

What agreement in Chamorro?

Mark Donohue
University of Sydney

Anna Maclachlan
Macquarie University

'Wh-agreement' as described in Chung (1994, 1982) is argued to not be a special extraction agreement phenomenon, but is voice morphology typically involved in extraction strategies in Philippine-type languages, like Tagalog. Chamorro is in the process of losing its Philippine-type voice system in transitive main clause contexts and therefore appears to exhibit special behaviour in other environments. This process is shown to have taken place to a greater degree in Tukang Besi, a language of Sulawesi.

We propose that Chamorro is a Philippine-type language (PTL) which is in the process of augmenting its Philippine style voice-marking system. A recent addition to the language is a transitive sentence type that bears no voice morphology. An important implication of our view is that the analysis claiming 'Wh-Agreement' to be a special feature of Chamorro syntax is misleading, and has spawned secondary literature that assumes the misanalysis proposed by Chung (e.g. Dukes 1994; Levine&Hukari 1995). Rather than being a special extraction agreement phenomenon, 'Wh-agreement' is merely the appearance of voice morphology used to make an argument into subject before it is extracted, which is a universal extraction strategy in PTLs.

We are not the first to recognize the connection by any means. Topping writes that:

The focus system of Chamorro is a very important syntactic feature of the language. It is probably the most significant syntactic feature of Chamorro with regard to the identification of Chamorro as a Philippine type language. Even though the focus system of Chamorro is different from those found in the languages of the Philippines, similarities are sufficient to establish the fact that Chamorro is a close relative of Tagalog, Ilocano, and Cebuano, all of which have elaborate focus systems. (Topping, 1973:243)

The appearance of voice morphology in Wh-extractions is completely expected, based on a comparison with other PTLs. We will explore other contexts where the morphemes associated with 'Wh-Agreement' occur. The exceptional morphological trait in Chamorro is shown to be the disappearance of this morphology in transitive main clauses. We demonstrate, by comparison with another, even more radically changed PTL, that even in this respect Chamorro is simply displaying an expected pattern of reanalysis.

1. Chamorro as a PTL with a twist

We begin by motivating the PTL analysis of Chamorro on the basis of the agreement patterns in main clauses. Most analyses of Chamorro (Gibson [1980]1992; Chung 1982, 1994) treat (1) as a passive and (2) as an antipassive; the sentence type in (3) has been assumed to be the 'basic' sentence type in Chamorro.

1. L[in]i'e' i lahi nu i palao'an.
see.voice1 ART man CASE ART woman
'The man was seen by the woman.' (Chamorro)
2. Man-li'e' i palao'an nu i lahi.
voice2-see ART woman CASE ART man
'The woman saw the man.' (Chamorro)
3. Ha-li'e' i palao'an i lahi.¹
3SG:ERG-see ART woman ART man
'The woman saw the man.' (Chamorro)

A major problem for the passive analysis is that the verb shows obligatory number agreement with the putative by-phrase. The passive morpheme *-in-* occurs with singular actors in (1), while in (4a) *ma-* occurs with plural actors; *-in-* may not be used in this environment as seen in the ungrammatical (4b). Additionally, there is agreement for the plural subject *i famagu'un*; if the subject is not plural (that is, if it is singular or dual), then *man-* does not appear, but the non-subject actor still displays agreement on the verb with *ma-*, as in (4c).

4. a. Man-ma-li'e' i famagu'un nu i famalao'an.
PL:sub-voice:PL-see ART children CASE ART women
'The children were seen by the women.' (Chamorro)
- b. *Man-l[in]i'e' i famagu'un nu i famalao'an.
PL:SUBJ-see.voice:SG ART children CASE ART women
'The children were seen by the women.' (Chamorro)
- c. Ma-li'e' i pätgun nu i famalao'an.
voice:PL-see ART child CASE ART women
'The child was seen by the women.' (Chamorro)

This pattern of agreement is inconsistent with the analysis of *-in-* (or *ma-*) as a passive marker, but is consistent with (1) being an object voice sentence as found in PTLs. Since there is also an equivalent of the PTL actor voice (illustrated in (2) above), we take (3) to be an innovation, showing no PTL voice morphology. In a clause with an actor voice verb, we see agreement with only one argument, the actor-subject. This is marked with the prefix *man-* (distinct from the actor voice prefix *man-*, as it occurs in a different position with respect to reduplication).

5. a. Man-man-li'e' i famalao'an nu i lahi / lalahi.
PL:SUBJ-AV-see ART women CASE ART man / men
'The women saw the man / men.' (Chamorro)
- b. * Man-li'e' i famagu'un nu i lahi / lalahi.
AV-see ART women CASE ART man / men
'The women saw the man / men.' (Chamorro)

It also follows that we cannot consider *nu* to be marking an oblique case. Rather, it marks an argument as being non-oblique (but not subject or object). Truly oblique arguments, such as locations or goals, are marked with *gi*.

¹ Although sources vary, we have followed the spelling of Chamorro words of the source.

The system of agreement in Chamorro is parallel to that found in PTLs that have overt agreement, such as Kapampangan (Mirikitani 1971; Rowsell 1983). Compare the agreement in Chamorro (4) with that in Kapampangan (6). Just as in Chamorro, there is agreement with both the subject and the non-subject actor (compare (4a) and (6a)). In both languages, in a clause with an actor voice verb we see only one agreement clitic (compare (4c) and (6b)).

- 6 a. S[in]ese na-la ning babai r-ing pusa.
 Fed.OV 3SG:GEN-3PL:NOM GEN woman PL-NOM cat
 ‘The woman fed the cats.’ (Rowsell 1983:22, Kapampangan)
- b. Memambal ya -ng bote i Juan.
 knocked.over:AV 3SG:NOM -ACC bottle(s) NOM:pn Juan
 ‘Juan knocked over some bottles.’ (Rowsell 1983:55, Kapampangan)

Both the forms and functions of the voice morphology in Chamorro correspond to their use in more typical PTLs. The full paradigm of the morphemes used to present a particular main clause argument as subject are strikingly similar in form as shown in Table 1. Not only are the morphemes formally identical, or nearly so, but they are also functionally identical, except for the innovation of -um- as a non-plural marker in some intransitive clauses in Chamorro.

Table 1. Voice marker forms

	Tagalog	Kapampangan	Chamorro
A	mag-, -um-	maN-, -um-	man-, -um-
S	mag-, -um-	maN-, -um-	man-/ -um-
O	-in (-an, i-)	-an, i-	-in-
O2	i-, zero	zero	n/a

Another observation about the PTL voice markers is that they are more than just inflectional markers of voice alternation. They also serve a derivational function. This can be seen in the Tagalog examples in Table 2. Although it is difficult to assign any one consistent meaning to the derivational affixes, it is clear that they all serve a derivational function. Compare these uses in Tagalog with the comparable Chamorro uses of -um- and -in- in Table 3:

Table 2. Voice markers as derivational morphology in Tagalog

	Root	Stative	Inchoative
a.	<laki> ‘big’	Ma-laki ang halaman ‘The plant is big.’	L[um]aki ang halaman ‘The plant became big.’
b.	tubig ‘water’	Ma-tubig ang kanin ‘The rice is watery.’	Nag-tubig ang kanin ‘The rice became watery.’
c.	bili ‘transact’	B[um]ili ako ng damit ‘I bought a dress.’	Nag-bili ako ng damit ‘I sold a dress.’
d.	apoy ‘fire’	Ma-apoy ang siga ‘The bonfire is fiery.’	Nag-apoy ang siga ‘The bonfire burst into flames.’

Table 3. Voice markers as derivational morphology in Chamorro²

	Root	Stative	Inchoative
a.	dankolo 'big'	Dankolo impalao'an 'The woman is big.'	D[um]ankolo i palao'an 'The woman became big.'
b.	hänom 'water'	H[in]anom i leche 'The milk is watery.'	H[um]anom i leche 'The milk became watery.'
c.	taotao 'person'	T[um]aotao im patgon 'The child became a person.'	
d.	pulan 'moon'	P[um]ulan i palao'an 'The woman is menstruating.'	

We have provided support for the claim that the verbal morphology is consistent with a PTL analysis of Chamorro. Indeed, Topping refers to the oppositions in Chamorro using the terms 'actor focus' and 'goal focus', though he assumes that synchronically they are derived from the morphologically less-marked sentence type that we have illustrated in (3). We maintain that it is inappropriate to speak of 'deriving' the actor voice and object voice forms from (3). Rather it is more likely that (3) is the diachronic innovation in a system having (1) and (2).

2. The distribution of voice markers

Since we assume that Chamorro is a PTL where voice morphology is being replaced in transitive main clause contexts, we predict that they should appear in Wh-extraction since it does not constitute a context where the morphology is being replaced. We maintain that the 'Wh-Agreement' Chung describes is not agreement but rather that it is voice morphology exactly like that in PTLs. In support of our view, let us start by examining the environments where this morphology appears.

Crucial to Chung's account of 'Wh-Agreement' is the unique function of the morphemes that mark 'Wh-Agreement'. We shall show that the morphemes that are found in these constructions are productively used in other areas of the grammar. The morphemes which appear in these other environments are not instances of phonologically identical but functionally distinct morphemes as Chung has sometimes suggested, but are taken here to be the same morphemes simply explained as following a distributional pattern seen in many Philippine-type languages.

In Chung's analysis the morpheme -um- is a marker of 'Wh-Agreement', used when extracting an actor (8). Notice that -um- does not appear in the corresponding example without extraction (7). This morpheme has a common use as a main clause actor voice marker in other PTLs, but the morpheme -um- is not used in Chamorro with most main clause transitives, that function now being performed productively by man-. This gives the appearance of an alternation between extracted and unextracted forms such as (7) and (8).

7. Ha fahan i palao'an i chetde.
 3SG:ERG buy ART woman ART banana
 'The woman bought the banana.' (Chamorro)

² Examples are from Topping 1973, 103-104 & 226.

8. Hayi [IP f[um]ahan i chetde]?
 who buy.um ART banana
 ‘Who bought the banana?’ (Chamorro)

However, the morpheme is not restricted to extraction contexts. Firstly, -um- appears in Chamorro intransitive main clauses such as (9); cognate morphemes in the same position are found in other PTLs, such as Tagalog (10). Secondly, in the absence of extraction Chamorro subordinate infinitive clauses also have -um- appearing on transitive verbs as in (11).

9. H[um]anao siha
 go.um 3PL:NOM
 ‘They went.’ (Chamorro)
10. P[um]unta sila
 go.um 3PL:NOM
 ‘They went.’ (Tagalog)
11. Hu-tanga [IP l[um]i’e’ Hawaii].
 1SG:ERG-desire see.um Hawaii
 ‘I desire to see Hawaii.’ (T 1973:94, Chamorro)

There has been some discussion of these facts in the literature. Chung claims there are three distinct -um- morphemes: one for ‘Wh-Agreement’ in Actor extractions (7), another appearing in intransitives (9) and a third appearing in infinitival constructions (11). Dukes (1993) notices the similarity and argues that the morpheme appearing in Wh-extraction is the same as that in infinitives. He leaves it as a mystery why extraction of actors should be restricted to infinitive contexts, a mystery which we will address below. We believe that all three incarnations of this -um- are instances of the same morpheme. Similarly, Campana (1992) assumes there is just one -um- morpheme and provides a unified Case checking analysis that predicts its distribution. We have seen here that the -um- is not so much characteristic of extraction, but rather that it is lacking in transitive main clauses, thereby obscuring the PTL pattern somewhat.

This asymmetry in distribution between main and subordinate clauses is not unique to Chamorro. The PTL voice morphemes also appear in subordinate clauses in *Tukang Besi*, a language spoken in Southeast Sulawesi (Donohue 1999), where their use has been completely lost in main clause contexts (cf. (11) & (12)).

12. Ku-hada [IP ‘[um]ita te Hawai].
 1SG:AV-desire see.um CORE Hawai
 ‘I desire to see Hawai (a suburb of Sentani).’ (Tukang Besi)

When we examine the morphology used in subordinate infinitives, we find that it is always identical with the morphology used in extractions in all the languages under consideration. However, the morphology in these contexts is not always the same as the morphology used in main clause contexts. Compare the distribution of voice markers in main clauses (Table 4) on one hand with that in extractions and infinitives (Table 5) on the other in the four languages we have been discussing.

Table 4. Voice markers used in main clauses

	Tagalog	Kapampangan	Chamorro	Tukang Besi
A	mag-, -um-	maN-, -um-	zero	zero
S	mag-, -um-	maN-, -um-	man-/ -um-	zero
O	-in (-an, i-)	-an, i-	ma-, -in-	S1, to-

Table 5. Verbal markers used in extractions and infinitives³

	Tagalog	Kapampangan	Chamorro	Tukang Besi
A	mag-, -um-	maN-, -um-	-um-	-um- or [S2]
S	mag-, -um-	maN-, -um-	-um-	-um-
O	-in (-an, i-)	-an, i-	-in- or [S2]	ni-, i- or [S2]

Tagalog and Kapampangan show no asymmetry. On the other extreme, *Tukang Besi* shows a complete asymmetry: while voice markers appear in subordinate and infinitival clauses, it uses either no voice markers in main clauses, relying instead on agreement patterns, or a different set. Chamorro falls between these two patterns. It has a limited set of voice markers in main clauses but nevertheless has retained a great deal of the PTL system even there.

It seems clear from looking at these paradigms that the striking thing about Chamorro is not the appearance of -um- and -in- in extractions but rather the fact that -um- is missing from the Chamorro paradigm in transitive main clauses. This gap in the paradigm is consistent with the model of language change which predicts that subordinate clauses are more conservative than main clauses (e.g., Givon 1984, Campbell 1986). Campbell (1986:82) writes that “[...] it is thought that subordinate clauses, exhibiting a more restricted range of morphosyntactic trappings for nouns and verbs [...], are more conservative and less subject to syntactic change than main clauses.” The preservation of Austronesian voice morphology in subordinate clauses has been studied by Zobel (1997) in a range of Indonesian languages, for example.

If the -um- infix was originally used in a wider variety of main clauses, specifically transitive main clauses as is still seen in mainstream PTLs, we might expect to see some trace of its use in these contexts. As stated above, the -um- infix is not generally found in main clauses, but it is preserved in at least one irregular verb, ‘eat (indefinite object)’.

13. Ch[um]ocho yo’ mansana.
 eat.um 1SG.ABS apple
 ‘I ate an apple.’ (Topping 1973: 86, Chamorro)

The appearance here suggests that at an earlier stage of Chamorro the use of -um- was more common in transitive, as well as intransitive, verbs, and that the spread of man- as the actor voice marker with these verbs is an innovation. These facts support our claim that Chamorro is a PTL with respect to its morphosyntax.

³ [S2] stands for the innovative structure without voice markers not used in typical PTLs, see (3).

3. Wh-extraction strategies

Chung (1994) lists the pattern of ‘Wh-Agreement’ as involving the following morphology:

Table 6. Chung’s ‘Wh-Agreement’ markers

Questioned argument is:	Marking strategy used:
S, A	use -um-
O, O2	none OR
	nominalize, & if transitive use -in
Oblique	nominalize & if unaccusative, optionally use -in-

We will now take a closer look at these markers in context in Chamorro examples of Wh-extraction and compare them first with parallel examples from Tagalog and then with examples from *Tukang Besi*. These comparisons reveal that Chamorro Wh-extraction is like typical PTL extraction in many respects but that it is changing in the direction that *Tukang Besi* has taken.

To see the alternation associated with ‘Wh-Agreement’ where an A is extracted consider the Chamorro pair in (7) above. Notice that a similar pair from Tagalog in (14) shows no alternation since the -um- morpheme is retained in transitive main clause contexts such as (14a) in this language.

- 14 a. B[um]asa ang guro ng libro?
Read.AV NOM teacher GEN book
‘The teacher read a book.’ (Tagalog)
- b. Sino ang [IP b[um]asa ng libro]?
who NOM read.AV GEN book
‘Who read a book?’ (Tagalog)

The analysis of Tagalog extractions such as (14b) has often been that it involves a cleft. Thus an English translation of (14b) that would more adequately reflect the cleft structure is “Who is it that read the book?”. Since copulas are null in all these languages it is difficult to identify when a sentence is a cleft. This is especially true when the sentence contains a verbal element and when it can be readily translated into English without a copula. Consider a pair of sentences that more obviously involves a null copula, the first (15a) is a basic equative sentence, and (15b) is an equative involving an extraction. Comparing (15b) with a basic extraction (14b), we can see that the cleft analysis is plausible.

- 15 a. Ang guro ang babae
NOM teacher NOM woman
‘The woman is a teacher.’ (Tagalog)
- b. Sino ang [babae]?
who NOM woman
‘Who is the woman?’ (Tagalog)

If the extractions in (8) and (14b) are cleft constructions then they have a structure in which the verb marked with -um- is embedded under a copular verb along the lines of (16).

16. [IP [DP Wh.actor] (-copula [DP ([IP V.um])]]

This structural analysis provides an answer to the mystery of why morphology typically found on infinitives in Chamorro also appears in this extraction context. As a subordinate verb, it carries morphology consistent with subordinate contexts, namely -um-.

The extraction of Os differs somewhat from that of As in Chamorro, as there is more than one O extraction strategy in the language. First, it appears that the clefting strategy is possible for O extraction. However, since there is no difference in OV morphology in main versus subordinate clauses, both extracted and unextracted contexts will appear the same, as the pair in (17) illustrates. Given this pattern, ‘Wh-Agreement’ is optional when an O is extracted according to Chung.

- 17 a. Ha-fahan si Maria i sanhilo’-ña gi tenda.
 3SG:GEN-read ART Maria ART blouse-3SG:GEN OBL store
 ‘Maria bought her blouse at the store.’ (Chamorro)
- b. Hafa ha-fahan si Maria gi tenda?
 What 3SG:GEN-read ART Maria OBL store
 ‘What did Maria buy at the store?’ (Chamorro)

This is not the only pattern possible, however, there is an alternation observed in some O extraction. In addition to the clefting strategy, another strategy available in Chamorro involves nominalization of the verb. Compare the unextracted form in (17a) with the nominalization extraction in (18).

18. Hafa f[in]ahan -ña si Maria gi tenda?
 What buy.OV-NMLZR:3SG:GEN ART Maria OBL store
 ‘What did Maria buy at the store?’ (Chamorro)

Next consider an equivalent O extraction from Tagalog in (19b), which can be compared with the unextracted form in (19a). Example (19c) is provided to show that the appropriate voice marker is required.

- 19 a. B[in]asa ng guro ang libro]?
 Read.OV GEN teacher NOM book
 ‘The teacher read the book.’ (Tagalog)
- b. Ano ang [IP b[in]asa ng guro]?
 what NOM read.OV GEN teacher
 ‘What did the teacher read?’ (Tagalog)
- c. *Ano ang [IP b[um]asa [ang / ng] guro]?
 what NOM read.AV NOM / GEN teacher
 ‘What did the teacher read?’ (Tagalog)

The analysis of (19b) in Tagalog could be as a cleft corresponding to the translation “What is it that the teacher read?”. In addition, however, its analysis could be a nominalization analysis on a par with Chamorro (18). Unlike in Chamorro, Tagalog nominalizations are not signaled by derivational morphology. Since the fully verbal forms are identical with the nominalized forms, *binasa* can equally be the verb, meaning ‘read’ (in the OV form), or the derived noun, meaning ‘the thing that was read’, ‘the read one’ or ‘reading material’. Thus the translation of (19b) which reflects a nominalization analysis is “What is the teacher’s reading material?”. Notice in comparing (19b) and (20)

how a noun can easily replace the derived verb in the same context and that the actor appears exactly as a possessor would. If it is indeed a nominalization, the brackets in (19b) should be labeled as a DP not an IP, just as in (20).

20. Ano ang [DP balak ng guro]?
 what NOM plan GEN teacher
 ‘What is the teacher’s plan?’ (Tagalog)

The same nominalization analysis could also hold of the A extraction we have discussed in Tagalog. Since *bumasa* could be either the verb meaning ‘read’ (in the AV form) or the noun meaning ‘the one who read’ or ‘the reader’, sentence (14b) could be closer in structure to “Who was the reader of the book?”.

3.3 WH-EXTRACTION IN TUKANG BESI

Next we can compare the facts presented so far with the extraction facts in *Tukang BESI* which exhibits many strategies for extraction. In this language, nominalizations are identifiable with special morphology, as in Chamorro and there is a system of voice morphology active only in subordinate contexts, as we have seen.

Extraction of an A can involve clefting as the pair in (21) illustrates. Since there is a cleft structure involved there is an alternation in the verb form: the main clause form *nobalu* is used in (21a) whereas the subordinate form *bumalu*, involving the PTL voice marker *-um-*, is used in (21b). In addition, extraction can occur directly without clefting when the A is not the subject and hence the verb forms are the same in the pair in (22).

- 21 a. No-balu te loka na wowine.
 3R-buy CORE banana NOM woman
 ‘The woman bought some bananas.’ (Tukang BESI)
- b. Te emai na b[um]alu te loka?
 CORE who NOM buy.*um* CORE banana
 ‘Who bought the bananas?’ (Tukang BESI)
- 22 a. No-balu=*e* na loka te wowine.
 3R-buy=3O NOM banana CORE woman
 ‘The woman bought the bananas.’ (Tukang BESI)
- b. Te emai no-balu=*e* na loka?
 CORE who 3R-buy=3O NOM banana
 ‘Who bought the bananas?’ (Tukang BESI)

Turning to extraction of Os in *Tukang BESI* there are three distinguishable strategies. First, there is O extraction by clefting, as in (23) where the appropriate OV marker must appear.⁴ Then there is the nominalization strategy, where overt morphology indicates that the verb is a derived form, as in *basa-’a* in (24). Finally, in *Tukang BESI*, there is an additional strategy in which subordinate morphology does not appear on the verb shown in (25). We assume this is a case where extraction has taken place directly, as for the A-extraction example in (22b).

⁴ *Tukang BESI* mainly uses the OV marker in subordinate contexts only, and not normally in main clauses.

23. a. Te paira na [IP ni-basa nu guro]?
 CORE what NOM OV-read GEN teacher
 ‘What did the teacher read?’ (Tukang Besi)
- b. *Te paira na [IP b[um]asa na / nu / te guro]?
 CORE what NOM read.AV NOM / GEN / CORE teacher
 ‘What did the teacher read?’ (Tukang Besi)
24. Te paira na [IP basa-’a nu guro]?
 CORE what NOM read-NMLZR GEN teacher
 ‘What did the teacher read?’ (Tukang Besi)
25. Te paira no-basa na guro?
 CORE what 3R-read NOM teacher
 ‘What did the teacher read?’ (Tukang Besi)

This latter strategy could be the analysis of Chamorro O-extractions like (17b) since there is no overt change in morphology in these forms. This direct O-extraction strategy is not possible in other PTLs like Tagalog since it requires as a basis the sentence type (3), which is an innovation not present in most PTLs.

We can thus summarize the strategies used in the three languages as in Table 7 where the shaded areas indicate that the strategy used could be either of those under which it falls. Thus *Tukang Besi* employs several strategies, all of which are distinguishable. In Tagalog, As, Os and OBLs can be extracted either by clefting or by nominalization (or possibly both) but these two strategies would have the same formal result. Finally in Chamorro it is unclear whether unmarked O extraction involves the direct strategy or clefting (or either as in *Tukang Besi*).

Table 7. Wh-extraction strategies

	Direct Strategy		Clefting Strategy +obligatory voice markers		Nominalization Strategy +optional voice markers
Tagalog	OBL			A, O, OBL	
Chamorro	OBL	O	A		O, OBL
Tukang Besi	A, O, OBL		A, O		O, OBL

Applying our model to Chamorro, the morphology in A extractions is accounted for as following a PTL pattern. We propose that such extraction is best viewed as a cleft structure involving a subordinate clause and a null copular verb. As a subordinate clause, it must bear appropriate voice morphology, such as -um-. We have also seen that the extractions involving nominalization and hence additional morphology are also like typical PTLs. Such changes in the verb form have been labeled ‘Wh-Agreement’, but this is a misnomer.

5. Conclusion

We have shown that the analysis of Chamorro as having a PTL-style voice system is consistent with the unusual agreement facts that are presented by Chamorro. Taking this stance on the basic morphosyntax, we have demonstrated that the verbal morphology of

Chamorro has changed significantly from the typical PTL model, and now has a major clause type that is not inflected along the lines of most PTLs. It is, together with agreement for transitive subject and rigid word order, a development that is attested in other PTLs that are diverging from the PTL model, such as *Tukang Besi*.

The more interesting development, which has led to significant misconceptions about Chamorro morphosyntax, is the disappearance in main clauses of the voice marker *-um-*. This marker is present only in subordinate clauses in Chamorro, and its presence in *Wh*-extraction environments has led to Chung's analysis of it as 'Wh-Agreement'. We have shown that the appearance of verbal morphology in *Wh*-extractions is consistent with its appearance in a range of subordinate contexts, and claim that it represents an archaism in the language, retaining the original voice morphology in this context even when it has been lost in main clause environments. Again this is a development that is attested in other PTLs that have developed away from the strict Philippine voice system.

References

- Campana, M. (1992) A movement theory of ergativity. Doctoral dissertation, Montreal: McGill University.
- Campbell, L. (1986) Claims about syntactic change and Finnish historical syntax. *Journal of the Atlantic Provinces Association* 8, 72-93.
- Chung, S. (1998) *The design of agreement: evidence from Chamorro*. Chicago: University of Chicago Press.
- Chung, S. (1994) *Wh* Agreement and 'referentiality' in Chamorro. *Linguistic Inquiry* 25, 1-44.
- Chung, S. (1982) Unbounded dependencies in Chamorro grammar. *Linguistic Inquiry* 13, 39-77.
- Chung, S. & C. Georgopoulos (1988) Agreement with gaps in Chamorro and Palauan. In *Agreement in Natural language: approaches, theories, descriptions*, edited by M. Barlow & C. A. Ferguson, 251-267. Stanford: CSLI.
- Donohue, M. Forthcoming. *Tukang Besi and the development of the Austronesian voice system*. In *Papers from the voice workshop of the 8th international conference on Austronesian linguistics* edited by F. Wouk, Canberra: Pacific Linguistics.
- Donohue, M. (1999) *The Tukang Besi language of Southeast Sulawesi, Indonesia*. Berlin: Mouton De Gruyter.
- Donohue, M. (1996) Relative clauses in *Tukang Besi*: grammatical functions and thematic roles. *Linguistic Analysis* 26, 159-173
- Dukes, M. (1993) On the status of Chamorro *Wh*-Agreement. In *Proceedings of the Eleventh West Coast Conference on Formal Linguistics*, edited by J. Mead, 177-190.
- Gibson, J. D. (1992) *Clause union in Chamorro and in universal grammar*. New York: Garland publishing.
- Givón, T. (1984) *Syntax: a functional-typological introduction 1*. Amsterdam: John Benjamins.
- Hukari, T. & R. D. Levine (1995) Adjunct extraction. In *The Journal of Linguistics* 31, 195-226. Cambridge University Press.
- Kroeger, P. R. (1998) Nouns and verbs in Tagalog: a reply to Foley. Paper presented at the Austronesian Workshop, Third LFG Conference. Brisbane, Australia.
- MacLachlan, A. E. (1996) *Aspects of ergativity in Tagalog*. Doctoral dissertation, Montreal: McGill University.
- Mirikitani, L. (1971) *Kapampangan syntax*. Oceanic Linguistics special monograph 10. Honolulu: University of Hawaii Press.
- Mirikitani, L. (1971) *Speaking Kapampangan*. PALI language texts: Philippines. Honolulu: University of Hawaii Press.
- Rowell, L. V. (1983) *An ergative analysis of Kapampangan*. Masters thesis, Calgary: University of Calgary.

- Topping, D. M. (1973) Chamorro reference grammar. PALI language texts: Micronesia. Honolulu: University of Hawaii Press.
- Zobel, E. (1997) Voice systems in Nusa Tenggara Barat. Paper presented at The Austronesian Focus workshop, Eighth International Conference on Austronesian Linguistics. Taipei, Taiwan.