

Lexical Courtesy Revisited:<sup>\*</sup>  
Evidence from Tsou and Seediq *Wh*-Constructions  
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This paper seeks to further substantiate Chomsky's (2000) claim that Merge preempts Move. Previous studies have shown that the claim has a great impact on our understanding of A'-dependencies, in that an operator-variable pair must be built before any movement takes place, as encoded by the Lexical Courtesy Hypothesis (Tsai 1999a,b). Crucially, it provides a coherent account of why English, Japanese, and Chinese all employ the (unselective) binding strategy to form *wh*-questions, while differing in the magnitude of binding according to their distinct morpho-syntactic makeups, that is, lexical in English, phrasal in Japanese, and sentential in Chinese. On the empirical front, the proposal crucially relies upon a correlation between indefinite and interrogative *wh*-construals allowed in a particular language. Based on data from two Formosan languages, Tsou and Seediq, I argue that the correlation is indeed attested in VOS languages, and that Lexical Courtesy can be maintained cross-linguistically if we allow unselective binding as the optimal strategy of assigning wide scope to *wh*'s-in-situ.

Keywords: Austronesian syntax, Lexical Courtesy, Minimalism, unselective binding, *wh*-constructions

## 0. Introduction

It is well known that long-distance *wh*-dependencies do not display locality effects in Chinese (Huang 1982). As illustrated by (1a,b), the wide scope interpretation of *shei* 'who' observe neither the *wh*-island constraint nor the complex-NP constraint:<sup>1</sup>

- (1) a. Akiu xiangzhidao [<sub>*wh*-island</sub> shei lai-le mei-you] ne?  
Akiu wonder who come-Prf have-not-have Q<sub>wh</sub>  
'Who is the person x such that Akiu wonders [whether x has come]?'  
b. Akiu zui xihuan [<sub>complex-NP island</sub> shei xie de shu] ne?  
Akiu most like who write Rel book Q<sub>wh</sub>

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<sup>\*</sup> This paper benefits greatly from my discussion with Joseph Aoun, Lisa Cheng, Dan Finer, Jim Higginbotham, Jim Huang, Lillian Huang, Howard Lasnik, Audrey Li, Paul Li, Anoop Mahajan, Mamoru Saito, Stanley Starosta, Akira Watanabe, and Lisa Zeitoun. I am also in great debt to Melody Chang and Yung-li Chang for their constant help and unfailing friendship. An early version of this paper appeared in *Proceedings of the Nanzan GLOW*. The research leading to this paper is supported by the National Science Council of Taiwan (NSC 89-2411-H-007-046).

<sup>1</sup> The abbreviations used in this paper are glossed as follows: 3S: third person singular; Acc: accusative case; AV: actor voice; Comp: complementizer; Dat: dative case; Dur: durative aspect; Exp: experiential aspect; Gen: genitive case; Ger: gerundive; Hab: habitual aspect; Inc: inchoative aspect; IR: irrealis; NAV: non-actor voice; Neg: negation; Nom: nominative case; Obl: oblique; Past: past tense; Pres: present tense; Prf: perfective aspect; Prg: progressive aspect; PV: patient voice; Q<sub>wh</sub>: *wh*-question particle; RC: result clause; Rel: relative clause marker; Res: resultative aspect; R: realis; Top: topic marker.

'Who is the person x such that Akiu likes [the book which x wrote most]?'

Similar construals are blocked in English (Ross 1967), but partially licensed in Japanese on the part of complex-NP islands (Lasnik & Saito 1984, 1992, Nishigauchi 1990, Watanabe 1992), as summarized in the table below:

Table 1.

	English-type	Japanese-type	Chinese-type
Complex-NP island effects	yes	no	no
<i>Wh</i> -island effects	yes	yes	no

The three-way asymmetry inspires Tsai's (1999a,b) proposal that the operator height should be parametrized according to the morphological makeups of individual languages, based upon the following minimalist assumption:

(2) *Lexical Courtesy Hypothesis (LCH)*

If a language may introduce an operator by Merge, it will not resort to Move.

With the theoretical status of D-structure nullified, Merge competes directly with Move in building operator-variable pairs on the grounds of Economy. By granting the "courtesy" of considering Merge costless, we turn the table around by taking (unselective) binding as the fundamental operation in forming A'-dependencies. To recapitulate the idea in Chomsky's (2000) terms, we are essentially saying that Merge preempts Move, which arguably consists of Copy and Merge (and perhaps subsequent deletion).

In light of the LCH, we differentiate the three types of language in terms of the syntactic position where Merge applies: i.e., it applies at a sentential level in Chinese, at a phrasal level in Japanese, and at a word level in English (also cf. Aoun & Li 1993, Cole and Hermon 1997):

(3) *Lexical Merger Parameter (LMP)*

- a. Chinese-type: merging operators into CP or IP
- b. Japanese-type: merging operators into PP or DP
- c. English-type: merging operators into D<sup>0</sup> or N<sup>0</sup>

According to the LCH, it is necessary for an operator-variable pair to be built before any movement actually takes place. The parameter-settings of (4a-c) thus provide a straightforward account of the above three-way asymmetry in the following manner:

- (4) a. Chinese-type: [CP Op<sub>x</sub> [IP ... [DP [NP ... wh(x) ... ]]]]
- b. Japanese-type: [CP Op<sub>x</sub> [IP ... [DP t [NP ... wh(x) ... ]]]]
- c. English-type: [CP [Op<sub>x</sub>-wh(x)] [IP ... [DP [NP ... t ... ]]]]

In Chinese, the question operator is merged into [Spec, CP], as in (4a): the *wh*-in-situ is thus licensed through unselective binding in the vein of C. L. Baker (1970), Pesetsky (1987) and



'Wherever you go, I will follow you.'

This observation leads to the popular view that Chinese *wh*-expressions are best analyzed as variables rather than operators (cf. Lee 1986, Cheng 1991, Li 1992, among many others). The other piece of evidence concerns the fact that Chinese allows so-called *wh*-donkey sentences,<sup>2</sup> where a pair of identical *wh*-phrases is employed to construct a conditional structure:

- (10) [antecedent clause *shei xian lai*], [consequence clause *shei xian chi*].  
          who first come                      who first eat  
      'If anyone comes first, s/he eats first.'

As illustrated above, there is a *wh*-phrase *shei* 'who' in the antecedent clause, paired with another *shei* in the consequence clause. Both of them are bound by a universal quantifier merged to a sentential projection, resulting in the following conditional construal (cf. Cheng & Huang 1996):

- (11)  $\forall_x$  [ *x* is a person & *x* comes first ] ( *x* eats first )

By contrast, this type of construal is blocked in English and Japanese. It is these two attributes that substantiate our claim that unselective binding works at a sentential magnitude in Chinese, as opposed to the lexical binding of English and the phrasal binding of Japanese, as evidenced by the deviance of (12a,b) respectively:

- (12) a.\* Who comes first, who eats first.  
      b.\* *dare-ga kite, boku-wa dare-ni awa-nai.*  
          who-Nom come I-Top who-Dat meet-not  
          'If anyone comes, I will meet him/her.'

In this paper, we would like to pursue the issue further on the empirical front. To explore the full potential of the LCH, it is imperative to show that the correlation between the presence of extensive indefinite *wh*-construals and the absence of island effects in single *wh*-questions can be established on independent grounds. Two Austronesian languages spoken in Taiwan, Tsou and Seediq, present an interesting case in this context, in that both languages sport extensive indefinite *wh*-construals, while only the latter allows a Japanese-type morphology. Section one examines how indefinite *wh*'s behave in Seediq and Tsou. Section two demonstrates that the above correlation indeed exists for the two Austronesian languages. In section three, we move on to a dilemma caused by the morphological makeup of Seediq, and provide a solution from the point of view of language acquisition.

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<sup>2</sup> Cheng and Huang (1996) calls this type of *wh*-construals "bare conditionals".

# 1. *Wh*-expressions as variables

## 1.1. Tsou

Let's start with some typical environments where indefinite *wh*'s occur. (13a) is a subject *wh*-question in Tsou:

- (13) a. *sia na mo o'te tmopsɤ?*  
who Nom R.AV not go to school  
'Who (is the person who) didn't go to school?'
- b. *m-i-ta e-mafe to-fuzu 'e-Pasuya.*  
AV-Rea-3S AV-like to eat Obl-wild boar Nom-Pasuya  
'Pasuya liked to eat wild boar.'

It appears that the subject *sia* 'who' is fronted to the sentence-initial position, akin to *wh*-movement in English-type languages. This observation, however, is only apparent: The word order of Tsou, like most Formosan languages, is VOS: As indicated by (13b), case markers of Tsou are prefixes rather than suffixes. It follows that the constituent following *sia* 'who' should be analyzed as a headless relative clause with a null relative operator, which as a whole serves as the subject of the sentence, as illustrated by (14) (cf. Tsai 1998):<sup>3</sup>

- (14) [<sub>predicate</sub> *sia*] *na*-[<sub>subject</sub> *e* [<sub>Op<sub>i</sub></sub> [*mo o'te tmopsɤ t<sub>i</sub>*]]]?  
who Nom R.AV not go to school

By contrast, the movement analysis is untenable. This is because, if *sia* originates from within the subject, there will be no matrix predicate left for (13a).

Our position is further supported by the fact that (13a) shares the same configuration as (pseudo-)cleft sentences such as (15a). Namely, the nominative case *na*- again delimits the subject, with *Pasuya* serving as its predicate. The point is best illustrated by comparing (15b) with (14):

- (15) a. *Pasuya na mo o'te tmopsɤ?*  
*Pasuya* Nom R.AV not go to school  
'(The person who) didn't go to school (is) *Pasuya*.'
- b. [<sub>predicate</sub> *Pasuya*] *na*-[<sub>subject</sub> *e* [<sub>Op<sub>i</sub></sub> [*mo o'te tmopsɤ t<sub>i</sub>*]]].  
*Pasuya* Nom R.AV not go to school

We thus reach the conclusion that (13a) and (15a) should be treated as an (predicational)

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<sup>3</sup> An analysis in the same spirit has been proposed by Georgopoulos (1991) for Palauan, and by Cole, Herman, and Aman (1996) for Malay. As for issues concerning Tsou syntax in general, see Tung (1964), Zeitoun (1992), and M. Chang (1998).

pseudocleft construction in Williams's (1983) sense (also cf. Georgopoulos 1991).<sup>4</sup>

Now note that once we embed (13a) as a conditional clause, as in (16), *sia* is construed as existential rather than interrogative. We then have an instance of indefinite *wh*-construals:

- (16) (hoci) *sia na mo o'te tmopsæ, te-ko eʌsvʌta a'o.*  
 if who Nom R.AV not go to school will-you tell.NAV I  
 'If someone did not go to school, I shall be told by you.'

The same observation applies to *wh*'s-in-situ of Tsou, which typically appear in nonsubject *wh*-questions. Take (17) for example. The locative argument *nenu* 'where' stays in situ, and does not involve pseudo-cleft constructions:

- (17) *moh-ta-la yo-nenu 'e-Pasuya?*  
 R.AV-3S-Hab live-where Nom-Pasuya  
 'Where did Pasuya live?'

Just like *sia* 'who' of (16), *nenu* receives an existential interpretation within a conditional clause, and should be read as 'somewhere', as evidenced by (18):

- (18) *hoci-ko aiti no-nenu 'o-Pasuya te-ko eʌsvʌta a'o.*  
 if-you see.NAV Obl-where Nom-Pasuya IR-you tell.NAV I  
 'If Pasuya is seen somewhere, I shall be told by you.'

Another construction licensing indefinite *wh*'s involves modal operators such as *asonʌ* 'probably': As illustrated below, *sia* 'who' of (19a) is a cleft subject *wh*, whereas *cuma* 'what' of (19b) is an object *wh*-in-situ:

- (19) a. *m-o asonʌ mayao to-poyave na-sia,*  
 AV-Rea probably take Obl-sword Nom-who  
*ko'ko o'a-s'o elʌa.*  
 so not-I find-NAV  
 'Probably someone took the sword, so it can not be found by me.'
- b. *mo asonʌ bonʌ no-cuma,*  
 R.AV probably eat.AV Obl-what  
*ko'ko mi-ta congo 'e-bʌyo.*  
 so R.AV-3S ache.AV Nom-stomach  
 'S/he probably ate something, so her/his stomach ached.'

Both *sia* and *cuma* get existentially quantified under the licensing of *asonʌ*, and interpreted as

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<sup>4</sup> Note that this analysis only applies to subject questions. For issues concerning the subject sensitivity of Austronesian languages, see Keenan (1976), Keenan & Comrie (1977), Guilfoyle, Hung & Travis (1992), Kroeger (1993), Y.-L. Chang (1997).

'someone' and 'something' respectively.

Furthermore, *sia* can be paired with another *sia* to form a *wh*-donkey sentence, which is a positive sign for sentential unselective binding:

- (20) [antecedent clause *sia na te muyo*], [consequence clause *sia na te ouyu*].  
           who Nom IR come-first                    who Nom IR eat-first  
 'If anyone comes first, s/he eats first.'

*Wh*-expressions not in a cleft (predicate) position are also subject to *wh*-donkey construals, as exemplified by the pair of *cuma* 'what' in (21):

- (21) [antecedent clause *te-ko bono cuma*],  
           IR-you eat.AV.Obl what  
 [consequence clause *te-'o maezo bono cuma*].  
           IR-I also.AV eat.AV.Obl what  
 'I will eat whatever you eat.'

The same observation applies to *homna* 'when', as in (22), and *nenu* 'where', as in (23):

- (22) [antecedent clause *homna na te-ko 'eohɬ*],  
           when Nom IR-you mountaineer  
 [consequence clause *te-'o maezo 'eohɬ ho homna*].  
           IR-I also.AV mountaineer and when  
 'I will go mountaineering whenever you go.'

- (23) [antecedent clause *te-ko yo-nenu ho oengɬɬ*],  
           IR-you live-where and sleep  
 [consequence clause *te-'o maezo yo-nenu ho oengɬɬ*].  
           IR-I also.AV live-where and sleep  
 'I will sleep wherever you sleep.'

Predicative *wh*'s, on the other hand, vary in their abilities to undergo *wh*-donkey construals: *Mainenu* 'how' is quite compatible with the pairing construals, either in its active form, as in (24), or in its passive form, as in (25):

- (24) [antecedent clause *mi-'o mainenu 'o hia uhta Tapangɬ*],  
           R-I how.AV Nom way go.AV Dabang  
 [consequence clause *te-'o mainenu 'o te-'o hia maine'e*].  
           IR-I how.AV Nom IR-I way return.AV  
 'I will return by whichever means/way I went to Dabang.'

- (25) [antecedent clause *te-ko yainenu a'o*],  
           IR-you how.NAV I

[consequence clause te-'o yaeza yainenu su].  
 IR-I also.NAV how.NAV you  
 'I will treat you in whatever way you treat me.'

In contrast, there is no corresponding *wh*-donkey construal to a *why*-question in Tsou, as evidenced by the deviance of (26a):

- (26) a.\* [antecedent clause m-i-'o m-ainci smoa evoyu],  
 AV-Rea-I AV-why shoot-AV flying squirrel  
 [consequence clause te-ko m-ainci smoa evoyu].  
 Irr-you AV-why shoot-AV flying squirrel  
 'I will shoot a flying squirrel for whatever reason you shoot one.'
- b. [antecedent clause cuma na kua su yutasufku],  
 what Nom reason you protest  
 [consequence clause te-'o maezo yutasufku no cuma].  
 Irr-I also-AV protest Obl what  
 'I will protest for whatever reason you protested.'

The only way to express a causal concessive-conditional is to single out a head noun like *cuma* 'what' in (26b). This is because unselective binding requires an in-situ variable, which can be introduced by a noun, but not by a genuine adverb. This provides a straightforward account of why English never allows concessive-conditionals like (27a,b):

- (27) a.\* I will protest whenever you protested.  
 b.\* Whenever you protested, I will protest for that reason.

This noun-adverb asymmetry shows up in Chinese, just as it should be. This is illustrated by comparing (28) with (29), where *shenme* 'what' is singled out to pave the way for unselective binding:<sup>5</sup>

- (28)\* Akiu weishenme hui zi-sha, wo jiu weishenme hui zi-sha  
 Akiu why will self-kill I then why will self-kill  
 'For every reason x, if Akiu will kill himself for x, then I will kill myself for x.'
- (29) Akiu hui wei(-le) shenme zi-sha,  
 Akiu will for(-Prf) what self-kill  
 wo jiu hui wei(-le) shenme zi-sha  
 I then will for(-Prf) what self-kill  
 'For every purpose x, if Akiu will kill himself for x, then I will kill myself for x.'

<sup>5</sup> For a more comprehensive discussion of the reason-purpose asymmetry, see Tsai (1994, 1999c).

Everything being taken into account, we should expect no less than the Chinese-type behavior in construing Tsou *wh*'s.

## 1.2. Seediq

Indefinite *wh*-construals of a sentential magnitude are also attested in Seediq. For instance, *wh*-expressions get existentially quantified in the following modality sentences:

(30) yee ima m-un-eyah hini, kiyaka m-udulaqux neluk.  
whether who AV-Perf-comehere so AV-open door  
'Isn't it the case that someone came here, so the door is open?'

(31) ini-kela m-ne-kan (ani) maanu heyaya,  
not-know AV-Perf-eat any what s/he  
kiyaka m-unarux nubuyas.  
so AV-sick stomach  
'It might be case that s/he ate something, so her/his stomach is sick.'

Both the above constructions have their roots in creating polarity-licensing contexts: The *yes-no* question of (30) has become rhetoric, expressing estimation, while the negative epistemic verb of (31) functions as a possibility operator. Furthermore, *wh*-expressions such as *ima* 'who' and *inu* 'where' may appear in *yes-no* questions and concessive conditionals, as illustrated by (32) and (33) respectively:<sup>6</sup>

(32) yee (ani) ima m-un-eyah hini?  
whether any who AV-Perf-come here  
'Does anyone come here?'

(33) m-usa-su (ani) inu, maha-ku smnegun isu.  
AV-go-you anywhere go-I follow you  
'Wherever you go, I will follow you.'

With an optional affixal operator *ani* 'any', *ima* and *inu* get polarity readings and interpreted as 'anyone' and 'anywhere' respectively, just like their Chinese counterparts in (9) and (10).

In addition, it is instructive to note that, as pointed out by C.-L. Chang (1996), *ani* can be separated from its variable *inu*, as evidenced by the following example:

(34) ani-su m-usa inu, maha-ku smnegun isu.  
any-you AV-go where go-I follow you  
'Wherever you go, I will follow you.'

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<sup>6</sup> To my knowledge, Tsou does not allow constructions like (32) and (33), thus barring polarity *wh*-construals from its repertoire.

This curious behavior of *ani* is reminiscent of its Japanese counterpart *-mo* in a concessive conditional (Nishigauchi 1990):

- (35) [<sub>CP</sub> dare-ga ki-te]-mo, boku-wa aw-a-nai.  
 who-Nom come all I-Top meet not  
 'No matter who comes, I will not meet her/him.'

It is in this respect that Seediq distinguishes itself from Tsou, in that it employs an affix to mark the indefinite usage in question, which may attach to a phrase instead of a word. It thus appears that Seediq falls under the category of Japanese-type language in terms of *wh*-construals.

On the other hand, *wh*-donkey sentences are also found in Seediq. Take (36a) for example. *ima* 'who' in the antecedent clause is paired with another *ima* in the consequence clause under universal quantification, resulting in the conditional reading. The same observation applies to the pair of *maanu* 'what' in (36b):

- (36) a. [<sub>antecedent clause</sub> (ani) ima m-eyah],  
 any who AV-come  
 [<sub>consequence clause</sub> (ani) ima m-aŋan sunaru].  
 any who AV-take prize  
 'If anyone comes, s/he takes the prize.'
- b. [<sub>antecedent clause</sub> m-aruy-su (ani) maanu],  
 AV-buy-you.Nom any what  
 [<sub>consequence clause</sub> m-aruy-ku (ani) maanu uli].  
 AV-buy-I.Nom any what too  
 'I will buy whatever you buy.'

It should be further pointed out that C.-L. Chang (1996) actually argues that Seediq allows only E-type donkey sentences like (37a) and (38a), but not their *wh*-donkey counterparts like (37b) and (38b):

- (37) a. ani ima snkuxun gakac nii, bege-mu heya.  
 any who want.AV table this give-I.Gen he.Nom  
 'No matter who wants this table, I will give (it) to him.'
- b.<sup>??</sup> ani ima snkuxun gakac nii, bege-mu ani ima.  
 any who want.AV table this give-I.Gen any who
- (38) a. m-kan-su ani maanu, puq-un-mu kiya.  
 AV-eat-you.Nom any what eat-PV-I.Gen that  
 'No matter what you eat, I will eat it.'
- b.<sup>??</sup> m-kan-su ani maanu, puq-un-mu ani maanu.

AV-eat-you.Nom any what eat-PV-I.Gen any what

However, a closer look into relevant constructions reveals that, once we align the voices of the two clauses, *wh*-donkey construals improves dramatically, as in (36a,b). In other words, (37b) and (38b) are out simply because their antecedent clauses are active, and their consequence clauses passive. But what is responsible for this alignment requirement remains unclear.

To sum up, it seems that the LCH-driven typology in the form of the LMP has become less clear-cut on the part of Seediq. We will return to this "mixed typology" puzzle in section 3.

## 2. Island Lost

### 2.1. Tsou

Given what we have said about Chinese at the beginning of this paper, it is natural to expect that island constructions should be transparent for long-distance construals of Tsou *wh*'s-in-situ. This is because, to account for the extensive indefinite *wh*-construals discussed in section 1.1, it is imperative to maintain that *wh*'s-in-situ are construed as variables in Tsou. Following Reinhart (1997, 1998), we take unselective binding to be a matter of quantifying over choice functions, rather than individuals. A choice function picks out a member from a non-empty set, and do not leave an N-restriction in situ, avoiding a variety of interpretative problems.<sup>7</sup> Therefore, it is the choice functions associated with *wh*'s-in-situ that are subject to existential closure in intensional contexts, and to universal quantification in *wh*-donkey sentences, as schematized in (39a,b) respectively:

(39) a. modality sentences:

$\diamond \exists_f ( \dots f(wh) \dots )$

b. *wh*-donkey sentences:

$\forall_f [ \dots f(wh) \dots ] ( \dots f(wh) \dots )$

Under the LCH, the Chinese-type value is then set for Tsou, owing to the fact that the *wh*-donkey construal is fully operational, and the fact that there is no Japanese-type morphology indicating otherwise. By the same token, the unselective binding strategy should apply to question formation as well. This is indeed the case. First consider the *wh*-island construction in (40), where either the nominal predicate *sia* 'who' or the locative argument *nenu* 'where' may get a wide scope reading, i.e., interpreted as a direct question:

(40) i-si            ucia-cohivi   to-Pasuya [*wh*-island   sia   na  
 R.NAV-s/he want-know   Obl-Pasuya            who Nom  
 mo    uh-nenu]?

<sup>7</sup> Choice functions are defined as follows:

- (i) A function is a choice function (CH(f)) if it applies to any non-empty set and yields a member of that set.

See Reinhart (1997, 1998) for a comprehensive discussion on problems with applying unselective binding to either individual or set variables, as well as those with postulating island-free QR.

R.AV go-where

- a. 'Who is the person such that Pasuya wonders [where s/he went]?'
- b. 'Where is the place such that Pasuya wonders [who went there]?'

The answer to (40a) could be (41a), whereas the answer to (40b) could be (41b):

- (41) a. 'o-Mo'o. (*sia* 'who' taking the wide scope)  
Nom-Mo'o
- b. mo uhne Tapongu. (*nenu* 'where' taking the wide scope)  
R.AV go Dabang  
'(He) went to Dabang.'

Since in principle Merge should apply freely to the two scopal domain of (40) (i.e. the matrix clause and the embedded clause), there are altogether four interpretive possibilities, assuming that the Q(uestion)-operator is a  $X^0$  merged as the head of CP, rather than an XP merged as the specifier of CP:

- (42) a.  $[_{CP} [_{IP} \dots [_{CP} Q_{\langle f,g \rangle} [_{IP} \dots f(sia) \dots g(nenu) \dots ]]]]$  (indirect question)
- b.  $[_{CP} Q_f [_{IP} \dots [_{CP} Q_g [_{IP} \dots f(sia) \dots g(nenu) \dots ]]]]$  = (40a)
- c.  $[_{CP} Q_g [_{IP} \dots [_{CP} Q_f [_{IP} \dots f(sia) \dots g(nenu) \dots ]]]]$  = (40b)
- d.\*  $[_{CP} Q_{\langle f,g \rangle} [_{IP} \dots [_{CP} [_{IP} \dots f(sia) \dots g(nenu) \dots ]]]]$

(42a) surfaces as a paired indirect question, which reading is available across languages. (42b), on the other hand, is construed as a direct question for *sia* 'who', and (42c) that for *nenu* 'where'. In contrast, the derivation of (42d) crashes, since it involves a paired direct question, failing to satisfy the selection restriction imposed by *ucia-cohivi* 'wander' on the lower CP.

For one thing, a more accurate characterization of the Q-operator along the line of Hamblin (1973) and Karttunen (1977) is a combination of existential quantification and a speech act of soliciting information about elements undergoing such quantification. Therefore, interrogative and indefinite *wh*-construals actually involve quite similar semantics. Under the choice function approach, a Chinese *wh*-question such as (43) would have the following syntax and semantics (cf. Reinhart 1998):

- (43) Akiu xihuan shei?  
Akiu like what
- a. Syntax:  
 $[Q_f [Akiu \text{ likes } f(\text{thing})]]$
  - b. Semantics:  
 $\{P \mid \exists_f (CH(f) \ \& \ P = \wedge (Akiu \text{ likes } f(\text{thing})) \ \& \ \text{true}(P))\}$

Complex-NP constructions do not create problems for *wh*'s-in-situ, either. As shown by (44a), the Agent *sia*, here an oblique argument due to the passive voice, takes the widest scope in spite of the intervening island:

- (44) a. mafe 'o-[<sub>complex-NP</sub> fue ci [i-si emə'a no-sia]]?  
 delicious Nom yam Rel R.NAV-s/hegrow Obl-who  
 'Who is the person x such that [the yams [which was grown by x]]  
 are delicious?'  
 b. mo atavaesi eapeisu na-[<sub>complex-NP</sub> leaezoi ci [mo emə'ʉ no-cuma]]?  
 R.AV most rich Nom farmer Rel R.AV grow Obl-what  
 'What is the thing x such that [the farmers [who grow x]] are richest?'

Furthermore, the change of voice in (44b) does not have influence on the long-distance construals. Here the voice has shifted into active, and it is the Theme *cuma* 'what' that undergoes question formation. The unselective binding construals of (44a,b) are relatively straightforward in comparison with those of (40), as schematized below:

- (45) [CP Q<sub>f</sub> [IP ... [DP [CP ... f(wh) ... ]]]]

The absence of island effects thus qualifies Tsou as a Chinese-type language in Huang's (1982) sense.

The long-distance *wh*-dependencies in Tsou present an interesting comparison with those in Palauan, Chamorro, and Selayarese (cf. respectively Georgopoulos 1991, Chung 1994, and Finer 1997). The latter employs the resumptive pronoun strategy, involving a merged *wh*-phrase and an in-situ pro à la Cinque (1990), as opposed to the unselective binding strategy adopted by the former, involving an implicit question operator and choice function variables associated with *wh*'s-in-situ, as illustrated by the contrast between (46a,b):

- (46) a. wh<sub>x</sub> ... [island ... pro(x) ... ]  
 b. Q<sub>f</sub> ... [island ... f(wh) ... ]

In a way, what happens in Tsou is a mirror image of those found in Palauan, Chamorro, and Selayarese. This in turn may account for the fact that Tsou lacks systematic *wh*-agreement, as no cyclic operation (Move or not) is ever involved in its question formation.

## 2.2. Seediq

The above pattern of Tsou reemerges in Seediq, not only in terms of extensive indefinite *wh*-construals, but also in terms of long-distance *wh*-dependencies: (47) is an instance of *wh*-island constructions, where either the subject *ima* 'who' or the object *maanu* 'what' can be construed as a wide scope question:

- (47) kukula-an-su [<sub>wh-island</sub> ima m-un-ari maanu]?  
 wonder-LF-you.Gen who AV-Perf-buy what  
 a. 'Who is the person such that you wonder [what s/he bought]?'  
 b. 'What is the thing such that you wonder [who bought it]?'

The answer to (47a) could be (48a), whereas the answer to (47b) could be (48b):

- (48) a. (kukula-an-mu) Walis m-un-ari maanu.  
 Wonder-LF-I.Gen Walis AV-Perf-buy what  
 '(I wonder) what Walis has bought.' (*ima* 'who' taking wide scope)  
 b. (kukula-an-mu) ima m-un-ari patis.  
 Wonder-LF-I.Gen who AV-Perf-buy book  
 '(I wonder) who has bought the book.' (*maanu* 'what' taking wide scope)

Similarly, no island effect is detected in the following complex-NP construction, where *nima* 'who', an oblique argument, takes the widest scope:

- (49) [<sub>complex-NP</sub> [p-un-uhuma nima] ka bulebun] malu puq-un?  
 PV-Perf-grow who.Gen Rel banana good eat-PV  
 'Who is the person x such that [the bananas [which was grown by x]]  
 are delicious?'

Adjunct *wh*'s, which typically remain in-situ, are also subject to unselective binding, as evidenced by the temporal phrases of (50a,b) and the locative phrase of (51):

- (50) a. malu puq-un [<sub>complex-NP</sub> [p-un-uhuma sukunuwan] ka bulebun]?  
 good eat-PV PV-Perf-grow when Rel banana  
 'What is the time x such that [the bananas [which was grown at x]]  
 are delicious?'  
 b. malu puq-un [<sub>complex-NP</sub> [p-un-uhuma sun maanu] ka bulebun]?  
 good eat-PV PV-Perf-grow time what Rel banana  
 'What is the time x such that [the bananas [which was grown at x]]  
 are delicious?'

- (51) malu puq-un [<sub>complex-NP</sub> [p-un-uhuma inu] ka bulebun]?  
 good eat-PV PV-Perf-grow where Rel banana  
 'What is the place x such that [the bananas [which was grown at x]]  
 are delicious?'

Even a predicate (capable of taking a voice inflection) can undergo long-distance *wh*-construal:

- (52) ini beyo mudakin [<sub>Complex-NP</sub> [huwa-su-mesa m-uhuma] bulebun]?  
 not slow grow how-you.Nom-saying.AVAV-grow banana  
 'What is the method x such that [the bananas [which you grow with x]]  
 grow up quickly?'

The bottom line is that the *wh*-expressions must contain a head noun, which introduces a (choice function) variable by default (cf. Reinhart 1998, Tsai 1999a,b). It is this nominal property that makes unselective binding possible throughout (47-52), as we have sketched in (46b). To be more specific, *skunuwan* 'when' and *inu* 'where' are nouns, while *sun maanu* contains the head noun *sun* 'time'. The gerund part of *huwa-mesa* 'how-saying' too provides a "window" to the long-distance construal in question.<sup>8</sup> In contrast, a genuine adverb such as *huwa* 'why' functions as an operator, hence shying away from unselective binding.<sup>9</sup> This accounts for the deviance of (53):

- (53)\*ini beyo mudakin [<sub>Complex-NP</sub> [huwa-su m-uhuma] bulebun] ?  
 not slow grow why-you.Nom AV-grow banana  
 'What is the reason x such that [the bananas [which you grow for x]] grow up quickly?'

The only way for *huwa* to realize its quantificational force is to raise covertly over the Complex-NP island.

Here we would like to try out a version of Subjacency in terms of Chomsky's (1998) phase theory (Tsai 2000). The central idea is to define the notion of barriers as categories corresponding to a phase, based on the following assumptions:

- I. By exploring the intuition that phases are propositional, we extend the inventory of phase to include propositional DPs (e.g., Complex-NPs and derived nominals) and propositional PPs (e.g., adjunct clauses). Accordingly, the inventory of barriers now includes CP, vP, DP, and PP.
- II. We adopt the phase-impenetrability condition, allowing only a head and its edge accessible to outside operations.
- III. Following Chomsky, we maintain that only Core Functional Categories (CFCs, including C, T, v) allow an extra Spec.

Now consider the LF derivation of (53), as schematized below:

- (54) [<sub>TP</sub> huwa ... ]

<sup>8</sup> Similar morphological constructs of *how*-questions are also found in Japanese *doo-yat-te* 'how-do-ing' and Chinese *zenme-yang* 'how-manner'. I will refer the readers to Tsai (1999c) for detailed discussion.

<sup>9</sup> See Tsai and Chang (2001) for a fine-grained analysis of *why*-questions in Tsou: *mainci* 'why' is shown to function as a matrix predicate in syntax, and as an operator with a sentential scope in semantics.

- [CP *huwa* [TP *t* ... ]]  
 → \*[DP [CP *huwa* [TP *t* ... ]] ... ]

Once we pick a lexical subarray from the enumeration and form the relative clause of (53), *huwa* 'why' is allowed to move to [Spec, CP], as C by definition licenses an extra Spec (cf. III). As a matter of fact, *huwa* must move to [Spec, CP]. Otherwise, it will not be on the edge of C when the CP phase ends, and no further cyclic movement is allowed (cf. II). The next step is to merge a head noun to the CP, forming a DP. Now recall that a propositional DP constitutes a phase, and hence a barrier (cf. I). Moreover, since D is not a member of CFCs, there is no way to "debarrierize" DP. As a result, *huwa* is not on the edge when the DP phase ends, and can never check its operator feature on the matrix CP. The derivation thus crashes, and (53) is ruled out.

Problems arise when we consider the morphological makeup of Seediq, which seems to encourage a Japanese-type setting for the LMP, as sketched below:<sup>10</sup>

(55) [CP Q<sub>f</sub> [IP ... [DP *t* [NP ... *f*(*wh*) ... ]]]]

This means that we should not have found long-distance construals out of Seediq *wh*-islands, which is not borne out in view of (47a,b). We therefore have a dilemma at hand. In the following discussion, we will explore the issue further, and show how this discrepancy can be accommodated by the typology presented at the beginning of this paper.

### 3. A Typological Paradox

First a recapitulation of our problem. While Tsou patterns with Chinese, Seediq displays mixed behavior: It patterns with Chinese in terms of syntax (e.g., allowing *wh*-donkey sentences, and lacking island effects), but patterns with Japanese in terms of morphology (e.g., employing an affixal operator *ani*- 'any' to license indefinite *wh*'s). Consequently, the typological distinction is not as clear-cut as we might want it to be:

Table 2.

	Seediq	Tsou
English-type	no	no
Japanese-type	yes	no
Chinese-type	yes	yes

Since children essentially learn from positive evidence, the learning paths for a Seediq child seem to be conflicting in this particular instance, as sketched below:

<sup>10</sup> This partial movement analysis is adapted from Watanabe's (1992) view that Japanese merges a Q-operator to a phrasal projection, which in turn undergoes subsequent *wh*-movement in overt syntax. A treatment in the same spirit has been proposed by Finer (1997) to account for some unexpected behavior of Selayarese resumption, which seems to provide a good reason to parametrize the resumptive pronoun strategy along the line of the LMP.

- (56) a. Presence of the affixal operator *ani-* → Japanese-type setting  
 b. Presence of *wh*-donkey sentences → Chinese-type setting

When Seediq children hear (20-26) or sentences of similar sort, they would assume that Seediq is a phrasal binding language, rather than a sentential or lexical binding language, as in (56a). On the other hand, when Seediq children hear *wh*-donkey sentences, they are bound to take Seediq as a sentential binding language, rather than a phrasal or lexical binding language, as in (56b).

One way to think about this dilemma is to suggest that a parameter can be ambiguously set to the extent that there is no conflicting outcome. Namely, when Seediq children finally learn that *ani-* is not obligatory, they reconcile the conflict by hypothesizing that Seediq is alternatively a Chinese-type language.<sup>11</sup> This decision in itself opens the avenue for sentential unselective binding. Since the range of *wh*-construals allowed in Japanese is actually a subset of that allowed in Chinese, Seediq emerges as a Chinese-type language with a Japanese-type morphology.

It is instructive to note that our treatment to some extent conforms to the subset hypothesis of language acquisition (Manzini and Wexler 1987), in that children first make the most restrictive assumption consistent with the data (i.e., the presence of *ani-*), and then move to a superset of the previous grammar given extra evidence (i.e., the presence of *wh*-donkey construals). This leaves room for further psycholinguistic studies to verify the existence of an intermediate stage where Seediq children allow only Japanese-type *wh*-construals.<sup>12</sup>

All in all, we should not be surprised to find a language with mixed behavior in regard to a particular parameter, as the input to language acquisition is heavily influenced by language contacts and drastic social-economic changes, which are exactly what happened to Tsou, Seediq, and other minority languages spoken in Taiwan. On the other hand, the principles of construing operators and variables, as far as we can see, never fail to account for peculiarities of an individual language. Given that we have a proper understanding of its morpho-syntactic makeup, that is.

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<sup>11</sup> The mixed typology discussed here should not be confused with the coexistence of different types of strategies in forming A'-dependencies, as attested in Malay (Cole & Hermon 1997, i.e., movement vs. unselective binding) and in Selayarese (Finer 1997, i.e., movement vs. resumption).

<sup>12</sup> As noted by a reviewer, given the subset relations among Chinese, Japanese, and English, that is, sentential binding  $\supset$  phrasal binding  $\supset$  lexical binding, we may well wonder whether there exist languages of the following types:

- a. Japanese morphology co-occurring with Chinese *wh*-construals
- b. English morphology co-occurring with Japanese *wh*-construals
- c. English morphology co-occurring with Chinese *wh*-construals

Type (a), as mentioned above, is attested in Seediq. Type (b) and (c), to my knowledge, have not been found among Formosan languages, and it would be interesting to see if it exists at all.

#### 4. Concluding Remarks

We have demonstrated that one of the central ideas in the minimalist program, i.e., Merge preempts Move, is well-founded on empirical grounds. Essentially, whenever we spotted a *wh*-in-situ language which does not display island effects, we also found *wh*-donkey sentences and extensive indefinite *wh*-construals under intensional contexts. Conditional, modality, and *wh*-donkey constructions of Tsou and Seediq are examined to substantiate our earlier finding in Chinese and Japanese in regard to the Lexical Courtesy Hypothesis: On the one hand, the existential and polarity construals show that *wh*'s count as variables. On the other, the universal-conditional construals show that implicit operators are merged to a sentential projection. Together, they guarantee the long-distance unselective binding without resorting to Move, hence the absence of island effects in the two languages.

On the technical front, we propose to account for the residue of the minimal link condition by redefining barriers in terms of the notion of phases, in conjunction with the phase-impenetrability condition and a restricted set of CFCs (Chomsky 1998).

Finally, an empirical challenge to the LMP (3) arises due to a typological paradox on the part of Seediq. Namely, its morphological makeup is very similar to Japanese, but its syntactic behavior is of the Chinese-type. We then suggest that the optional occurrence of *ani* 'any' is the key to set the LMP ambiguously in Seediq: As long as the outcome of one setting subsumes that of the other, and as long as no morphological cue dictates one particular setting, a parameter should in principle be able to receive multiple values in the process of shaping a mature grammar.

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