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**SEQUENCES OF PRONOMINAL CLITICS IN
MANTAURAN RUKAI:
V-DELETION AND SUPPLETION**

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The Proceedings of AFLA 18

PREFACE

The 18th annual meeting of the Austronesian Formal Linguistics Association (AFLA 18) was held March 4-6, 2011, at Harvard University. A total of 30 presentations representing the work of 43 researchers were given, including three plenary talks by Robert Blust, Marc Brunelle, and Manfred Krifka. In addition to work on the syntax of Austronesian languages, the original focus of AFLA, researchers presented analyses of phenomena from a variety of core linguistics subfields including phonetics, phonology, and semantics, as well as their interfaces. In order to personalize the meeting and highlight the strong historical component of Harvard's Department of Linguistics, we also encouraged the presentation of work dealing with diachronic analyses of language phenomena. The culmination of these efforts appears here in these Conference Proceedings, which include twelve papers presented during the conference.

Throughout this process we have received generous support from a variety of sources within the Harvard Community. Financial support came from the Office of the Dean of the Faculty of Arts and Sciences, the Office of the Provost, Linguistics Circle: A Workshop of Linguistic Interfaces, the GSAS Research Workshop in Indo-European and Historical Linguistics, the GSAS Research Workshop in Language Universals and Linguistic Fieldwork, and the Harvard GSAS Graduate Student Council. Student participants in the volunteer effort include Michael Erlewine, Ruthe Foushee, Laura Grestenberger, Christopher Hopper, Julie Li Jiang, Caitlin Keenan, Louis Liu, Andreea Nicolae, Hazel Pearson, and Cheng-Yu Edwin Tsai. We also gratefully acknowledge the encouragement, endorsement, and assistance of the Harvard Department of Linguistics.

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To the groups and individuals who made this conference possible, and to the many researchers who made the event as enriching and stimulating as it was, we offer our sincerest thanks.

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V-DELETION AND SUPPLETION*

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This study explores the fact that in Mantauran Rukai a vowel in certain pronominal combinations can be deleted but not in others. For each instance, within an Optimality-theoretic account, the attested combination results from interacting constraints on the morphophonology of pronominal combinations. The corpus upon which our study is based comes primarily from Li 1996/2004; Lin 1999; Zeitoun 1997a, 1997b, 1997c, 2000, 2007; and Zeitoun and Lin 2003.

1. Background and Problem

Mantauran is the most endangered dialect of Rukai (Z 2000:415 fn. 4, 2007:6), an Austronesian subgroup of southern Taiwan.¹ There are four paradigms of personal pronouns, as follows.

Table 1: Inventory of Personal Pronouns

Traditional labels	Formal features	TOPIC <i>free</i>	NOM <i>bound</i>	GEN <i>bound</i>	DFLT <i>bound</i>
1SG	+me, -you, -pl	i aə	ao	li	iaə
EXCL1PL	+me, -you, +pl	inamə	nai	nai	inamə
INCL1PL	+me, +you, +pl	imitə ~ ita	mita	ta	imitə
2SG	-me, +you, -pl	imiaʔə	moʔo ~ miʔ	ʔo ~ ko	imiaʔə
2PL	-me, +you, +pl	inomə	nomi	nomi	inomə
VIS3SG	-me, -you, -pl, +vis	∅	∅	ni ~ i	inə
INV3SG	-me, -you, -pl, -vis	∅	∅	ɖa	iðə
VIS3PL	-me, -you, +pl, +vis	∅	∅	lini	ilinə
INV3PL	-me, -you, +pl, -vis	∅	∅	liɖa	iliðə

[Z 2007:284]

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¹ A Japanese exonym, *Mantauran* is known as /ʔoponoho/ to its speakers (Li 1977:2/2004:559; Z 2000:418 fn. 8, 2007:4). We use these abbreviations: CAUS causative, CNC concessive, DFLT default, DYN dynamic, EXCL exclusive, FIN finite, GEN genitive, INCL inclusive, INV invisible, NEG negation, NFIN nonfinite, NMLZ nominalization, NOM nominative, OBJ objective, PL plural, PROG progressive, SG singular, STAT stative, SUP superlative, VIS visible, and (only in captions) Z Zeitoun. Our sources use various transcription conventions or even the recent orthography. As such, we standardize to the International Phonetic Alphabet without further comment in the individual examples. Our glossing mainly follows Zeitoun 2007 (but modified slightly to conform to the Leipzig Glossing Rules).

There is allomorphy in four cells of table 1. This paper deals only with the bound columns.² In section 2 below we discuss the variation in the GEN.2SG, GEN.VIS3SG, and NOM.2SG cells.

The subject is usually NOM. However, in several environments GEN case encodes the subject: (i) nominalizations, including subordinate clauses; (ii) polar structures, including yes/no-interrogative and negated clauses; and (iii) the presence of /naɪ-/ ‘continuously’ (Z 1997a:254, 1997b:332–334, 1997c:183–184, 2007:184 fn. 45, 299, 387, 468–469, 477). Zeitoun’s admission that the invariant factor “is only partly understood” (1997a:254 fn.7) is still partially accurate.³

The only valid criterion in accounting for the relative order of consecutive pronouns in Mantauran is that the subject goes first. In two early works a claim is made that semantic roles are relevant, with the pronoun that encodes the Actor going first (Huang et al. 1999:186–188; Li 1996:215/2004:424); in those studies passive data are not discussed. Pronominal clusters in passive clauses—only in the most recent literature, as in (2) below (also Z 2007:150, 335)—show the NOM- or GEN-case subject/Undergoer invariably preceding the Actor in the DFLT case.⁴ Similarly, if the pronouns were ordered relative to each other based on morphological case, then two statements would be required: (i) NOM before DFLT and (ii) GEN before DFLT. Referring to grammatical relations—i.e., subjecthood—requires only a single cluster-ordering statement.⁵

The pronouns in each of the bound sets are clitics rather than affixes (based mainly on the tests in Zwicky and Pullum 1983, reported in Z 1997b:339–343, 2007:292–297). The bulk of the current study shows ample evidence of morphophonological idiosyncracies, which suggest that Mantauran’s bound pronouns are affixes: (i) V-deletion itself (Z 1997b:330), which can occur in all three paradigms, including DFLT (rarely), as shown in (18) below; (ii) one portmanteau pronoun, in cell L2 of table 2 below, in lieu of separate NOM plus DFLT pronouns; and (iii) the allomorphy of two of the GEN and one of the NOM pronouns (discussed in the three subsections of §2). That said, there is still strong support for these pronoun sets being clitics: syntactic entities that are merged in one position but are morphologically bound to another. For instance, in all three sets the pronouns can attach to a host of more than one syntactic category: NOM pronouns

² Other works’ pronoun-inventory tables diverge to various degrees from ours: Huang et al. 1999:171; Li 1977:87–88 [not repeated in 2004:559–624], 1996:210–211/2004:416–418; Z 1997a:274, 1997b:315, 1997c:180; Z and Lin 2003:11, 30. We list table 1’s free-TOPIC column only for comparison. Zeitoun discusses the TOPIC.INCL1PL variants, as well as additional forms not addressed here: NOM.1SG /nao=/, NOM.EXCL1PL /nai=/, and NOM.INCL1PL /ta=/ (1997b:324–326, 2007:94, 284, 286–289). There also exists a paradigm of impersonal pronouns: NOM/GEN /=mao/ and DFLT /=imaə/. These forms function exactly like most personal pronouns. The final vowel of the NOM/GEN form /=mao/ is deleted immediately before a DFLT pronoun (Z 2007:518; Z and Lin 2003:274–275). Similarly, immediately before DFLT /=imaə/ a subject pronoun’s final V is deleted (Z 2007:74, 302; Z and Lin 2003:336, 342).

³ Aside from its clausal-subject use, the GEN case is used in the normal sense of *genitive*: /ina=li/ mother=GEN.1SG ‘my mother’ (Z 2002:244). See also other adnominal-GEN examples below in this paper, in (8b) and (9a).

⁴ We use *DFLT*; Li, *accusative* (1977/2004, 1996/2004); and Zeitoun and her co-authors, *oblique* (Huang et al. 1999; Z 1997a, 1997b, 1997c, 2000, 2002, 2007; Z et al. 1999; Z and Lin 2003). As it were, DFLT combines the properties of both Li’s and Zeitoun’s labels. Arguments that are not subjects—say, the Undergoer of an active clause (as diagrammed in Z 2007:387)—are encoded by the accusative, whereas oblique case encodes adjuncts—including a passive clause’s Actor, as in (2) below, or Recipient, as in (15b) below. Zeitoun argues that Mantauran is an accusative case system (2007:396) but also distances herself from Li’s use of *accusative* (1997b:313). A similar pattern is found in Isbukun Bunun (where the literature also varies in using both *accusative* and *oblique* for one of the cases). Citing the literature on various Austronesian languages, Li (2010:7–8) opts to identify this case as DFLT.

⁵ Ordering factors reported in other languages, such as person and number, are also not at play here (tables 2 and 3).

must remain adjacent to the first verb of their clause if there is one (Z 1997b:340–341, 2007:295). However, in nonverbal clauses, they can be hosted by a noun: e.g., /ʔavai=[ao/ woman=NOM.1SG ‘I am a woman’ (Z 2007:330). The GEN and DFLT sets can also be hosted by both nouns and verbs (Li 1996:222–223/2004:435; Z 1997a:261, 2007:390—also data in fn. 3 above). A related issue—and perhaps the strongest evidence that Mantaoran’s bound pronouns are not affixes—is that in all three sets the pronouns move syntactically; DFLT pronouns even raise from one clause to another (Z 1997b:330, 342, 2007:296, 405). Though less mobile than their DFLT counterparts, subject pronouns can be hosted by a head earlier in the same clause than the verb that subcategorizes for them, as (1a) below shows with a GEN-case subject. Zeitoun (2000:418, also in Z and Lin 2003:207) lists an analogous example with a NOM subject. Pronouns of all three sets can double (or be cross-referenced with) a full nominal expression in the clause (Z 2007:297). A DFLT pronoun can double only a nominal expression after it, as in (10b), (11), and (18) below; a NOM pronoun, only a preverbal topic (Z 1997b:334), as in (15a) below; a GEN pronoun, in either direction, as in (1b) or (10b). Though doubling suggests that these are markers of agreement, Zeitoun demonstrates that the bound pronouns are the arguments but the doubled free forms are adjuncts (1997b:339–340). Particularly convincing are Zeitoun’s arguments about the addition of a pronoun increasing a predicate’s valency (1997b:343, 2007:296–297).

Usually, if one pronoun precedes another, its final vowel is deleted (Li 1996:228 n. 7/2004:419 fn. 7; Z 1997a:255, 1997b:330, 337, 1997c:164–165, 2007:292–293). The data are classified according to the preceding pronoun’s consonant-vowel shapes, of which there are four. First, if the shape is /=...CV=i.../ (namely, with the preceding pronoun ending in a CV shape), the pronoun-final vowel is deleted: [=...C_ =i...], as (1a–c) show.⁶

(1) Subject Pronoun Ends in One Vowel Underlyingly

- a. [...] kani kapa-oa =ʔ_ =inamə ʔakoəla [...]

why DYN.NFIN;continuously-DYN.NFIN;go=GEN.2SG =DFLT.EXCL1PL laugh

‘[...] Why did you laugh at us? [...]’ [Z 2007:434, 522]
- b. o-kaʔatsə-ka =ð_i =iaə o[aʔa_i

DYN.FIN-bite-NEG=GEN.INV3SG =DFLT.1SG snake

‘The snake did not bite me.’ [Z 1997b:334; gloss of /o-/ follows Z 2002:243]
- c. ðonaʔi a-pa-sola~solatə =lið_ =inamə ...

that CLAUSAL.NMLZ-CAUS-PROG~DYN.NFIN;study =GEN.INV3PL=DFLT.EXCL1PL

‘At that time, when they taught us, ...’ [Z 2007:217; gloss of /sola~/ follows Z 2007:61]

In (1a–c) /=ʔo/, /=ða/, and /=liða/ surface without their final vowel, as the underscores (the convention in Z 2007:38) indicate.⁷ Next, if the shape is /=...VV=i.../ (viz., with the preceding pronoun ending in a sequence of vowels), only the final vowel of the first pronoun is deleted.

⁶ For this study’s purposes, the laryngeal plosive and fricative are consonants (contrary to some prevailing theories). In addition, /ʔ/ is distinctive word-initially and -medially: /iaʔə/ ‘yes’, /=iaə/ ‘=DFLT.1SG’; /ʔo[ʔipotsə/ ‘unwrap’, /o[ʔipotsə/ ‘wrap’ (Z 2007:32). Crucially, in (1a) the glottal plosive remains, satisfying the constraint in (23).

⁷ Zeitoun (1997c:166) postulates a haplology rule, /ʔoʔo/ → [ʔo], followed by the datum /ki-patoʔo=ʔo=inamə/ ‘NEG-tell=GEN.2SG=DFLT.EXCL1PL’ surfacing as [kipatoʔoinamə] (but with the GEN.2SG pronoun still understood: ‘Why don’t you tell us ...’). Namely, if a pronoun’s first syllable is identical to the host’s final syllable, then this syllable is omitted (Z1997c:180). More generally (Z 2007:31): “Two identical syllables coalesce as a result

- (2) ʔi-ka-oɔŋo = [a_ = imiaʔə [See also the first clause of (11) below.]
PASSIVE-STAT.NFIN-bother=NOM.1SG =DFLT.2SG
‘I am bothered by you.’ [Z 2007:147, 320]

In (2) /[aŋo/ surfaces without its final /o/ . The third shape is /[...C=i.../ (namely, with the preceding pronoun ending in a consonant). If this shape occurs, then there is no deletion:

- (3) o-tipitipi = miʔ = iaə
DYN.FIN-beat=NOM.2SG =DFLT.1SG
‘You beat me.’ [Z 1997b:337, 341, 2007:293, 294, 396]

Finally, if the shape is /[=V=i.../ (that is, with the preceding pronoun consisting entirely of a single vowel), then there is also no change:

- (4) a:ŋa=i = imiaʔə
who =GEN.VIS3SG=DFLT.2SG
‘Who are you?’ [Z 1997b:331]

The pattern illustrated in (1) through (4) is—in a nutshell—what this paper seeks to explain.

Mantauran is unique within Austronesian, to our knowledge, in attesting sets of bound personal pronouns in *three* morphological cases (Huang et al. 1999:167). As such, over a hundred different combinations are possible: NOM + DFLT in table 2 and GEN + DFLT in table 3. As these two tables indicate, if a clitic pronoun precedes a DFLT pronoun, in most pronominal combinations its final vowel is deleted.⁸ All DFLT pronouns are /i/ -initial in Mantauran. However, there are two environments in which the subject pronoun’s final V is not deleted. The first is if the marked /[=miʔ/ variant of the NOM.2SG pronoun precedes a DFLT pronoun, there is no deletion, as cells K through N of table 2 show. As it were, if the pronoun doesn’t end in a vowel, there is no vowel to delete. The other environment where there is no V-deletion is if the cluster-initial pronoun consists only of a single vowel, as cells O, P, and R of table 3 each show.

The remainder of this paper is organized as follows. Section 2 describes the variation in three of the bound pronouns. Next, section 3 provides an Optimality-theoretic analysis of the deletion of the subject pronoun’s final vowel in most (but not all) pronominal combinations.

2. Three Instances of Pronominal Allomorphy

In this section we clarify the variants in three cells of table 1 above: GEN.2SG, GEN.VIS3SG, and NOM.2SG. In fact, all of the cells in the NOM and GEN columns of table 1 exhibit allomorphy. Most of these cells undergo V-deletion of the kind exemplified above in (1a–c) and (2). That is, in this section we describe three cases of *morphological* suppletion. Among other things, section 3 then accounts for the *phonological* allomorphy that results from V-deletion.

of haplology.” These facts suggest that—from a derivational perspective—haplology must take place prior to V-deletion (formalized in §3.1 below), and that it is the latter /ʔo/ syllable that is deleted, thus eliminating the input environment for V-deletion. We do not pursue this exception to V-deletion further in this paper.

⁸ Space limitations allow us to list only one citation per type in tables 2 and 3. Some types attest dozens of tokens.

Table 2: Overt Combinations of NOM and DFLT Personal Pronouns

NOM \ DFLT		+me, -you -pl	+me, -you +pl	+me, +you +pl	-me, +you -pl	-me, +you +pl	-me, -you -pl, +vis	-me, -you -pl, -vis	-me, -you +pl, +vis	-me, -you +pl, -vis
		=iaə	=inamə	=imitə	=imiaʔə	=inomə	=inə	=iðə	=ilinə	=iliðə
+me -you -pl	= lao				A = la_ =imiaʔə	B = la_ =inomə	C = la_ =inə	D = la_ =iðə	E = la_ =ilinə	F = la_ =iliðə
+me -you +pl	= nai				G = na_ =imiaʔə	H = na_ =inomə	I = na_ =inə			
+me +you +pl	= mita							J = mit_ =iðə		
-me +you -pl	= miʔ	K = miʔ =iaə	L 1 = miʔ =inamə 2 = mitə				M = miʔ =inə	N = miʔ =iðə		
-me +you +pl	= nomi		O = nom_ =inamə							

[Notes: ^A See (2) above and the first clause of (11) below. ^B Li 1996:228/2004:419. ^C See (15a) below. ^D Z 2007:403. ^E Z 2007:98. ^F Z 1995:318. ^G Z 2007:518. ^H See (15b) below. ^I Z 2007:296. ^J Li 1996:215/2004:424. ^K See (3) above. ^{L1} Z 2007:286. ^{L2} Z 2007:286. ^M Z 2007:425. ^N See the second clause of (11) below. ^O Z and Lin 2003:450.]

2.1. The GEN.2SG Allomorphy

There are two GEN.2SG forms, in complementary distribution; /=ʔo/ is the unmarked allomorph:

- (5) taʔasoki-a ðiðapə =ʔo
 diligently-IMPERATIVE work =GEN.2SG
 ‘Work diligently!’ [Z 2007:93]

The marked GEN.2SG variant differs only in the first plosive (velar rather than laryngeal):

- (6) Fusion of Complementizer and GEN.2SG Pronoun
 a. **lako** iki paiso ðo:nəʔi [...] [Z 2007:288; cf. 1997b:335]
 if;GEN.2SG DYN.NFIN;exist money that;EMPHATIC
 ‘If you had had money at that time, [...]’
 b. ma-**lapaʔa** =moʔo **lako** ʔo-kipiŋi [Z 1997b:335, 2007:288]
 STAT.FIN-hot =NOM.2SG so.that;GEN.2SG take.off-clothing
 ‘You are hot and (so) you take off your clothes.’

This marked variant follows only one host: /la/, used to connect counterfactual and causal clauses. (Without a following GEN pronoun, it coordinates clauses, glossed as ‘and’ or ‘but’.) If it hosts a GEN pronoun, /la/ is glossed as ‘if’ or ‘so that’—preceding the first or second, coordinated or subordinate clause, as (6a–b) show, respectively. If this complementizer precedes a GEN.2SG pronoun, we see /lako/; elsewhere, /=ʔo/ is used (Z 2007:97, 288, cf. 1997b:335).

We know of no phonological process whereby /ʔ/ becomes [k]. We propose that /lako/ ‘so that/if;GEN.2SG’ is a portmanteau: a single form associated with two sets of functions. As such, the lexicon includes the following three entries: (i) /=ʔo/ ‘=GEN.2SG’, (ii) /la/ ‘so that/if’,

and (iii) /lako/ ‘so that/if;GEN.2SG’. In the rest of this paper we deal only with the unmarked GEN.2SG variant and how /o/ is deleted if a DFLT pronoun follows, as in (1a) above.⁹

Table 3: Overt Combinations of GEN and DFLT Personal Pronouns

DFLT		+me, -you -pl	+me, -you +pl	+me, +you +pl	-me, +you -pl	-me, +you +pl	-me, -you -pl, +vis	-me, -you -pl, -vis	-me, -you +pl, +vis	-me, -you +pl, -vis
		=iaə	=inamə	=imitə	=imiaʔə	=inomə	=inə	=iðə	=ilinə	=iliðə
+me -you -pl	=li				A =l_ =imiaʔə		B =l_ =inə	C =l_ =iðə	D =l_ =ilinə	
+me -you +pl	=nai					E =na_ =inomə	F =na_ =inə			
+me +you +pl	=ta									
-me +you -pl	=ʔo	G =ʔ_ =iaə	H =ʔ_ =inamə				I =ʔ_ =inə	J =ʔ_ =iðə		
-me +you +pl	=nomi		K =nom_ =inamə				L =nom_ =inə			
-me -you -pl +vis	=ni ~ =i	M =n_ =iaə	N =n_ =inamə	O 1 =n_ =imitə 2 =i =imitə	P 1 =n_ =imiaʔə 2 =i =imiaʔə	Q =n_ =inomə	R 1 =n_ =inə 2 =i =inə	S =n_ =iðə		T =n_ =iliðə
-me -you -pl -vis	=ða	U =ð_ =iaə	V =ð_ =inamə	W =ð_ =imitə	X =ð_ =imiaʔə					
-me -you +pl +vis	=lini						Y =lin_ =inə			
-me -you +pl -vis	=liða		Z =lið_ =inamə							

[Notes: ^A Z 1997c:164. ^B Z 1997c:191. ^C Z 1995:379, 386. ^D Z 2007:238. ^E See (15c) below. ^F Z and Lin 2003:271. ^G Lin 1999:5.76 [= Z 2007:386]. ^H See (1a) above. ^I Lin 1999:3.73–75. ^J Z 2007:378. ^K Z and Lin 2003:450. ^L Lin 1999:4.32. ^M Z 1997c:203. ^N Z and Lin 2003:400. ^{O1} Lin 1999:5.14. ^{O2} Z 2007:228. ^{P1} Lin 1999:1.31. ^{P2} See (4) above. ^Q Lin 1999:3.79. ^{R1} See (10a) below. ^{R2} See (10b) below. ^S Lin 1999:3.67. ^T Z 1997c:204. ^U See (1b) above. ^V Z 2002:273. ^W Z 1997c:179. ^X Z 2007:523. ^Y Z 2007:298, 338. ^Z See (1c) above.]

2.2. The GEN.VIS3SG Allomorphy

Similarly to the immediately preceding discussion, the GEN.VIS3SG pronoun has the variants /=i/ and /=ni/. The former is selected by certain hosts; the latter, used elsewhere. The marked variant is found only after hosts ending in a natural class of shapes: velar stop (i.e., /ŋ/ or /k/) plus /a/.

Both /-ŋa/ ‘already’ and /-ka/, which “negates an event or situation (predicative negation)” (Z 2007:162) can be followed by a GEN pronoun.¹⁰ Compare the (a) and (b) examples in (7) and (8), where the same verbal root is used in each pair.¹¹

⁹ So far, we have not found the sequence of /lako/ ‘so that/if;GEN.2SG’ immediately preceding a DFLT-case pronoun.

¹⁰ The earlier literature (Li 1977:84/2004:609; Z 1997b:322, 1997c:165–166) treats /-ka=i/ as a single form.

- (7) Selecting GEN.VIS3SG Allomorphs: /iki/ with and without /-ŋa/
 a. lo m-iki =ni ta-ʔi-va|a...
 if DYN.SUBJUNCTIVE-exist =GEN.VIS3SG SUBJECTIVE.NMLZ-kill-enemy
 ‘If [a middle-aged man] went head-hunting ...’ [Z 2007:89]
 b. a-iki-ə-ŋa =i koliʔi
 OBJ.NMLZ-DYN.NFIN;exist-OBJ.NMLZ-already =GEN.VIS3SG sun
 ‘What time is it?’ [Z 2007:349]
- (8) Selecting GEN.VIS3SG Allomorphs: /siala|a/ with and without /-ka/
 a. lo ki-siala|a =ni [...]
 if NEG-DYN.NFIN;hear =GEN.VIS3SG
 ‘If {she/he} does not listen [...].’ [Z 2007:152]
 b. o-siala|a-ka =i ka lalakə =ni [...] [See also (15c) below with -ka=i.]
 DYN.FIN-hear-NEG =GEN.VIS3SG NEG offspring =GEN.VIS3SG
 ‘{Her/His} child did not listen [...].’ [Z 2007:154]

It isn’t just the affixes /-ŋa/ ‘already’ and /-ka/ ‘NEG’ that trigger the marked allomorphy. The /-ŋa/ in (9a)—homophonous to /-ŋa/ ‘already’ above in (7b)—also selects the marked variant.

- (9) Additional Hosts Selecting Marked GEN.VIS3SG Variant [See also (4) above with /a:ŋa=i/.]
 a. kapa-ðaʔanə-ŋa=i
 all-houses-SUP =GEN.VIS3SG
 ‘all {her/his} houses’ [Z 2007:289; glossing of /kapa-...-ŋa/ follows Z 2002:245, 2007:116, 397]
 b. [...] alaka =i o-|ihoʔo-ka =nai ka ʔaomo vaha
 because=GEN.VIS3SG DYN.FIN-know-NEG=GEN.EXCL1PL NEG Japanese language
 ‘[...] because we did not understand the Japanese language.’ [Z 2007:458]

In (9b) the host-final velar plus /a/ is only part of a morpheme. In each of (4), (7b), (8b), and (9a–b) the marked GEN.VIS3SG allomorph is preceded by a host which ends in either /ŋa/ or /ka/. The choice is not by a particular morpheme (or class thereof); the selection is phonological.¹² The marked variant is chosen if the preceding host ends in a particular *class* of sound shapes.¹³

Now, if the selection were by strictly phonological means, one might expect all /n/-initial pronouns to undergo deletion. However, neither /=nai/ ‘NOM/GEN.EXCL1PL’ nor /=nomi/ ‘NOM/GEN.2PL’ undergoes such deletion of /n/ in the same environment: e.g., [-ŋa=nai]

¹¹ Re (7b), Zeitoun (2002:271) lists a phonological rule deleting the first vowel of /-aə/ if the base ends in a non-/ə/ vowel. This is a relatively rare instance of deletion of the vowel *after* the morphological boundary in Mantaoran.

¹² Both the velar and /a/ are needed; e.g., a /kə/-final verb selects /=ni/ (Z et al. 1999:20). See also the noun in (8b).

¹³ Two problem examples remain: (i) [ma-|aðiʔi-ŋa=n-iðə] ‘STAT.FIN-heal-already=GEN.VIS3SG=DFLT.INV3SG’ and (ii) [o-tipitipi-ka=n-iaə] ‘DYN.FIN-beat-NEG=GEN.VIS3SG=DFLT.1SG’ (Z 2007:98, 294). Though we have not found any instances of a host ending in a velar stop plus /a/ followed by untruncated [=ni] (i.e., without a following DFLT pronoun), these two examples constitute exceptions to the requirement that hosts ending in a velar plus /a/ select the lexical allomorph /=i/. Currently, these examples are in complementary distribution with /...=i.../: cells S and M (resp.) vs. O, P, and R of table 3. We refrain from postulating an analysis of the data in (i) and (ii) without having established the type of variation going on: intra-speaker or -dialect, perhaps even inter-dialect influence.

‘-already=NOM.EXCL1PL’ and [-ka=nomi] ‘-NEG=GEN.2PL’ (Z 2007:287, 343). In order for such a strictly phonological rule to work, it would have to define the sequence of velar plus /a/, followed by a morpheme boundary and /n/ plus /i/. That is, only the sequences /...ŋa=ni/ and /...ka=ni/ would become [...ŋa=i] and [...ka=i], respectively. There would be no phonological motivation for such a rule. This would also be an absurd rule, selecting a specific morpheme—the GEN.VIS3SG pronoun—by identifying both of its sounds. Rather than such a strictly phonological rule, we propose instead phonologically conditioned lexical suppletion. The marked allomorph /=i/ combines with a limited number of hosts—namely, /-ŋa/ ‘already’, /-ŋa/ ‘SUP’, /a:ŋa/ ‘who’, /-ka/ ‘NEG’, and /alaka/ ‘because’; /=ni/ is used elsewhere.¹⁴

As for the suppletion of /=ni/ and /=i/ in pronominal combinations, if the subject pronoun preceding the DFLT-case pronoun is /=ni/, then its final vowel /i/ is deleted, as in (10a). However, if the cluster-initial pronoun is the /=i/ allomorph, then there is no deletion, as (10b) shows.

(10) Pronominal Clusters Involving GEN.VIS3SG Allomorphs

- a. lo pa-kanə =n_ =inə taxðiʔi [...] [Z 2007:78]
 if CAUS-DYN.NFIN;eat =GEN.VIS3SG=DFLT.VIS3SG good
 ‘If {she/he} feeds {her/him} well, [...].’
- b. taotao_i ʔa ʔako-ka-ðalamə-ŋa-ka =i_i =inə_k ka ðipolo_k
 Taotao TOPIC more-STAT.NFIN-like-SUP-NEG =GEN.VIS3SG=DFLT.VIS3SG NEG Dhipolo
 ‘Taotao does not {like/love} Dhipolo more than before.’ [Z 2007:180; subscripts added]

That is, if the /=ni/ variant of the GEN.VIS3SG pronoun precedes a DFLT pronoun, it surfaces as [=n]. Hence, the underlying form /=ni/ has two phonologically conditioned allomorphs: [=ni] and [=n]. However, the variant /=i/ preceding a DFLT pronoun does not undergo vowel deletion.

2.3. The NOM.2SG Allomorphy

Unlike in the foregoing two subsections, the selection is not due to the *preceding* environment. A *following* pronoun triggers the marked variant, which is employed there in lieu of V-deletion.

The variant /=miʔ/ is used without exception right before a DFLT pronoun, as in (11).

- (11) ma-rimoro =[a_ =imiaʔə patoʔo
 STAT.FIN-forget =NOM.1SG =DFLT.2SG DYN.SUBJUNCTIVE;tell
 ni-tipitipi =miʔ =iðə_i taotao_i
 COUNTERFACTUAL-DYN.NFIN;beat =NOM.2SG =DFLT.INV3SG Taotao
 ‘I forgot to tell you to beat Taotao.’ [Z 2007:294 (≈ 1997b:340); subscripts added]

Vowel-final /=moʔo/ is found elsewhere (Z 2007:286; cf. 1997b:337), as in (6b) above. We found examples with /=miʔ/ in four of the six possible cells—K through N—of table 2 above.

There is no synchronic phonological process whereby a sequence like [oʔ] alternates with [iʔ]—though there are a number of sound changes between Proto-Rukai and Mantauran quite

¹⁴ Some of the early work on Mantauran lists /a:ŋa/ ‘who’ followed by the /=ni/ GEN.VIS3SG variant: Li (1977:87, cited critically in Z 1997b:313, 2007:358 fn. 78, apparently *not* repeated in Li 2004:559–624); Zeitoun (1997c:182; cf. /a:ŋa=i/ in Z 1997c:191). Elsewhere, Zeitoun is categorical, ruling out */a:ŋa=ni/ (1997b:322, 2007:289).

similar to this, such as *mabito[oʔo > /mavoto[oʔo/ ‘fat’ (Li 1977:30/2004:586, where the spirantization of *b > /v/ is a regular change and not at issue). Thus, there are multiple NOM.2SG underlying forms in the Mantauran lexicon: /=moʔo/ and /=miʔ/. The choice of allomorphs is determined by whether there is a following DFLT pronoun. In addition, because of this suppletion, mere deletion of the final vowel of /=moʔo/ is not found (i.e., *[=moʔ_ =i...]).

To summarize section 2, we have analyzed the variation in the GEN.2SG, GEN.VIS3SG, and NOM.2SG pronouns as lexical suppletion. The allomorphy in each case, being suppletive, entails that a common underlying form is not possible, so that multiple forms are listed in the lexicon.

3. Optimality-theoretic Analysis

The pronominal clusters are classified into four types, as mentioned in section 1 above. The shape of the latter pronoun is irrelevant; it’s in the DFLT case and is /i/-initial. If the cluster’s pronoun has the shape /=...CV/ or /=...VV/, then the final vowel will be deleted: [=...C_] and [=...V_], respectively. However, if its shape is /=V/ or /=...C/, then there is no change. These four types are illustrated in turn using the framework of Optimality Theory.

3.1. Analysis of /=...CV=i.../ Structure

The first and most widespread environment in which the final vowel of a subject pronoun is deleted in Mantauran is if the cluster-initial pronoun is /=...CV/, preceding a DFLT pronominal clitic, as above in (1a–b) with monosyllabic and (1c) with disyllabic cluster-initial pronouns.

As table 1 above shows, all DFLT pronouns in Mantauran are /i/-initial. If a vowel-final pronoun precedes a DFLT pronoun, then its final V will be deleted. That is, if a pronominal clitic ends in a vowel and is followed by a DFLT pronoun, the occurrence of a final vowel in the cluster-initial clitic will not be allowed, such as *ʔo=inomə ‘=GEN.2SG=DFLT.2PL’, *=mita=iðə ‘=NOM.INCL1PL=DFLT.INV3SG’, *ða=ilinə ‘=GEN.INV3SG=DFLT.VIS3PL’, and *=nomi=inamə ‘=NOM/GEN.2PL=DFLT.EXCL1PL’. In these cases, the vowel-final pronoun is ruled out before the following DFLT pronoun. We therefore propose the following constraint to require that a cluster-initial clitic ending in a vowel not to co-occur with a following DFLT clitic.

- (12) *V]_{cl}[_{cl.DFLT}: A DFLT pronoun does not immediately follow a vowel-final subject pronoun. [Immediately preceding a DFLT clitic, a subject pronoun (i) *not* ending in a vowel incurs no violation, as in (14b), (17c), (19d), (21b–c), and (24b, d, f) below; (ii) ending in exactly *one* vowel incurs one violation, as (14a), (17b), (19c), (21a), and (24a, c, e) show; (iii) ending in exactly *two* vowels incurs two violations, as in (17a) and (19b) below; and (iv) ending in exactly *three* vowels incurs three violations, as (19a) shows.]

Even though final-vowel deletion satisfies *V]_{cl}[_{cl.DFLT} (a member of the markedness family of constraints), it still incurs a violation of MAX-IO (a faithfulness constraint):

- (13) MAX-IO: “Every segment in the input has a correspondent in the output. (No phonological deletion.)” [McCarthy and Prince 1995:264]

In order to avoid the sequence of a vowel-final pronoun and a DFLT-case pronoun, the subject pronoun’s final vowel is usually deleted. The final vowel of the subject pronoun occurs in the

underlying form but not in the output, violating MAX-IO in (14b). In order to force a violation of MAX-IO, $*V_{cl}[cl.DFLT]$ must be ranked above MAX-IO, as the following tableau demonstrates.¹⁵

(14) Markedness Forces Faithfulness Violation [See (1a) above.]

GEN, [-me, +you, -pl]; DFLT, [+me, -you, +pl].	$*V_{cl}[cl.DFLT]$	MAX-IO
a. /= $\text{ʔo}=\text{inamə}$ / → [$\text{ʔo}=\text{inamə}$]	*! W	L
☞ b. /= $\text{ʔo}=\text{inamə}$ / → [$\text{ʔ}_=\text{inamə}$]		*

The challenger candidate, (14a), violates only $*V_{cl}[cl.DFLT]$ (because the subject pronoun ends in a vowel), whereas the optimum candidate, (14b), violates only MAX-IO (because the underlying segment /o/ is deleted in the output). Thus, tableau (14) demonstrates that $*V_{cl}[cl.DFLT]$ dominates MAX-IO, which accounts for the deletion of the final vowel in most combinations.

3.2. Analysis of /= \dots VV=i \dots / Structure

The second environment in which a vowel is deleted is if the pronoun, which is of /= \dots VV/ shape, is followed by an /i/-initial DFLT pronoun. Examples (15a–c) show that a subject pronoun ending in two consecutive vowels deletes only the final vowel.

(15) Subject Pronoun Ends in Two Vowels Underlyingly [See also (2) above.]

- a. $i|a\ddot{a}_i$ $ma-\ddot{a}alam\ddot{a}$ $=|a_$ $=in\ddot{a}$
 TOPIC.1SG STAT.FIN-love =NOM.1SG =DFLT.VIS3SG
 ‘As for me, I love {her/him}.’ [Z 1997b:325; gloss of /ma-/ follows Z 2007:98; subscripts added]
- b. $o-\text{va}\text{ʔai}-\eta\text{a}$ $=na_$ $=inom\ddot{a}$ $\ddot{a}ona\text{ʔi}$ $v\ddot{a}k\ddot{a}n\ddot{a}|\ddot{a}$
 DYN.FIN-give-already =NOM.EXCL1PL =DFLT.2PL that land
 ‘We already gave you {that land/those lands}.’ [Z 2007:56, 136]
- c. [...] $ka =i$ $ni-\text{ats}\ddot{a}pa-\text{a}$ $=na_$ $=inom\ddot{a}$ [...]
 NEG =GEN.VIS3SG CNC.NMLZ-include-CNC.NMLZ =GEN.EXCL1PL =DFLT.2PL
 ‘[...] Even if we included you for dinner, [...]’ [Z and Lin 2003:450]

In Mantauran pronominal combinations, deletion of only the final vowel (of the subject pronoun) occurs if $*V_{cl}[cl.DFLT]$ is overridden by some faithfulness constraint (other than MAX-IO). For example, with the underlying forms /= $\text{a}\text{o}=\text{in}\ddot{a}$ / the faithful output form $*[=\text{a}\text{o}=\text{in}\ddot{a}]$ in (17a) violates $*V_{cl}[cl.DFLT]$ twice, the optimum $[=\text{a}_=\text{in}\ddot{a}]$ in (17b) violates $*V_{cl}[cl.DFLT]$ once, but $*V_{cl}[cl.DFLT]$ is not violated by the output form $*[=\text{__}=\text{in}\ddot{a}]$ in (17c). However, only (17c)

¹⁵ In this study, we combine—similarly to Oda 2005 (citing unpublished work by John J. McCarthy)—the properties of both so-called data tableaux (the kind used in Prince and Smolensky 1993), and comparative tableaux (introduced in Prince 2003, where the ~ symbol is used for ‘compared to’). Common to both tableau types is the arrangement of constraints along the top, output forms (or candidates) along the left-hand column, and the input in the upper-left cell of the tableau. The optimal candidate is indicated with a preceding pointing finger (☞). As in data tableaux, the left side of any other cell in the tableau shows the number of violations of the constraint named above it by the candidate to its left. In addition, as in comparative tableaux, the right side of the same cells (only in non-optimum rows) shows how the given candidate fares compared to the optimum with regard to the same constraint using Ws (indicating ‘optimum wins’) and Ls (for ‘optimum loses’). Also, the relation $X \gg Y$ stands for ‘X dominates Y’.

violates MAX-XX, a member of the MAX constraint family; the other candidates, with up to one deleted segment, satisfy this constraint.¹⁶

(16) MAX-XX: Consecutive input segments have consecutive correspondents in the output.
[Prevents deletion of consecutive segments. Namely, deletion of a contiguous string of input segments of length n entails $n - 1$ violations; where n is ≥ 1 . See (17c), (19c–d), and (24d) below.]

(17) Markedness Constraint in Faithfulness Sandwich [See (15a) above.]

NOM, [+me, -you, -pl]; DFLT, [-me, -you, -pl, +vis].	MAX-XX	$*V_{cl}[cl.DFLT]$	MAX-IO
a. /=[ao=inə/ → [=[ao=inə]		*!* W	L
b. /=[ao=inə/ → [=[a_ =inə]		*	*
c. /=[ao=inə/ → [=[_ _ =inə]	*! W		L** W

To begin, (17b~a) demonstrates once more that $*V_{cl}[cl.DFLT] \gg \text{MAX-IO}$, and (17b~c) shows that $*V_{cl}[cl.DFLT]$ is dominated by at least one of MAX-XX and MAX-IO. However, we know from tableau (14) above or (17b~a) that $*V_{cl}[cl.DFLT]$ is not dominated by MAX-IO. Thus, $*V_{cl}[cl.DFLT]$ is dominated only by MAX-XX. In sum, tableau (17), building on the ranking in tableau (14), demonstrates that $\text{MAX-XX} \gg *V_{cl}[cl.DFLT] \gg \text{MAX-IO}$; only the latter vowel in a VV-final pronoun is deleted. (In addition, owing to a stringency relation, we know that $\text{MAX-XX} \gg \text{MAX-IO}$.)

Though NOM and GEN pronouns end in no more than two vowels, it is still possible—albeit quite rare—for the subject pronoun to end in *three* consecutive vowels. Zeitoun reports a relatively small number of stative verbs whose sole argument takes DFLT case (2007:399–401):

As mentioned in Saillard (1995[:63]) for Maga Rukai, which shares the same pattern, the nominal argument (i.e. the theme) “is understood to have been caused to be in this state by an unexpressed agent: what is emphasized is not the present state, but rather the fact that a process has taken place, by which the argument came to experience the given state.” [Z 2007:399, Saillard’s underlining]

It is also possible (in both dialects) for the Theme to be expressed, also in the DFLT case. If both arguments are encoded by pronouns, their relative order is DFLT Experiencer before DFLT Theme:

(18) ʔokoloð =ia_ =inə; ɖipolo_i
afraid =DFLT.1SG =DFLT.VIS3SG Dhipolo
‘I am afraid of Dhipolo.’ [Z 2007:361; see also 2007:401; subscripts added]

Fortunately for the current purposes, the data that Zeitoun lists all employ the DFLT.1SG pronoun /=[iaə/ as the subject/Experiencer.¹⁷ This pronoun ends in (indeed, it consists entirely of) three consecutive vowels. It is therefore possible to see how the proposed constraints generate the attested output in (18). As in tableau (17) above, deletion of multiple vowels from the end of the cluster-initial (subject) pronoun entails violation of the undominated MAX-XX constraint. It is therefore immaterial whether there is just one MAX-XX violation, in (19c), or two, in (19d);

¹⁶ Another candidate, $*[=[_o=inə]$, is ruled out by the undominated CONTIGUITY constraint prohibiting deletion from inside the morpheme (along the lines of Billings 2002:66–68; cf. McCarthy and Prince 1995:260–261, 371).

¹⁷ We offer no explanation for another example, of /=[iaə=imiaʔə/ (Z 1997c:200), without deletion of any vowel.

MAX-XX eliminates both of these candidates.¹⁸ As defined in (16), MAX-XX is a gradient constraint; in (19) the same output would be generated if MAX-XX were a categorical constraint.

(19) Another Faithfulness Sandwich: Subject Pronoun Ends in Three Vowels [See (18) above.]

DFLT, [+me, -you, -pl]; DFLT, [-me, -you, -pl, +vis].	MAX-XX	*V] _{cl} [_{cl} .DFLT	MAX-IO
a. /= iaə =inə/ → [=iaə=inə]		***!	W L
b. /= iaə =inə/ → [=ia_ <u> </u> =inə]		**	*
c. /= iaə =inə/ → [=i_ <u> </u> =inə]	*!	W*	L** W
d. /= iaə =inə/ → [=_ <u> </u> =inə]	*!*	W	L*** W

In this subsection we have shown how one markedness constraint, situated as it is in the hierarchy between two members of a markedness subhierarchy of faithfulness constraints, achieves the deletion of just the last vowel of a /=**...VV**/ subject pronoun before a DFLT pronoun.

3.3. Analysis of /=**...C=i.../** Structure

Recall from (3) and (11) above that, if there is a following DFLT pronoun, the NOM.2SG lexical allomorph /=**mi?**/ is used rather than deleting the last vowel of /=**mo?**/ (i.e., * [=mo? =i...]). We show here how the marked, C-final variant is preferable to /=**mo?**/ undergoing V-deletion.

Because there are multiple underlying forms—here /=**mi?**/ and /=**mo?**/—in the lexicon, we propose the following constraint to determine which underlying form the output selects.

(20) *MKD: Do not use the marked member of a set of lexical allomorphs.

This constraint is relevant to two of the instances of allomorphy discussed above in section 2: NOM.2SG and GEN.VIS3SG. Entailed by this approach is the notion that /=**mi?**/ is identified somehow in the lexical entry as the marked member of the set of NOM.2SG pronouns.

(21) Submergence of *MKD [See (3) above.]

NOM, [-me, +you, -pl]; DFLT, [+me, -you, -pl].	*V] _{cl} [_{cl} .DFLT	MAX-IO	*MKD
a. /= mo? =iaə/ → [=mo? <u> </u> =iaə]	*!	W	L
b. /= mo? =iaə/ → [=mo? <u> </u> =iaə]		*!	W L
c. /= mi? =iaə/ → [=mi? <u> </u> =iaə]			*

At this point we draw a distinction between the *input* (in the upper-left cell of each tableau) and the *underlying form* (shown between slashes in each candidate). The former is comprised of features, presumably those that the syntax uses; the latter, the forms selected from the lexicon after spelling out to the morphological component. The same input is used throughout the candidate set but in the same tableau there can be more than one underlying form. In (21a–b) /=**mo?**/ is selected; in (21c) it is /=**mi?**/. Most of the time—i.e., if there is no DFLT pronoun

¹⁸ More precisely, the REALIZE MORPHEME constraint introduced below in (23) is also violated only by (19d), not by (19a–c). Since that constraint and MAX-XX are both undominated, so it's unclear which of them eliminates (19d).

immediately afterward—*MKD is what allows /=moʔo/ to be selected. Only in a pronoun cluster is *MKD overridden: by *V]_{cl}[_{cl}.DFLT in (21c~a) and by MAX-IO in (21c~b). In other words, *MKD is doing no work in (21); its purpose is to prevent /=miʔ/ only outside of pronoun clusters.

Given the existence of /=miʔ/, selecting this allomorph is chosen over using unmarked /=moʔo/ and deleting its final vowel. In other words, choosing the marked, consonant-final, underlying form is preferable to deleting the final vowel of the unmarked underlying form.

3.4. Analysis of /=V=i.../ Structure

In Mantaoran, the final vowel of the subject pronoun in most pronominal combinations is deleted, with one exception. Of the GEN.VIS3SG variants, /=i/ combines with hosts ending in a velar (hereafter *K*) plus a vowel /a/, as in (4) or (10b) above; /=ni/ is used elsewhere, as in (10a). If the /=i/ variant is used in a cluster, in (4) or (10b), the subject pronoun’s final V is not deleted. We show here how this exception to V-deletion is handled by our Optimality-theoretic model.

The input of GEN.VIS3SG is a string of features—i.e., GEN, [-me, -you, -pl, +vis]—and the underlying form can be either /=i/ or /=ni/. In opposition to *MKD, proposed above in (20), we propose the constraint in (22) for hosts like (10b), with /ka/, to select the marked /=i/ variant.

(22) /...Ka=i/: Use the GEN.VIS3SG lexical form /=i/ after a host ending in a velar stop plus /a/.

In (10a) /...Ka=i/ is satisfied; the host /kanə/ does not end in velar stop plus /a/. By contrast, *MKD prohibits the use of the marked /=i/, so /kanə/ chooses /=ni/, and *MKD is satisfied.¹⁹

If /=i/ is the subject in a pronoun cluster, there is no deletion, as in (10b). We adopt (23).

(23) REALIZE MORPHEME (RM): “requires morphemes to receive some surface phonological manifestation but does not specify what it should be.” [Kurusu 2001:55]

If the vowel in the /=i/ allomorph is deleted, there would no longer be any phonological realization of this morpheme in the output, a violation of RM. However, deletion of the vowel in /=ni/ would not entail an RM violation; there’s still phonological realization in the output, [=n_].

(24) Morpheme Realization (and Dealing with Multiple Potential Optima) [See (10b) above.]

GEN, [-me, -you, -pl, +vis]; DFLT, [-me, -you, -pl, +vis].	/...Ka=i/	RM	MAX-XX	*V] _{cl} [_{cl} .DFLT	MAX-IO	*MKD
a. /-ka=ni=inə/ → [-ka=ni=inə]	*!	W		*		L
b. /-ka=ni=inə/ → [-ka=n_ =inə]	*!	W			L*	W
↙ c. /-ka=ni=inə/ → [-ka=_i=inə]	*			*	*	
d. /-ka=ni=inə/ → [-ka=_ _ =inə]	*	*	*		**	
☞ e. /-ka=i=inə/ → [-ka=i=inə]				*		*
f. /-ka=i=inə/ → [-ka=_ =inə]		*!	W		L*	W*

¹⁹ A tableau similar to (14) above, where the attested form violates only MAX-IO, would be used for (10a), which would be the optimum candidate. One faithful candidate, /kanə=ni=inə/ → *[kanə=ni=inə], would violate *V]_{cl}[_{cl}.DFLT; another faithful candidate, /kanə=i=inə/ → *[kanə=i=inə], would violate both *V]_{cl}[_{cl}.DFLT and *MKD.

Tableau (24)—preceding page—formalizes the choice of [-ka=i=inə] in data like (10b) above.²⁰ Along with rankings from earlier tableaux (MAX-XX » *V]_{cl}[_{cl}.DFLT » MAX-IO » *MKD), we now know that /...Ka=i/ » *V]_{cl}[_{cl}.DFLT from (24e~b) and that RM » *V]_{cl}[_{cl}.DFLT from (24e~f).

This subsection has shown how the lexical allomorphy of the GEN.VIS3SG pronoun and its exception to V-deletion are generated. One constraint, RM, prevents V-deletion if it removes the whole pronoun. Additionally, /...Ka=i/ (ranked above *MKD), selects the marked /=i/ allomorph.

Section 3 has presented four shapes of the preceding pronoun in a cluster. In the first two, the subject pronoun is /=...CV/ and /=...VV/; in both of these, only the final segment is deleted. In the third shape, /=...C/, there is no deletion. In the last shape, /=V/, the only segment also does not delete. Our final ranking is {/...Ka=i/, RM, MAX-XX} » *V]_{cl}[_{cl}.DFLT » MAX-IO » *MKD.

4. Conclusion

In this paper we have looked at just one of the ways in Mantaaran that vowels across morpheme boundaries are restricted somehow. Deletion of one of the vowels is found not only between clitics (Z 1997c:164–165, 2007:28–29). See, for example, the underscore in (7b) above at an affixal boundary (also discussed in fn. 11). Such V-V junctures are also constrained as to the vowels' quality features. For instance, the choice between OBJ.NMLZ;IRREALIS allomorphs seems to be dissimilatory: /-i/ attaching to /a/-final bases but /-a/ used elsewhere (Z 2007:200).

Beyond strictly formal issues, this study also makes a methodological point. Careful field research on a highly endangered language—by Li, Lin, Zeitoun (and Zeitoun's co-authors)—has allowed the wider linguistic community to witness this theoretically interesting phenomenon.

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²⁰ Following Prince 2003, we use line-crossing to show losers; e.g., (24b) harmonically bounds each of (24c–d). The broken arrow (↯) indicates a potential optimum—i.e., homophonous to (24e)—that is a loser. In addition, the candidates /-ka=i=inə/ → *[-ka=<n>=inə] and /-ka=i=inə/ → *[-ka=<n>_inə], not listed in (24), would each violate undominated DEP, the constraint prohibiting epenthesis (McCarthy and Prince 1995:264).

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