lanndurr}g
\begin{tabular}{ll}
3FSG/COLLa-be.full-CAUS-PP & COLL.TOP-dog \\
\end{tabular}
‘She (3FSG) makes the dog (COLL) full’ (i.e. by feeding it)

(S1 / E1 / 20140331)
In (6-39), the intransitive input verb *walarranga* ‘y to be full’ is unaccusative and licenses a theme, which is understood here as *landhurr* ‘dog (COLL)’ and which would be realised as intransitive subject when the verb is in its underived form. When this verb takes the derivational root *-jga ~ -jgi*, however, CAUSATIVE rule (a.) applies and introduces a THIRD-PERSON FEMALE SINGULAR causal agent as subject, which results in the theme being reassigned to primary object and a sense of ‘direct causation’ being added (see §3.3.1 for additional details). Furthermore, in this example, the caused event is interpreted as only affecting the theme argument. That is, only *landhurr* ‘dog (COLL)’ is understood as becoming full. Comparing this to (6-40), here the input is the intransitive verb *ngama* ‘x to swim’, which licenses an agent that is understood to be *man$\_i$-nyung* ‘woman (3FSG)’. When the derivational root *-jga $\sim$ -jgi* attaches to this verb, its comitative function introduces the referent *yiwanggu-nyung* ‘old man (3MSG)’ as primary object, and the pre-existing agent *man$\_i$-nyung* ‘woman (3FSG)’ is understood as taking this comitative referent with her while swimming. That is, the agent and the comitative referent are both somehow involved in the process of going through water, but it is the agent that is perceived as having control over this, with the comitative referent interpreted as less volitional (e.g. it can often be unconscious or inanimate). Lastly, (6-41) demonstrates that because intransitive motion input verbs typically license an agent, it is also possible for the restricted ‘indirect causative’ function of *-jga $\sim$ -jgi* to apply, which results in the introduction of a causal agent via the creation of a complex
predicate, and this causal agent is understood as indirectly causing the other agent to be in motion (e.g. by telling them to be) without actually being in motion itself (see §3.3.1.2 for additional details). However, CAUSATIVE-derived motion verbs are typically interpreted as being comitative unless the context for indirect causation is well established. Thus, it can be seen that the CAUSATIVE derivations in Wubuy have three different functions: two causative (direct vs. indirect) and one comitative, the latter of which is consistently the preferred interpretive option with intransitive motion input verbs.

McGregor (1998, p. 174) discusses a construction in Warrwa, an eastern Nyulnyulan language from the Kimberly region of Western Australia, that is similar to the comitative function of the Wubuy CAUSATIVE derivations discussed above. When the applicative suffix -ngany is attached to a motion clause, it “typically indicates that the movement occurred with, or in the company of somebody or something; the latter thing is generally taken along by the Actor, who serves as the primary mover and instigator of the action” (McGregor, 1998, p. 174). He provides the following examples to demonstrate this:

(6-42) linyju nguy jina
policeman return he:did
‘The policeman returned’

(6-43) linyju-na nguy jina-ngany-jirr, kuya jirra
policeman-ERG return he:did-APP-them mother their
‘The policeman brought back their mother’

McGregor (1998, pp. 174-175) discusses the difficulty in deciding which of the arguments in an example like (6-43) corresponds to the single argument licensed by the underived form of the verb, because in the derived form, both

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91 McGregor (1998) notes that there are phonologically identical suffixes (i.e. -ngayn) in Warrwa that can be used on nouns to mark instruments and on verbs to mark an implicated construction (i.e. signaling that “the referent situation is projected or intended for the future”).
participants necessarily change position. That is, does the suffix -ngany in (6-43) introduce a causal agent as subject or a comitative referent as object? For Warrwa, McGregor (1998, pp. 174-175) argues that there are two reasons why the latter option is more likely. Firstly, he states that an examination of the Warrwa corpus has revealed no examples of a basic clause with nguy...JI ‘x to return’ occurring with an inanimate argument incapable of independent movement (McGregor, 1998, p. 174). Secondly, he argues that “while it is true that both participants in the transitive clause move, it does not appear to be true that their movement would necessarily be describable in terms of the agnate intransitive clause” (McGregor, 1998, pp. 174-175). Consider the following data:

(6-44) linykurra-ni jawu jan-ngany yila nilirr-kany jina
crocodile-ERG swim:does-APP dog mouth-LOC his
‘Crocodile is swimming along with a dog in its mouth’

McGregor (1998, p. 175) explains that the dog referred to in this example was dead, so it is unlikely that it could be the original argument of a basic clause with jawu jan ‘x is swimming’. Furthermore, if (6-44) were truly a causative, we would expect the semantics to be something like ‘the crocodile caused the (dead) dog to swim along in its mouth’, which does not make sense. Therefore, as the animate referent in the applicative clause is the primary moving entity and brings about the motion of the other argument, McGregor (1998, p. 175) sees these constructions as comitatives, not causatives.

These arguments can also be made in relation to Wubuy, as demonstrated in the following table, which presents token counts of the underived intransitive counterparts to examples (6-31) to (6-38), as well as (6-40), in Heath’s (1980)

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92 Note, however, that McGregor’s (1998) discussion is aimed at deciding whether -ngayn is a comitative or a causative derivation, not if it can be used for both.
book of texts, with separate categories for instances with animate and inanimate subjects:

Table 6.1  Animate vs. inanimate subjects of underived intransitive motion verbs (based on Heath, 1980)

<table>
<thead>
<tr>
<th>Example of COM function</th>
<th>Underived counterpart</th>
<th>Total tokens</th>
<th>Animate SUBJ</th>
<th>Inanimate SUBJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>(6-31)</td>
<td>wayama 'x to continue along'</td>
<td>127</td>
<td>118</td>
<td>9</td>
</tr>
<tr>
<td>(6-34)</td>
<td>wala 'x to arrive'</td>
<td>36</td>
<td>31</td>
<td>5</td>
</tr>
<tr>
<td>(6-37)</td>
<td>adada 'x to go up slope'</td>
<td>15</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>(6-38)</td>
<td>rabala 'x to come out'</td>
<td>15</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>(6-40)</td>
<td>ngama 'x to swim'</td>
<td>8</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>(6-35)</td>
<td>lima 'x to change direction'</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>(6-32)</td>
<td>rararba 'x to go down to water'</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>(6-33)</td>
<td>agulhaynji 'x to move swiftly'</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>(6-36)</td>
<td>lhawodha 'x to jump out into the open'</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>217</strong></td>
<td><strong>198 (91.2%)</strong></td>
<td><strong>19 (8.8%)</strong></td>
</tr>
</tbody>
</table>

As this shows, in the vast majority of cases, the subject of these underived intransitive motion verbs is animate. Furthermore, even in the examples demonstrating an inanimate subject, they can often be construed as referents that are somehow capable of independent movement. For example, there are underived instances of wayama 'x to continue along', wala 'x to arrive', adada 'x to go up slope' and agulhaynji 'x to move swiftly' that involve contexts where the inanimate subject is a boat in water, as shown below:

(6-45)  ma-waya-wayama-ni
VEG, RDP-continue.along-PRES
'It [canoe (VEG)] continues along (back to shore)'
(Heath, 1980, p. 399)

---

93 This does not include examples with noun incorporation or multiple prefixes.
94 Other examples include rope or sickness with wala 'x to arrive', as well as spear, wind or truck with wayama 'x to continue along'.
Within the context of a boat being in water, it could be conceptualised as having some kind of independent motion due to the current carrying it along, so it is feasible that it would be able to continue along, arrive, go up onto shore, or move swiftly without assistance from an animate referent. This, in addition to the predominance of animate subjects, suggests that the subject of the input verb typically needs to be capable of independent movement in order for the application of Wubuy CAUSATIVE derivations to result in a sense of ‘joint-involvement’. Therefore, it makes sense to analyse these derivations as introducing a comitative referent, rather than a causal agent, when their input is an intransitive motion verb, since otherwise it would not be possible for the subject of the derived clause to take inanimate/motionless referents with it, as we saw in earlier examples such as (6-31), (6-32) and (6-37).

This analysis is further supported by instances where Wubuy speakers reject purely causative interpretations of examples that were accepted with a comitative reading:

(6-49)  
\[ \text{wunu-wali-} \text{jga-yn} \]  
\[ 3P\text{l/3MSG}_{-}\text{arrive-CAUS-PP} \]  
*’They [children (3Pl)] made him [man (3MSG)] arrive’  
(i.e. while the children do not)  
(S2 / E1 / 20140228)  
(S3+S4 / E1 / 201403228)
Above, examples (6-49), (6-50), (6-51) and (6-52) are unacceptable causative interpretations of (6-34), (6-36), (6-38) and (6-40) respectively, which suggests that the comitative interpretation is generally preferred when intransitive motion verbs undergo a CAUSATIVE derivation.

Therefore, using the insight that a comitative referent can be introduced as primary object when the Wubuy CAUSATIVE derivations -jga ~ -jgi and TAM paradigm shift take an intransitive motion verb as input, we can formally capture this by creating a lexical rule as follows:

**Figure 6.12. Lexical rule CAUSc for CAUSATIVE derivations**

<table>
<thead>
<tr>
<th>Intransitive motion verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = ‘x to V’</td>
</tr>
<tr>
<td>&lt; [Ag], &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
</tr>
<tr>
<td>INPUT</td>
</tr>
<tr>
<td>ii. V-CAUS = ‘x to V with k’</td>
</tr>
<tr>
<td>&lt; [Ag], [ ] k &gt;</td>
</tr>
<tr>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td>OUTPUT</td>
</tr>
</tbody>
</table>

CAUSATIVE rule (c.) (CAUSc) above states that with inputs that are intransitive motion verbs, the CAUSATIVE verb derivations can introduce a comitative
argument as primary object. Figure 6.13 and Figure 6.14 demonstrate analyses of CAUSATIVE rule (c.) applying in examples (6-38) and (6-40) respectively:

**Figure 6.13. Analyses of CAUS_{c} applying in (6-38)**

1. **INPUT:**  
   
   rabala 'x to come out'
   
   < [Ag]_x >
   
   SUBJ

2. **CAUS_{c}:**  
   
   rabali 'x to come out with k'
   
   < [Ag]_x [ ]_k >
   
   SUBJ OBJ

3. **OUTPUT:**  
   
   rabali 'x to come out with k'
   
   < [Ag]_x [ ]_k >
   
   SUBJ OBJ

4. **DATA:**  
   
   [ngarra-manum-baa],_x  wungunu-rabali-ina
   
   F-woman-DU  3FDU/3MSG_{x}-come.out.CAUS-PRES

   [na-lahurr-jung]_k
   
   M-dog-HUM.SG

   'Two women_{x} (3FDU) come out with the dog_{k} (3MSG)'
   
   (i.e. they take the dog out)

**Figure 6.14. Analysis of CAUS_{c} applying in (6-40)**

1. **INPUT:**  
   
   ngama 'x to swim'
   
   < [Ag]_x >
   
   SUBJ

2. **CAUS_{c}:**  
   
   ngami-jga 'x to swim with k'
   
   < [Ag]_x [ ]_k >
   
   SUBJ OBJ

3. **OUTPUT:**  
   
   ngami-jga 'x to swim with k'
   
   < [Ag]_x [ ]_k >
   
   SUBJ OBJ

4. **DATA:**  
   
   [ngarra-man-i-nyung],_x  ngunu-ngami-jga-yn  [na-yiwanggu-nyung]_k
   
   F-woman-HUM.SG  3FSG/3MSG_{x}-swim-CAUS-PP  M-old.man-HUM.SG

   'The woman_{x} (3FSG) swam with the old man_{k} (3MSG)'
   
   (i.e. she took him (while) swimming)

Now that we have CAUSATIVE rule (c.) to account for this comitative function, we can present the final lexical entry for CAUSATIVE derivations as follows:
Figure 6.15. Lexical entry for -jga ~ -jgi and TAM paradigm shift (final version)

<table>
<thead>
<tr>
<th>Causative with agentless verbs</th>
<th>Causative with agents that have an agent (restricted option)</th>
<th>Causative: Intransitive motion verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. ( V = 'y \text{ to } V \ldots' ) [Ex/Pr/Th] \ldots &gt; \subj \INPUT</td>
<td>i. ( V = 'x \text{ to } \text{cause} \text{indir } y \text{ to } V \ldots' ) [Ag]x [Ex/Pr/Th]y ... &gt; \subj \OBJ \OUTPUT</td>
<td>i. ( V = 'x \text{ to } V \ldots' ) [Ag]x &gt; \subj \INPUT</td>
</tr>
<tr>
<td>ii. ( V \text{-CAUS } = 'x \text{ to CAUSEindir } y \text{ to } V \ldots' ) [Ag]x [Ex/Pr/Th]y ... &gt; \subj \OBJ</td>
<td>ii. ( V \text{-CAUS } = 'w \text{ to CAUSEindir } x \text{ to } V \ldots' ) [Ag]w [Pt/Go]x [Ag]x ... &gt; \subj \OBJ</td>
<td>ii. ( V \text{-CAUS } = 'x \text{ to } V \text{ with } k' ) [Ag]x [ ]k &gt; \subj \OBJ</td>
</tr>
</tbody>
</table>

6.3.1.3. INSTRUMENTAL suffix -mirri

The only function attributed to the nominal suffix -mirri by Heath (1984, pp. 210-212) is instrumental, which is demonstrated in the following examples:

(6-53) ngaya nga-balhu-u ana-carrot maragi-mirri
1SG.PRO 1SG/RESID-cut-PC RESID.TOP-carrot(English) knife-INSTR
'I (1SG) was cutting the carrot (RESID) with a knife (NEUT)'
(S1 / E3 / 20140314)

(6-54) ngaya nga-gudi-yn ana-ngujija ngadugu-mirri
1SG.PRO 1SG/RESID-catch-PP RESID.TOP-fish rope-INSTR
'I (1SG) caught fish (RESID) with a hand reel (VEG) (lit. rope)'
(S1 / E3 / 20140314)

In (6-53) and (6-54), the suffix -mirri marks the INSTRUMENTAL case of maragi 'knife (NEUT)' and ngadugu 'rope (VEG)' respectively, and these referents are understood as being used by the FIRST-PERSON SINGULAR agentive subject as
a tool. However, new data shows that this nominal suffix can also be used to express comitativity. The use of INSTRUMENTAL suffixes to encode comitativity has also been observed in other Gunwinyguan languages, such as Ngalakgan (Merlan, 1983), Enindhilyakwa (van Egmond, 2012) and Rembarrnga (McKay, 1975).

As mentioned earlier, the comitative use of -mirri can occur both with verbs that are underived and with verbs that take the COMITATIVE derivational prefix aynji-, but its behaviour in each context is somewhat different. Beginning with the former, the following examples represent all examples identified in my data so far of -mirri occurring as a COMITATIVE marker in an underived clause:

(6-55) {ngarra-mangi-nyung} ngi-wayama-ni {warra-mijburraayung-mirri}Com
F-woman-HUM.SG 3FSG-keep.going-PRES PL-children-INSTR

'The woman (3FSG) continues along with the children (3Pl)'  
(i.e. the woman and the children continue along together)
(S2 / E3 / 20140227)

(6-56) {ngarra-mangi-nyung-mirri}Com wurrur-wayama-ni {warra-mijburraayung}  
F-woman-HUM.SG-INSTR 3Pl-keep.going-PRES PL-children

'The children (3Pl) continue along with the woman (3FSG)'
(i.e. the children and the woman continued along together)
(S2 / C: (6-60) / 20140227)  
(S3+S4 / E1 / 20140227)

(6-57) ngi-ngama-yn {ngarra-ngurugali} {warra-mijburraayung-mirri} wugurruCom
FEM-swim-PP FEM.TOP-dugong PL-children-INSTR 3PL.PRO

'The dugong (Fem) swam with the children (3Pl)'
(i.e. the children are swimming along beside the dugong)
(S1 / E3 / 20140319)

(6-58) {na-walji-nyung} ni-ngama-a a-guugu-waj
M-man-HUM.SG 3MSG-swim-PC NEUT.OBL.water-PERG

{nigawi-nyinyung-mirri dhurrabada}Com
3MSG.PRO-GEN-INSTR wire.spear

'A man (3MSG) was swimming through the water with his spear (NEUT)'
(S1 / E3 / 20140319)
As can be seen, there are two verbs in the examples above, both of which are intransitive motion verbs: wayama ‘x to keep going’ in the first two and ngama ‘x to swim’ in the rest. However, at this stage there is no real evidence to suggest any semantic or grammatical restrictions on the type of verbs that -mirri can co-occur with in its comitative function. Interestingly, example (6-56) was offered as acceptable alternative to example (6-60) below, which demonstrates a comitative construction using the derivational prefix aynji-that was deemed to be unacceptable because the children were not perceived as being capable of carrying the woman, and examples (6-55) and (6-57) were offered as alternatives to (6-61) and (6-62) respectively as ways of expressing accompaniment without the implication that one referent was carrying the other:

(6-60) *[ngarra-maniyung-mirri]Com wurra-aynji-wayama-ni
F-woman-HUM.SG-INSTR 3Pl.,COM-keep.going-PRES
{warra-mijburraayung}
Pl-children
(S2 / E1 / 20140227)

(6-61) {warra-mijburraayung}Com ngi-aynji-wayama-ngi {ngarra-maniyung}
Pt-children 3FSG.-COM-keep.going-PRES F-woman-HUM.SG
‘The woman (3FSG) continues along with the children (3Pl)’
(i.e. she is carrying them)
(S1 / E1 / 20140314)
(S2 / E1 / 20140227)
(S3+S4 / E1 / 20140227)

(6-62) ngi-aynji-ngama-a {ngarra-ngarruga}i {warra-mijburraayung}Com
FEM.-COM-swim-PC FEM.TOP-dugong Pt-children
‘The dugong (FEM) was swimming with the children (3Pl)’
(i.e. the children were sitting on the dugong’s back)
(S1 / E1 / 20140319)
(S2 / E1 / 20140228)
(S3+S4 / E1 / 20140228)
This seems to suggest that the comitative use of \texttt{-mirri} expresses pure accompaniment and does not have any intrinsic type of proprietive sense like the derivational prefix \texttt{aynji-}. That is, comitative referents are typically interpreted as moving independently, unless they are inanimate as in (6-58) and (6-59).

Despite the limited number of examples of \texttt{-mirri} occurring in underived clauses, there are still some observations that we can make about its apparent effect on the clause. Firstly, in almost all the examples above, we can rule out the possibility that \texttt{-mirri} is functioning as a nominal coordinator since the agreement strategies do not follow the multiple antecedent rules set out in Figure 5.15 from the previous chapter. That is, if the two conjuncts were in a coordinative construction, we would expect number to resolve to \texttt{PLURAL} and noun class to be neutralised in (6-55) and (6-57) (as per rules (2)ii. and (3)i.), and we would expect number to resolve to \texttt{DUAL} in (6-58) and (6-59) (as per rule (2)ii.). Therefore, we can assume that the nominal that controls verb agreement is the intransitive subject, while the nominal that takes the suffix \texttt{-mirri} is the comitative referent. Furthermore, since the verb does not agree with the comitative referent as primary object, this means it must be realised in some kind of adjunct or oblique function. Unlike the \texttt{COMITATIVE} verb derivations discussed in previous sections, there is no evidence to suggest that \texttt{-mirri} affects the valency of the verb, so I assume for now that with underived verbs, it introduces a comitative referent as an adjunct.

The co-occurrence of \texttt{-mirri} with verbs that take the \texttt{COMITATIVE} prefix \texttt{aynji-} is less predictable, however, since it appears to be acceptable for it to mark either the comitative referent introduced by \texttt{aynji-} or the argument with which it is in physical contact. For example, with intransitive inputs, \texttt{-mirri} can mark either the oblique comitative argument introduced by \texttt{aynji-}, as in (6-63) and (6-65), or the intransitive subject that carries it, as in (6-64) and (6-66). Example (6-67) demonstrates that \texttt{aynji-} still contributes the grammatical and semantic requirements of \texttt{aynji-} discussed in §6.3.1.1, since
it is still unacceptable to have a smaller or weaker referent agreed with as subject.\textsuperscript{95}

\begin{description}
\item[(6-63)] \textit{wurra-aynji-ngama-yn} \textit{\{mana-rangag-\textbf{mirri}\}_\text{com} \{warra-mijburraayung\}}
\textit{3Pl}_\text{a}-\text{COM-swim-PP} \textit{VEG.TOP-canoe-INST} \textit{Pl.-children}

\[\text{‘The children (3PL) swam with the canoe (VEG)’}\]
\[\text{(i.e. they are pulling the canoe through water while they swim)}\]

(S1 / E1 / 20140319)

(S2 / E1 / 20140228)

\item[(6-64)] \textit{wurra-aynji-ngama-yn} \textit{\{mana-rangag\}_\text{com} \{warra-mijburraayung-\textbf{mirri}\}}
\textit{3Pl}_\text{a}-\text{COM-swim-PP} \textit{VEG.TOP-canoe} \textit{Pl.-children-INST}

\[\text{‘The children (3PL) swam with the canoe (VEG)’}\]
\[\text{(i.e. they are pulling the canoe through water while they swim)}\]

(S1 / E1 / 20140319)

\item[(6-65)] \textit{\{ngarra-manj-nung\} ngi-iynji-wayama-ni}
\textit{F-woman-HUM.SG} \textit{3FSG}_\text{a}-\text{COM-keep.going-PRES}

\textit{\{warra-mijburraayung-\textbf{mirri}\}_\text{com} \}
\textit{Pl.-children-\text{COM}}

\[\text{‘The woman (3FSg) continues along with the children (3PL)’}\]
\[\text{(i.e. she is carrying them)}\]

(S1 / E1 / 20140314)

(S2 / E1 / 20140227)

(S3+S4 / E1 / 20140227)

\item[(6-66)] \textit{\{ngarra-magi-nyung-\textbf{mirri}\}} \textit{ngi-iynji-wayama-ni}
\textit{F-woman-HUM.SG-INST} \textit{3FSG}_\text{a}-\text{COM-keep.going-PRES}

\textit{\{warra-mijburraayung\}_\text{com} \}
\textit{Pl.-children}

\[\text{‘The woman (3FSg) continues along with the children (3PL)’}\]
\[\text{(i.e. she is carrying them)}\]

*(S1 / E1 / 20140314)

*(S2 / E1 / 20140227)

(S3+S4 / E1 / 20140227)
\end{description}

\textsuperscript{95} However, note that (6-66) was unacceptable to some of the consultants it was tested with, as indicated by * below the example, which suggests that the acceptability of \textit{\textbf{-mirri}} marking arguments other than the comitative referent may be somewhat variable.
Similarly, with transitive inputs, -mirri can mark either the comitative referent introduced by aynji- and realised as primary object, as in (6-68) and (6-70), or the secondary object that it carries, as in (6-69) and (6-71). Example (6-72), on the other hand, demonstrates that -mirri cannot mark both (this was not tested with intransitive inputs):

(6-68) nguna-aynji-adhuga-na  ngarra-nurse  {na-walyi-nyung-mirri}\textsubscript{Com}  
3FSg/3MSg\textsubscript{a}-Com-stab-Pres  F-nurse  M-man-Hum.Sg-Instr  
{warra-gujuju}  
Pt-baby  
‘The nurse (3FSg) gives an injection to them [the babies (3PL)] with him (3MSg)’  
(i.e. he is holding the babies and she stabs the babies with an injection needle)  
(S1 / E1 / 20140324)

(6-69) nguna-aynji-adhuga-na  ngarra-nurse  {na-walyi-nyung}\textsubscript{Com}  
3FSg/3MSg\textsubscript{a}-Com-stab-Pres  F-nurse  M-man-Hum.Sg  
{warra-gujuju-mirri}  
Pt-baby-Instr  
‘The nurse (3FSg) gives an injection to them [the babies (3PL)] with him (3MSg)’  
(i.e. he is holding the babies and she stabs the babies with an injection needle)  
(S1 / E1 / 20140324)

(6-70) wunguna-aynji-yarbu-mana,  ngarra-manum-baa  {warra-gujuju}  
3Fdu/3MSg\textsubscript{a}-Com-wash-Pres  F-woman-Du  Pt-baby  
{na-walyi-nyung-mirri}\textsubscript{Com}  
M-man-Hum.Sg-Instr  
‘Two women (3FDu) wash the babies (3PL) with the man (3MSg)’  
(i.e. the man is holding the babies but he is not washing them or being washed)  
(S1 / E1 / 20140317)
In the examples above, the fact that -mirri does not affect verb agreement or the nature of the proprietive semantics contributed by aynji-, irrespective of whether it occurs on the comitative referent or the argument with which it is in physical contact, suggests that when these two affixes co-occur, the grammatical and semantic requirements of aynji- take precedence, while -mirri can simply emphasise the sense of accompaniment without enforcing any grammatical requirements.

Therefore, based on the observations that -mirri can introduce a comitative adjunct with underived verbs or can simply emphasise the sense of accompaniment between certain arguments with verbs derived by aynji-, we can formulate a lexical entry for -mirri as in Figure 6.16. It should be noted that the rule in part (a.) is designed for the underived intransitive inputs that I actually have evidence for, but I do not wish to rule out the possibility that it may be extended to also include transitive inputs.
Part (a.) of the lexical entry in Figure 6.16 states that with underived intransitive verbs, the suffix -mirri can attach to a nominal (k) that is realised as an adjunct and understood as accompanying the subject. An example of this is presented below (reproduced from (6-55)), where the comitative adjunct mijburraayung ‘children (3Pl)’ (k) is understood as accompanying the intransitive subject mani-nyung ‘woman (3FSg)’ (j). The subscripts j and k are used to show how conjuncts relate to the participants in part (a.) of Figure 6.16:

(6-73) {ngarra-mani-nyung} j
F-woman-HUM.SG 3FSg-keep.going-PRES
{warra-mijburraayung-mirri} k, Com
Pt-children-INSTR

‘The womanj (3FSg) continues along with the childrenk (3Pl)’
(i.e. the woman and the children continue along together)
(S2 / E3 / 20140227)

On the other hand, part (b.) of the lexical entry in Figure 6.16 states that the suffix -mirri can attach to a nominal (k) that is understood as accompanying another participant in the event (j). It also specifies that either the nominal to which -mirri is attached (k) or the referent to which it is linked (j) needs to be the primary object if present, otherwise the subject. This accounts for the variation we saw in earlier examples of -mirri co-occurring with verbs derived

If it turns out that -mirri can also introduce comitative adjuncts with transitive inputs, and if these comitative adjuncts are always linked to primary object, part (a.) and (b.) in Figure 6.16 could be condensed as follows:

\[
N_k \text{-mirri} = \text{‘}k \text{ accompanies } j\text{’}
\]

Where either \( k \) or \( j \) = OBJ > SUBJ
If \( N_k \) is not already mapped to GF by V, then GF = ADJ
by the COMITATIVE derivational prefix aynji-. For example, with transitive verbs derived by aynji-, the suffix -mirri can mark either the comitative argument introduced as primary object or the argument to which it is linked (i.e. the goal, patient or theme that is now realised as an oblique goal or secondary object). This is demonstrated in the following examples (reproduced from (6-70) and (6-71)), where the nominal marked by -mirri (i.e. $k$) is the comitative primary object walyi-nyung ‘man (3MSG)’ in (6-74) but the secondary object gujuju ‘baby (3PL)’ that it carries in (6-75). The subscripts $j$ and $k$ are again used to indicate how conjuncts relate to the participants in part (b.) of Figure 6.16:

(6-74)  

\[
\begin{array}{lll}
\text{wunguna-aynji-yarbbu-rama,} & \text{ngarra-manum-ba} & [\text{warra-gujuju}]_j \\
3\text{FDU/3MSG,-COM-wash-PRES} & F\text{-woman-DU} & \text{Pl-baby} \\
\{\text{na-walyi-nyung-mirri}\}_k, \text{COM} \\
\text{M-man-HUM,SG-INSTR}
\end{array}
\]

‘Two women (3FDU) wash the babies$_j$ (3PL) with the man$_k$ (3MSG)’

(i.e. the man is holding the babies)

(S1 / E1 / 20140317)

(6-75)  

\[
\begin{array}{lll}
\text{wunguna-aynji-yarbbu-rama,} & \text{ngarra-manum-ba} & [\text{warra-gujuju-mirri}]_k \\
3\text{FDU/3MSG,-COM-wash-PRES} & F\text{-woman-DU} & \text{Pl-baby-INSTR} \\
\{\text{na-walyi-nyung}\}_j, \text{COM} \\
\text{M-man-HUM,SG}
\end{array}
\]

‘Two women (3FDU) wash the babies$_j$ (3PL) with the man$_i$ (3MSG)’

(i.e. the man is holding the babies but he is not washing them or being washed)

(S1 / E1 / 20140317)

On the other hand, with intransitive verbs derived by the COMITATIVE prefix aynji-, there is no primary object, so -mirri can mark either the intransitive subject or the comitative argument introduced as an oblique. This is demonstrated in the examples below (reproduced from (6-64) and (6-63) respectively), where the nominal marked by -mirri (i.e. $k$) is the intransitive subject mijburraayung ‘children 3PL’ in (6-76) but the oblique comitative rangag ‘canoe (Veg)’ in (6-77). Once again, the subscripts $j$ and $k$ are used to indicate how conjuncts relate to the participants in part (b.) of Figure 6.16:
Thus, we are able to account for the distribution of -mirri in the data presented in this section by specifying how it interacts with underived verbs and verbs derived by aynji- in its lexical entry. However, as we will see in the following section, there are certain contexts where the interaction between aynji- and -mirri results in a construction more reminiscent of coordination, as the participation of conjuncts in the event is interpreted as being more balanced and the strategy of closest conjunct agreement appears to be in use.

### 6.3.2. Resolution and avoidance in comitative constructions

In the previous section, we saw that there are (at least) three constructions used to express comitativity in Wubuy, and in the data presented, multiple antecedent rules were not relevant as conjuncts occur as separate constituents, meaning that they do not compete for verb agreement. However, there are certain examples of the COMITATIVE derivational prefix aynji- and the INSTRUMENTAL suffix -mirri co-occurring in a way that behaves semantically and morphosyntactically more like coordination. This is demonstrated in the examples below:

(6-78) ngarra-manji-nyung, wangi-lynji-nima-na, {warra-landhurrg}  
F-woman-HUM.SG 3FSG/COLL-TOPI-com-DRAG-PRES  COLL.TOP-dog  
{ana-bujigan-mirri}  
RESID.TOP-cat-TOPI  
‘The woman (3FSG) drags the dog (COLL) with/and the cat (RESID)’  
(S1 / E1 / 20140324)
In both of these examples, *landhurr* ‘dog (COLL)’ is encoded as primary object, and this is acceptable regardless of whether or not it takes the suffix -*mirri*. However, unlike all other examples presented so far, the use of the prefix *aynji*- does not result in an interpretation where the referent that does not control verb agreement, which in these examples is *bujigan* ‘cat (RESID)’, is being held by an intransitive subject or primary object. Instead both *landhurr* ‘dog (COLL)’ and *bujigan* ‘cat (RESID)’ are interpreted by the language consultant as being dragged by the transitive subject, as demonstrated below:

97 Note that it is possible the consultant’s responses of *yuu* ‘yes’ in (6-80) are instances of ‘gratuitous concurrence’ (Liberman, 1980, 1981), which is where “Aboriginal speakers say ‘yes’ not necessarily to signal agreement with a statement or proposition, but to facilitate the on-going interaction, or to hasten its conclusion” (Eades, 1996, p. 30).

98 In Aboriginal English, there is often no gender distinction in third person singular pronouns (Butcher, 2008; Eades, 1992; Flint, 1968; Kaldor & Malcolm, 1991).
K: Yuwai [yes], so both the dog and the cat sitting in the canoe, and then the woman drags them both.
S1: Yuu [yes].

The interpretation that they are both dragged suggests that these nominals have been jointly assigned the thematic role of patient, in which case we would expect them to be conjoined, forming a single constituent. The question then is whether this conjunction is a comitative construction, where one conjunct is the head and the other a dependent, or a coordinative construction that just looks like a comitative, where the two conjuncts are actually co-heads that compete for verb agreement.

Reconsidering the examples in (6-78) and (6-79), it appears possible that the verb is simply agreeing with the closest conjunct regardless of which one is taking the suffix -mirri. This observation supported by the following examples:

(6-81) ngarra-manj-nyung, ngima-aunj-nima-na {mana-rangag}
F-woman-HUM.SG 3FSG/VEG.,COM-drag-PRES VEG.TOP-canoe
{ngarra-ngarrugalij-mirri}
FEM-dugong-COM
'The woman (3FSG) drags the canoe (VEG) with/and the dugong (FEM)'
(S1 / C: (6-82) / 20140324)

(6-82) *ngarra-manj-nyung ngima-aunj-nima-na {ngarra-ngarrugalij-mirri}
F-woman-HUM.SG 3FSG/VEG.,COM-drag-PRES FEM-dugong-COM
{mana-rangag}
VEG.TOP-canoe
(S1 / E1 / 20140324)

Here, we see the same verb again, but in both cases, rangag ‘canoe (VEG)’ is encoded as primary object and ngarrugalij ‘dugong (FEM)’ takes the suffix -mirri. In fact, the only difference between them is that in (6-81), rangag ‘canoe’ is closest to the verb stem, whereas in (6-82), ngarrugalij ‘dugong (FEM)’ is. Thus, it appears that the unacceptability of (6-82) is due to rangag ‘canoe (VEG)’ being furthest from the verb stem but still encoded as primary object, and this is reminiscent of the analysis of nearest conjunct agreement made with certain examples of coordinated nonhumans in §5.3.1.3.
Interestingly, the consultant who provided this ungrammaticality judgement was aware that it was the ordering of conjuncts that was problematic, and she expressed this as follows:

(6-83) **Consultant description of unacceptability of (6-82)**

S: If it is, um, it's right there, but, you put rangag [canoe] in the back.
K: Yeah? Where would you put it?
K: So is this way, good Wubuy or bad Wubuy, the way I did it?
S: Bad Wubuy.

Here, the consultant explains that the reason why my Wubuy sentence in (6-82) is unacceptable is because I have “put rangag in the back”, when it should actually occur closer to the verb stem than ngarruga\[i\] ‘dugong (FEM)’. I propose that this is because aynji- and -mirri have additional functions as nominal coordinators in certain contexts, such as coordinating two nonhuman conjuncts as primary object, which results in closest conjunct agreement when they have conflicting morphosyntactic features values.

So why would Wubuy speakers accept this combination of aynji- and -mirri as a viable coordinative construction when they already have the coordinative particle marri (as discussed in §5.3)? It is possible that the limited use of aynji- and -mirri as coordinators is actually a leftover vestige of Wubuy’s transition to having an overt coordinator, as opposed to only using juxtaposition for coordination like many other Australian languages (Nordlinger & Sadler, 2005, p. 2). Earlier in this chapter, we considered Stassen’s (2013) observation that languages with only one strategy of nominal conjunction (i.e. WITH-languages) tend to eventually develop another strategy (i.e. to become an AND-language). He also notes that languages in the process of this shift tend to use a single conjuctor that has both a purely comitative strategy and a strategy that is a hybrid of comitative and coordinative (Stassen, 2013). Since there are cognates of -mirri that can express proprietive or comitative semantics in languages with which Wubuy had direct contact, such as -mura in Enindhilyakwa (van Egmond, 2012, p. 333)
and -mirri in Yuulngu (Heath, 1984, p. 623), and since it has been found that the semantics of the Wubuy COMITATIVE prefix aynji- is typically proprietive, it is not unreasonable to suggest that -mirri and aynji- in Wubuy may have had overlapping functions at some point (and perhaps still do to some extent). Furthermore, since the suffix -mirri and the coordinative particle marri have similar forms and both engage in nominal conjunction, we can speculate that marri may have developed from -mirri at some point as a distinct method of coordination.99

Thus, by extending our consideration of multiple antecedent agreement in Wubuy to include comitatives, we not only discover their participation in coordinative constructions, but we possibly also gain an insight to their use as nominal conjunctors over time.

6.4. **Reciprocal constructions in Wubuy**

As previously mentioned, another construction type that is relevant to multiple antecedent agreement is reciprocals, since they lend themselves naturally to nominal coordinative constructions. However, there appear to be few accounts in the literature that specifically investigate multiple antecedent agreement in reciprocal contexts, possibly because it is often just assumed that the agreement strategies used will be the same as those in basic coordinative contexts. As we will see in relation to Wubuy, this is not necessarily always the case. Before getting into this, however, it is useful to have an overview of how reciprocals work in Wubuy.

6.4.1. **Reciprocal derivational root -ynji**

In Wubuy, reciprocal constructions are typically formed by attaching the derivational root -ynji to a transitive verb, which decreases valency by double linking event participants to the thematic roles normally realised as subject and object, and then linking both of those thematic roles to subject. For

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99 Although it is also possible that the use of -mirri as a comitative marker is a more recent contact-induced change, in which case the development of marri from -mirri is less likely.
example, consider the following Wubuy data, where (6-84) and (6-85) have been reproduced from (6-10) and (6-11) respectively:

(6-84) [ngiga ngangi-yarra-ng] [ngaya ngangu-yarra-ng]
FEM.PRO FEM/1SG,-smell-PP 1SG.PRO 1SG/FEM,-smell-PP

‘It [crocodile (FEM)] smelt me (1FSG) [and] I (1FSG) smelt it [crocodile (FEM)]’
(S3+S4 / E3 / 20140305)

(6-85) [ngaag-lharragu]-la] marri [ngaya] niingi-yarra-ynji-yn
FEM-crocodile and 1SG.PRO 1ExFDU,-smell-RECIP-PP

‘The crocodile (FEM) and I (1FSG) smelt each other’
(S3+S4 / E3 / 20140305)

(6-86) aba wini-wi-ynji-yn
then 3MDU,-hit-RECIP-PP

‘Then they [emu (3MSG) and gecko (3MSG)] hit each other (i.e. had a fight)’
(Heath, 1980, p. 46)

(6-87) wuu-ya-ynji-ini, anubani ana-arrawindi-lhangu
3PLa.-give-RECIP-PC that.NEUT.ANAPH NEUT.TOP-many-EMPH.MULT

wirri-wapaga-a-yinyung
3PL/NEUT,-hold-PC-REL

‘They (3PL) shared everything with each other, they (3PL) who have those many things (NEUT)’ (lit. ‘they gave everything to each other’)
(Nunggubuyu People, 2014, Acts 4.32)

Here, (6-84) serves as an example of the input for the reciprocal construction we see in (6-85). The two instances of the underived verb yarra ‘f to smell y’ in (6-84) license an experiencer and a theme, which are realised as subject and primary object respectively. However, in the first instance of the verb, the subject is a nonhuman FEMININE referent and the primary object is a FIRST-PERSON SINGULAR (FEMALE) referent, while in the second instance of the verb it is vice versa. When the derivational root -ynji is attached to the verb in (6-85), however, the valency is decreased and these event participants are double linked to the experiencer and theme roles and are jointly realised as subject. This is reinforced by the fact that the event participants lharragu ‘crocodile (FEM)’ and ngaya ‘I (1SG)’ now occur as coordinated nominals. In (6-86), the transitive input verb wu ‘x to hit y’ licenses an agent and a patient, and the double linking of participants happens in much the same way (except
that these participants are not expressed as independent nominals in a coordinative construction). In (6-87), the irregular input verb yi ‘x to give y to d’ is ditransitive, and again, it is the participants that would normally be realised as subject and primary object (i.e. x and d) that become the reciprocal referents. However, this time the thematic roles they are double linked to are agent and goal.

Following these observations, we can create a lexical entry for the RECIPROCAL derivation to capture this as follows:

**Figure 6.17. Lexical entry for RECIPROCAL derivation**

<table>
<thead>
<tr>
<th>RECIP: verbs with more than one argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = ‘i to V,j’</td>
</tr>
<tr>
<td>&lt; [Arg]i ... [Arg]j ... &gt;</td>
</tr>
<tr>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td>INPUT</td>
</tr>
<tr>
<td>ii. V-RECIP = ‘i and j to V each other’</td>
</tr>
<tr>
<td>&lt; [[Arg]i + [Arg]j] ... &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
</tr>
<tr>
<td>OUTPUT</td>
</tr>
</tbody>
</table>

This rule states that when the input verb has at least two arguments, which are underspecified, the RECIPROCAL derivation decreases valency by linking together the two arguments that would have otherwise been realised as subject and primary object, resulting in them being jointly realised as subject instead. The ellipsis in the rule above indicates that other arguments may occur in these positions at argument-structure, which allows for the additional theme argument in ditransitive as well as other arguments that may have been introduced by a different verb derivation (see Chapter 7 for discussion). Furthermore, following Rákosi (2008), I treat the reciprocalised arguments as forming a set at argument-structure (cf. Alsina, 1996), as this allows us to predict a certain interaction between RECIPROCAL -ynji and COMITATIVE aynji-. As we will see in §7.4.4.2, when COMITATIVE rule (a.) applies after the RECIPROCAL rule above, it introduces an oblique comitative argument that can select either [Arg] or [[Arg]i + [Arg]j] as ‘the next highest argument’ that is understood as carrying it. Such an interpretation would not
necessarily be predicted without the set-based approach to reciprocalised arguments used above.

The following analyses demonstrate the RECIPROCAL rule above applying in examples (6-85) and (6-87):

**Figure 6.18. Analysis of RECIP applying in (6-85)**

1. **Input:** yarra  ‘y to smell y’
   
   $$< [Ex]_y [Th], >$$
   
   SUBJ OBJ

2. **Recip:** yarra-ynji  ‘y and y to smell each other’
   
   $$< [[Ex]_y + [Th],] >$$
   
   SUBJ

3. **Output:** yarra-ynji  ‘y and y to smell each other’
   
   $$< [[Ex]_y + [Th],] >$$
   
   SUBJ

4. **Data:** ngaa-tharragu[.] marri ngaya niingyi-ynji-yn
   
   FEM-crocodile and 1SG.PRO 1ExFDU,-smell-RECIP-PP
   
   ‘The crocodile (FEM) and I$_g$ (1FSg) smelt each other’

**Figure 6.19. Analysis of RECIP applying in (6-87)**

1. **Input:** yi  ‘x to give y to d’
   
   $$< [Ag]_x [Go]_d [Th], >$$
   
   SUBJ OBJ OBJ$_2$

2. **Recip:** yi-ynji  ‘x and d to give y to each other’
   
   $$< [[Ag]_x + [Go]_d] [Th], >$$
   
   SUBJ OBJ$_2$

3. **Output:** yi-ynji  ‘x and d to give y to each other’
   
   $$< [[Ag]_x + [Go]_d] [Th], >$$
   
   SUBJ OBJ$_2$

4. **Data:** wuu-yny-jagi-ini,  {anubani} ana-arrwindi-lhangu
   
   3PL$_x$-give-RECIP-PC this.NEUT.ANAPH NEUT.TOP-many-EMPH.MULT
   
   wirri-wanaga-a-yinyung$_{i=sd}$
   
   3PL/NEUT$_x$-hold-PC-REL
   
   ‘They (3PL) shared everything with each other; they (3PL) who have those many things$_{i=sd}$ (NEUT)’ (lit. ‘they gave everything to each other’)

252
Heath (1984, p. 392) also discusses the possibility for the RECIPROCAL derivation in Wubuy to indicate ‘joint-involvement’ with certain intransitive verbs, such as lhagararra ‘x to make loud noises’ (which becomes lhagararri-ynji ‘x (NONSINGULAR) to make loud noises together’), lida ‘x to frolic’ (which becomes lidi-ynji ‘x (NONSINGULAR) to frolic together’), milha ‘x to shine’ (which becomes milhi-ynji ‘x (NONSINGULAR) to shine together’), and ngandarrda ‘x to snore’ (which becomes ngandarrdi-ynji ‘x (NONSINGULAR) to snore together’). However, the combination of the RECIPROCAL derivation with intransitive inputs does not appear to be productive, as demonstrated by the examples below:

(6-88) *wurru-murrambuli-ynji-ina
3PlA-be.hot-RECIP-PRES
‘They (3Pl) are all hot’
(S2+S3+S6 / E1 / 20120726)

(6-89) *na-ilbum-bula-waa wini-yaarrii-ynji-ina a-school-wuy
M-twin-two-DU 3MDU3-prt-go-RECIP-PRES NEUT.OBL-school-ALL
‘The twins (3MDU) are going to school (NEUT) together’
(S1 / E1 / 20120808)
(S2 / E1/ 20120718)

(6-90) *wurru-ngarrma-ynji-ina
3PlA-laugh-RECIP-PRES
‘They (3Pl) laugh together’
(S1 / E1 / 20120820)

(6-91) *wini-imaji-ynji-ina
3MDU3-thieve-RECIP-PRES
‘They (3MDU) are both thieving’
(S1 / E1 / 20120822)

Therefore, since the interaction between the RECIPROCAL derivation and intransitive verbs does not appear to be productive or to affect argument-structure (i.e. it seems to simply require a NONSINGULAR subject), I treat this as a lexicalised property of certain verbs that does not require a productive argument-structure rule.
6.4.2. Resolution and avoidance in reciprocal constructions

It was mentioned earlier that in relation to strategies of multiple antecedent agreement in reciprocal contexts, Heath (1984, p. 544) simply states that “by definition, the morphological subject must be conjunctive” and follows by assuming that the verb agreement strategy used with reciprocals is the same as what is used for basic coordination. That is, he does not provide a detailed account of multiple antecedent agreement in reciprocal contexts, so whether or not this is indeed always the same as in basic coordinative examples has until now been unexplored.

As it turns out, while most reciprocal constructions do follow the same patterns of agreement resolution and avoidance as basic coordinative constructions, there are certain contexts where this is not the case. Beginning with examples that do adhere to the multiple antecedent rules presented in Figure 5.15. (see §5.4), consider the data below, where the relevant person, number and gender/noun class resolution rules are followed:

(6-92) {na-Paul} marri {na-Barnabas}, naawini-yung
M-Paul marri M-Barnabas those.MDU.PROX-ABS
wini-wurrij-maarrrma-ynji-yn runngal-windiiyung
3MDU-emotion-be.sad.about-RECI-P-PP big-really
‘Paul (3MSg) and Barnabas (3MSg), they (3MDU) felt really sad about each other’
(Nunggubuyu People, 2014, Acts 15.39)

(6-93) {na-wirri-nyung} marri {na-landhurre-jung} wini-wanga-ynji-yn
M-child-HUM.SG and M-dog-HUM.SG 3MDU-bite-RECI-P-PP
‘The boy (3MSg) and the dog (3MSg) bit each other’
(S3+S4 / E3 / 20140304)

(6-94) {waa-landhurr} marri {ana-bujigan} wu-yarra-ynji-ina
COLL.OBL-dog and RESID.TOP -cat RESID:.-smell-RECI-PRES
‘The dog (COLL) and the cat (RESID) smell each other’
(S3+S4 / E3 / 20140305)

Above, all referents are THIRD-PERSON, so that is what agreement resolves to (as per rule 1 in Figure 5.15). In (6-92) and (6-93), both conjuncts are SINGULAR and MALE, so number agreement resolves according the semantic number of referents (as per rule 2(ii)), which is DUAL, and gender agreement resolves to
the shared MALE gender (as per rule 3(i)). However, note that in (6-93), *landhurr* 'dog (COLL)' belongs to the COLLECTIVE noun class but has been humanised, as indicated by the affixes for MALE (human) gender and SINGULAR number (which normally only marks humans). As discussed in §2.3.3.2, this humanisation is typically only available to higher animacy nonhuman animates, and the motivation for it here appears to be so that verb agreement with the two conjuncts can resolve according to a shared gender (as per rule 3(i)). In (6-94), both conjuncts are nonhuman but from different noun classes (i.e. COLLECTIVE and RESIDUAL), so number is neutralised (as per rule 2(i)) and agreement either resolves to RESIDUAL as the default class (as per rule 3(iv)) or is avoided via closest conjunct agreement (as per rule 3(v)).

Now compare this to the examples below, where in each case the animacy of conjuncts differs (i.e. there is a mix of human and nonhuman referents), and the verb takes the intransitive RESIDUAL agreement prefix *wu*- and the MULTIPLE prefix *warra*-, both of which are presented in bold:

(6-95)  *{na-wirri-nyung} marri {ana-monkey}*
        M-child-HUM.SG and NEUT.RESID-monkey(English)
        **wu-warra-yarrbi-ynji-ina**
        RESID.-MULT-wash-Recip-Pres
        'The boy (3MSG) and the monkey (RESID) are washing each other'
        (S1 / E1 / 20140314)
        (S2+S5 / E1 / 20140304)

(6-96)  *{na-walyi-inyung} marri {warra-landhurr} wu-warra-na-ynji-ini*
        M-man-HUM.SG and COLL.TOP-dog RESID.-MULT-see-Recip-PC
        'The man (3MSG) and the dog (COLL) were seeing each other'
        (S2 / E3 / 20140303)

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100 This kind of humanisation can be found in many languages with an opposition between FEMININE and MASCULINE noun classes, where animals are normatively classified into one class but may take agreeing modifiers of another class to indicate biological sex (Harvey, 1997, p. 147).
(6-97) \{ngarra-magi-nyung\} marri \{warra-landhurr\} \textit{wu-warra-lharrma-ynji-ina}  
F-woman-HUM.SG and COLL.TOP-dog RESID\textsubscript{\textit{A}}-MULT-chase-\textit{Recip-Pres}  
‘The woman (3FSg) and the dog (COLL) are chasing each other’

(S1 / E1 / 20140314)  
(S2+S5 / E1 / 20140304)  

(6-98) \{ngarra-magi-nyung\} marri \{ana-murrarbu\} \textit{wu-warra-wi-ynji-ina}  
F-woman-HUM.SG and NEUT.TOP-mud.crab RESID\textsubscript{\textit{A}}-MULT-hit-\textit{Recip-Pres}  
‘The woman (3FSg) and the crab (RESID) are hurting/hitting each other’

(S2 / E3 / 20140303)  

Based on the multiple antecedent rules from Figure 5.15., the \textit{Residual} subject agreement in these examples is unexpected, since rule 3(iii) requires agreement to resolve to the highest ranked human gender, which is \textit{Male} in (6-95) and (6-96) and \textit{Female} in (6-97) and (6-98). Furthermore, since there is at least one human conjunct, we would expect number to resolve to the semantic number of referents as per rule 2(ii), but this \textit{Residual} agreement prefix is unable to do so because it typically agrees with nonhuman referents, where number is neutralised (as per rule 2(i)). Instead, in each example we find the \textit{Multiple} prefix \textit{warra-}, which seems to serve as a means of marking the multiplicity of referents. In fact, \textit{warra-} appears to be obligatory with reciprocalised verbs when the subject is comprised of humans and nonhumans of different noun classes. This is shown by the following examples, where in both cases, the reciprocalised verb is \textit{na-ynji} ‘x and y to see each other’ and the conjuncts are the human \textit{wulmurr-inyung} ‘boy (3MSG)’ and the nonhuman \textit{landhurr} ‘dog (COLL)’, and it is unacceptable to leave the \textit{Multiple} prefix \textit{warra-} off in (6-100):  

(6-99) \{na-wulmurr-inyung\} marri \{waa-landhurr\} \textit{wu-warra-na-ynji-ini}  
M-boy-HUM.SG and COLL.TOP-dog RESID\textsubscript{\textit{A}}-MULT-see-\textit{Recip-PC}  
‘The boy (3MSG) and the dog (COLL) were seeing each other’

(S1 / E3 / 20140314)  

(6-100) *\{na-wulmurr-inyung\} marri \{waa-landhurr\} \textit{wu-na-ynji-ini}  
M-boy-HUM.SG and COLL.TOP-dog RESID\textsubscript{\textit{A}}-see-\textit{Recip-PC}  

(S1 / E1 / 20140314)
In contrast to this, the use of warra- is optional when the subject of a reciprocalised verb is comprised of nonhumans belonging to different noun classes, as shown by the following examples, where the reciprocalised verb yarra-ynji ‘x and y to smell each other’ is acceptable with or without warra- when the conjuncts are the two nonhuman nominals landhurr-g ‘dog (COLL)’ and bujigan ‘cat (RESID)’:

(6-101) waa-landhurr-g marri ana-bujigan wu-yarra-ynji-ina
COLL.TOP-dog and RESID.TOP-cat RESID-, smel-RECIP-PRES
‘The dog (COLL) and the cat (RESID) smell each other’
(S3+S4 / E3 / 20140305)

(6-102) waa-landhurr-g marri ana-bujigan wu-warra-yarra-ynji-yn
COLL.TOP-dog and RESID.TOP-cat RESID-, MULT-smel-RECIP-PP
‘The dog (COLL) and the cat (RESID) smelled each other’
(S3+S4 / E1 / 20140305)

Therefore, it would seem that the use of the residual agreement prefix wu- with reciprocalised verbs is caused by mismatches in the noun class of coordinated third-person referents, and the use of the multiple prefix warra- is only obligatory when there is an additional mismatch in their animacy, such that one is human and the other is nonhuman.

We can capture the insights above by revising the rules for gender and noun class agreement as follows (assuming that the use of warra- is already predicted by rule 2(ii) from Figure 5.15, which states that unless all referents are nonhuman (where number is neutralised), number resolves according to the semantic number of referents). Additions are represented by italic font, while deletions are represented with strikethrough:
Figure 6.20. Multiple antecedent agreement in Wubuy: gender and noun class (version 6)

i. When number resolves to PLURAL (Pl), gender is neutralised (i.e. there is no gender or noun class agreement). Otherwise,

ii. If the gender or noun class value is the same for all referents, agreement resolves to that gender or noun class. Otherwise,

iii. If there is at least one human referent and the RECIPROCAL derivation is not in use, agreement resolves to the highest ranked gender, such that M > F. Or,

iv. Agreement resolves to RESIDUAL (RESID) as the default class (requires all referents to be nonhuman). Or,

v. Agreement is with the closest conjunct only (except when the RECIPROCAL derivation is in use)

6.5. Conclusion

In conclusion, by extending our investigation past basic coordination to also include other conjunctive constructions, such as comitatives and reciprocals, we can discover previously undescribed strategies of coordination and/or verb agreement in Wubuy. Firstly, it has been found that the COMITATIVE derivational prefix aynji- and the INSTRUMENTAL suffix -mirri can co-create a coordinative construction for nonhuman conjuncts in primary object position, with a conflict in noun class resulting in the use of closest conjunct agreement. Although this does not require an update to our multiple antecedent agreement rules, it does reinforce the proposal of closest conjunct agreement as an avoidance strategy in Wubuy (see §5.3.1.3). Secondly, it has also been found that default RESIDUAL agreement is not limited to nonhuman conjuncts as previously thought, as it is also used in RECIPROCAL derivations when conjuncts are a mix of human and nonhuman referents. Furthermore, the use of default RESIDUAL agreement in this context results in the use of the MULTIPLE prefix warra- as a means of resolving number according to the semantic number of referents (since the nonhuman RESIDUAL agreement prefix wu- is unable to encode this information itself). This discovery does, in fact, require our multiple antecedent agreement rules to be updated, as presented in the previous section. Figure 6.21 below provides the final version of these rules.
Thus, a broader approach to investigating strategies of agreement resolution and avoidance, where all types of conjunction are considered, allows us to provide a more unified and comprehensive account of multiple antecedent agreement. This is something that is highly relevant within the context of Australian languages, where descriptions of multiple antecedent agreement are rare, and those that consider this in relation to comitative and reciprocal constructions practically nonexistent.

**Figure 6.21. Multiple antecedent agreement rules in Wubuy (final version)**

<table>
<thead>
<tr>
<th>1) <strong>Person</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Person agreement resolves according to the hierarchy: 1In &gt; 1Ex / 2 &gt; 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2) <strong>Number</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>i. If all referents are nonhuman, number is neutralised (i.e. there is no number agreement). Otherwise,</td>
</tr>
<tr>
<td>ii. Number agreement resolves according to the semantic number of referents.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3) <strong>Gender and noun class</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>i. When number resolves to PLURAL (Pl), gender is neutralised (i.e. there is no gender or noun class agreement). Otherwise,</td>
</tr>
<tr>
<td>ii. If the gender or noun class value is the same for all referents, agreement resolves to that gender or noun class. Otherwise,</td>
</tr>
<tr>
<td>iii. If there is at least one human referent and the RECIPROCAL derivation is not in use, agreement resolves to the highest ranked gender, such that M &gt; F. Or,</td>
</tr>
<tr>
<td>iv. Agreement resolves to RESIDUAL (Resid) as the default class. Or,</td>
</tr>
<tr>
<td>v. Agreement is with the closest conjunct only (except when the RECIPROCAL derivation is in use).</td>
</tr>
</tbody>
</table>
Part 4

interactions
Chapter 7: Combining valency-changing derivations

7.1. Introduction

In previous chapters, we have seen that speakers of Wubuy can manipulate argument-structure in a variety of ways using valency-changing constructions such as the CAUSATIVE, AFFECTEE APPLICATIVE, COMITATIVE and RECIPROCAL verb derivations. We have also seen several factors, such as the transitivity, semantic subclass and argument-structure of the input verb, determining the distribution of these verb derivations and the ways in which they affect argument realisation, and for each derivation, these factors were captured by a set of lexical rules. In this chapter, we will see that in addition to utilising and understanding verbs with a single verb derivation, Wubuy speakers can take this to another level, producing and interpreting verbs that have undergone more than one valency-changing process. This is particularly interesting for accounts of argument realisation because it raises questions about how speakers understand these constructions. For example, how do they know what the order of derivation is? Are there any morphosyntactic principles or constraints that determine this, or are the outcomes of these interactions lexically specified? This is something that has received little attention in relation to languages with multiple valency-changing processes more generally (some exceptions include accounts of derivational morphology in Bantu languages (e.g. Hyman, 2003; Hyman & Mchombo, 1992; Lusekelo, 2012; Mchombo, Bresnan, & Lightfoot, 2004) and Quechua (Muysken, 1977, 1988)).

As it turns out, application order in Wubuy appears to follow Baker’s (1985, p. 375) Mirror Principle, which proposes that “[m]orphological derivations must directly reflect syntactic derivations (and vice versa)”, meaning that the order of application should reflect the relative distance of derivational affixes from the verb stem (cf. Bybee, 1985; Dik, 1989). For example, consider the data below, where the derivational affixes have been presented in bold:

263
In (7-1), COMITATIVE aynji- occurs closer to the verb stem than AFFECTEE APPLICATIVE aG- ~ waaG-, and this reflects their order of derivation, with the intransitive input abi ‘x to jump’ becoming aynji-ibi ‘x to jump with y’ and then ag-aynji-ibi ‘x to jump with y for z’ (see §7.3.1.1 for further details). Similarly, in (7-2), CAUSATIVE -jga ~ -jgi occurs closest to the verb stem and applies before RECIPROCAL -ynji, with the intransitive input rabi ‘y to fall’ becoming rabi-jga ‘x to make y fall’ and then rabi-jga-ynji ‘x and y to make each other fall’ (see §7.3.2.1 for further details).

Nonetheless, although the Mirror Principle can be used to predict the order of application in the examples above, there are only a few documented examples of multiple valency-changing derivations occurring on just one side of the Wubuy verb stem (i.e. between only derivational prefixes or only derivational suffixal roots), and evidence that they can apply in different orders is limited. Also, since most interactions between valency-changing processes in Wubuy involve a derivational prefix and a derivational suffixal root, their application order cannot be predicted using the Mirror Principle since they have the same relative distance from the verb stem. Furthermore, interactions between a derivational prefix and a derivational suffixal root often do demonstrate multiple application orders. This is shown by the examples below, where derivational prefixes and suffixal roots are presented in bold:
In both examples above, an unaccusative verb takes both the AFFECTEE APPLICATIVE prefix \( aG- \sim \text{waa}G- \) and the CAUSATIVE derivational suffixal root \(-jga \sim -jgi\). This verb is \text{miynjaldha} ‘to be suspicious’ in (7-3) and \text{rirra} ‘to dry out’ in (7-4). Based on the translations of these examples, we can tell there is a difference in the application order of the AFFECTEE APPLICATIVE and the CAUSATIVE derivation since in (7-3), the original argument of the input verb (which is the THIRD-PERSON MALE SINGULAR referent) is coded on the verb as primary object, while in (7-4), it is not (the original argument in the second example is \text{yaal}i ‘clothes (VEG)’). However, since \( aG- \sim \text{waa}G- \) and \(-jga \sim -jgi\) have the same relative distance from the verb stem, we cannot use the Mirror Principle to understand the order of application. This leaves us with the question: what principles (if any) account for the interpretation of valency-changing interactions in Wubuy?

Although it might be tempting to propose that interactions between valency-changing prefixes and suffixal roots in Wubuy simply result in an ambiguity resolved through discourse context or pragmatics, I will show that in many cases, application order follows logically from the lexical rules set out for each verb derivation in previous chapters. That is, when considering the transitivity and semantic subtype of a given input verb, often only one application order will allow the input requirements of each derivation to be met. This suggests that in fact, Wubuy speakers can usually understand
interactions involving a valency-changing prefix and a valency-changing suffixal root without ambiguities arising.

Investigations of co-occurring valency-changing derivations in Wubuy are presented in §7.3 and §7.4, with the first discussing interactions between derivations on the same side of the verb stem (i.e. only prefixes or only suffixal roots) and the second considering interactions on both sides of the stem (i.e. interactions involving both prefixes and suffixal roots). For ease of reference, a list of all valency-changing lexical rules proposed in previous chapters is provided in Appendix B, although I have briefly summarised these rules before discussing interactions as appropriate.

Before moving on to these interactions, however, it is important to first note a general restriction on the RECIPROCAL, since this is relevant to all of its interactions with the other valency-changing derivations.

### 7.2. Restriction on the RECIPROCAL taking derived inputs

In Wubuy, there appears to be a general restriction on the RECIPROCAL derivation such that it is typically unable to be an input for further valency-changing operations such as the CAUSATIVE, AFFECTEE APPLICATIVE, and COMITATIVE derivations (as discussed further in §7.3.2, §7.4.2 and §7.4.4 respectively). That is, it can generally apply after these derivations, but not beforehand. I propose that this restriction follows logically from the lexical rules set out earlier for each derivation. That is, when the RECIPROCAL rule double links the arguments that would otherwise be realised as subject and primary object, these arguments form a set at argument-structure, and this ‘complex’ argument is typically unable to be accommodated by other valency-changing derivational rules. For example, consider the data below, which is reproduced from (6-2):

(7-5)  \textit{aba wini-wi-ynji-yn}  
then \textit{3MDU, hit-RECIP-PP}  
‘Then they [emu (3MSG) and gecko (3MSG)] hit each other (i.e. had a fight)’  
(Heath, 1980, p. 46)
Here, the **RECIPROCAL** derivation takes the irregular transitive verb *wu* ‘*x to hit* *y*’ as its input, and this results in the **RECIPROCAL** rule double linking the agent and patient arguments and making them form a set at argument-structure. That is, *wu* ‘*x to hit* *y*’ becomes *wi-ynji* ‘*x and *y to hit each other*’. Thus, the single argument licensed by this derived verb is complex, as it is a set comprised of both an agent and a patient, and this cannot be accommodated by most of the lexical rules for the other valency-changing derivations.

For example, **CAUSATIVE** rule (a.) needs its input to have a highest ranked argument of either an experiencer, patient or theme, and although *wi-ynji* ‘*x and *y to hit each other*’ does have a patient within its highest ranked argument, it also has an agent (since it is a set of two arguments), which means that **CAUSATIVE** rule (a.) cannot apply. Similarly, **CAUSATIVE** rules (b.) and (c.), **AFFECTEE APPLICATIVE** rules (a.) and (b.), and **COMITATIVE** rule (a.) all require the highest ranked argument of their inputs to be an agent (or an experiencer for the last three rules), but the complex argument licensed by the derived verb also contains a patient, which cannot be accommodated by these rules. In fact, the only valency-changing rule documented as applying after the **RECIPROCAL** rule is **COMITATIVE** rule (a.), and this appears to be because its highest ranked argument is underspecified and can therefore accommodate the complex argument created by the **RECIPROCAL** rule (see §7.4.4.2 for further details). This appears to support the set-based approach to Wubuy reciprocal arguments set out in the previous chapter, since it accounts for why most valency-changing derivational rules cannot apply to the output of the **RECIPROCAL** rule.

This kind of restriction against the **RECIPROCAL** applying before other valency-changing processes also appears to be present in other Gunwinyguan languages, such as Wubuy’s closest relatives Ngandi and Enindhilyakwa, as well as Bininj Gun-wok. Regarding Ngandi, Heath (1978b, p. 93) states that “the Reciprocal can be used to intransitivise any underlying or derived
transitive (e.g. Causative, Directional, Benefactive), but cannot itself be transitivity transformed. In relation to Enindhilyakwa, van Egmond (2012, pp. 175-177) only presents examples of the reciprocal applying after the causative derivation, and she also states that in the few available examples of the reciprocal and benefactive derivations co-occurring, the reciprocal applies first, resulting in a verb that is morphologically intransitive. This suggests that Enindhilyakwa may also have a restriction against reciprocals acting as inputs to other valency-changing operations. Bininj Gun-wok appears to have a similar restriction, with Evans (2003a, p. 440) noting that reciprocals “typically take the output of valency increases as their input” and only serve as input to valency increase under very restricted circumstances (i.e. when the benefactive is used in its “causal or ‘affected family member’ sense”). Thus, the observance of this kind of restriction in other related languages sets a precedent for claiming that the same may also be true for Wubuy.

7.3. Derivations on one side of the Wubuy verb stem

It was mentioned above that Wubuy appears to adhere to Baker’s (1985) Mirror Principle. This means that determining the application order of valency-changing derivations occurring on the same side of the verb stem should be relatively straightforward: the derivational affix closest to the verb stem applies first, followed by the next closest, and so on. Consider the following data from Wubuy, where (7-6) demonstrates the co-occurrence of the affectee applicative and comitative prefixes and (7-7) shows an interaction between the causative and reciprocal suffixal roots:

(7-6) *nguna-ag-aynji-ibi-yn*
3FSG/3MSG-AFF-COM-jump-PP
‘She (3SG) jumps (down) with [a young woman (3SG)] of his/for him (3SG)’
(i.e. she will become his wife)
(S1 / E1 / 20140324)
In (7-6), the COMITATIVE derivational prefix *aynji*- occurs closest to the verb stem *abi* ‘x to jump’, so following the Mirror Principle, we would assume that it has applied before the AFFECTEE APPLICATIVE prefix *aG* ~ *waaG*-, resulting in *ag-aynji-ibi* ‘x to jump while carrying k for z’. This indeed seems to be the case, as for the subject to be interpreted as carrying the comitative referent k, the COMITATIVE derivation needs to have applied to an intransitive input verb, which would not have been the case if the AFFECTEE APPLICATIVE had applied first (see §7.3.1.1 for details of the COMITATIVE applying before the AFFECTEE APPLICATIVE with intransitive inputs).

Similarly, the Mirror Principle would predict that the CAUSATIVE applies before the RECIPROCAL in (7-7), as the CAUSATIVE root *-jga ~ -jgi* is closer to the verb stem *rabi* ‘y to fall’ than the RECIPROCAL root *-ynji*, creating *rabi-jga-ynji* ‘x and y to make each other fall over’. This prediction again holds true, for if the RECIPROCAL had been the first to apply, it would have taken an intransitive verb as its input (which is rare) and created a sense of joint-involvement rather than reciprocity, with semantics along the lines of ‘x and y fall over together’ that would become ‘w made x and y fall over together’ following application of the CAUSATIVE (see §7.3.2.1 for details of the CAUSATIVE applying before the RECIPROCAL with agentless inputs).

Thus, in both examples above, the ‘syntactic derivations’ directly reflect the ‘morphological derivations’, with the affix belonging to the derivation applied first occurring closest to the verb stem. This runs parallel to Heath’s (1984, p. 402) claim that “the logical ordering always matches the linear order of affixes”. However, as previously mentioned, there are only a few documented examples in Wubuy of interactions between valency-changing derivations on just one side of the verb stem (i.e. only prefixes or only suffixal roots), and data showing them applying in different orders is either limited or
nonexistent. At first glance, this lack of data might seem baffling, since these are the contexts where the Mirror Principle can assist in minimising ambiguity.

As I will show in the following subsections, there is, in fact, a plausible explanation for this: often only one application order will allow the lexical rules from earlier chapters to be met. This is shown in Table 7.1 below, where the number of predicted application orders is presented for each verb type according to transitivity, semantic subclass and argument-structure:

Table 7.1. Number of predicted application orders per verb type for valency-changing interactions involving two prefixes or two suffixal roots

<table>
<thead>
<tr>
<th>INPUT</th>
<th>AFF &amp; COM</th>
<th>CAUS &amp; RECIP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unerg: Motion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g. 'walk')</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><code>&lt; [Ag] &gt;</code></td>
<td>d</td>
<td>d</td>
</tr>
<tr>
<td><strong>Unerg: Speech/Attention/ Transfer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g. 'shout')</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><code>&lt; [Ag] &gt;</code></td>
<td>n</td>
<td>u, n</td>
</tr>
<tr>
<td><strong>Unerg: General</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g. 'sing')</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><code>&lt; [Ag] &gt;</code></td>
<td>n</td>
<td>u, d</td>
</tr>
<tr>
<td><strong>Unacc:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g. 'be ashamed')</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><code>&lt; [Ex] &gt;</code></td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td><strong>Trans:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g. 'take')</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><code>&lt; [Ag]/[Th] &gt;</code></td>
<td>n</td>
<td>u, n</td>
</tr>
<tr>
<td>(e.g. 'kiss')</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><code>&lt; [Ag]/[Go/So]/[Th] &gt;</code></td>
<td>d</td>
<td>u, d</td>
</tr>
<tr>
<td>(e.g. 'give')</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><code>&lt; [Ag]/[Go/So]/[Th] &gt;</code></td>
<td>n</td>
<td>n</td>
</tr>
</tbody>
</table>

**Key:**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No interactions predicted</td>
<td>Not all predicted productive interactions are documented</td>
</tr>
<tr>
<td>1</td>
<td>1 application order predicted</td>
<td>d Documented example(s) found for 1 predicted application order</td>
</tr>
<tr>
<td>u</td>
<td>1 application order uses at least 1 uncommon derivational rule</td>
<td>n No documented examples found</td>
</tr>
</tbody>
</table>

Out of the 16 cells above, none of them indicate more than one predicted application order when a certain verb type takes more than one valency-changing prefix or more than one valency-changing suffixal root. This is demonstrated further in the following subsections, which provide more
detailed discussions and analyses of valency-changing derivations interacting on just one side of the verb stem.

7.3.1. Prefixes: AFFECTEE APPLICATIVE and COMITATIVE derivation

In relation to interactions between the AFFECTEE APPLICATIVE and COMITATIVE derivations, Heath (1984, p. 403) notes that he has no documented combinations of the two, which leads him to suggest that they occur in the same affixal slot on the verbal template. However, I have identified two instances of them co-occurring in my own data, demonstrating that they can, in fact, interact. These are presented below, where (7-8) is reproduced from (7-6) and uses the unergative motion input verb *abi* ‘x to jump’, while (7-9) uses the general transitive input verb *aagamba* ‘x to roast y’:

(7-8)  nguna-*ag-aynji*-ibi-yn  
3FSG/3MSG, AFF-COM-jump-PP  
‘She (3FSG) jumps (down) with [a young woman (3FG)] of his/for him (3MSG)’  
(S1 / E1 / 20140324)

(7-9)  ngiga ngarra-manj-i-nyung nguna-*ag-aynji*-iigamba-na  
3FSG.Pro F-woman-HUM.SG 3FSG/3MSG, AFF-COM-roast-PRES  
na-wa-li-nyung ana-marrrya  
M-man-HUM.SG RESID.TOP-food  
‘The woman (3FSG) roasts the man’s (3MSG) something (e.g. meat) mixed with food/vegetables (RESID)’  
(S3+S4 / C: (A-5) / 20140304)

In both examples, the COMITATIVE prefix *aynji-* occurs closer to the verb stem than the AFFECTEE APPLICATIVE prefix *aG- ~ waaG-, and in each case, this reflects their derivational order. In (7-8), COMITATIVE rule (a.) applies before AFFECTEE APPLICATIVE rule (b.), which is predicted as being possible with all unergative verbs except for those that would typically undergo AFFECTEE APPLICATIVE rule (a.) (i.e. unergative speech, attention and transfer verbs), while in (7-9), COMITATIVE rule (b.) applies before AFFECTEE APPLICATIVE rule (b.), which is predicted as being possible with general transitive verbs. These rule interactions are discussed in more detail in §7.3.1.1 and §7.3.1.1 respectively.
Although these are the only documented examples of the AFFECTEE APPLICATIVE and COMITATIVE prefixes co-occurring, there is one other rule interaction predicted as being possible, and this is when AFFECTEE APPLICATIVE rule (a.) applies before COMITATIVE rule (b.). This should be possible with all verbs that can undergo AFFECTEE APPLICATIVE rule (a.), as discussed in §7.3.1.3.

Below, Table 7.2 summarises the ways in which the current lexical rules of the AFFECTEE APPLICATIVE and COMITATIVE derivational prefixes are predicted as being able or unable to interact in Wubuy:

Table 7.2. Predicted rule interactions between AFFECTEE APPLICATIVE and COMITATIVE prefixes

<table>
<thead>
<tr>
<th>Applied 2nd</th>
<th>AFFα</th>
<th>AFFβ</th>
<th>COMα</th>
<th>COMβ</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFFα</td>
<td>N/A</td>
<td>N/P</td>
<td>N/P</td>
<td>P</td>
</tr>
<tr>
<td>AFFβ</td>
<td></td>
<td>N/P</td>
<td>N/P</td>
<td></td>
</tr>
<tr>
<td>COMα</td>
<td>N/P</td>
<td>P&amp;D</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>COMβ</td>
<td>N/P</td>
<td>P&amp;D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key: N/A - Not Applicable  P – Possible
      N/P – Not Possible    P&D – Possible and documented

It can be seen above that out of 8 potential rule interactions, only 3 (or 38%) are predicted as being possible. Furthermore, although these interactions demonstrate that the COMITATIVE and AFFECTEE APPLICATIVE prefixes can apply in different orders, there is no overlap in the types of verbs that can undergo each particular rule interaction. This suggests that the application order of derivations could be predicted according to the semantic subclass and transitivity of the input verb irrespective of the position of their affixes on the verb stem.
The following subsections present discussion and analyses of the documented and predicted interactions between the COMITATIVE and AFFECTEE APPLICATIVE prefixes outlined above.\textsuperscript{101}

7.3.1.1. COMITATIVE rule (a.) followed by AFFECTEE APPLICATIVE rule (b.)

The first predicted interaction between the COMITATIVE and AFFECTEE APPLICATIVE prefixes involves COMITATIVE rule (a.) applying before AFFECTEE APPLICATIVE rule (b.). Recall that COMITATIVE rule (a.) introduces a nonthematic comitative argument in an oblique function with inputs that license only one (underspecified) thematic argument (see §6.3.1.1), while AFFECTEE APPLICATIVE rule (b.) introduces an affectee as primary object with inputs that license at least an agent or experiencer (see §4.3.2.2). Considering this, the original input for this particular rule interaction needs to be an intransitive verb that licenses an agent or experiencer. It also needs to not belong to the semantic subclasses of emotion, speech, attention or transfer verbs, since these typically undergo AFFECTEE APPLICATIVE rule (a.), not AFFECTEE APPLICATIVE rule (b.) (see §4.3.2.1). This leaves us with a set of possible inputs that consists of unergative verbs (except those belonging to the speech, attention or transfer subclasses), as well as certain unaccusative verbs that license an experiencer (except for unaccusative emotion verbs).

\textsuperscript{101} With regard to rule orders that are not currently predicted by the lexical rules for the AFFECTEE APPLICATIVE and COMITATIVE derivation:

- **AFF\textsubscript{a}** is unable to apply after either of the COMITATIVE rules because it does not accommodate inputs with a comitative argument (and there is currently no evidence that this is necessary).
- **COM\textsubscript{a}** is unable to apply after either of the AFFECTEE APPLICATIVE rules because it requires its input to license only one thematic argument (the output of either AFFECTEE APPLICATIVE rule would have at least two);
- **COM\textsubscript{b}** is unable to apply after **AFF\textsubscript{b}** because it does not accommodate inputs with an affectee argument (and there is currently no evidence that this is necessary).

This means that neither of the COMITATIVE rules can apply after **AFF\textsubscript{b}**, which rules out the possibility of the COMITATIVE applying after the AFFECTEE APPLICATIVE for all verbs except intransitive verb of emotion, speech, attention or transfer (which are predicted as being able to undergo **AFF\textsubscript{a}** and then **COM\textsubscript{b}**). There is, in fact, some negative evidence to support this, such as (A-5) in Appendix A, where having the AFFECTEE APPLICATIVE prefix closer to the verb stem *aagamba* ‘x to roast y’ than the COMITATIVE prefix was found to be unacceptable.
As it turns out, the first of the two documented examples of the AFFECTEE APPLICATIVE and COMITATIVE derivations co-occurring involves an unergative motion verb that meets the requirements for this rule interaction as outlined above. This example is presented below:

(7-10) nguna-ag-aynji-ibi-yn  
3FSg/3MSG-AFF-COM-jump-PP  
‘She (3FSg) jumps (down) with [a young woman (3FSg)] of his/for him (3MSG)’  
(i.e. the woman will be his wife)  
(S1 / E1 / 20140324)

Here, the COMITATIVE prefix aynji- is closer to the verb stem abi ‘x to jump’ than the AFFECTEE APPLICATIVE prefix aG- ~ waaG- is, and it is clear the COMITATIVE has applied first because the subject is interpreted as carrying the comitative referent. Recall from Chapter 6 that when the COMITATIVE derivation applies, the grammatical function interpreted as carrying or being carried by the introduced comitative referent varies depending on the transitivity of the input verb: with intransitive inputs, COMITATIVE rule (a.) applies and the subject is interpreted as carrying the comitative referent, whereas with transitive inputs, COMITATIVE rule (b.) applies and the comitative referent is interpreted as carrying the primary object (see §6.3.1.1 for further details). As the subject is understood as carrying the comitative referent in (7-10), we can assume that the COMITATIVE derivation has applied to an intransitive input, which means that COMITATIVE rule (a.) has applied before the AFFECTEE APPLICATIVE. Further evidence for this application order can be found in the verb agreement with the THIRD-PERSON MALE SINGULAR affectee argument as primary object; if the COMITATIVE derivation had applied second, it would have applied to a transitive input (due to the prior introduction of an affectee argument) and introduced the THIRD-PERSON FEMALE SINGULAR comitative referent as primary object.  

An analysis demonstrating this order of application is presented in Figure 7.1 below:

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102 This rule interaction also bears similarities to certain co-occurrences of the COMITATIVE and BENEFECTIVE derivations in Bininj Gun-wok (Evans, 2003a, p. 438), such as the example
Figure 7.1. Analysis of COM\textsubscript{a} applying before AFF\textsubscript{b} with unergative motion verb in (7-10)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INPUT: abi</td>
<td>'x to jump'</td>
<td>SUBJ</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]\textsubscript{x}</td>
<td></td>
</tr>
<tr>
<td>2. COM\textsubscript{a}: aynji-ibi</td>
<td>'x to jump in contact with k'</td>
<td>SUBJ</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]\textsubscript{x}   [ ]\textsubscript{k}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OBL\textsubscript{com}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] is carried by the next highest argument</td>
<td></td>
</tr>
<tr>
<td>3. AFF\textsubscript{b}: ag-aynji-ibi</td>
<td>'x to jump in contact with k of z'</td>
<td>SUBJ</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]\textsubscript{x}  [Aff]\textsubscript{z}   [ ]\textsubscript{k}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OBL\textsubscript{com}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OBL\textsubscript{com}P\text{OSS}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Aff]\textsubscript{z} = POSS of highest ranked argument out of: [Go] &gt; [Pt/Th] &gt; [ ]</td>
<td></td>
</tr>
<tr>
<td>4. OUTPUT: ag-aynji-ibi</td>
<td>'x to jump in contact with k of z'</td>
<td>SUBJ</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]\textsubscript{x}  [Aff]\textsubscript{z}   [ ]\textsubscript{k}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OBL\textsubscript{com}</td>
<td></td>
</tr>
<tr>
<td>5. DATA: nguna-ag-aynji-ibi-yn</td>
<td>3FSG/3MSG, AFF-COM-jump-PP</td>
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</table>

Although there are currently no documented examples of this rule interaction occurring with an unaccusative verb that licenses an experiencer, we can assume that it works in much the same way as what is presented above (except that the single argument of the intransitive input would be an experiencer, rather than an agent).

7.3.1.2. COMITATIVE rule (b.) followed by AFFECTEE APPLICATIVE rule (b.)

The second predicted valency-changing interaction between the COMITATIVE and AFFECTEE APPLICATIVE derivations involves COMITATIVE rule (b.) applying before AFFECTEE APPLICATIVE rule (b.). COMITATIVE rule (b.) applies to inputs below, where the comitative referent \textit{wurdurd} ‘children’ is understood as being taken by the subject for the benefit of the THIRD-PERSON benefactive object:

\textit{Bi-marne-yi-rrurnd-i}  \textit{wurdurd}

3/3P-BEN-COM-return-PP  children

‘S(he) brought the kids back for him/her’

(Bininj Gun-wok (all dialects): Evans (2003a, p. 438))
with two thematic arguments and introduces a nonthematic comitative argument as primary object (see §6.3.1.1), while AFFECTEE APPLICATIVE rule (b.) applies to inputs that license at least an agent or experiencer and introduces an affectee as primary object. Therefore, in order for AFFECTEE APPLICATIVE rule (b.) to apply after COMITATIVE rule (b.), the original input should be a general transitive verb, since it needs to license two thematic arguments according to the latter. It also needs to not be a transitive transfer verb (which typically undergo AFFECTEE APPLICATIVE rule (a.), not AFFECTEE APPLICATIVE rule (b.); see §4.3.2.1).

As mentioned earlier, the second documented example of the AFFECTEE APPLICATIVE and COMITATIVE derivations co-occurring demonstrates the application of COMITATIVE rule (b.) followed by APPLICATIVE rule (b.). This example is presented below, where (7-11) has been reproduced from (7-9):

(7-11) ngiga ngarra-man-i-nyung nguna-ag-aynji-iigamba-na
3FSG.PRO F-woman-HUM.SG 3FSG/3MSG~AFF-COM-roast-PRES

na-wal-yi-nyung ana-marrya
M-man-HUM.SG RESID.TOP-food

‘The woman (3FSG) roasts the man’s (3MSG) something (e.g. meat) mixed with food/vegetables (RESID)’

(S3+S4 / C: (A-5) / 20140304)

Above, the COMITATIVE prefix aynji- is closer to the transitive verb stem aagamba ‘x to roast y’ than the AFFECTEE APPLICATIVE prefix aG~ waaG~, and we can tell that the AFFECTEE APPLICATIVE has applied last since it is the affectee na-wal-yi-nyung ‘man (3MSG)’ that is agreed with as primary object. If the COMITATIVE had applied last, it would have introduced the comitative referent ana-marrya ‘food (RESID)’ as primary object and the verb would agree with a RESIDUAL object, rather than a MALE one. Therefore, we can assume that COMITATIVE rule (b.) has applied before AFFECTEE APPLICATIVE rule (b.).

An analysis of this example is presented in Figure 7.2 below:

---

103 This rule interaction bears similarities to co-occurrences of the COMITATIVE and BENEFACITIVE derivations in Bininj Gun-wok (Evans, 2003a, p. 399) such as the following, where the comitative referent wurdurd ‘children’ is understood as having the theme
Here, the transitive input begins by licensing an agent (ngarra-manji-nyung ‘woman (3FSG)’) and a patient (non-overt) at argument-structure. COMITATIVE rule (b.) then introduces a nonthematic comitative argument (marrya ‘food (RESID)’) as primary object that in this case is understood as being mixed together with the patient, the latter of which is reassigned to secondary object. After this, AFFECTEE APPLICATIVE rule (b.) introduces an affectee (na-walji-nyung ‘man (3MSG)’) as primary object that is understood as being the possessor of the patient, and this results in the nonthematic comitative argument being reassigned to an oblique function.

argument madj ‘swags’ and also as being possessed by the benefactive argument berrewoneng ‘they two’:

Ngabenbene-marne-madj-yi-bawo-ng wurdur durk berrewoneng.  
1/3du-BEN-swag.COM-leave-PP children all they.twoOBL

‘I left the swags with the children of the two of them.’  
(Bininj Gun-wok (Kunwinjku): Evans (2003a, p. 399))
7.3.1.3. **AFFECTEE APPLICATIVE rule (a.) followed by COMITATIVE rule (b.)**

The final predicted valency-changing interaction between the AFFECTEE APPLICATIVE and COMITATIVE derivations is when AFFECTEE APPLICATIVE rule (a.) applies before COMITATIVE rule (b.). Recall that AFFECTEE APPLICATIVE rule (a.) introduces a goal or source as primary object with certain semantic subclasses of (mostly intransitive) verbs that license either an agent or experiencer (see §4.3.2.1), while COMITATIVE rule (b.) introduces a nonthematic comitative argument as primary object with verbs that license two thematic arguments. Therefore, in order for this particular rule interaction to occur, the original input needs to be an intransitive verb of emotion, speech, attention or transfer that licenses an agent or an experiencer.

Although both lexical rules involved in this interaction are productive, there are currently no documented examples. In fact, certain examples that were judged as unacceptable suggest it may not, in fact, be possible. Some of these are presented below, where the inputs used are the unergative speech verb *ada* ‘x to shout’ in (7-12), the unergative attention verb *wawanggi* ‘x to listen’ in (7-13), and the unaccusative emotion verb *wangallha* ‘y to be afraid’ in (7-14):

(7-12) *nguna-aynji-ig-adj-yn warra-landhurr*  
3FSG/3MSG.-COM-AFF-shout.PP COLL.TOP-dog  
‘She (3FSG) shouted to the dog (COLL) that he (3MSG) was holding’  
(S3+S3 / E1 / BB: 201801)  
(S5 / E1 / BB: 201801)

(7-13) *ngambi-iynji-i-gawanggi-yn ngarra-wirri-nyung*  
3Pl/1SG.-COM-AFF-listen-PP F-small-HUM.SG  
‘They (3Pl) listened to the girl (3FSG) that I (1SG) was holding’  
(S3+S3 / E1 / BB: 201801)  
(S5 / E1 / BB: 201801)
A possible explanation for the unacceptability of the data above is that these derivational affixes belong to different affixal slots on the verbal template that are fixed, with the COMITATIVE 

(7-14) *nguna-aynji-i-bangallhi-yn mana-lhambanayn  
3FSG/3MSG,COM-AFF-be.afraid-PP VEG.TOP-death.adder  
‘She (3FDU) felt afraid of/towards the death adder (VEG) that he (3MSG) was holding’  
(S3+S3 / E1 / BB: 201801)  
(S5 / E1 / BB: 201801)  

Nonetheless, in case it turns out that the unacceptable examples above are exceptions and there are actually other verbs with which AFFECTEE APPLICATIVE rule (a.) and COMITATIVE rule (b.) can apply, I present potential analyses below using constructed examples with the unaccusative emotion verb miynjalha ‘x to be suspicious’ in Figure 7.3 and the unergative speech verb yandaldha ‘x to sing loudly’ in Figure 7.4. In each case, the AFFECTEE APPLICATIVE prefix aG- ~ waaw- attaches first, which allows AFFECTEE APPLICATIVE rule (a.) to introduce a goal argument as primary object. The COMITATIVE prefix aynji- is then attached, and this allows COMITATIVE rule (b.) to apply, which results in the introduction of a comitative argument as primary object instead, leaving the goal argument to be reassigned to an oblique function. Furthermore, this comitative argument is understood as carrying the goal argument.
Figure 7.3. Analysis of AFF$_a$ applying before COM$_b$ with unaccusative emotion verb (using unverified constructed example)

1. INPUT: miynjal'dha 'x to be suspicious'
   < [Ex]$_e$ >
   \[SUBJ\]

2. AFF$_a$: a-miynjal'dha 'x to be suspicious toward d'
   < [Ex]$_e$ [Go]$_d$ >
   \[SUBJ OBJ\]

3. COM$_b$: aynji-i-miynjal'dha 'x to be suspicious toward d carried by k'
   < [Ex]$_e$ [Go]$_d$ [ ]$_k$ >
   \[SUBJ OBLGoal OBJ \]
   [ ]$_k$ carries the next highest argument

4. OUTPUT: aynji-i-miynjal'dha 'x to be suspicious toward d carried by k'
   < [Ex]$_e$ [Go]$_d$ [ ]$_k$ >
   \[SUBJ OBLGoal OBJ \]

5. DATA: ngu-aynji-i-miynjal'dhi-yn [na-wirri-nyung]$_d$
   3FDU/3FSG$_a$-COM-AFF-be.suspicious-PP M-child-Hum.SG
   ‘She$_e$ (FSG) was suspicious towards the boy$_d$ (3MSG) that she$_e$ (3FSG) [other woman] was holding’
   (unverified constructed example)

---

Figure 7.4. Analysis of AFF$_a$ applying before COM$_b$ with unergative speech verb (using unverified constructed example)

1. INPUT: yandaldha 'x to sing loudly'
   < [Ag]$_e$ >
   \[SUBJ\]

2. AFF$_a$: ag-jandaldha 'x to sing loudly to d'
   < [Ag]$_e$ [Go]$_d$ >
   \[SUBJ OBJ\]

3. COM$_b$: aynji-i-jandaldha 'x to sing loudly to d carried by k'
   < [Ag]$_e$ [Go]$_d$ [ ]$_k$ >
   \[SUBJ OBLGoal OBJ \]
   [ ]$_k$ carries the next highest argument

4. OUTPUT: aynji-i-jandaldha 'x to sing loudly to d carried by k'
   < [Ag]$_e$ [Go]$_d$ [ ]$_k$ >
   \[SUBJ OBLGoal OBJ \]

5. DATA: wunguna-aynji-i-jandaldhi-yn [warra-gujuju]$_d$
   3FDU/3MSG$_a$-COM-AFF-sing.loudly-PP COLL.TOP-baby
   They$_e$ (3FDU) sang loudly to the baby$_d$ (COLL) that he$_e$ (3MSG) was holding’
   (unverified constructed example)
7.3.2. Suffixal roots: CAUSATIVE and RECIPROCAL derivations

Moving on to valency-changing interactions between the derivational suffixal roots, it was outlined earlier that the Wubuy RECIPROCAL derivation is typically unable to apply before other valency-changing processes, including the CAUSATIVE derivation. This runs contrary to Heath (1984, p. 402), who proposes that the CAUSATIVE and RECIPROCAL roots are able to apply in different orders. Nonetheless, although there are sufficient examples supporting the application order of the CAUSATIVE before the RECIPROCAL, data suggesting that the RECIPROCAL can apply before the CAUSATIVE is limited. The only evidence of this occurring is four verb forms attested by Heath (1984, p. 402) and listed without inflections. These are presented below, where (7-15) uses the unaccusative input verb milha ‘y to shine’, (7-16) uses the general transitive input verb durrurruga ‘x to set y out straight’, (7-17) uses the ditransitive input verb yaba ‘x to put y in d’, and (7-18) uses the general transitive verb yalgiwa ‘x to go past y’:

\[
\begin{align*}
\text{(7-15)} & \quad =\text{milhi-ynji-jga-} \\
& \quad =\text{shine-RECIP-CAUS-} \\
& \quad \text{‘cause [them] to shine together} \\
& \quad \text{(Heath, 1984, p. 402)} \\
\text{(7-16)} & \quad -\text{mara-ngu}=\text{durrurruga-ynji-jga-} \\
& \quad -\text{hand-Ø=set.out.straight-RECIP-CAUS-} \\
& \quad \text{‘cause hands to be [held] out straight} \\
& \quad \text{(Heath, 1984, p. 402)} \\
\text{(7-17)} & \quad =\text{yaba-ynji-jga-} \\
& \quad =\text{put.in-RECIP-CAUS-} \\
& \quad \text{‘cause [him] to enter vehicle} \\
& \quad \text{(Heath, 1984, p. 402)} \\
\end{align*}
\]

\[\text{104 Note that the morphological breakdown in these examples is presented exactly as it appears in Heath (1984, pp. xiii, 402), where the symbol - is used for general morpheme boundaries and = for the boundary before a verb root or predicative adjectival noun.}\]
(7-18)  =yalgiwa-ynji-jga-
go.past-RECIP-CAUS-
‘cause [them] to pass each other’
(Heath, 1984, p. 402)

However, although each of these attested verb forms does show the RECIPROCAL root occurring closer to the verb stem than the CAUSATIVE, all but one appear to show highly restricted functions of the RECIPROCAL derivation: (7-15) demonstrates the non-valency-changing and unproductive use with intransitive verbs, which simply indicates joint-involvement (i.e. ‘y to shine’ becomes ‘y (NONSINGULAR) to shine together’); (7-16) seems to demonstrate a barely attested antipassive usage (i.e. ‘x to set y out straight’ becomes ‘y to be set out straight’) (see Heath, 1984, p. 392), while; (7-17) appears to show a rare use of the RECIPROCAL in reflexive sense (i.e. ‘x to put y in d’ becomes ‘x to put self in d’) (see Heath, 1984, p. 392).

Therefore, the only data that demonstrates the RECIPROCAL applying before the CAUSATIVE in its productive valency-changing function is (7-18). However, I tested this construction during my own fieldwork, and it was found to be unacceptable, as demonstrated in (7-19). The construction in (7-20), where the RECIPROCAL applies before the CAUSATIVE on the transitive verb yamba ‘x to speak to y’, is also unacceptable:

(7-19)  *wangi-yalgiwa-ynji-jga-na
3FSg/3MDu-3SG-3MDu-go.past-RECIP-CAUS-PRES
‘She (3FSg) causes them (3MDu) to pass each other’
(S1 / E1 / 20140404)

(7-20)  *ngarra-yambi-ynji-jga-yn
1SG/3PL-speak.to-RECIP-CAUS-PP
‘I (1SG) made them (3PL) talk to each other’
(Baker, 2018, Jan)

Thus, there actually appear to be no clear-cut documented examples of the RECIPROCAL applying before the CAUSATIVE in its productive valency-changing function. As discussed in §7.2, I propose that this is due to the double linking of arguments by the RECIPROCAL rule, which makes its output an unsuitable
input for the lexical rules of the CAUSATIVE derivation. However, another possibility is that reciprocity cannot be directly caused, and the restricted indirect causative interpretation is not available in the examples above.

In relation to instances of the CAUSATIVE applying before the RECIPROCAL, there are two documented interactions that are predicted by the lexical rules set out in earlier chapters. Examples of these are presented below, where (7-21) is reproduced from (7-7) and uses the general unaccusative input verb rabi ‘y to fall’, (7-22) uses the general unergative input verb malngawi ‘x to be hospitable’, while (7-23) uses the unergative motion input verb ngama ‘x to swim’:

(7-21) wingi-rabi-nga-ynji-ina
3FDU,-fall-CAUS-RECIP-PRES
‘Those two (3FDU) make each other fall over (e.g. by shoving each other)’
(S1 / E1 / 20140331)

(7-22) nugurru anubani-yung numburru-malngawi-nga-ynji-ina
2PL.PRO that.NEUT.ANAPH-ABS 2PLe-be.hospitable-CAUS-RECIP-FC
nugurra-ajbaj aadanu
2PL.PRO-EMPH that.NEUT.IMM.CONC
‘Welcome each other (lit. you (2Pl) make each other be hospitable, imperative)’
(Nunggubuyu People, 2014, Romans 15.17)

(7-23) ngarra-manum-baa wingi-ngami-nga-ynji-ina
F-woman-DU 3FDU,-swim-CAUS-RECIP-PRES
‘Two women (3FDU) swim with each other’
(i.e. they take each other (while) swimming)
(S2+S3 / E1 / BB201801)

Above, all examples have the RECIPROCAL suffixal root -ynji attached further from the verb stem than the CAUSATIVE suffixal root -jga ~ -jgi. In (7-21), this positioning reflects the ordering of the RECIPROCAL rule after CAUSATIVE rule (a.), which is a productive option available to agentless input verbs (see §7.3.2.1). In (7-22), it reflects the application of the RECIPROCAL rule after CAUSATIVE rule (b.), which is a restricted option possible with verbs that license an agent (see §7.3.2.2). Lastly, in (7-23), it reflects the ordering of the
RECIPROCAL rule after CAUSATIVE rule (c.), which is a productive interaction available to unergative motion verbs (see §7.3.2.3).

Below, Table 7.3 summarises the predicted interactions between the lexical rules of the CAUSATIVE and RECIPROCAL derivational roots in Wubuy:

Table 7.3. Predicted rule interactions between CAUSATIVE and RECIPROCAL suffixal roots

<table>
<thead>
<tr>
<th>Applied 1st</th>
<th>CAUS_a</th>
<th>CAUS_b</th>
<th>CAUS_c</th>
<th>Applied 2nd</th>
<th>RECIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUS_a</td>
<td></td>
<td></td>
<td></td>
<td>P&amp;D unaccusatives</td>
<td></td>
</tr>
<tr>
<td>CAUS_b</td>
<td>N/A</td>
<td></td>
<td></td>
<td>P&amp;D* verbs with an agent</td>
<td></td>
</tr>
<tr>
<td>CAUS_c</td>
<td></td>
<td></td>
<td></td>
<td>P&amp;D unergative motion</td>
<td></td>
</tr>
<tr>
<td>RECIP</td>
<td>N/P</td>
<td>N/P</td>
<td>N/P</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Key: N/A – Not applicable, P&D – Possible and documented, N/P – Not possible, * – Involves an uncommon/restricted rule

Above, out of 6 potential valency-changing rule interactions, 3 (or 50%) are predicted as being possible and are documented, and all of these demonstrate the same application order for the CAUSATIVE and RECIPROCAL derivations, with the former applying before the latter. Furthermore, the only overlap between the types of verbs that can undergo each rule interaction are unergative motion verbs, which can undergo either CAUSATIVE rule (b.) or CAUSATIVE rule (c.) followed by the RECIPROCAL rule. Thus, ambiguities seem generally unlikely to arise, and while Wubuy may follow the Mirror Principle, it does not appear to be necessary for determining the application order of these derivational suffixal roots when they are both demonstrating productive valency-changing functions.

The documented and predicted valency-changing interactions outlined above are discussed and analysed in the following subsections.
7.3.2.1. CAUSATIVE rule (a.) followed by the RECIPROCAL rule

The interaction between the CAUSATIVE and RECIPROCAL derivations that is predicted as being the most productive is when the RECIPROCAL rule applies after CAUSATIVE rule (a.), the latter of which creates a sense of direct causation by introducing a causal agent as subject with agentless inputs (see §3.3.1.1). The reasons for this are that neither of these rules is a restricted option (as opposed to the interaction involving CAUSATIVE rule (b.)) and this interaction also accepts a wider range of inputs than the other productive interaction with CAUSATIVE rule (c.) (which is discussed in §7.3.2.3). That is, any verb without an agent should be available as an input for the application of CAUSATIVE rule (a.) followed by the RECIPROCAL rule, whereas with the interaction involving CAUSATIVE rule (c.), only unergative motion verbs are acceptable inputs.

I have currently identified two documented examples of CAUSATIVE rule (a.) applying before the RECIPROCAL rule, both of which meet this requirement by being unaccusative. These are presented below, where (7-24) is reproduced from (7-7) and uses the input verb *rabi* ‘y to fall’, while (7-25) uses the input verb *mawuraada* ‘f to be cold’:

(7-24)  
\[
\text{wingi-}rabi-jga-ynji-\text{-ina} \\
3\text{FDU,fall-CAUS-Recip-Pres} \\
\text{‘Those two (3FDU) make each other fall over (e.g. by shoving each other)’} \\
\text{(S1 / E1 / 20140331)}
\]

(7-25)  
\[
\text{wingi-}mawuraadi-jga-ynji-\text{-ina} \\
3\text{FDU,be.cold-CAUS-Recip-Pres} \\
\text{‘Those two (3FDU) are making each other cold (e.g. by throwing cold water/ice)’} \\
\text{(S1 / E1 / 20140331)}
\]

In both examples, the CAUSATIVE root *-jga ~ -jgi* is attached closer to the verb stem than the RECIPROCAL root *-ynji*, and we can tell that the RECIPROCAL has applied last because we get a true sense of reciprocity, as opposed to a sense of joint-involvement (i.e. ‘x made y (NONSINGULAR) both fall’, ‘x made y (NONSINGULAR) both cold’), which is what we would expect if the RECIPROCAL
had applied first in its unproductive and non-valency-changing function with intransitive inputs (see §6.4.1). Further evidence of this application order can be found in the intransitive verb agreement prefix wingi- ‘3FDUₐ’; if the CAUSATIVE derivation had applied last, the verb agreement prefix would be transitive due to the introduction of a causal agent.

Analyses demonstrating CAUSATIVE rule (a.) applying before the RECIPROCAL rule in examples (7-24) and (7-25) are presented below in Figure 7.5 and Figure 7.6 respectively. In each case, CAUSATIVE rule (a.) begins by creating a sense of direct causation through the introduction of a causal agent as subject. This is followed by the application of the RECIPROCAL rule, which decreases valency by double linking the two arguments that would have otherwise been realised as subject (i.e. the agent) or primary object (i.e. the patient or experiencer) so that they are both jointly realised as subject instead.

Figure 7.5. Analysis of CAUSₐ applying before RECIP with unaccusative verb in (7-24)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1. <strong>INPUT:</strong></td>
<td>rabi</td>
</tr>
<tr>
<td></td>
<td>&lt; [Pt]ₐ &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
</tr>
<tr>
<td>2. <strong>CAUSₐ:</strong></td>
<td>rabi-jga</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ag]ₐ [Pt]ₐ &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td>3. <strong>RECIP:</strong></td>
<td>rabi-jga-ynji</td>
</tr>
<tr>
<td></td>
<td>&lt; [[Ag]ₐ + [Pt]ₐ] &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
</tr>
<tr>
<td>4. <strong>OUTPUT:</strong></td>
<td>rabi-jga-ynji</td>
</tr>
<tr>
<td></td>
<td>&lt; [[Ag]ₐ + [Pt]ₐ] &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
</tr>
<tr>
<td>5. <strong>DATA:</strong></td>
<td>wingi-rabi-jga-ynji-ina</td>
</tr>
<tr>
<td></td>
<td>3FDUₐ-fall-CAUS-RECIP-PRES</td>
</tr>
<tr>
<td></td>
<td>‘Theyₓᵧ (3FDₐ) make each other fall over’</td>
</tr>
</tbody>
</table>
In addition to unaccusative verbs, we would expect this rule interaction to be possible with certain transitive verbs that license no agent, such as margira ‘x to be jealous of y’. A potential analysis is presented below using a constructed example with this verb, where the process is essentially the same as what we saw above aside from the presence of a goal argument in the input argument-structure that is reassigned from primary object to an oblique function after CAUSATIVE rule (a.) applies:
The second predicted interaction between the CAUSATIVE and RECIPROCAL roots involves the RECIPROCAL rule applying after the restricted CAUSATIVE rule (b.), the latter of which introduces a sense of indirect causation by creating a complex predicate, which is a restricted option available to verbs that already license an agent (see §3.3.1.2). Since the RECIPROCAL rule simply requires its input to have two arguments that would normally be realised as subject and primary object, the original input verb just needs to meet the input requirements of CAUSATIVE rule (b.) for the overall input requirements of the entire rule interaction to be met. This means that all verbs with an agent are eligible.

So far, two examples of this rule interaction have been identified, with one using the general unergative verb malngawi ‘x to be hospitable’ and the other using the general transitive verb dhawawaruma ‘x to turn y around’. These are presented below:
(7-26) nugurru anubani-yung numburr malngawi-\textit{jga-ynji-ina} \\
\textit{nugurra-ajbaj aadanu} \\
2Pl.Pro-Emph that.Neut.Imm.Conc \\
‘Welcome each other (lit. you (2Pl) make each other be hospitable, imperative)’ \\
(Nunggubuyu People, 2014, Romans 15.17) \\

(7-27) marri wugurru amburr-dhawawarumi-\textit{jga-ynji-na} wugurra-ajbaj \\
and 3Pl.Pro 3PlL.turn.around-Caus.Recip-Fc 3Pl.Pro-Emph \\
marri amburr-wurrij-banga-ynji-na wugurru \\
and 3PlL.chest-bite.Recip-Fc 3Pl.Pro \\
‘and they (3Pl) will be making each other turn (it [faith/God]) away and they will 
be hating each other’ \\
(Nunggubuyu People, 2014, Mathew 24.10) \\

The \textsc{causative} root \textit{jga} \sim \textit{jgi} occurs closer to the verb stem than the 
\textsc{reciprocal} root \textit{ynji} in both examples, and the same arguments from the 
previous section can be made about evidence of the \textsc{reciprocal} applying last: 
in (7-26), we get a true sense of reciprocity, rather than the sense of joint-
involvement which would be created if the \textsc{reciprocal} applied to an 
intransitive input, and in both examples, the verb takes an intransitive 
agreement prefix, not the transitive one that would be used if the \textsc{causative} 
had applied last. 

Analyses of this application order applying in examples (7-26) and (7-27) 
follow, with an explanation of these analyses below:
Figure 7.8. Analysis of CAUS\textsubscript{b} applying before RECIP with general unergative verb in (7-26)

1. INPUT: malngawi
   ‘x to be hospitable’
   \[
   \text{SUBJ} \quad \text{< [Ag]_x >}\\
   \]

2. CAUS\textsubscript{b}: malngawi-jga
   ‘w to cause\textsubscript{indir} x ‘x to be hospitable’
   \[
   \text{SUBJ} \quad \left< [\text{Ag}]_w \quad [\text{Go}]_x \quad [\text{Ag}]_{w+x} > \right> \\
   \]

3. RECIP: malngawi-jga-ynji
   ‘w and x to cause\textsubscript{indir} ‘each other to be hospitable’
   \[
   \text{SUBJ} \quad \left< [[\text{Ag}]_w + [\text{Go}]_x] \quad [\text{Ag}]_{w+x} > \right> \\
   \]

4. OUTPUT: malngawi-jga-ynji
   ‘w and x to cause\textsubscript{indir} ‘each other to be hospitable’
   \[
   \text{SUBJ} \quad \left< [[\text{Ag}]_w + [\text{Go}]_x] \quad [\text{Ag}]_{w+x} > \right> \\
   \]

5. DATA: [nugurru]\_w+x anubani-yung numburr-malngawi-jga-ynji-na
   [nugura-ajbaj]\_w+x aadanu
   2Pl.Pro-Emph that.Emph.Conc
   ‘[You\_w+x (2Pl)] welcome each other (lit. make each other be hospitable, imperative)’

Figure 7.9. Analysis of CAUS\textsubscript{b} applying before RECIP with general transitive verb in (7-27)

1. INPUT: dhawawarumi
   ‘x to turn y around’
   \[
   \text{SUBJ} \quad \text{< [Ag]_x >}\\
   \quad \text{OBJ} \quad \text{< [Pt]_y >}\\
   \]

2. CAUS\textsubscript{b}: dhawawarumi-jga
   ‘w to cause\textsubscript{indir} x ‘x to turn y around’
   \[
   \text{SUBJ} \quad \text{OBJ} \quad \left< [\text{Ag}]_w \quad [\text{Go}]_x \quad [\text{Ag}]_{w+x} \quad [\text{Pt}]_y > \right> \\
   \]

3. RECIP: dhawawarumi-jga-ynji
   ‘w and x to cause\textsubscript{indir} ‘each other to turn y around’
   \[
   \text{SUBJ} \quad \text{OBJ} \quad \left< [[\text{Ag}]_w + [\text{Go}]_x] \quad [\text{Ag}]_{w+x} \quad [\text{Pt}]_y > \right> \\
   \]

4. OUTPUT: dhawawarumi-jga-ynji
   ‘w and x to cause\textsubscript{indir} ‘each other to turn y around’
   \[
   \text{SUBJ} \quad \text{OBJ} \quad \left< [[\text{Ag}]_w + [\text{Go}]_x] \quad [\text{Ag}]_{w+x} \quad [\text{Pt}]_y > \right> \\
   \]

5. DATA: marri [wugurru]\_w+x amburr-dhawawarumi-jga-ynji-na
   and 3Pla.Pro 3Pla-turn.around-CAUS-RECIP-FC
   [wugurra-ajbaj]\_w+x marri amburr-wurrij-banga-ynji-ina wugurru
   3Pla-Pro-Emph and 3Pla-chest-bite-RECIP-FC 3Pla.Pro
   ‘and they\_w+x (3Pl) will be making each other turn (it [faith/God]_y) away and
   they will be hating each other’
In Figure 7.8, *malngawi* ‘*x* to be hospitable’ begins by licensing just an agent as subject, and in Figure 7.9, *dhawawaruma* ‘*x* to turn *y* around’ begins with an agent as subject and a patient as primary object. In each case, the CAUSATIVE derivation applies first, with CAUSATIVE rule (b.) establishing a sense of indirect causation through the creation of a complex predicate (i.e. where a causal predicate with a causal agent and causee goal argument fuses with the predicate of the original input verb; see §3.3.1.2 for details). This results in the causal agent being assigned to subject, the now coreferential goal (of the causal predicate) and agentive causee (of the input predicate) being assigned to primary object, and the patient in Figure 7.9 being reassigned to secondary object. Thus, in both examples, we have at least two arguments where one is specified as subject (the causal agent) and the other as primary object (the coreferential goal and agent). This meets the input requirements of the RECIPROCAL rule, which then decreases valency and introduces a sense of reciprocity by double linking these arguments, allowing them to be jointly realised as subject.

Although there are currently only documented examples of this rule interaction occurring with unergative and transitive verbs, it is predicted to also be a restricted option for ditransitive verbs. A potential analysis using a constructed example with the irregular ditransitive verb *marraga* ‘*x* to take *y* from *d*’ is presented below, with the main difference to what we saw above being that the argument-structure of the original input licenses a source and patient that would normally be realised as primary object and secondary object respectively, but after CAUSATIVE rule (b.) applies, the source is reassigned to an oblique function:
7.3.2.3. **CAUSATIVE rule (c.) followed by the RECIPROCAL rule**

The last valency-changing interaction between the CAUSATIVE and RECIPROCAL derivations that is predicted involves the RECIPROCAL rule applying after CAUSATIVE rule (c.), the latter of which has a comitative function when it applies to unergative motion verbs (see §6.3.1.2). Similar to what we saw in previous sections, the original input simply needs to meet the input requirements of CAUSATIVE rule (c.) for this rule interaction to be possible. Several examples of this have been identified, two of which are presented below, where the inputs are the unergative motion verbs *ngama* ‘*x* to swim’ and *wayama* ‘*x* to continue along’ in (7-28) and (7-29) respectively:

(7-28)  

\[ \text{ngarra-manum-baa wingi-ngami-jga-ynji-ina} \]  
\[ \text{F-woman-DU 3FDU-x-swim-CAUS-RECIP-PRES} \]  

‘Two women (3FDU) swim with each other’  
(i.e. they take each other (while) swimming)  
(S2+S3 / E1 / BB201801)  
(S5 / E1 / BB201801)
(7-29) warra-mijburraayung wurru-wayami-jga-ynji-ina
Pt-children 3PL-continue.along-CAUS-RECIP-PRES

'The children (3PL) continue along with each other'
(i.e. they take each other along)
(S2+S3 / E1 / BB201801)
(S5 / E1 / BB201801)

In the data above, CAUSATIVE -jga ~ -jgi occurs closest to the verb stem in both cases, and once again, we can make the same arguments used earlier as evidence of the CAUSATIVE applying first. If the RECIPROCAL derivation had applied first, it would have applied to an intransitive input and introduced joint-involvement semantics, rather than a true sense of reciprocity. Furthermore, if the CAUSATIVE derivation had applied last, we would expect the verb to take a transitive agreement prefix, but in both examples above, it is intransitive.

An analysis of CAUSATIVE rule (c.) applying before the RECIPROCAL rule in (7-28) is presented below, where CAUSATIVE rule (c.) first introduces a nonthematic comitative argument as primary object, after which the RECIPROCAL rule double links the agent and comitative arguments so that they can be jointly realised as subject:

Figure 7.11. Analysis of CAUS\textsubscript{c} applying before RECIP with unergative motion verb in (7-28)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>INPUT:</td>
<td>ngama 'x to swim'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>CAUS\textsubscript{c}:</td>
<td>ngami-jga 'x to swim with k'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>RECIP:</td>
<td>ngami-jga-ynji 'x and k to swim with each other'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>OUTPUT:</td>
<td>ngami-jga-ynji 'x and k to swim with each other'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>DATA:</td>
<td>[ngarra-manum-baa]_{x+k} wingi-ngami-jga-ynji-ina</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F-woman-DU 3FDU\textsubscript{x},swim-CAUS-RECIP-PRES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'Two women_{x+k} (3FDU) swim with each other'</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i.e. they take each other (while) swimming)</td>
</tr>
</tbody>
</table>

293
7.4. Derivations on both sides of the Wubuy verb stem

As previously mentioned, most interactions between valency-changing derivations in Wubuy involve a prefix and a suffixal root, which means that the order of derivation cannot be predicted based on the distance of derivational affixes from the verb stem (since it is equal). For example, consider the data below, which demonstrates interactions between the COMITATIVE and RECIPROCAL derivations in Wubuy:

(7-30) ngarra-magum-baa wingi-\textit{in}ji-wildhi-\textit{yn}ji-\textit{ina} warra-gujuju-mirri
F-woman-DU 3FDU.-COM-touch-RECIP-PRES PL-baby-COM
wugurrngi
3FDU.PRO
‘Two women (3FDU) bump into each other while holding babies (3Pl)’
(S1 / E1 / 20140328)

(7-31) na-walyi-nyung marri ngarra-mani-nyung \textit{wini-yn}ji-lha-wuynja-\textit{yn}ji-i
M-man-HUM.SG and F-woman-HUM.SG 3MDU-Com-mouth-suck-RECIP-PRES
waani-wanaga-na-majii warra-gujuju-mirri wuguni
3MDU/3PLa.-hold-PRES-COND PL-baby-COM 3MDU.PRO
‘The man and woman (3MDU) kiss the baby (3Pl) that the other one is holding, if they both hold babies’
(S1 / E2 / 20140328)

Each example above involves a transitive verb taking both the COMITATIVE prefix \textit{aynji}- and the RECIPROCAL suffixal root -\textit{yn}ji. This verb is \textit{wildha} ‘x to touch y’ in (7-30) and \textit{lha-wuynja} ‘x to kiss y’ in (7-31). However, based on the translations provided, there is a clear difference in the application order of these derivations: in the first example, the reciprocal entities are acting on each other while holding something, whereas in the second, they each act on something that is being held by the other. As will be outlined in §7.4.4.1 and §7.4.4.2, the former translation indicates that the RECIPROCAL has applied before the COMITATIVE, while the latter indicates the opposite. However, as the COMITATIVE \textit{aynji} is a prefix and the RECIPROCAL -\textit{yn}ji is a suffixal root, this means we have two application orders with an identical positioning of affixes and where the relative distance between each affix and the verb stem is the same. This means that we cannot use the position of affixes on the verb stem to understand which derivation applies first.
Based on these observations, we might speculate that application order is just ambiguous in Wubuy when there is an interaction between a derivational prefix and a derivational suffixal root, with the intended meaning and interpretation dependent on context and pragmatics. While this may be true with examples such as (7-30) and (7-31) above (since the demonstrated interactions both appear to be possible with any transitive verb as input), I will show that in many cases, the application order follows logically from the lexical rules previously set out for each derivation. That is, when considering the transitivity, semantic subtype and argument-structure of a given input verb, often only one application order will allow the input requirements of each derivation to be met.

This is shown in Table 7.4 on the next page, which presents the number of predicted application orders for each verb type according to transitivity, semantic subclass and argument-structure. Here, it can be seen that out of the 32 cells representing each combination of derivational prefix and suffixal root for each verb type, only 12 of these (or 38%) have a predicted ambiguity, and only 5 (or 16%) have two application orders predicted that are both unrestricted. This suggests that in fact, the vast majority of interactions between a valency-changing prefix and a valency-changing suffixal root would not result in ambiguities arising.

The following subsections outline interactions between each valency-changing affix in more detail.
Table 7.4. Number of predicted application orders per verb type for valency-changing interactions involving a prefix and a suffixal root

<table>
<thead>
<tr>
<th>INPUT</th>
<th>AFF &amp; CAUS</th>
<th>AFF &amp; RECIP</th>
<th>COM &amp; CAUS</th>
<th>COM &amp; RECIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unerg: Motion (e.g. ‘walk’) &lt; [Ag] &gt;</td>
<td>2 u, d</td>
<td>1 n</td>
<td>2 u, dd</td>
<td>0 n</td>
</tr>
<tr>
<td>Unerg: Speech/Attention/Transfer (e.g. ‘thieve’) &lt; [Ag] &gt;</td>
<td>2 uu, d</td>
<td>1 d</td>
<td>1 u, n</td>
<td>0 n</td>
</tr>
<tr>
<td>Unerg: General (e.g. ‘sing’) &lt; [Ag] &gt;</td>
<td>2 uu, d</td>
<td>1 n</td>
<td>1 u, n</td>
<td>0 n</td>
</tr>
<tr>
<td>Unacc: Emotion (e.g. ‘be ashamed’) &lt; [Ex] &gt;</td>
<td>1 d</td>
<td>1 d</td>
<td>2 d</td>
<td>0 n</td>
</tr>
<tr>
<td>Unacc: General (e.g. ‘fall’) &lt; [Ex/Pt/Th] &gt;</td>
<td>2 d</td>
<td>0 n</td>
<td>2 dd</td>
<td>0 n</td>
</tr>
<tr>
<td>Trans: Transfer (e.g. ‘take’) &lt; [Ag] [Pt/Th] &gt;</td>
<td>2 uu, n</td>
<td>1 d</td>
<td>1 u, n</td>
<td>2 n</td>
</tr>
<tr>
<td>Trans: General (e.g. ‘kiss’, ‘be jealous of’) &lt; [Ag/Ex] [Go/Pt/Th] &gt;</td>
<td>2 uu, n</td>
<td>1 d</td>
<td>1 u, n</td>
<td>2 dd</td>
</tr>
<tr>
<td>Ditrans: (e.g. ‘give’) &lt; [Ag] [Go/So] [Pt/Th] &gt;</td>
<td>2 uu, n</td>
<td>1 n</td>
<td>0 n</td>
<td>0 n</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key:</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>u</th>
<th>uu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No interactions predicted</td>
<td>1 application order predicted</td>
<td>2 application orders predicted</td>
<td>1 application order uses at least 1 uncommon derivational rule</td>
<td>Both application orders use at least 1 uncommon derivational rule</td>
</tr>
<tr>
<td></td>
<td>d</td>
<td>Documented example(s) found for 1 application order</td>
<td>dd</td>
<td>Documented example(s) found 2 application orders</td>
<td>n</td>
</tr>
</tbody>
</table>
7.4.1. AFFECTEE APPLICATIVE prefix and CAUSATIVE suffixal root

Although Heath (1984, p. 405) finds no clear examples of the AFFECTEE APPLICATIVE and CAUSATIVE derivations interacting in his own corpus, he assumes that this “would not be problematic logically”. As newer data shows, not only do these interactions follow logically from the lexical rules set out in earlier chapters (see 3.3.1 and 4.3.2), but there are also documented examples demonstrating that the AFFECTEE APPLICATIVE and CAUSATIVE derivations can apply in different orders.

Starting with the AFFECTEE APPLICATIVE applying before the CAUSATIVE, consider the data below, where (7-32) uses the unaccusative emotion verb *miynjal’dha* ‘x to be suspicious’ as input, while (7-33) uses the general unergative verb *yaalibu* ‘x to cough’:

(7-32)  nguna-*a-miynjal’dhi-jga-a* niga aynbaj-magi
3FSG/3MSG.-AFF-be.suspicious-CAUS-PC 3MSG.Pro other-lest

wunu-u-mangun  wurrur-Murrungun
3PL/3MSG.-kill-EVIT  PL-Murrungun

‘She (3FSG) made him (3MSG) suspicious of/toward the Murrungun men (3PL), lest they kill him’

(S1 / E2 / 20140321)

(7-33)  ngarra-*a-jaalibi-jga-na*  na-wirri-nyung
F-woman-HUM.SG  3FSG/3MSG.-AFF-cough-CAUS-PRES M-child-HUM.SG

na-doctor-wuy
M-doctor-DAT

‘The woman (3FSG) tries to make the little boy (3MSG) cough for the doctor (3MSG)’ (e.g. by telling him to)

(S1 / E2 / 20140328)

Above, the input verb in both examples takes the AFFECTEE APPLICATIVE prefix *aG- ~ waaG-* and the CAUSATIVE suffixal root *-jga ~ -jgi*, but in each case, it results in a different rule interaction. In (7-32), AFFECTEE APPLICATIVE rule (a.) applies before CAUSATIVE rule (a.) to create *a-miynjal’dhi-jga ‘wu* to cause Dir x to be suspicious toward d’, which is an option available to unaccusative emotion verbs (see §7.4.1.1). In (7-33), on the other hand, we have AFFECTEE APPLICATIVE rule (b.) applying before CAUSATIVE rule (b.) to
create a-jaalibi-jga 'w to cause\textsubscript{indir}x to cough for z', which is a restricted option possible with all verbs that license an agent, except for those that can only interact with AFFECTEE APPLICATIVE rule (a.) (i.e. unergative speech, attention and transfer verbs, and transitive transfer verbs) (see §7.4.1.4).

There are two more predicted but undocumented rule interactions for when the AFFECTEE APPLICATIVE applies before the CAUSATIVE. The first involves AFFECTEE APPLICATIVE rule (a.) followed by CAUSATIVE rule (b.), which should be available to all verbs with an agent that can undergo AFFECTEE APPLICATIVE rule (a.). For example, if we assume an input verb of ada ‘x to shout’, it would result in a meaning such as ‘w to indirectly cause x to shout at d’ (see §7.4.1.2). The second undocumented rule interaction involves AFFECTEE APPLICATIVE rule (b.) followed by CAUSATIVE rule (a.), which should be available to verbs with an experiencer that do not undergo AFFECTEE APPLICATIVE rule (a.). For example, if we assume an input of margira ‘x to feel jealous toward d’, this would result in a meaning such as ‘w to cause x to feel jealous toward d of z’.

In relation to the CAUSATIVE applying before the AFFECTEE APPLICATIVE, consider the examples below, where the input of (7-34), (7-35) and (7-36) are the unergative motion verb abi ‘x to jump’, the unergative attention verb wawanggi ‘x to listen’ and the general unaccusative verb rirra ‘y to dry out’ respectively:

(7-34) nguna-\underline{a-dirrangi-jga}-na mana-yaali
3FSG/3MSG-AFF-dry.out-CAUS-PRES Veg.TOP-clothes
na-wulmurr-inyung-jinyung
M-boy-HUM.SG-GEN
‘She (3FSG) dried the boy’s (3MSG) clothes (VEG)’ (lit. she made them dry)
(S1 / E1 / 20140331)
"She (3FSG) makes the children (3PL) of the man (3MSG) listen’ (e.g. by telling them to)
(S2+S3 / E1 / BB: 201801)
(S5 / E1 / BB: 201801)

'‘She (3FSG) dropped the dog’s (COLL) food (RESID) off at camp/home (NEUT)’
(lit. she took the food while jumping down (e.g. from a car))
(S2+S5 / E2 / 20140304)

Once again, all verbs take the AFFECTEE APPLICATIVE prefix aG- ~ waaG- and the CAUSATIVE suffixal root -jga ~ -jgi, but each verb triggers a different rule interaction. In (7-34), rirra ‘y to dry out’ becomes a-dirrangi-jga ‘x to cause y of z to dry out’ through the application of CAUSATIVE rule (a.) before AFFECTEE APPLICATIVE rule (b.), which is possible with general unaccusative verbs (see §7.4.1.5). In comparison to this, in (7-35), CAUSATIVE rule (b.) applies before AFFECTEE APPLICATIVE rule (b.) to create a-gawanggi-jga ‘w to indirectly cause x to listen’, which is a restricted option possible with verbs that license an agent. Lastly, in (7-36), CAUSATIVE rule (c.) applies before AFFECTEE APPLICATIVE rule (b.), deriving ag-abi-jga ‘x to jump (down) with k of z’, which is an option available to unergative motion verbs (see §7.4.1.7).

Table 7.5 on the next page summarises the predicted interactions discussed above between the lexical rules of the Wubuy AFFECTEE APPLICATIVE and CAUSATIVE derivations. Here, it can be seen that 7 out of 12 (or 58%) of potential rule interactions are predicted as being possible. However, only verbs licensing an agent or certain unaccusative verbs licensing an experiencer are predicted as being able to undergo the AFFECTEE APPLICATIVE and CAUSATIVE derivations in different orders. Furthermore, of the 4 rule interactions that allow an input verb with an agent, 3 involve the restricted CAUSATIVE rule (b.), which is not commonly used. Thus, of the 12 predicted rule interactions above, only 4 (or 33%) do not involve a restricted lexical rule.
When considering the unrestricted interactions (i.e. those that do not involve CAUSATIVE rule (b.)), there is only one type of verb that can undergo the AFFECTEE APPLICATIVE and CAUSATIVE derivations in different application orders: certain unaccusative verbs that license an experiencer, such as *mawuraada* ‘x to be cold’, which are predicted as being able to undergo AFFECTEE APPLICATIVE rule (b.) followed by CAUSATIVE rule (a.), as well as CAUSATIVE rule (a.) followed by AFFECTEE APPLICATIVE rule (b.). Overall, this suggests that in most cases, interactions between the AFFECTEE APPLICATIVE and CAUSATIVE derivations would not result in ambiguities arising.
The subsections below present discussions and analyses of documented and predicted valency-changing interactions between the AFFECTEE APPLICATIVE and CAUSATIVE derivations. 105

7.4.1.1. AFFECTEE APPLICATIVE rule (a.) followed by CAUSATIVE rule (a.)

Beginning with interactions between the AFFECTEE APPLICATIVE and CAUSATIVE derivations that involve the former applying before the latter, the most productive of these is predicted to be when AFFECTEE APPLICATIVE rule (a.) applies before CAUSATIVE rule (a.), since neither of these are restricted or uncommon. Recall that AFFECTEE APPLICATIVE rule (a.) introduces a goal or source argument as primary object with certain verb types (i.e. unaccusative emotion verbs, unergative speech, attention or transfer verbs, as well as transitive transfer verbs; see §4.3.2.1), while CAUSATIVE rule (a.) expresses direct causation by introducing a causal agent as subject with verbs that do not already license an agent (see §3.3.1.1). Based on this, the original input verb for this rule interaction needs be an unaccusative emotion verb, since the other verb types that may undergo AFFECTEE APPLICATIVE rule (a.) would already license an agent (i.e. they are either unergative or transitive), and this would make them ineligible to then undergo CAUSATIVE rule (a.).

105 Regarding interactions that are not predicted as being possible:

- CAUS cannot apply after the AFFECTEE APPLICATIVE because it requires an intransitive (motion) input;
- AFF cannot apply after CAUS because the only type of verb that meets the input requirement of each rule is unaccusative emotion verbs, which license an experiencer. However, when an unaccusative emotion verb undergoes CAUS, it gains a causal agent (i.e. < [Ag] [Ex] >), and AFF cannot accommodate this, since it can only license an agent or experiencer, not both.
- AFF cannot apply after CAUS because the outer causal predicate contains a patient or theme, neither of which can be accommodated by the argument-structure input requirements of AFF.
- AFF cannot apply after CAUS because there is no overlap in the semantic subclass of verbs they can apply to (i.e. the former requires an unergative motion verb, while the latter requires an emotion, speech, attention or transfer verb).
As it turns out, however, I have so far identified only one example of AFFECTEE APPLICATIVE rule (a.) applying before CAUSATIVE rule (a.), which is reproduced below from (7-32) and uses the unaccusative emotion verb *miynjaldha* ‘x to be suspicious’ as its input:

(7-37)  
\[ nguna-a-miynjaldhi-jga-a \quad niga \quad aynbaj-magi \]
\[ 3FSg/3MSG.-AFF-be.suspicious-CAUS-PC \quad 3MSG.Pro \quad \text{other-lest} \]
\[ wunu-u-mangun \quad wurrup-Murrungun \]
\[ 3Pl/3MSG.-kill-EVT \quad \text{Pt-Murrungun} \]
‘She (3FSg) made him (3MSG) suspicious toward the Murrungun men (3Pl), lest they kill him’

(S1 / E2 / 20140321)

Here, both the AFFECTEE APPLICATIVE prefix *aG-~waaG-* and the CAUSATIVE suffixal root *-jga~jgi* have attached to the intransitive input verb, but it is clear that AFFECTEE APPLICATIVE rule (a.) has applied before CAUSATIVE rule (a.). Firstly, since the AFFECTEE APPLICATIVE introduces a goal rather than a beneficiary or alienable external possessor, we can tell that it is AFFECTEE APPLICATIVE rule (a.) that has applied and not AFFECTEE APPLICATIVE rule (b.). Secondly, as there is no interpretation of a possessive relation, we know that the AFFECTEE APPLICATIVE has applied before the CAUSATIVE. That is, if the CAUSATIVE had applied first, we would end up with a transitive derived argument-structure as the input for the AFFECTEE APPLICATIVE, which we would expect to trigger an alienable external possessor construction with AFFECTEE APPLICATIVE rule (b.) and result in an interpretation such as ‘w to cause_{dir} y of z to be jealous’ (as we will see in §7.4.1.5). Lastly, as the AFFECTEE APPLICATIVE-derived verb licenses an experiencer and no agent, the only CAUSATIVE rule that can apply is CAUSATIVE rule (a.), since CAUSATIVE rules (b.) and (c.) both require their inputs to already license an agent.

An analysis demonstrating the interaction between AFFECTEE APPLICATIVE rule (a.) and CAUSATIVE rule (a.) in (7-37) is presented below in Figure 7.12, where AFFECTEE APPLICATIVE rule (a.) first introduces a goal as primary object, after which CAUSATIVE rule (a.) creates a sense of direct causation through the introduction of a causal agent as subject. This results in the
experiencer being reassigned from subject to primary object and the goal being reassigned from primary object to an oblique function.

Figure 7.12. Analyses of AFF\textsubscript{a} applying before CAUS\textsubscript{a} with unaccusative emotion verb in (7-37)

<table>
<thead>
<tr>
<th></th>
<th>INPUT:</th>
<th>AFF\textsubscript{a}:</th>
<th>CAUS\textsubscript{a}:</th>
<th>OUTPUT:</th>
<th>DATA:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>miynjal\textsubscript{da}</td>
<td>'x to be suspicious'</td>
<td></td>
<td></td>
<td>nguna-a-miynjual\textsubscript{da}-jga-a</td>
</tr>
<tr>
<td></td>
<td>'x to be suspicious'</td>
<td>&lt; [Ex]\textsubscript{a} &gt;</td>
<td></td>
<td></td>
<td>[niga]\textsubscript{a} [aynbaj-magi]\textsubscript{a}d</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
<td></td>
<td></td>
<td>3FSG/3MSG\textsubscript{i}-AFF-be.suspicious-CAUS-PC 3MSG PRo other-lest</td>
</tr>
<tr>
<td>2</td>
<td>a-miynjal\textsubscript{da}</td>
<td>'x to be suspicious toward d'</td>
<td></td>
<td></td>
<td>wunu-u-mangun wurr\textsubscript{u}-Murrungun</td>
</tr>
<tr>
<td></td>
<td>'x to be suspicious toward d'</td>
<td>&lt; [Ex]\textsubscript{a} [Go]\textsubscript{d} &gt;</td>
<td></td>
<td></td>
<td>3PL/3MSG\textsubscript{i}-kill-EVIT PL-Murrungun</td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ</td>
<td></td>
<td></td>
<td></td>
<td>'She\textsubscript{w} (3FSG) made him\textsubscript{a} (3MSG) suspicious toward the other Murrungun men\textsubscript{d} (3PL), lest they kill him'</td>
</tr>
<tr>
<td>3</td>
<td>a-miynjal\textsubscript{dhi-jga}</td>
<td>'w to cause\textsubscript{d} x to be suspicious toward d'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'w to cause\textsubscript{d} x to be suspicious toward d'</td>
<td>&lt; [Ag]\textsubscript{w} [Ex]\textsubscript{a} [Go]\textsubscript{d} &gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ OBJ\textsubscript{g}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>a-miynjal\textsubscript{dhi-jga}</td>
<td>'w to cause\textsubscript{d} x to be suspicious toward d'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'w to cause\textsubscript{d} x to be suspicious toward d'</td>
<td>&lt; [Ag]\textsubscript{w} [Ex]\textsubscript{a} [Go]\textsubscript{d} &gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ OBJ\textsubscript{g}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>nguna-a-miynjal\textsubscript{dhi-jga}-a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

7.4.1.2. **AFFECTEE APPLICATIVE rule (a.) followed by CAUSATIVE rule (b.)**

The second interaction predicted for when the AFFECTEE APPLICATIVE applies before the CAUSATIVE derivation is when AFFECTEE APPLICATIVE rule (a.) applies before CAUSATIVE rule (b.). As summarised in the previous section, AFFECTEE APPLICATIVE rule (a.) introduces a goal or source with unaccusative emotion verbs, unergative speech and attention verbs, as well as both unergative and transitive transfer verbs (see §4.3.2.1). CAUSATIVE rule (b.), on the other hand, creates a causal complex predicate with verbs that already license an agent (see §3.3.1.2). Therefore, the original input verb for this interaction needs to be one that both licenses an agent and meets the semantic requirements of AFFECTEE APPLICATIVE rule (a.) (i.e. it should be an unergative speech, attention or transfer verb, or a transitive transfer verb).
As this rule interaction involves the restricted CAUSATIVE rule (b.), we would expect it to occur less frequently, and in fact, I have not yet identified any instances of it in the Wubuy corpus. For now, I present potential analyses of it below using constructed examples with the unergative speech verb yandaldha ‘x to sing loudly’ in Figure 7.13 and the transitive transfer verb yari ‘x to take y’ in Figure 7.14. In the former, AFFECTEE APPLICATIVE rule (a.) introduces a goal as primary object, while in the latter it introduces a source as primary object and reassigns the theme to secondary object. In both cases, CAUSATIVE rule (b.) then creates a complex predicate, where a predicate with semantics of indirect causation fuses with the predicate of its input. This causal predicate licenses an agent that is realised as subject and a goal that is coreferential with the agent of the input verb and realised as primary object. As a result, the goal or source argument of the input verb is reassigned to an oblique function.

Figure 7.13. Analysis of AFFₐ applying before CAUSₐ with unergative speech verb (using unverified constructed example)

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INPUT:</td>
<td>yandaldha</td>
<td>‘x to sing loudly’</td>
<td>&lt; [Ag]ₓ &gt;</td>
<td>SUBJ</td>
</tr>
<tr>
<td>2. AFFₐ:</td>
<td>a-jandaldha</td>
<td>‘x to sing loudly toward d’</td>
<td>&lt; [Ag]ₓ</td>
<td>[Go]ₓ &gt;</td>
</tr>
<tr>
<td>3. CAUSₐ:</td>
<td>a-jandaldhi-jga</td>
<td>‘w to CAUSEindir x’</td>
<td>‘x to sing loudly toward d’</td>
<td>&lt; [Ag]ₓ</td>
</tr>
<tr>
<td>4. OUTPUT:</td>
<td>a-jandaldhi-jga</td>
<td>‘w to CAUSEindir x’</td>
<td>‘x to sing loudly toward d’</td>
<td>&lt; [Ag]ₓ</td>
</tr>
</tbody>
</table>

‘They₄ (3Pl) make me₃ (1Sg) sing loudly at the babies₃ (3Pl)’
(unverified constructed example)
Figure 7.14. Analysis of $\text{AFF}_a$ applying before $\text{CAUS}_b$ with transitive transfer verb (using unverified constructed example)

<table>
<thead>
<tr>
<th></th>
<th><strong>INPUT:</strong></th>
<th></th>
<th><strong>AFF$_a$:</strong></th>
<th></th>
<th><strong>CAUS$_b$:</strong></th>
<th></th>
<th><strong>OUTPUT:</strong></th>
<th></th>
<th><strong>DATA:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$yari$</td>
<td>‘$x$ to take $y$’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$&lt; \text{[Ag]}_x \bigg</td>
<td>\text{[Th]}_y &gt;$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{SUBJ}_x \bigg</td>
<td>\text{OBJ}_y$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>$a$-$jari$</td>
<td>‘$x$ to take $y$ to $d$’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$&lt; \text{[Ag]}_x \bigg</td>
<td>\text{[So]}_d \bigg</td>
<td>\text{[Th]}_y &gt;$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{SUBJ}_x \bigg</td>
<td>\text{OBJ}_y \bigg</td>
<td>\text{OBJ}_2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>$a$-$jari$-$jga$</td>
<td>‘$w$ to $\text{CAUSE}_{\text{indir}}$ $x$’</td>
<td>‘$x$ to take $y$ to $d$’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$&lt; \text{[Ag]}_w \bigg</td>
<td>\text{[Go]}_x \bigg</td>
<td>\text{[Ag]}_y \bigg</td>
<td>\text{[So]}_d \bigg</td>
<td>\text{[Th]}_y &gt;$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{SUBJ}_x \bigg</td>
<td>\text{OBJ}_y \bigg</td>
<td>\text{OBL}_{\text{Goal}} \bigg</td>
<td>\text{OBJ}_2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>$a$-$jari$-$jga$</td>
<td>‘$w$ to $\text{CAUSE}_{\text{indir}}$ $x$’</td>
<td>‘$x$ to take $y$ to $d$’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$&lt; \text{[Ag]}_w \bigg</td>
<td>\text{[Go]}_x \bigg</td>
<td>\text{[Ag]}_y \bigg</td>
<td>\text{[So]}_d \bigg</td>
<td>\text{[Th]}_y &gt;$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{SUBJ}_x \bigg</td>
<td>\text{OBJ}_y \bigg</td>
<td>\text{OBL}_{\text{Source}} \bigg</td>
<td>\text{OBJ}_2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>$\text{nguna}$-$a$-$jari$-$jga$-$na$</td>
<td>[warra]-[landhurr]$_d$ [ana]-[marrya]$_y$</td>
<td>$3\text{FSG}/3\text{MSG}$-$\text{AFF}$-$\text{take}$-$\text{CAUS}$-$\text{PRES}$</td>
<td>$\text{COLL}$-$\text{TOP}$-$\text{dog}$</td>
<td>$\text{RESID}$-$\text{TOP}$-$\text{food}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 7.4.1.3. AFFECTEE APPLICATIVE rule (b.) followed by CAUSATIVE rule (a.)

The third interaction predicted as being possible when the AFFECTEE APPLICATIVE applies before the CAUSATIVE derivation is when AFFECTEE APPLICATIVE rule (b.) applies before CAUSATIVE rule (a.). As noted earlier, the former introduces an affectee as primary object with verbs that license at least an experiencer or agent (see §4.3.2.2), while the latter introduces a causal agent as subject with agentless inputs (see §3.3.1.1). Therefore, the original input for this rule interaction needs to be a verb that already licenses an experiencer (except for unaccusative emotion verbs, which would trigger AFFECTEE APPLICATIVE rule (a.)).

Although both AFFECTEE APPLICATIVE rule (b.) and CAUSATIVE rule (a.) are productive, I have so far identified no examples of this interaction occurring. For now, I present potential analyses below using constructed examples with the unaccusative verb $mawuraada$ ‘$x$ to feel cold’ in Figure 7.15, which licenses just an experiencer, and the transitive emotion verb $margira$ ‘$x$ to feel
jealous toward z’ in Figure 7.16, which licenses an experiencer and a goal. In both cases, AFFECTEE APPLICATIVE rule (b.) applies first and introduces an affectee as primary object. This affectee is understood as a beneficiary in Figure 7.15 and the possessor of the original input’s goal in Figure 7.16, which has been reassigned to an oblique goal function. After this, CAUSATIVE rule (a.) applies, which introduces a causal agent as subject, resulting in the experiencer being reassigned to primary object in both analyses. Furthermore, the affectee is reassigned to an oblique benefactive in Figure 7.15 and an oblique genitive in Figure 7.16:

Figure 7.15. Analysis of AFFb applying before CAUSa with unaccusative verb (using unverified constructed example)

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INPUT: mawuraada</td>
<td>‘x to feel cold’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Ex]₁ &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. AFFb: a-mawuraada</td>
<td>‘x to feel cold for z’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Ex]₁ [Aff]₁ &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. CAUSa: a-mawuraadi-jga</td>
<td>‘w to cause dir x to feel cold for z’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Ag]₁ [Ex]₁ [Aff]₁ &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ OBL&lt;EN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. OUTPUT: a-mawuraadi-jga</td>
<td>‘w to cause dir x to feel cold for z’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Ag]₁ [Ex]₁ [Aff]₁ &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ OBL&lt;EN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MASC.TOP-wind</td>
<td>MASC/3FSGₚ-AFF-feel.cold-PP</td>
<td>M-child-HUM.SG-DAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wini-igi-yn</td>
<td>madhalag-gala</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3MDUₚ-come.back-PP</td>
<td>beach-ABL</td>
<td></td>
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</tr>
</tbody>
</table>

‘The wind₂ (MASC) made her₃ (3FSG) feel cold for the boy₄ (3MSG), [so] they₅ (3MDU) came back from the beach (VEG)’ (i.e. she was feeling the cold on behalf of the boy who she thought didn’t notice it)

(unverified constructed example)
Figure 7.16. Analysis of AFF₆ applying before CAUS₆ with transitive emotion verb (using unverified constructed example)

1. **INPUT:** margira ‘x to feel jealous toward d’
   < [Ex]ₓ SUBJ [Go]ₓ OBJ

2. **AFF₆:** a-margira ‘x to feel jealous toward d of z’
   
   
   [Aff]ₓ = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]

3. **CAUS₆:** a-margiri-jga ‘w to causeₓ x to feel jealous toward d of z’

4. **OUTPUT:** a-margiri-jga ‘w to causeₓ x to feel jealous toward d of z’

5. **DATA:** [ngarra-manji-nyung]ₓₓ nguna-a-margiri-jga-na
   F-woman-HUM.Sg 3FSG/3MSG₆-AFF-jealous.of-CAUS-PRES
   M-other-HUM.SG M-man-HUM.SG-GEN F-child-HUM.SG

   ‘The womanₓₓ (3FSG) made himₓₓ (3MSG) feel jealous toward the other
   man’s₆ (3MSG) girl₆ (3FSG)’

   (unverified constructed example)

7.4.1.4. **AFFECTEE APPLICATIVE rule (b.) followed by CAUSATIVE rule (b.)**

The final predicted interaction for when the AFFECTEE APPLICATIVE applies before the CAUSATIVE involves AFFECTEE APPLICATIVE rule (b.) applying before CAUSATIVE rule (b.). Recall that the former introduces an affectee as primary object with verbs that already license an agent or experiencer (see §4.3.2.2), while the latter is a restricted rule that expresses indirect causation with verbs that already license an agent (see §3.3.1.2). Therefore, the original input verb for this rule interaction simply needs to license an agent (irrespective of transitivity). However, note that it should also not belong to a verb type that would instead trigger AFFECTEE APPLICATIVE rule (a.) (i.e. it should not be an unergative speech, attention or transfer verb, or a transitive transfer verb).
Due to the use of the restricted CAUSATIVE rule (b.), we would once again expect this interaction to occur less frequently, and I have so far found only one instance of it occurring in the Wubuy corpus. This example is presented below and takes the general unergative verb *yaalibu* ‘x to cough’ as its input:106

(7-38)  
\[
\text{ngarra-manj-nyung nguna-a-jaalibi-jga-na na-wirri-nyung} \\
\text{F-woman-HUM.SG 3FSG/3MSG.-AFF-cough-CAUS-PRES M-child-HUM.SG} \\
\text{na-doctor-wuy} \\
\text{M-doctor-DAT} \\
\]
\[\text{‘The woman (3FSG) tries to make the little boy (3MSG) cough for the doctor (3MSt) ’ (e.g. by telling him to)}\]
\[\text{(S1 / E2 / 20140328)}\]

Both the AFFECTEE APPLICATIVE prefix *aG- ~ waaG-* and the CAUSATIVE suffix root *-jga ~ -jgi* have attached to the intransitive input verb in the example above, but it is clear that AFFECTEE APPLICATIVE rule (b.) has applied before CAUSATIVE rule (b.) for a couple of reasons. Firstly, as the AFFECTEE APPLICATIVE introduces a beneficiary rather than a goal argument, we can tell that it is AFFECTEE APPLICATIVE rule (b.) and not AFFECTEE APPLICATIVE rule (a.) that has applied. Secondly, as we saw in the previous subsection, the absence of a possessive relation demonstrates that the AFFECTEE APPLICATIVE has applied to an intransitive input, which means that it must have applied first. If the CAUSATIVE had applied first, then AFFECTEE APPLICATIVE rule (b.) would have applied to a transitive input and triggered an alienable external possessor construction (as can be seen in §7.4.1.5, §7.4.1.6 and §7.4.1.7).

Below, Figure 7.17 presents an analysis of the interaction between the AFFECTEE APPLICATIVE and CAUSATIVE derivations in (7-38), where AFFECTEE APPLICATIVE rule (b.) begins by introducing an affectee as primary object that is understood as a beneficiary. This is followed by the application of CAUSATIVE rule (b.), which creates a complex predicate by fusing its causal predicate with that of the AFFECTEE APPLICATIVE-derived verb. The agent and

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106 Recall some verbs in Wubuy can be either unaccusative or unergative depending on volition.
goal from the argument-structure of the causal predicate are realised as subject and primary object, with the latter being coreferential with the agent from the argument-structure of its input. This leaves the affectee argument to be reassigned to an oblique function.

Figure 7.17. Analysis of AFFb applying before CAUSb with general unaccusative verb in (7-38)

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Input: yaalibu</td>
<td>‘x to cough’&lt;br&gt;(\text{SUBJ})</td>
</tr>
<tr>
<td>2. AFFb: a-jaalibu</td>
<td>‘x to cough for z’&lt;br&gt;(\text{SUBJ} \quad \text{OBJ})</td>
</tr>
<tr>
<td>3. CAUSb: a-jaalibi-jga</td>
<td>‘w to causeindix x’&lt;br&gt;(\text{SUBJ} \quad \text{OBJ} \quad \text{OBL})</td>
</tr>
<tr>
<td>4. Output: a-jaalibi-jga</td>
<td>‘w to causeindix x’&lt;br&gt;(\text{SUBJ} \quad \text{OBJ} \quad \text{OBL})</td>
</tr>
<tr>
<td></td>
<td>[na-wirri-nyung]w [na-doctor-uyuy]z</td>
</tr>
<tr>
<td></td>
<td>M-child-HUM.SG M-doctor-DAT</td>
</tr>
<tr>
<td></td>
<td>‘The woman, (3FSG) tries to make the little boy, (3MSG) cough for the doctor, (3MSG)’ (e.g. by telling him to)</td>
</tr>
</tbody>
</table>

As this rule interaction is predicted for most verbs licensing an agent, we would also expect it to be possible with transitive and ditransitive verbs. As there are currently no documented examples of this, I present potential analyses below using constructed examples with the verbs yaalibu ‘x to wash y’ and marraga ‘x to take y from z’:
Figure 7.18. Analysis of AFF<sub>b</sub> applying before CAUS<sub>b</sub> with transitive verb (using unverified constructed example)

<table>
<thead>
<tr>
<th></th>
<th>INPUT: yaalibu 'x to wash y'</th>
<th>AFF&lt;sub&gt;b&lt;/sub&gt;: a-jaalibu 'x to wash y of z'</th>
<th>CAUS&lt;sub&gt;b&lt;/sub&gt;: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</th>
<th>OUTPUT: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</th>
<th>DATA: nguna-a-jaalibi-jga-na [warra-lanthurr], 3FSG/3MSG.&lt;sub&gt;r&lt;/sub&gt;-AFF-wash-CAUS-PRES COLL.TOP-dog [ngarra-wirri-nyung-jinyung]z F-child-HUM.SG-GEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'x to wash y'</td>
<td>'x to wash y of z'</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
</tr>
<tr>
<td>1.</td>
<td>INPUT: yaalibu 'x to wash y'</td>
<td>AFF&lt;sub&gt;b&lt;/sub&gt;: a-jaalibu 'x to wash y of z'</td>
<td>CAUS&lt;sub&gt;b&lt;/sub&gt;: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>OUTPUT: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>DATA: nguna-a-jaalibi-jga-na [warra-lanthurr], 3FSG/3MSG.&lt;sub&gt;r&lt;/sub&gt;-AFF-wash-CAUS-PRES COLL.TOP-dog [ngarra-wirri-nyung-jinyung]z F-child-HUM.SG-GEN</td>
</tr>
<tr>
<td></td>
<td>'x to wash y'</td>
<td>'x to wash y of z'</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
</tr>
<tr>
<td></td>
<td>'x to wash y'</td>
<td>'x to wash y of z'</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
</tr>
<tr>
<td>2.</td>
<td>AFF&lt;sub&gt;b&lt;/sub&gt;: a-jaalibu 'x to wash y of z'</td>
<td>CAUS&lt;sub&gt;b&lt;/sub&gt;: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>OUTPUT: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>DATA: nguna-a-jaalibi-jga-na [warra-lanthurr], 3FSG/3MSG.&lt;sub&gt;r&lt;/sub&gt;-AFF-wash-CAUS-PRES COLL.TOP-dog [ngarra-wirri-nyung-jinyung]z F-child-HUM.SG-GEN</td>
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<tr>
<td></td>
<td>'x to wash y of z'</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>'x to wash y of z'</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>CAUS&lt;sub&gt;b&lt;/sub&gt;: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>OUTPUT: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>DATA: nguna-a-jaalibi-jga-na [warra-lanthurr], 3FSG/3MSG.&lt;sub&gt;r&lt;/sub&gt;-AFF-wash-CAUS-PRES COLL.TOP-dog [ngarra-wirri-nyung-jinyung]z F-child-HUM.SG-GEN</td>
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<td></td>
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<tr>
<td></td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>OUTPUT: a-jaalibi-jga 'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>DATA: nguna-a-jaalibi-jga-na [warra-lanthurr], 3FSG/3MSG.&lt;sub&gt;r&lt;/sub&gt;-AFF-wash-CAUS-PRES COLL.TOP-dog [ngarra-wirri-nyung-jinyung]z F-child-HUM.SG-GEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'w to CAUSE&lt;sub&gt;indir&lt;/sub&gt; x ‘x to wash y of z’</td>
<td>'She&lt;sub&gt;u&lt;/sub&gt; (3FSG) makes him&lt;sub&gt;i&lt;/sub&gt; (3MSG) wash the girl’s&lt;sub&gt;z&lt;/sub&gt; (3FSG) dog&lt;sub&gt;y&lt;/sub&gt; (COLL)’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(unverified constructed example)
7.4.1.5. **Causative rule (a.) followed by Affectee Applicative rule (b.)**

Moving on to predicted interactions that involve the Causative applying before the Affectee Applicative, the first of these is when Causative rule (a.) applies before Affectee Applicative rule (b.). Recall that the former introduces a causal agent as subject with agentless inputs (see §3.3.1.1), while the latter introduces an affectee as primary object with verbs that license an agent or experiencer (see §4.3.2.2). Therefore, the only type of verbs predicted as being an acceptable input for this rule interaction are unaccusative verbs, since Causative rule (a.) does not allow its input to license an agent. However, note that this does not include unaccusative emotion verbs, which do not undergo Affectee Applicative rule (b.).
As neither of these lexical rules are restricted or uncommon, we would expect this interaction to occur relatively frequently, and indeed, I have identified several instances in my data. Some of these are presented below, where the general unaccusative verbs rabi ‘y to fall’, rirra ‘y to dry out’, walarra ‘y to be full’ and mawuraada ‘y to be cold’ are used as inputs for (7-39), (7-40), (7-41) and (7-42) respectively:

(7-39) nguna-a-dabi-jga-yn ana-rangag na-walhy-nyung-jinyung
3FSG/3MSG,-AFF-fall-CAP-PP NEUT,Top-stick M-man-HUM,SG-GEN

‘She (3FSG) dropped the man’s (3MSG) stick (NEUT) / She made the man’s stick fall’ (i.e. by throwing it)
(S2 / C: (A-6) / 20140303)
(S3+S4 / E1 / 20140303)

(7-40) nguna-a-dirrangi-jga-na mana-yaalji
3FSG/3MSG,-AFF-dry.out-CAP-PRES VEG,Top-clothes
na-wulmurr-inyung-jinyung
M-boy-HUM,SG-GEN

‘She (3FSG) dried the boy’s (3MSG) clothes (VEG)’ (lit. she made them dry)
(S1 / E1 / 20140331)

(7-41) nguna-a-balarrangi-jga-yn ana-bujigan ngarra-manj-nyung
3FSG/3MSG,-AFF-be.full-CAP-PP RESID,Top-cat F-woman-HUM,SG
na-wulmurr-inyung-jinyung
M-boy-HUM,SG-GEN

‘The woman (3FSG) fed the boy’s (3MSG) cat (RESID)’ (lit. she made it full)
(S1 / E2 / 20140331)

(7-42) ngiga nguna-a-mawuraadi-jga-na ana-marrya
3FSG,PRO 3FSG/3MSG,-AFF-be.cold-CAP-PRES RESID,Top-food
na-wirri-nyung-jinyung
M-child-HUM,SG-GEN

‘She (3FSG) makes the boy’s (3MSG) food (RESID) cold’
(S1 / E1 / 20140328)

In each of the examples above, there is only one agent: a THIRD-PERSON FEMALE SINGULAR referent that is encoded as subject and interpreted as directly causing a change in the theme or patient. This suggests that the use of the CAUSATIVE root -jga ~ -jgi results in the application of CAUSATIVE rule (a.). With regard to the effect of the AFFECTEE APPLICATIVE, we can see that in both examples, the THIRD-PERSON MALE SINGULAR argument encoded as
primary object is interpreted as the possessor of the theme or patient argument. So *walbi-nyung* ‘man (3MSG)’ in (7-39) is interpreted as the possessor of *rangag* ‘stick (NEUT)’; *wulmurr-inyung* ‘boy (3MSG)’ is interpreted as the possessor of *yaali* ‘clothing (VEG)’ in (7-40) and *bujigan* ‘cat (RESID)’ in (7-41); and *na-wirri-nyung* ‘boy (3MSG)’ in (7-42) is interpreted as the possessor of *marrya* ‘food (RESID)’. Furthermore, these interpretations of a possessive relation are reinforced by the use of the GENITIVE suffix -*inyung* ~ *jinyung* on the THIRD-PERSON MALE SINGULAR nominal in every example. This demonstrates that AFFECTEE APPLICATIVE rule (b.) has applied, since this introduces an affectee as primary object that is typically interpreted as an alienable external possessor when the input verb licenses more than one argument (as opposed to inputs with only one argument, where the affectee is instead interpreted as a beneficiary without a possessive relation; see §4.3.2.2). Furthermore, since AFFECTEE APPLICATIVE rule (b.) is treating its input as transitive, this means that CAUSATIVE rule (a.) must have applied first.

Below, analyses demonstrating this rule order for (7-39) and (7-40) are presented in Figure 7.20 and Figure 7.21 respectively:
**Figure 7.20. Analysis of CAUSₐ applying before AFFₜ with general unaccusative verb in (7-39)**

1. **INPUT:**
   - *rabi* ‘to fall’
   - Input: [Pt]₁ > SUBJ

2. **CAUSₐ:**
   - *rabi-jga* ‘to cause y to fall’
   - CAUS: [Ag]₁ [Pt]₁ > OBJ OBJ

3. **AFFₜ:**
   - *ag-dabi-jga* ‘to cause z to fall’
   - AFF: [Ag]₁ [Aff]₁ [Pt]₁ > OBJ OBJ OBJ
   - [Aff]₁ = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]

4. **OUTPUT:**
   - *ag-dabi-jga* ‘to cause z to fall’
   - Output: [Ag]₁ [Aff]₁ [Pt]₁ > OBJ OBJ OBJ

5. **DATA:**
   - *nguna-a-dabi-jga-yn* [ana-rangag]₁
   - *3FSG/3MSGₐ-AFF-fall-CAUS-PP NEUT.TOP-stick*
   - *na-walyi-nyung-jinyung]₁*
   - *M-man-HUM.SG-GEN*
   - ‘She dropped the man’s (3MSG) stick, (NEUT) / She made the man’s stick fall’ (i.e. by throwing it)

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**Figure 7.21. Analysis of CAUSₐ applying before AFFₜ with general unaccusative verb in (7-40)**

1. **INPUT:**
   - *rirra* ‘to dry out’
   - Input: [Pt]₁ > SUBJ

2. **CAUSₐ:**
   - *rirrangi-jga* ‘to cause y to dry out’
   - CAUS: [Ag]₁ [Pt]₁ > OBJ

3. **AFFₜ:**
   - *a-dirrangi-jga* ‘to cause z to dry out’
   - AFF: [Ag]₁ [Aff]₁ [Pt]₁ > OBJ OBJ OBJ
   - [Aff]₁ = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]

4. **OUTPUT:**
   - *a-dirrangi-jga* ‘to cause z to dry out’
   - Output: [Ag]₁ [Aff]₁ [Pt]₁ > OBJ OBJ OBJ

5. **DATA:**
   - *nguna-a-dirrangi-jga-na* [mana-yaali]₁
   - *3FSG/3MSGₐ-AFF-dry.out-CAUS-PRES VEG.TOP-clothes*
   - *na-walumurr-nyung-jinyung]₁*
   - *M-boy-HUM.SG-GEN*
   - ‘She dried the boy’s (3MSG) clothes, (VEG)’ (lit. she made them dry)
7.4.1.6. **CAUSATIVE rule (b.) followed by AFFECTEE APPLICATIVE rule (b.)**

The second interaction between the CAUSATIVE and AFFECTEE APPLICATIVE derivations where the former applies first is when CAUSATIVE rule (b.) applies before AFFECTEE APPLICATIVE rule (b.). As summarised earlier, CAUSATIVE rule (b.) creates a complex predicate to express indirect causative semantics, and this is a restricted option available to verbs that license an agent (see §3.3.1.2), while AFFECTEE APPLICATIVE rule (b.) introduces an affectee as primary object with verbs that license an agent or experiencer (see §4.3.2.2). Based on this, it seems that the input requirements of CAUSATIVE rule (b.) simply need to be met for this particular rule interaction to occur (i.e. the input should license at least an agent).

I have so far identified only one example of this rule interaction, which due to the restricted nature of CAUSATIVE rule (b.) is not surprising. This example uses the unergative attention verb *wawanggi* ‘x to listen’ and is presented below:

(7-43)  

*ngiga nguna-a-gawanggi-jga-na warra-mijburraayung*  
3FSg.PRO 3FSg/3MSG, AFF-listen-CAUS-PRES Pl-children  

*na-walyi-nyung-jinyung*  
M-man-HUM.SG-GEN  

‘She (3FSg) makes the children (3Pl) of the man (3MSg) listen’ (e.g. by telling them to)  

(S2+S3 / E1 / BB: 201801)  
(S5 / E1 / BB: 201801)

Since *wawanggi* ‘x to listen’ is an unergative attention verb, we would expect its transitivity and semantic subclass to normally trigger AFFECTEE APPLICATIVE rule (a.), which would introduce a goal argument (i.e. someone who is listened to, optionally marked by ALLATIVE-DATIVE *-wuy ~ -guy*; see §4.3.2.1). The fact that this does not happen and that an affectee (*na-walyi-nyung* ‘man (3MSg)’) has been introduced as an external possessor suggests that instead, AFFECTEE APPLICATIVE rule (b.) has applied to the outer causal predicate introduced by CAUSATIVE rule (b.).
An analysis of this is presented below, where CAUSATIVE rule (b.) first creates a complex predicate by fusing its causal predicate with the predicate of *wawanggi* ‘to listen’. The agent of this causal predicate is realised as subject and its goal argument is coreferential with the agent of *wawanggi* ‘to listen’, the two of which are jointly realised as primary object. This is then followed by the application of AFFECTEE APPLICATIVE rule (b.), which introduces an affectee into the argument-structure of the causal predicate. This affectee is realised as primary object, which results in the coreferential goal and agent being reassigned to an oblique goal function. The specification of “*[Aff]* = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]” then identifies the affectee as the possessor of the goal.

Figure 7.22. Analysis of CAUSb applying before AFFb with unergative attention verb in (7-43)

<table>
<thead>
<tr>
<th></th>
<th>INPUT:</th>
<th></th>
<th>CAUSb:</th>
<th></th>
<th>AFFb:</th>
<th></th>
<th>OUTPUT:</th>
<th></th>
<th>DATA:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><em>wawanggi</em></td>
<td>‘to listen’</td>
<td>&lt; [Ag]x &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(3FSg, Pro)  nguna-a-gawanggi-jga-na</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SUBJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3FSg/3M3Sg, AFF-listen, CAUS-PRES, PiL-children</td>
</tr>
<tr>
<td>2.</td>
<td><em>wawanggi-jga</em></td>
<td>‘w to CAUSEindir x to listen’</td>
<td>&lt; [Ag]w</td>
<td>[Go]z</td>
<td>&lt; [Ag]x &gt;</td>
<td></td>
<td>SUBJ</td>
<td>OBJ</td>
<td>OBLGOAL</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[Aff]z = POSS of highest ranked argument out of: [Go] &gt; [Pt/Th] &gt; [ ]</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td><em>a-gawanggi-jga</em></td>
<td>‘w to CAUSEindir x of z to listen’</td>
<td>&lt; [Ag]w</td>
<td>[Aff]z</td>
<td>[Go]z</td>
<td>&lt; [Ag]x &gt;</td>
<td>SUBJ</td>
<td>OBJ</td>
<td>OBLGOAL</td>
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<tr>
<td>4.</td>
<td><em>a-gawanggi-jga</em></td>
<td>‘w to CAUSEindir x of z to listen’</td>
<td>&lt; [Ag]w</td>
<td>[Aff]z</td>
<td>[Go]z</td>
<td>&lt; [Ag]x &gt;</td>
<td>SUBJ</td>
<td>OBJ</td>
<td>OBLGOAL</td>
</tr>
<tr>
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<tr>
<td>5.</td>
<td><em>ngiga</em></td>
<td>nguna-a-gawanggi-jga-na</td>
<td>[warra-mijburraayung]s</td>
<td>(3FSg, Pro)  nguna-a-gawanggi-jga-na</td>
<td>[warra-mijburraayung]s</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>M-man, HUM.SG, GEN</td>
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</tbody>
</table>

Although there are currently no documented examples of this interaction occurring with transitive or ditransitive inputs, we would expect this to be possible since most of them would meet the input requirements by licensing an agent. Therefore, I present potential analyses below using constructed...
examples with the verbs *yaalibu* 'x to wash y' and *marraga* 'x to take y from z'. To highlight the potential ambiguity between this rule interaction and the one in §7.4.1.4 (where the same rules can apply in the opposite order with the same input requirements), the same verbs are used for constructed examples in both sections.

**Figure 7.23. Analysis of CAUSb applying before AFFb with transitive verb (using unverified constructed example)**

1. **INPUT:** *yaalibu* 'x to wash y'
   
   ```
   < [Ag], [Th] >
   SUBJ OBJ
   ```

2. **CAUSb:** *jaalibi-jga* 'w to CAUSEindir x 'x to wash y''
   
   ```
   < [Ag]w [Go]x < [Ag], [Th] >
   SUBJ OBJ OBJ2
   ```

3. **AFFb:** *a-jaalibi-jga* 'w to CAUSEindir x of z 'x to wash y''
   
   ```
   [Aff]z = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]
   SUBJ OBJ OBLGOAL POSS
   OBLGOAL POSS
   ```

4. **OUTPUT:** *a-jaalibi-jga* 'w to CAUSEindir x of z 'x to wash y''
   
   ```
   < [Ag]w [Aff]z [Go]x < [Ag], [Th] >
   SUBJ OBJ OBLGOAL OBJ2
   ```

5. **DATA:** *nguna-a-jaalibi-jga-na* *wearra-landhurrg* [warra-landhurrg]
   
   3FSG/3MSG-AFF-wash-CAUS-PRES COLL.TOP-dog
   
   [ngarra-wirri-nyung]z
   
   F-child-HUM.SG
   
   ‘She w (3FSG) makes his z (3MSG) girlz (3FSG) wash the dogz (COLL)’

   (unverified constructed example)
### Figure 7.24. Analysis of CAUS\textsubscript{b} applying before AFF\textsubscript{b} with ditransitive verb (using unverified constructed example)

1. **INPUT:**
   - marraga
   - ‘x to take y from d’
   - < [Ag]\textsubscript{x} [So]\textsubscript{d} [Th]\textsubscript{y} >
   - SUBJ OBJ OBJ\textsubscript{2}

2. **CAUS\textsubscript{b}:**
   - marragi-jga
   - ‘w to CAUSE\textsubscript{indir} x’
   - ‘x to take y from d’
   - < [Ag]\textsubscript{w} [Go]\textsubscript{x} [Ag]\textsubscript{x} [So]\textsubscript{d} [Th]\textsubscript{y} >
   - SUBJ OBJ OBL\textsubscript{SOURCE} OBJ\textsubscript{2}

3. **AFF\textsubscript{b}:**
   - a-marragi-jga
   - ‘w to CAUSE\textsubscript{indir} x of z’
   - ‘x to take y from d’
   - < [Ag]\textsubscript{w} [Aff]\textsubscript{z} [Go]\textsubscript{x} < [Ag]\textsubscript{x} [So] [Th]\textsubscript{y} >
   - SUBJ OBJ OBL\textsubscript{GOAL} OBL\textsubscript{SOURCE} OBJ\textsubscript{2}

   [Aff\textsubscript{z} = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]]

4. **OUTPUT:**
   - a-marragi-jga
   - ‘w to CAUSE\textsubscript{indir} x of z’
   - ‘x to take y from d’
   - < [Ag]\textsubscript{w} [Aff]\textsubscript{z} [Go]\textsubscript{x} < [Ag]\textsubscript{x} [So] [Th]\textsubscript{y} >
   - SUBJ OBJ OBL\textsubscript{GOAL} OBL\textsubscript{SOURCE} OBJ\textsubscript{2}

   OBL\textsubscript{GOAL} POSS

5. **DATA:**
   - nguna-a-marragi-jga-na
   - [warra-landhurring-gala]\textsubscript{d}
   - 3FSG/3MSG\textsubscript{2},-AFF-take-CAUS-PRES
   - COLL:TOP-dog-ABL

   [ngarra-wirri-nyung]\textsubscript{x}
   - [marrya]\textsubscript{y}
   - F:child-HUM,Sg
   - food

   ‘She\textsubscript{w} (3FSG) makes his\textsubscript{z} (3MSG) girl\textsubscript{x} (3FSG) take the food\textsubscript{y} (RESID) from the dog\textsubscript{d} (COLL)’

   (unverified constructed example)

### 7.4.1.7. CAUSATIVE rule (c.) followed by AFFECTEE APPLICATIVE rule (b.)

The last interaction predicted between the CAUSATIVE derivation and the AFFECTEE APPLICATIVE is when CAUSATIVE rule (c.) applies before AFFECTEE APPLICATIVE rule (b.). Recall that the former applies to unergative motion verbs and introduces a nontematic comitative argument as primary object (see §6.3.1.2), while the latter applies to verbs that license an agent or experiencer and introduces an affectee as primary object (see §4.3.2.2). Therefore, the original input needs to be an unergative motion verb for this rule interaction to be possible.

Some data examples demonstrating the application of APPLICATIVE rule (b.) after CAUSATIVE rule (c.) are presented below, where the unergative motion
verbs *abi* ‘*x to jump*’ and *rabi* ‘*x to go/fall down*’ serve as inputs for (7-44) and (7-45) respectively:

(7-44)  
\[ \text{wangi-ig-abi-jga-yn ana-marrya waa-landhurr} \text{ anga-rruj} \]  
3FSg/COLL.\text{-AFF-jump-CAUS-PP RESID.TOP-food COLL.TOP-dog camp-LOC}  
‘She (3FSg) dropped the dog’s (COLL) food (RESID) off at camp/home (NEUT)’  
(lit. she jumped down with the dog’s food (e.g. from a car))  
(S2+S5 / E2 / 20140304)  

(7-45)  
\[ \text{nguna-a-dabi-jga-na ngiga na-walyi-nyung-jinyung} \]  
3FSg/3MSG.\text{-AFF-go.down-CAUS-PRES 3FSg.PRO M-man-HUM.Sg-GEN}  
ana-marrya  
RESID.TOP-food  
‘She (3FSg) takes the man’s (3MSG) food (RESID) down’  
(lit. she goes down with the man’s food)  
(S1 / E1 / 20140328)  

In the two examples above, there is only one agent: a THIRD-PERSON FEMALE SINGULAR referent that is encoded as subject and interpreted as taking something that is not crossreferenced by verb agreement (which in both cases is *marrya* ‘food (RESID)’) somewhere. This indicates that the CAUSATIVE root *-jga ~ -jgi* has resulted in the application of CAUSATIVE rule (c.), which has been triggered by the unergative motion input verb and has introduced *marrya* ‘food (RESID)’ as a comitative argument. With regard to the effect of the AFFECTEE APPLICATIVE, we can see that in both examples, the argument encoded as primary object, which is *landhurr* ‘dog (COLL)’ in (7-44) and *walyi-nyung* ‘man (3MSG)’ in (7-45), is interpreted as the alienable possessor of the referent *marrya* ‘food’. This is reinforced by the GENITIVE suffix *-jinyung* in (7-45). This not only shows that AFFECTEE APPLICATIVE rule (b.) has applied, but also that it is treating its input as transitive, which means that CAUSATIVE rule (c.) must have applied first.

An analysis demonstrating CAUSATIVE rule (c.) applying before AFFECTEE APPLICATIVE rule (b.) in (7-44) is presented below: 

319
7.4.2. AFFECTEE APPLICATIVE prefix and RECIPROCAL suffixal root

In relation to interactions between the AFFECTEE APPLICATIVE and RECIPROCAL derivations, Heath (1984, p. 405) states that “in the clearly analysable instances, Benef [the AFFECTEE APPLICATIVE prefix] constitutes the inner derivational layer vis-à-vis [the] Recip suffix”.\textsuperscript{107} That is, he argues that the AFFECTEE APPLICATIVE typically applies before the RECIPROCAL. My own more recent data supports this observation; however, as discussed in §7.2, I propose

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\textsuperscript{107} Examples listed by Heath (1984, p. 405) that are not clearly analysable include:

- \textit{a-ngu-burra-ynji} ‘x and z to put y down for each other’ (where the input is \textit{burra} ‘y to sit’), but the textual example he cites for this is translated as ‘they who proposed it for each other’ / ‘they who challenged each other to the fight’, which suggests this particular construction may be lexicalised;
- \textit{a-na-ynji} ‘x and y to face each other’ (where the input is \textit{na} ‘x to see y’), which also seems to involve some lexicalisation since there is no obvious expression of affectedness in the translation;
- \textit{a-danggal-ngarrayi-ynji} ‘avert gaze from each other’ (where the input is \textit{ranggal-ngarraya} ‘x to avert gaze’, literally ‘x to shield one’s forehead’), but in the textual example cited, the RECIPROCAL appears to be used in its rare reflexive function (i.e. ‘x to shield y (forehead)’ → ‘x to shield y of z’ → ‘x to shield y of self’).
that the reason why the RECIPROCAL cannot apply first follows from the lexical rules set out for these derivations in earlier chapters (i.e. the RECIPROCAL rule is unable to feed either AFFECTEE APPLICATIVE rule because they are unable to accommodate the RECIPROCAL’s creation of a ‘complex’ argument (i.e. ([Arg1] + [Arg2])).

In relation to the AFFECTEE APPLICATIVE applying before the RECIPROCAL, consider the data below, where (7-46) takes the unaccusative emotion verb *riyaldda* ‘x to become angry’ as its input, while (7-47) takes the general transitive verb *lharrma* ‘x to follow y’:

(7-46)  *wini-i-diylalhi-ynji-yn*  
3MDU↓-AFF-become.angry-RECIP-PP  
‘They (3MDU) got angry at each other’  
(Heath, 1980, p. 223)

(7-47)  *wura-a-jiga-lharrma-ynji-ini ana-ngura*  
3Pl↓-AFF-fire-follow-RECIP-PC  NEUT.TOP-fire  
‘They (3PL) were following each other’s fires (NEUT)’  
(Heath, 1980, p. 243)

Above, both verbs take the AFFECTEE APPLICATIVE prefix *aG- ∼ waaG- and the RECIPROCAL suffixal root -*ynji*, and in each case, this results in the AFFECTEE APPLICATIVE applying before the RECIPROCAL, albeit with different AFFECTEE APPLICATIVE rules triggered. In (7-46), AFFECTEE APPLICATIVE rule (a.) applies before the RECIPROCAL rule creating *a-diylalhi-ynji* ‘x and d to become angry at each other’, and this is possible with all verbs that can undergo AFFECTEE APPLICATIVE rule (a.) (i.e. intransitive emotion, speech, attention and transfer verbs, as well as transitive transfer verbs) (see §7.4.2.1). In (7-47), on the other hand, it is AFFECTEE APPLICATIVE rule (b.) that applies before the RECIPROCAL rule, resulting in *a-dharrma-ynji* ‘x and y to follow something of each other’s’, and this rule interaction is available to all verbs licensing an agent except for those that would trigger AFFECTEE APPLICATIVE rule (a.) as described above (see §7.4.2.2).
Below, Table 7.6 provides a summary of the predicted interactions between the AFFECTEE APPLICATIVE and RECIPROCAL derivations in Wubuy.

Table 7.6. Predicted rule interactions between AFFECTEE APPLICATIVE prefix and RECIPROCAL suffixal root

<table>
<thead>
<tr>
<th>Applied 1st</th>
<th>AFFa</th>
<th>AFFb</th>
<th>RECIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFFa</td>
<td>N/A</td>
<td>P&amp;D all verbs that can undergo AFFa.</td>
<td></td>
</tr>
<tr>
<td>AFFb</td>
<td>P&amp;D all verbs with agent or experiencer that cannot undergo AFFa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RECIP</td>
<td>N/P</td>
<td>N/P</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Key: N/A – Not Applicable  
P&D – Possible and documented  
N/P – Not Possible

Above, 2 out of 4 (or 50%) potential valency-changing rule interactions are predicted as being possible and have been empirically confirmed, and neither of these demonstrate the AFFECTEE APPLICATIVE and RECIPROCAL derivations applying in different orders. Furthermore, there is no overlap in the types of verbs that can undergo each interaction, so ambiguities are unlikely to arise.

The following subsections discuss and analyse the valency-changing interactions summarised above.

7.4.2.1. AFFECTEE APPLICATIVE rule (a.) followed by the RECIPROCAL rule

As previously mentioned, one of the predicted interactions between the AFFECTEE APPLICATIVE and RECIPROCAL derivations is when the RECIPROCAL rule applies after AFFECTEE APPLICATIVE rule (a.), which introduces a goal or source as primary object with certain semantic subclasses of (mostly intransitive) verbs (see §4.3.2.1). Since the RECIPROCAL rule only requires its input to license two arguments that would normally be realised as subject and primary object, this means that the original input verb for this rule interaction simply needs to meet the input requirements of AFFECTEE
APPLICATIVE rule (a.), which means that it should be an intransitive emotion, speech, or attention verb, or an intransitive or transitive transfer verb.

I have identified a number of examples of this rule interaction in the Wubuy corpus, some of which are presented below, where the unaccusative emotion verb *riyalda* ‘to be/become angry’ is the input in (7-48), the unergative speech verb *ada* ‘to shout’ is the input in (7-49), the unergative transfer verb *amaja* ‘to thieve’ is the input in (7-50), and the transitive transfer verb *lharrga* ‘to send’ is the input in (7-51):

(7-48)  \[\text{wini-i-diyalghi-ynji-yn} \]
\[3\text{MDU-AFF-become.angry-RECIP-PP} \]
‘They (3MDU) got angry at each other’
(Heath, 1980, p. 223)

(7-49)  \[\text{“nguu-yaa-rrii”, wuu-yama-a, wuu-yama-a,} \]
\[1\text{INPLA-go-PRES} \]
\[3\text{PLA-say-PC, 3PLA-say-PC} \]
\[\text{wuu-lhawu-ngaynbandi-ynji-ini-yinyung, anubani-yung,} \]
\[3\text{PLA-word-want-RECIP-PC-REL} \]
\[\text{that.NEUT.ANAPH-ABS} \]
\[\text{wurra-ag-adi-ynji-ini-yinyung} \]
\[3\text{PLA-AFF-shout-RECIP-PC-REL} \]
‘“We (1INPl) are going [for a ritual]”, they (3Pl) said, they (3Pl) who wanted each other’s words (NEUT), they (3Pl) who shouted to each other’
(Heath, 1980, p. 244)

(7-50)  \[\text{na-walji-nyung marri na-wirri-nyung wini-ig-amaji-ynji-yni} \]
\[M\text{-man-HUM.SG and M-child-HUM.SG} \]
\[3\text{MDU-AFF-thieve-RECIP-PC} \]
‘The man and the boy (3MDU) were thieving from each other’
(S2 / E3 / 20140303)

(7-51)  \[\text{wurra-a-dharrga-ynji-ynji-yni} \]
\[\text{ana-lhaawu} \]
\[3\text{PLA-AFF-send-RDP-RECIP-PC} \]
\[\text{NEUT.TOP-words} \]
‘They (3Pl) were sending the message (NEUT) to each other’
(Heath, 1980, p. 246)

In all the examples above, we can tell that it is AFFECTEE APPLICATIVE rule (a.) that has applied and not AFFECTEE APPLICATIVE rule (b.) because it is a goal or source that is introduced by the AFFECTEE APPLICATIVE, not a beneficiary or alienable external possessor. Furthermore, we know that AFFECTEE APPLICATIVE rule (a.) has applied before the RECIPROCAL rule.
because each derived verb has an intransitive verb agreement prefix. If AFFECTEE APPLICATIVE rule (a.) had applied last, we would expect the verb agreement prefix to be transitive, since the AFFECTEE APPLICATIVE always increases valency.

Analyses demonstrating AFFECTEE APPLICATIVE rule (a.) applying before the RECIPROCAL rule in examples (7-48), (7-49), (7-50) and (7-51) are presented in Figure 7.26, Figure 7.27, Figure 7.28 and Figure 7.29 respectively. These analyses show that with verbs that can undergo AFFECTEE APPLICATIVE rule (a.), this rule can apply first and introduce either a goal or source as primary object. In Figure 7.29, this results in the theme argument being reassigned to secondary object. Following this, the RECIPROCAL rule can apply, which creates reciprocal semantics by double linking the arguments assigned to subject and primary object.

**Figure 7.26. Analysis of AFFa applying before RECIP with unaccusative emotion verb in (7-48)**

<table>
<thead>
<tr>
<th>1. INPUT:</th>
<th>riyaldha</th>
<th>‘y to be/become angry’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; [Ex]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
<tr>
<td>2. AFFa:</td>
<td>a-diyaldha</td>
<td>‘y to be/become angry toward d’</td>
</tr>
<tr>
<td></td>
<td>&lt; [Ex], [Go]d &gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ OBJ</td>
<td></td>
</tr>
<tr>
<td>3. RECIP:</td>
<td>a-diyaldhi-ynji</td>
<td>‘y and d to be/become angry toward each other’</td>
</tr>
<tr>
<td></td>
<td>&lt; [[Ex]+ [Go]d] &gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
<tr>
<td>4. OUTPUT:</td>
<td>a-diyaldhi-ynji</td>
<td>‘y and d to be/become angry toward each other’</td>
</tr>
<tr>
<td></td>
<td>&lt; [[Ex]+ [Go]d] &gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
<tr>
<td>5. DATA:</td>
<td>wini-i-diyaldhi-ynji-yn</td>
<td>3MDU,v-AFF-become.angry-RECIP-PP</td>
</tr>
<tr>
<td></td>
<td>‘They given (3MDU) got angry at each other’</td>
<td></td>
</tr>
</tbody>
</table>
Figure 7.27. Analysis of AFF<sub>a</sub> applying before RECIP with unergative speech verb in (7-49)

1. **INPUT:**  
   
   \[
   \text{ag\-da} \quad \text{`x to shout'} \quad < [\text{Ag}]_x > \quad \text{SUBJ}
   \]

2. **AFF<sub>a</sub>:**  
   
   \[
   \text{ag\-\text{ada}} \quad \text{`x to shout at d'} \quad < [\text{Ag}]_x \quad [\text{Go}]_d > \quad \text{SUBJ} \quad \text{OBJ}
   \]

3. **RECIP:**  
   
   \[
   \text{ag\-\text{adi\-ynji}} \quad \text{`x and d to shout at each other'} \quad < [\text{Ag}]_x \quad [\text{Go}]_d > \quad \text{SUBJ}
   \]

4. **OUTPUT:**  
   
   \[
   \text{ag\-\text{adi\-ynji}} \quad \text{`x and d to shout at each other'} \quad < [\text{Ag}]_x \quad [\text{Go}]_d > \quad \text{SUBJ}
   \]

5. **DATA:**  
   
   \[
   \ldots \text{wurra-ag-adi\-ynji\-ini\-yinyung} \quad \text{3Pl\text{-}AFF\text{-}shout-RECIP\text{-}PC-REL} \\
   \ldots \text{\text{they}_x\text{d} (3Pl) who shouted at each other'}
   \]

---

Figure 7.28. Analysis of AFF<sub>a</sub> applying before RECIP with unergative transfer verb in (7-50)

1. **INPUT:**  
   
   \[
   \text{amaja} \quad \text{`x to thieve'} \quad < [\text{Ag}]_x > \quad \text{SUBJ}
   \]

2. **AFF<sub>a</sub>:**  
   
   \[
   \text{ag\-amaja} \quad \text{`x to thieve from d'} \quad < [\text{Ag}]_x \quad [\text{So}]_d > \quad \text{SUBJ} \quad \text{OBJ}
   \]

3. **RECIP:**  
   
   \[
   \text{ag\-\text{amaji\-ynji}} \quad \text{`x and d to thieve from each other'} \quad < [\text{Ag}]_x \quad [\text{So}]_d > \quad \text{SUBJ}
   \]

4. **OUTPUT:**  
   
   \[
   \text{ag\-\text{amaji\-ynji}} \quad \text{`x and d to thieve from each other'} \quad < [\text{Ag}]_x \quad [\text{So}]_d > \quad \text{SUBJ}
   \]

5. **DATA:**  
   
   \[
   \ldots [{\text{\text{na\-walyi\-nyung}}} \quad \text{marri} \quad {\text{\text{na\-wirri\-nyung}}}]{x\text{d}} \quad \text{M\text{-}man\text{-}HUM\text{.}SG} \quad \text{and} \quad \text{M\text{-}child\text{-}HUM\text{.}SG} \\
   \text{wini\-ig\-amaji\-ynji\-ini} \quad \text{3MDU\text{-}AFF\text{-}thieve-RECIP\text{-}PC} \\
   \ldots \text{\text{the man and the boy}_x\text{d} (3MDU) were thieving from each other'}
   \]
7.4.2.2. **AFFECTEE APPLICATIVE rule (b.) followed by the RECIPROCAL rule**

The only other valency-changing interaction predicted as being possible for the AFFECTEE APPLICATIVE and RECIPROCAL derivations is when the RECIPROCAL rule applies after AFFECTEE APPLICATIVE rule (b.), the latter of which applies to verbs that license at least an agent or experiencer and introduces an affectee as primary object (see §4.3.2.2). Similar to the previous section, the original input verb simply needs to meet the input requirements of AFFECTEE APPLICATIVE rule (b.) for this rule interaction to be possible. This would then include most unergative, transitive and ditransitive verbs, as well as certain verbs that license an experiencer (although it would not include verb types that normally undergo AFFECTEE APPLICATIVE rule (a.); see the previous section for how these verbs interact with the RECIPROCAL).

I have so far identified two instances of AFFECTEE APPLICATIVE rule (b.) applying before the RECIPROCAL rule. These are presented below, where the general transitive verbs *lharrma* ‘x to follow y’ and *wanaga* ‘x to hold y’ are the input verbs in (7-52) and (7-53) respectively:
In each example above, we can tell that it is AFFECTEE APPLICATIVE rule (b.) that has applied (rather than AFFECTEE APPLICATIVE rule (a.)) because of the possessive relation that is introduced. As in the previous section, we can also tell that the RECIPROCAL rule has applied last because of the intransitive verb agreement prefix used in each example. That is, as the AFFECTEE APPLICATIVE always increases valency, a transitive agreement prefix would be used if it had applied after the RECIPROCAL.

An analysis of the interaction between AFFECTEE APPLICATIVE rule (b.) and the RECIPROCAL rule in the examples above are presented in Figure 7.30 and Figure 7.31 below. Here, the general transitive verbs first undergo AFFECTEE APPLICATIVE rule (b.), which introduces an affectee as primary object, resulting in the theme argument being reassigned to secondary object. Then, as there is no oblique goal function present, the specification of “[Aff]z = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]” identifies the affectee as the possessor of the theme. This is followed by the application of the RECIPROCAL rule, which double links the agent and affectee, creating a sense of reciprocity and resulting in the joint realisation of these arguments as subject.
Figure 7.30. Analysis of AFF<sub>b</sub> applying before RECIP with general transitive verb in (7-52)

1. INPUT: *lharrma* 'x to follow y'
   
   `< [Ag]<sub>x</sub> [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ >`

2. AFF<sub>b</sub>: *a-dharrma* 'x to follow y of z'
   
   `< [Ag]<sub>x</sub> [Aff]<sub>z</sub> [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ OBJ> POSS`

   `[Aff]<sub>z</sub> = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]`

3. RECIP: *a-dharrma-ynji* 'x and z to follow y of each other'
   
   `< [(Ag)<sub>x</sub> + [Aff]<sub>z</sub>] [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ OBJ> POSS`

4. OUTPUT: *a-dharrma-ynji* 'x and z to follow y of each other'
   
   `< [(Ag)<sub>x</sub> + [Aff]<sub>z</sub>] [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ OBJ> POSS`

5. DATA: *wurra-a-jiga-lharrma-ynji-ini* [ana-ngura]<sub>y</sub>

   3PL<sub>U</sub>-AFF-fire-follow-RECIP-NEUT

   'They<sub>x+z</sub> (3PL) were following each other’s fires, (NEUT)’

Figure 7.31. Analysis of AFF<sub>b</sub> applying before RECIP with general transitive verb in (7-53)

1. INPUT: *waŋa* 'x to hold y'
   
   `< [Ag]<sub>x</sub> [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ >`

2. AFF<sub>b</sub>: *a-baŋa* 'x to hold y of z'
   
   `< [Ag]<sub>x</sub> [Aff]<sub>z</sub> [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ OBJ> POSS`

   `[Aff]<sub>z</sub> = POSS of highest ranked argument out of: [Go] > [Pt/Th] > [ ]`

3. RECIP: *a-baŋa-ynji* 'x and z to hold y of each other'
   
   `< [(Ag)<sub>x</sub> + [Aff]<sub>z</sub>] [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ OBJ> POSS`

4. OUTPUT: *a-baŋa-ynji* 'x and z to hold y of each other'
   
   `< [(Ag)<sub>x</sub> + [Aff]<sub>z</sub>] [Th]<sub>y</sub> >`<br>
   `< SUBJ OBJ OBJ> POSS`

5. DATA: *wingi-i-baŋa-ynji-ina*

   3FDU<sub>U</sub>-AFF-hold-RECIP-PRES

   'They<sub>x+z</sub> (3FDU) are holding something, of each other’s’
As noted earlier, this rule interaction should also be possible with most unergative and ditransitive verbs, as well as certain verbs that license an experiencer. Since I do not currently have any documented examples with these as inputs, I present potential analyses below using constructed examples with the unergative verb *yaalibu* ‘x to cough’ in Figure 7.32, the irregular ditransitive verb *yi ~ wu* ‘x to give y to d’ in Figure 7.33, and the transitive emotion verb *margira* ‘x to feel jealous toward d’ in Figure 7.34. The way in which AFFECTEE APPLICATIVE rule (b.) and the RECIPROCAL rule interact with these verbs should be similar to what we saw above, except that:
in Figure 7.32, the affectee introduced with the intransitive input is interpreted as a beneficiary, rather than an external possessor, and in Figure 7.33 and Figure 7.34, the goal argument of the original input are reassigned to oblique functions after AFFECTEE APPLICATIVE rule (b.) is applied.

**Figure 7.32. Analysis of AFF_b applying before RECIP with unergative verb (using unverified constructed example)**

1. **INPUT:**  
   *yaalibu* ‘x to cough’  
   \[< [Ag]\_x > \]  
   SUBJ

2. **AFF_b:**  
   *a-jaalibu* ‘x to cough for z’  
   \[< [Ag]\_x [Aff]\_z > \]  
   SUBJ OBJ

3. **RECIP:**  
   *a-jaalibi-ynji* ‘x and z to cough for each other’  
   \[< [[Ag]\_x + [Aff]\_z] > \]  
   SUBJ

4. **OUTPUT:**  
   *a-jaalibi-ynji* ‘x and z to cough for each other’  
   \[< [[Ag]\_x + [Aff]\_z] > \]  
   SUBJ

5. **DATA:**  
   *wingi-i-jaalibi-ynji-ina* [ngarra-doctor-waa]_x+z  
   3FDU-AFF-cough-RECIP-PRES F:doctor(English)-DU  
   ‘The two doctors, (3FDU) cough for each other’ (e.g. they are both sick and trying to diagnose each other’s illnesses)  
   (unverified constructed example)
### Figure 7.33. Analysis of AFF\textsubscript{b} applying before RECIP with ditransitive verb (using unverified constructed example)

1. **INPUT**: \textit{wu} 'x to give y to d'  
   \[< \text{Ag}_x \big| \text{Go}_d \big| \text{Th}, > \]
   
   SUBJ OBJ OBJ\textsuperscript{2}  

2. **AFF\textsubscript{b}:** \textit{a-gu} 'x to give y to d of z'  
   \[< \text{Ag}_x \big| \text{Aff}_z \big| \text{Go}_d \big| \text{Th}, > \]
   
   SUBJ OBJ OBL\textsubscript{Goal} OBJ\textsubscript{2}  
   OBL\textsubscript{Goal} POSS  
   \[\text{Aff}_z = \text{POSS of highest ranked argument out of: } \text{Go} > \text{Pt/Th} > \{ \} \]

3. **RECIP:** \textit{a-gi-ynji} 'x to give y to d of each other'  
   \[< \text{Ag}_x \big| \text{Aff}_z \big| \text{Go}_d \big| \text{Th}, > \]
   
   SUBJ OBL\textsubscript{Goal} OBJ\textsubscript{2}  
   OBL\textsubscript{Goal} POSS  

4. **OUTPUT:** \textit{a-gi-ynji} 'x to give y to d of each other'  
   \[< \text{Ag}_x \big| \text{Aff}_z \big| \text{Go}_d \big| \text{Th}, > \]
   
   SUBJ OBL\textsubscript{Goal} OBJ\textsubscript{2}  
   OBL\textsubscript{Goal} POSS  

5. **DATA:**  
   [\textit{ana-marrya}]\textsubscript{y} wingi-i-gi-ynji-yn  
   [\textit{ngarra-manum-baa}]\textsubscript{z+2}  
   [\textit{RESID.TOP-food 3FDU/3MSG3-AFF-give-RECIP-PP F-woman-DU}  
   [\textit{warra-mijburraayung-guy}]\textsubscript{d}  
   PL-children-DAT  
   
   'Two women\textsubscript{z+2} (3FDU) were giving food\textsubscript{y} (NEUT) to each other’s children\textsubscript{d} (3Pl)'  

   (unverified constructed example)
### Figure 7.34. Analysis of AFF\textsubscript{b} applying before RECIP with transitive emotion verb (using unverified constructed example)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| 1. INPUT: | margira  
|          | 'x to feel jealous toward \(d\)'  |
|          | < [Ex]\(x\) [Go]\(d\)   |
|          | \(\text{SUBJ}\) \(\text{OBJ}\)  |
| 2. AFF\textsubscript{b}: | a-margira  
|          | 'x to feel jealous toward \(d\) of \(z\)'  |
|          | < [Ex]\(x\) [Aff]\(z\) [Go]\(d\)   |
|          | \(\text{SUBJ}\) \(\text{OBJ}\) \(\text{OBL}_{\text{Goal}}\)  |
|          | \(\text{OBL}_{\text{Goal}}\text{POSS}\)  |
|          | \([\text{Aff}]_z = \text{POSS of highest ranked argument out of:}\)  |
|          | \([\text{Go}] > [\text{Pt}/\text{Th}] > [\ ]\)   |
| 3. RECIP: | a-margiri-ynji  
|          | 'x and \(z\) to feel jealous toward \(d\) of each other'  |
|          | < [[Ex]\(x\) + [Aff]\(z\)] [Go]\(d\)   |
|          | \(\text{SUBJ}\) \(\text{OBL}_{\text{Goal}}\)  |
|          | \(\text{OBL}_{\text{Goal}}\text{POSS}\)  |
| 4. OUTPUT: | a-margiri-ynji  
|          | 'x and \(z\) to feel jealous toward \(d\) of each other'  |
|          | < [[Ex]\(x\) + [Aff]\(z\)] [Go]\(d\)   |
|          | \(\text{SUBJ}\) \(\text{OBJ}\)\(2\)  |
|          | \(\text{OBL}_{\text{Goal}}\text{POSS}\)  |
| 5. DATA: | wingi-i-margiri-ynji-inanna  
|          | [warra-mijburraayung]\(a\)  |
|          | 3FDU\(x\)-AFF-feel-jealous-RECIP-PRES PL-child\(ren\)  |
|          | 'They\((x+z)\) (3FDU) are jealous of each other’s children\(d\)'  |
|          | (unverified constructed example)  |

### 7.4.3. Comitative prefix and causative suffixal root

The lexical rules and analyses presented for the COMITATIVE and CAUSATIVE derivations in earlier chapters allow them to not only co-occur but to also apply in either order. As it turns out, this is exactly what we find happening in my extended corpus, which is particularly interesting since Heath (1984, p. 405) finds no examples of these two derivations interacting in his own data. Beginning with the COMITATIVE applying before the CAUSATIVE, consider the examples below, where (7-54) uses the unaccusative emotion input verb *ambula* ‘x to be ashamed’ and (7-55) uses the unergative motion input verb *ngama* ‘x to swim’:

(7-54)  
\[\text{n}g\text{una-aynji-ambuli-jga-yn} \]
3FSG/3MSG\(x\)-COM-be-ashamed-CAUS-PP RESID/TOP-things  
‘She (3FSG) made him (3MSG) feel ashamed while he was carrying things (3MSG)’  
(S3+S4 / E2 / 20140304)
Both verbs in the above examples take the COMITATIVE prefix *aynji-* and the CAUSATIVE suffixal root *-jga* ~ *-jgi*. In (7-54), COMITATIVE rule (a.) applies before CAUSATIVE rule (a.), resulting in *aynji-ambuli-jga* ‘x to cause *dir* *y* to be ashamed while *y* carries *k’*, and this rule interaction is predicted as a possibility for all unaccusative verbs (see §7.4.3.1). In comparison to this, COMITATIVE rule (a.) is instead followed by CAUSATIVE rule (b.) in (7-55), creating *aynji-ngami-jga* ‘*w* to CAUSE *indir* *x* to swim while *x* carries *k’*, and this is a restricted option available to all unergative verbs (see §7.4.3.2).

There are two other undocumented rule interactions that are predicted for when the COMITATIVE derivation applies before the CAUSATIVE. The first is when COMITATIVE rule (b.) applies before CAUSATIVE rule (a.), which should be available to transitive emotion verbs (see §7.4.3.3). The second is when COMITATIVE rule (b.) applies before CAUSATIVE rule (b.), which should be a restricted option for all transitive verbs (see §7.4.3.3).

Moving on to the CAUSATIVE applying before the COMITATIVE, consider the data below, where the unergative motion verb *aagi* ‘*x* to go back’ and the unaccusative verb *rabi* ‘*y* to fall down’ are the inputs for (7-56) and (7-57) respectively:

(7-56)  
\[ \text{nguna-aynji-aagi-jgi-yn} \quad \text{(warra-gujuju)} \]  
\[ \text{3FSG/3MSG.\text{-Com-go.back-CAUS-PP}} \quad \text{PL-baby} \]  
‘She (3FSG) took him (3MSG) back while he was carrying a backpack (VEG)’  
(S3+S4 / C: (A-7) / 20140304)

(7-57)  
\[ \text{nguna-aynji-rabi-jga-na} \]  
\[ \text{3FSG/3MSG.\text{-Com-fall.down-CAUS-PP}} \]  
‘She (3FSG) takes something he (3FSG) is carrying down’  
(lit. she makes something that he is carrying fall/come down)  
(e.g. ‘he is carrying something on his shoulder, and she takes it down’)  
(S1 / E1 / 20140404)
As before, both verbs take the COMITATIVE prefix *aynji*- and the CAUSATIVE suffixal root *jga ~ jgi*, but this time, the latter applies before the former. In (7-56), CAUSATIVE rule (c) applies before COMITATIVE rule (a.), which derives *aynji-aagi-jgi ‘x to go back with j while j carries k’*, and this interaction is available to unergative motion verbs (see §7.4.3.3). In (7-57), on the other hand, CAUSATIVE rule (a.) applies before COMITATIVE rule (b.), creating *aynji-rabi-jga ‘x to cause_{dir} y to fall/come down while k carries y’*, and this interaction is predicted for all unaccusative verbs (see §7.4.3.3).

Table 7.7 below summarises the predicted interactions between the COMITATIVE and CAUSATIVE derivations in Wubuy, based on the lexical rules and analyses presented in previous chapters:

<table>
<thead>
<tr>
<th></th>
<th>COM&lt;sub&gt;a&lt;/sub&gt;</th>
<th>COM&lt;sub&gt;b&lt;/sub&gt;</th>
<th>CAUS&lt;sub&gt;a&lt;/sub&gt;</th>
<th>CAUS&lt;sub&gt;b&lt;/sub&gt;</th>
<th>CAUS&lt;sub&gt;c&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COM&lt;sub&gt;a&lt;/sub&gt;</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>P&amp;D all unacc.</td>
<td>P&amp;D* all unerg.</td>
<td>N/P</td>
</tr>
<tr>
<td><strong>COM&lt;sub&gt;b&lt;/sub&gt;</strong></td>
<td>N/A</td>
<td>P</td>
<td>P* all trans.</td>
<td>N/P</td>
<td></td>
</tr>
<tr>
<td><strong>CAUS&lt;sub&gt;a&lt;/sub&gt;</strong></td>
<td>N/P</td>
<td>P&amp;D all unacc. except those with [Ex]</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CAUS&lt;sub&gt;b&lt;/sub&gt;</strong></td>
<td>N/P</td>
<td>N/P</td>
<td>N/P</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CAUS&lt;sub&gt;c&lt;/sub&gt;</strong></td>
<td>P&amp;D unerg. motion</td>
<td>N/P</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key:**

- N/A – Not Applicable
- N/P – Not Possible
- P – Possible
- P&D – Possible and documented
- * – Involves an uncommon/restricted rule

Above, 6 out of 12 (or 50%) of potential rule interactions are predicted as being possible. However, only unergative motion verbs and certain unaccusative verbs are predicted as allowing different application orders for the
COMITATIVE and CAUSATIVE derivations. Furthermore, one of the application orders available to unergative motion verbs involves an uncommon/restricted rule, which is when COMITATIVE rule (b.) applies before CAUSATIVE rule (b.). Therefore, the only type of verb we would expect to regularly allow different application orders is unaccusative verbs (except for those licensing an experiencer).

The following subsections discuss and analyse the interactions between the COMITATIVE and CAUSATIVE derivations summarised above.\(^{108}\)

### 7.4.3.1. COMITATIVE rule (a.) followed by CAUSATIVE rule (a.)

Beginning with instances of the COMITATIVE derivation applying before the CAUSATIVE, the first of these is when COMITATIVE rule (a.) occurs before CAUSATIVE rule (a.). Recall that COMITATIVE rule (a.) introduces a nonthematic comitative argument in an oblique function with verbs that license only one (underspecified) thematic argument (see §6.3.1.1), while CAUSATIVE rule (a.) expresses direct causation by introducing a causal agent as subject with agentless verbs (see §3.3.1.1). Therefore, in order to meet the requirements of both rules, the input verb simply needs to be unaccusative.

As neither of these lexical rules is restricted, we would expect this interaction to be somewhat productive, and indeed, I have found several examples of it occurring in my data. These are presented below, where (7-58) takes the unaccusative emotion verb *ambula* ‘y to be ashamed’, and (7-59) and (7-60)

---

\(^{108}\) In relation to rule interactions that are not predicated:

- **CAUS**: cannot apply after either of the COMITATIVE rules because it cannot accommodate a comitative argument (and there is currently no evidence that this is necessary);
- **COM\(_a\)** cannot apply after CAUS\(_a\) or CAUS\(_b\) because it requires an input that has only one thematic argument;
- **COM\(_b\)** cannot apply after CAUS\(_b\) because it cannot accommodate the complex predicate created by CAUS\(_b\) (i.e. the input argument-structure of COM\(_b\) rule does contain the necessary ellipses to allow this);
- **COM\(_b\)** cannot apply after CAUS\(_c\) because it requires its input to license two thematic arguments, but the output of CAUS\(_c\) licenses only one.
take the general unaccusative verbs *rabi* 'y to fall' and *ngambi* 'y to become immersed in water' respectively:

(7-58)  
\[ \text{nguna-aynji-ambuli-jga-yn} \quad \text{ana-arra} \]  
\[ 3\text{FSG}/3\text{MSG}-\text{COM-be.ashamed-CAUS-PP} \quad \text{RESID.TOP-things} \]  
‘She (3FSG) made him (3MSG) feel ashamed while he was carrying things (RESID)’  
\[ (S3+S4 / E2 / 20140304) \]

(7-59)  
\[ \text{nguna-aynji-rabi-jga-yn} \]  
\[ 3\text{FSG}/3\text{MSG}-\text{COM-fall.down-CAUS-PP} \]  
‘She (3FSG) makes him (3MSG) fall down while he is carrying something’  
\[ (S2+S5 / E1 / 20140304) \]

(7-60)  
\[ \text{nguna-aynji-ngambi-jga-a} \]  
\[ 3\text{FSG}/3\text{MSG}-\text{COM-become.immersed.in.water-CAUS-PC} \]  
‘She (3FSG) bathes him (3MSG) / pours water over him while he is carrying something’  
\[ (\text{lit. she makes him immersed in water}) \]  
\[ (S2+S5 / E1 / 20140304) \]

Above, the unaccusative input verb in each example takes both the COMITATIVE prefix *aynji-* and the CAUSATIVE suffixal root *jga ~ jgi*. However, we know that COMITATIVE rule (a.) occurs before CAUSATIVE rule (a.) because the comitative argument introduced by the former occurs as an oblique, not as primary object. If CAUSATIVE rule (a.) had applied first, then the input of the COMITATIVE derivation would have been transitive and triggered COMITATIVE rule (b.), which introduces a comitative argument as primary object (as can be seen in §7.4.3.3).

Below, Figure 7.35 and Figure 7.36 present analyses of COMITATIVE rule (a.) applying before CAUSATIVE rule (a.) in examples (7-58) and (7-59) respectively. Here, it can be seen that each unaccusative verb can first undergo COMITATIVE rule (a.), which introduces a comitative referent as an oblique argument that is understood as being carried by the experiencer (as in (7-58)) or patient (as in (7-59)). CAUSATIVE rule (a.) can then apply, which creates a sense of direct causation by introducing a causal agent as subject. This results in the experiencer or patient being reassigned to primary object.
Figure 7.35. Analysis of COMₐ applying before CAUSₐ with unaccusative emotion verb in (7-58)

<table>
<thead>
<tr>
<th></th>
<th>INPUT:</th>
<th>'y to be ashamed'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ambula</td>
<td>[Ex] &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>COMₐ:</th>
<th>'y to be ashamed carrying k'</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>aynji-ambula</td>
<td>[Ex] [ ] k &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ, OBLCom</td>
</tr>
</tbody>
</table>

[ ] k is carried by the next highest argument

<table>
<thead>
<tr>
<th></th>
<th>CAUSₐ:</th>
<th>'x to cause y to be ashamed while y carries k'</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>aynji-ambuli-jga</td>
<td>[Ag] [Ex] [ ] k &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ, OBLCom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>OUTPUT:</th>
<th>'x to cause y to be ashamed while y carries k'</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>aynji-ambuli-jga</td>
<td>[Ag] [Ex] [ ] k &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ, OBLCom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>DATA:</th>
<th>nguna-aynji-ambuli-jga-yn</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>ano-arra</td>
<td>3FSG/3MSGₐ-COM-be.ashamed-CAUS-PP</td>
</tr>
</tbody>
</table>

'Sheₓ (3FSG) made himₓ (3MSG) feel ashamed while heᵧ was carrying thingsₓ (RESID)'

Figure 7.36. Analysis of COMₐ applying before CAUSₐ with general unaccusative verb in (7-59)

<table>
<thead>
<tr>
<th></th>
<th>INPUT:</th>
<th>'y to fall down'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>rabi</td>
<td>[Pt] &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>COMₐ:</th>
<th>'y to fall down carrying k'</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>aynji-rabi</td>
<td>[Pt] [ ] k &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ, OBLCom</td>
</tr>
</tbody>
</table>

[ ] k is carried by the next highest argument

<table>
<thead>
<tr>
<th></th>
<th>CAUSₐ:</th>
<th>'x to cause y to fall down while y carries k'</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>aynji-rabi-jga</td>
<td>[Ag] [Pt] [ ] k &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ, OBLCom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>OUTPUT:</th>
<th>'x to cause y to fall down while y carries k'</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>aynji-rabi-jga</td>
<td>[Ag] [Pt] [ ] k &gt;</td>
</tr>
<tr>
<td></td>
<td>SUBJ</td>
<td>OBJ, OBLCom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>DATA:</th>
<th>nguna-aynji-rabi-jga-yn</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>ano-arra</td>
<td>3FSG/3MSGₐ-COM-fall.down-CAUS-PP</td>
</tr>
</tbody>
</table>

'Sheₓ (3FSG) makes himₓ (3MSG) fall down while heᵧ is carrying somethingₓ'

336
7.4.3.2. Comitative rule (a.) followed by causative rule (b.)

The second predicted interaction where the comitative derivation applies before the causative is when comitative rule (a.) is followed by causative rule (b.). As summarised in the previous section, comitative rule (a.) applies to verbs that license only one (underspecified) thematic argument and introduces a nonthematic comitative argument in an oblique function (see §6.3.1.1). Causative rule (b.), on the other hand, applies to verbs that license at least an agent and introduces a sense of indirect causation through the creation of a complex predicate (see §3.3.1.2). This means that for this rule interaction to occur, the original input verb needs to be unergative.

Due to the presence of causative rule (b.), we would expect this rule interaction to be somewhat restricted. However, I have managed to identify several examples of this in my own data. A few of these are presented below, where the unergative motion verbs ngama ‘x to swim’, abi ‘x to jump’ and aagi ‘x to go back’ serve as the inputs for (7-61), (7-62) and (7-63) respectively:

(7-61) *nguna-aynji-ngami-jga-yn*  
3FSg/3MSg-,COM-swim-CAUS-PRES  
Pl-baby  
‘She (3FSg) tells him (3MSg) to swim with [the babies (3PL)]’  
(i.e. to hold the babies while swimming)  
(S1/E1/20140404)

(7-62) *nguna-aynji-ibi-jga-yn*  
3FSg/3MSg-,COM-jump-CAUS-PP  
‘She (3FSg) tells him (3MSg) to jump (down, e.g. from car) with something’  
(i.e. he is holding something)  
(S1/E1/20140324)

(7-63) *nguna-aynji-aagi-jgi-yn*  
3FSg/3MSg-,COM-go.back-CAUS-PP  
‘She (3FSg) tells him (3MSg) to go back with something’  
(i.e. he is holding something)  
(S2+S5/E1/20140304)

In each of the examples above, the comitative prefix *aynji-* and the causative suffixal root *-jga ~ -jgi* both attach to the unergative input verb. However, similarly to what we saw in the previous section, we can tell that
COMITATIVE rule (a.) applies before CAUSATIVE rule (b.) because the comitative argument (which is gujuju ‘baby’ in (7-61) and unspecified in (7-62) and (7-63)) does not receive object verb agreement. That is, if the COMITATIVE derivation had applied last, it would have applied to a transitive input and COMITATIVE rule (b.) would have introduced the comitative argument as primary object (as can be seen in §7.4.3.3).

An analysis of the interaction between COMITATIVE rule (a.) and CAUSATIVE rule (b.) in (7-61) is presented below. Here, COMITATIVE rule (a.) first introduces a comitative argument in an oblique function, and this comitative argument is understood as being carried by the agent. This is followed by the application of CAUSATIVE rule (b.), which creates a complex predicate by fusing its causal predicate with the predicate of its COMITATIVE-derived input verb. The agent and goal of this causal predicate are realised as subject and primary object respectively, with the latter being coreferential with the agent of the input verb.

Figure 7.37. Analysis of COMₐ applying before CAUSₔ with unergative motion verb in (7-61)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INPUT: ngama</td>
<td>'x to swim’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. COMₐ: aynji-ngama</td>
<td>‘x to swim in contact with k’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. CAUSₔ: aynji-ngami-jga</td>
<td>‘w to CAUSEₓ English x ‘x to swim while x carries k’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. OUTPUT: aynji-ngami-jga</td>
<td>‘w to CAUSEₓ English x ‘x to swim while x carries k’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. DATA: nguna-aynji-ngami-jga-yn</td>
<td>([warra-gujuju]ₙ)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

'pl. to swim’ 1.

3FSG/3MSG, COM-swim-CAUS-PRES PL-baby

‘Sheₙ (3FSG) tells himₙ (3MSG) to swim with [the babiesₙ (3PL)]’

(i.e. to hold the babies while swimming)
7.4.3.3. **Comitative rule (b.) followed by causative rule (a.)**

The third way in which the comitative derivation is predicted to apply before the causative is when comitative rule (b.) applies before causative rule (b.). Recall that comitative rule (b.) introduces a nonthematic comitative argument as primary object with verbs that license two thematic arguments, where the first argument is either an agent or experiencer and the second is a goal, patient or theme (i.e. \(< [Ag/Ex] [Go/Pt/Th] >\); see §6.3.1.1). Causative rule (a.), on the other hand, introduces a causal agent as subject with agentless input verbs (i.e. \(< [Ex/Pt/Th] \ldots >\); see §3.3.1.1). Therefore, in order to meet the input requirements of both rules, the original input needs to be a transitive verb that licenses an experiencer and a goal, which fits the profile of transitive emotion verbs.\(^{109}\)

Although both comitative rule (b.) and causative rule (a.) are productive, I have not yet identified any examples of this interaction occurring. For now, I present a potential analysis below using a constructed example with the transitive emotion verb *margira* ‘x to feel jealous toward d’. Here, comitative rule (b.) applies first and introduces a nonthematic comitative argument as primary object that is understood as carrying the goal argument, the latter of which is reassigned to an oblique function. Following this, causative rule (a.) applies and introduces a causal agent as subject, which reassigns the experiencer to primary object and the comitative argument to an oblique function.

\(^{109}\) Note that the combination of these lexical rules does not allow the input verb to license a patient or theme instead of a goal, since comitative rule (b.) only allows these in the second argument position at argument-structure, while causative rule (a.) requires them to be in the first argument position.
Figure 7.38. Analysis of COM₅ applying before CAUS₅ with transitive emotion verb (using unverified constructed example)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INPUT: margira ‘x to feel jealous toward d’</td>
<td>&lt; [Ex] [Go]ₜ</td>
<td>SUBJ OBJ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. COM₅: aynji-margira ‘x to feel jealous toward d carried by k’</td>
<td>&lt; [Ex] [Go]ₜ [ ] k</td>
<td>SUBJ OBL Goal OBJ</td>
</tr>
<tr>
<td></td>
<td>[ ] carries the next highest argument</td>
<td></td>
</tr>
<tr>
<td>3. CAUS₅: aynji-margiri-jga ‘w to cause x to feel jealous toward d carried by k’</td>
<td>&lt; [Ag]ₜ [Ex] [Go]ₜ [ ] k</td>
<td>SUBJ OBJ OBL Goal OBL Com</td>
</tr>
<tr>
<td>4. OUTPUT: aynji-margiri-jga ‘w to cause x to feel jealous toward d carried by k’</td>
<td>&lt; [Ag]ₜ [Ex] [Go]ₜ [ ] k</td>
<td>SUBJ OBJ OBL Goal OBL Com</td>
</tr>
<tr>
<td>5. DATA: ngarra-manji-nyung]ₜ nguna-aynji-margiri-jga-na</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F-woman-HUM.SG 3FSG/3MSG.-COM-jealous.of-CAUS-PRES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M-man-HUM.SG-GEN F-child-HUM.SG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘The womanₜ (3FSG) made himₜ (3MSG) feel jealous toward the girlₜ (3FSG) carried by the manₜ (3MSG)’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(unverified constructed example)</td>
<td></td>
</tr>
</tbody>
</table>

7.4.3.4. COMITATIVE rule (b.) followed by CAUSATIVE rule (b.)

The fourth way in which the COMITATIVE derivation is predicted to apply before the CAUSATIVE is when COMITATIVE rule (b.) applies before CAUSATIVE rule (b.). As summarised in the previous section, COMITATIVE rule (b.) introduces a nonthematic comitative argument as primary object that is understood as carrying another referent in the clause, and it only applies to verbs that license two thematic arguments (see §6.3.1.1). CAUSATIVE rule (b.), on the other hand, applies to verbs with an agent and creates a complex predicate that expresses indirect causation (see §3.3.1.2). Based on this, the original input verb needs to be a transitive verb licensing an agent for this rule interaction to occur.

I have so far found no examples of this interaction occurring in the Wubuy corpus, which is not surprising since CAUSATIVE rule (b.) is a restricted rule. Therefore, I present an analysis of a constructed example below using the
general transitive verb *yarbuma* ‘x to grab y’ as the input. Here, COMITATIVE rule (b.) applies first and introduces a comitative argument as primary object, which results in the theme being reassigned to secondary object. CAUSATIVE rule (b.) then applies, which creates a complex predicate by introducing a causal predicate with semantics of indirect causation, and this fuses with the predicate of its COMITATIVE-derived input. The causal predicate licenses both a causal agent and a goal; the former is realised as subject, while the latter is coreferential with the agent of the input verb, both of which are jointly realised as primary object. This results in the comitative argument being reassigned to an oblique function.

Figure 7.39. Analysis of COM₃ applying before CAUS₃ with general transitive verb (using unverified constructed example)

1. **INPUT:** *yarbuma* ‘x to grab y’
   `< [Ag]ₓ [Th]ₓ >`
   SUBJ OBJ

2. **COM₃:** aynji-*yarbuma* ‘x to grab y carried by k’
   `< [Ag]ₓ [Th]ₓ [ ]ₘ >`
   SUBJ OBJ OBJ OBJ
   `[ ]ₘ carries the next highest argument`

3. **CAUS₃:** aynji-*yarbumi-jga* ‘w to CAUSEindir x ‘x to grab y carried by k’
   `< [Ag]ₓ [Go]ₓ [ ]ₘ >`
   SUBJ OBJ OBJ OBJ OBL
   [ ]ₘ carries the next highest argument

4. **OUTPUT:** aynji-*yarbumi-jga* ‘w to CAUSEindir x ‘x to grab y carried by k’
   `< [Ag]ₓ [Go]ₓ [ ]ₘ >`
   SUBJ OBJ OBJ OBJ OBL

5. **DATA:** *wunguna-aynji-yarbumi-jga-na* [ana-maragi]ₓ [ngarra-wirri-nyung]ₘ
   3FDU/3MSGx,COM-grab-CAUS-PRES NEUT,TOP-knife P-small-HUM,SG
   ‘Theyₘ (3FDU) make himₓ (3MSG) grab the knifeₓ (NEUT) being carried by the girlᵧ (3FSG)’ (e.g. by telling him to)
   (unverified constructed example)

7.4.3.5. **CAUSATIVE rule (a.) followed by COMITATIVE rule (b.)**

Moving on to instances where the CAUSATIVE can apply before the COMITATIVE, the first of these involves CAUSATIVE rule (a.) applying before COMITATIVE rule (b.). Recall that CAUSATIVE rule (a.) applies to agentless inputs and introduces a causal agent as subject (see §3.3.1.1), while COMITATIVE rule (b.) applies to
verbs that license two thematic arguments and introduces a nonthematic comitative argument as primary object (see §6.3.1.1). Therefore, in order for this interaction to be possible, the original input needs to be an unaccusative verb. Furthermore, since COMITATIVE rule (b.) requires the first argument of its input to be either an agent or an experiencer (i.e. < [Ag/Ex] [Go/Pt/Th] >), the original unaccusative input verb cannot license an experiencer, since the application of CAUSATIVE rule (a.) would then add an agent (i.e. < [Ag] [Ex] >), and COMITATIVE rule (b.) would be unable to apply because it can only accommodate inputs with one, not both, of these.

I have so far found just one instance of CAUSATIVE rule (a.) applying before COMITATIVE rule (b.) in my data, which is presented below. The input for this example is the general unaccusative verb *rabi* 'y to fall'.

(7-64)  *nguna-aynji-rabi-jga-na*
3FSG/3MSG-Com-fall.down-Caus-Pres

‘She (3FSG) takes down something he (3MSG) is carrying’
(lit. she makes something that he is carrying fall/come down)
(e.g. ‘he is carrying something on his shoulder, and she takes it down’)

(S1 / E1 / 20140404)

Above, both the COMITATIVE prefix *aynji-* and the CAUSATIVE suffixal root *-jga* ~ *-jgi* attach to the input verb, and we can tell that COMITATIVE rule (b.) has applied last because the THIRD-PERSON MALE SINGULAR comitative argument it introduces triggers object verb agreement. That is, if the COMITATIVE derivation had applied first, it would have taken an intransitive verb as its input and COMITATIVE rule (a.) would have applied, introducing the comitative argument as an oblique that is ineligible for verb agreement.

An analysis of this example is presented below, where the unaccusative verb *rabi* ‘y to fall’ first undergoes CAUSATIVE rule (a.), which introduces a causal agent as subject and reassigns the patient to primary object. This is followed by COMITATIVE rule (b.), which introduces a comitative argument as primary object, and the patient is again reassigned, this time to secondary object.
Furthermore, the new comitative argument is understood as carrying the next highest argument at argument-structure, which is the patient.

**Figure 7.40. Analysis of CAUS\_a applying before COM\_b with general unaccusative verb in (7-64)**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Input Example</th>
<th>Output Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>INPUT:</strong></td>
<td><em>rabi</em> ‘y to fall down’</td>
<td><code>&lt; [Pt]</code>, &gt; SUBJ</td>
<td></td>
</tr>
<tr>
<td>2. <strong>CAUS_a:</strong></td>
<td><em>rabi-jga</em> ‘x to cause y to fall down’</td>
<td><code>&lt; [Ag]</code>, [Pt], &gt; SUBJ OBJ</td>
<td></td>
</tr>
<tr>
<td>3. <strong>COM_b:</strong></td>
<td><em>aynji-rabi-jga</em> ‘x to cause y carried by k to fall down’</td>
<td><code>&lt; [Ag]</code>, [Pt], <code>[ ]</code>, &gt; SUBJ OBJ OBJ <code>[ ]</code>, carries the next highest argument</td>
<td></td>
</tr>
<tr>
<td>4. <strong>OUTPUT:</strong></td>
<td><em>aynji-rabi-jga</em> ‘x to cause y carried by k to fall down’</td>
<td><code>&lt; [Ag]</code>, [Pt], <code>[ ]</code>, &gt; SUBJ OBJ OBJ</td>
<td></td>
</tr>
<tr>
<td>5. <strong>DATA:</strong></td>
<td><em>nguna-aynji-rabi-jga-na</em></td>
<td>3FSG</td>
<td>3MSG_3,COM-fall.down-CAUS-PRES</td>
</tr>
</tbody>
</table>

7.4.3.6. **CAUSATIVE rule (c.) followed by COMITATIVE rule (a.)**

The final predicted interaction between the CAUSATIVE and COMITATIVE derivations is when CAUSATIVE rule (c.) applies before COMITATIVE rule (a.). Recall that CAUSATIVE rule (c.) applies to unergative motion verbs and introduces a nonthematic comitative argument as primary object, while COMITATIVE rule (a.) applies to verbs that license only one thematic argument and introduces a nonthematic comitative argument in an oblique function. Therefore, since the argument introduced by CAUSATIVE rule (c.) is nonthematic, its output is a suitable input for COMITATIVE rule (a.).

I have so far identified two instances of this interaction occurring in my data. These are presented below, where (7-65) and (7-66) use the unergative motion verbs *ngama* ‘x to swim’ and *aagi* ‘x to go back’ as their inputs:
Above, we can tell that CAUSATIVE rule (c.) has applied before COMITATIVE rule (a.) because of which referent is interpreted as carrying the comitative argument introduced by COMITATIVE rule (a.). In each example, it is the THIRD-PERSON MALE SINGULAR primary object that is interpreted as carrying this argument (which is marrya ‘food (RESID)’ in (7-65) and backpack ‘backpack (VEG)’ in (7-66)), and this shows that CAUSATIVE rule (c.) has to have applied first; if COMITATIVE rule (a.) had applied first, then it would have applied to an intransitive input and introduced a comitative argument carried by the subject, not the primary object.

An analysis demonstrating CAUSATIVE rule (c.) applying before COMITATIVE rule (a.) in (7-65) is presented in Figure 7.41 below. Here, CAUSATIVE rule (c.) applies to the unergative motion verb first and introduces a comitative argument as primary object. This is followed by COMITATIVE rule (a.), which introduces another comitative argument in an oblique function. This second comitative argument is interpreted as being carried by the next highest argument at argument-structure, which happens to be the comitative argument that was introduced by CAUSATIVE rule (c.).
The examples in this section also provide evidence in favour of treating comitative arguments as nonthematic. That is, if comitative arguments were treated as thematic, this would result in motion verbs derived by CAUSATIVE rule (c.) licensing two thematic arguments, which would instead trigger COMITATIVE rule (b.), resulting in different interpretations to what we see above. For example, in (7-65), this would mean that ngama ‘x to swim’ would become ngami-jga ‘x to swim with j’, which would then trigger COMITATIVE rule (b.), resulting in the introduction of a second comitative argument as primary object that is understood as carrying the comitative argument that was just introduced by CAUSATIVE rule (c.). In (7-65), this would mean that ngami-jga ‘x to swim with j’ would become aynji-ngami-jga ‘x to swim with j in contact with k’, which would then trigger COMITATIVE rule (b.), resulting in the introduction of a second comitative argument as primary object that is understood as carrying the comitative argument that was just introduced by CAUSATIVE rule (c.). In (7-65), this would mean that ngami-jga ‘x to swim with j’ would become aynji-ngami-jga ‘x to swim with j carried by k’, which does not match what we see above.
Even when we consider the opposite application order of the COMITATIVE *aynji*-applying before the CAUSATIVE -*jga* as a possibility, the treatment of comitative arguments as thematic still does not appear to work out. For example, in (7-65), this would mean that *ngama* ‘*x to swim*[Ag]*’ would trigger COMITATIVE rule (a.), which would introduce a comitative argument in an oblique function that is understood as being carried by the subject, resulting in the COMITATIVE-derived verb *aynji-ngama* ‘*x to swim carrying k*[Ag]*[Com]*k’. Following this, if we assume that CAUSATIVE rule (c.) can be extended to accommodate comitative arguments (which it currently does not), an additional comitative argument would be introduced as primary object, resulting in something like *aynji-ngami-jga* ‘*x to swim with j* while *x carries k*[Ag]*[Com]*[Com]*k’. Again, since the referent agreed with as primary object in (7-65) is the THIRD-PERSON MALE SINGULAR referent, this would result in a translation such as ‘she* swims with him* while she* carries food*’, which is also not what we see above. Therefore, it seems that the treatment of comitative arguments as nonthematic is necessary for predicting the interaction between the COMITATIVE and CAUSATIVE derivations in these examples.

### 7.4.4. COMITATIVE prefix and RECIPROCAL suffixal root

Heath (1984, p. 405) finds no clearly analysable instances in his corpus of interactions between the COMITATIVE and RECIPROCAL derivations. However, new data suggests that they can not only interact, but also apply in different orders. In fact, out of all the valency-changing derivations discussed in this thesis, the COMITATIVE appears to be the only one that can apply after the RECIPROCAL. For example, consider the data below, where the input for (7-67) is the general transitive verb *lha-wuynja* ‘*x to kiss y*’ and the input for (7-68) is the general transitive verb *wildha* ‘*x to touch y*’:
(7-67)  na-walyi-nyung marri ngarra-manji-nyung    
M-man-HUM.SG and F-woman-HUM.SG

wini-iyjni-lha-wuyanja-ynjii        waani-wapaga-na-majii
3MDUa-Com-mouth-suck-Recip-Pres  3MDU/3PLa-hold-Pres-Cond

warra-gujuju-mirri   wuguni    
Pl-baby-Com  3MDU.Pro

'The man and woman (3MDU) kiss the baby (3Pl) that the other one is holding, if they are both holding babies'

(S1 / E2 / 20140328)

(7-68)  ngarra-manum-baa   wingi-iyjni-wildhi-ynjii-ina   warra-gujuju-mirri
F-woman-DU  3FDUa-Com-touch-Recip-Pres  Pl-baby-Com

wugurrngi       
3FDU.Pro

'Two women (3FDU) bump into each other while holding babies (3Pl)'

(S1 / E1 / 20140328)

In both examples, the verb takes the COMITATIVE prefix aynji- and the RECIPROCAL suffixal root -ynji, but in each case, this results in a different order of application. In (7-67), COMITATIVE rule (b.) applies before the RECIPROCAL rule to create aynji-lha-wuyanja-ynji 'x' and k to kiss y that is carried by each other', while in (7-68), the RECIPROCAL rule applies before COMITATIVE rule (a.) to derive aynji-wildhi-ynji 'x' and y to touch each other while carrying k'. Both of these interactions are predicted as being possible for transitive verbs (see §7.4.4.1 and §7.4.4.2 respectively).

Below, Table 7.8 provides a summary of the predicted interactions between the COMITATIVE and RECIPROCAL derivations in Wubuy.110

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110 As discussed earlier, I assume that the 'complex' argument (i.e. [Arg1]+[Arg2]) created by RECIP cannot be accommodated by COM, which does not underspecify its arguments. Furthermore, the RECIP is unable to apply after COM because the output of COM will never have a primary object, which is an input requirement for RECIP.
Although only 2 out of 4 (or 50%) potential valency-changing rule interactions are predicted as being possible above, these 2 not only demonstrate different application orders but also have a complete overlap in the type of verbs they can take as inputs. This means that out of all the interactions between valency-changing derivations discussed thus far, interactions between the current lexical rules of the COMITATIVE and RECIPROCAL derivations are the most likely to result in ambiguity.

The following subsections discuss and analyse valency-changing interactions between the COMITATIVE and RECIPROCAL derivations in Wubuy.

### 7.4.4.1. COMITATIVE rule (b.) followed by the RECIPROCAL rule

As mentioned above, one way in which the COMITATIVE and RECIPROCAL derivations can interact is when the RECIPROCAL rule applies after COMITATIVE rule (b.), the latter of which applies to inputs that license two thematic arguments and introduces a nonthematic comitative argument as primary object (see §6.3.1.1). Since the RECIPROCAL rule only requires that its input license two arguments that would otherwise be mapped to subject and primary object, then all that is necessary for this interaction to occur is for the input requirements of COMITATIVE rule (b.) to be met.
So far, I have identified one example of COMITATIVE rule (b.) applying before the RECIPROCAL rule in my data. This is presented below (reproduced from (7-67)) and uses the general transitive input verb *lha-wuynja* ‘x to kiss y’:

(7-69)  
na-walyi-nyung marri ngarra-mani-nyung  
M-man-HUM.SG and F-woman-HUM.SG  
wini-ynji-lha-wuynja-nyji-i    waani-wanaga-na-majii  
3MDU,COM-mouth-suck-RECIP-PRES 3MDU/3PL-hold-PRES-COND  
warra-gujuju-mirri wugunji  
Pl-baby-Com 3MDU.PRO  

‘The man and woman (3MDU) kiss the baby (3Pl) that the other one is holding, if they are both holding babies’

(S1 / E2 / 20140328)

Here, both the COMITATIVE prefix *aynji-* and the RECIPROCAL suffixal root *-ynji* attach to the transitive input verb, and we can tell that COMITATIVE rule (b.) has applied first because the RECIPROCAL rule has selected the comitative argument introduced by COMITATIVE rule (b.) as primary object as one of the reciprocal referents. That is, *na-walyi-nyung* ‘man (3MSG)’ and *ngarra-mani-nyung* ‘woman (3FSG)’ do not kiss each other, which is what would happen if the RECIPROCAL were to apply first; instead, they kiss the *gujuju* ‘baby (Pl)’ being held by the other.

An analysis of COMITATIVE rule (b.) applying before the RECIPROCAL rule in this example is presented below. Here, COMITATIVE rule (b.) first introduces a comitative argument as primary object that is understood as carrying the next highest argument at argument-structure. This argument is the patient, which is reassigned to secondary object. Following this, the RECIPROCAL rule creates a sense of reciprocity by double linking the arguments assigned to subject and primary object, which are the agent and the comitative argument.
Figure 7.42. Analysis of COM₅ applying before RECIP with general transitive verb in (7-69)

1. **INPUT:** lha-wuynja 'x to kiss y'  
   \[
   \text{SUBJ} \quad \text{OBJ}  
   \]

2. **COM₅:** aynji-lha-wuynja 'x to V y in contact with k'  
   \[
   \text{SUBJ} \quad \text{OBJ}_2 \quad \text{OBJ}  
   \]
   \(\text{[ ]}_k\) carries the next highest argument

3. **RECIP:** aynji-lha-wuynji-ynji 'x and k to V y that is carried by each other'  
   \[
   \text{SUBJ} \quad \text{OBJ}_2  
   \]

4. **OUTPUT:** aynji-lha-wuynji-ynji 'x and k to V y that is carried by each other'  
   \[
   \text{SUBJ} \quad \text{OBJ}_2  
   \]

5. **DATA:**  
   [[na-walyi-nyung] marri [ngarra-manji-nyung]]₃₆₃₅₆₃₇₆₉₃₈₇₆₉₃₈₆₉₃₈₇ₖ  
   M-man-HUM.SG and F-woman-HUM.SG  
   wini-ynji-lha-wuynja-ynji-waani-wanaga-na-majii  
   3MDU₃₆₅₂₃₄-COM-mouth-suck-RECIP-PRES 3MDU₃₆₅₂₃₄-HOLD-PRES-COND  
   [warra-gujuju-mirri]₃₅₆₇₈₉ₐₖ  
   PL-baby-COM 3MDU₃₆₉₆₉₆₉  
   'The man and woman₃₆₅₂₃₄ hold the baby, that the other one is holding, if they₃₆₇₈₉₁₉ₐₖ are both holding babies₃₆₉₆₉₆₉ (3Pl)'

### 7.4.4.2. **RECIPROCAL rule followed by COMITATIVE rule (a.)**

The only other way in which valency-changing functions of the COMITATIVE and RECIPROCAL derivations can interact is when the RECIPROCAL rule is followed by COMITATIVE rule (a.), the latter of which applies to verbs with a single underspecified argument. Therefore, in order for this interaction to occur, the original input needs to be transitive so that after the RECIPROCAL rule applies, there is only a single (albeit complex) argument at argument-structure for COMITATIVE rule (a.).

There are several examples of the RECIPROCAL rule applying before COMITATIVE rule (a.) in my data, two of which are presented below, where the general transitive verbs *wildha* ‘x to touch y’ and *adhuga* ‘x to stab y’ are the inputs for (7-70) and (7-71) respectively:

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350
Both the COMITATIVE prefix *aynji-* and the RECIPROCAL suffixal root *-ynji* attach to the transitive input in each example above, and we can tell that the RECIPROCAL rule has applied first because it is the agent and theme that are interpreted as the reciprocal referents, not the comitative argument introduced by the COMITATIVE derivation. If the COMITATIVE had applied first, it would have applied to a transitive input and introduced the comitative argument as primary object, which then would have been selected as one of the reciprocal referents by the RECIPROCAL derivation (as we saw in the previous section).

Figure 7.43 and Figure 7.44 present analyses of the examples above. Each analysis shows how the RECIPROCAL rule can apply to a transitive input first, creating a sense of reciprocity by double linking the arguments assigned to subject and primary object, which in each case is the agent and theme. These arguments are then jointly assigned to subject. As the derived verb is now intransitive, the use of the COMITATIVE derivation results in the application of COMITATIVE rule (a.), which introduces a comitative argument that is realised in an oblique function and understood as being carried by the next highest argument at argument-structure. Interestingly, two possible translations were provided for (7-71) in Figure 7.44, which suggests that the ‘next highest argument’ can either be the single argument directly to its left at argument-structure (i.e. the theme) or it can be the entire ‘complex’ argument created by the RECIPROCAL derivation (i.e. both the agent and the
theme). That is, either just one of the reciprocal referents can be interpreted as holding the comitative argument, or both of them can be.

Figure 7.43. Analysis of RECIP applying before COM, with general transitive verb in (7-70)

1. INPUT: \textit{wildha} ‘\textit{x} to touch \textit{y}’
   \begin{verbatim}
   < [Ag] \textit{x} [Th] >
   SUBJ OBJ
   \end{verbatim}
2. RECIP: \textit{wildhi-ynji} ‘\textit{x} and \textit{y} to touch each other’
   \begin{verbatim}
   < [[Ag] \textit{x} + [Th] \textit{y}] >
   SUBJ
   \end{verbatim}
3. COM\textsubscript{\textit{a}}: \textit{aynji-wildhi-ynji} ‘\textit{x} and \textit{y} to touch each other in contact with \textit{k}’
   \begin{verbatim}
   < [[Ag] \textit{x} + [Th] \textit{y}] \textit{k}> SUBJ OBL\textsubscript{COM}
   \end{verbatim}
   \textit{k} is carried by the next highest argument
4. OUTPUT: \textit{aynji-wildhi-ynji} ‘\textit{x} and \textit{y} to touch each other while \textit{x} and \textit{y} carry \textit{k}’
   \begin{verbatim}
   < [[Ag] \textit{x} + [Th] \textit{y}] \textit{k}> SUBJ OBL\textsubscript{COM}
   \end{verbatim}
5. DATA: \textit{ngarra-manum-baa}\textsubscript{\textit{x+y}} \textit{wingi-ynji-wildhi-ynji-na}
   Female-DU 3FDU\textsubscript{a}-COM-touch-RECIP-PRES
   \textit{warra-gujuju-mirri}\textsubscript{\textit{k}} \textit{wugurrngi}\textsubscript{\textit{3+y}}
   PL-baby-COM 3FDU\textsubscript{PRO}
   ‘Two women\textsubscript{\textit{x+y}} (3FDU) bump into each other while holding babies\textsubscript{\textit{k}} (PL)’

Figure 7.44. Analysis of RECIP applying before COM, with general transitive verb in (7-71)

1. INPUT: \textit{adhuga} ‘\textit{x} to stab \textit{y}’
   \begin{verbatim}
   < [Ag] \textit{x} [Th] >
   SUBJ OBJ
   \end{verbatim}
2. RECIP: \textit{adhuga-ynji} ‘\textit{x} and \textit{y} to stab each other’
   \begin{verbatim}
   < [[Ag] \textit{x} + [Th] \textit{y}] >
   SUBJ
   \end{verbatim}
3. COM\textsubscript{\textit{a}}: \textit{aynji-idhuga-ynji} ‘\textit{x} and \textit{y} to stab each other in contact with \textit{k}’
   \begin{verbatim}
   < [[Ag] \textit{x} + [Th] \textit{y}] \textit{k}> SUBJ OBL\textsubscript{COM}
   \end{verbatim}
   \textit{k} is carried by the next highest argument
4. OUTPUT: \textit{aynji-idhuga-ynji} ‘\textit{x} and \textit{y} to stab each other while \textit{x} and \textit{y} carry \textit{k}’
   \begin{verbatim}
   < [[Ag] \textit{x} + [Th] \textit{y}] \textit{k}> SUBJ OBL\textsubscript{COM}
   \end{verbatim}
5. DATA: \textit{na-walya-waa}\textsubscript{\textit{x+y}} \textit{wini-ynji-idhuga-ynji-na}
   Male-DU 3MDU\textsubscript{a}-COM-stab-RECIP-PRES COLL.TOP-dog-COM
   \textit{warra-landhurrg-mirri}\textsubscript{\textit{k}}
   ‘Two men\textsubscript{\textit{x+y}} (3MDU) stab each other while they both hold dogs\textsubscript{\textit{k}} (COLL)’
   OR ‘Two men\textsubscript{\textit{x+y}} (3MDU) stab each other while one of them\textsubscript{\textit{y}} holds a dog\textsubscript{\textit{k}} (COLL)’

352
As mentioned in §6.4.1 and §7.2, this is the only rule interaction identified where the RECIPROCAL rule can apply before another valency-changing derivational rule. A possible explanation for this could be the underspecification of the argument in the input of COMITATIVE rule (a.). That is, because it is underspecified, it can accommodate the ‘complex’ argument of [[Arg]i + [Arg]j] in the output of the RECIPROCAL rule. For lexical rules that require a specific argument in the first position of their argument-structure, such as agent or patient, this ‘complex’ argument would be problematic as it contains an additional thematic role that is not accommodated by the rule (as discussed in §7.2).

7.5. Conclusion

We have seen in this chapter that valency-changing verb derivations in Wubuy can interact in several interesting ways, and often two given derivations can have different application orders. However, since most valency-changing interactions occur between a derivational prefix and a derivational suffixal root, we cannot use their position on the verb stem to predict their application order (i.e. the Mirror Principle (Baker, 1985)). Instead, I have shown that the lexical rules set out in earlier chapters actually rule out many of the logically possible interactions between derivations and correctly predict the interactions found in the data with little ambiguity.
Part 5

conclusions
Chapter 8: Conclusions

8.1. Summary of thesis contributions

This thesis began with a problem that has now, for the most part, been resolved: by expanding the investigation of argument realisation in Wubuy to consider both how and when it can be affected by certain morphosyntactic phenomena, such as causative, affectedness and conjunctive constructions, we can now account for why they sometimes vary in their effect on argument realisation. We also have a much clearer understanding of their distribution and constraints, which allows us to more accurately predict how these constructions interact with one another.

In Part 2 of this thesis, we extended our consideration of causative and affectedness constructions by looking at the transitivity and semantic subclass of input verbs, which allowed us to develop a set of lexical rules for the CAUSATIVE and AFFECTEE APPLICATIVE verb derivations that can correctly predict how they will (or will not) interact with a given verb in the majority of cases. We also pushed past the common preoccupation with morphological verb derivations to also study lexical and syntactic forms, and by doing so, we identified several new ways of expressing affectedness and causation in Wubuy, such as the use of PURPOSIVE markers to introduce a beneficiary as a nominal adjunct or to introduce a subordinate clause that explains how an additional referent is affected. In addition to this, we discovered that there are two periphrastic ways of expressing indirect causation in Wubuy, including an indirect reported speech construction, which is particularly interesting since both syntactic causatives and indirect speech are rarely identified or discussed in relation to Australian languages. Furthermore, by situating Wubuy within the broader crosslinguistic context, we found that Wubuy follows a general tendency for direct causation to be expressed with lexical and morphological forms and for indirect causation to be more aligned with periphrastic constructions (see Comrie, 1981; Jones, 1996; Nolan, 2012; Shibatani, 1976b; Shibatani & Pardeshi, 2001).
In Part 3 of this thesis, we broadened our investigation of multiple antecedent agreement in Wubuy by looking at conjunctive constructions in a unified way. This involved considering how verb agreement works in coordinative, comitative and reciprocal constructions, rather than only considering the context of basic nominal coordination (which appears to be the approach used in most language descriptions, if they consider multiple antecedent agreement at all). Using this approach, we discovered additional strategies of coordination and/or verb agreement in Wubuy that were previously undescribed.

Firstly, we established that in contexts where there are coordinated nominals with conflicting gender or noun class values and Heath’s (1984) concord rules are not followed, closest conjunct agreement is typically being used as a strategy of agreement avoidance, which is a phenomenon that has been widely attested crosslinguistically (e.g. Arnold et al., 2007; Benmamoun et al., 2009; Camacho, 2003; Corbett, 1991; Kiss, 2012; Marusic et al., 2015; McCloskey, 1986; Moosally, 1999; Sadler, 1999; Singer, 2006; Yatabe, 2004).

We also found a new way of coordinating nonhuman nominals in primary object position, which involves the COMITATIVE derivational prefix aynji- and the INSTRUMENTAL suffix -mirri. In this construction, a conflict in noun class typically results in the use of closest conjunct agreement, which reinforces the proposal of this as an agreement avoidance strategy in Wubuy.

Lastly, we discovered that contrary to Heath (1984), the avoidance strategy of default RESIDUAL agreement is not limited to nonhuman conjuncts, since it is also used in reciprocal constructions when the reciprocal conjuncts include both human and nonhuman referents. Furthermore, since number is neutralised in nonhuman agreement categories such as RESIDUAL, we found that the MULTIPLE prefix warra- also needed to be used in these contexts so that number could resolve according to the semantic number of referents.
All of these discoveries demonstrate the importance of considering conjunction and multiple antecedent agreement in a unified way, particularly within the context of Australian language description, where accounts of agreement resolution and avoidance are rare and those that include comitative and reciprocal constructions in their investigation appear to be nonexistent.

In Part 4 of this thesis, we built upon the foundation of previous chapters by looking in detail at how and when the CAUSATIVE, AFFECTEE APPLICATIVE, COMITATIVE and RECIPROCAL derivations can and cannot co-occur. Interestingly, we found that this follows logically from the lexical rules previously set out for each derivation, which accurately predict the interactions found in the data with little ambiguity in most cases. This is a particularly useful finding, since the majority of valency-changing interactions occur between a derivational prefix and a derivational suffixal root, which means that the order of application cannot be determined by the relative distance of affixes from the verb stem (i.e. by using the Mirror Principle (Baker, 1985)). We also discovered what appears to be a general restriction against the RECIPROCAL derivation applying after most other valency-changing lexical rules, and as there is already a precedent for this kind of restriction in the literature on related Australian languages, this supports the proposal of such a restriction in Wubuy.

Thus, by considering how and when causative, affectedness and conjunctive constructions can manipulate argument realisation in Wubuy (research question 1), by investigating why they cannot do so in certain contexts and what the alternatives are (research question 2), and by looking at how Wubuy can inform, or be informed by, the broader Australian and crosslinguistic literature (research question 3), we can contribute a much more thorough and unified account of argument realisation in this language.

This is not only a significant contribution to the literature on Wubuy, but also to the documentation and description of polysynthetic languages more
generally: through a focussed and detailed investigation of constructions affecting argument realisation, I have demonstrated how the inner workings of polysynthetic verbs can be revealed, and it seems to be much more systematic than we may have first thought. Furthermore, I have highlighted the importance of also looking outside morphology when describing constructions that affect argument realisation, as lexical and syntactic alternatives to these can often provide useful insights about the distribution and constraints of valency-changing processes. This is particularly relevant to the contexts of Australian and polysynthetic language description, where the focus has been predominantly on morphological forms. Lastly, I have also demonstrated the importance of tackling complex grammatical topics in endangered languages where there are still speakers, as many new constructions have been discovered in Wubuy that would not otherwise have been brought to light, several of which are also uncommon or underdescribed within the Australian, polysynthetic and crosslinguistic contexts more generally.

8.2. Direction for future work

There are a number of ways in which the work presented here can be extended and built upon by future research. Firstly, as this thesis was primarily concerned with empirical observation of patterns in the Wubuy data and explaining these in as accessible a way as possible, the analytical approach adopted is somewhat simple and language-specific, without ascribing to any formal model of grammar. Therefore, there is an opportunity for future research to take the findings and newly discovered constructions in this thesis and consider any implications they may have for frameworks such as Lexical-Functional Grammar or Government and Binding Theory.

To provide a more all-encompassing account of argument realisation in Wubuy, it would also be useful to consider the research questions posed in this thesis in relation to other constructions and areas of the Wubuy grammar, such as reflexives, inchoatives, and factitives.
As mentioned earlier, I have shown in this thesis how a consideration of the transitivity, semantic subclass and argument-structure of input verbs can help us to clarify the distribution and constraints of valency-changing derivations in the form of lexical rules, and how these lexical rules can be used to delimit the range of possible interpretations when there are interactions involving more than one valency-changing process. Furthermore, the significance of this finding in Wubuy was emphasised, since the majority of such interactions involve a derivational prefix and a derivational suffixal root, which means their order of application cannot otherwise be predicated based on their relative distance from the verb stem. Therefore, it would be interesting to compare how this works in Wubuy to other languages where there are multiple valency-changing processes that can interact. For example, can the proposal of lexical rules similarly predict the range of possible interpretations when valency-changing processes interact, particularly in languages where unlike Wubuy, most (or all) such interactions occur on only one side of the verb stem? That is, are there alternatives to comparing the position of verbal affixes that can also account for valency-changing interactions in such languages?

Lastly, through a detailed examination of argument realisation in Wubuy, I have made many new discoveries about how this highly endangered polysynthetic language works. I hope this study encourages other researchers of complex polysynthetic languages to consider the kinds of research questions posed in this thesis when undertaking their own investigations, as they have provided a comprehensive and unified method for clarifying various elements of argument realisation, such as how verbal arguments are realised, how valency-changing processes are distributed and constrained, what the syntactic and lexical alternatives of morphological verb derivations are, as well as the nature of the polysynthetic verb more generally.
Appendices
Appendix A: Key for elicited examples

Beneath elicited examples that were obtained during my own fieldwork, I indicate the speaker(s) present during the elicitation session, the elicitation technique used, and the date of the elicitation session. For example, “(S1 / E1 / 20140324)” indicates speaker 1, elicitation technique 1, and the 24th of March 2014. Examples constructed by me but tested by my supervisor Brett Baker during his fieldwork in January 2018 are represented as “BB201801” in the date section. When the same example was tested during different elicitation sessions, each elicitation session is represented separately, and when there was a difference in the acceptability judgement, this is noted by using an asterisk (*) next to the session(s) where it was found to be unacceptable.

The following symbols have been used to represent the type of elicited data in elicited examples:

Figure A.1. Key for type of elicited data in elicited examples

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>This data example is a correction that was spontaneously offered by a consultant after hearing an unacceptable Wubuy verb form or sentence during an elicitation session. When this symbol is used, it is followed by the example number where the unacceptable verb form or sentence can be found. This means that C: (1-1) would indicate a correction given for example (1-1). Unacceptable examples that stimulated these corrections but were not presented earlier in the thesis are listed at the end of this appendix.</td>
</tr>
<tr>
<td>E1</td>
<td>A constructed Wubuy example was given to a consultant, who was then asked for an acceptability judgement. If found to be acceptable, the consultant was asked to repeat the example in Wubuy and to give an English translation for it.</td>
</tr>
<tr>
<td>E1v</td>
<td>Elicitation technique 1 (E1) was used to test the same inflected and derived verb form in isolation and received the same acceptability judgement unless otherwise indicated.</td>
</tr>
<tr>
<td>E1wo</td>
<td>Elicitation technique 1 (E1) was used to test this constructed sentence in a different word order and received the same acceptability judgement unless otherwise indicated.</td>
</tr>
<tr>
<td>E2</td>
<td>After finding a constructed Wubuy verb form or sentence acceptable, the consultant was asked to tell a story in Wubuy about it using their own words.</td>
</tr>
<tr>
<td>E3</td>
<td>An English sentence was given to a consultant, who was then asked to give a Wubuy translation for it.</td>
</tr>
</tbody>
</table>
Constructed examples that were found to be unacceptable by Wubuy speakers and stimulated corrected forms used earlier in this thesis but which were not presented themselves are listed below:

(A-1) *nguna-amaji
3FSG/3MSGs-thieve.PC
‘She (3FSG) robs him (3MSG)’
(S3+S4 / E1 / 20140227)

(A-2) *ngiwa-aynji-warranggi-jga-yn
3FSG/NEUTs-COM-look-CAUS-PP
‘She (3FSG) made it (NEUT) look while holding something’
(S2+S5 / E1 / 20140304)

(A-3) ngini-lha-wuynja-na ngu-maga-na
3FSG/MASCs-mouth-suck-PRES 3MSGs/3FSGs-tell-PRES
*‘He (3MSG) tells her (3FSG) she kisses it [the dog (COLL)]’
(S1 / E1 / 20140314)

(A-4) *ngarra-man-nyung-mirri wa-aynji-wayama-ni ana-manjarr
F-woman-HUMngy-INSTR NEUTs-COM-keep.going-PRES NEUT.TOP-leaves
‘The leaves (NEUT) continue along with the woman (3FSG)’
(S1 / E1 / 20140314)

(A-5) *nguna-aynji-ig-aagamba-yn
3FSG/3MSGs-COM-AFF-roast-PP
‘She (3FSG) roasted his (3MSG) [something] with/carried by [something]’
(S3+S4 / E1 / 20140304)

(A-6) *ngiwa-a-dabi-jga-yn ana-rangag na-walyi-nyung
3FSG/NEUTs-AFF-fall-CAUS-PP NEUT.TOP-tree M-man-HUM.SG
‘She (3FSG) dropped his (3MSG) stick (NEUT)’
OR ‘She (3FSG) indirectly made the stick (NEUT) fall for him (3MSG)’
(S2 / E1 / 20140303)

(A-7) *nguna-aq-jyi-ig-jga-yn
3FSG/3MSGs-COM-go.back-CAUS-PP
‘She (3FSG) took him (3MSG) back while he was carrying (something/someone)’
(S3+S4 / E1 / 20140304)

(A-8) *nguna-aynji-yarrbiwa-na
3FSG/3MSGs-COM-tease-PRES
(S1 / E1 / 20140324)
(A-9) \*mana-rangag ma-aynji-ngama-a warra-mijburraayung
VEG.TOP-canoe VEG.-COM-swim-PRES Pl.-children
‘The canoe (VEG) swam with the children (3Pl)’
(S3+S4 / E1 / 20140228)

Apparent reasons for the unacceptability of the above examples are:

(A-1): the use of a transitive prefix on an intransitive verb that has not undergone a valency-increasing derivation;

(A-2): unacceptability of nonhuman NEUTER object agreement with the derived verb form, where the transitivity and semantic subclass of the original input (i.e. unergative attention verb) results in the application of COMITATIVE rule (a.) followed by CAUSATIVE rule (b.), the latter of which requires the primary object of its output to be agentive and indirectly caused to do something (i.e. by being told to) (see §7.4.3.2 for details);

(A-3): use of an unacceptable transitive agreement prefix on the first verb, which should normally be wangi- when agreeing with a THIRD-PERSON FEMALE SINGULAR subject and landhurr 'dog (COLL)' as primary object;

(A-4): unacceptability of NEUTER subject agreement, since the COMITATIVE derivation aynji- requires the subject to be understood as carrying the introduced comitative argument with intransitive inputs (see §6.3.1.1);

(A-5): unacceptability of input verb for application of AFFECTEE APPLICATIVE aG- ~ waaG- before COMITATIVE aynji-, since this is only predicted for verbs that can undergo AFFECTEE APPLICATIVE rule (a.) (i.e. unaccusative emotion verbs, unergative speech, attention or transfer verbs, or transitive transfer verbs) (see §7.3.1);
(A-6): semantic unacceptability, since the derived verb *ngiwa-a-dabi-jga-yn* either results from application of causative rule (a.) followed by AFFECTEE APPLICATIVE rule (b.), which would be ‘she dropped the stick’s man’ (see §7.4.1.5), application of CAUSATIVE rule (b.) followed by AFFECTEE APPLICATIVE rule (b.), which would be ‘she indirectly causes the stick’s man to (volitionally) fall down’ (see §7.4.1.6), or application of AFFECTEE APPLICATIVE rule (b.) followed by CAUSATIVE rule (b.), which would be ‘she indirectly makes the stick fall (volitionally) for the man’ (see §7.4.1.4);

(A-7): use of incorrect surface form, which should be *nguna-aynji-aagi-jgi-yn*;

(A-8): interpretation of input of derivation as being *yarrbu ‘x to wash y’*, rather than the targeted verb *yarrbiwa ‘x to tease y’*;

(A-9): use of semantically unacceptable subject agreement, since *rangag ‘canoe (VEG)’* is inanimate and therefore cannot be interpreted as swimming.
Appendix B: Summary of valency-changing rules

Figure A.2. Lexical entry for AFFECTEE APPLICATIVE aG- ~ waaG-

**AFFa**: verbs of emotion, speech, attention or transfer

i. \( V = 'x \text{ to } V(y)' \)
\[
\begin{array}{c|c}
\text{SUBJ} & \text{OBJ} \\
\hline
\end{array}
\]
\( ([\text{Th}],^* ) > \)

*\([\text{Th}],^* \) must belong to a transfer verb

ii. \( \text{AFF-V} = 'x \text{ to } V(y) \text{ toward/from } d' \)
\[
\begin{array}{c|c|c}
\text{SUBJ} & \text{OBJ} & \text{OBJ}_d \\
\hline
\end{array}
\]
\( ([\text{Th}], ) > \)

**AFFb**: other verbs

i. \( V = 'x \text{ to } V ...' \)
\[
\begin{array}{c}
\text{SUBJ} \\
\hline
\end{array}
\]

ii. \( \text{AFF-V} = 'x \text{ to } V ...' \)
\[
\begin{array}{c|c|c}
\text{SUBJ} & \text{OBJ} & \text{OBL}_1 \\
\hline
\end{array}
\]

\( [\text{Aff}]= \text{POS of highest ranked argument out of: } [\text{Go}] > [\text{Pt/Th}] > [ ] \)

Figure A.3. Lexical entry for COMITATIVE aynji-

**COMa**: verbs licensing only one thematic argument

i. \( V = 'x \text{ to } V (j)' \)
\[
\begin{array}{c|c}
\text{SUBJ} & \text{OBJ} \\
\hline
\end{array}
\]
\( ([ ] ) > \)

ii. \( \text{COM-V} = 'x \text{ to } V (j) \text{ carrying } k' \)
\[
\begin{array}{c|c|c|c}
\text{SUBJ} & \text{OBJ} & \text{OBL}_1 & \text{OBL}_2 \\
\hline
\end{array}
\]
\( ([ ] ) > \)

\( [ ]_k \text{ is carried by the next highest argument} \)

**COMb**: verbs licensing two thematic arguments

i. \( V = 'x \text{ to } V y' \)
\[
\begin{array}{c|c|c}
\text{SUBJ} & \text{OBL}_1 & \text{OBJ} \\
\hline
\end{array}
\]
\( ([\text{Go/Pt/Th}]_y > \)

ii. \( \text{COM-V} = 'x \text{ to } V y \text{ carried by } k' \)
\[
\begin{array}{c|c|c|c|c}
\text{SUBJ} & \text{OBL}_1 & \text{OBL}_2 & \text{OBJ} \\
\hline
\end{array}
\]
\( ([\text{Go/Pt/Th}]_y [ ]_k > \)

\( [ ]_k \text{ carries the next highest argument} \)
Figure A.4. Lexical entry for causative -jga ~ -jgi and TAM paradigm shift

<table>
<thead>
<tr>
<th>casus: direct causative with agentless verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = 'y to V...'</td>
</tr>
<tr>
<td>&lt; [Ex/Pt/Th], ... &gt;</td>
</tr>
<tr>
<td>SUBJ</td>
</tr>
<tr>
<td>ii. V-caus = 'x to cause_y to V...'</td>
</tr>
<tr>
<td>&lt; [Ag]_x [Ex/Pt/Th]_y ... &gt;</td>
</tr>
<tr>
<td>SUBJ  OBJ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>casus: indirect causative with verbs that have an agent (restricted option)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = 'x to V...'</td>
</tr>
<tr>
<td>&lt; [Ag]_x ... &gt;</td>
</tr>
<tr>
<td>SUBJ                    INPUT</td>
</tr>
<tr>
<td>ii. V-caus = 'w to causeindir x 'x to V...''</td>
</tr>
<tr>
<td>&lt; [Ag]_w [Pt/Go]_x &lt; [Ag]_z ... &gt;</td>
</tr>
<tr>
<td>SUBJ  OBJ              OUTPUT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>casus: intransitive motion verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = 'x to V'</td>
</tr>
<tr>
<td>&lt; [Ag]_x &gt;</td>
</tr>
<tr>
<td>SUBJ                    INPUT</td>
</tr>
<tr>
<td>ii. V-caus = 'x to V with k'</td>
</tr>
<tr>
<td>&lt; [Ag]_x [    ]_k &gt;</td>
</tr>
<tr>
<td>SUBJ  OBJ              OUTPUT</td>
</tr>
</tbody>
</table>

Figure A.5. Lexical entry for reciprocal -ynji

<table>
<thead>
<tr>
<th>recip: verbs with more than one argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. V = 'i to V,j'</td>
</tr>
<tr>
<td>&lt; [Arg]_i ... [Arg]_j ... &gt;</td>
</tr>
<tr>
<td>SUBJ  OBJ                INPUT</td>
</tr>
<tr>
<td>ii. V-recip = 'i and j to V each other'</td>
</tr>
<tr>
<td>&lt; [(Arg]_i + [Arg]_j] ... &gt;</td>
</tr>
<tr>
<td>SUBJ                    OUTPUT</td>
</tr>
</tbody>
</table>
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376


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