

CATEGORY-BASED UNSELECTIVE BINDING: EVIDENCE FROM JAPANESE

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1. Introduction

This paper argues for Tsai's (1994, 2006) Category-based unselective binding approach to *wh* elements, providing new evidence from Japanese.

Based on facts concerning island effects, Tsai (1994, 2006) suggests that whether unselective binding is applicable to a *wh*-phrase depends on the morphological make-up of the *wh* item, rather than its semantic property. More specifically, the theory argues that a *wh*-phrase is licensed *in-situ* by unselective binding without moving to Spec, CP if and only if it contains a nominal element. It follows then that no island effects are observed when *wh-in-situ* involves a nominal. This predicts that if some *wh*-phrase does not show island effects, it must contain a nominal element. We show that this prediction is supported by examining the behavior of the Japanese *wh*-phrase NANDE, which is at least three-way ambiguous; it can be interpreted to mean “for what reason”, “for what purpose”, or “by what means.”

2. Category-based Unselective Binding

2.1. Tsai (1994, 2006)

First, observe the examples in (1).

- (1) a. ni zui xinshang [[wei(-le) shenme gongzuo] de ren]?
you most appreciate for(-LE) what work DE people

“What is the purpose x such that you appreciate most [people [who work for x]]?”

- b. *ni zui xinshang[[weishenme gongzuo]de ren]?
you most appreciate why work DE people

“What is the reason x such that you appreciate most [people [who work for x]]?”

Chinese has the lexical item *weishenme* ‘why’, which is ambiguous between “for what purpose” as in (1a) and “for what reason” as in (1b). What is crucial here is that if *weishenme* appears in an island (in a Complex NP island in this case) only its *purpose-why* reading is possible. From this observation, one may assume that whether a *wh*-phrase can undergo

unselective binding or not depends on its interpretation. That is, one may claim that *purpose-why* can be licensed *in-situ*, while *reason-why* cannot be. Let us call this the Semantics-based unselective binding approach.¹

Against this type of approach, Tsai (1994, 2006) argues that it is the categorial status of the *wh*-phrases that is relevant for their *in-situ* licensing. He claims that the instance of *weishennme* receiving a *reason-wh* reading is a genuine adverb, since it resists the insertion of the aspect marker *-le* between *wei* ‘for’ and *shennme* ‘what’, whereas the instance of *weishennme* receiving a *purpose-why* reading contains a nominal element since it allows for the insertion of *-le*. Adverbs cannot get unselectively bound, and hence, they have to move, causing an island violation if an island is involved.

As Tsai (1994) notes, a similar pattern is found in French, which is an optional *wh-in-situ* language in matrix clauses. Take the pair of sentences like those given in (2).

- (2) a. Tu es venu pour quoi?
 You are come for what
 “What is the purpose x such that you come here for x?”
- b. *Tu es venu pourquoi?
 You are come why
 “What is the reason x such that you come here for x?”

As indicated in (2b), if *pourquoi* ‘why’ is left *in-situ*, the *reason-why* reading becomes unavailable. In this case, it is claimed that if *pourquoi* is interpreted as *purpose-why*, it consists of a preposition *pour* ‘for’ and *quoi* ‘what’, so that it contains a *wh* nominal and can be licensed *in-situ*. On the other hand, if it is interpreted as *reason-why*, it is not morphologically complex. Thus, it must be an adverb, so that it cannot be left *in-situ*.

Tsai illustrates that *how* questions in Chinese also show the parallel behavior. *Zenmeyang* ‘how’ has either an *instrumental* reading or a *manner* reading, as shown in (3).

- (3) ta shang-ci zeneyang dun nirou?
 she last-time how stew beef
- a. “By what means did she stew beef last time?”
 b. “In what manner did she stew beef last time?”

¹ Tsai (2006) takes Reinhart (1998) as a proponent of the Semantics-based approach, since she argues that *wh* arguments like *who* and *what* can be licensed *in-situ* because they can be quantified over via choice function, while *wh* adjuncts like *why* and *how* cannot be, because they do not introduce an individual type variable. In some sense, the meaning of the *wh*-phrases determines whether they have to move or not under this theory as well. Yet, if the applicability of choice function correlates with the presence of a nominal element (as Reinhart suggests), we cannot tease apart the two theories. Hence, we assume that Reinhart’s idea can be translated into Tsai’s theory.

Based on the assumption that *instrumental-how* is composed of *zenme* ‘how’ + *yang* ‘manner’ while *manner-how* cannot be morphologically decomposed, Tsai accounts for the contrast shown in (4) that only *instrumental-how* survives a complex NP island.

- (4) ni zui xihuan [_{NP} [_{CP} Op_i [_{IP} ta zenmeyang duen t_i]] de niurou_i]?
 you most like she how stew DE beef
- a. “What is the mean x such that you like best [beef [which she stewed by x]]?”
 b. #“What is the manner x such that you like best [beef [which she stewed in x]]?”

Tsai claims that his Category-based unselective binding approach is superior to the semantic approach. It is not clear how the difference between *purpose-why* and *instrumental-how* follows from the fact that the former is a purpose expression while the latter is an instrumental expression under the Semantics-based unselective binding approach. On the other hand, the Category-based unselective binding approach makes clear predictions as long as we can detect whether a given *wh*-phrase involves a nominal or not. According to Tsai, what is important is not the semantic function of *wh*-adverbials, but their morphological make-up.

2.2. A Prediction

Tsai’s (1994, 2006) theory predicts that *wh*-phrases that can survive an island must contain a nominal *wh* element, and vice versa. Note that the approach in question requires that we be able to determine whether a given *wh*-phrase contains a nominal or not in order to make a prediction about the island-sensitivity of that *wh*-phrase. The logic of the argument based on decomposability of *wh*-phrases is that this property tells us the presence or absence of the P-NP structure in those *wh*-phrases. If we can find another means to identify the structure of *wh*-phrases that can appear in islands and if we can show that those *wh*-phrases in fact contain nominals by that very means, then we can provide further support for his claim. In the next section, we will provide such evidence from Japanese.

3. Evidence from Japanese

Japanese has the lexical item *nande*, which is at least three-way ambiguous, as shown in (5).

- (5) Taroo-wa nande kaet-ta no?
 -Top NANDE leave-Past Q
- “What is the reason/purpose/means x such that Taroo left for/by x?”
- a. Because he got sick. *reason*-NANDE
 b. In order to do his homework. *purpose*-NANDE
 c. By bus. *instrumental*-NANDE

Interestingly, when NANDE appears in island configurations, *reason* and *purpose* readings are unavailable.

(6) *Negative Island* (Rizzi 1990)

Taroo-wa [Hanako-ga **nande** kaet-ta to] iwa-nakat-ta no?
 -Top -Nom NANDE leave-Past C say-not -Past Q

“What is the reason/purpose/means x such that Taroo didn’t say that Hanako had left for/by x?”

- a. *Because she got sick.
- b. *In order to do her homework.
- c. By bus.

Note that both non-*wh* *reason* and *purpose* phrases can appear in this structure, as shown in (7).

(7) a. Taroo-wa [Hanako-ga **kaze-de** gakkoo-o yasun -da to]
 -Top -Nom flu -with school -Acc absent-Past C
 iwa-nakat-ta.
 say-not -Past

“Taroo didn’t say that Hanako hadn’t come to school because of flu.”

b. Taroo-wa [Hanako-ga **eigo -o manabu tameni** amerika-ni
 -Top -Nom English-Acc learn in.order.to America-to
 it -ta to] iw -anakat-ta
 go-Past C say-not -Past

“Taroo didn’t say that Hanako had been to America in order to learn English.”

The same pattern is found in Complex NP islands (8) and Adjunct islands (9).

(8) *Complex NP Island*

[[Hanako-ga Taroo-o nande tatai-ta] koto]-ga
 -Nom -Acc NANDE hit -Past fact -Nom
 tumi -ni nat -ta no?
 crime-Dat become-Past Q

“What is the reason/purpose/means x such that [the fact [that Hanako had hit Taroo for/by x]] constituted a crime?”

- a. *Because she hates him.
- b. *In order to receive insurance benefits.
- c. With a hammer.

(9) *Adjunct Island*

Hanako-wa [Taroo-ga nande eigo -o benkyoosi-ta kara]
 -Top -Nom NANDE English-Acc study -Past because
 okot -ta no?
 get.angry-Past Q

“What is the reason/purpose/means x such that [Hanako got angry [because Taroo had studied English for/by x]]?”

- a. *Because he wanted to go to the US.
- b. *In order to go to the US.
- c. With textbooks.

As we have seen in the previous section, Tsai’s (1994, 2006) theory predicts that if some *wh*-phrase does not show island effects, it must have a nominal *wh* element. In other words, it is predicted that only *instrumental*-NANDE must contain a nominal *wh* element. In the remainder of this section, we provide independent evidence that the prediction is indeed borne out.

The first evidence comes from a morphosyntactic consideration. As shown in (10), if NANDE is replaced by *nani-de* ‘what-with’, which consists of a *wh*-word *nani* ‘what’ and a postposition *-de* ‘with’, only the *instrumental*-reading is available.

(10) Taroo-wa nani -de kaet -ta no?
 -Top what -with leave-Past Q

“What is the means x such that Taroo left with by?”

- a. *Because he got sick.
- b. *In order to do his homework.
- c. By bus.

This suggests that only *instrumental*-NANDE has *nani-de* as its underlying form, from which it is derived by contraction, whereas *reason*-NANDE and *purpose*-NANDE each constitute one single lexical item, so that they cannot be morphologically decomposed.

The unavailability of *reason* and *purpose* readings in (10) becomes clearer if we make the predicate stative because stative predicates are incompatible with *instrumental* modifiers.

- (11) a. nande Taroo-wa kasiko-i no?
 NANDE -Top smart -Pres Q
 i. “What is the reason x such that Taroo is smart for x?”²
 ii. * “What is the means x such that Taroo is smart by x?”
- b. *nani-de Taroo-wa kasiko-i no?
 what-with -Top smart -Pres Q
 “What is the means x such that Taroo is smart by x?”

This confirms that *nani-de*, which can be decomposed into a nominal *wh* and a postposition, corresponds only to the *instrumental* NANDE.

The second and more conclusive evidence concerns the possibility of modification by relative clauses. Observe first that (presumably non-restrictive) relative clauses can modify *wh*-nominals, as shown in (12).

- (12) a. Hanako-wa [[_{RC} Taroo -ga e_i kat -ta] nani_i]-o suttee -simat-ta no?³
 -Top -Nom buy-Past what-Acc discard-have -Past Q
 “What is the thing x such that Hanako has discarded x, which Taroo bought?”
- b. Hanako-wa [[_{RC} e_i Taroo-ni at -ta] dare_i]-o tatai-ta no?
 -Top -Dat meet-Past who -Acc hit -Past Q
 “Who is the person x such that Hanako hit x, who had met Taroo?”

Nani-de can also be modified by relative clauses.

- (13) Taroo-wa [[_{RC} Hanako-ga e_i motteki-ta] nani_i] -de
 -Top -Nom bring -Past what -with
 kuruma-o naosi-ta no?
 car -Acc fix -Past Q
 “What is the thing x such that Taroo fixed the car with x, which Hanako had brought?”

Importantly, if NANDE is modified by relative clauses, the *reason* and *purpose* readings are impossible. That is, only the *instrumental* reading is allowed.

² Although the *purpose* reading is also incompatible with a stative predicate, it is irrelevant here.

³ It does not matter here how relativization in Japanese is analyzed (see Ishii 1990, Murasugi 1991).

- (14) Taroo-wa [[_{RC} Hanako-o e_i yorokob-ase-ta] nan_i]-de
 -Top -Acc happy-make-Past what-with
 kanozyo-no kokoro-o itome -ta no?
 she-Gen heart-Acc conquer -Past Q
- a. *“What is the reason/purpose x such that Taroo won Hanako’s heart for x, which made her happy?”
- b. “What is the means x such that Taroo won Hanako’s heart by x, which made her happy?”

Again, the situation becomes clearer if the main predicate is a stative one.

- (15) *Taroo-wa [[_{RC} Hanako-ga e_i sittei -ru] nan_i]-de kasiko-i no?
 -Top -Nom know -Pres what-with smart -Pres Q
- “What is the reason x such that Taroo is smart for x, which Hanako knows about?”

These facts show that *instrumental* NANDE in fact has a nominal element, while neither *reason* nor *purpose* NANDE does. Therefore, we have confirming evidence for the hypothesis that *wh*-phrases which can appear in island configurations have nominal *wh* elements.

Summing up this section, we have observed that NANDE with the *instrumental* reading does not show island effects, while NANDE with *reason* and *purpose* readings does. We have demonstrated on independent grounds that only the former contains a nominal *wh* element. This provides direct evidence for Tsai’s hypothesis that nominals, but not adverbs, are subject to unselective binding.

4. Conclusion

In this paper, we have provided new evidence for Tsai’s (1994, 2006) Category-based unselective binding approach by examining the behavior of NANDE. This *wh*-adverbial exhibits island effects under the *reason* and *purpose* readings but not under the *instrumental* reading, because it is decomposable into the nominal *nan(i)* and the postposition DE only when it has the latter reading. The contrasts in (7)-(9), then, are explained exactly like the one in (16), originally discussed by Huang (1982).

- (16) a. *Who left home why?
 b. Who left home for what reason?

It is worth pointing out that the comparison of *weishennme* “*purpose-why*” in Chinese and *purpose*-NANDE in Japanese provides further evidence for Tsai’s (1994, 2006) category-based approach. The latter is sensitive to islands but the former is not. As far as we are aware, there is no clear difference in meaning between the two ‘purpose’ adverbials. That is, if some theory claimed that *purpose weishennme* can appear in islands because it is a purpose expression, it

would incorrectly follow that *purpose* NANDE is also island insensitive. If so, the best generalization seems to be that their difference comes from the fact that the former is morphologically complex while the latter is an indecomposable adverb, as Tsai suggests. Thus, we have cross-linguistic evidence that whether a *wh*-element can undergo unselective binding or not is determined by its categorical nature.

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