Wh-Concord in Okinawan = Syntactic Movement + Morphological Merger

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1 Introduction

From the typological perspective, there are at least two types of *wh*-in-situ languages with respect to the distribution of Q-particles (Hagstrom 1998; Kishimoto 2005; Cable 2010): one with a Q-particle clause-finally (e.g. Japanese; (1)) and another with a Q-particle TP-internally and a special morpheme clause-finally (e.g. Sinhala; (2)).

(1)	Taro-wa	nani-o	kaimasita-**ka**.	Japanese
	Taro-TOP	what-ACC	bought-Q	
	"What did Taro buy?"			
(2)	Chitra	monɔwa-**də**	gatt-**e**.	Sinhala
	Chitra	what-Q	bought-E	
	"What did Chitra buy?"			(Kishimoto 2005: 3)

Interestingly, Okinawan, an endangered language spoken in the Okinawa Island in Japan, has both Japanese-type and Sinhala-type of *wh*-interrogatives as shown in (3) and (4), respectively. In the Japanese type *wh*-interrogative, the Q-particle *-ga* appears clause-finally. In the Sinhala type, *-ga* is attached to the *wh*-phrase and the clause ends with the special morpheme *-ra*.

(3)	Taruu-ja	nuu	koota-**ga**.	Japanese-type
	Taro-TOP	what	bought-Q	
	"What did Taro buy?"			
(4)	Taruu-ja	nuu-**ga**	koota-**ra**.	Sinhala-type (=*Wh*-Concord)
	Taro-TOP	what-Q	bought-RA	
	"What did Taro buy?" [1]			

We call the latter type of *wh*-interrogative *Wh-Concord*, intending to capture the dependency between *-ga* and *-ra*; a *wh*-adjacent *-ga* requires the sentence final *-ra* as shown in (5a), and the sentence final *-ra* requires a *wh*-adjacent *-ga* (5b).

(5)	a.	*Taruu-ja	nuu-**ga**	koota-ga.
	b.	*Taruu-ja	nuu	koota-**ra**.

The main purpose of this paper is to provide a novel and unified account for the two types of *wh*-interrogative in Okinawan under the Copy Theory of Movement (Chomsky 1993) and Distributed Morphology (Halle & Marantz 1993). Specifically, we propose that the two constructions have exactly the same derivation in the syntactic component, where *-ga* is base-generated next to a *wh*-phrase and moves to the sentence final position. The only difference between them is the presence of the morpheme *-r* at C^0, which triggers Morphological Merger (Marantz 1988) with *-ga* to make the *-ra* morpheme. We claim that the application of Morphological Merger makes it possible to Spell-Out the lower copy of *-ga*, which makes *Wh*-Concord constructions like (4).

This paper is organized as follows. In section 2, we will summarize three descriptive generalizations of *-ga* in *Wh*-Concord constructions such as island sensitivity, subordination and multiple *wh*-interrogatives. Section 3 introduces the mechanism of multiple copy realization under the Copy

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[1]In fact, there is a semantic difference between (3) and (4). Miyara (2001) observes that (4) has an emphatic meaning on the *wh*-phrase, and he translates the sentence as "*What the hell* did Taro buy?". In the descriptivist tradition, *-ra* is often described as *suiryo-kei* "tentative form" of the verb. Kina (1998), for example, translates (4) as "What did Taro buy, *I wonder*?". In this paper, we leave open the issue of the semantic difference between (3) and (4), and assume that *-r* at C^0 is responsible for that difference whatever it is.

Theory of Movement and Distributed Morphology. In section 4, we will propose that *Wh*-Concord in Okinawan should be analyzes as multiple copy realization of *-ga*, and show that the three descriptive generalizations naturally follow from our analysis. Section 5 concludes the paper.

2 Descriptive Generalizations

2.1 Island sensitivity

Sugahara (1996) observes that when a *wh*-phrase is embedded in a syntactic island, *-ga* cannot appear adjacent to the *wh*-phrase. The sentences (6) and (7) are ungrammatical, where *-ga* is in a complex NP island and an adjunct island, respectively.

(6) *Taruu-ja [$_{DP}$ [$_{CP}$ **taa**-ga-**ga** kataru] shimuchi] jumutoo-**ra**.
Taro-TOP who-NOM-Q wrote book read.Prog-RA
"Who$_i$ is Taro readind the book t_i wrote?"

(7) *Taruu-ja [$_{ADJ}$ **nuu**-**ga** chichi-gachinaa] benkjo-soo-**ra**.
Taro-TOP what-Q listen-while study-do.Prog-RA
"What$_i$ is Taro studying while listening to t_i?"

Ungrammaticality of those sentences are resolved by locating *-ga* outside the island as shown in (8) and (9).

(8) Taruu-ja [$_{DP}$ [$_{CP}$ **taa**-ga kataru] shimuchi]-**ga** jumutoo-**ra**.
Taro-TOP who-NOM wrote book-Q read.Prog-RA
"Who$_i$ is Taro reading the book t_i wrote?"

(9) Taruu-ja [$_{ADJ}$ **nuu** chichi-gachinaa]-**ga** benkjo-soo-**ra**.
Taro-TOP what listen-while-Q study-do.Prog-RA
"What$_i$ is Taro studying while listening to t_i?"

2.2 Subordination

Miyara (2005, 2007) report that even within non-island subordinate clauses, *-ga* cannot appear inside. When a *wh*-phrase is in the most embedded clause, *-ga* cannot appear adjoined to it (10a). It is also not allowed to appear outside of the most embedded clause (10b). The only available place for *-ga* is the periphery of the out-most embedded clause as shown in (10c).

(10) a. ??[$_{CP}$ [$_{CP}$ Taa-ga-**ga** chuun-di] ichan-di] umutoo-**ra**.
who-NOM-Q came-Comp said-Comp think.Prog.RA
b. *[$_{CP}$ [$_{CP}$ Taa-ga chuun-di]-**ga** ichan-di] umutoo-**ra**.
who-NOM came-Comp-Q said-Comp think.Prog.RA
c. √[$_{CP}$ [$_{CP}$ Taa-ga chuun-di] ichan-di]-**ga** umutoo-**ra**.
who-NOM came-Comp said-Comp-Q think.Prog.RA
"Who$_i$ do you think that he said that t_i came?"

2.3 Multiple wh-interrogatives

Miyara (2005, 2007) finds that in multiple *wh*-interrogatives, *-ga* is attached to every *wh*-phrase as shown in (11).

(11) Taa-ga-**ga** nuu-**ga** kada-**ra**.
who-NOM-Q what-Q ate-RA
"Who ate what?"

Multiple *wh*-interrogative sentences show some interesting behavior with respect to the placement

of *-ga* when they are subordinated as in (12). In (12a), two occurrences of *-ga* remain in the subordinated clause, and it is ungrammatical as expected by the previous generalization: *-ga* cannot appear in a subordinated clause. However, even if the two occurrences of *-ga* are dislocated outside of the clause, it is still ungrammatical as shown in (12b). The only possible option is to locate one *-ga* outside of the clause and to keep the other one inside it as in (12c).

(12) a. [$_{CP}$…**-ga**…**-ga**]

*	[taa-ga-**ga**	nuu-**ga**	kada-ndi]	John-oo	umutoo-**ra**.
	who-NOM-Q	what-Q	ate-Comp	John-TOP	think.Prog-RA

b. [$_{CP}$…]**-ga-ga**

*	[taa-ga	nuu	kada-ndi]**-ga-ga**	John-oo	umutoo-**ra**.
	who-NOM	what	ate-Comp-Q-Q	John-TOP	think.Prog-RA

c. [$_{CP}$…**-ga**…]**-ga**

√	[taa-ga-**ga**	nuu	kada-ndi]**-ga**	John-oo	umutoo-**ra**.
	who-NOM-Q	what	ate-Comp-Q	John-TOP	think.Prog-RA

"Who does John think ate what?"

3 Multiple Copy Realization via Post-Syntactic Operations

In the previous section, we have summarized three descriptive generalizations in the *Wh*-Concord construction. This section briefly discusses the theoretical assumptions on which our analysis of *Wh*-Concord is based: multiple copy realization in the Copy Theory of Movement and the relevant post-syntactic operations in Distributed Morphology.

3.1 Multiple copy realization under the Copy Theory of Movement

According to the Copy Theory of Movement (Chomsky 1993), a moved element leaves a full copy of itself, rather than a trace. Under this theory, the derivation of a simple passive sentence like *Mary was hit* proceeds as in (13); the direct object *Mary*, originated at its thematic position, is moved to the subject position, leaving a copy at the original position. Not every copy created in syntax is Spelled-Out. It is assumed that only the most prominent, usually highest copy is pronounced due to the economy condition in the phonological component, and we get the correct surface form *Mary was hit*.

(13) The derivation of *Mary was hit*:
[was hit Mary] => [Mary [was hit Mary]] => [Mary [was hit ~~Mary~~]]

A conceptual advantage of the copy theory over the trace theory is that it can capture the displacement property of human language without violating Inclusiveness Condition (Chomsky 1995), one of the most fundamental conditions on syntactic computation under the Minimalist Program, which bans syntax from creating a new object in the course of derivation.

In addition to the conceptual advantage, the copy theory opens a way to account for otherwise mysterious phenomena by virtue of multiple copy realization. Nunes (1999, 2004) argue that the so-called *wh*-copying construction in German in (14) is one of them.

(14)

Wen	glaubt	Hans	**wen**	Jakob	gesehen	hat?
Whom	thinks	Hans	whom	Jakob	seen	has

"Who does Hans think that Jakob has seen?" (McDaniel 1989: 569)

In this sentence, *wen* undergoes *wh*-movement from the embedded object position to the sentence initial position. Note that, differing from (13), not only the highest copy of the moved element but also an intermediate copy of it, which is assumed to occupy the embedded spec CP, is pronounced here.

Nunes provides an account for this construction based on the Copy Theory of Movement. First, he attributes the principle of spell-out of copies to the Linear Corresponence Axiom (LCA; Kayne

1994), according to which the hierarchical order of syntactic structure is directly mapped to precedence relation as stated in (15).

(15) *Linear Correspondence Axiom*
If and only if α asymmetrically c-commands β, α precedes β.

He argues that a sentence like (13) which involves multiple copies of the same object created by a movement causes a conflicting situation for the LCA computation. Consider the linear relation between *Mary* and *was hit* in the sentence. The predicate *was hit* is c-commanded by the higher copy of *Mary*, but at the same time, it c-commands the lower copy of *Mary*. Given this situation, the LCA cannot determine the precedence relation between them, hence fails to linearize the structure, which causes the derivation to crash. Nunes argues that to resolve the situation, lower copies are deleted by the operation called *Chain Reduction* at the phonological component, and only the highest copy is Spelled-Out.[2]

Next, Nunes assumes that when a copy of a syntactic object undergoes some morphological operation with another object, it becomes invisible for the LCA computation. That is because that copy is now part of a morphological amalgam with another object, which is distinct from the other copies by the LCA computation.

On these assumptions, he argues that the *wh*-copying construction can be accounted for, if long distance *wh*-movement in the language takes place via head-adjunction to C as schematically represented in (16a). Then, he assumes that in the morphological component, the intermediate copy fuses with C[-wh], as represented by ## in (16b), which renders the copy invisible for the LCA computation. Hence, in the phonological component, only the highest and the lowest copy are visible for Chain Reduction, which deletes the latter copy; the highest and the intermediate copies are pronounced.

(16) a. $[_{CP}\ [_{C}\ \ \mathbf{WH_i}\ [_{C}\ C_{[+wh]}]]\ldots[_{CP}[_{C}\ \mathbf{WH_i}\ [_{C}\ C_{[-wh]}]]\ \ [_{TP}\ldots\ \ WH_i\ldots]]$
b. $[_{CP}\ [_{C}\ \ \mathbf{WH_i}\ [_{C}\ C_{[+wh]}]]\ldots[_{CP}\#[_{C}\ \mathbf{WH_i}\ [_{C}\ C_{[-wh]}]\#]\ \ [_{TP}\ldots\ \ WH_i\ldots]]$

Following Nunes' argument presented above, Harizanov (2014) argues that clitic doubling in Bulgarian as shown in (17) should also be analyzed as multiple copy realization.

(17) Decata **ja** običat **neja**.
the.kids 3.F.SG.DO love her
"The kids love her."

He argues that (17) has the derivation schematically represented as (18). First, triggered by φ-feature agreement with *v*, the direct object moves to spec *v* (18a). There, the higher copy of the direct object undergoes a morphological operation with *v* (18b), which makes it invisible for the LCA as assumed in Nunes' argument. Now, Chain Reduction can only see the lower copy of the moved element, hence it doesn't apply after all.

(18) a. $[v\text{P}\ \mathbf{DP_i}\ v\ [_{VP}\ldots\mathbf{DP_i}\ldots]]$ b. $[v\text{P}\ \#\mathbf{DP_i}\ v\#\ [_{VP}\ldots\mathbf{DP_i}\ldots]]$

The two copies are realized differently in (17): the higher one as a clitic, the other as a pronoun. Harizanov assumes that this is due to the Vocabulary Insertion rule in the language which assigns a clitic morpheme to a pronoun when it is adjacent to *v*.

We will propose that *Wh*-Concord in Okinawan should be analyzed in the same way: a morphological operation applies to a copy of the chain of *-ga*, which makes a multiple copy realization situation, where the highest copy of *-ga* is pronounced as *-ra*. Before presenting our analysis, let us briefly discuss the nature of the morphological operations in question.

[2]Bobaljik (2002) argues that when Spell-Out of the higher copy makes an illegitimate representation at PF, Chain Reduction can apply to the higher copy, making the lower copy pronounced.

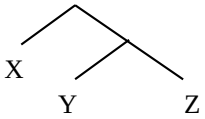
3.2 Distributed Morphology

We have seen that Nunes and Harizanov take a similar approach to multiple copy realization: some morphological operation applied to a copy makes multiple copy realization possible. Their accounts are, however, distinguished by the assumption of the relevant morphological operation: For Harizanov, it is Morphological Merger, while for Nune, Morphological Fusion comes into play. The two operations are post-syntactic operations assumed in the framework of Distributed Morphology (Halle & Marantz 1993; 1994). This section briefly introduces the two operations, and we propose that both operations are necessary for multiple copy realization.

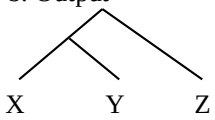
Morphological Merger (Marantz 1984, 1988; henceforth *Merger*) is a morphological operation which takes two syntactic objects in a spec-head relation as in (19a), and change them to a complex head, where X and Y are in an adjunction relation as shown in (19b).[3]

(19) Morphological Merger

a. Input



b. Output

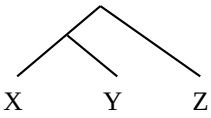


In Harivaznov's account of Bulgarian clitic doubling (18), this operation applies to the higher copy of the direct object and *v*, which are in a spec-head relation, and makes the complex head. Harizanov claims that the internal elements of those complex heads created by Merger become invisible for the LCA computation.

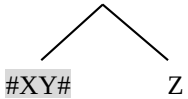
Morphological Fusion (Halle & Marantz 1993; 1994; henceforth *Fusion*), on the other hand, takes two syntactic objects in a sister relation as in (20a), and fuses them into a single terminal node. We represent this by ## in (20b).

(20) Morphological Fusion

a. Input



b. Output



Remember that in Nunes' account of German *wh*-copying construction (16), long-distance *wh*-movement in the language takes place via head-adjunction to C, which makes a situation exactly like (20), where X is WH and Y is C[-wh]. Therefore, Nunes assumes that Fusion applies, and the single terminal node which consists of WH and C[-wh] is created.

One may notice that the output of Merger (19b) and the input of Fusion (19a) is identical, which means that the former operation creates a structure which can serve as the input of the latter operation as shown in (21): [4]

(21) [spec X [head Y]] → *Merger* → [X Y] → *Fusion* → [#XY#]

To account for *Wh*-Concord in Okinawan, we claim that both Merger and Fusion are necessary. We propose that Merger is not sufficient for a syntactic object to become invisible for the LCA, it needs to be part of a single terminal head by Fusion.

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[3]Adopting Chomsky's (1994) Bare Phrase Structure, we don't put any labels here.

[4]Matushansky (2006) analyzes Saxon genitive in English in the same way as shown below.

(i) "*our house*"
[DP 1PL [D Poss [NP house]]] → [DP [D 1PL Poss] [NP house]]] → [DP [D #1PL Poss#] [NP house]]]
Merger *Fusion* Spell-Out as *our*

Based on this assumption along with Nunes' and Harizanov's analysis of multiple copy realization, we will develop our analysis of *Wh*-Concord in Okinawan in the next section.

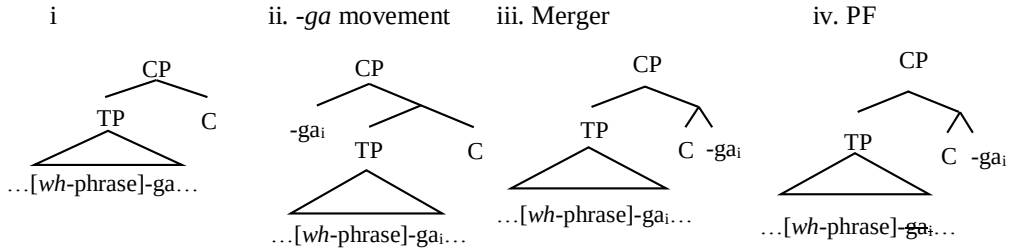
4 *Wh*-Concord as Multiple Copy Realization

4.1 Proposal

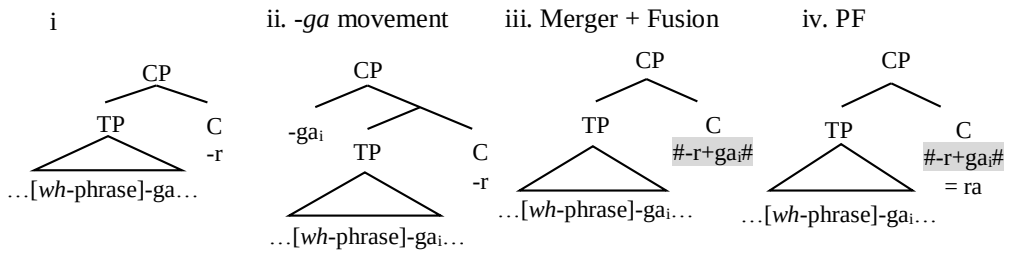
Our account of Okinawan *Wh*-Concord is based on the following assumptions about the status of the Q-particle *-ga*. First, it is base-generated as adjoined to a *wh*-phrase (Hagstrom 1998; Cable 2010). Second, syntactically, it has a phrasal status (XP). Therefore, as we will see below, when it undergoes movement, it moves to spec positions as other XPs do. Lastly, it is morphologically enclitic, hence needs to be suffixed; *-ga* cannot appear by itself.

Based on these assumptions about *-ga*, we propose that the two types of *wh*-interrogative in Okinawan have the derivations (22) and (23), respectively.

(22) Japanese-type: Only the higher copy of *-ga* realized



(23) Sinhala-type (= *Wh*-Concord): Both copies of *-ga* realized



The first two steps are the representations in the syntactic component; the two derivations are exactly the same in this respect: (i) *-ga* is originated adjacent to the *wh*-phrase and (ii) it moves to Spec, CP.[5] The only difference between them is that only the *Wh*-Concord structure has the morpheme *-r* at C. Importantly for the current discussion, we claim that it makes significant consequences to distinguish the two constructions in the post-syntactic component. In the third step for both constructions, Merger applies to *-ga* and C, which are in a spec-head relation, and they become a complex head [C *-ga*], which makes *-ga* to appear clause-finally. In the Japanese-type construction,

[5]This movement cannot be head-movement because it can take place in a long-distance fashion across several clauses, and it can cross negation as shown below.

(i) taa-ga-***t*****i** ku-**un**-ta-**ga**i. Japanese-type
who-NOM come-**NEG**-past-**Q**
"Who didn't come?"

(ii) taa-ga-**ga**i ku-**un**-ta-**ra**i. *Wh*-Concord
who-NOM-**Q** come-**NEG**-past-**RA**
"Who didn't come?" (Kina 1998: 76)

Chain Reduction applies to the lower copies of *-ga*, and only the highest copy at C gets pronounced. In effect, the correct surface form of the Japanese-type construction obtains: *-ga* appears clause-finally. On the other hand, in the *Wh*-Concord construction, we assume that the *-r* morpheme at C triggers Fusion after the complex head [*-r -ga*] is created by Merger, and we get the single terminal head [*#-r -ga#*], which makes the internal elements invisible for the LCA computation. Consequently, in the phonological component, since there is only one copy which is visible for the LCA, Chain Reduction does not apply, and both copies of *-ga* get pronounced; the lower copy is realized as *-ga* and the higher copy as *-ra* due to Fusion with *-r*.[6] In this way, we get the expected surface form of the *Wh*-Concord construction: *-ga* adjoin to a *wh*-phrase and *-ra* clause-finally.

The proposed analysis has the following theoretical advantages. First, this analysis allows us to explain the two types of *wh*-question in a syntactically unified way: the two structures are exactly the same in the syntactic component, the difference between them are made in the post-syntactic components. With the assumption of multiple copy realization based on the Copy Theory of Movement and Distributed Morphology, our analysis is free from the arbitrary distinction between overt and covert movement (cf. Hagstrom 1998; Cable 2010; Ginsburg 2009). In addition, under our analysis, it is unnecessary to assume *-ga* in the two different types of *wh*-interrogative to be separate lexical items or to be featurally different (cf. Sugahara 1996; Miyara 2001 et seq.).

In the rest of this section, we will see that three descriptive generalizations presented in section 2 are correctly predicted by the proposed analysis.

4.2 Island sensitivity

The island sensitivity of *-ga* is immediately follows from our movement analysis. We have seen that *-ga* cannot appear in an island; it must be attached to the entire island, as schematically represented as (24) and (25).

(24) *…[$_{\text{Island}}$….[*wh*-phrase]-**ga**…]….Predicate-**r**.

(25) √…[$_{\text{Island}}$….[*wh*-phrase]…]-**ga**….Predicate-**r**.

Since it is assumed that *-ga* undergoes movement to Spec, CP (followed by Merger and Fusion), the movement would violate the island constraint if *-ga* is originated inside an island as shown in (24). Therefore, when a *wh*-phrase is inside an island, *-ga* has to be base-generated outside of the island as shown in (25) (see also footnote 7 for semantic evidence that *-ga* is originated outside islands).

4.3 Subordination

We have also seen that *-ga* cannot appear in non-island subordinate clauses, and when embedded in multiple subordinate clauses, *-ga* is attached to the outmost subordinate clause. The pattern is schematically represented as (26).

(26) a.*…[$_{\text{CP}}$…[$_{\text{CP}}$…*wh*-phrase-**ga**…]…]…Predicate-**ra**.
b.*…[$_{\text{CP}}$…[$_{\text{CP}}$…*wh*-phrase…]-**ga** …]…Predicate-**ra**.
c.√…[$_{\text{CP}}$…[$_{\text{CP}}$…*wh*-phrase …]…]-**ga** …Predicate-**ra**.

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[6]As in Japanese, consonant clusters are not allowed in Okinawan in general. When a consonant cluster happens to be created, the second consonant undergo deletion in the language as shown below. We present this phonological rule as supporting evidence that [*#-r –ga#*] gets pronounced as *-ra*.

Consonant deletion in Okinawan: C → ∅ / C __ (Miyara 2000: 222-224)

a. *num*	+	*ran*	→	*numan*	(m + r → r-deletion)
drink		NEG			
b. *yum*	+	*ju*	→	*yumu*	(m + j → j-deletion)
read		PRES			

This can be explained by our analysis of *Wh*-Concord as multiple copy realization. Under our analysis, (26c) has the derivation as in (27).

(27) i. … [$_{CP}$ [$_{CP}$…[*wh*-phrase]-**ga**…]-**ga**…]-**ga**…Predicate-**r+ga**

↓

Merger + Fusion

↓

ii. … [$_{CP}$ [$_{CP}$…[*wh*-phrase]-**ga**…]-**ga**…]-**ga**…Predicate#-**r+ga#**

↓

Chain Reduction

↓

iii. … [$_{CP}$ [$_{CP}$…[*wh*-phrase]-~~**ga**~~…]-~~**ga**~~…]-**ga**…Predicate#-**r+ga#**

First, *-ga*, originated in the most embedded clause, undergoes successive cyclic movement to the matrix clause leaving its copies at the periphery of each embedded clause (27i). In the morphological component, *-r* at the matrix C and the highest copy of *-ga* undergoes Fusion. Then, in the phonological component, what are visible for the LCA computation (=Chain Reduction) is the lower three copies since the highest copy is now fused with *-r*. Among those three copies, the highest copy is the second highest copy. Therefore, the rest of the copies gets deleted. In effect, *-ga* can only appear at the outmost embedded clause because it is the highest copy for Chain Reduction in the given situation.[7]

4.4 Multiple wh-interrogatives

Finally, let us consider the distribution of *-ga* in multiple *wh*-interrogatives, especially in embedded contexts. The observed pattern is schematically summarized as (28). When multiple *wh*-phrases appear in a subordinate clause, only one *-ga* can appear inside the clause (28c).

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[7]One may wonder that the impossibility of *-ga* inside islands can be understood under the same generalization; that is, *-ga* cannot appear inside an island because it is embedded in a subordinate clause. If so, the original position of *-ga* in the island-involving construction can also be adjoined to the *wh*-phrase. However, for the following semantic reason, we claim that the base position of *-ga* in the *wh*-question with an island and that with subordinate clauses should be different.

(i)	Taru-ja	[$_{DP}$ [$_{CP}$	**taa**-ga	kataru]	shimuchi]-**ga**	jumutoo-**ra**.
	Taro-top		who-nom	wrote	book-Q	read.Prog-RA

"Who$_i$ is Taro reading the book t_i wrote?"

(ii)	[$_{CP}$ [$_{CP}$	Taa-ga	chuun-di]	ichan-di]-**ga**	umutoo-**ra**
		who-NOM	came-Comp	said-Comp-Q	think.Prog.RA

"Who$_i$ do (you) think that he said that t_i came?"

The example (i) cannot be answered with a fragment corresponding to a *wh*-phrase; rather, a phrase properly containing a *wh*-phrase must be provided, as follows (see Pesetsky (1987:133) for a similar data in Japanese):

(iA)	a. *Taru	(jan)		b. Taru-ga	kataru	shimuchi	(jan)
	Taro	(is)		Taro-NOM	wrote	book	is
	"(It is) Taro."			"(It is) the book Taro wrote."			

In contrast, (ii) can be followed by a fragment just responding to a *wh*-phrase:

(iiA)	√Taru	(jan)
	Taro	(is)

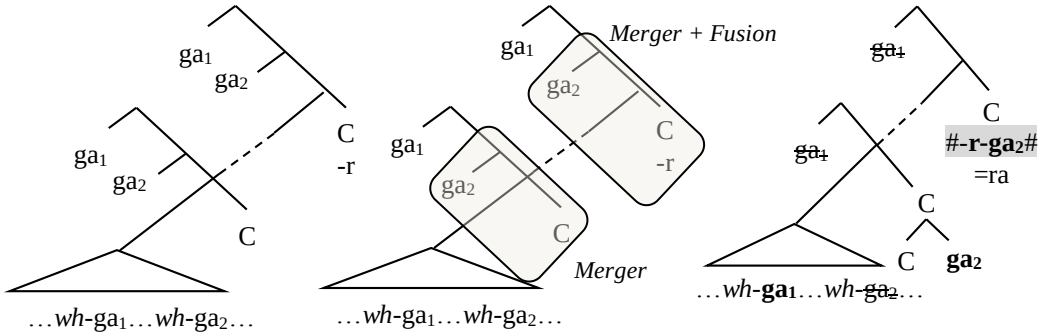
"(It is) Taro."

This contrast can be regarded as strong supporting evidence for the assumed base-position of *-ga* on the assumption that the base-generated position of *-ga* determines the possible sets of answers.

(28) a. *…[$_{CP}$…*wh*-**ga**…*wh*-**ga**…]…Predicate-**ra**.
b. *…[$_{CP}$…*wh*…*wh*…]-**ga**-**ga**…Predicate-**ra**.
c. √…[$_{CP}$…*wh*-**ga**…*wh*…]-**ga**…Predicate-**ra**.

We argue that (28c) is derived as represented in (29). First, every *-ga*, originally adjoined to the *wh*-phrase, successive-cyclically moves to the matrix Spec, CP (29i). The two instances of *-ga* are hosted by multiple spec positions at each clause. In the morphological component, Merger (and Fusion at the matrix clause) applies to *-ga* and C. Crucially, we assume that only the nearest *-ga* to C (i.e. ga_2) is Merged and Fused with C, and the other one (i.e. ga_1) remains at the spec position as shown in (29ii). In the phonological component, Chain Reduction applies to the copies of *-ga*. For $-ga_2$, the highest copy, which is Fused with C, gets realized as *-ra*, and the second highest copy, which is Merged with C, is pronounced as *-ga* at the periphery of the embedded clause. On the other hand, as for $-ga_1$, whose higher copies remain at the spec CP positions, something different happens. Because *-ga* is morphologically enclitic by definition, the higher copies of $-ga_1$, which are not suffixed to C, cannot be pronounced there. Therefore, Chain Reduction applies to them and the lowest copy which is supposed to be suffixed to the *wh*-phrase get pronounced. In effect, one *-ga* (= ga_1) is pronounced inside the subordinate clause and the other one (= ga_2) outside as in (28c).

(29) i. Syntactic Movement ii. Morphological Operations iii. Chain Reduction



5 Conclusion

In this paper, we have proposed a uniform account of the Japanese-type *wh*-interrogative and the Sinhala-type *wh*-interrogative (=*Wh*-Concord) in Okinawan based on the Copy Theory of Movement (Chomsky 1993), the LCA-based multiple copy realization (Nunes 1999, 2004; Harizanov 2014), and the two post syntactic operations in Distributed Morphology (Marantz 1984, 1988: Halle & Marantz 1993, 1994): *Morphological Merger* and *Morphological Fusion*. We have shown that the proposed analysis correctly predicts the descriptive generalizations on the distribution of *-ga* in (i) syntactic islands, (ii) subordinate clauses, and (iii) (embedded) multiple *wh*-interrogatives.

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