Origins of Palauan Intrusive Velar Nasals

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Recent detailed study of the historical phonology of Palauan reveals a non-etymological velar nasal at the beginning of inherited vowel-initial words, while synchronic studies of the language report final velar nasals in loans from the nineteenth and twentieth centuries. Blust argues that the initial velar nasal is not due to regular sound change, and also contests a potential morphological origin for the accreted segment. Reid examines Philippine evidence, and suggests that the source of the Palauan initial velar nasal is the linker *ŋa, though little evidence internal to Palauan is discussed. Here we demonstrate that, on the basis of internal evidence, a morphological source for both initial and final velar nasals is evident in Palauan, though internal and comparative evidence points to an ancient formative *ŋa 'emphatic' with distinct distribution and semantics from the well-studied Austronesian linker.

1. INTRUSIVE VELAR NASALS IN PALAUAN.[1] In a recent paper detailing the historical phonology of Palauan, Blust (2009) presents comparative evidence documenting two distinct processes of historical epenthesis or accretion. In the first case, vowel-initial words inherited from Proto–Malayo-Polynesian (PMP), or those that became vowel-initial early on due to *h-loss, show a nonhistorical initial velar nasal. The full set of forms give in Blust (2009) is shown in (1a), with (C) indicating etymologies suggested in Conant (1915); we have added several additional examples in (1b).

(1) **Secondary word-initial velar nasal in Palauan**

	PMP	PALAUAN	
a.	*aku	ŋak	'I, me' (C)
	*anak	ŋalək	'child' (C)
	*anay	ŋal	'termite' (C)
	*aRuhu	ŋas, ŋasu[2]	'casuarina'
	*esuŋ	ŋot	'mortar'
	*habaRat (> abaRat)	ŋəbarð	'west (wind)' (C)

1. For helpful comments, we are grateful to two anonymous reviewers, Justin Nuger, and audiences at the University of Massachusetts, Amherst, the University of Pennsylvania, and Stony Brook University, where earlier versions of this paper were presented by the first author. All usual disclaimers apply. Standard Leipzig Glossing conventions are followed. In addition, we use the following: EMPH, emphatic; LNK, linker; LV, light verb; MENS, mensural marker; PREP, preposition; PV, preverbal particle; STA, stative.

2. The vowel-final variant was not reported in Blust (2009), but is listed in Institute of Pacific Islands Forestry (2011).

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	*hapuy (> apuy)	ŋaw	‘fire’
	*hated (> ateð)	ŋaðər	‘accompany’
	*hikan (> ikan)	ŋikəl	‘fish’ (C)
	*hiket (> iket)	ŋikəð	‘tie, bind; make fishnet’
	*hulaR (> ulaR)	ŋuys	‘k.o. green snake’ (C)
	*ia	ŋiy	‘he, she, it’ (C)
	*ibeR	ŋibəs	‘drooling saliva’
	*ituq	ŋiðəʔ	‘climbing fern’
	*uRat	ŋurð	‘vein, artery’(C)
	*wada (> ada)	ŋar	‘be, exist’
b.	*idus	ŋirt	‘nasal, mucus, snot’
	*ita	-ŋið	‘1PL.INCL’
	*wahiR (> ais)‘water’[3]	ŋais	‘egg; testicles’

In the second case, some loan words that are vowel-final in the source language show a final [ŋ] in Palauan, as illustrated in (2). However, (3) shows that the intrusive final velar nasal does not occur in all loans, and that even for a given language, there are some loans that show the final nasal, and others that do not:[4]

(2) **Word-final velar nasals in some vowel-final loans**

a.	SPANISH	PALAUAN	
	bandera	baŋderáŋ	‘flag’
	plato	bəlatóŋ	‘plate, dish’
	Diablo	diabəlóŋ	‘devil’
	misa	misáŋ	‘mass’
b.	ENGLISH	PALAUAN	
	beer	biáŋ	‘beer’
	flour	blawáŋ	‘bread’
	doctor	tóktaŋ	‘doctor’
	veranda	bəráŋðaŋ	‘veranda’
c.	JAPANESE	PALAUAN	
	kama	kamáŋ	‘sickle’

(3) **Word-final vowels maintained in loans**

a.	SPANISH	PALAUAN	
	bible	biblia	‘bible’
	padre	badre	‘priest’
b.	ENGLISH	PALAUAN	
	potato	botéto	‘potato’
	antenna	ʔaŋténa	‘antenna’
c.	JAPANESE	PALAUAN	
	bara	bara	‘rose’
	benjo	bénzio	‘toilet’

3. PMP meanings include ‘fresh water; stream; river; liquid; sap; juice’. On cognate sets that include meanings ‘water’ and ‘egg’ in Australian Aboriginal languages, see O’Grady (1990). The phonological correspondences here are perfect.
4. In Josephs (1990), *gumi* is the only German loan with a vowel-final source; all other German loans are consonant final in German and in Palauan. For an extensive discussion of German loans in Palauan and the history of contact with German, see Engelberg (2006).

d.	GERMAN	PALAUAN	
	gummi	gumi	‘elastic, rubber band’

There are several arguments for treating initial nonhistorical engma in forms like (1) and final nonhistorical engma in forms like (2) as the outputs of distinct historical processes.[5] First, as already noted, while the first process is exceptionless with inherited vocabulary (though see below), the second is sporadic, being most common with Spanish loans, and least common in Japanese loans. Second, initial engma is not found in vowel-initial loans. Most commonly, these words show an initial glottal stop in Palauan, but they may also be vowel-initial. Examples are shown in (4).[6]

(4) **Word-initial vowels preceded by glottal stop in loans**

a.	SPANISH	PALAUAN	
	angel	ʔaŋhel	‘angel’
	iglesia	ikelesia	‘church’
b.	ENGLISH	PALAUAN	
	antenna	ʔaŋténa	‘antenna’
	English	iŋklis	‘English’
c.	JAPANESE	PALAUAN	
	asagao	ʔasagao	‘morning glory’
	ensoku	ʔensok	‘picnic’
	okane	ʔokan	‘money’
	udon	ʔudoŋ	‘noodles’
	usagi	ʔusagi	‘rabbit’
d.	GERMAN	PALAUAN	
	auswendig	ʔausbeŋdik	‘memorize’

Finally, in the small set of inherited forms from PMP that have a final vowel in Palauan, there is no evidence for velar nasal accretion.[7] Since most final vowels were lost by regular sound change, this class of words is made up primarily of cases where the final sequences *-ap and *-ep became *o* (Blust 2009:313): *ʔaðo* ‘roof’ < *qatep; *kəsako* ‘land crab, rock crab’ < *kaRakap; *roro* ‘Indian coral tree’ < *dapdap.

In the remainder of this paper, we show that the distinct distribution of these epenthetic velar nasals correspond with distinct origins. The initial nasal results from reanalysis of a particle *ŋ, while the final nasal is a consequence of nativization of loans that violate a word-final phonotactic prohibiting unstressed final lax vowels, as originally proposed by Josephs (1984).

2. AGAINST REGULAR SOUND CHANGE. Natural phonetically motivated consonant epentheses adjacent to oral vowels are of two basic types: glide epenthesis adjacent to a homorganic vowel; or laryngeal epenthesis of [h] or [ʔ] at a word edge

5. Initial and final /ŋ/ in Palauan can also be a regular reflex of earlier *ŋ: *ŋakl* ‘name’ < *ŋajan; *buŋ* ‘flower’ < *buŋa; *saŋ* ‘spider conch’ < *Raŋa. See Blust (2009) for evidence of *ŋ > *ŋ* in all positions.
6. Sakiyama (1995:6) states that vowel-initial Japanese loanwords take initial glottal stop without exception. While this appears to be true for /a/-initial words, /o/-initial words are tolerated: note Palauan *okane* ‘money’, *okasi* ‘sweets’, and *osime* ‘diaper’, all from Japanese.
7. See section 4 where alternating phrase-final velar nasals are discussed.

(Blevins 2008a). Nasalized vowels may give rise to adjacent nasal glides (Hajek 1991); however, there is no evidence of historical vowel nasalization initially or finally in Palauan.[8] We are in full agreement with Blust (2009), then, that there is no phonetic motivation for the intrusive velar nasal at word edges. Despite the fact that the correspondences in (1) smack of regularity, and that velar nasals have been proposed as phonologically unmarked segment types in some approaches (de Lacy 2006), within restrictive models of sound change, like Evolutionary Phonology (Blevins 2004, 2006, 2008a, 2008b), the observation that there is no known natural phonetic source for spontaneous nasals or nasalization at word or phrase boundaries forces one to consider alternative explanations for the data in (1).

3. MORPHOLOGICAL SOLUTIONS: PREVIOUS PROPOSALS.

A cross-linguistic survey of epenthetic consonants other than glides and laryngeals reveals more complex histories of at least three common types (Blevins 2008a). A seemingly epenthetic obstruent may arise via a series of sound changes where glide epenthesis is followed by glide fortition. Epenthetic consonants of many types (liquids, nasals, fricatives) may also evolve through the process of historical rule inversion or reanalysis, where the epenthetic consonant corresponds to a consonant that was lost historically in complementary environments. Finally, in sandhi contexts, morphological reanalysis may occur with or without analogical extension: in this case, a consonant once associated with one morpheme is analyzed as belonging to another. This last case is exemplified by the well known instances of article accretion in Oceanic languages of Vanuatu (5), where the Proto-Oceanic article */na/ fuses with nominal stems.

(5) ***/na/ article accretion in some Vanuatu languages**

PROTO-OCEANIC	MWOTLAP	NEVEʻEI	SYE	
*mata ‘eye’	na/mte-	ne/meta-	ni/mtu-	
*lipon ‘tooth’	n/ɪwo	no/lovu-	ne/lve-	
*Rum^{w}aq ‘house’	n/ɪm^{w}	ni/yim	n/imo	(Lynch 2001:225)

Analogical extension of this pattern has occurred in some languages, for example in Neveʻei, as illustrated by the loan words in (6).

(6) **Neveʻei loans with /nV-/**

nebaniav	‘pineapple’	(< Bislama *paenap*)	
nebavkin	‘pumpkin’	(< Bislama *pamken*)	
nemago	‘mango’	(< Bislama *manggo*)	
nusulu	‘clothes, clothing’	(cf. Fijian *sulu*)	(Lynch 2001:228)

Pätzold (1968:21–22) was the first to propose that the initial velar nasal in Palauan was a result of this kind of morphological reanalysis. He assumed a reconstructed article *aŋ < *a + *ŋ based on comparisons with Tagalog, with the velar nasal in Palauan assigned to the stem when followed by vowels (7a), and deleted elsewhere (7b).

8. In other positions, for example, after a nasalized vowel and before a nasal consonant, epenthetic velar nasals do have phonetic motivation, arising from epenthetic nasal glides and subsequent glide hardening. In Bolognese, and many other Romance languages, an epenthetic velar nasal is found before historical intervocalic /n/ (Hajek 1991; Shosted 2005).

(7) **Palauan initial nasal via morphological reanalysis**

	PROTOFORM OF ARTICLE	TAGALOG	PALAUAN		
a.	*a + *ŋ > *aŋ	aŋ ugát	a ŋ/urð	'the vein, vessel'	
	*a + *ŋ > *aŋ	aŋ apóy	a ŋ/aw	'the fire'	
b.	*a + *ŋ > *aŋ	aŋ báhay	a bay	'the house'	
	*a + *ŋ > *aŋ	aŋ kúto	a kuð	'the louse'	(Pätzold 1968)

Despite the initial plausibility of an analysis of this kind, Blust (2009) raises two central problems for this particular analysis.[9] The first problem Blust highlights is the fact that no grammatical marker *aŋ can be reconstructed for a language ancestral to both Tagalog and Palauan. However, the comparison in (7) makes it clear that reconstruction of *aŋ is not a precondition for Pätzold 's proposal: "All that needs to be reconstructed is a grammatical marker that could develop an allomorph ending in a velar nasal…" (Blust 2009:327). Blust considers several possibilities, all based on external comparison, but finds no basis for reconstructing a grammatical particle of this kind. In the following section, we show that internal evidence from a close examination of Palauan synchronic morphosyntax yields a morphological source for excrescent nasals: the agreement marker *ŋ* (orthographic <ng>) marking the third person singular.

The second problem Blust discusses is that, while the particular morphological solution Pätzold proposes "may be *a priori* plausible for nouns, it is problematic for verbs and especially for pronouns" (2009:325), though these word classes do show initial accretion of velar nasals, as exemplified in (1). In this case, Blust does not consider the possibility of reconstructing a particle with wider distribution. Below, we suggest that the third person singular *ŋ* has precisely the wide distribution required to be reanalyzed preceding nouns, verbs, and pronouns. Procliticization of this particle can account for the data in (1).

4. A NEW MORPHOLOGICAL SOLUTION. Palauan is a Malayo-Polynesian language with a long history of independent development. As a consequence, "we cannot turn to closely related languages for assistance in understanding how it has developed the very distinctive traits that is has" (Blust 2009:307). Internal reconstruction is in order, though, somewhat surprisingly, this is a method that has not been fully exploited in understanding potential morphological sources of the correspondences in (1).

The most important aspect of synchronic Palauan grammar with potential relevance to the historical correspondences in (1) is that there is a third person singular marker with a wide morphosyntactic distribution, occurring before words of every major word class, including nouns, verbs and pronouns. Examples of *ŋ* are given in (8) before nouns (8a), pronouns (8b), verbs (8c), and other word classes (8d).[10]

9. An additional point discussed is whether morphological reanalysis of this kind can be analogically generalized across the lexicon (Blust 2009:324–25). Although Blust 's initial position is that "analogical wrong division tends to affect particular forms while leaving others alone" (2009:325), after further consideration, he admits that "the point that metanalysis can be regular is well taken … Although it is not common, then, for metanalysis to be a regular change, it can be regular … This much is clear and agreed upon" (2009:326).
10. Examples are presented following Palauan orthography, where /ŋ/ is represented by <ng>.

(8) **Distribution of Palauan *ŋ* '3SG nonemphatic'**

a. PRENOMINAL
Ng hong er ngii.
3SG book REL 3SG.EMPH
'It 's his book.'

b. PREPRONOMINAL
Ng ngak.
3SG 1SG.EMPH
'It 's me.'

c. PREVERBAL
i. Ng chull.
3SG rain
'It 's raining.'
ii. Ng mong.
3SG go
'He 's going.'

d. OTHER
Ng kmal ungil.
3SG very good
'It 's very good.'

Not only does the syntactic distribution match what would be necessary for cross-categorial metanalysis, but the synchronic phonological status of *ŋ* as a clitic, forming a single phonological word with neighboring syntactic words, is consistent with a previous state where reanalysis could take place. A range of examples showing the inclusion of *ŋ* in a bigger phonological word is given in (9). Assimilation of /ŋ/ to [n] before homorganic coronal consonants, as in (9b,e) occurs within the phonological word, confirming that these sequences are treated as single phonological words.

(9) **Clitic status of *ŋ*: proclitic and enclitic**

	SYNTACTIC WORDS	PHONOLOGICAL WORD	
a.	ng oles	[ŋolɛs]	'it is a knife'
b.	ng diak	[ndiakh]	'isn't' (cf. /ngduul/ 'clam' [nduwl])
c.	e le ng	[ɛlɛŋ]	'because he …'
d.	m əng	[məŋ]	'so he …'
e.	e ng di	[ɛndi], [əndi]	'but …' (Josephs 1975:11, 31–32)

If the origin of word-initial /ŋ/ in (1) is reanalysis of the earlier *ŋ, a third person singular marker with similar distribution to the modern particle, several exceptions to the general pattern of intrusive engma before initial vowels can be explained. Though the first etymology in (1a) is *ŋak,* glossed as 'I, me' < *aku, this gloss should be revised slightly, since Palauan *ŋak* is the first person singular emphatic pronoun.[11] As seen below, there is also a first person singular non-emphatic pronoun *ak*. See table 1.

An emphatic pronoun is inappropriate when the pronoun is not narrowly focused, as in the adjunct question in (10).

11. Compare Proto-Oceanic *ŋau '1SG' (Blust 1995/2011), which is also sometimes glossed as focused or emphatic. The appearance of initial engma in the third singular nonemphatic may appear anomalous. However, under our analysis, the emphatic is bleached in presentational contexts where we assume a preceding element that could have been an existential or dummy third person pronoun, as commonly found in certain types of cleft sentences.

(10) a. Kə mo ər ker?
2SG go PREP where
'Where are you going?' (Josephs 1975:80)

b. Ak mo ər a stoaŋ.
1SG go PREP ART store
'I'm going to the store.'

Conversely, emphatic pronouns are required when they provide the answer to a question or when they are used in other contrastive contexts, as shown in in (11).[12] The connection between nonemphatic third person singular *ŋ* and focus is straightforward. The third person marks agreement with a (null) presentational subject analogous to the *it* of an English it-cleft. Note that *ŋ* also precedes the interrogative pronoun in (11a), precisely parallel to its appearance within the emphatic pronoun in (11b), which, historically, derives from the asterisked gloss.[13]

(11) a. Ng tə'a a mo ər a stoang?
3SG who ART go PREP ART store
'Who's going to the store?' (lit., 'Who is it that's going to the store?')

b. Ng/ak a mo ər a stoang.
3SG/1SG ART go PREP ART store
'I'm going to the store.' (lit., *'It's me who is going to the store.')

Our explanation for the seeming exceptionality of *ak* 1sg and *aki* '1PL.EXCL' to historical engma-insertion follows naturally. As nonemphatics, they would not figure in the above cleft-like construction, employed cross-linguistically for focusing. In (12), we summarize the distributional contrast leading to distinct patterns of grammaticalization.

(12) **Emphatic vs. nonemphatic 1SG pronoun**

1SG	NONEMPHATIC	ak < *aku	(not preceded by *ŋ)
1SG	EMPHATIC	ŋak < *ŋ + aku	(often preceded by *ŋ)

One prediction of this analysis is that inherited vowel-initial interjections or exclamations that constitute single word utterances will remain vowel-initial, as they are not compatible with the presentational context that triggers 3rd person agreement. The two Palauan words in (13), which do not appear to be loans, are of this type.

TABLE 1. NONEMPHATIC AND EMPHATIC PRONOUNS

	NONEMPHATIC	EMPHATIC
1SG	ak	**ng**ak
2SG	kə	kau
3SG	ng	**ng**ii
1PL.INCL	kədə	kid
1PL.EXCL	aki	kəmam
2PL	kom	kəmiu
3PL	tə	tir

12. Exceptional cases of emphatic pronouns used as nonfocused objects and possessor pronouns are discussed by Josephs (1975:85).
13. Due to the fossilization of the 3SG element in the emphatic set of pronouns, Palauan now allows this set to recombine with *ŋ* to form such constructions as *ŋ-ŋak* 'It's me' (Josephs 1975:81).

(13) **Vowel-initial greetings and exclamations**

alii ‘interjection; hey! Look out! hello’
cf. Proto-Austronesian (PAN) *Sauni ‘in a little while, momentarily, later’; Kankanaey *auní* ‘stay! Hold! Wait!’, Batad Ifugao *awni* ‘exclamation, roughly equivalent to “wait! Later!”’ (Blust and Trussel in progress).

adaŋ ‘please; won’t you? It’s true, isn’t it?’
cf. Proto-Philippines *ata, Bontok *at*, Aklanon *ata(h)*, also Bikol *áta?* ‘I’ve already told you’ (Blust and Trussel in progress).

In comparison with other approaches, another prediction made here is that vowel-initial subordinators that must be clause-initial will also remain vowel-initial, since they would never be preceded by agreement markers. Two examples of this type are *alekó (ak)* ‘I intended to ...’ and *altáe*, *altáng* ‘if (... perhaps/maybe)’.

We believe that the above evidence is sufficiently strong for taking a pre-Palauan 3SG marker of the shape *ŋ to be the precursor for the nonhistorical initial velar nasal, independent of external evidence. A remaining question is whether there is comparative evidence allowing one to trace *ŋ to times predating pre-Palauan. We address this question in detail in the remainder of this section.

In a lengthy reply top Blust’s (2009) treatment of the Palauan excrescent velar nasal, Reid (2010) also suggests a morphological account of the initial velar nasal in forms like those in (1). However, Reid’s suggestion that Palauan synchronic /ŋ/ is a reflex of the ubiquitous Austronesian linker *na, more precisely PMP *na ~ =n /…V__; *=a /…C__ (after Reid 2010:447) is, in our view, misguided. One weakness of this account, already pointed out by Blust (2009), is that it requires an irregular sound change taking n > ŋ.[14]

A more serious objection, not noted by either Reid or Blust, is that there exists a clear regular reflex of the linker *na in Palauan: *əl* ‘which, who, that; linker introducing various clause types’ (Josephs 1975:28–30, 1990:87). This reflex is phonologically regular since, following Blust (2009), final vowels were lost, and *n > l in Palauan. The expected reflex, /l/, is supported by an epenthetic schwa: this vowel is absent when the preceding word is vowel final, or when the preceding word is /l/-final (Josephs 1975:29). In this second case, we see the effects of historical degemination in sandhi *l#l > l.

Palauan *əl* occurs in precisely the same contexts as linkers in Philippine languages: preceding relative clauses (14a), and appositives (14b), as well as between adjectives (14c), numerals (14d), demonstratives (14e) and the nouns they modify.

(14) a. Ak rirəngəsii a ngaləkəl lmangəl.
1SG hear ART child LNK cry
‘I heard a child (who was) crying.’ (Josephs 1975:452)

14. Reid (2010) argues the change to a velar nasal was based on an analogy from cases in which the linker preceded and assimilated (in place) to the mensural marker *ka-. While analogical change is always possible, we identify Palauan *el*, and not *ŋ-*, as the marker that occurs in all the classic linker contexts. However, the extension of this assimilated particle from a corner of the numeral system to all major categories does not strike us as plausible, even more so when many of the witness languages showing a linker with a velar nasal do not employ it in conjunction with the mensural marker at all (for example, Cebuano *usa ka* one MENS).

b. John əl sensei
John LNK teacher
'John the teacher' (Josephs 1975:456)

c. məkngit əl təkoi
dirty LNK word
'dirty word' (Josephs 1975:463)

d. eru əl sils
two LNK day
'two days' (Josephs 1975:471)

e. tia əl hong
this LNK book
'this book' (Josephs 1975:469)

Since Palauan *əl* is—by phonological, morphological, syntactic, and semantic criteria—cognate with the PMP linker *na and a clear regular reflex of it, attempts to relate Palauan *ŋ* to the same protoform involve more complex historical developments (see Reid 2010).

Another *a priori* possibility is that the third person singular *ŋ* was somehow derived from the PMP third singular genitive clitic **niya* after procliticizing as *na-,* itself a widespread change that must have happened several times independently in Austronesian languages outside of Formosa and the Philippines (see Wolff 1996, van den Berg 1996, Mead 2002). Two facts militate against this scenario. First, as with linker *na, an irregular sound change from *n > *ŋ* would be necessary. Second, we find the expected reflex of the third person singular genitive, *lo*, in the irrealis set of agreement markers, as shown in (15) (Josephs 1975:104).[15]

(15) **Palauan irrealis agreement markers**

	SG	PL
1	ku-	do-
2	ʔomo-	kimo-
3	**lo-**	**lo-**

Having disposed of the most obvious source for proto-Palauan 3SG *ŋ*, we must turn to other candidates for grammaticalization. We argue below that the best candidate is not pronominal at all, but rather adverbial. But before moving on to the comparative data, let us comment further on what a pre-pre-Palauan form of this monoconsonantal particle might look like. Since *ŋ would not constitute a well-formed word or particle in PAN, this particle is an expected continuation of a PAN or PMP protoform *ŋV, *Vŋ, or *VŋV. Recall that Palauan has lost PAN final vowels, making *ŋV the most likely precursor. However, *Vŋ and *VŋV cannot be ruled out, since Palauan has sporadically lost PAN/PMP initial vowels as well, as in *lab* 'a tree, *Abroma augusta*' < *anabu (Blust 2009:316).

Although almost all the Austronesian languages of the Philippines and Taiwan possess a wide array of adverbial particles and clitics, there has been very little work towards the reconstruction of these to PAN or even to lower Austronesian subgroups. The functions of

15. The historical third person singular plays double duty for both third person singular and plural nonhuman in Palauan, but this is not an uncommon development, and has occurred independently in many subgroups of eastern Indonesia (cf. Tukang Besi and the South Sulawesi subgroup).

clitic adverbials in Austronesian appear surprisingly stable, with the vast majority of Philippine and Formosan languages expressing at least the concepts *already, still, also, only, certainly, reportedly*, in addition to the *interrogative, mirative*, and *speculative* moods, as clitics. The often unpredictable variation in form for many of these clitics, however, presents a challenge to their reconstruction. In terms of their morphosyntax, these clitics may be second-position clitics, as is commonly the case in Philippine languages, or phrase-initial or phrase-final, as found more commonly in the languages of Indonesia and Oceania.

Intriguingly, there exists a formant *ŋa* with a widespread distribution in emphatic clitics. Comparative evidence for the reconstruction of emphatic *ŋa is given in (16).[16]

(16) **Possible reflexes of PAN formative *ŋa with emphatic semantics**

FORMOSAN LANGUAGES		
Rukai	*-ŋa*	superlative suffix; 'already'
	ʔatəŋa	(Tanan dialect) 'really'
Amis	*tateŋa*	(Sakizaya dialect) 'really'
Paiwan	*-aŋa*	'certainly, truly doing' (cf. Rukai *-anə* 'certainly')
	-aŋata	'definitely' (emphatic)
Tsou	*-aŋa*	(Tapangu dialect) 'extremely' [folktale(45_017)]
	-aŋə	'really' [folktale(08_006)] (cf. Rukai *-anə* 'certainly')
Favorlang	*annach*	'truly, certainly' (Medhurst 1840:10)
MALAYO-POLYNESIAN LANGUAGES		
Tagalog	*ŋaʔ*	*e*mphatic particle, expressing confirmation (cf. Squliq Atayal *nyaʔ* 'emphatic particle')
Bikol	*ŋani*	'truly, certainly, definitely'
Ilokano	*ŋarud*	'truly, certainly'
	ŋamin	'yes because', intensifying
Central Bontok	*ŋalud*	emphatic
Timugon Murut	*ŋa*	explanatory, 'because, you see' (Prentice 1971:153)
Kadazan	*ŋaʔ*	follows topic and introduces comment (Miller and Miller 128)

While there may at first seem to be a difficulty in tracing the origin of a nonemphatic 3SG agreement marker to an emphatic adverbial, there is in fact no conflict, as the scope of the emphatic adverb never includes clitic pronouns. This can be seen in (17) below, where the Tagalog emphatic clitic appears adjacent to an (unfocusable) second-position pronominal clitic. The adverbial clitic cannot narrowly focus the adjacent clitic, but rather selects the material in the predicate position, or the entire proposition as its scope.

(17) Heto=nga=siya!
here=EMPH=3SG.NOM
'Here he is!'

16. Formosan data sources for Rukai, Amis, Paiwan, Tsou, and Atayal are the Formosan Language Digital Archive of Academia Sinica, and the NTU Corpus of Formosan Languages. Where relevant, text/line citations are provided.

Another potential objection arises in regard to the position of the clitic. While most adverbials of this sort are second position clitics in Philippine languages, their development into phrase-initial clitics is also well attested. The clitic *ba, for instance, reconstructed to Western Malayo-Polynesian by Blust as 'postverbal interrogative particle' and found as a second-position clitic in various Philippine languages, appears in Maranao and Kulawi in clause initial (preverbal) position, as seen in (18) and (19), respectively. In Maranao, the question marker can itself host second position clitics, while in Kulawi it cannot, and thus tends to precede the verb directly.

(18) MARANAO
Ba=ako=ŋka di' ka-taw-i?
Q=1SG=2SG.GEN NEG STA-know-LV
'Don't you know me?' (McKaughan 1958:22)

(19) KULAWI
Ba i-tudu tina-mu=da=ko?
Q PV-send mother-2SG.GEN=EMPH=2SG.NOM
'Are you sent by your mother?' (Adriani and Esser 1939:30)

The Kadazan cognate clitic *nga'*, as described by Miller and Miller (1991), has both the position and function required for the type of reanalysis we posit to have taken place in Palauan. Kadazan *nga'*, the comment in equational and topic-comment type sentences, thus appears regularly in prepredicate position.

(20) KADAZAN
Ngaan ku nopo nga' zi Landin.
name 1SG start ADV DET Landin
'My name is Landin.' (Miller and Miller 1991:128)

Note that *nga'* is just as unselective in regard to the lexical category of its following complement as its Palauan counterpart; in (20) it precedes a proper name, in (21) a common noun phrase, and in (22) a verb phrase. It is consistent, however, in introducing the focus of the clause, again parallel to the function of the third singular in Palauan. Finally, note that given the parsing suggested by Miller and Miller (1991) in (22), *nga'* appears to have also developed into a proclitic from what was presumably an enclitic, based on the Philippine evidence.

(21) KADAZAN
Hinaid nopo nga' sonsodop i'.
time start ADV night.one EMPH
'The length of time (was) one night.' (Miller and Miller 1991:129)

(22) KADAZAN
Ii nopo tanak do raja' … **nga'** nimaan patazo
DEM start child of king ADV done die
'The aforementioned child of the king … was put to death.'
(Miller and Miller 1991:128)

The ousting of a member of the pronominal paradigm by nonpronominal material may appear unusual, but there are precedents in Austronesian. What was originally a PAN stative prefix *ma-* (Ross 1995) supplanted the third person plural marker in Chamorro's

prefixal agreement paradigm (Topping 1973:258).[17] Similar to Palauan, Chamorro 3PL *ma-* also coexists with the expected reflexes in the other pronominal paradigms (for example, the independent 3PL *siha* and the genitive 3PL *ñiha*). The possibility of an adverbial clitic replacing a pronominal clitic in an agreement paradigm, then, cannot be discounted, particularly so in the third person, where zero anaphora might be more likely.

5. THE FINAL VELAR NASAL: WHERE MORPHOLOGY AND PHONOLOGY MEET. Let us now return to the excrescent nasal in loan words like those in (2). As alluded to above, and suggested by Blust (2009), the appearance of a final velar nasal in loan words seems to be related to a general phonotactic of Palauan where content words do not end in light CV syllables. Indeed, reviewing the forms in (2), we see that they all involve light unstressed syllables in final position. Assuming that light unstressed final syllables are illicit in Palauan content words, we can understand the addition of final engma as a bulking process resulting in a final well-formed heavy syllable. Further, this analysis allows us to understand some of the minimal differences characterizing words in (2) vs. those in (3). For example, the Japanese loan in (2c) *kamáŋ* 'sickle', receives a final engma because its source is Japanese *káma*, with a H-L pitch pattern, resulting in a percept that, to the Palauan ear, involves an illicit final unstressed light syllable. In contrast, Japanese *bará* 'rose' in (3) has a high tone on the final syllable, an accent that makes the final CV syllable licit in Palauan. As far as we are aware, all cases of epenthetic engma in Palauan loans are associated with final light CV syllables that lack stress in the source language.[18]

If this is the case, then how can we explain the insertion of engma in these contexts? Since there is no obvious phonetic source for these nasals, and since the clitic /ng/ is both proclitic and enclitic, as shown in (9), a morphological source is possible. Indeed, there are two grammatically induced sets of alternations between engma and zero in modern Palauan that appear to be associated with a historical enclitic /ng/ at the word or phrase boundary.

In the case of nouns, consider first one common paradigm for possessed nouns ending in vowels, shown in (23), where (23a–d) show the pattern with native stems, and (23e–f) with loans.

(23) **Possessed nouns with /ŋ/ linker**

	INDEPENDENT STEM	POSSESSED FORM	
a.	bduw	bduŋel	'ball'
b.	bij	biŋel	'act of dividing'
c.	chuw	chuŋel	'shadow'
d.	tew	teŋel	'width'
e.	bambuw	bambuŋel	'ball'
f.	katuw	katuŋel	'cat'

17. The connection between the third person plural and the stative is not as distant as it might seem. Both third person plurals and the stative *ma-* are commonly used across Austronesian languages to express propositions with impersonal or backgrounded agents, that is, in functions similar to passives.

18. The reverse is not true: not all vowel-final loan words without engma are stressed or long in the source language, but some are. We assume, following Blust (2009), that as familiarity with second languages increased, the adoption of vowel-final words without engma-insertion became more widespread.

The alternations in (23a–d) appear to be between underlying light CV syllables that are bulked up to CVC with a final glide in the independent forms, but with a following engma in the possessed forms, followed by the vowel-initial suffix *-el*. Josephs (1976:62) remarks: "Certain Palauan nouns require *-ng-* as a 'buffer' between the noun stem and the possessive suffix. This engma has no meaning and its appearance is not predictable." We suggest that the same "buffer" consonant is coopted in loan words like those in (2) to eliminate a constraint against phrase-final unstressed CV syllables.

Another instance of engma/zero alternations involves verbs. As described by Josephs (1975:14), there is a regular alternation where a verb is pronounced as vowel-final in phrase-medial position, and with engma in phrase-final position, as illustrated in (24).

(24) **Phrase-medial vs. phrase-final verbs**

	NONFINAL VERB/PREDICATE	FINAL VERB/PREDICATE
a.	ŋ **mo** er a skuul. 'He's going to school.'	ŋ **moŋ**. 'He's going.'
b.	Ak mo **meŋa** er a ŋikel. 'I'm going to eat the fish.'	Ak mo **meŋaŋ**. 'I'm going to eat (it).'
c.	Ak meŋuiu **ku** er a hoŋ. 'I'm about to read the book.'	Ke mekera **kuŋ**? 'What are you about to do?'

(Josephs 1975:14, 250–52)

While this alternation may seem remote from the borrowed nouns listed in (2), it can be viewed as a native strategy for avoidance of prosodic word-final (unstressed) CV syllables: when the CV syllable is phrase-medial, it can be proclitic to the following syntactic word, so that there is no violation of the general phonotactics. However, when the verb is phrase-final, no proclicis is possible, and the dummy pronominal /ng/ is inserted to bulk up the syllable to CVC. In short, we suggest that the engma-insertion strategy for syllable-bulking was already in place when loans in (2) came into the language, and was simply extended to these forms when these words were pronounced in isolation.

Support for this view can be found in Blust's (2009:334) discussion of inherited vowel-final words. Though unstressed final vowels were deleted from all content words of more than a single mora, Blust's etymologies for the Palauan number words *esa > *-ta-ŋ* 'one', *duha > *dua* > *rua* > *ru-ŋ* 'two', and *epat > *epa* > *pa* > *wa-ŋ* 'four' show the same pattern. Since number words used in counting are typically phrase-final, and constitute single-word utterances, they will be phrase-final, just as the predicates in (24). As CV syllables, they would violate the phonotactic against these syllable types phrase-finally, with obligatory encliticization of the dummy /ng/, eventually accreted as part of the number word.

In summary, the word-final engma associated with loans in (2) appears to be the extension of a productive Palauan-internal pattern at the time these loans entered the language: at phonological phrase boundaries, syllables ending in short /a/, /o/, or /u/ are bulked up by the addition of a final engma whose historical source appears to be the same clitic /ŋ/ discussed in section 4.[19] As more and more loans with lax final vowels entered the language, this phonotactic eroded: hence we see a trajectory where engma-insertion is most common in early loans with final lax vowels, and least common in post-1960s

19. The vowel /e/ is rare in this context, but appears to be bulked word-finally by diphthongization to [ei] (Justin Nuger, personal communication, 2011).

loans. Whereas the words in (1) are relics of a historical reanalysis of an emphatic or 3SG existential particle in pre-Palauan that was complete before contact with European languages, the final engmas in (2) are extensions of a productive alternation between phrase-medial and phrase-final lax open syllables that is still active in the synchronic grammar.

6. CONCLUDING REMARKS. A constrained model of regular sound change eliminates the possibility of a regular sound change involving immaculate conception of nasal velar consonants before vowels with no apparent source. The same model forces one to reconsider morphological sources for these nasals in Palauan. A review of the synchronic grammar of the language allows one to reconstruct third singular *ŋ on the basis of internal evidence. Procliticization of this particle to vowel-initial words appears to have been subject to across-the-board reanalysis in early stages of the language, resulting in forms like those in (1). Encliticization of the same particle may be the ultimate source of synchronic phrase-medial/final alternations that appear to be the source of the final velar nasals in the loans in (2). While the comparative evidence in (16) is compatible with the reconstruction of an emphatic particle *ŋa in PAN, reflected as Palauan /ŋ/, further comparative work is necessary to understand the distribution and function of this particle in earlier stages of Palauan, and in the Austronesian family more generally.

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