On Tsou Wh-Questions: Movement or in Situ?*

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The paper deals with the syntactic status of wh-questions in Tsou. Assuming that some typological distinctions among languages are recognized from the formation of wh-questions, some languages like English show S-structure movement of the wh-words, in contrast to languages like Mandarin Chinese, in which wh-words remain ‘in-situ’ at S-structure. However, Tsou has two ways to construct wh-questions: it allows typical wh-in-situ’s as well as fronted wh-words. The aim of this paper is first to show evidence that the sentences with apparently fronted wh-words in Tsou are in fact instances of cleft equational sentences. In turn, based on the absence of island effects, I argue that Tsou is truly a wh-in-situ language, where no actual movement of the wh-words is involved. Finally, the presence of donkey sentences in Tsou further suggests that it is unselective binding, rather than movement, that plays a role in forming wh-dependency.

Key words: Tsou, wh-question, movement, wh-in-situ, island effect

1. Introduction

Tsou is an Austronesian language, spoken on A-li Mt. in Taiwan.

It has been proposed in the linguistic literature that some typological distinctions among languages are recognized from the formation of wh-questions. Some languages like English show S-structure movement of the wh-words, in contrast to languages like Mandarin Chinese, in which wh-words remain ‘in-situ’ at S-structure, as shown in (1) and (2)1 (Cheng 1997, Aoun and Li 1993):

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1 The abbreviations used in this paper are as follows: Emp: emphatic marker, AF: agent focus, PF: Patient Focus, NAF: non-Agent Focus, Rea: realis, Irr: Irrealis, Nom: nominative case marker, Obl: oblique case marker, Pl: plural, Perf: Perfective, Hab: habitual, 1S: 1st person singular, 2S: 2nd person singular, 3S₁: 3rd person singular nominative agreement, 3S₀: 3rd
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English: *wh*-fronting
(1) *Who* does John hit *e*?
Mandarin Chinese: *wh*-in-situ
(2) Zhangsan da-le shei ne?
   Zhangsan hit-Asp who Q
   Who does Zhangsan hit?

However, Tsou *wh*-words may either be fronted or be left in-situ, as shown in (3)-(4):

Tsou: *wh*-fronting
(3) a. (zou) sia 'e m-i-ta eobak-o ta mo'o e?  [Emp who AF-Rea-3SN hit-AF Obl Mo'o]
   Who is the one that hit Mo’o?
   b. (zou) sia 'e i-si eobak-a to pasuya e?  [Emp who NAF/Rea-3SO hit-PF Obl Pasuya]
   Who is the one that Pasuya hit?

Tsou: *wh*-in-situ
(4) a. m-i-ta eobak-o no sia 'e pasuya?  [AF-Rea-3SN hit-AF Obl who Nom Pasuya]
   Who did Pasuya hit?
   b. i-si eobak-a no sia 'e mo'o?  [NAF/Rea-3SO hit-PF Obl who Nom Mo'o]
   Lit: Who was the one that Mo’o was hit by?
   Who hit Mo’o?

The *wh*-words in (3) are fronted, but in (4) remains in-situ. (3a) and (4a) are examples of AF constructions, while (3b) and (4b) are PF constructions.

The aim of this paper is two-fold: first to show that the sentences with apparently fronted *wh*-words are instances of cleft constructions and further to argue that Tsou is truly a *wh*-in-situ language and no movement of the *wh*-words is involved.

The paper is organized as follows. In section 2 I provide evidence that the sentences with apparently fronted *wh*-words are instances of cleft equationals. In section 3 I further claim that Tsou is a truly *wh*-in-situ language and in section 4 that it is unselective binding rather than syntactic movement playing a role in construal of *wh*-questions. Section 5 is a review of the whole paper.

2. Sentences with fronted *wh*-words as cleft equationals

2.1 Striking similarity of appearance

From (3) and (4), Tsou looks like an optional movement language because it allows typical *wh*-in-situ’s as well as fronting of the *wh*-words. Observe the Tsou cleft equational sentences in (5) which structurally correspond to instances of fronted *wh*-words:

Cleft equationals:

(5) a. *(zou)[NP pasuya]* 'e-[NP m-i-ta eobak-o ta mo’o e].
   Emp Pasuya Nom AF-Rea-3S hit-AF Obl Mo’o
   The one who hit Mo’o is Pasuya.

b. *(zou)[NP mo’o]* 'e-[NP i-si eobak-a to pasuya e].
   Emp Mo’o Nom NAF/Rea-3S0 hit-PF Obl Pasuya
   The one who was hit by Pasuya is Mo’o.

In Tsou, the cleft equationals can be divided into two parts as NP-NP constituency. The first NP is clefted as the highlight, while the second NP is taken as a presupposition, which is a headless relative clause introduced by the nominative marker ’e’ indicating that the clause is in fact an NP. *zou*, being an emphatic marker, optionally appears before the highlighted element.

As to *wh*-questions, the highlight of the question falls on the interrogative phrase. The *wh*-questions with fronted *wh*-words in Tsou can also be broken into two parts, namely, NP-NP constituency, which is much like the cleft equationals:

Sentences with fronted *wh*-words:

(6) a. *(zou) [NP sia]* 'e-[NP m-i-ta eobak-o ta mo’o e]?
   Emp who Nom AF-Rea-3S hit-AF Obl Mo’o
   Who is the one that hit Mo’o?

b. *(zou) [NP sia]* 'e-[NP i-si eobak-a to pasuya e]?
   Emp who Nom NAF/Rea-3S0 hit-PF Obl Pasuya
   Who is the one that was hit by Pasuya?

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2 Starosta (1988:561) termed this kind of construction a ‘cleft equational’. Thus, in this paper I will use this term to indicate such a structure.

3 The clefted element is often referred to in the literature as the ‘focus’. In order to avoid any confusion with the ‘focus’ system in Austronesian languages, I shall refer to this constituent informally as the ‘highlighted element’ throughout this paper.
As illustrated in (6), in order to function as the highlight of the sentence, it is natural for the interrogative phrase *sia* ‘who’ to appear as the first NP and *zou* can still optionally occur immediately before the highlighted interrogative phrase for emphasis. Again, the nominative case marker *e* introduces the second NP containing a headless relative clause.

So far, in comparing (6) with (5), such fronting of *wh*-word in Tsou share with the formation of cleft equationals the same structure: (a) the ‘highlighted NP’ is placed in sentence-initial position and is optionally preceded with the emphatic marker *zou* for emphasis, and (b) the nominative case marker *e* is inserted between the ‘highlight NP’ and the rest of the clause, indicating that the category of the clause is an NP. In such way, their occurrences look strikingly similar.

Besides their surface similarities, both the fronted *wh*-word questions and cleft equationals share the same properties. One of the properties is that the preposing of a *wh*-word and the clefted NP are both subject sensitive, i.e., the fronted *wh*-word and clefted NP must function as the sentence subject, as can be seen by comparing (5) with (7) and (6) with (8):

(7) a. *(@(zou) mo’o) ‘e-[NP m-i-ta eobak-o e e pasuya].
   Emp Mo’o Nom AF-Rea-3SO hit-AF Nom Pasuya
b. *(@(zou) pasuya ‘e-[NP i-ta eobak-a e e mo’o].
   Emp Pasuya Nom NAF/Rea-3SN hit-PF Nom Mo’o
(8) a. *(@(zou) sia ‘e-[NP m-i-ta eobak-o e e pasuya)?
   Emp who Nom AF-Rea-3SO hit-AF Nom Pasuya
b. *(@(zou) sia ‘e-[NP i-ta eobak-a e e mo’o)?
   Emp who Nom NAF/Rea-3SN hit-PF Nom Mo’o

As shown in (5) and (6), only a clefted NP or fronted *wh*-word that is in subject (nominative case) position can be raised to sentence initial position, but those in non-subject (oblique case) positions cannot, as shown in (7) and (8).

Another property that is shared by cleft equationals and *wh*-fronted sentences is their reversibility. Since cleft equationals in Tsou are a special kind of equational sentence, the two NPs can be reversed. Compare (5) with (9):

(9) a. ‘e-[NP m-i-ta eobak-o ta mo’o e] *(zou) [NP pasuya].
   Nom AF-Rea-3SN hit-AF Obl Mo’o Emp Pasuya
   The one who hit Mo’o is Pasuya.
b. ‘e-[NP i-si eobak-a to pasuya e] *(zou) [NP mo’o].
   Nom NAF/Rea-3SO hit-PF Obl Pasuya Emp Mo’o
   The one who was hit by Pasuya is Mo’o.
Similarly, the reversibility is also observed in fronted *wh*-word questions. Compare (6) with (10):

(10) a. `e-[NP m-i-ta eobak-o ta mo’o e] *(zou) [NP sia]? Nom AF-Rea-3SN hit-AF Obl Mo’o Emp who
Who is the one that hit Mo’o?

b. `e-[NP i-si eobak-a to pasuya e] *(zou) [NP sia]? Nom NAF/Rea-3SO hit-PF Obl Pasuya Emp who
Who is the one that is hit by Pasuya?

As evidenced by (10), it reveals that the *wh*-word *sia* ‘who’ is not fronted in construal of a *wh*-question. Note that *zou*, being an emphatic marker, always appears before the highlighted element. However, in (5) and (6) *zou* is optional, but in (9) and (10) it is obligatory4.

Based on the discussion above, we have seen the sentences with apparently fronted *wh*-words and the cleft equationals have a striking similarity in their appearance and properties. In the immediately following subsection, I will further argue that the fronting of *wh*-words are in fact instances of cleft equationals, which is supported by syntactic evidence.

2.2 No movement

Apart from the surface description, the main question is whether the fronting in this case involves actual fronting of the *wh*-words to [Spec, CP]. Given the hypothesis of *wh*-movement put forth by Chomsky (1977), locality effects, being an indication of movement, are often taken to represent the general properties of UG. In English-type languages, a well known fact of *wh*-movement constructions is that they observe Subjacency. Sentences (11)-(12) exemplify island effects in *wh*-question: (11) violates complex NP constraints and (12) *wh*-island constraints:

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4 I’ll try to explain this asymmetry here. As far as I know, there are two ways to make a distinction between the highlighted element and the presupposition in Tsou: one is the use of the emphatic marker *zou*, and the other is the syntactic device of cleft equationals. In the typical Tsou cleft equational sentences like (5) and (6), the highlight and presupposition can be distinguished one from the other by a syntactic device, namely fronting of the highlighted element. Therefore, the presence of the emphatic marker *zou* is optional. However, in the reversed cleft equationals as in (9) and (10), the highlighted element and headless relative clause of the presupposition cannot be differentiated without the emphatic marker *zou*. That is, the presence of the emphatic marker *zou* is necessary to help the audience avoid confusion in parsing.
The island effects are accounted for by the well-formedness conditions on the relation between the variable (trace) and its binder, the raised wh-element. The island effects thus have been used as a diagnostic of movement (see Chomsky 1977, Lasnik and Saito 1992).

In Tsou, however, the fronting of wh-words is not the same as the fronting of wh-words in English. As mentioned above, wh-fronting languages like English observe Subjacency, and thus involve overt movement, while the wh-fronting phenomena in Tsou does not. Sentences (13) and (14) exemplify the island violations in wh-fronting constructions in Tsou:

(13) (zou) sia, [‘o m-i-cu m-an’i [complex-NP island ‘o o-h-ta-la
Emp who Nom AF-Rea-Perf AF-many Nom NAF-Rea-3S_O-Hab
e-a e] ci fuzu].
catch-PF CI wild-boar
Who caught many wild-boars?

(14) (zou) sia, [na os’o uci-a cohiv-i [wh-island m-o m-hin-o no
Emp who Nom NAF-1S want-PF know-PF AF-Rea AF-buy-AF Obl
cuma e]].
what
I wonder who is the person x such that x bought the thing y.

(13) is an instance of a complex NP constraint violation, while (14) is a wh-island violation. The acceptability of island violations by the fronted wh-words in Tsou, in contrast with the unacceptability in the English cases, indicates that the formation of wh-questions in English is derived from syntactic movement, whereas in Tsou no overt movement is involved in construing the wh-questions.

It seems to be a tough call so far. However, on observing more cleft equationals in Tsou, it is encouraging to find that the cleft equationals, like the sentences with fronted wh-words in Tsou, exhibit no island effects. Example (15) indicates that the cleft equational sentence displays no complex NP island effects, while example (16) displays no wh-island effects:
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(15) (zou) pasuya, [‘o m-i-cu m-an’i [complex-NP island ‘o o-h-ta-la
Emp Pasuya Nom AF-Rea-Perf AF-many Nom NAF-Rea-3S0>Hab
ea-a ę] ci fuzu].
catch-PF CI wild-boar
The one who caught many wild-boars is Pasuya.

(16) (zou) pasuya, [‘o os-’o uci-a cohiv-i [wh-island m-o m-hin-o no
Emp Pasuya Nom NAF-1S want-PF know-PF AF-Rea AF-buy-AF Obl
cuma ę]].
what
I wonder what is the thing $x$ such that the one who bought $x$ is Pasuya.

As indicated above, the clefted NP pasuya is base-generated as the predicate of the whole sentence and hence no movement is involved in the formation of cleft equationals. The absence of island effects is thus predictable.

The fact that cleft equationals in Tsou display no island effects and involve no movement supports the view that the apparently fronted wh-words are in fact instances of cleft equationals since cleft equational and wh-fronting in Tsou are not different with respect to island violations. Therefore, the apparently ‘fronted’ wh-word is a base-generated predicate of a cleft equational and no movement of the wh-word was involved.

At this point, I have sufficiently argued that the fronting of wh-words in Tsou is precisely an instance of cleft equationals. Interestingly enough, this phenomena is also attested to in other languages. I will go into this in the immediate subsections.

2.3 Evidence from other languages

Tsou is not unusual as a language in which fronted wh-words are in fact, instances of cleft equationals. Other languages also exhibit the same phenomena. As shown in (17)-(19), wh-in-situ is possible in the following three languages as well: (Examples quoted from Cheng 1997: 44-48)

$Wh$-in-situ:

Egyptian Arabic (from Wahba 1984)

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5 Tsou expresses the clefting-focus only with cleft equational sentences. No cleft sentence is observed in Tsou. Thus the wh-fronting in Tsou can only appear as a pseudo-cleft sentence, while in other languages it can occur as a cleft sentence.
(17) a. Fariid hawil yi’mil eeh?
   Fariid tried to-do what
   What did Fariid try to do?
b. Mona ‘irfit [Ali haawil yisaafir feen].
   Mona knew Ali tried to-travel where
   Mona knew where Ali tried to go.

Bahasa Indonesia (from Saddy 1990)
(18) a. Sally men-cintai siapa?
   Sally pre-loves who
   Who does Sally love?
b. Bill tahu [bahwa [Tom men-cintai siipa]].
   Bill knows that Tom pre-loves who
   Bill knows who Tom loves.

Palauan (form Georgopoulos 1989)
(19) a. k-osiik er a te’ang?
   2S-look for P who
   Who are you looking for?
b. ng-mele’ede’[el kmo [ng-mengi il er ngii el kmo meruul a ngerang]].
   3S-wonder L Comp 3S-Rea/wait P him L Comp Rea/do what
   He is wondering what she is waiting for him to do.

The wh-in-situ’s in the above languages are allowed in both matrix and embedded clauses.

Like Tsou, these languages look like optional movement languages because they allow typical wh-in-situ’s as well as the fronting of the wh-words, as shown in (20)-(22):

Fronting of wh-words:

Egyptian Arabic:
(20) miin illi Mona darabit-uh? (from Wahba 1984)
   who that Mona hit-him
   Who did Mona hit?

Bahasa Indonesia:
(21) siapa yang Sally cintai? (from Saddy 1990)
   who that Sally loves
   Who does Sally love?
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Palauan:

(22) ng-te’a a kileld-ii a sub? (form Georgopoulos 1989)
CL-who Nom Rea/PF/heat-3S Nom soup
Who heated up the soup?

Meanwhile, in comparing (20)-(22) with (23)-(25), I find that the fronting of wh-words have a clear resemblance to clefts:

Clefts:

Egyptian Arabic:
(23) (dah) muhamad illi gih. (from Gary and Gamal-Eldin 1982)
this Mohammed that came
It is Mohammed who came.

Bahasa Indonesia:
(24) kamar itu (lah) yang harus kami hias. (from Dardjowidjojo 1978)
room Dem Part that must we decorate
It is that room that must be decorated.

Palauan:
(25) ng-Basilia a mengaus er tia el tet. (form Georgopoulos 1989)
CL-Basilia Nom Rea/weave P Dem L bag
It is Basilia who is weaving this bag.

Thus, in the above ‘optional fronting’ languages, the sentences with apparently fronted wh-words are instances of cleft sentences. The apparently ‘fronted’ wh-word is base-generated as a clefted element and no movement of the wh-word is involved (see more in Cheng 1997).

With the availability of this strong evidence above, I therefore call the sentences involving a wh-word in a clefted position wh-clefts. As mentioned in the beginning, the wh-words in Tsou can be fronted or left in-situ. So the fronting of wh-word here can be shown to be an instance of cleft equationals. Now let us turn to the wh-in-situ’s.

3. Tsou as a truly wh-in-situ language

3.1 Wh-words in situ

Holding to the wh-clefts analysis of the wh-fronting sentences, let’s go on to observe the alternative way of expressing wh-questions in Tsou, namely, wh-in-situ’s. Compare (26) with (27):
Declarative sentences:
(26) a. m-i-ta eobak-o ta mo’o ’e pasuya.
   AF-Rea-3S hit-AF Obl Mo’o Nom Pasuya
   Pasuya hit Mo’o.
b. i-ta eobak-a ta pasuya ’e mo’o.
   NAF/Rea-3SO hit-PF Obl Pasuya Nom Mo’o
   Mo’o is hit by Pasuya.

Sentences wh-in-situ:
(27) a. m-i-ta eobak-o no sia ’e pasuya?
   AF-Rea-3S hit-AF Obl who Nom Pasuya
   Who did Pasuya hit?
b. i-ta eobak-a no sia ’e mo’o?
   NAF/Rea-3SO hit-PF Obl who Nom Mo’o
   Who is the one that Mo’o is hit by?

In the comparisons made above, the wh-word sia ‘who’ in (27) remains in-situ rather than appearing as a matrix predicate like the wh-cleft in (6). No overt movement of wh-words takes place. This is characteristic of wh-in-situ languages.

Just like other wh-in-situ languages, wh-in-situ’s in Tsou are allowed in both matrix and embedded clauses, as shown in (28)-(30):6

Wh-in-situ in embedded clauses:
(28) os-ko ta’unan-a [mo m-hin-o no cuma ’e pasuya]?  
   NAF-2S think-PF AF buy-AF Obl what Nom Pasuya
   What did you think that Pasuya bought?

(29) os’o uci-a cohiv-i [mo m-hin-o no cuma ’e pasuya].
   NAF-1S wonder-PF AF AF-buy-AF Obl what Nom Pasuya
   I wonder what Pasuya bought.

(30) a. os-ko cohiv-i [’ho/∅] [mo m-hin-o no cuma ’e pasuya]?
   NAF-2S know-PF AF AF-buy-AF Obl what Nom Pasuya
   Lit: What do you know that Pasuya bought?
b. os’o cohiv-i [ho/*∅] [mo mhin-o no cuma ’e pasuya]].
   NAF-1S know-PF that AF buy-AF Obl what Nom Pasuya
   I know what Pasuya bought.

6 Note that in (30), the behavior of wh-phrases in Tsou constituent questions is rather complicated. When ho appears, the wh-word cuma ‘what’ can only have a narrow scope and become a indirect question as in (30b). But when ho does not appear, the wh-word cuma ‘what’ can have wide scope and become a direct question as in (30a). (see also in Tang 1997)
In multiple questions, the *wh*-words may still stay in-situ, as the example (31) indicates:

*Wh*-in-situ in multiple question:

(31) mo mhin-o no *cuma* na *sia*?

AF buy-AF Obl what Nom who

Who bought what?

As illustrated above, *wh*-in-situ’s seem to be prevalent in Tsou. We may be curious about whether the *wh*-in-situ questions in Tsou involve actual movement or not. Below I will prove that Tsou is truly a *wh*-in-situ language and that no actual movement is involved in construing *wh*-words.

### 3.2 No movement

In Tsou, the *wh*-words can occur within islands and be interpreted as having scope outside the island; i.e., island violations are possible with Tsou *wh*-words. (32) is an instance of a *wh*-island construction, while (33) is a complex-NP construction with an embedded clause within.

*Wh*-questions:

(32) os-ko uci-a cohiv-i [*wh-island* mo m-hin-o no *cuma* na *sia*]?

NAF-2S want-PF know-PF AF AF-buy-AF Obl what Nom who

a. You wonder [who is the person x such that x bought what]?

b. You wonder [what is the thing x such that who bought x]?

Ans: a. ‘a mo’o ’o mo m-hin-o no *cuma*.

Affirm Mo’o Nom AF AF-buy-AF Obl what

(I wonder) what Mo’o bought. (*sia* ‘who’ takes wide scope)

b. ’a tpos¨ ’o i-si phin-i no *sia*.

Affirm book Nom NAF/Rea-3S0 buy-PF Obl who

(I wonder) who bought the book. (*cuma* ‘what’ takes wide scope)

(33) [*complex-NP island* ’o [i-si y-aînca [*embedded clause*’i-si tutput-a]

Nom NAF/Rea-3S0 PF-say NAF/Rea-3S0 catch-PF

no *sia* ’e fuzu] ci e’e] ’o mo atuaes-i emz-o?

Obl who Nom wild boar CI word Nom AF most-AF convincing-AF

Who is the person x such that [the saying [which s/he said [that x caught the wild boar]]] is the most convincing?

(32) and (33) are standard examples of a Subjacency violation, yet they are
grammatically perfect. Based on the observations above, it is quite clear that sentences with \textit{wh}-in-situ questions in Tsou do not display island effects, which indicates that no syntactic movement of the \textit{wh}-words is involved.

On the surface, Tsou seems to be an optional fronting language, allowing not only fronted \textit{wh}-words but also \textit{wh}-in-situ’s. Based on the shared properties of fronted \textit{wh}-word questions with cleft equationals, I have evidence to support the claim that the sentences with apparently fronted \textit{wh}-words are in fact instances of cleft equationals. Furthermore, the absence of island effects in Tsou cleft equationals leads me to conclude that the apparent ‘fronting’ does not involve movement of the \textit{wh}-words to [Spec, CP], but that these words are base-generated in that position. The \textit{wh}-fronting in Tsou is not really \textit{wh}-movement.

Moreover, I may argue that Tsou is a \textit{wh}-in-situ language by showing that no syntactic movement is involved in the construal of \textit{wh}-words. This can be proven to be true on the basis of the absence of island effects. Actually, I have observed the absence of island effects on \textit{wh}-questions. Nevertheless, other \textit{wh}-constructions like cleft equationals and topicalizations also have instances of Subjacency violation, which gives further support for the view that Tsou is a truly \textit{wh}-in-situ language. In the next subsection, I will touch on extra evidence within Tsou.

3.3 Evidence within language

In order to argue Tsou as a truly \textit{wh}-in-situ language, I have set my evidence on the absence of island effects, which indicates that \textit{wh}-questions are not derived by overt movement. However, the lack of Subjacency effects is not an isolated feature of \textit{wh}-formation. Some instances of topicalization and cleft equationals are also immune to Subjacency, as evidenced by (34)-(37)((15) and (16) repeated here) (see more in Chang 1998):

Topicalizations:

(34) [\textbf{Topic }’o mo’o], [i-si mafe-a to pasuya
Top Mo’o NAF/Rea-3So like to eat-PF Obl Pasuya
[complex-NP island ’e [i-si ea-a e] ci fou fuzu]],
Nom NAF/Rea-3So catch-PF CI meat of wild boar
(o’a i-si mafe-a to paic¨ ).
not NAF/Rea-3So like to eat-PF Obl Paic¨.
Mo’o is the person x with whom Pasuya likes to eat [the meat of wild boar [which was caught by x]] but (with whom) Paic¨ doesn’t.
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(35) [Topic ‘o pasuya], [i-si uci-a cohiv-i to amo
   Top Pasuya NAF/Rea-3SO want-PF know-PF Obl father
   [wh-island m-o m-hin-o no cuma e]],
   AF-Rea AF-buy-AF Obl what
(o’a i-si uci-a cohiv-i to ino).
not NAF/Rea-3SO want-PF know-PF Obl mother.
Pasuya is the person x such that father wonders [what x bought] (but mother doesn’t).

Cleft equationals:
(36) (zou) pasuya, [’o [m-i-cu m-an’i [complex-NP island ‘o [o-h-ta-la
Emp Pasuya Nom AF-Rea-Perf AF-many Nom NAF-Rea-3SO-Hab
  ea-a e] ci fuzu].
catch-PF CI wild-boar
The one who caught many wild-boars is Pasuya.
(37) (zou) pasuya, [’o [os’o uci-a cohiv-i [wh-island m-o m-hin-o no
Emp Pasuya Nom NAF-1S want-PF know-PF AF-Rea AF-buy-AF Obl
cuma e]].
what
I wonder what is the thing x such that the one who bought x is Pasuya.

The instances of (34)-(37) violate the well-known island constraints, but are grammatical in Tsou. While (35) and (37) show instances of wh-island constructions, (34) and (36) are instances of complex NP constructions. Neither a complex NP island effect nor a wh-island effect are detected in topic constructions or cleft equationals in Tsou.

One important point emerges from the examples in (32) through (37): Tsou grammar allows the full range of island violations. In sum, the island constraints appear not to apply, and the wh-constructions, especially wh-questions, topicalization, and cleft equationals, cannot be reasonably characterized as movement structure. Consequently, I come to a convincing conclusion: Tsou is a truly wh-in-situ language and no movement is involved in construal of wh-words.

However, another question arises: how to construe wh-questions in Tsou? I will try to answer the question in the following sections.
4. Construal of *wh*-questions in Tsou

4.1 Unselective binding

In the literature, locality effects are an indication of movement. Movement triggers the island constraints which are the result of parameter settings of lexical idiosyncrasies. On the other hand, the absence of locality effects is an intrinsic feature of the other type of language, due to the parameter setting of a base-generated sentential null operator. The former is typically shown in English-type languages, while the later in Chinese-type languages. Tsai (1994, 1998b) further argues that it is unselective binding that plays an important role in shaping *wh*-dependency cross-linguistically. The typology of unselective binding construals in English-type and Chinese-type languages sets the parameter in the following ways:

(38) a. Chinese-type languages: \[ \text{[CP OP}_{\text{spec}} \text{[IP…}\text{wh}(x)\text{…}] \]
    b. English-type languages: \[ \text{[CP [IP…[D}_{0}\text{wh}(x)-\text{OP}_{\text{spec}}\text{…}]…]} \]
        \[ \rightarrow \text{[CP [PP/DP wh}(x)-\text{OP}_{\text{spec}}\text{…]}k\text{[IP…t}_k\text{…}] } \]

It follows that the locality effects displayed in the two types of language are exactly as expected:

(39) Locality effects:

<table>
<thead>
<tr>
<th>Single <em>wh</em>-question</th>
<th>English</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>wh</em>-island effects</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Complex NP effects</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

As stated by Tsai (1994:53), since Chinese Q-operators are located in the CP Spec, no movement is involved, as in (38a). In contrast, since the whole English *wh*-phrase as operator-variable pair must move to CP Spec for feature checking, both complex NP island and *wh*-island constraints are observed, as in (38b).

Considering that Tsou is a *wh*-in-situ language like Chinese-type languages and that it typically ignores syntactic islands, I adopt Tsai’s non-movement strategy for Chinese-type languages to Tsou. Thus, the way to construct an operator-variable pair in a *wh*-question is as illustrated in (40):

(40) \[ [x' \Delta [x'…wh…]] \rightarrow [x' \text{OP}_{\text{spec}} [x'…wh…] ] \rightarrow [x' \text{OP}_{\text{spec}} [x'…wh(i)…] ] \]

The first step involves Merger (also called binary substitution), which substitutes a
Q(uestion)-operator for an empty position, $\Delta$. The operator in turn unselectively binds a *wh-in-situ* without resorting to movement (at S-S or LF). Since *wh*-questions involve interrogative quantificational force, their sentential null operators define their semantic scopes in their c-commanding domains.

Thus a sentential $[+Q]$ null operator should be postulated here for (41) and (42):

(41) $\text{OP}_{x}[+Q]$ (os-ko uci-a cohiv-i $[\text{wh-island} \text{mo m-hin-o no cuma}(x) \ 'e \text{pasuya}]$?

(42) $\text{OP}_{x}[+Q]$ (complex-NP island $'[i \text{-si y-ainca embedded clause-i-si tutput-a no sia}(x) \ 'e \text{fuzu}]$ ci ee’e]' $'o$ mo atuvaes-i emz-o?

Since both (41) and (42) involve unselective binding construals, the absence of island effects in Tsou is naturally accounted for.

With the $[+Q]$ null operator, there is always a chance for other quantifiers to compete as a potential binder *wh*-in-situ. Thus, the correlation between *wh*-in-situ’s with the extensive usage of donkey sentences and indefinite *wh*-s are predicted. (see also Cheng and Huang 1996, Huang 1982, Li 1992, Tsai 1998b)

### 4.2 Donkey sentences in Tsou

As expected from the correlation, Tsou also employs a pair of *wh*-phrases to construct a donkey sentence under universal quantification (Tsai 1997):

(43) $[\text{antecedent clause te-ko b-on-u no cuma}], [\text{consequence clause te-}'o \text{ m-aezo}$

Irr-2S AF-eat-AF Obl what Irr-1S AF-also
bon-u no cuma, (from Tsai 1997)

eat-AF Obl what
I will eat whatever you eat.

As shown above, there is a *cuma* ‘what’ in the antecedent clause, paired with another *cuma* in the consequent clause, resulting in the following universal-conditional interpretation parallel to the sentential quantificational null operator in (39) and (40) (c.f. Tsai 1997):

(44) $\forall x \ [x \text{ is a thing & you eat } x]$ (I eat $x$)

Thus, the presence of donkey sentences in Tsou strongly supports the fact that there is no overt movement with respect to the formation of *wh*-questions, but that this
is a case of unselective binding instead.

4.3 Indefinite wh’s in Tsou

The unselective binding analysis is further affirmed by the extensive usage of indefinite wh’s in Tsou, where wh- phrases are constructed as variables rather than operators (see also Li 1991, Tsai 1997, 1998a): (Sentences (45)-(46) quote directly from Tsai (1998a))

(45) a. hocj sia na mo o’te t-m-opsu, te-ko eusvut-a a’o.
if who Nom AF-Rea not write-AF Irr-2S tell-PF 1S
If anyone does not write, you must tell me.
b. hocj cuma na i-ko umnu-a, naho ea-a.
if what Nom NAF-2S like-PF please take-PF
If you like anything, please take it.

(46) a. masonu (=mo ason-u) sia na m-о m-aya-o to poyave,
AF-Rea maybe-AF who Nom AF-Rea AF-take-AF Obl knife
ko’ko o’a-os’o elu-a.
so not-NAF-1S find-PF
Maybe someone took the knife, so I can not find it.
b. m-o ason-u b-on-u no cuma.
AF-Rea maybe-AF AF-eat-AF Obl what
ko’ko m-i-ta coŋ’e (=coŋ-o ’e) buyo.
so AF-Rea-3SN ache-AF Nom stomach
Maybe he ate something, so his stomach aches.

Indefinite wh’s in (45) appear freely in conditionals, while in (46) they occur in modality sentences. Whereas the former indefinite wh’s express the meaning of ‘every’ and belong to negative polarity construals, the later are shown to be existential construals which convey the meaning of ‘some’.

I thus reach the conclusion that Tsou is a truly wh-in-situ language. It is unselective binding, rather than movement, that plays a role in forming wh-questions.

5. Overview

Assuming that some typological distinctions among languages are recognized from the formation of wh-questions, Tsou, at first glance, seems to be an optionally fronting language which allows not only fronted wh-words but also wh-in-situ’s.
However, I have shown evidence in support of the argument that the sentences with apparently fronted wh-words are in fact instances of cleft equationals. On empirical grounds, cleft equationals and wh-fronted questions in Tsou not only have a strikingly similar appearance but share the same properties having the subject-sensitivity constraint and reversibility. On theoretical grounds, cleft equationals and wh-fronted questions in Tsou are not different with respect to Subjacency violations. Thus, unlike fronted wh-word languages as in English, the wh-fronting in Tsou is not really wh-movement, but is base-generated as a matrix predicate.

Like truly wh-in-situ languages, I have demonstrated that Tsou does not display island effects. This is a clear indication that no syntactic movement of the wh-word is involved in the construal of wh-questions in Tsou.

Furthermore, the presence of donkey sentences and the frequent use of indefinite wh’s strongly suggests that there is no overt movement with respect to the formation of wh-questions, but that wh-question formation involves unselective binding construals instead.

In conclusion, Tsou is shown to be a wh-in-situ language and it is unselective binding, rather than movement, that plays a role in forming wh-dependency. No syntactic movement is involved in the construal of wh-words.

References


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