Contradiction, Why-Questions and Complex Islands in Chinese

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Contradiction, Why-Questions and Complex NP Islands in Chinese

Dawei Jin*

1 Introduction

This paper proposes that the complex NP island effects (henceforth: CNPC) in Chinese wh-interrogatives receive a semantic explanation. I argue that the mainstream treatments of Chinese CNPC in terms of movement constraints fail to address the interpretational distinctiveness associated with different wh-phrases. On the other hand, island facts follow naturally from an independently motivated constraint on relative clause’s propositional content, motivated by this distinctiveness.

The rest of this paper will be structured as follows: Section 2 reviews a standard assumption that motivates syntactic-based theory of CNPC in Chinese and other wh-in situ languages, namely there exists a fundamental argument-adjunct asymmetry; I show that positing such an asymmetry is not empirically sound and instead argues that the real underlying differences of island-inducing abilities in wh-in situ languages should be reduced to the different semantics between reason adverbial why on one hand and other wh-phrases on the other. Section 3 goes on to discuss the idiosyncratic semantics of reason adverbial why; Section 4 proposes a crucial semantic requirement in the interpretation of wh-phrases within relative clauses. I show that CNPC effects arise when the semantics of why is necessarily incompatible with this semantic requirement for embedded wh-phrases, thus always creating contradiction; Section 5 concludes the paper.

2 Rethinking the Argument-Adjunct Asymmetry

2.1 Previous Theories

Chinese in situ wh-questions have been standardly claimed to obey the complex NP constraint (Huang 1982, Huang et al. 2009). This is supported by examples such as the following: Numbered examples can be formatted like the following sentences. Leave a blank line above and below a block of examples, but do not leave extra space between examples.¹

(1) *Ni xihuan [ta weishenme xie _] de shu?
   You like he why write REL book
   #“Why, do you like the books that he wrote _?”

This infelicity, according to Huang, is reminiscent of the canonical island effects in English, illustrated as below.

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¹ These wh-phrases also obviate other strong island constraints, for example, adjunct islands and subject islands, illustrated as follows

(i) a. Ta [yinweishenme jiegu yangong] yihou bei laoban piping=le?
   He because.of what sack employees after by boss criticize=ASP
   “For what reasoni was he criticized by the boss after he sacked employees _i?”

   b. [Ta yinweishenme cizhi] zui hao?
   He because.of what resign be.most good
   “For what reasoni will that he resigned _i be the best?”

   These phenomena can follow from the analysis laid out in this paper. However, I will leave their exact formulation to future work.
This surface similarity prompts Huang to propose that Chinese in situ wh-questions are subject to the same island constraints as in English. Since the wh-elements stay in situ, some parallelism needs to be posited between in situ and overt wh-interrogatives for (1) to be violations of island constraints. This parallelism has been handled by positing covert movement of in situ wh-elements, purported to take place at the LF level (Huang 1982, Tsai 1994, Lasnik and Saito, 1984).

One central issue in formulating this constraint is to guarantee that it applies selectively, because island sensitivity in Chinese depends on the choice of wh-phrases, illustrated by the contrast in (3a-b).

(3) a. Ni xihuan [shei xie] de shu?
   You like who write REL book
   ‘Who do you like the book(s) that (s)he wrote?’

b. Ni xihuan [ta yinwei shenme xie] de shu?
   You like he because of what write REL book
   ‘Which reason do you like the book(s) that he wrote for that reason?’

The standard approach to this selectivity is to posit that wh-phrases can be licensed by a non-movement mechanism. In particular, unselective binding (Pesetsky 1987, Reinhart 1998) has been proposed to license argumental wh-phrases in the island-immune cases. In a nutshell, certain in situ wh-phrases are argued to not carry their quantificational force inherently, but function as variables to be bound by a separate interrogative operator (Tsai 1994). This operator merges directly in the matrix scope position and thereby exempts the wh-phrases from moving. On the contrary, in English single wh-question, the operator-variable binding process, necessary for establishing quantificational force, is claimed to be built up within the morphological component of wh-phrases, before they enter the syntactic derivation. As a result, the interrogative operator needs to move across island domains in order to reach the matrix position.2

A natural solution for the island-inducing behavior of the adjunct phrase weishenme ‘why’, given the above assumption, would be that weishenme itself cannot function as a variable, thereby not being bound by an external operator (Tsai 1994).3

One way to derive the difference between weishenme and other wh-phrases is to let the interrogative operator quantify over a choice function, which applies to a non-empty nominal set and picks out an individual from the set. According to Reinhart, non-nominal wh-adverbials differ from nominal wh-adjuncts (i.e. adjuncts that take nominal wh-phrases as arguments) in that the former do not have an individualizable, referential nominal set. This difference explains the contrast in (4), which Reinhart argues involves an argument-adverbial (or nominal-nonnominal) asymmetry (Reinhart 1998: 42).

(4) a. *Who fainted when you behaved how?
   b. Who fainted when you behaved what way?

By the same token, choice function interpretation can be incorporated within an unselective binding

2 Wh-phrases are already quantificational and pied-piped to the scope position as a whole (Tsai, 2008:86). In Chomsky (1995), the bundle of formal features of a wh-phrase is attracted to C at LF. Thus, (6) needs to be understood as a LF-constraint on wh-feature movement rather than wh-phrasal movement (see Pesetsky, 2000 for implications). For presentation purposes, however, this paper abstracts away from the distinction between feature and phrasal movement.

3 However, theories based on this mechanism are different from Huang’s (1982) original proposal in that covert movement is no longer a requisite operation. Specifically, the failure to receive unselective binding does not logically entail covert movement, since the fact that weishenme cannot be bound by an external operator, by itself, suffices to disallow its embedding in island domains. Indeed, this explanation is exactly what Reinhart (1998) pursued.
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approach to Chinese strong islands (Tsai 2008, Stepanov and Tsai 2008). Accordingly, the
distinction between reason wh-adverbial weishenme and nominal wh-adjunct yinweishenme
‘because of what’ w.r.t. island behaviors, illustrated in (3) (repeated below), can be explained in
the same way as the above manner distinction in (4).

(5) a. *Ni xihuan [ta weishenme xie] de shu?
You like he why write REL book
‘Why, do you like the book(s) that he wrote _?’

b. Ni xihuan [ta yinwei shenme xie] de shu?
You like he because of what write REL book
‘Which reason, do you like the book(s) that he wrote for _?’

In other words, the distinction in (5) comes down to the claim that yinweishenme, but not
weishenme, can be restricted via a choice function.

2.2 Problems with Previous Approaches

This predicts that wh-arguments, as well as adjuncts that take nominal wh-arguments contrast with
non-nominal wh-adverbials in terms of island behaviors (Fujii and Takata 2007). However, this
generalization is empirically problematic.

As (6) illustrates, temporal and place wh-adverbials are island-free (Cheng, 2009), just like
wh-arguments/adjuncts. Furthermore, judgments for degree/manner wh-adverbials can also be
ameliorated, because readings can be found where they denote sets of degrees/manners (Bayer
2006).

(6) a. Ni xihuan [ta shenmeshihou xie] de shu?
You like he when write REL book
‘When, do you need the book(s) that he wrote at that time?’

b. Ni xuyao [na’er neng mai-dao] de shu?
You need where can buy RES REL book
‘Where, do you need the book(s) that one can buy at that place?’

c. Ni hui mai [mai duoshaoqian] de shu?
You will buy sell how much REL book
‘How much, will you buy the book(s) that was sold for that amount of money?’

Contrarily, embedding reason wh-adverbial weishenme within a relative clause is never
interpretable. It thus seems that the purported argument-adverbial asymmetry is only apparent.

In light of this, we need to conclude that Reinhart’s formulation, or any variants of it, is not
tailor-made to the empirical picture of in situ CNPC islands. What is needed is not finding a
natural class that partitions wh-adjuncts, but a theory that explains the unique phenomenon of
weishenme-induced uninterpretability.⁴

⁴ Another related proposal (Tsai, 2008) points out that the argument-adjunct asymmetry is sensitive to the
internal structure within the wh-phrases. Yinweishenme is morphologically transparent. It contains the
morphologically decomposable wh-argument shenme ‘what’. Weishenme is argued to be opaque. This
argument is hardly convincing to me. Note weishenme can receive the morpheme-by-morpheme gloss of ‘for-
what’. Tsai contends that this compositionality is only apparent, and simply grammaticalized, when
compared with the phrasal weishenme, which takes an aspectual marker -le and is therefore truly
compositionial. If this argument holds, we can similarly argue that manner phrase and degree phrase are all
opaque and grammaticalized. For example, duogui ‘how-expensive’ is used to question price. An answer in
the form of XX-gui is impossible.

(i) a. Ni xiang mai [ _ mai duogui ] de shu?
You want buy how-expensive REL book
‘How much do you want to buy books that sells _?’

Thirty-CLF money./ Thirty-CLF-expensive./ Thirty-CLF money expensive.
Below I present an alternative solution, which focuses on the idiosyncratic semantics of why. Independently, why has long been attested to exhibit idiosyncratic behaviors that differ from other wh-adverbials (Bromberger 1992, Szabolcsi and Zwarts 1993, Hintikka and Halonen 1995).

The rest of this paper will investigate how this idiosyncrasy contributes to the attested interpretation failure. Below I first examine the semantic aspect of why in more detail.

3 Semantics of Why

The semantics of why-adverbial has long been noticed to be peculiar crosslinguistically (Bromberger, 1992; Szabolcsi & Zwarts, 1997). Recent literature has presented various treatments for reason why’s idiosyncrasy. For example, Tomioka notes the divergent presupposition triggering pattern of why compared to other wh-phrases in downward entailing environment as follows:

(7) a. What reason did no one leave for?
⇒ There is a reason that no one left for.
⇒ No one left.

b. Why did no one leave?
⇒ No one left.
⇒ There is a reason that no one left for.

There is clear evidence that when why stays in situ, it behaves the same, as the Japanese example shows (Tomioka 2009):

(8) a. ?? Daremo doo yuu riyyu-de ko-nakatta-no?
Anyone for what reason-OBL come-NEG-PAST-Q
‘For what reason did no one come _-?’

b. Daremo naze ko-nakatta-no?
Anyone why come-NEG-PAST-Q
‘Why did no one come?’

That is, when in Japanese naze ‘why’ is replaced by dooyuu riyyu ‘for what reason’, a different reading arises.

Importantly, other wh-adverbials than why, such as for what reason, pattern with wh-arguments here:

(9) What did no one buy?
⇒ There is something that no one bought.
⇒ No one was buying anything.

Tomioka (2009) thus argues that the reading difference between why and other wh-phrases is due to why’s own pragmatic peculiarity. In a why-question and only in a why-question, the proposition that corresponds to the non-wh-portion of the question must be presupposed.

Syntactically, this is compatible with Ko (2005) and Tsai (2008)’s proposals that why favors high attachment or late insertion. Ko (2005) proposes that why is initially merged at [Spec,CP] directly. Tsai (2008) suggests that this high scope-taking why (e.g. weishenme in Chinese) takes the underlying event as its internal argument and functions as a sentential operator; On the other hand, for what reason (e.g. yinweishenme in Chinese) modifies the underlying predicate and functions as a VP modifier (i.e. a derived predicate in the manner of VP-adverbials).

I argue this formulation can readily account for the differing interpretations elicited by the two wh-phrases.

For example, although the semantic distinction of weishenme/yinweishenme does not yield logically distinct interpretations when a singular event is predicated of, when a multiple event reading is elicited through the introduction of a quantifier, different interpretations arise.

Therefore, this morphological explanation still fails to address the issue of what causes why, but not others, to induce island effects.
(10) a. Weishenme meiyouren/henshaoren cizhi?
   Why
   nobody/few person
   resign
   ‘Why nobody/few people resigned?’

b. Meiyouren/henshaoren yinwei shenme cizhi?
   Nobody/few people
   because.of what
   resign
   ‘What reasons, did nobody/few people have for resigning _?’

Generalized quantifiers like nobody/few need to quantify over properties/predicates. Based on the semantic difference we get above, quantifiers can only take yinweishenme as argument, whereas weishenme ranges above the entire quantified event as its argument, accounting for the distinction between (10a-b).

Thus when we adopt a strictly compositional semantic derivation by interacting reason wh-phrases with other constituents, the resulting logical interpretations will differ. This, I argue, underlies the CNPC island effects in Chinese.

4 Complex NP Islands as Contradiction

4.1 Feature Propagation and Indefiniteness Effect

To begin with, interpretation of a clause containing a wh-phrase requires the propagation of the interrogative feature (Fiengo et al, 1988; von Stechow, 1996).

For example, Fiengo et al (1988) observes that when a interrogative quantificational NP is contained within another NP, as in pictures of who, the embedded NP may also be construed as a quantificational NP (QNP). This is so, because just as who is a quantifier ranging over individuals, pictures of who may be construed as a quantifier ranging over pictures sets defined by their owners. This propagation requirement entails that a definite reading for picture is impossible. In all sentences containing picture of who, it can’t be the case that we know the referent of a particular picture from prior discourse and use the phrase to ask who is the owner of such picture.

The same anti-definiteness effect applies to wh-relatives. Chinese has no definite determiners. If a bare NP heads a relative, its reference is ambiguous between generic and definite readings, to be determined by context (Simpson et al, 2011). For example, in (11), the use of overt demonstrative nei-ben ‘that-CLF’ is optional. If context establishes that there is only one book written for the discussed reason, a definite reading will arise regardless of the demonstrative’s presence.

(11) [Ta yinwei zhe-ge yuanxin xie] de (nei-ben) shu
   He because.of this-CLF reason write REL (that-CLF) book
   ‘That book that he wrote because of this reason’

Therefore, when a wh-relative is embedded in a complex NP with a bare head noun, a definite reading cannot be a priori ruled out for logical reasons. However, we find that in all wh-relatives with bare heads, the alternative reading for the head noun is the only reading available.

For example, in (12)

(12) Ni xihuan [shei xie] de shu?
   You like who write REL book
   ‘Who is the person s.t. you like book(s) that (s)he wrote?’

The embedded wh-argument shei ‘who’ denotes a salient set of individuals who have written books, and by inquiring after the set of individuals the question serves as a request to pick out one individual so that any books that bear the property of being written by this individual are liked.

A definite reading, where the set of books are already salient from context, is not available. That is to say, the identity of the books cannot be known a priori, but has to crucially rely on anchoring the identity of the individual who writes them.

Similarly, in (13), a set of alternative sets of books are characterized in terms of a set of
discourse-salient reasons as follows

(13) Ni xihuan [ta yinwei shenme xie] de shu?
You like he because of what write REL book
‘What is the reason s.t. you like the book(s) that he wrote for that reason?’

For example, imagine we have a context where a book A was written for reason R1, a book B was written for reason R2, etc. The wh-relative in (13) would then pick out the set of books {A, B,...}, which are defined in terms of the set of reasons {R1, R2,...}, represented as follows:

(14) {book(s) A was written because of reason r1, book(s) B was written because of reason r2, etc.}

In this case, a definite reading - in which the referents of books are known a priori, and in which the speaker asks for the reason causing that particular book-writing event - is not available.

Furthermore, a demonstrative cannot co-occur with the wh-adjunct yinweishenme. The sentence in the following is minimally different from (14) by the appending of demonstrative neiben to the bare head, but it is unacceptable.6

(15) *Ni xihuan [ta yinwei shenme xie] de nei-ben shu?
You like he because of what write REL DEM-CLF book
*‘Which reason, do you like that book that he wrote because of that reason?’

The presence of a demonstrative indicates that the discourse referent of the head noun is uniquely identifiable. Consequently, a definite reading is forced, which is incompatible with the requirement of feature percolation.

4.2 Deriving CNPC Effects

On the other hand, embedded reason adverbial weishenme cannot lend itself to such an interpretation, because a weishenme-question necessarily solicits the cause of a particular event which is denoted by the propositional argument that weishenme takes.

Since weishenme ranges over a set of possible reasons for an underlying event, the wh-relative in (16) denotes a set of propositions as in (17):

(16) *Ni xihuan [ta weishenme xie ] de shu?
You like he why write REL book
*‘Why, do you like the books that he wrote?’

(17) {reason r1 CAUSES the event e, reason r2 CAUSES the event e, …
(\text{where } e \text{ stands for an event of book-writing, and } R\{r_1, r_2 \ldots \} \text{ are contextually salient reasons that might explain the occurrence of } e).

Crucially, all reasons take a common underlying event. These propositions are statements about multiple possible reasons for the same event, not multiple events classified by different reasons. Therefore, regardless of which reason is the actual explanation for the book writing event, the same event remains unchanged, and so is the book, which is the participant of this unique event.

Since the underlying event of weishenme is presupposed, the only possible reading is a definite one, i.e. there exists a reason that causes his writing a particular book that the addressee likes, and we are wondering what this reason is. Therefore, the discourse referent of the head noun is not anchored by the relative clause, it must be known a priori, and by locating this referent, we are retrieving the reason for this particular event. However, this reading is independently ruled out by the anti-definiteness effect, hence we are arriving at a logical contradiction.

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6 One can possibly accept this sentence in a reprise reading: where the wh-word serves as anaphora that refers to a previously pronounced linguistic entity in the previous discourse.
5 Conclusion

This paper argues that putative CNPC islands in Chinese follow from semantico-pragmatic mechanisms. Previous theories for the Chinese CNPC fail to take account of the fact that the inherently different lexical semantics associated with reason adverbials gives rise to different interpretation compared with other wh-phrases. Once this distinction is made, we can see that the semantic interpretation differences underlie the judgment contrasts. I show this solution can be easily accommodated once the semantic idiosyncrasies of reason adverbial is taken care of.

This makes for a simpler grammar: there is no need to propose structural constraints on in situ wh-questions. Also, the removal of structural stipulations renders void the grounds for positing covert movement at the LF level. Licensing mechanisms used in wh-interrogatives need not be sensitive to the syntactic category of interrogative phrases.

It also carries implications on island theory in general. In situ island effects have been assumed to follow a treatment on a par with overtly displaced island effects in structural approaches. If this assumption is taken, theories that rely on overt displacement data for explaining the island effects cannot be extended to in situ cases, thus having an empirical disadvantage (Lasnik, 1999; Sprouse et al, 2012; Boeckx, 2012). For example, in processing-based theories, overt displacement is crucial because the dependency it creates is argued to impose heavy burden on the processing resources of an agent (Deane, 1991; Kluender, 1998; Hofmeister & Sag, 2010). If Chinese island effects are due to the same reason as islands in fronting languages, they would not be predicted in a processing approach. Thus, although the current claim doesn’t in principle serve to favor nonstructural theories over structural ones in terms of overt displacement, it does enable a level playing ground by rendering the evidence from in situ islands irrelevant.

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