

WH-ADVERBIALS IN-SITU, THEIR ISLAND-(IN)SENSITIVITY AND THE ROLE OF DEMONSTRATIVES IN WH-IN-SITU LICENSING*

Tomohiro Fujii and Kensuke Takita
Nanzan University

1. Introduction

This paper examines a well-known parallel between Mandarin Chinese (“MC”) and Japanese regarding island effects for *wh*-in-situ, which is illustrated by Japanese examples like the one in (1) (from Lasnik and Saito 1984: 245):

- (1) a. [[Taro-ga nani -o te-ni ireta] koto]-o sonnani okotteiru-no?
-Nom what-Acc obtained fact -Acc much be angry -Q

‘For which x you are so angry about the fact that Taro obtained x.’

- b. *[[Taro-ga naze sore-o te-ni ireta] koto]-o sonnani okotteiru-no?
-Nom why it -Acc obtained fact -Acc much be angry -Q

‘For which reason x, you are so angry about the fact that Taro obtained it for x?’

Wh-in-situ in MC and in Japanese was often treated in the same way when it came to their lack of island effects (Lasnik and Saito 1984, 1992, Chomsky 1986: 153). In this regard, the generalization has been well accepted in the literature on MC that while *wh*-nominals are not island sensitive *wh*-adverbs are (see Huang 1982, Xu 1990, Lin 1992, Aoun and Li 1993a, Tsai 1994a,b, 1999a).¹ We call this generalization the ‘*Nominal vs. Adverb*’ Generalization (NAG).² The NAG is argued to hold for Japanese as well as for MC in Nishigauchi (1990: 92;

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¹ A terminological note. Following Ernst (2002), we use *adverbial* to refer to phrases modifying verbs or sentences and use *adverb* to refer to elements of the syntactic category Adv. Under this terminology, while *weishenme* is an adverb, *wei-le shenme* is not, although both are adverbials. Also, when we say *nominal adverbial*, we mean the type of adverbial that (immediately) contain a nominal inside. So, *in an appropriate way* is a nominal adverbial whereas neither *appropriately* nor *if it is the appropriate best way* is.

² It seems to be the case that the NAG is hard to differentiate from other possibilities proposed for this type of contrast, for instance, from a referential vs. non-referential distinction of the sort made in Cinque 1990 and Rizzi 1990 or an argument vs. adjunct distinction seen in Huang 1982 and Lasnik

cf. *ibid*: 100ff). Namely, as far as islands other than *wh*-islands are concerned, adverbs like *naze* ‘why’ are island sensitive whereas nominal adverbials like *{donna/dooyuu} riyuu-de* ‘for what reason’ are not.

Despite this crosslinguistic similarity observed in prior studies, it seems fair to say that parametric differences between the two languages have received more attention in the last 15 years. Among others, the fact that Japanese exhibits the *wh*-island effect while MC lacks it has been centered on when the parametric difference between the two languages is discussed (Aoun and Li 1993a,b, Watanabe 1992b, 2001; Nishigauchi 1990: 32; cf. Tsai 1994a, 1999a for an attempt to accommodate both differences and similarities). The limited goal of the present paper is to revisit empirical issues surrounding the NAG and to show that Japanese and MC look more alike than has been recently argued. Although we won’t be able to offer a definitive answer to the question of how the NAG should be derived, we would like to suggest that a slightly new way of looking at their difference with respect to the *wh*-island effect is worth considering, given the parallels between the two languages in the empirical domain that we explore here.

The paper is organized as follows: Section 2 presents two new arguments for the NAG’s being a right generalization for Japanese as well as for MC. Section 3 then discusses one apparent counterexample to the NAG, which has to do with *how*-questions. It will be shown that the NAG helps us understand the nature of the phenomenon and that the problem is only apparent. Section 4 briefly takes up issues concerning *wh*-islands and discusses what our findings suggest for these issues.

2. NANDE

2.1. Adverbials’ Island-(in)sensitivity and Their Meaning

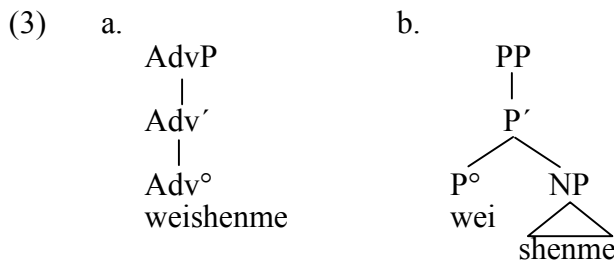
As has been familiar since Huang (1982), *wh*-nominals escape island constraints while *wh*-adverbs respects them in MC. Some *wh*-adverbials, such as *nail* ‘where’, and *shenmeshihou* ‘when’, display no effects when embedded inside islands, just as argument *wh*-phrases like *shei* ‘who’ and *shenme* ‘what’. By contrast, adverbial expressions such as *weishenme* ‘why’ (and *zenme(yang)* ‘how’) obey a full range of island effects, as observed in Huang (1982: chapter 7) and Tsai (1994b): Islands including *wh*-islands, complex NP islands, sentential subject islands, and negative islands do not block *wh*-dependencies when *wh*-nominals embedded and does block them when *wh*-adverbs embedded inside an island. Of particular interest in this section is the dual nature of the *wh*-adverbial *weishenme*, which is

and Saito 1984 (see Murasugi and Saito 1992 for an attempt to tease apart the NAG and the latter generalization.) One major reason we maintain the NAG is methodological: Whether *wh*-in-situ is a nominal or not is relatively easy to determine independently of how it behaves with respect to extraction out of islands. As we will see, the NAG makes some predictions and they seem to be empirically correct. But it does not necessarily mean that these results are not incompatible with those other possibly competing generalizations.

first discussed in Huang 1982 and further examined in Tsai 1994a. (2) is adapted from Tsai (1994b, ex.11; PNM = prenominal modifier marker):

- (2) a. Ni bijiao xihuan [[wei(-le) shenme gongzuo] de ren]?
 you more like for what work PNM people
 ‘For which purpose x you like better [the people who work for x]’
- b. * Ni bijiao xihuan [[weishenme gongzuo] de ren]?
 you more like why work PNM people
 ‘For which reason x you like better [the people who work for x]’

For expository purposes, we use WEISHENME when we need to abstract away from the difference between *weishenme* in 2b) and *wei(-le) shenme* in 2a). According to Tsai (1994a/1999: 90, 1994b: 128), when WEISHENME is island insensitive, *wei* receives phonological stress, or the suffix *le* may intervene between *wei* and *shenme*. These facts suggest that, along the lines of Huang (1982: 530), WEISHENME is ambiguous in the way represented in (3):



In short, when the adverbial is island insensitive, *wei* and *shenme* are syntactically independent elements. Furthermore, as Tsai observes, the island sensitive adverbial differs from the island insensitive one in meaning. While the former serves as a casual adverbial, the latter serves as a purpose adverbial. As far as we can tell, the generalization is that when WEISHENME is assigned the structure given in (3b), it cannot have a casual ‘why’ reading, and otherwise it may have a purpose ‘why’ reading.³

(4)

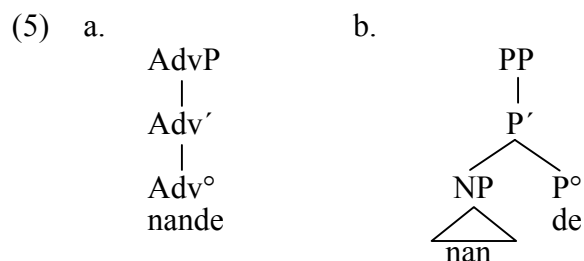
	Category	Island-sensitivity
Causal WEISHENME	Adv	Sensitive
Purpose WEISHENME	Adv	
	PP	Insensitive

We may thus say that purpose WEISHENME may not obey island constraints. In the remainder of this section, we will show that the Japanese *wh*-adverbial *nande* exhibits a similar

³ It is not clear to us why the relationship between an adverbial’s categorical status and its meaning should be the way it is. In other words, we do not know why WEISHENME does not have a causal reading when it is a PP.

kind of correlation among its structure, meaning and island-sensitivity.

NANDE apparently consists of *nan(i)* ‘what’ and *-de* ‘with’. (Just as in our discussion of Chinese WEISHENME, we use NANDE when it is necessary for expository reasons.) As will be demonstrated below, the adverb comes in two guises. Our claim about NANDE is that it can be assigned either structure (5a) or (5b) and that when it is analyzed as in (5a), it is island sensitive whereas when it is analyzed as in (5b) it is island insensitive:



The logic of the argument for NANDE being an illustrative case of the NAG is as follows: First, we establish that the interpretation of NANDE, which is otherwise three ways ambiguous, is restricted when it appears inside an island. In particular, it has to function as a ‘method’ adverbial in such an environment. We then propose ways of diagnosing the categorial status of NANDE. If the NAG is correct, only the method reading should be available in the environments in which the PP analysis of NANDE is mandatory. We show that the prediction is correct.

Let us begin by the fact that NANDE allow for at least three different interpretations, as shown in (6):⁴

- (6) Mari-wa nande kaetta-no?
 -Top NANDE left -Q
 lit. ‘With what did Mari leave?’
- a. Causal interpretation *Because she was sick.*
 - b. Purpose interpretation *In order to do her homework.*
 - c. Method interpretation *By bus.*

The ‘method’ interpretation here somewhat loosely covers the type of use found in (6c) as well as its instrumental adverbial use, which is illustrated in (7a):

⁴ We give possible answers to questions in English when they seem to be useful. They are given in italics.

- (7) Mari-wa nande konpyuutaa-o kowasita-no?
 -Top NANDE computer-Acc broke -Q
 a. ‘What did Mari break a computer with?’ (Instrumental) *With a hammer.*
 b. ‘Why did Mari break a computer?’ (Causal/purpose) *Because she lost her temper.*

Even if it turns out eventually that cases like (6c) and those like (7a) must be distinguished, it won’t affect the argument that we will make in this paper.

Given these interpretive possibilities that NANDE has, it is interesting to note that when the *wh*-adverbial appears in an island configuration, its causal/purpose interpretations disappear. (8), (10) and (12) illustrate cases involving relative-clause, adjunct and negative islands, respectively:

(8) *NANDE in Relative Clause Island*

Ken-wa [[Mari-ga **nande** kaita] ronbun]-o hihansita-no?
 -Top -Nom NANDE wrote paper -Acc criticized-Q

‘Q Ken criticized [the paper that Mari wrote with-what].’ ≠(9a); =(9b)

(9) For what reason/by what means *in Relative Clause Island*

- a. Ken-wa [[Mari-ga donna riyuu -de kaita] ronbun]-o hihansita-no?
 what reason-with

‘For which reason/purpose x Ken criticized [the paper that Mari wrote for x]’
He criticized the paper [that she wrote because she didn’t have anything else to do]; He criticized the paper [that she wrote in order to get tenure].

- b. Ken-wa [[Mari-ga donna syudan-de kaita] ronbun]-o hihansita-no?
 what means -with

‘What is the means x did Ken criticize [the paper that Mari wrote by x]?’
He criticized the paper [that she wrote with a typewriter].

(10) *NANDE in Adjunct Island*

Mari-wa [Ken-ga nande eigo -o benkyoosita-kara]
 -Top -Nom NANDE English-Acc studied -because
 okotta -no?
 got.angry-Q

‘Q Ken got angry [because Mari studied English with-what].’ ≠(11a); =(11b)

(11) For what reason/by what means *within Adjunct Island*

- a. Mari-wa [Ken-ga donna riyuu -de eigo-o benkyoosita-kara] okotta-no?
 what reason-with

‘For which reason/purpose x Mary got angry [because Ken studied English for x]’
Because he wanted to go to America; In order to go to America

- b. Mari-wa [Ken-ga donna syudan-de eigo-o benkyoosita-kara] okotta-no?
 what means -with

‘What is the means x did Mary get angry because Ken studied English by x?’
Using a textbook.

(12) *NANDE within Negative Island*

Ken-wa [Mari-ga nande kaetta-to] iitaku nakatta -no?
 -Top -Nom NANDE left -C want.to.say not.Past -Q

‘Q Ken didn’t want to say that Mari had left with what.’ ≠(13a), =(13b)

(13) For what reason/ by what means *in Negative Island*

- a. Ken-wa Mari-ga donna riyuu -de kaetta-to iitaku nakatta-no?
 what reason-with

‘For which reason/purpose x Ken didn’t want to say [that Mari had left for x]?’
He didn’t want to say [that she did so because she was sick];
He didn’t want to say [that she did so in order to do her homework].

- b. Ken-wa Mari-ga donna syudan-de kaetta-to iitaku nakatta-no?
 what means -with

‘For which means x Ken didn’t want to say [that Mari had left by x].’
He didn’t want to say that she did so by bus.

(8) involves a relative clause. The sentence can mean what (9b), which contains *donna syudan-de* ‘by what means’, means but not what (9a), which contains *donna riyuu-de* ‘for what reason’, means. The same pattern is found with adjunct islands as shown in (10-11). The PP example in (11a) is a possible paraphrase to the *nande* sentence in (10), whereas the PP example (11b) is not. Likewise, *NANDE* in (12) lacks the causal ‘why’ and purpose ‘why’ interpretations, which is shown by the fact that (13a) cannot serve as a paraphrase to (12). These observations can be summarized as follows:⁵

(14)

	Island-sensitivity
Causal/purpose <i>NANDE</i>	Sensitive
Method <i>NANDE</i>	Insensitive

⁵ We will not attempt to explain this generalization. Recall, however, that in MC, when *weishenme* is interpreted as a purpose adverb, it may be island-insensitive. This, taken together with (0), means that whether a *wh*-adverbial is susceptible to island constraints is not predictable exclusively from its meaning. See also footnote 3.

2.2. The Decomposability of NANDE

Recall that WEISHENME may or may not be analyzed as the preposition *wei* being combined with the noun *shenme* (section 2). Virtually the same characteristic is observed with NANDE. The *wh*-adverbial in question allows for the uncontracted form *nani-de*, which consists of the noun *nani* ‘what’ and *-de* ‘with’. In fact, the vowel /i/ of *nani* drops in many environments without changing its syntax. *Nani-ni* ‘what-Dat’ can become *nan-ni*, *nani-ka* ‘something’ can become *nan-ka*, and so on. Let us assume naturally that the uncontracted form *nani* is only allowed if it projects to an NP, though, importantly, it does not mean that the contracted form *nan* is not an NP. That is, the uncontracted form *nani-de* is unambiguously assigned the PP-structure given in (5b), whereas the contracted form *nan-de* could be ambiguous. If this is the case, the following two predictions are expected to hold: First, the uncontracted *nani-de* should survive inside islands since it is a PP. Second, it should lack varieties of ‘reason’ interpretations, given the generalization in (14).

The first prediction, i.e. that *nani-de* is island insensitive, turns out to be correct. The uncontracted form is allowed to occur inside a relative clause island, an adjunct island, and a negative island:

- (15) a. Ken-wa [[Mari-ga nani-de kaita] e] -o hihansita-no?
 -Top -Nom what-with wrote picture-Acc criticized-Q
 ‘For which means x Ken criticized [the paper that Hanako hit by x]?’
- b. Mari-wa [Ken-ga nani -de eigo -o benkyoosita-kara]
 -Top -Nom what-with English-Acc studied -because
 okotta -no?
 got.angry-Q
 ‘For which means x Mari got angry because Ken studied English by x?’
- c. Ken-wa [Mari-ga nani -de kaetta-to] itakunakatta -no?
 -Top -Nom what-with left -C didn’t.want.to.say-Q
 ‘For which means x Ken didn’t want to say that Mari had left by x?’

The second prediction also holds true. As shown in (16), when the uncontracted form is used, the causal and purpose interpretations go away, and only the *method* interpretation remains available:

- (16) Ken-wa nani -de kaetta-no?
 -Top what-by left -Q
 lit. ‘With what did Ken leave _?’
 ‘By what means did Ken leave?’
 *‘For what reason did Ken leave?’

The unavailability of causal/purpose interpretations with uncontracted *nani-de* can be further confirmed by using the incompatibility of stative predicates with method adverbials. As is seen in (17), stative predicates exclude method adverbials:

- (17) {*dooyuu syudan-de/ ✓dooyuu riyuu -de} Ken-ga kasikoi -no?
 what means -with what reason-with -Nom intelligent.Prs-Q
 ‘{*By what means/ For what reason} is Ken the best?’

If we are right that the uncontracted *nani-de*, unlike *nande*, only allows for a method interpretation, the *wh*-phrase should not be able to appear with such predicates. This is indeed the case:

- (18) a. nande Ken-ga kasikoi -no?
 NANDE -Nom intelligent.Prs-Q
 ‘Why is Ken intelligent?’
 b. *nani -de Ken-ga kasikoi -no?
 NANI-DE -Nom intelligent.Prs-Q
 lit. ‘With what is Ken intelligent?’

Under the assumption that the occurrence of /i/ before *-de* signals the presence of an NP node being in the adverbial phrase, the data strongly argue for the correlation between the island-insensitivity of a *wh*-adverbial and the existence of an NP inside it. Hence the data cited in (15-18) constitute an argument in favor of the NAG.

2.3. Prenominal Modification

The second evidence for the NAG concerns modification of *wh*-elements by prenominal modifiers such as relative clauses; see Kuno 1973, Ishii 1991, Murasugi 1991, and Kaplan and Whitman 1995 for Japanese prenominal modifier clauses. As in (19), *wh*-nominals can be modified by modifiers, whether restrictive or non-restrictive.

- (19) a. Mari-wa [[_{RC} Ken-ga e_i kat -ta] nani_i]-o sutetesimatta -no?
 -Top -Nom buy-Past what -Acc ended.up.discarding-Q
 ‘What, which Ken bought, has Mari discarded?’
 b. Mari-wa bureina dare_i-o tataita -no?
 -Top impolite who-Acc hit.Past-Q
 ‘Which person, who is impolite, did Mari hit?’

Note that the *wh*-adverb *naze* ‘why’ does not allow such modification.

- (20) a. Ken-wa (*odorokubeki) naze gakkoo-o yameta -no?
 -Top astonishing why school -Acc quit.Past-Q
- b. Ken-wa (odorokubeki) donna riyuu -de gakkoo-o yameta -no?
 -Top astonishing what reason-with school -Acc quit.Past-Q
 ‘For what reason, which was astonishing one, did Ken quit school?’

(19a), which contains ‘why’, is totally unacceptable. The acceptability of the analog with ‘for what reason’ in (19b) then suggests that (*wh*-)adverbs do not allow prenominal modification.

Given that prenominal modifiers help to pick out nominal adverbials, the expectation is that (i) the uncontracted form *nani-de* supports modifiers and that (ii) in the presence of a prenominal modifier, the contracted form *nande* unambiguously serves as a method adverbial.

As is expected, the uncontracted *nani-de* allows for modification by relative clauses.

- (21) Ken-wa [[_{RC} Mari-ga *pro*_i mottekita] nani_i]-de kuruma-o naosita-no
 -Top -Nom brought what -with car -Acc fixed -Q
 ‘What, which Mari brought, did Ken fix the car by?’

It also seems to be the case that when the contracted form *NANDE* occurs with a modifier, the causal/purpose interpretations are barred while the method interpretation remains available. Consider the pair in (22):

- (22) a. zikken -tyuuni Ken-wa [daremo -ga odorokuyoona] donna
 experiment-during -Top everyone-Nom would.get.surprised what
 riyuu/ mokuteki-de nyuuzi-no ki -o hiita -no?
 reason/purpose -with infant -Gen attention-Acc drew-Q
 ‘For what reason/purpose, which would surprise everyone, did Ken draw infants’
 attention during the experiment?’
- b. zikken -tyuuni Ken-wa [daremo -ga odorokuyoona] donna
 experiment-during -Top everyone-Nom would.get.surprised what
 syudan-de nyuuzi-no ki -o hiita -no?
 means -with infant -Gen attention-Acc drew-Q
 ‘By what means, which would surprise everyone, did Ken draw infants’ attention
 during the experiment?’

(22a) can be answered by, for example, “In order to have them make grammaticality judgments”. Possible answers for the question (22b) include “By wearing off his T-shirt”, “By starting to wash his teeth”, and so on. Once *nande* is substituted for *donna N-de* ‘what-N with’ in these sentences, the sentence becomes unable to ask the reason for which he drew

infants' attention. (23), which contains *nande*, can be paraphrased with (22b) but clearly not with (22b):

- (23) zikkenn -tyuuni Ken-wa [daremo -ga odorokuyoona] nande
 experiment-during -Top everyone-Nom would.get.surprised NANDE
 nyuuzi-no ki -o hiita -no?
 infant -Gen attention-Acc drew-Q
 lit. 'With what, which would surprise everyone, did Ken draw infants' attention?'

Thus, only method *nande* supports prenominal modifiers. On the assumption that only NPs support such modifiers, the lack of the reason/purpose interpretation in (23) indicates that method *nande*, unlike causal/purpose *nande*, contains an NP. This, taken together with generalization (14), shows that *nande* escapes islands if and only if it has a PP structure.

(24)

	Island-sensitivity	Diagnostics for Nominality	
		Uncontracted form	Prenominal modification
Causal/purpose NANDE	Sensitive	Not possible	Not possible
Method NANDE	Insensitive	Possible	Possible

3. Two Puzzles Posed by 'How'-Questions

The Japanese *wh*-adverbial *doo* is similar to English *how* in that it may function as a manner adverbial when it occurs by itself. The adverbial in question may co-occur with other elements. We focus on the form of *doo-yatte* and the form of *doo-site*, both of which apparently consist of the *wh*-adverbial *doo* and the *te*-gerundive form of a verb meaning 'do'.

- (25) a. Ken-wa doo -yatte hon -o yonda -no?
 -Top how-doing book-Acc read.Past-Q
 'How did Ken read a book?' *Face up*
- b. Ken-wa doo -site hon -o yonda -no?
 -Top how-doing book-Acc read.Past-Q
 'Why did Ken read a book?' *Because he didn't have anything else to do.*

There does not seem to be any overlap between (possible) answers for the *doo-yatte* question in (25a) and those for the *doo-site* question in (25b). In other words, the generalization appears to be that *doo-site* cannot receive a manner interpretation while *doo-yatte* cannot receive a causal/purpose interpretation.

The *doo*-constructions pose two puzzles for the NAG. The first puzzle concerns the island-insensitivity of the manner adverbial *doo-yatte*. Examining the behavior of *doo(-yatte)*, Nishigauchi (1990: 99ff.) and Ura (1993) observe that while this adverbial does not seem to contain an NP inside, it survives inside islands.⁶ Note that, as they correctly observe, *doo(-yatte)* does not precede any postposition:

- (26) **doo -yatte -de* (cf. *donna hoo-hoo/yarikata-de*)
 how-doing-with what manner/method -with

Nishigauchi's and Ura's observation that *doo(-yatte)* is not noun-like is strengthened by the 'prenominal modification' diagnostic. Observe the total unacceptability of (27):

- (27) **Ken-wa [daremo -ga odoroku -yoona] doo -yatte hon -o*
 -Top everyone-Nom get.surprised-Mod how-doing book-Acc
yonda -no?
 read.Past-Q

- cf. *Ken-wa [daremo-ga odoroku-yoona] donna yarikata-de hon-o yonda-no?*
 what manner -with

'In what manner, which would surprise everyone, did Ken read a book?'

The unacceptability of (26) and (27) thus may lead us to expect that the adverbial obeys island constraints. However, as mentioned above, *doo-yatte* contrasts with *naze* 'why' in this regard:

- (28) a. *Ken-wa [Mari-ga {doo -yatte/ *naze} kaita ronbun]-o eranda-no?*
 -Top -Nom how-doing why wrote paper -Acc chose -Q

'For which manner x Ken chose (to read) the paper that Mari wrote in x'
 'For which reason x Ken chose (to read) the paper that Mari wrote for x?'

- b. *Mari-wa [Ken-ga {doo -yatte/ *naze} eigo -o benkyoosita-kara]*
 -Top -Nom how-doing why English-Acc studied -because
okotta -no?
 got.angry-Q

'For which manner x Mari got angry because Ken studied English in x'
 'For which reason x Mari got angry because Ken studied English for x?'

Hence, the *doo-yatte* construction is a place where the correlation between island-(in)sensitivity and prenominal modification breaks down.

Another puzzle concerning *doo* has to do with the reason/purpose adverbial *doo-site* (see example (29b)). This adverbial, unlike *doo-yatte*, obeys islands, while no immediate syntactic

⁶ We cannot afford to discuss the island-sensitivity of *how*-questions in MC. The reader is referred to Huang 1982, Lin 1992, and Tsai 1994b, 1999b.

difference between these two is detectable. *Doo-site* fails to be embedded inside islands:

- (29) a. *Ken-wa [Mari-ga doo -site kaetta-to] itaku nakatta -no?
 -Top -Nom how-doing left -C want.to.say not.Past-Q
 ‘For which reason/purpose x Ken didn’t want to say that Mari had left for x?’
- b. *Ken-wa [[Mari-ga doo -site kaita] ronbun]-o hihansita-no?
 -Top -Nom how-doing wrote paper -Acc criticized-Q
 lit. ‘What did Ken criticized the paper [that Mari had wrote with x]?’
 ‘For which reason/purpose x Ken criticized the paper that Mari wrote for x’
- c. *Mari-wa [Ken-ga doo-site eigo -o benkyoosita-kara]
 -Top -Nom how-doing English-Acc studied -because
 okotta -no?
 got.angry-Q
 ‘For which reason/purpose x Mari is angry because Ken studied English with x’

Note also that *doo-site* does not allow prenominal modifiers to precede it:

- (30) *Ken-wa [daremo -ga odoroku -yoona] doo-site
 -Top everyone-Nom get.surprised.Prs-Modal how-doing
 hon -o yonda -no?
 book-Acc read.Past-Q
 ‘For what reason/purpose, which would surprise everyone, did Ken read a book?’

After all, *doo-site* behaves in the same way as the run-of-the-mill *wh*-adverb *naze* ‘why’. The question is, why is it that *doo-site* is susceptible to island despite its being similar to island insensitive *doo-yatte*?

We propose a solution to the first puzzle and argue that the solution enables us to solve the second puzzle as well. If the NAG is correct, we are forced to propose that island insensitive *doo-yatte* ‘how’ contains a phonologically empty noun phrase, as schematically shown in (31):

- (31) [DP doo [NP e]]

This analysis is not that exotic, given that *doo* ‘alternates’ with demonstrative elements such as *koo*, *soo*, and *aa*. As is familiar in the literature, the Japanese demonstrative system has three kinds of anaphoric and/or deictic demonstratives; namely the *ko*-series, *so*-series, and *a*-series (see Kuno 1973, Kuroda 1979, Noguchi 1997, Hoji, Kinsui, Takubo and Ueyama 1999, among others). What one might call ‘indeterminate demonstratives’ also constitute part

of the paradigm. The paradigm given in (32) illustrates the case of the demonstrative noun denoting an inanimate entity.⁷

- (32) a. ko-re ‘this one’
 b. so-re ‘that one’
 c. a-re ‘that one there’
 d. do-re ‘which one’

It seems possible to analyze these expressions along the lines shown in (33).

- (33) [DP {ko/ so/ a/ do} [NP re]]
 ‘this one, that one, that one there, which one’

Presumably, *-re* is morphosyntactically weak and obligatorily cliticizes onto the demonstrative (see Hoji, Kinsui, Takubo and Ueyama 1999 for potentially relevant discussion).

Now let us observe that the manner adverbial *doo-yatte* occurs in the ‘full’ *ko-so-a-do* paradigm:

- (34) a. koo-yatte ‘this way’
 b. soo-yatte ‘that way’
 c. aa-yatte ‘that way there’
 d. doo-yatte ‘what/which way’

Koo-yatte, *aa-yatte* and *soo-yatte* are surely manner adverbials, which can be evidenced by a question-answer pair like the following:

- (35) A: Ken-wa doo -yatte hon -o yonda -no
 -Top how-doing book-Acc read.Past-Q
 ‘How did Ken read a book?’
 B: {koo-yatte/ aa -yatte/ soo-yatte} yonda-nda -yo
 this-doing/ that-doing/ that-doing read -Mood-SFP
 ‘He read it {this way, that way}.’

If these demonstratives are associated with the category D (Noguchi 1997), it is perfectly natural to take *koo*, *soo*, *aa* and *doo* to be determiner-like elements that occur with empty nominal complements, along the lines of Postal (1966), where English pronouns are analyzed as definite determiners taking phonologically null nouns. Given an analysis of *ko-re*, *so-re*, *a-re* and *do-re* of the sort proposed in (33), the parallel of (33) and (34), i.e. that *doo-X* fits

⁷ We are not concerned with referential and anaphoric properties of these demonstratives here. The reader is referred to the references cited in the text.

into one of the four slots of the paradigm, suggests that the adverbials found in (35), like the nouns shown in (33), have a D-NP structure, as in (36):

- (36) [_{teP} [_{DP} {koo/ soo/ aa/ doo} [_{NP} e]] yat-te]
 ‘in {this way, that way, that way there, which way}’

Given this, it follows from the NAG that the *wh*-phrase *doo-yatte* ‘how’ can be embedded inside islands. Thus Nishigauchi and Ura’s observation of the island-insensitivity of the manner adverbial *doo(-yatte)* is accounted for.

This analysis immediately explains the apparent non-nominal-like behavior of *doo-yatte* ‘how’. The failure of postposition attachment (26) and the failure of prenominal modification with *doo-yatte* (27) cease to be problematic under the present analysis. Postpositions or particles in general cannot attach to null noun phrases. The postposition *-de* cannot be “stranded”:

- (37) un, *(sono {hoo-hoo/yarikata})-de yar-oo
 yes that way -with do -Exhortative
 ‘Right, let’s do it that way.’

Also, prenominal modifiers do not apply to empty nominals in general:

- (38) Ken-wa [daremo -ga odoroku -yoona] *(yarikata-de)
 Ken-Top everyone-Nom get.surprised.Prs-Modal manner-with
 hon -o yonda
 book-Acc read.Past

Intended meaning: ‘Ken read a book in a manner that would surprise everyone.’

So the present analysis of *doo-yatte* resolves the first puzzle, i.e. why the *wh*-adverbial does not pass out diagnostics for nominality though it does not respect island constraints.

Turn to the second puzzle: why *doo-site* ‘why’ behaves like *naze* ‘why’ despite its containing *doo*? The NAG leads us to posit for *doo-site* either a structure like (39a) or a structure like (39b). It does not contain an NP.

- (39) a.
$$\begin{array}{c} \text{AdvP} \\ | \\ \text{Adv}' \\ | \\ \text{Adv}^\circ \\ \text{doosite} \end{array}$$
 b.
$$\begin{array}{c} \text{VP} \\ | \\ \text{V}' \\ \wedge \\ \text{AdvP} \quad \text{V}^\circ \\ \wedge \quad \text{si(-te)} \\ \text{doo} \end{array}$$

Whichever the correct structure may be, neither of these structures contains an NP projection, which ensures that *doo-site* respect island conditions.

Notice now that this proposed analysis of the island-insensitivity of *doo-site* ‘why’ enables us to make one clear prediction: despite its superficial similarity to the island insensitive manner adverbial *doo-yatte*, the causal/purpose adverbial *doo-site* should not display the full *ko-so-a-do* paradigm. In other words, neither of the structures proposed in (39) has a D position, which we assume provides a placeholder for a demonstrative. At first glance, the predication appears to be wrong, because the full paradigm seems to be possible as in (40):

- (40) a. koo-site
 b. soo-site
 c. aa-site
 d. doo-site

(40) looks no different than (34) in the relevant respect. With closer inspection, however, a striking picture emerges. The adverbials given in (40a-c), in contrast to the indeterminate one given in (40d), *never* function as causal/purpose adverbials. *Doosite*-interrogatives can only be awkwardly answered by their *ko-*, *so-* or *a-* counterparts:

- (41) A: Ken-wa doo -site hon -o yonda -no?
 -Top how-doing book-Acc read.Past-Q

‘Why did Ken read a book?’

- B: # {koo-site/ aa -site/ soo-site} yonda -nda -yo
 this-doing/ that-doing/ that-doing read.Past-Mood-SFP

‘He read it {this way, that way}.’

The sentences in (41B) each can be paired, as natural answers, with the *doo-yatte* question in (40A). This suggests that the alleged ‘determinate’ analogs of *doo-site*, i.e. those given in (40a-c), are manner adverbials, rather than reason/purpose adverbials. This makes sense because the structures proposed in (39) do not provide a placeholder that hosts demonstratives like *ko-*, *so-* and *a-*. It is arguable then that there is no D position in *doo-site* and therefore there is no NP either. In a nutshell, Japanese *doo-site* is lexicalized, just as Chinese *weishenme* is so.

To summarize, we have shown that the island-sensitivity of *doo-site* ‘why’ and the island-insensitivity of *doo-yatte* ‘how’ are correlated with whether the adverbial in question can enter into the full *ko-so-a-do* demonstrative paradigm. If the latter property signals the presence of D, the island-(in)sensitivity of these *how*-adverbials is predictable under the NAG.

4. Conclusion and Remaining Issues

This squib presented novel empirical arguments for the generalization that *wh*-nominals are island insensitive while *wh*-adverbs are island sensitive. The generalization has been proposed for MC since Huang (1982) and for Japanese since Nishigauchi (1990). The arguments presented from Japanese here strengthen the generalization. We showed that (i) the *wh*-adverbial NANDE exhibits the same kind of ambiguity as Chinese WEISHEME does (i.e. that NANDE, being ambiguous between its ‘PP use’ and its ‘Adv use’, is island insensitive if and only if it is analyzed as a PP, and that (ii) the puzzles posed by the behaviors of *doo(-yatte)* and of *doosite* are resolved by claiming that the former, island insensitive adverbial contains a DP, which is in turn evidenced by its being able to host a demonstrative.

Before concluding the paper, two issues, which are related to each other, need to be addressed. The most obvious issue is how the NAG can be derived. We are neutral as to whether the generalization should be explained in terms of the ECP (Huang 1982, Lasnik and Saito 1984, 1992), unselective binding (Pesetsky 1987, Tsai 1994a, 1999a, Cole and Harmon 1998, Bruening 2007), choice functions (Reinhart 1998, Hagstrom 1998) or something else. Among the prior proposals pertaining to this issue is the hypothesis that the licensing of Japanese *wh*-nominals involves unselective binding (Tsai 1994a,b, 1999a, Takano 2002, Bayer 2005; cf. also Reinhart 1998). Namely, *wh*-NPs discharge choice function variables, whereas *wh*-adverbs do not. The fact that the NAG covers a wide range of data in Japanese *wh*-questions may lead one to claim that unselective binding is sufficient to license Japanese *wh*-nominals including *wh*-adverbials like those we discussed. If this is the case, it is predicted that Japanese *wh*-nominals should be able to escape all the islands that MC *wh*-nominals can. As has been long noted in the literature, the prediction is apparently false: *Wh*-islands do not allow for extraction of *wh*-nominals in Japanese unlike in MC (see Nishigauchi 1990, Lasnik and Saito 1992, Watanabe 1992a,b, Takahashi 1993, Tanaka 1999, Ochi 1999, Hagstrom 1998, Yoshida 1998, 1999, and Shimoyama 2006, to list a few).

- (42) ??kimi-wa dare-ga doko-de hataraiteru-ka siritai -ndai⁸
 you -Top who-Nom where-at be.working-Q want.to.know.Prs-Mood.Q

‘For which person x you want to know [for which place y, x is working at y].’

In fact, the nominal *wh*-adverbials that we have discussed so far cannot take wide scope when embedded within a *wh*-island as easily as when embedded inside other kinds of island. The unacceptability of (43) and (44) should be contrasted with the acceptability of cases like (15a) and cases like (28a), respectively:⁹

⁸ The sentence final particle *ndai* with raising intonation, which we believe is associated with the mood marker *noda*, is used here to force a matrix *wh*-question interpretation. As Yoshida (1998) observes, the particle in question only appears in roots and makes sentences *wh*-questions, rather than yes-no questions.

⁹ We are grateful to Yuji Takano for bringing this issue to our attention.

- (43) ??Ken-wa [{nani-de/ donna doogu -de} dare-ga kono ronbun-o
 -Top what-with what apparatus-with who-Nom this picture-Acc
 kaita-ka] sirabeteiru -ndai
 drew-Q be.investigating-Mood.Q
 ‘For which thing/apparatus x, Ken is trying to find out [for which y, y wrote this
 paper with x]’
- (44) ??Ken-wa [{doo -yatte/ donna yarikata-de} dare-ga kono ronbun-o
 -Top what-with what method-with who-Nom this paper -Acc
 kaita-ka] sirabeteiru -ndai
 drew-Q be.investigating-Mood.Q
 ‘For which method x, Ken is trying to find out [for which y, y wrote this paper in x]’

If one takes seriously the parallels between MC and Japanese in the empirical domain that we explored so far, the null hypothesis would be that there is some difference between interrogative complements in MC and those in Japanese, whereas the licensing mechanism for *wh*-nominals and the nature of other islands in the two languages are the same (see Richards 1997 for a proposal along these lines).¹⁰ How can the relevant generalization be stated then? One can conjecture the following: if a language L has an overt question complementizer, like Japanese *ka*, in embedded questions, L displays the blocking effect for *wh*-in-situ nominals (see Nishigauchi 1990:32, fn.13 for a similar suggestion). In the present instance, there seems to be no interrogative C overtly present in MC embedded questions, while Japanese *ka* is necessary in the same environment (see Cheng 1991 among others). To see the extent to which this conjecture can be maintained, a larger sample of *wh*-in-situ languages needs to be looked at.¹¹

¹⁰ If the range of data is extended, other differences are found between MC and Japanese. It is coherent and even tempting to attempt to relate their difference with respect to the *wh*-island effect to these or one of these other differences, without referring to the nature of interrogative complements in the two languages. Tsai (1994b) argues that Chinese employs unselective binding while Japanese employs movement *as well*. Reinterpreting some facts noted in Aoun and Li 1993b, Watanabe (2001) suggests a view of the Tsai type, in which the difference in the *wh*-island effect should be tied to the presence/absence of the ‘quantifier-induced barrier’ effect. (For the latter effect, see Hoji 1985, Kim 1991, Beck and Kim 1996, Tanaka 2003, Ko 2005, Soh 2005, Yang 2006 and references cited in them). Note crucially that in this view, interrogative complements in MC and those in Japanese do not have to be different. See footnote 11.

¹¹ We say *interrogative C*. The generalization proposed in the text, if it is empirically viable at all, should be related, at some deeper level, to the Tsai-Watanabe type claim that the relevant parametric difference be tied to the existence of particles like *-ka* or *-mo* in Japanese and their absence in MC. As alluded to in footnote 10, the Tsai-Watanabe type claim does not necessarily refer to interrogative C when the issue in question is considered.

References

- Aoun, Joseph, and Yen-hui Audrey Li. 1993a. "Wh-Elements in Situ: Syntax or LF?," *Linguistic Inquiry* 24, 199-238.
- Aoun, Joseph, and Yen-hui Audrey Li. 1993b. "On Some Differences between Chinese and Japanese Wh-Elements," *Linguistic Inquiry* 24, 365-372.
- Bayer, Josef. 2005. "Wh-in-Situ." In Martin Everaert and Henk Van Riemsdijk, eds., *The Blackwell Companion to Syntax, Volume V*, Malden, MA: Blackwell, 141-158.
- Beck, Sigrid, and Shin-Sook Kim. 1996. "On Wh- and Operator Scope in Korean," *Journal of East Asian Linguistics* 6, 339-384.
- Bruening, Benjamin. 2007. "Wh-in-Situ Does Not Correlate with Wh-Indefinites or Question Particles," *Linguistic Inquiry* 38, 139-166.
- Cheng, L.-S. Lisa. 1991. *On the typology of wh-questions*, Ph.D. dissertation, MIT.
- Chomsky, Noam. 1986. *Knowledge of Language: Its Nature, Origin and Use*, Praeger. Westport, CT.
- Cinque, Guglielmo. 1990. *Types of A'-Dependencies*. MIT Press, Cambridge, Mass.
- Cole, Peter, and Gabriella Harmon. 1998. "The typology of wh-movement: wh-questions in Malay," *Syntax* 1, 221-258.
- Ernst, Thomas. 2002. *The Syntax of Adjuncts*, Cambridge University Press, Cambridge, MA and New York.
- Hagstrom, Paul. 1998. *Decomposing Questions*, Ph.D. dissertation, MIT.
- Hoji, Hajime. 1985. *Logical Form Constraints and Configurational Structures in Japanese*, Ph.D. dissertation, University of Washington, Seattle.
- Hoji, Hazime, Satoshi Kinsui, Yukinori Takubo, and Ayumi Ueyama. 1999. "Demonstratives, Bound Variables, and Reconstruction Effects in Japanese." In *Proceedings of the Nanzan GLOW: The Second Meeting in Asia, September 19-22, 1999*, 141-158.
- Huang, C.-T. James. 1982. *Logical Relations in Chinese and the Theory of Grammar*, Ph.D. dissertation, MIT.
- Ishii, Yasuo. 1991. *Operators and Empty Categories in Japanese*, Ph.D. dissertation, University of Connecticut, Storrs.
- Kaplan, Tamar I., and John Whitman. 1995. "The category of relative clauses in Japanese, with reference to Korean," *Journal of East Asian Linguistics* 4, 29-58.
- Kim, Soo Won. 1991. *Chain Scope and Quantification Structure*, Ph.D. dissertation, Brandeis University.
- Ko, Heejeong. 2005. "Syntax of Why-in-Situ: Merge into [Spec,CP] in the Overt Syntax," *Natural Language & Linguistic Theory* 23, 867-916.
- Kuno, Susumu. 1973. *The Structure of the Japanese Language*, MIT Press, Cambridge, Mass.
- Kuroda, Shige-Yuki. 1979. (Ko), So, A nituite. In Hayashi Eiichi Kyôju Kanreki Ronbunshû Kankô Inkaï, ed., *Eigo to Nihongo to* (English and Japanese), Kuroshio Shuppan, Tokyo, 41-59.
- Lasnik, Howard, and Mamoru Saito. 1984. "On the Nature of Proper Government," *Linguistic Inquiry* 15, 235-289.
- Lasnik, Howard and Mamoru Saito. 1992. *Move α : Conditions on Its Application and Output*, MIT Press, Cambridge, Mass.

- Lin, Jo Wang. 1992. "The syntax of *zenmeyang* 'how' and *weishenme* 'why' in Mandarin Chinese," *Journal of East Asian Linguistics* 1, 293-331.
- Murasugi, Keiko. 1991. *Noun Phrases in Japanese and English: A Study in Syntax, Learnability, and Acquisition*, Ph.D. dissertation, University of Connecticut, Storrs.
- Murasugi, Keiko, and Mamoru Saito. 1992 "Quasi-adjuncts as sentential arguments." In Joel Ashmore Nevis and Vida Samiian (eds.), *Proceedings of the Western Conference on Linguistics, Volume 5, WECOL 92*, Department of Linguistics, California State University, Fresno, California, 251-264.
- Nishigauchi, Taisuke. 1990. *Quantification in the Theory of Grammar*, Kluwer, Dordrecht.
- Noguchi, Toru. 1997. "Two Types of Pronouns and Variable Binding," *Language* 73, 770-797.
- Ochi, Masao. 1999. "Some consequences of Attract F," *Lingua* 109, 81-107.
- Postal, Paul. 1966. "On So-Called 'Pronouns' in English." In F. Dineen, ed., *Report of the 17th Annual Round Table Meeting on Languages and Linguistics*, Georgetown University Press, Washington, D.C., 177-206.
- Reinhart, Tanya. 1998. "Wh-in-situ in the Framework of the Minimalist Program," *Natural Language Semantics* 6, 29-56.
- Richards, Norvin. 1997. *What Moves Where When in Which Language?*, Ph.D. dissertation, MIT.
- Rizzi, Luigi. 1990. *Relativized Minimality*, MIT Press, Cambridge, Mass.
- Shimoyama, Junko. 2006. "Indeterminate Phrase Quantification in Japanese," *Natural Language Semantics* 14, 139-173.
- Soh, Hooi-Ling. 2005. "Wh-in-Situ in Mandarin Chinese," *Linguistic Inquiry* 36, 143-155.
- Takahashi, Daiko. 1993. "Movement of Wh-Phrases in Japanese," *Natural Language & Linguistic Theory* 11, 655-678.
- Takano, Yuji. 2002. "Surprising Constituents," *Journal of East Asian Linguistics* 11, 243-301.
- Tanaka, Hidekazu. 1999. "LF wh-island and the minimal scope principle," *Natural Language & Linguistic Theory* 17, 371-402.
- Tanaka, Hidekazu. 2003. "Remarks on Beck's Effects: linearity in syntax," *Linguistic Inquiry* 34, 314-323.
- Tsai, W.-T. Dylan. 1994a. *On Economizing the Theory of A-bar Dependencies*, Ph.D. dissertation, MIT. [Published by Garland, 1999]
- Tsai, W.-T. Dylan. 1994b. "On Nominal Islands and LF Extraction in Chinese," *Natural Language & Linguistic Theory* 12, 121-175.
- Tsai, W.-T. Dylan. 1999a. "On Lexical Courtesy," *Journal of East Asian Linguistics* 8, 39-73.
- Tsai, W.-T. Dylan. 1999b. "The Hows of Why and The Whys of How." In Francesca Del Gobbo and Hidehito Hoshi, eds., *UCI Working Papers in Linguistics* 5, 155-184.
- Ura, Hiroyuki. 1993. "Extraction of *Doo* and Its Implications," *Journal of Japanese Linguistics*, 15: 139-150.
- Watanabe, Akira. 1992a. "Subjacency and S-structure Movement of Wh-in-Situ," *Journal of East Asian Linguistics* 1, 255-291.
- Watanabe, Akira. 1992b. "Wh- in-situ, Subjacency, and Chain Formation," *MIT Occupational Papers in Linguistics* 2. MITWPL, Cambridge, Mass.
- Watanabe, Akira. 2001. "Wh-in-Situ Languages." In Mark Baltin and Chris Collins, eds., *The Handbook of Contemporary Syntactic Theory*, Blackwell, Oxford, 203-225.

- Xu, Liejiong. 1990. "Remarks on LF Movement in Chinese Questions," *Linguistics* 28, 355-382.
- Yang, Barry C.-Y. 2006. "Intervention Effects and Left Periphery," in *Proceedings of the 8th Seoul International Conference On Generative Grammar*.
- Yoshida, Tomoyuki. 1998. *Wh*-operator vs. Yes/No-operator. *ICU Language Research Bulletin* 13:159-172.
- Yoshida, Tomoyuki. 1999. "LF Subjacency Effects Revisited." In Vivian Lin, Cornelia Krause, Benjamin Bruening, and Karlos Arregi, eds., *MIT Working Papers in Linguistics 34, Papers on Morphology and Syntax, Cycle 2*, 1-34.