On Question Operators in Chinese Wh-multiple Questions

1.Setting the Stage

We think it is universal that a direct wh-question sentence should have a C^0 looking for [+Qu] feature[1]. This [Spec,CP] is filled in overt syntax by the wh-phrase in English but not in Chinese. Chinese Wh-elements are very different from English Wh-elements, Chinese wh-elements do not necessarily carry a [+Qu] feature, they need to be merged with a wh-direct question feature to be like an English Wh-element. Study on Chinese wh-in-situ abounds in literature, but wh-elements in Chinese multiple questions have not been extensively discussed. One reason is that in Chinese multiple wh-sentences, wh-elements are not inherently interrogative. The other reason is that people have the thinking that multiple questions in Chinese could be highly manipulated by contextual discourse and is syntactically elusive. But our thinking is that it is true that sometimes highly discourse-linked multiple questions could go beyond the reach of syntax, but generally we have no much trouble to agree on what is a sentential question and what is a contextual question. Based on previous crucial proposals about question operator in literature, our paper will argue for the existence of a question operator base-generated with the insertion of the associate interrogative wh-element in Chinese in the DS. We will propose that the question operator is a stripped-off wh-question feature with null PF convergence. The paper also points out that this question operator, although operates at SS, is in spirit very close to feature movement. In the light of our base-generated question operator, we will look at the effect of several main constraints for English wh movement in Chinese multiple questions to see whether or not they extend to Chinese question operator movement.

2. The crucially relevant proposals in previous literature

[1] In this paper, the [+Qu] feature represents [+Direct Question] feature which is different from a [+Yes/No Question] feature which in some literature is also represented as [+Qu].

2.1 Baker's proposal of the existence of the abstract Q morpheme in English:

The notion of morpheme Q goes back to Katz and Postal, they proposed an Sentence-initial morpheme Q and interpreted it as a performative, having a reading which is abbreviated roughly as "I request that you answer".[2] Baker's 1970 paper about Question Morpheme proposed a revised Clause-initial Q morpheme which he suggests is contained in both direct questions and indirect questions.

There were two versions of arguments concerning the mechanism of the abstract Q morpheme pointed out in Baker's paper: One involves the morpheme in a movement rule which moved the question constituent to a position adjacent to the Q morpheme(Baker 1970).[3] The other involves it in a movement rule in which the questioned constituent actually replaces the Q morpheme which could be quoted as Replacement Rule (Jacobs and Rosenbaum, 1968). Both of these two proposals do not assume any movement of the Q morpheme. The Replacement Rule is said to be offering a beautiful explanation for the fact that there could only be one moved questioned constituent. Since once the replacement is done, there is no Q morpheme there that could be replaced. We think this analysis is in spirit very close to the feature checking in Minimalism Theory which claims that once the feature is checked, there should be no further movement.

Baker provided three trees to demonstrated how the Clause-initial Q morpheme works to account for the two readings of the following sentence[4] (The first tree fails to account for the two readings. The second tree has the reading with the answer "John and Martha remember where we bought which book." The third tree has the reading with the answer "John remembers where we bought the physics book and Martha and Ted remember

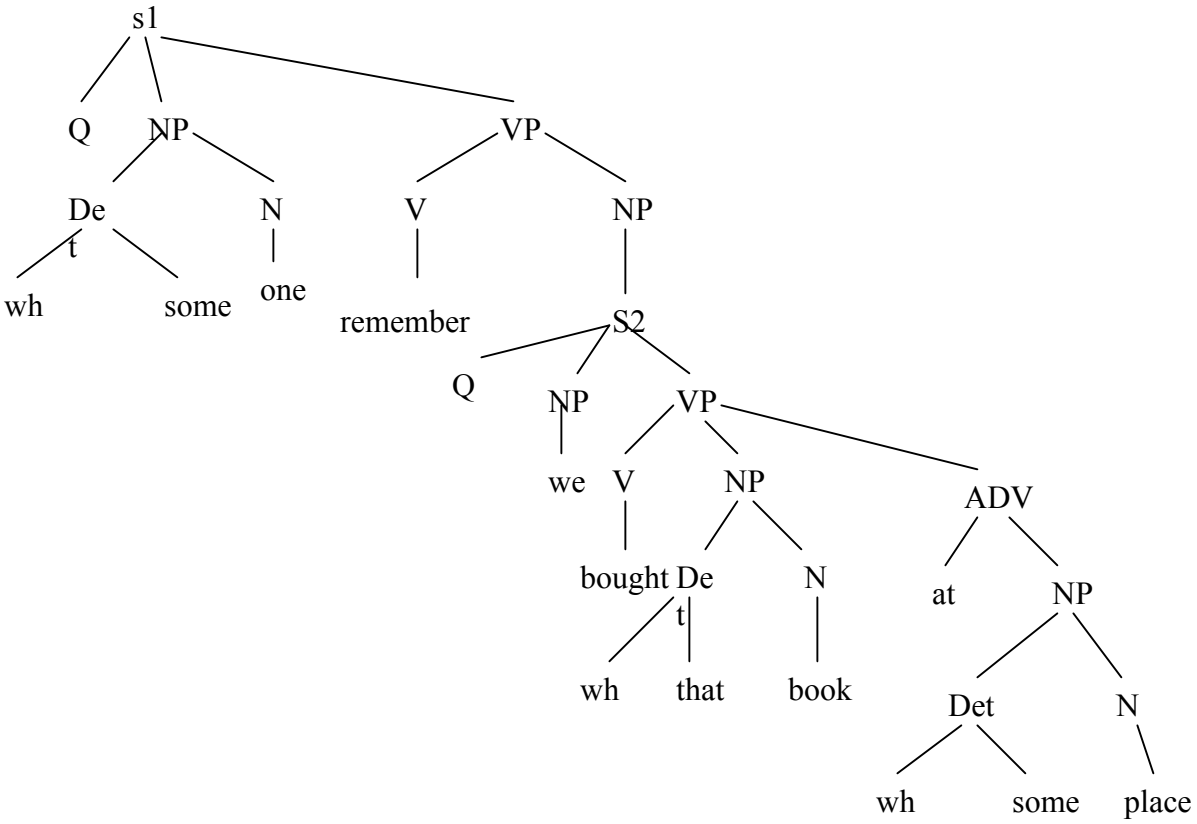
[2] See C. L. Baker, Notes on the Description of English Questions: the Role of an Abstract Question Morpheme, Foundations of Language 6,1970

[3] There is some inconsistence in Baker's claims though: At the same time he argues for the movement of the questioned constituent to the adjacency of the Q, he claims that the words like "if", "whether" and other words are introduced into tree as lexical realizations of the Q morpheme. We do not see why the Q can take the PF form of the indirect question complementizers but not the PF form of the questioned constituents.

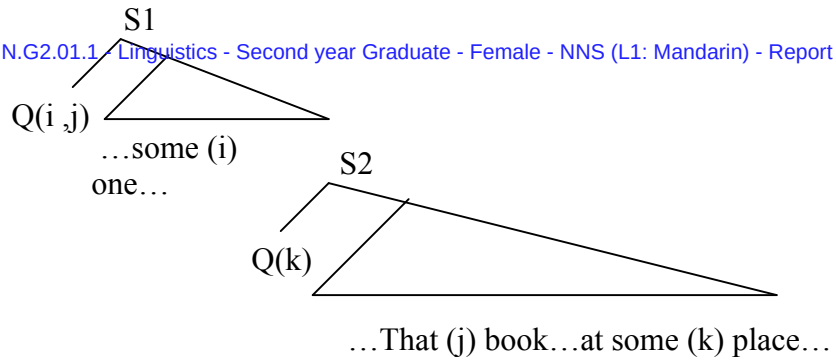
[4] I consulted different native speakers about the possible answers to this question, there are people saying that as long as you do not let "who" unanswered, you could answer any combination of the three wh-elements.

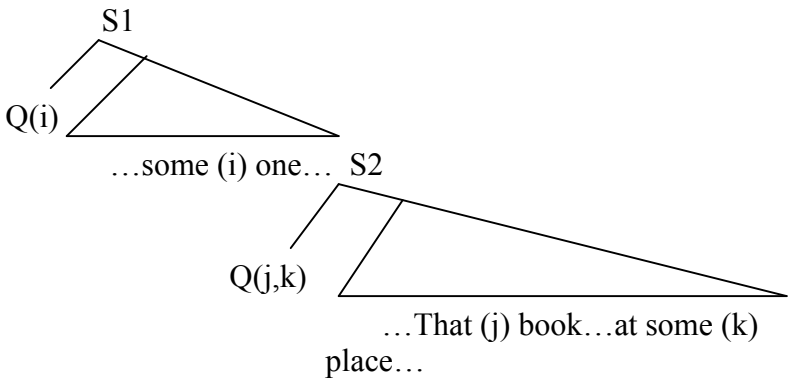
where we bought The Wizard of Oz." In the lower two trees, the Q operator[5] binds different underlying noun phrases in the portion of the tree which it commands):

(1) Who remember where we bought which book?



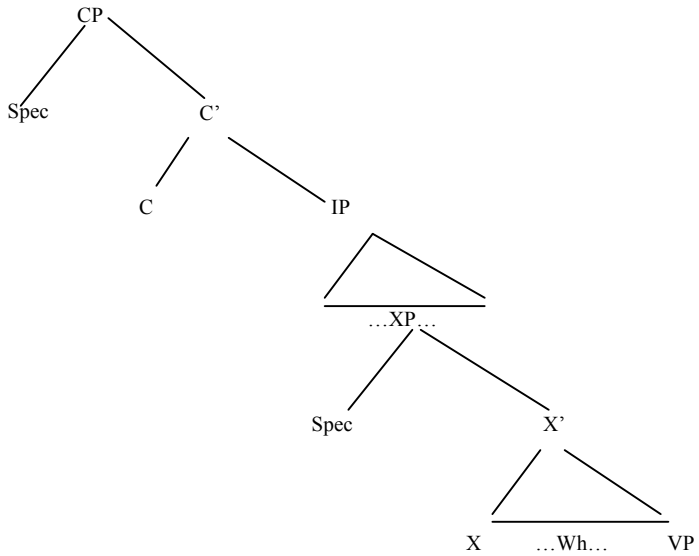
[5] Baker was using the term "operator" instead of Question Morpheme here.





2.2 Joseph Aoun and Audrey Li's Proposal of Question Operator in Chinese

Aoun and Li proposed that Wh-element in situ is coindexed and interpreted with respect to a Question Operator which is base-generated in a question projection. They argued for a nonovert full-fledged Qu-operator XP which triggers Spec-head agreement by moving to appropriate Spec of CP at SS and need not raise to the Spec of CP at LF level. They gave a tree as follows:



XP is important here since it is responsible in generating different types of sentences . X can have any of the four combinations of the features [+-Qu],[+-Wh].

They also point out that the overt question marker "ne" (or a phonologically null marker which can always be made overt at the end of the sentence) surfacing at the head Comp is exactly triggered by the presence of an operator in the Spec of CP. This question marker is also the licenser of the interrogative construal of the Wh-element which is represented as +Qu.[6] We see that this morpheme is very different from Baker's Clause-initial Q morpheme which binds a variable.

But we see the problem of Aoun and Li's analysis when it moves to the ECP constraint for the trace of the operator. Consider the following two sentences which differ with the number of possible readings and their correspondent LF representations:

(2) Ta1 xiang3 zhi1dao4 shei2 mai3le0 shen2me0?

He wonder who bought what?

a. $[_{CP1}$ Qu_j $[_{IP1}$ ta1 xiang3zhi1dao4 $[_{CP2}$ Qu_i $[_{IP2}$ $shei2_i$ mai3le0 $shen2me0_j]]]]$
b. $[_{CP1}$ Qu_i $[_{IP1}$ ta1 xiang3zhi1dao4 $[_{CP2}$ Qu_j $[_{IP2}$ $shei2_i$ mai3le0 $shen2me0_j]]]]$
c. ta1 xiang3zhi1dao4 $[_{CP2}$ $Qu_{i[j]}$ $[_{IP2}$ $shei2_i$ mai3le0 $shen2me0_j]]]]$

(3) Ta1 xiang3zhi1dao4 shei2 wei4shen2me0 li2kai1 le0.

He wonder who why left.

a. $[_{CP1}$ Qu_i $[_{IP1}$ ta1 xiang3zhi1dao4 $[_{CP2}$ Qu_j $[_{IP2}$ $shei2_i$ $wei4shen2me0_j$ li2kai1le0]]]]
b. *$[_{CP1}$ Qu_j $[_{IP1}$ ta1 xiang3zhi1dao4 $[_{CP2}$ Qu_i $[_{IP2}$ $shei2_i$ $wei4shen2me0_j$ li2kai1le0]]]]
c. *Ta1 xiang3zhi1dao4 $[_{CP2}$ Qu_i Qu_j $[_{IP2}$ $shei2_i$ $wei4shen2me0_j$ li2kai1le0]]]]

A thorny problem would be how to explain why the Question Operator in (3) c cannot indicate the scope of both "shei2" and "wei4shen2me0" while the Question Operator in (2) c can indicate the scope of both "shei2" and "shen2me0". Based on the assumption that Wh-elements of the same type can be absorbed (Aoun, Hornstein and Sportiche, 1981), Aoun and Li further suggest that distinct Wh-elements coindexing with the same

[6] Aoun and Li's analysis about the question marker here is a little bit elusive here: how could the question marker be triggered by something and in turn be the licensor of it?

Question Operator trigger absorption. We hold different views of this though: For one thing, it remains unclear which part is really undertaking the absorption---the Question Operator or the Wh-element? It seems that Aoun and Li are shifting the absorption between these two different things. Secondly, since there are two distinct Wh-elements, it should be expected that two distinct Question Operators are base-generated in two XPs. In this case, how could it be that there are two wh-words coindexing with the same operator? If Aoun and Li mean two words coindexing with operators of the same type, the problem still exists. We will come back to this problem later in the paper.

2.3 Some thoughts on the commonness between Question Operator, Question Morpheme and feature movement

If we think more of the definition of the reading of the Question Morpheme "I request that you answer." It is so close to the [+Qu] property of the C^0 of the matrix CP. We could well think that the [+Qu] property of C^0 is like a rough rephrasing of Baker's Q Morpheme. Both of them are responsible of defining the type of the whole matrix sentence as a direct question. There is also much in common between the Question Operator proposal and the feature movement. If we think of the properties of the null operator, we can see that it could well be that the Question Operator is exactly an abstract extraction of the feature that the associate wh-element bears. This thinking helps us to see that crosslinguistically, the mental interpretation of Wh-sentences is very identical: the feature movement and syntactic Question Operation are somewhat unifiable, namely, they are both about features: the syntactic Question Operation is an operation of the [+Qu] feature and all of the other features remain "in situ".

While seeing the crucial similarity between a feature movement and the abstract Question Operator, we propose that the Question Operator works better than the feature movement for Chinese. There are at least two considerations behind our preference to a Question Operator: Firstly, if it is possible, we do not want the mental interpretations of English speakers and Chinese speakers to spread onto different levels of human's knowledge state, namely, we do not want English speakers do the syntactic movement in mind while

Chinese speakers do LF movement in mind. Secondly, the existence of a Question Operator, although phonologically null, guarantees the expansion of the tree. Also while holding the view that Baker's proposal of Q for English is open to debate, we think that the Question operator is of more significance for Chinese Wh-elements. The reason is as we mentioned earlier: wh-elements are not inherently interrogative in Chinese and need to be merged with a [+Qu] feature to be a "real" wh-element. A crucial claim of feature movement for English Wh-movement is that Wh-feature is raised to the head C^0 along with phonological feature for PF convergence. The agreement and Case feature of the chain remain unchecked at Spell-Out and undergo LF raising for checking. Please consider the following sentence where "How many" is only the [+Qu] feature with the PF convergence, all of the other features are still down there in (t):

(4) How many men do you think there are (t) in the room?[7]

3. Our proposal---Question Operator base-generated with the associate wh-element

We see that Aoun and Li's framework of the question operator is based on Checking Theory which views the licensing of a lexicon in terms of a matching between its morphosyntactic features and the features on the functional head that is typically associated with licensing them. We advance that the Question Operator in Chinese is a syntactic element bearing a stripped-off wh-feature with null PF convergence. In terms of the feature it bears, this operator is interpreted as [+Qu]. It is crucial that this operator is restrictedly base-generated only when there is a questioned Wh-element but not anytime else. Following Chomsky's proposal that all wh-phrases are moved out to a position outside the base position, we propose that all question operators move up to a position outside the base position. We do not follow Baker's proposal that it is generated at clause-initial position because we assume it comes from the lexical features. We do not follow Aoun and Li's proposal either which claims that the operator is base-generated in a question projection. We propose that the operator is generated down right next to the wh lexicon. In addition, we do not follow Aoun and Li's proposal and assume a full-scale

[7] This sentence was originally provided by Sam Epstein. See John Frampton, cited from Youngjun Jang, Minimal Feature-Movement, Journal of Linguistics 33 (1997),311-325

XP projection which can cover all of the different types of sentences. The reason is that we see only C^0 in a Wh-question sentence need to attract [+Qu,+Wh], while C^0 in a statement sentence does not need to attract the feature [-Qu,+Wh]. Therefore we do not assume the XP projection once for all. We advance that just like feature movement, this assumes lexical decomposition. The operator parts from the lexicon to be ready for a movement. According to Greed Principle: This movement raises α to a position β only if the morphosyntactic properties of α itself cannot be otherwise satisfied in the derivation,[8] namely, the [+Qu] feature should be checked off. We further propose that the SS requirement---at SS the wh-phrase must already be in Spec of CP---also holds for Chinese, but with a little modification: at SS the Question operator bearing [+Qu] must already be in Spec of CP.

Having our base-generated Question Operator in mind, let us look at multiple questions. For multiple questions where there are multiple prepositions of Wh-elements, there has been the claim that there are non-wh-frontings which are not motivated by checking the strong [+wh] feature of C^0. (Zeljko Boskovic) The argument is that for checking the [+wh] feature, it should suffice to front one Wh-element to [Spec CP]. But we have different thinking on this: There might not be the necessity of avoiding multiple checking of the [+wh] feature. It could well be that the Checking-Feature Filter requires each of the associate Wh-elements bearing the feature to be fronted and the feature checked by each of them at one time, namely, the attractor C^0 is an Attract-All-Feature element and all concerned features should be checked off hence all should move. This assumption, if true, would justify us to place all of the fronted question operators in Chinese in [Spec, CP] instead of letting some of them hanging below as Rudin argues for some fronted Wh-elements in Serbo-Croatian (cited from Zeljko Boskovic, On Multiple Feature Checking).

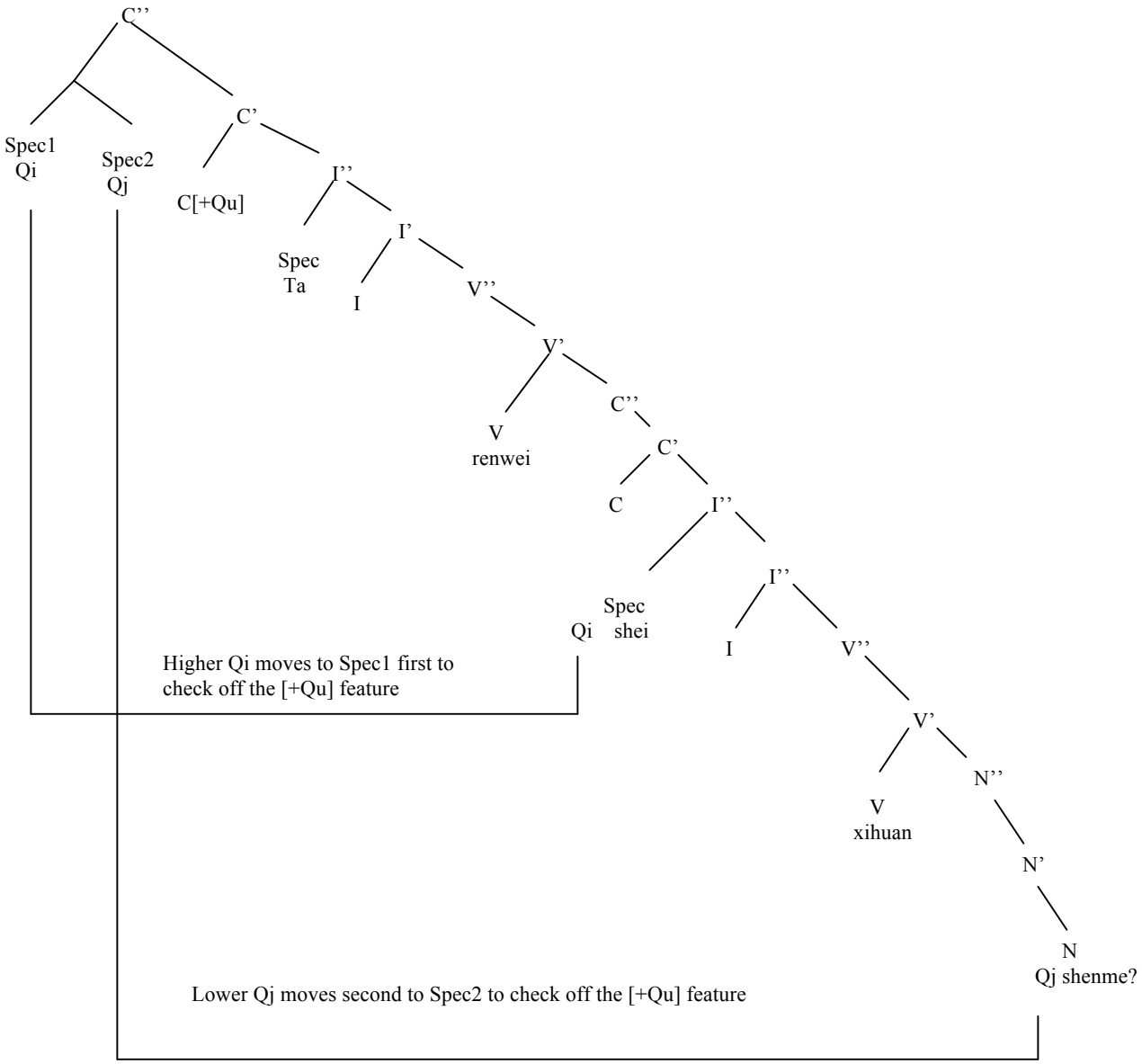
We advance our tree for the multiple checking of [+Qu] feature as follows:

"Ta1 ren4wei2 shei2 xi3huan1 shen2me0?"

[8] See Ayesha Kidwai, XP-Adjunction in Universal Grammar (Scrambling and Binding in Hindi-Urdu, Oxford University Press,2000)

"He think who like what?"
" Who does he think like what?"

[$_{CP1}$ Qu$_i$ Qu$_j$ [$_{IP1}$ ta1 ren4wei2 [$_{CP2}$ [$_{IP2}$ shei2$_i$ xi3huan1 shen2me0$_j$]]]]



4. The test of the effectiveness of some constraints on Question Operator movements in Chinese

4.1 The selectional restrictions are also met at SS in Chinese

Based on what has been said above, we proposed a different view to Huang(1982)'s proposal that selectional restrictions are met at SS in English and at LF in Chinese. We think that the selectional restrictions in Chinese are also met at SS and do not wait till LF to be satisfied. If it is a LF movement, the [+Qu] feature should still be with the wh-word at SS which sometimes is obviously not the case. Please consider the following sentences:

(5) Ta1 ren4wei2 shei2 xi3huan1 shen2me0?
He think who like what?
Who does he think like what?
(6) Ta1 wen4 shei2 zen3me0 qu4?
He ask who how go.
He asked about who go in some way.
Answer 1: Ta1 wen4 Zhangsan zen3me0 qu4.
*Answer 2: Ta1 wen4 shei2 qi2che1 qu4.
(7) Ta1 wen4 zen3me0 qu4 na3er?
He ask how go which place?
Answer 1: Ta1 wen4 zen3me0 qu4 Tian1an1men2 Square.
*Answer 2: Ta1 wen4 qi2che1 qu4 na3er.
(8) Ta1 wen4 shei2 xi3huan1 shen2me0?
He ask who like what?
Answer 1: Ta1 wen4 Zhangsan xi3huan1 shen2me0?
?*Answer 2: Ta1 wen4 shei2 xi3huan1 ju4fa3. [9]

The complementizers in (5) and (6) have different subcategorizations for the "Qu" feature carried by the head of the CP complement. "ren4wei2/think" subscribes for a [-Qu] feature; "wen4/ask" subcategorizes for a [+Qu] feature.

[9] There is debate about this answer.

In sentence (5), if and only if the wh-elements "shei2" and "shen2me0" do not have the [+Qu] feature can the subcategorization for the complementizer "ren4wei2" be met. There are two possibilities for the two wh-elements to be lack of the [+Qu] feature: either it is an indefinite wh-word so that it does not bear a [+Qu] feature, or it is a questioned wh-word so that there is an question operator based generated with it but moves out of the scope of "ren4wei2". Either way could satisfy the subcategorization of complementizer "ren4wei2". But since this sentence does not have the context of indefinite wh-words which include: Li (1992) generalized that an indefinite *wh* occurs in (a) contexts where the truth value is negated: negation, (b) contexts where the truth value is not fixed: questions, conditionals, non-factive verb complements, (c) contexts where the truth value is not asserted directly: *seem, probably* contexts, circumstantial *le.* Sentence a) does not have those contexts hence both of the wh-words should be interrogative and there are two question operators based generated with them. On one hand, both of these two operators have to move up out of the scope of "ren4wei2", on the other hand, the [+Qu] feature of C^0 has to be checked. These two motivations are in harmony and will never be in conflict.

In sentence (6), since the whole sentence is a question, so the Comp of the matrix sentence should be attracting a [+Qu], also because the Comp "wen4/ask" in the lower CP subscribe for a [+Qu] feature, there should be a [+Qu] down in the lower CP. Hence we are expecting one of the two question operators generated moves to the higher Comp and the other moves to the lower Comp. Now the question is that which one goes up to the matrix Comp and which one goes up to the lower Comp. Now let's look at the possible answer to sentence (6) as a question, we can only have answer 1 and cannot have answer 2.

In sentence (7), there is the same story with the moving-up of the two question operators. We have the same question of which one moves where. And if we look at the possible answer, we can only have answer 1 and cannot have answer 2.

If we compare the answers to sentence (6) and (7), we will see that when we could only move one question operator to the matrix Comp, the one generated with the wh-element at argument position moves to the matrix Comp while the operator generated with the wh-element at adjunct position moves to the lower Comp.

4.2 Our rule for question operator fronting in Chinese multiple questions

Now we would like to come back to the problem of sentence (2) and (3) we discussed earlier. We do not think the absorption theory can account for some problematic sentences. We have a different way to approach the problem. Please reconsider sentence (2) and sentence (3) as follows:

(9) Ta1 xiang3 zhi1dao4 shei2 mai3le0 shen2me0?

He wonder who bought what?

a. [$_{CP1}$ Qu$_j$ [$_{IP1}$ ta1 xiang3zhi1dao4 [$_{CP2}$ Qu$_i$ [$_{IP2}$ shei2$_i$ mai3le0 shen2me0$_j$]]]]
b. [$_{CP1}$ Qu$_i$ [$_{IP1}$ ta1 xiang3zhi1dao4 [$_{CP2}$ Qu$_j$ [$_{IP2}$ shei2$_i$ mai3le0 shen2me0$_j$]]]]
c. ta1 xiang3zhi1dao4 [$_{CP2}$ Qu$_{i[j]}$ [$_{IP2}$ shei2$_i$ mai3le0 shen2me0$_j$]]]]

(10) Ta1 xiang3zhi1dao4 shei2 wei4shen2me0 li2kai1 le0.

He wonder who why left.

a. [$_{CP1}$ Qu$_i$ [$_{IP1}$ ta1 xiang3zhi1dao4 [$_{CP2}$ Qu$_j$ [$_{IP2}$ shei2$_i$ wei4shen2me0$_j$ li2kai1le0]]]]
b. *[$_{CP1}$ Qu$_j$ [$_{IP1}$ ta1 xiang3zhi1dao4 [$_{CP2}$ Qu$_i$ [$_{IP2}$ shei2$_i$ wei4shen2me0$_j$ li2kai1le0]]]]
c. *Ta1 xiang3zhi1dao4 [$_{CP2}$ Qu$_i$ Qu$_j$ [$_{IP2}$ shei2$_i$ wei4shen2me0$_j$ li2kai1le0]]]]

According to Aoun and Li, the ill-formedness of (10) c owes to the fact that the two question operators generated with "shei2" and "wei4shen2me0" are of different types[10]. Different types of wh-elements cannot be absorbed. But only this cannot explain why the following sentence is not acceptable:

(11) Ma3li4 zen3me0 zhi1dao4 ta1 wei4shen2me0 bu4 xiang3 qu4?
Ma3l4 how know he why not want to go?

a. [$_{CP1}$ Qu$_i$ [$_{IP1}$ Ma3li4 zen3me0$_i$ zhi1dao4[$_{CP2}$ Qu$_j$ [$_{IP2}$ ta1 wei4shen2me0 bu4 xiang3 qu4?]]]]

[10] According to Aoun, Hornstein and Sportiche (1981), "shei2" quantifies over individuals while "wei4shen2me0" quantifies over predicates. But as we mentioned earlier, here Aoun are talking about the different quantifications of wh-elements which might not be the same of question operators.

b. *[$_{CP1}$ Qu_i Qu_j [$_{IP1}$ Ma3li4 zen3me0$_i$ zhi1dao4[$_{CP2}$ [$_{IP2}$ ta1 wei4shen2me0 bu4 xiang3 qu4?]]]]

"Zen3me0" and "wei4shen2me0" are of the same type, but they are still unable to be absorbed into each other. In addition, if we replace the wh-word "wei4shen2me0(why)" in sentence (10) with a prepositional phrase "yin1wei2 shen2me0(for what reason)", so the two wh-elements both quantify over individuals, but they still cannot be absorbed:

(12)* Ta1 xiang3zhi1dao4 shei2 yin1wei4 shen2me0 li2kai1 le0.

*Ta1 xiang3zhi1dao4 [$_{CP2}$ Qu_i Qu_j [$_{IP2}$ shei2$_i$ yin1wei4$_i$ shen2me0$_j$ li2kai1le0]]]]

If we compare (12) and (9)c, the difference is in (9)c, the higher wh-element "shei2" and the lower wh-element "shen2me0" are in government relations with the lexical head "mai3"("shei2" is in Spec-Head relation with "mai3" and "shen2me0" is in Head-Comp relation with "mai3") while in (12) this is not the case ("shei2" is in the Spec-Head relation with "li2kai1" but "shen2me0" is not). In (11), neither "zen3me0" nor "wei4shen2me0" is in the government relations with a lexical head. Based on this observation and following Chomsky's claim that every movement must necessarily expand the tree (1993), we suggest a constraint of question operator fronting in Chinese multiple questions: Only the question operators of the wh-elements in government relations with the same lexical head can move up out of the IP where they are generated and fill into the same Spec of CP. Since every fronted question operator requires a correspondent answer, they should hang up as multiple Specs of the higher CP, checking the [+Qu] feature of C^0 as many times as necessary.

4.3 Wh-in situ at an adjunct position can appear within an island

Different from Aoun and Li's claim, we propose that in Chinese, the wh-in situ at an adjunct position can appear within an island. The question operator can be extracted out from either a complex NP or a relative clause. Aoun and Li advance the following sentences as evidence for the asymmetry of extractability of adjunct and argument wh-elements. Sentence (13) extracts the question operator of an adjunct wh-element from a

complex NP, sentence (14) extracts the question operator of an adjunct wh-element from a sentential subject:

(13) *[$_{CP1}$ Qu$_i$ [$_{IP1}$ Ni3 xi3huan1[$_{NP}$ [$_{CP2}$ ta1 wei4shen2me0$_i$ xie3 de] shu1]]]

*[$_{CP1}$ Qu$_i$ [$_{IP1}$ Ni3 xi3huan1[$_{NP}$ [$_{CP2}$ t$_i$ [ta1 wei4shen2me0$_i$ xie3 de]] shu1]]]

*[$_{CP1}$ Qu$_i$ [$_{IP1}$ Ni3 xi3huan1[$_{NP}$ [$_{CP2}$ t$_{1i}$ [$_{CP2}$ t$_{2i}$[ta1 wei4shen2me0$_i$ xie3 de]]] shu1]]]

Ni3	xi3huan1	ta1	wei4shen2me0	xie3	de0	shu1?
You	like	he	why	write	DE	book?

(14) *[$_{CP1}$ Qu$_i$ [$_{IP1}$ Ta1 jue2de0[$_{CP2}$ [$_{IP}$ [$_{CP3}$ x$_i$ [$_{IP3}$ ni3 wei4shen2me0 mai3] [$_{VP}$ zui4 hao3]]]]]]

Ta1	jue2de0	ni3	wei4shen2me0	mai3	zui4hao3?
He	think	you	why	buy	best?

Aoun and Li's analysis is that in (13), regardless of where is the exact place that the question operator is generated and what kind of derivation it has[11], either the wh-adjunct "wei4shen2me0" has no antecendent within the minimal clause where it occurs or the trace is not lexically governed. Both cases violate ECP and are ill-formed. Since we claim the question operator operates in syntax, it is natural to expect it to be sensitive to various constraints. Aoun and Li's analysis, if true, would be very much expected. But we think the data they provide do not yet amount to extend ECP to wh-in situ.

Actually we think these data are not good counter examples and hence should not amount to drawing the conclusion yet. For example, sentence (14)'s problem may reside in the incompatibleness of the semantic properties of the words "wei4shen2me0", "mai3" and "zui4 hao3". It shall be easily seen if we peel off the other parts and just look at "wei4shen2me0 mai3 zui4 hao3"("for what reason to buy is the best") The sentence is

[11] In representation a, the Q is generated in the Matrix clause. In b and c,Q is generated within the relative clause and moves to the matrix clause.

weird by itself. On the other hand, we have bunch of good sentences where the operator of adjunct wh-element is extracted, for example:

(15) Ta1 jue2de0 ni3 zen3me0 shuo1 zui4 hao3?

He think you how say most good

What is the best way that he think you should answer the question?

[$_{CP1}$ Qu$_i$ [ta1 jue2de0 [$_{CP2}$ [$_{IP1}$[$_{CP3}$ x$_i$ [$_{IP2}$ ni3 zen3me0$_i$ shuo1] [$_{VP}$ zui4 hao3]]]]]]?

Following Aoun and Li's analysis, the X_i here is not lexically governed which should lead to the ill-formness of this interpretation, but this sentence is a perfectly good one. This kind of extraction is by no way a very occasional instance. We can easily see many other similar cases. We cite two more sentences here for the sake of better viewing, sentence (16) extracts Q operator from within an adjunct position in a sentential subject, (17) extracts Q operator from within complex NP:

(16) Ni3 yin1wei4 ta1 zen3me0 shuo1 er2 huai2yi2 ne0?

You because he how say conjunction suspect Q mor?

How did he say as to make you suspicious?

[$_{CP}$ Q$_i$ [$_{IP}$ Ni3 yin1wei4[$_{CP}$[$_{IP}$ ta1 zen3me0$_i$ shuo1] er2 huai2yi2 ne0?]]]

(Q_i moves out of two IP)

(17) Jiao4shou4 xiang1xin4 Bi3er3 chao1xi1 shei2 de0 shuo1fa3?

Professor believe Bill plagiarize who DE claim?

Who is the person x so that the professor believe the claim that Bill plagiarized x?

[$_{CP}$ Q$_i$ [$_{IP}$ Jiao4shou4 xiang1xin4[$_{NP}$[$_{CP}$[$_{IP}$ Bi3er2 chao1xi1 shei2$_i$]] de0 shuo1fa3?]]]

(Q_i moves out of two IP and an NP)

Based on what we have discussed above, we would like to suggest that ECP Constraint does not extend to the distribution of wh-element and its trace in Chinese. This conclusion is based on two observations. One is that the wh-element is a lexical item and is exempted from ECP. And the trace of the question operator is different from wh-trace in English, wh-trace cannot be deleted because the Θ Criteria has to been satisfied at all levels. Since all it has is the [+Qu] feature plus a null phonological representation, we would like to suggest that it is not there once the movement is done, for when it moves, the null phonological representation converge to the feature so there is nothing left at the original place. The trace of question operator is neither a case marked position nor a Θ marked position. Following the definition of a A position which is a position either case marked or theta marked, the operator trace is in a A' position. Since the movement is from A' position to A' position, it is natural then that the movement may not be subject to the constraints that a A-A' movement is sensitive to.

4.4 The absence of Subjancency Filter and Superiority Filter in question operator movements

In the light of the absence of ECP and absence of asymmetry of the extractability between adjunct and argument wh-elements' operators in Chinese, we would like to further address the two "S" Filters: Subjancency Filter and Superiority Filter. Since the Subjacency Effect is closely related to island effect, it is natural then, with the absence of the island effect, Subjancency does not constrain the question operator movement of Chinese.

For Superiority Filter, it is defined as following: An object wh-phrase can move to a Spec CP already filled with another wh-phrase whereas a subject wh-phrase cannot. What we are looking at now is whether the "question operator version" of the rule holds true for question operator movements: The question operator of an object wh-phrase can move to a Spec CP already filled with another question operator whereas the question operator of a subject wh-phrase cannot.

It is not difficult to see that there is connection between the ECP and Superiority Filter. As pointed out clearly by Lasnik, the eligibility of an object wh-element to move to an

occupied Spec CP is crucially dependent on the fact that the θ-governed status of its trace makes it needless for it to have an antecedent governer. For a subject wh-element, since its trace is not θ-governed, it has to be antecedently governed to satisfy ECP. With the exemption of ECP to movement of Q operator, the connection above does not hold any more which accordingly rules out the role of Superiority Filter in Chinese multiple questions. In addition, the allowance of multiple Specs also makes this constraint irrelevant from the very beginning. Now consider a simple sentence with multiple questions:

(18) Question: Shei2 zai4 na3er tou1le0 le0 shen2me0 dong1xi0?
Who at which place stole asp what thing?
Answer: Zhang1san1 zai4 Xi1dan1 mai3 le0 ying1wen2 shu1.

All of the three wh-elements here are interrogative, like English, they should all be obligatorily answered. And we do not propose absorption of the raised question operators since each operator bears a question feature which is requiring an answer. There should be exactly three question operators in the mental representation of both the questioner and answerer.

While seeing the absence of Superiority Filter, we notice another interesting phenomenon, please consider an embedded multiple question sentence:

(19) Question:
Shei2 xiang3zhi1dao4 shei2 zai4 na3er tou1le0 shen2me0 dong1xi0?
Who wonder who at which place stole what thing?

The highest question operator generated in the higher CP definitely has to move to the C^0 of the matrix CP. Any answer to this question should answer the highest "who" first. And let us exhaust the possible answers to this question:

1. Wo3(I) xiang3zhi1dao4 shei2 zai4 na3er tou1le0 shen2me0 dong1xi0.
2. Wo3(I) xiang3zhi1dao4 ta1(he) zai4 na3er tou1le0 shen2me0 dong1xi0.
3. Wo3(I) xiang3zhi1dao4 shei2 zai4 jiao4shi4(classroom) tou1le0 shen2me0 dong1xi0.
4. Wo3(I) xiang3zhi1dao4 shei2 zai4 na3er tou1le0 shu1(book).

5.Wo3(I) xiang3zhi1dao4 ta1(he) zai4 jiao4shi4(classroom) tou1le0 shen2me0 dong1xi0.
6. Wo3(I) xiang3zhi1dao4 shei2 zai4 jiao4shi4(classroom) tou1le0 shu1(book).
7. Wo3(I) xiang3zhi1dao4 ta1(he) zai4 na3er tou1le0 shu1(book).

We can see that besides the obligatory answer for the highest "who", we can answer any wh-element or any two of the wh-elements in the lower CP. In answer 3,4,6 and 7, the question operator base-generated at lower position (even in the node in an adjunct branch[12]) can go up and move across an operator generated at higher position to the Spec of matrix CP.

5. Summary and further issues

Our paper discussed Baker's proposal of a Question Morpheme and how this question operator works under Aoun and Li's analysis of Chinese wh-elements. While seeing the Question Morpheme may not necessarily work well for English wh-sentences, we see its crucial importance for the interpretation of Chinese wh-direct questions. We further pointed out no matter how diverse the different proposals may seem to be, they actually have much in common and could somehow be reduced to be feature-motivated. We restrict the generation of the question operator to the insertion of a interrogative wh-element and propose that the question operator moves to the appropriate Spec CP. We also advance the allowance of multiple Specs of a particular C. Base on this proposal, we looked at some of the constraints for English wh-movement and reached the following 4 conclusions:

- The selectional restrictions in Chinese are also met at SS and do not wait till LF to be satisfied.
- Only the question operators of the wh-elements in government relations with the same lexical head can move up out of the IP where they are generated and fill into the same Spec of CP.

[12] Notice that there is no adjunct wh-element here, the operator of argument wh-element in adjunct branch can move up across higher wh-element. But as we discussed earlier in the paper, operators of wh-elements quantifying over different types cannot move up to the Spec of the same CP. Please refer to 4.1 for more detailed discussion.

▪ Wh-in situ at an adjunct position can appear within an island, the question operator of it can be extracted out from within the island.
▪ Both of the Superiority Effect and the Subjancency Effect do not extend to movement of question operators in Chinese

There are some other relevant issues which remain undiscussed in our paper. One issue is how does the question operator work for the single-pair and pair-list answers? Zeljko Boskovic (On Multiple Feature Checking) pointed out that the single-pair answer is possible only when there is no overt wh-movement to [Spec, CP]. When we look at the language facts, this seems to be true. Nonetheless, within syntactic reach for the present stage, we are not clear about what are the operations to distinct a reading requiring a pair-list answer from a reading requiring single-pair answer. Another issue is that for those multiple questions which have multiple question operators occupying the Spec position of the matrix CP but also have a Question morpheme "ne" at the end of the sentence, if the "ne" is also a [+Qu] feature bearer, what should we deal with its [+Qu] feature? Does it also have to move up for the feature to be checked off and how?

Selected Reference:

Joseph Aoun, Yen-hui Audrey Li, *Wh-Elements in Situ: Syntax or LF?* Linguistics Inquiry, Volumn 24, Number 2, Spring 1993,199-237

Joseph Aoun, Yen-hui Audrey Li, *On Some Differences between Chinese and Japanese Wh-Elements*, Journal of East Asian Linguistics, 1993,365-371

Jo-Wang Lin, *On Existential Polarity Wh-Phrases in Chinese*, Journal of East Asian Linguistics, 1998,219-255

Lisa Lai-Shen Cheng, Johan Rooryck, *Licensing Wh-In-Situ,* Syntax, 3:1, April 2000,1-19

C.L.Baker, Notes on the Description of English Questions: the Role of An Abstract Question Morpheme, Foundations of Language 6 (1970),197-219

Youngjun Jang, *Minimal feature-movement*, Journal of Linguistics 33 (1997),311-325