Deriving Special Questions in Mandarin Chinese: A Comparative Study

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1. Introduction

It is observed in many languages that the *wh*-word, equivalent of *what* in English, can be used, not only as an argument, but also as an adjunct, in which case it has a meaning close to *why* (cf. (1)) (Collins 1991, Ochi 2004, Garzonio & Obenauer 2010, Pan 2010, Tsai 2011). Adjunct *what* is often called '*why*-like' *what* (WLW).

(1)   a. **Cosa**   ridi?!   (Northern Italian)
            what   laugh
            'Why are you laughing? (you should not laugh!)'
       b. **Icché**   tu   corri?!   (Florentine)
            what   you   run
            'Why are you running? (you should not run!)'
       c. **Was**   lachst   du   (denn)?!   (German)
            what   laugh   you   Prt
            'Why are you laughing? (you should not laugh!)'

However, there is a crucial difference between *why*-like *what* and *why*: the interpretation of *why*-like *what* obligatorily includes a Surprise-Disapproval (SD henceforth) component, expressed in (1) by 'you should not'. In Italian dialects, *why*-like *what* moves to a different position from standard *why* (or argumental *what* in standard questions). The movement is driven by the need of checking some SD feature in the SD projection that exists in the (Romance) split CP domain from the cartographical point of view (Cinque & Rizzi 2008). In this paper, I will discuss the so-called *why*-like *what* in Chinese, which shares many properties with its equivalents in other languages, but also shows its particularities concerning its syntactic structure.

2. *Why*-like *shenme* 'what' questions in Mandarin

2.1 Main proposal

It is well known that Chinese is a *wh*-in-situ language: the relevant *wh*-element stays systematically in-situ instead of moving to the Spec, CP position. *Why*-like *what* appears only in post-verbal position. Pre-verbal positions are excluded for it. We should note that the positions occupied by *shenme* in (2b,c) are regular adverb position for *weishenme* 'why'.

(2) a. Ni   zou   shenme ?! Liu-xialai yiqi   chifan ba !
         you leave what   stay-Dir.   together eat-rice SFP
         'Why are you leaving ?! Stay and let's have dinner together !'
    b. * Ni   shenme zou ?!   (Post-subject/pre-verbal position)
         you what   leave
         ('Why are you leaving ?!')
    c. * Shenme   ni   zou ?!   (Pre-subject position)
         what   you leave
         ('Why are you leaving ?!')

We take the core semantics of the Surprise-Disapproval interpretation as a cross-linguistic phenomenon and it stays invariant. At the same time, the observed apparent particularities of Chinese *why*-like *what* questions are treated only as syntactic variants. The idea is that since SD interpretation expresses an illocutionary force and the speaker's attitude, it is reasonable to assume that the SD reading should be linked to the left-periphery. As G & O (2010) show, Surprise-Disapproval Question P (SDQP) is an independent projection in Italian dialects and the *wh*-word *what* undergoes overt movement to join the SDQP in order to get the SD (*why*-like) reading. Along this line, I also assume that SDQP is an independent projection that is responsible for the SD reading in Chinese. However, Chinese *why*-like *what* shows many important syntactic properties that are not observed in other languages, which suggests that SDQP has its own syntactic particularities in Chinese. My proposal has two basic assumptions. First, in Chinese, the *wh*-word *shenme* 'what' is <u>generated</u> as the <u>head</u> of SDQP. Second, the main verb moves from the inside of VP to join the SD° head to form a complex head. The nature of this movement is head-to-head adjunction. In this case, *shenme* 'what' does not get an interrogative reading; instead, it behaves as a functional head and gets a SD reading.

2.2 Evidence

The way of treating a *wh*-phrase *shenme* 'what' as a head is *ad hoc* at first sight since it is a phrase rather than a head in most of the contexts. An evidence that supports the "suffix" and head status of *shenme* 'what' in *why*-like *what* constructions is that we can never stress *shenme* 'what' in *why*-

like *what* questions when it is attached to verbs (cf. 3a), just like all the verbal suffixes in Chinese (cf. 3b); however, in other contexts, a phrase *shenme* 'what' can actually be stressed in case of need.

(3)   a. * Ni   chi$_i$ **SHENME**   chi$_i$
             you   eat   what   eat
             ('Why do you eat?! = You should not eat!')
         b. * Wo   yijing   chi-**LE**   fan.
             I   already   eat-Perf   rice
             (I have already eaten.)

Furthermore, in *why*-like *what* cases, *shenme* 'what' is not interpreted as nominal *wh*-element 'for what x, x a thing' but something which is interpreted roughly as 'I don't think one should do such a thing…'
     Here is an example to illustrate the syntactic derivation of my proposal.

(4) a. Ni   pao-shenme ?!   b.
          you   run-what
          'Why do you run?!'
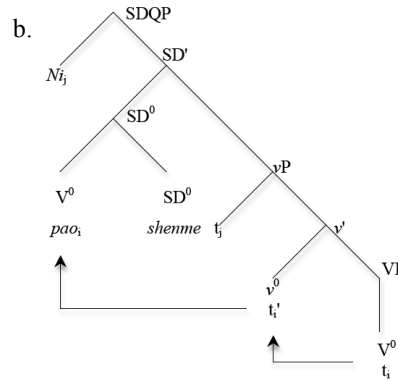
In (4b), in order to get the SD reading, *shenme* 'what' is generated under the SDQP as a grammaticalized item and the main verb moves to join the SD°. In other words, we can consider *shenme* 'what' as a functional head that enables verb to get the SD reading. From this perspective, *shenme* is not interpreted as a question word and there is no movement of *shenme* 'what'.
     One piece of evidence in favor of my analysis is that when the main verb doesn't take any object, the trace of V can be realized phonetically, as shown in (5).

(5)   a.   Ni   pao$_i$ shenme   pao$_i$?!
              you   run   what   run
              'Why do you run?! = You have no reason to run!'

b. Ni   chi$_i$ shenme   chi$_i$?!
    you   eat   what   eat
    'Why do you eat?! = You should not eat!'

Second, in the cases where the main verb can be used either transitively or intransitively, *shenme* 'what' will be used either as an argument or as an adjunct. In this case, we expect an ambiguity of the relevant sentence. For example, the verb *xiao* can be used as an intransitive verb meaning 'to laugh' or as a transitive verb meaning 'laugh at'.

(6) Ni   xiao   shenme
     you laugh what
     (i) 'What are you laughing at ?'   (Standard question reading)
     (ii) 'Why are you laughing ?! = You should not laugh!'   (SD reading)

Sentence (6) is ambiguous between (i) a genuine interrogative reading and (ii) a Surprise-Disapproval reading related to *why*-like *what*. In the first case, *shenme* 'what' is a real internal argument of the verb *xiao* 'laugh at' and this is the argumental reading of *what*; in the second case, *shenme* 'what' gets a *why*-like *what* (=SD) reading. I will use a test to show that the semantic contrast is correlated with a syntactic one.

In Chinese, when a transitive verb is followed by a true direct object and a verbal complement introduced by the structural particle *de1*, such as durational phrases, adverbial phrases, frequency phrases, degree phrases, etc., either the direct object of this verb moves to a preverbal position, such as in (7a), or a copy of the verb is inserted, such as in (7b). The order [S + V + O + Verbal Complement] is excluded as shown in (7c).

(7) a. Ta   pangxie chi   [de1 hen kuai].   (S + O + V + C)
         he   crab   eat   DE   very quickly
         (Lit.) 'As for crabs, he eats very quickly.'
     b. Ta   chi pangxie chi [de1 hen kuai].   (S + V-O-V + C)
         he   eat crab   eat DE   very quickly
         'He eats crabs very quickly.'
     c. * Ta   chi pangxie [de1 hen kuai].   (*S + V + O + C)
         he   eat crab   DE   very quickly
         ('He eats crabs very quickly.')

Recall that in both strategies, (7a) and (7b), the object should be a true direct object. Since *why*-like *what* is an adjunct, there is no theta role relationship between *why*-like *what* and the verb. Thus, we expect that *why*-like *what* is

incompatible with either of the two strategies. Such a prediction is borne out as shown in (8).

(8) a. Ta   zou   shenme ?!
           he   walk   what
           'Why does he walk?! = He should not walk!'
    b. * Ta   zou   shenme   zou [de1 zheme   kuai] ?!
           he   walk   what   walk DE   so   quickly
           ('Why does he walk so quickly ?!')
    c. * Ta   shenme zou   [de1 zheme kuai] ?!
           he   what   walk   DE   so   quickly
           ('Why does he walk so quickly ?!')

In (8a) when the intransitive verb *zou* 'walk' is followed by *why*-like *shenme* 'what' the sentence gets a Surprise-Disapproval reading. When we add a verbal complement 'very quickly' to the sentence, neither inserting a copy of the verb as in (8b) nor fronting the object in (8c) can make the sentence grammatical. This test shows that *why*-like *shenme* 'what' cannot be the internal argument of the verb.

    We observed that when the verb *xiao* 'laugh at/ laugh' is followed by *shenme* 'what', the sentence is ambiguous between an argumental reading 'laugh at' and an adjunct (*why*-like *what*) reading. Our prediction is that when we apply the same test (on the basis of post verbal complement) to the verb *xiao* 'laugh at/ laugh' only the argumental reading survives but not the SD reading since in the former reading, the *wh*-word is the true direct object of the verb. This prediction is borne out, as shown in (9).

(9) Ni   xiao   shenme   xiao [de1 zheme   dasheng]?
       you   laugh   what   laugh DE   so   loudly
       (i)   'What are you laughing at so loudly?'   (argumental reading)
       (ii) *'Why are you laughing so loudly?!'   (*WLW reading)

    It is shown in G & O (2010) that in Italian dialects, SD questions can contain any element of the *wh*- paradigm, such as *who, what, when, where*, etc. This, however, is not the case in Chinese. Here it seems that *why*-like *what* is the only way to provide the sentence with a SD reading: the above examples show that an argumental *what* is consistently incompatible with a SD reading; furthermore, the same applies to *shei* 'who', *shenme shihou* 'when' and other *wh*-words. In this case, the sentence can only be interpreted as a standard question, as shown in (10a). Recall that the Bellunese version of (10a) can get a SD reading.

(10) a. Ni   qing   shei ?
          you invite who
          (i)   'Who do you invite?'   (StQ)
          (ii) * 'Who do you invite?! = You should not invite him!'   (SD)
      b. [Wh-SDQP Chiⱼ [Wh-ClP ∅   [à-tu   invidà   tⱼ]]]?   *SDQ*
                    who   have-scl   invited
          'Who have you invited ?! (You should not have invited him !)'

This is a strong argument to support the idea that *why*-like *shenme* 'what' is a fixed grammaticalized item in the SD head position that gives a SD reading to any verb which is attached to it.

     Under the present analysis, another possible sequence in a Surprise-Disapproval question, [V + *why*-like *shenme* 'what' + O], can be derived.

(11)   Ni   chi shenme   yu
        you   eat what   fish
        (i)   'Why do you eat fish ?!'   (SD reading)
        (ii) 'What kind of fish do you eat?'   (determiner *what*)

In (11a'), *shenme* 'what' is generated under the SDQP and the verb *chi* 'eat' moves to join the head SD°. The object *yu* 'fish' remains inside the VP. (11b') illustrates the normal determiner reading of *shenme* 'what' that is on the specifier of DP and it is bound by an null operator Op generated under CP (for standard questions). We should note that there is no derivational relationship between (11a') and (11b'), each of which represents an independent case.
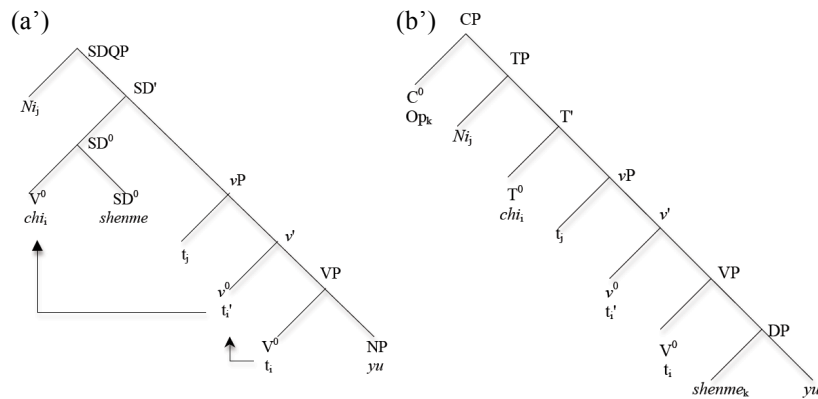
One difference between these two sentences is that in (11a'), the SDQP takes only the *v*P instead of the TP/AspP as its complement; in (11b') a TP/AspP still exists between CP and *v*P. This difference is also very important in my analysis, which is due to the fact that Chinese *why*-like *what* is not compatible with verbal auxiliaries nor with aspectual markers. I will show this in a detailed way in the next part.

Let us turn to the movement of the subject in this derivation. To derive the right surface order, we need to raise the subject to the [Spec, SDQP]. The raising could be driven by the EPP feature which requires the specifier position to be filled. Chinese is a *pro* drop language, in the case of the absence of the subject, the [Spec, SDQP] is filled by a referential *pro* whose referent exists in the context. For example,

(12) [$_{\text{SDQP}}$ *pro*   [$_{\text{SD°}}$ xiao$_i$-shenme]   [$_{v\text{P}}$ t$_j$ [$_{v°}$ t$_i$]]]] ?!
　　　　　　　　　　　laugh what
　　'(You/he/she/they) should not laugh!'

Third, *why*-like *shenme* 'what' cannot follow the sequence [V + O].

(13) * Ni   chi   yu   shenme ?!
　　　you   eat   fish   what
　　　('Why do you eat fish ?!')

Under our approach, the impossible sequence, *[V + O + *why*-like *shenme* 'what'] in a SD question, can be accounted for. Such a sequence would require the raising of *v*P to adjoin to the SD° *shenme* 'what', which is an illicit movement.

Fourth, as we said on the above, the main verb cannot be followed by any aspectual marker in a SD question (cf.14).

(14) a. Ni   chi-**le**   shenme   yu   a   *Vt*
　　　　you   eat-Perf   what   fish   SFP
　　　　(i)   'What kind of fish did you eat?'   (StQ reading)
　　　　(ii) * 'Why have you eaten fish ?!'   (*SD reading)
　　　b. * Ni   zuotian   zou-**le**   shenme ?!   *Vi*
　　　　　you   yesterday   leave-Perf   what
　　　　　('You shouldn't have left yesterday!')   (*SD reading)

Sentence (14a) shows that when the main verb is marked by the perfective aspectual suffix *le*, only the standard question reading survives, and the SD reading becomes unavailable. (14b) contains an intransitive verb and when

it is marked by the perfective marker *le*, the sentence becomes ungrammatical. In addition to the perfective aspectual marker, the durative or progressive aspect marker cannot mark the main verb in a SD question either in Chinese (cf. 15).

(15) a. * Ni   pao-zhe   shenme ?!
           you run-Dur   what
           ('Why are you running?! = You should not run!')
     b. * Ni   zai   pao   shenme ?!
           you   Prog.   run   what
           ('Why are you running?! = You should not run!')

One could argue that this can be explained by semantics in that the aspect is not compatible with Surprise-Disapproval questions for some special semantic reason. However, this conclusion seems to overgeneralize the case since the Surprise-Disapproval questions are compatible with aspects in several observed languages, such as Italian (17) and Japanese (18).

(17) Icché   tu   ridevi?!
     what   you   laugh-Imperf.
     'Why were you laughing?!'
(18) Ano   hito-wa   nani-o   yuka-de   korogat-tei-ru no?
     That   person-Top   what-Acc   floor-on   roll-Prog-Pres Q
     'Why is that person rolling on the floor?'   (Nakao & Obata 2009)

Chinese data seem to suggest that there is actually a selectional relationship between the head SD° and the categorical feature of its complement. We can assume that a SD° selects a *v*P instead of a TP/AspP as its complement. Under this assumption, TP/AspP is not present in the current structure. The point is that if we believe that SD reading is a cross-linguistic case, and that the interpretation of a SD question remains the same in different languages, we do not want to contradict ourselves by saying that SD reading shows different semantic properties in different languages (for example, the SD reading is compatible with tense and aspect in certain languages but not in other ones). Along this line, I choose to explain this contrast in terms of syntax. Contrary to aspectual suffixes, a time adverbial can precede the sequence [V + *why*-like shenme 'what'] in a SD question.

(19)   Ni   zuotian   pao   shenme (pao) ?!
        you   yesterday run   what   run
        'Why did you run yesterday?! = You shouldn't run yesterday!'

The contrast between (15) and (19) seems to exclude the possibility to account for the incompatibility between *why*-like *what* and aspectual suffixes by semantics.

Fifth, the sequence [V + *why*-like *shenme* 'what'] in a Surprise-Disapproval question cannot be preceded by any modal auxiliary, as shown in (20a, b).

(20)   a. * Ni   xiang   chi-shenme   yu   a ?!   *SDQ*
              you   want   eat-what   fish   SFP
              ('Why do you want to eat fish?!')
        b. * Ni   yao   zou-shenme   a ?!   *SDQ*
              you   will   leave-what   SFP
              ('Why will you/do you want to leave?!')

A possible explanation is that when the subject moves to the Spec of SDQP, there is no available position for verbal auxiliaries between the Spec of SDQP and the head SD°. One can possibly argue that the subject can continue to raise to a higher Topic position. However, even if this is possible, there is still no such an available position for auxiliaries in the left periphery.

Sixth, negation cannot appear in a *why*-like *what* question (cf. (21b, c)).

(21) a. * Ni   bu   zou   / xiao   shenme ?!   *SDQ*
            you   Neg   leave   laugh   what
            ('Why don't you leave/laugh?! = You should leave/laugh!')
     b. * Ni   mei   zou   / xiao   shenme ?!   *SDQ*
             you   Neg   leave   laugh   what
            ('Why haven't you left/laughed?!')

This is a very important property of Chinese *why*-like *what* and I take it as a syntactic rather than a semantic property. It is observed that a *why*-like *what* question is more natural without any negative element in many languages; however, it is still hasty to claim that *why*-like *what* is generally incompatible with negation in the sense of semantics. For example, in French, the negative element *ne* is obligatory in a *why*-like *what* question illustrated in (22a) which is a very literal written style sentence. On the contrary, in a very colloquium way, (22b) is acceptable with the complex form, *qu'est-ce que* 'what is it that', of *que* 'what'. These two sentences show that *why*-like *que/qu'est-ce que* tolerates negation.

(22) a. **Que** *(ne)   ris-tu   (au lieu de   pleurer)?! (French)
        what Neg   laugh-you instead-of   cry
        'Why aren't you laughing ?!'   (G&O 2010)
    b. ? **Qu'est-ce qu'** il   ne   l' a   pas dit plus tôt ?!
        what   he   Neg   it has Neg said more early
        'He should have said it earlier !'

Though not systematically, the co-occurrence of *why*-like *what* and negative elements is still observed in languages like French. That is why we cannot account for the fact that such a co-occurrence does not exist in Chinese by saying that semantically *why*-like *what* is incompatible with negation. Instead, the observation in Chinese can be accounted for syntactically on the basis of the location of the SD projection in the left periphery. In Chinese, as a negative adverb, *bu* is generated in a post-subject and preverbal position. Again, if we assume that the subject is in the Spec of SDQP position, there is no available position for any negative element between the Specifier and the head of SDQP. Even if we assume that the subject can raise further to a higher topic position, there is still no position for *bu* in the left periphery.

Seventh, we examine the interaction between adverbs and *why*-like *shenme* 'what'. Adverbials precede verbs in Chinese and we will concentrate on manner verbs in this part, as shown in the (a) cases in the following examples. It is striking to notice that those manner adverbs cannot precede the sequence [V + *why*-like *shenme* 'what'] in a Surprise-Disapproval question, as shown in the (b) cases in these examples.

(23) a. Ta   dasheng-de3   han.
        he   loudly   shout
        'She is shouting loudly.'
    b. Ni   dasheng-de3   han-shenme ?!
        you loudly   shout-what
        (i) *'Why are you shouting so loudly?!'
        (ii) 'What are you shouting ?'
(24) a. Ta manman-de3 pao.   b. * Ni   manman-de3   pao-shenme ?!
        he slowly   run   you slowly   run-what
        'He is running slowly.'   ('Why are you running so slowly?!')
(25) a. Ta shangxin-de3 ku.   b. * Ni shangxin-de3 ku-shenme ?!
        he sadly   cry   you sadly   cry-what
        'She is crying so sadly.'   ('Why are you crying so sadly?!')

There is no available position for any manner adverbs between the specifier and the head of the SDQP. Similar to the negative adverb *bu*, manner adverbs cannot be generated in a pre-subject position and scope over the whole sentence in Chinese; therefore, they cannot be generated under TopP, contrary to the sentential adverbs.

Under the current analysis, many other surface derivations are possible. The basic assumption is that the subject on [Spec, SDQP] can further raise to TopP and is marked by the so-called 'topic markers' (cf. 26). Like subjects, objects can be topicalized too (cf. 27).

(26) [$_{TopP}$ Ni$_j$ [$_{Top°}$ a], [$_{SDQP}$ t$_j$' [$_{SD°}$ zou$_i$-shenme] [$_{vP}$ t$_j$ [$_{V°}$ t$_i$]]]] ?!
        you   TM   leave-what
    'As for you, why are you leaving?! = You should stay!'
(27) [$_{TopP}$ [Sanshi nian qian de2 shiqing]$_k$, [$_{SDQP}$ ni$_j$ [$_{SD°}$ shuo$_i$-shenme]
            thirty year ago DE thing   you   say-what
      [$_{vP}$ t$_j$ [$_{v°}$ (shuo)$_i$] t$_k$]]] ?!
                say
  'As for what happened thirty years ago, you should not mention (it again)!'

2.3 A pseudo-problem

One potential problem of this SDQP analysis is that, after the raising of the verb, V' level adverbs can still stay inside the VP, thus, a natural prediction is that an adverb can be stranded inside VP in a *why*-like *what* question in Chinese as shown in (29). Unfortunately, this is an undesirable case. All the sentences with *why*-like *what* followed by an adverb are ungrammatical, as shown in (30).

(29)
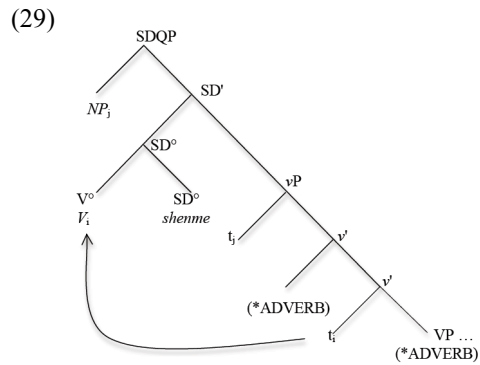
(30) a. * Ni   han-shenme   dasheng-de3?!
            you   shout-what   loudly
          ('Why are you shouting so loudly?!')
    b. * Ni   pao-shenme   manman-de3 ?!
            you   run-what   slowly
          ('Why are you running so slowly?!')

The question is then how to filter such cases under the current analysis. As a matter of fact, that the manner adverbs are excluded from post-verbal positions in *why*-like *what* sentences is not surprising at all, since all of the adverbs cannot stay inside the VP after the verb raising to higher functional projections, such as *v*P or AspP. The problem observed in *why*-like *what* cases is, in fact, an independent case concerning only the syntactic behavior of adverbs in Chinese[1]. For example,

(31) a. * [$_{AspP}$Ta [$_{AspP°}$ chi$_i$-le]   [$_{vP}$ [$_{v'}$ t$_j$'   [$_{VP}$ [$_{V'}$ t$_j$ manman-de   fan]]]]].
            he   eat-Perf   slowly   rice
          ('He ate slowly.')
    b. [$_{AspP}$Ta [$_{Asp'}$ manman-de [$_{AspP°}$ chi$_i$-le]   [$_{vP}$ [$_{v'}$ t$_j$'   [$_{VP}$ [$_{V'}$ t$_j$ fan]]]]].
            he   slowly   eat-Perf   rice
          'He ate slowly.'

Let us imagine that the manner adverb *manman-de* 'slowly' is merged inside the VP in (31). The verb *chi* 'eat' raises firstly to the *v°* and then to join the perfective aspect marker *–le* in the head position of AspP. Thus, the adverb *manman-de* 'slowly' and the object *fan* 'rice' are left inside the VP. The ungrammaticality of (31a) shows that this is not the correct derivation. One of the possible solutions to this problem is to raise the adverb *slowly* to join the Asp'. However, syntactically, we need a reason for such an adverb raising. Another possible solution is to make the adverb *slowly* merge directly to the Asp' after the raising of the verb *eat*. In this case, we need to explain what excludes the possibility to leave *slowly* inside the VP. If we pursue the second possibility, we will wonder whether *slowly* can appear inside the VP at all? The answer is positive, as shown in (32).

(32) [$_{TP}$ Zhangsan [$_{T'}$ meiyou [$_{T°}$ dasuan-guo [$_{vP}$ toutou-de   qu   faguo]]]].
        Zhangsan   Neg   plan-Exp   secretly   go   France
      'Zhangsan has never planned to go to France secretly.'

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[1] More detailed discussion on adjuncts, adverbs and the configuration of VP in Mandarin can be found in Ernst (1994) and Sybesma (1999).

The manner adverb *toutou-de* 'secretly' modifies directly the VP verb *qu* 'go' but not the matrix verb *dasuan* 'plan'. A tentative suggestion is that manner adverbs in Chinese adjoin to the highest maximal verbal projection to which the verb raises. If the verb moves to the *v*P, then the manner adverb adjoins to the *v*P; similarly, when the verb continues to raise to AspP, then the manner adverb adjoins to AspP. As for (32), the verb *qu* 'go' remains inside the VP, thus the manner adverb *toutou-de* 'secretly' adjoins to VP. With this in mind, let us come back to the *why*-like *what* case. The reason why an adverb cannot be stranded inside VP in a *why*-like *what* question in Chinese is that post-verbal manner adverbs are systematically excluded by the adverb syntax in Chinese. Manner adverbs only adjoin to the highest functional projection that the verb moves to, such as *v*P and TP and only after the movement of the verb. Therefore, an adverb cannot be stranded inside the VP in a *why*-like *what* question in Chinese. We have also seen that a pre-verbal manner adverb is also excluded in *why*-like *what* construction as well. The reason is that after the raising of the verb in SDQP, there is no available position for manner adverbs between the specifier and the head of SDQP. Put all of these together, both the preverbal and the post-verbal manner adverbs are excluded in *why*-like *what* constructions. In fact, all the post-subject, preverbal adverbs (not only manner adverbs) in *why*-like *what* constructions make the sentences odd, as shown in (33).

(33) a. Ni   (??you)   qu-shenme   qu?!
         you   again   go-what   go
         'Why are you going there (*again)?!'
     b. Zhangsan (*? hai yao   zai) pao-shenme   pao?
         Zhangsan   still want   again run-what   run
         'Why does Zhangsan want to run (*again)?!'
     c. Ni   (?hai-zai)   chi-shenme   chi?!
         you   still-Prog   eat-what   eat
         'Why are you (*still) eating?!'
     d. Ni   (*ye)   xiao-shenme   xiao?!
         you   also   laugh-what   laugh
         'Why are you laughing (*too)?!'
     e. Nimen (*dou)   xiao-shenme xiao?!
         you.pl all   laugh-what   laugh
         'Why are you (*both) laughing?'
     f. Zhangsan (*yizhi)   pao-shenme   pao?!
         Zhangsan   all-along   run-what   run

'Why is Zhangsan running (*all along)?!'

g. Nimen   (*yiqi)   chi-shenme   chi?!
    you.pl   together   eat-what   eat
    'Why are you eating (*together)'?!'

A possible explanation would be that between the Specifier of SDQP and SD°, there is no available position for any V' level adverbs (manner or negative ones).

As I showed earlier, contrary to the V' adverbs, Chinese *why*-like *what* permits the presence of sentential adverbs.

(34)   a.   Ni   wuyuanwugu-de   xiao-shenme (xiao) ?!
            you   without-reason   laugh-what   laugh
            'Why are you laughing without any reason?!'
       b.   Wuyuanwugu-de,   ni   xiao-shenme (xiao) ?!
            without-reason   you   laugh-what   laugh
            'Why are you laughing without any reason?!'

This fact can be easily explained under our approach. The sentential adverb can be generated under a TopP and the subject can first move to Spec, SDQP and then to a higher TopP, as shown in (35a) or even higher than the topic subject, as shown in (35b).

(35)   a.   [Top1P Ni$_j$ [Top2P wuyuanwugu-de   [SDQP t$_j$'   [SD' xiao$_i$-shenme
                 you   without-reason   laugh-what
            [$_{vP}$ t$_j$ [$_{v'}$ t$_i$]]]]]] ?!
            'Why are you laughing without any reason?!'
       b.   [Top1P Wuyuanwugu-de,   [Top2P ni$_j$ [SDQP t$_j$'   [SD' xiao$_i$-shenme
                 without-reason   you   laugh-what
            [$_{vP}$ t$_j$ [$_{v'}$ t$_i$]]]]]] ?!
            'Why are you laughing without any reason?!'

Let us examine another pair of examples. The adverb *congmang-de* 'hurriedly' is a V-level only adverb that cannot appear in the sentence initial position (cf. 36b). While, its reduplicated form *congcongmangmang-de* 'hurriedly' can be used as a sentential adverb, as shown in (37b).

(36) a.   Ta   congmang-de   likai-le   xuexiao.
          he   hurriedly   leave-Perf   school
          'He left school hurriedly.'

b. * Congmang-de, ta   likai-le   xuexiao.
     hurriedly   he   leave-Perf school
     'Hurriedly, he left school.'

(37) a.   Ta   congcongmangmang-de   likai-le   xuexiao.
     he   hurriedly   leave-Perf school
     'He left school hurriedly.'

    b.   Congcongmangmang-de, ta   likai-le   xuexiao.
     hurriedly   he   leave-Perf school
     'Hurriedly, he left school.'

Our analysis predicts that a *why*-like *what* construction prefers the reduplicated form than the non-reduplicated form. This prediction is born out as shown in (38).

(38) a.   Ta   congcongmangmang-de   pao-shenme   pao?!
     he   hurriedly   run-what   run
     'Why is he running so hurriedly?!'

   b. ?* Ta   congmang-de   pao-shenme   pao?!
     he   hurriedly   run-what   run
     ('Why is he running so hurriedly?!')

Manner adverbs, negative adverbs, and verbal auxiliaries are excluded in *why*-like *what* constructions because there is no available position for these elements between the Spec of SDQP and the SD°. That is why any element situated below the subject and above the verb cannot appear in Chinese *why*-like *what* constructions. The only possible occurrence is the sentential adverbs, and in this case, they are generated as topics under the one of the TopPs and the subject of the sentence moves further to a higher TopP.

2.5 The position of SDQP in the left periphery in Chinese

In this section, we will examine how *why*-like *what* constructions interact with the so-called 'sentence final particles' in Chinese. Note that sentence final particles are normally treated as heads of different functional projections which are head-finals (Paul 2002, 2005, Pan 2011a, b, c). In the left periphery, the functional projections that are linked to the speaker's attitude are placed in the highest position and those which are linked to the illocutionary forces are placed on the second highest position. The positions of the sentence final particles are very important since their (in)compatibility with *why*-like *what* questions can help us to locate the position of the SDQP in the left periphery. Our assumption is that Surprise-

Disapproval reading is a kind of combination of the illocutionary force with the speaker's attitude. We know that different illocutionary forces cannot co-exist in the same sentence. Our prediction is that, *why*-like *what* questions are not compatible with any sentence final particle that expresses illocutionary force, for instance, the *yes-no* question particle *ma* and the imperative marker *ba* (polite suggestive particle), because *ma* and *ba* indicate other types of illocutionary forces than Surprise-Disapproval reading. This prediction is borne out, as shown in (39). The two sentences in (39) are simply uninterpretable.

(39) a. * Ni   pao-shenme   ma?   b. * Ni   pao-shenme   ba?
   you   run-what $Q_{yes/no}$ you   run-what   Imp.

    Another prediction is that Surprise-Disapproval reading should be compatible with the particles that indicate the speaker's attitude (Pan 2011 a). (40) shows that the interjective particle *ne*, *a* and *ya* are compatible with the 'surprise' reading.

(40) a.   Ni   pao-shenme   ne?
           you   run-what   SFP
           'What (the hell) are you running for?! = You should not run!'
     b.   Ni   pao-shenme   ya/a?
           you   run-what   SFP/SFP
           'What are you running for?! = You should not run!'

The compatibility between *why*-like *what* questions and the particles indicating the speaker's attitude can be explained not only by semantics/discourse but also by syntax. It could suggest that the SDQP is lower than the Attitude projections. This is illustrated in (41):

(41) a. $[_{AttitudeP}$ $[_{SDQP}$ Ni$_j$ $[_{SD°}$pao$_i$-shenme $[_{VP}$ t$_j$ $[_{V°}$ t$_i$]]]] $[_{Attitude°}$ ne]] ?
                    you   run-what   SFP
           'What (the hell) are you running for?! = You should not run!'

b.
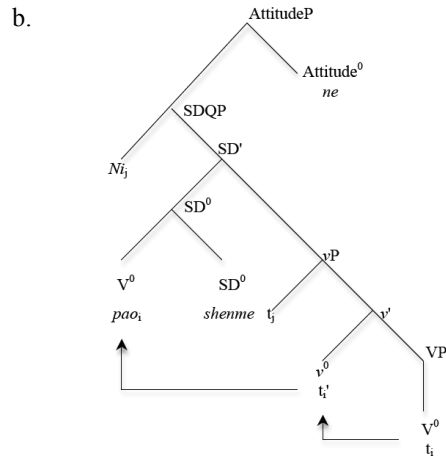
(41) shows that the discourse elements, such as *ne,* which express the speaker's attitude can scope over a Surprising-Disapproval question. *Ne* is generated at the head position of AttitudeP which takes the whole SDQP as its complement. It can help us to establish the relevant order between SDQP and AttitudeP: AttitudeP > SDQP >...

On the other hand, the incompatibility between *why*-like *what* and other i(llocutionary) ForcePs (cf. (40)) could suggest that the former is at least as high as the latter. And this is a reason to class SDQP in the cluster of 'iForcePs'. The intuition is that since the SDQP expresses a 'bit more' than pure illocutionary force, it could be higher than standard question projection, as which is already demonstrated in Italian dialects. For example, *wh*-elements in special questions move generally to a higher position than the *wh*-clitic projection (Poletto & Pollock 2004) for standard information seeking *wh*-questions. In Chinese, in order to express speaker's subjective feeling or other pragmatic functions, a normal information seeking question must be followed by the particles like *a, ne* and *ya*.

(42)   Ni   weishenme yao   dang   yisheng   a/ ne/ ya   ?
         you   why   want work-as   doctor   SFP
         'Oh, (could you please tell me) why did you want to become a doctor
          (which is a little bit surprise to me…)?'

From this respect, a SD question does not only express a pure illocutionary force, but also a kind of speaker's subjective interjection or judgment. That is why a SD question is often paraphrased as 'I think that you should

not/you'd better not do something.' or 'I don't see any reason for which you do something.' Therefore, I tentatively suggest that SDQP is located between iForcePs and AttitudeP in Chinese.

Thus, the hierarchy of the different functional projections in the left periphery in Chinese that I establish is the following: AttitudePs (*ne/ (y)a* …) > Special Question Ps (SDQP and other types of SQs…) > iForcePs (StQP/ImpP…etc) > TP…

3. Conclusion

Why-like *what* expresses a Surprise-Disproval meaning, which is a cross-linguistic phenomenon. An independent functional projection responsible for the SD reading exists in the left periphery. In Italian dialects, *wh*-words move overtly to join this SDQP and get the SD reading. In this paper, I demonstrated many particular properties of the *why*-like *what* constructions in Mandarin Chinese which are not shared by other languages. Logically, there are two possible ways to account for those properties. One of them is to say that some semantic constraints apply on the Surprise-Disapproval interpretation in Chinese and the other one is to argue that those properties are strictly syntactic and specific to Chinese. The existence of the functional projection responsible for the SD-reading is observed in many languages, which means that the core semantic properties linked to the *why*-like *what* constructions must be essentially the same in different languages. That's why, the first option relied on semantic distinction is not a good solution. For example, Chinese *why*-like *what* does not tolerate the presence of the aspectual markers contrary to its Florentine counterpart. Logically, we have two options to explain such a difference: the incompatibility between *why*-like *what* and the aspectual markers can be explained either by semantics or by syntax. If we try to account for such a difference by semantics, we will be forced to explain why SD interpretation shows different semantic behaviors in different languages. Clearly, this is not a desirable choice. In other words, if we believe that SDQP is a general phenomenon, we believe that its semantic interpretation and discourse function are invariable. Based on this assumption, I chose to explain the particular properties of Chinese *why*-like *what* by syntax. It is possible that different languages have their own syntactic constraints on SDQP. It is thus logical to assume that the head SD° has different syntactic configuration in different languages. In Chinese, I assume that *why*-like *what* is a grammaticalized item and that it is generated as the SD head in the left periphery and it attracts the verb to join it. The advantage of such an analysis is that most of the observed properties of *why*-like *what* can be explained only by syntax. The possible and impossible sequences can be

accounted for by the syntactic constraints on derivation without resorting to semantics.

Configurationally, what prevents Chinese *why*-like *what* from moving to the specifier of SDQP? A crucial fact observed in Italian dialects is that the whole paradigm of the *wh*-words can get systematically a SD reading and the *why*-like *what* is merely one of the available forms expressing such a reading. Syntactically, the only possible landing site for the movement of the relevant *wh*-word (including *why*-like *what*) is the specifier of SDQP. Nevertheless, in Chinese, *why*-like *what* is the only way to get a SD reading, and it appears only after the verb. The word order makes it impossible for *why*-like *what* to move to the specifier of SDQP in Chinese.

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