Revisiting sentence-final adjunct WHAT

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The sentence-final adjunct WHAT has been given much attention for the past few years, mostly on its why-like interpretation and negative force. In this study, evidence will be provided to show that what otherwise seems to be exceptional cases, in effect, constitutes an independent construction, the refutatory WHAT construction. Although such a construction yields a strong negative force, it has the force dwell upon the interlocutor's attitude or commitment. It is used to refute his/her previous claim in a conversation and can tolerate any utterance form. This is in sharp contrast to the why-like WHAT which is typically used to forbid actions and is restricted to action verbs. As will be revealed later, in syntax, the refutatory WHAT has to employ a component above CP, which not only helps explain the speaker's refutatory force, but also directs our attention to a new ascending perspective zoned for both the speaker and the hearer/addressee.

Keywords: left periphery, speaker projection, refutatory WHAT, sentence-final adjunct WHAT, syntax-pragmatics/discourse interface

1. Introduction

In Chinese and some other languages, a normal *wh*-argument *shenme* 'what' can serve as an adjunct, asking for the reason of a certain action or event. As exhibited in (1), the verb *pao* 'run' or *ku* 'cry' is a one-place predicate and, yet, adding "what" to the end of the sentence does not contribute any valency to the predicate.

(1) *Pao/Ku shenme?!*
     run/cry WHAT
     'Why the hell are you running/crying?' ≈ 'Don't run/cry!'

The study of the reason-asking "what" may date back to Chao (1968); Shao & Zhao (1989) and Shao (1996) (see also Ochi 2004; Obenauer 2006; Tsai 2011; Pan 2014, 2019; Endo 2015; Wang 2017; Wang & Chin 2019; Yang & Tsai 2019; Chung & Tsai 2020, among others). Such a "*why*-like" WHAT (dubbed from

Pan 2014) is typically attached to an action verb at the postverbal, sentence-final position and denotes a strong sense of aggressiveness (Ochi 2004). The intended speech act for such a construction is mostly to forbid an action conducted by the addressee and, therefore, it can be roughly interpreted as an imperative. It follows that a stative predicate such as *gao* 'tall', *shuai* 'handsome' or *si* 'dead' in (2) is not compatible with such a usage.

(2) ??*Gao/Shuai/Si   shenme?!*[1]
    tall/handsome/dead WHAT
    Intended: 'Why the hell are you tall/handsome/dead?'
    ≈ 'Don't be tall/handsome/dead!'

Interestingly, the combination of a stative predicate and WHAT becomes natural in certain contexts. For instance, in a scenario where Speaker A is marveling at someone's being tall or handsome in (3a) or (4a), or is exaggerating his/her own situation in (5a), Speaker B may refute Speaker A's words by uttering (3b), (4b), or (5b), respectively.

(3) a. A: *Ta hao gao (y)a!*
        he so   tall SFP
        'He is so tall!'

    b. B: *(Ta) gao shenme?! Lanqiu   yuan bu dou zheme gao?*
        he   tall WHAT   basketball player not all   so   Tall
        'It is not right for you to say "[he is] tall"! Aren't basketball players so tall?'

(4) a. A: *Ta hao shuai   (y)a!*
        he so   handsome SFP
        'He is so handsome!'

    b. B: *(Ta) shuai   shenme?! Qu dushu!*
        he   handsome WHAT   go   study
        'It is not right for you to say "[he is] handsome!" Go study!'

(5) a. A: *Wo yao si le.*
        I   will die PERF
        'I am dying.'

    b. B: *(Ni) si   shenme?! Hushuobadao!*
        you die WHAT   nonsense
        'It is not right for you to say "[you are] dying"! Nonsense!'

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1. The "??" marker in (2) indicates that the *why*-like interpretation is not possible, but a refutatory one is fine under appropriate contexts (see (3–5) for more illustration).

Most importantly, in such cases, the sentences are not interpreted as *why*-like questions. Instead, they are more likely to be used to refute the interlocutors' previous claims. Note, in particular, that the function of these (b) sentences above is not to negate an event or forbid a certain action. For instance, in (3b) Speaker B does not intend to deny the fact of someone's being tall. This can be seen from a following utterance "Aren't basketball players so tall?" which does not contradict the fact of someone's being tall. Likewise, (4b) is not used to negate someone's being handsome. Speaker B may still recognize someone's being handsome. Yet, what s/he focuses in this utterance is the interlocutor mindset. That is, Speaker B does not care about someone's being handsome. S/he wants to have the interlocutor concentrate on his study. Therefore, the refutatory WHAT is used to refute the interlocutor's attitude or commitment. They can be roughly translated as 'It is not right for you to say "tall/handsome/dead"!' In this sense, the X-*shenme* 'X-what' construction here is not a reason-asking one but a refutatory one. For ease of reference I shall term such a *wh*-expression the refutatory WHAT.

The fact that the reason-asking WHAT is different from the refutatory WHAT can be further evidenced by the following contrast (see also §2 for more differences). In (6) the *why*-like WHAT sentence can be answered by a *yingwei*-clause (because-clause). In (7), however, the refutatory WHAT sentence cannot be answered by the *yingwei*-clause ("#" indicates that the occurrence of the sentence is infelicitous). This strongly suggests that the latter is not reason-asking, unlike the *why*-like WHAT.

(6) A: *Pao/Ku shenme?!*
      run/cry WHAT
      'Why the hell are you running/crying?'

    B: *Yinwei gongche lai-le.*
      because bus   come-PERF
      'Because the bus is coming.'

(7) A: *Ta hao gao (y)a!*
      he so   tall SFP
      'He is so tall!'

    B: *(Ta) gao shenme?!*
      he   tall WHAT
      'It is not right for you to say "[he is] tall"!'

    A: #*Yinwei ta tiantian he   niunai.*
      because he everyday drink milk
      'Because he drinks milk every day.'

To my knowledge, little has been done in the exploration of the refutatory WHAT demonstrated in (3–5). Shao & Zhao (1989) and Shao (1996) called it the "rhetor-

ical *shenme* 'what'". According to them, it is used to show that the speaker has a clear attitude toward a certain topic, would like to emphasize the rhetorical tone, and strengthen the negativity. Nonetheless, they did not distinguish (1) from (3–5). In other words, they categorize both the *why*-like WHAT and the refutatory WHAT as the same type. In this paper, evidence will be provided to show that the refutatory WHAT in (3–5), in fact, should constitute an independent type distinct from the *why*-like WHAT in (1). Given the empirical distinction, I shall develop a syntactic mechanism where the speaker's attitude is captured and reflected. Specifically, the syntax of the refutatory WHAT has to employ a component contributing to the speaker's refutatory force, which not only helps account for the language fact but also provides a dialogue between syntax and pragmatics or discourse and, therefore, directs our attention to a new ascending perspective zoned for both the speaker and the hearer/addressee. §2 categorizes the distinctive behaviors between the two types of adjunct WHAT. §3 explores the left periphery of a sentence (cf. Rizzi 1997; 2004). It is proposed that the refutatory WHAT should be directly merged to the left edge of a sentence, followed by the raising of a quoted form. §4 further shows that the above proposal naturally gets rid of possible intervention effects and island violations. The former is a natural consequence of merging WHAT to a high position, while the latter is avoided due to phonetic deletion of the remnant at PF level. §5 deals with the interpretation by adopting a speech act projection at the left edge where the addressee is incorporated. §6 concludes this study.

2.   Categorizing refutatory WHAT

Perhaps the most distinctive feature of the refutatory WHAT is its tolerance for any phrases. Therefore, besides the stative predicates in (3–5), it can be attached to noun phrases, modals, temporal adverbials, sentential adverbs or even conjunctions as (8–12) exhibited. This is in sharp contrast with the *why*-like WHAT in (1) which is restricted to action verbs.

(8)   Noun phrase
    a.   A: *Wode shouji...*
               my   cellphone
    b.   B: *Shouji   shenme?! Mei shijian le!*
               cellphone WHAT   no   time   PERF
               'It is not right for you to say "cellphone!" [We have] no time!'

(9)   Modal
   a.   A: *Ta yinggai/keneng...*
         he should/may
   b.   B: *Yinggai/Keneng shenme?! Bie   zai   shuo le!*
         should/may   WHAT   don't again say   PERF
         'It is not right for you to say "should/may!" Don't say that again!'

(10)   Temporal adverbial, frequency adverb
   a.   A: *Ta mingtian/changchang...*
         he tomorrow/often
   b.   B: *Mingtian/Changchang shenme?! Bie   zai   shuo le!*
         tomorrow/often   WHAT   don't again say   PERF
         'It is not right for you to say "tomorrow/often!" Don't say that again!'

(11)   Sentential adverb
   a.   A: *Qishi/Xingkui   ta...*
         actually/fortunately he
   b.   B: *Qishi/Xingkui   shenme?! Bie   zai   shuo le!*
         actually/fortunately WHAT   don't again say   PERF
         'It is not right for you to say "actually/fortunately!" Don't say that
         again!'

(12)   Conjunction
   a.   A: *Keshi/Ruguo...*
         but/if
   b.   B: *Keshi/Ruguo shenme?! Bie   zai   shuo le!*
         but/if   WHAT   don't again say   PERF
         'It is not right for you to say "but/if!" Don't say that again.'

A related property is that there is no person restriction enforced upon the subject.
Note that the *why*-like WHAT in (1) is mostly intended as an imperative, restrict-
ing the subject to the second person (see the interpretation in (1). The use of
refutatory WHAT, instead, is not limited to the second-person subject as already
exhibited in (3–4).

   A third distinctive feature of the refutatory WHAT is its lack of
why-interpretation as mentioned in the introduction. Therefore, a following
because-clause such as "Because I want to catch a bus." is fine with the *why*-like
WHAT in (1), and yet, it is by no means acceptable for the refutatory WHAT.
For instance, in (8) Speaker A cannot continue with "Because I can't do anything
without it."

   Another important characteristic behavior of the refutatory WHAT is that it
must occur in a conversation where the first speaker has uttered something and
the second speaker would like to refute his words. This is a rather dramatic con-

trast to the *why*-like WHAT in (1) which can occur out of the blue. Not only that, the refutatory WHAT only allows quoted forms. (13b) and (14b) are not felicitous since the refutatory WHAT is attached to synonyms, instead of quoted, identical forms from previous utterances.

(13)　a.　A:　*Wode ma　(y)a!*
　　　　　　　my　mom SFP
　　　　　　　'Oh, my mom! (Oh, my God!)'
　　　b.　B: #*Niang shenme?!*
　　　　　　　mom WHAT
　　　　　　　Intended: 'It is not right for you to say "mom"!'

(14)　a.　A: *Keshi...*
　　　　　　　but
　　　b.　B: #*Danshi shenme?!*
　　　　　　　but　WHAT
　　　　　　　Intended: 'It is not right for you to say "but"!'

The fact that only quoted forms are eligible for the refutatory WHAT immediately explains why stative predicates, as well as other utterance chunks, can serve the purpose. That is, as long as the utterance chunk can be quoted and moved to precede WHAT, whatever the chunk is, the refutatory *wh*-construction is accomplished and the refutatory force is exerted. Furthermore, the lack of person restriction also follows since the quoted forms are not restricted to any person.

Still another distinctive feature arises from what the negative interpretation is enforced upon. Both the *why*-like WHAT and the refutatory WHAT denote some sense of negation. The former has it enforced upon the action verbs so as to carry out the imperative, forbidding interpretation. In terms of syntactic scope, the former has the negation scoped over VP or *v*P. However, when it comes to the refutatory WHAT, it is hard to judge what to negate at first sight. The examples in (8–12) cannot be interpreted as negating an action or event since the quoted phrases are not action/event-denoting. Instead, they are more likely to be used for the speaker to disagree with the interlocutor's attitude or commitment. Therefore, when uttered, it is interpreted as refuting the interlocutor's words, as indicated in the interpretation in (b) "It is not right for you to say..."

(15)　a.　Surface form: [QUOTE] WHAT
　　　b.　Intended interpretation: It is not right for you to say [QUOTE]!

Finally, the refutatory WHAT must not be embedded as in (16). That is, it must occur in a root clause.[2] In §3 I shall show that such a root phenomenon (cf.

2.　I thank a reviewer for pointing this out to me.

Emonds 1970; 1976) is a natural consequence if the refutatory WHAT is positioned high on top of CP following a truncation approach (Haegeman 2006a; 2006b).

(16)   Son: *Mama, wo xiang da   diandong.*
                     mom   I   want play computer.games
                     'Mom, I want to play computer games.'
          Mom: **Suiran   da diandong   sheme, ni   keyi chi binggan.*
                     Although play computer.games WHAT you can eat cookies
                     Intended: 'Although you are not allowed to play computer games,
                     you can eat cookies.'

An anonymous reviewer doubts that the acceptance of (8b), (9b) and (10b). S/he provides an example in (17) where some constituent is hard to serve as the quote.

(17)   A: *Xiao Hua zhen piaoliang!*
                Xiao Hua so   beautiful
                'Xiao Hua is so beautiful!'
          B: a.   *Piaoliang shenme?! Genben bu   piaoliang.*
                     beautiful WHAT   totally   not beautiful
                     'It is not right for you to say "beautiful"! He is not beautiful at all.'
                b.   *Zhen shenme?! Genben bu   piaoliang.*
                     so   WHAT   totally   not beautiful
                     'It is not right for you to say "so"! He is not beautiful at all.'
                c.   ??*Xiao Hua shenme?! Xiao Mei cai   piaoliang.*
                     Xiao Hua WHAT   Xiao Mei just beautiful
                     'It is not right for you to say "Xiao Hua"! It is Xiao Mei that is beautiful.'

I have an intuition that a certain sense of (contrastive) focus is at issue here in (17c). It is not strange under proper context. For example, (17c) becomes natural if we replace the second sentence with the following utterance "Concentrate on your study, will you!" In this sense, the speaker is not focusing or contrasting on the subject *Xiao Hua*, but the addressee's attitude. On the other hand, the reviewer provides another example in (18) where a sentence-initial (SI) WHAT is fine when the speaker contrasts the subject *Xiao Hua*. Therefore, a following utterance with a contrastive subject *Xiao Mei* serves the purpose of bringing up the contrast. A sense of focus is related here.

SI-WHAT

(18)   A: *Xiao Hua zhen piaoliang!*
                Xiao Hua so   beautiful
                'Xiao Hua is so beautiful!.'

B: *Shenme Xiao Hua?! Xiao Mei cai piaoliang.*
     WHAT   Xiao Hua   Xiao Mei just beautiful
     'No way can you say "Xiao Hua"! It is Xiao Mei that is beautiful.'

Although the SI-WHAT is not the main concern of this study, I would like to suggest that in (18) it is associated with focus whereas the sentence-final (SF) WHAT in (17) is not. Specifically, the SF-WHAT in (17) negates a speaker's attitude. That's why a following sentence "Concentrate on your study, will you!" is fine. Meanwhile, since the SI-WHAT is associated with focus, a contrastive *Lisi* in (18) becomes natural. Granted this, I shall propose in the next section that in the SI-WHAT construction the shorter XP undergoes movement to the FocusP (see (22a) below). As for the SF refutatory WHAT construction, the shorter XP undergoes movement directly to the Spec of an independent RefutP, skipping FocusP (see (22b) in the next section). That is why it is not related to focus.[3]

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3. A reviewer provides an example where employing a refutatory XP-*shenme*-XP template is possible in a certain case as in (i). For me (a native speaker of Taiwan Mandarin), all of the XP-*shenme*-XP sentences in (i) are not acceptable or at least marginal. It is different from the *why*-like WHAT which allows the V-*shenme*-V construction as in (ii). This is an obvious consequence if we assume that the latter employs the light verb structure and keeps the lower copy of the verb pronounced after V-movement to the light verb position to form the V-*shenme*-V construction (see Tsai 2011 for details). That is, only the verb can form the V-*shenme*-V construction, whereas the duplication of non-verbal XP is naturally banned with the light verb framework. (See Footnote 6 for a further discussion.)

(i)   A: *Xiao Hua zhen   piaoliang!*
           Xiao Hua truely beautiful
           'Xiao Hua is so beautiful!'
      B: a.   ?*Piaoliang shenme piaoliang?!*
                beautiful what   beautiful
                'It is not right (for you) to say "beautiful"!'
           b.   ?*Zhen shenme zhen?!*
                truly what   truly
                'It is not right (for you) to say "truly"!'
           c.   *Xiao Hua shenme Xiao Hua?!*
                Xiao Hua what   Xiao Hua
                'It is not right (for you) to say "Xiao Hua"!'

(ii) *Pao shenme pao?!*
      run what   run
      'Why (the hell) are you running?'

3.   Positioning refutatory WHAT

To begin with, in Chinese there is a type of peripheral *wh*-elements which also yield negative interpretations. These elements typically include "what" (the SI-WHAT mentioned in §2) and "where" (Cheung 2008, 2009; Yang 2014, 2015). They are merged to preverbal or sentence-initial positions and take following clauses as complements. Cheung suggests that they are negative *wh*-words intended to negate propositions. Yang refers them as refutatory *wh*-elements used to refute the interlocutor's words. Both Cheung and Yang propose that they are merged to either IP or CP domain. Such *wh*-elements may provide us a glimpse into the position of the sentence-final refutatory WHAT.

Consider (19). In (19b) an adjunct "what" is merged to the sentence-initial position and takes a proposition as its complement. Cheung interprets the sentence as negating the proposition 'he likes math'.

(19) a.   A: *Ta xihuan shuxue.*
             he like   math
             'He likes math.'
      b.   B: *Hushuo! Shenme ta xihuan shuxue?!*
             nonsense WHAT   he like   math
             'Nonsense! No way does he like math"!'

However, things become more interesting when the SI-WHAT applies to the noun phrase *wode shouji* 'my cellphone' in (20) which is non-propositional.

(20)   Noun phrase
      a.   A: *Wode shouji...*
             my   cellphone
      b.   B: *Shenme wode shouji?!   Mei shijian le!*
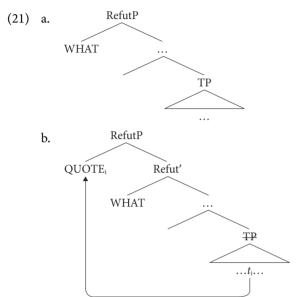   WHAT   my   cellphone no time   PERF
             'It is not right for you to say "cellphone!" [We have] no time.'

(20b) bears a strong resemblance to its counterpart with SF refutatory WHAT in (8). It shows that what is negated is not a proposition since there is no proposition to negate. In (20b) *wode shouji* 'my cellphone' is an entity-denoting noun phrase which is by no means a proposition. Instead, the interpretation (see the translation in (20b)) is more like negating the interlocutor's attitude or commitment just as the SF refutatory WHAT in (8). In this sense, the SI and the SF refutatory WHATs are like two sides of the same coin.[4] Since both WHATs behave similarly,

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4.   A reviewer suggests that the SI-WHAT does not always disagree with the interlocutor as exemplified by (i) and, therefore, it is better to term it the "emphatic" WHAT. I think the

we may assume that the two are actually one and the same. Let us further assume that the SI-WHAT is the "canonical" one which is directly merged to the sentence-peripheral position, the Refut(atory)P. Specifically, it is merged to the head of the RefutP. When nothing is extracted, it takes a whole clause as its complement as illustrated in (21a). This accounts for (19b). When a quote is extracted to precede WHAT, followed by the deletion of the remnant as in (21b), it contributes to the SF-WHAT constructions in (3–10).

(21) a.

RefutP
WHAT   …
TP
…

b.

RefutP
QUOTE$_i$ Refut′
WHAT   …
T̶P̶
…t_i…

The merit of assuming a RefutP is threefold. First, it is directly responsible for the refutatory force. Second, it may occur in a position c-commanded by AttP (to be revealed later) and then ensure the refutatory force upon the speaker's attitude/commitment. Thirdly, it naturally accounts for the root phenomenon mentioned in §2. That is, in the sense of the truncation approach (Haegeman 2006a; 2006b)

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emphatic WHAT in (i) is different from the SI-WHAT in that the former has a pause after it while the latter does not.

(i) *Shenme?! Wo zhongjiang le.*
     What   I   got-lottery PERF
     'What! I won the lottery!'

Furthermore, the emphatic WHAT can stand alone, expressing the speaker's astonishment as in (ii), whereas the SI-WHAT always needs a quoted form to refute about. Therefore, I shall stick to the term SI-WHAT in this study.

(ii) *Shenme?!*
      What (astonished WHAT, *refutatory WHAT)

where an embedded structure can only allow a lower part of a clause, the RefutP can never occur in the embedded context, hence the ungrammaticality of (16b).[5]

As for the difference between the SI-WHAT and the SF-WHAT in terms of their interpretations, there must be some difference since they have different representations. Although this study concentrates on the SF-WHAT, a brief discussion on the SI-WHAT may be of some help. My suggestion at this moment is that both WHATs take the same Refut head. That is why they both denote the same refutatory force. When part of the sentence is extracted, in the SI-WHAT construction it moves to the FocusP as in (22a), whereas in the SF-WHAT construction, it directly moves to the RefutP as in (22b).[6,7]

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5. As for how the negative force is derived, we may follow either Han (1998; 2002) or Cheung (2008; 2009) in assuming a negative element on the top of a sentence. The former proposes a negative operator at the top of a rhetorical sentence in (i) while the latter assumes a special silent morpheme, EAS (Empty Answer Set), merged to the Force head of a negative *wh*-question in (ii). Both constructions exhibit no surface negation whereas their interpretations suggest that negation should take the wide scope.

(i) a. After all, who can afford it? (≈ No one can afford it.)
     b. After all, can dogs fly? (≈ Dogs cannot fly.)

(ii) a. *Ta xihuan shuxue.*
         he like   math
         'He likes math.'
     b. *Hushuo! Shenme ta xihuan shuxue?!*
         nonsense WHAT   he like   math
         'Nonsense! No way does he like math"!'

In the same vein, we may assume that in a refutatory *wh*-construction the Refut head is encoded with a negative feature [+Neg] which selects the refutatory WHAT and ensures the negative force.

6. In Footnote 3 a reviewer provides an example where a refutatory XP-*shenme*-XP template is possible in a certain case (see Footnote 3). Although I think the dialectal difference may play a role here, if we do want to accept the XP-*shenme*-XP form, I may still propose a way out as follows. Recall that Tsai (2011) assumes that the lower copy of the verb is overtly realized in the V-*shenme*-V form. We may follow a similar thread in assuming the following structure:

(i) $[_{RefutP} QUOTE_i [_{Refut'} WHAT [_{FocP} t_i [_{IP} ...t_i...]]]]$

In (i) the quote first moves to the FocusP and subsequently moves to the RefutP. When the intermediate copy is also pronounced, we derive the XP-*shenme*-XP form. This accounts for the dialectal difference. That is, for speakers allowing the XP-shenme-XP form, when the structure of (i) is sent to the PF component, it allows the pronunciation of both the highest copy and the intermediate copy, hence the tolerance for the XP-*shenme*-XP form.

7. A reviewer questions the legitimacy of focus movement for the SI-WHAT. Although it is not the main concern of this paper, still it is not hard to observe that the SI-WHAT is in fact encoded with focus from the example given in (18) and the metalinguistic negation in (23a). As for the evidence of movement, I can only assume it moves in the same vein of focus fronting

(22) a. [$_{RefutP}$ WHAT [$_{ForceP}$ ... [$_{FocP}$ QUOTE$_i$ ... [$_{TP}$ ...t_i...]]]]
   b. [$_{RefutP}$ QUOTE$_i$ [$_{Refut'}$ WHAT [$_{ForceP}$ ... [$_{TP}$ ...t_i...]]]] (=(b))

As for why the SI-WHAT does not allow the quote to further move to the RefutP after it lands at the FocusP, we may follow Rizzi's (2006, 2010) idea of Criterial Freezing which requires the moved elements to be frozen at the criterial positions, and FocusP is one such position.

   An obvious difference between the two is that the former has the metalinguistic interpretation whereas the later does not. As exhibited in (23), a following contradicting statement after the SI-WHAT sentence in (23a) does not make it infelicitous, whereas the same statement makes the SF-WHAT sentence infelicitous in (23b). A closer inspection on (23) shows that the former involves focus (as denoted by *eryi* 'only'), while the latter does not. This suggests that the SI-WHAT has something to do with focus. Therefore, it is plausible to assume the structure in (22) where the FocusP serves as the target of the fronted quote in the SI-WHAT construction (cf. Wible & Chen 2000).

(23) A: *Ta hao shuai   (y)a!*
        he so   handsome PERF
        'He is so handsome!'
   a. B: *Shenme shuai   (eryi)?! Shi chaoji shuai!*
          WHAT   handsome merely BE   super handsome
          'It is not right for you to say "[he is] handsome!" He is super handsome!'
   b. B: *Shuai   shenme (*eryi)?! #Shi chaoji shuai!*
          handsome WHAT   merely BE   super handsome
          'It is not right for you to say "[he is] handsome!" He is super handsome!'

One might note that the SI-WHAT seems to be able to take a longer chunk than the SF-WHAT. Although this study is mainly concerned with the SF-WHAT, I may try to propose an account for the difference between them. Consider (24) and (25). (24) shows that the SI-WHAT can take the whole clause as its complement, besides the smaller phrases. (25) shows that the SF-WHAT cannot tolerate the whole clause (see (25a)).

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followed by remnant deletion since an island violation is remedied by a PF-deletion approach (see (§4)), and there is no overt way to tell if it moves or not (cf. Xu 2004). I shall leave it for further research.

SI-WHAT

(24) A: *Ta xihuan shuxue.*
        he like   math
        'He likes math.'

  a. B: *Shenme ta xihuan shuxue?!*
        WHAT he like   math
        'Nonsense! No way does he like math"!'

  b. B′: *Shenme ta/xihuan/ shuxue?!*
        WHAT he/like/   math
        'It is not right for you to mention "he/like/math"!'

SF-WHAT

(25) A: *Ta xihuan shuxue.*
        he like   math
        'He likes math.'

  a. B: ^{??}*Ta xihuan shuxue shenme?!*[8]
        he like   math WHAT
        'Nonsense! No way does he like math"!'

  b. B′: *Ta/Xihuan/Shuxue shenme?!*
        he/like/math   WHAT
        'It is not right for you to mention "he/like/math"!'

To account for the difference, we may have the whole clause remain in situ as the structure in (21a) when it serves as a complement of the SI-WHAT in (24a). When a certain shorter phrase is emphasized, it undergoes movement to the FocusP as in (22a). The same situation applies to the SF-WHAT. However, if the whole clause remains in situ, the word order turns out to be incorrect. If the whole clause is moved to the sentence-initial position to form the SF-WHAT construction, a certain principle bans such a movement. Wang (2017) and Wang & Chin (2019) suggest that a prosodic factor may play a role in determining the length of a quote. It follows that the SF-WHAT can only take shorter phrases which are moved to the Spec of RefutP. I shall leave this issue for the time being.

As for how "peripheral" the WHAT can be, (26) provides a clue. In (26) the SF refutatory WHAT can be followed by an exclamative sentence-final particle, SFP, *(y)a* which signals the speaker's astonishment.

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8. A member of the audience from the 7th International Conference on Formal Linguistics held at Nankai University, Tianjing, told me that (25a) sounds fine in his dialect. I, therefore, use "??" to mark it marginal status.
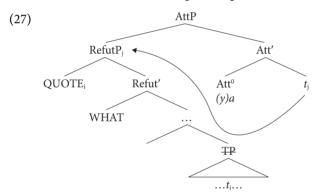
(26)   Noun phrase
    A: *Wode shouji…*
        my   cellphone
    B: *Shouji   shenme (y)a?! Mei shijian le!*
        cellphone WHAT SFP   no time Prf.
        'It is not right for you to say "cellphone!" [We have] no time!'

Paul (2005) suggests that SFPs in Chinese should take up a three-layered split CP for their designated positions: Attitude > Force > Clow > TP (">" is read as "syntactically higher than"). Specifically, Paul suggests that the SFP *(y)a* should occupy the highest layer in the syntactic hierarchy, the AttitudeP. It follows that with the structure in (21b), the refutatory WHAT must be situated higher than *(y)a*. This suggests that the whole quote-WHAT chunk must be located at the very end of the left periphery. Furthermore, the fact that it is the interlocutor's attitude or commitment that is negated suggests that its position should be related to a certain speaker projection. A quick capture of the above all may be to move the whole chunk of the quote-WHAT sequence to Paul's Att(itude)P. Specifically, as illustrated in (27) the SFP *(y)a* takes up the head of AttP, while the whole quote-WHAT chunk is moved to the specifier position of AttP to derive (26b).

(27)

There is one thing to note before we move on. The postulation of RefutP in this paper is for ease of exposition since what is concerned is the refutatory force. It can be replaced by the system of Speech Act Projection (SAP) (Speas & Tenny 2003; Speas 2004; Hill 2007a, 2007b; Haegeman 2014) where a SAP shell structure is assumed and the RefutP may take up the lower SAP shell (see §5). Or we may adopt the "grounding" layer which is responsible for the "propositional attitude" (Wiltschko & Heim 2016). Either one can still fit our purpose. A more articulated structure will be revealed later. In the next section, we will deal with the deletion of the remnant.

4.   Getting rid of blocking effects

In §2, it has been demonstrated that the sentence-final refutatory WHAT can be attached to any quoted form which is extracted from within a clause. In this section, two possible blocking effects are to be investigated and it will be shown that they are well gotten rid of with the proposal in this study.

In intervention context, an in-situ *wh*-phrase cannot be preceded by focus elements as in (28) (Beck 1996, 2006; Beck & Kim 1997; Pesetsky 2000; Yang 2012, among many others). However, the refutatory WHAT is immune from the intervention effect in (29–30) where it is preceded by focus elements.

(28) a. *Zhiyou ta mai-le   shenme?*
         only   he buy-perf what
         (lit.) 'What did he only buy?'
     b. *Lian ta dou mai-le   shenme?*
         even he all   buy-PERF WHAT
         (lit.) 'What did he even buy?'

(29) A: *Zhiyou ta hui lai.*
         only   he will come
         'Only he will come.'
     B: *Zhiyou ta shenme?! Wo bu shi ren   a?*
         only   he WHAT   I   not be human EXCL
         'It is not right for you to say "only he"! Am I not a human?'

(30) A: *Lian ta dou hui lai.*
         even he all   will come
         'Even he will come.'
     B: *Lian ta shenme?! Ta benlai   jiu hui lai.*
         even he WHAT   he originally just will come
         'It is not right for you to say 'even he'! Originally he will come.'

The above demonstration rightly shows that the mechanism proposed in the previous section is, in fact, correct. That is, the reason why the SF refutatory WHAT is immune from intervention effects is because it is directly merged to the edge of a sentence, not within the sentence, and the focus elements are quoted from the sentences and have lost their original focus function. It follows that the refutatory WHAT is immune from intervention effects.

Furthermore, the following examples show that when extraction of a quoted form is conducted from island constructions, no island violations are observed.

(31) A: *Wo xihuan* [$_{DP}$ *nage* [$_{CP}$ *zhangde hen shuai*]   *de yanyuan*].
      I   like   that   grow   very handsome DE actor
      'I like that actor who is very handsome.'

    B: *Shuai   shenme?! Qu shuijiao!*
      handsome WHAT   go sleep
      'It is not right for you to say "handsome"! Go sleep!'

(32) A: [$_{DP}$ *Nage* [$_{CP}$ *qi   ma*] *de ren*]   *hao lihai!*
      that   ride horse DE person so   great
      'The person who rides a horse is so great!'

    B: *Ma   shenme?! Dianshi guandiao!*
      horse WHAT   TV   turn.off
      'It is not right for you to say "horse"! Turn off the TV!'

The lack of island effects on the extraction of a quoted form reminds us of the sluicing analysis where deletion at PF level remedies island violations (Merchant 2001). For instance, in sluicing case in (33) a *wh*-form, *what*, is extracted out of an island without violating the island constraint. Merchant proposes that when a remnant as in (33) undergoes phonetic deletion at the level of PF, what is otherwise seen as island violation in the remnant will be repaired.

(33) I saw a person who took something, but I don't know what$_i$ [~~I saw a person who took~~ t_i].

In the cases of SF refutatory WHAT, as already illustrated in (21), WHAT is directly merged to the left edge of a sentence and the quoted form moves to precede WHAT. In the same vein of PF deletion, let us assume that after the quoted form is moved away, the remnant in (34) is elided at PF level. It follows that the extraction of the quoted from is not sensitive to island violations.[9]

(34) A: [$_{DP}$ *Nage* [$_{CP}$ *qi   ma*] *de ren*]   *hao lihai!*
      that   ride horse DE person so   great
      'The person who rides a horse is so great!'

    B: *Ma$_i$ shenme* [$_{CP}$ [$_{DP}$ ~~*nage*~~ [$_{CP}$ ~~*qi*~~ t_i] ~~*de ren*~~]   ~~*hao lihai*~~]?!
      horse WHAT   that   ride   DE person so   great
      'It is not right for you to say "horse"!

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9. A reviewer wonders whether the motivation of the movement of the quote is driven by PF. In fact, the movement of the quote is done in narrow syntax. Assuming the Minimalist framework, both the internal merge (Merge) and the external merge (Move) are done phase by phase, and the result is sent to the interfaces of LF and PF after spell-out. Therefore, what is addressed as movement in this study is not done at or driven by PF. Instead, what is done at PF is the deletion of the remnant after the extraction of the quote. That is, the deletion occurs at PF after spell-out, whereas the movement occurs in narrow syntax before spell-out.

5.   Incorporating the addressee

As mentioned in §2, the interpretation plays a role in distinguishing the *why*-like WHAT and the refutatory WHAT. The former denotes an aggressive root modality which is intended as an imperative to forbid someone's action. The latter has the aggressiveness worked upon the interlocutor's attitude or commitment. Its function is to refute his/her previous utterance. In addition, we find that the addressee can be actively involved in the refutatory WHAT construction. (35) and (36) show that the addressee, the second person "you", is overtly realized. In these cases, the vocative phrase, *ni* 'you' occupies the sentence-initial position, preceding the "quote-WHAT" sequence.[10]

(35) A: *Wode shouji...*
          my   cellphone
          'My cellphone...'
      B: ***Ni*** *shouji   shenme?! Mei shijian le!*
          you cellphone WHAT   no time   PERF
          'You, it is not right for you to say "cellphone!" [We have] no time!'

(36) A: *Keshi/Ruguo...*
          but/if
          'But/If...'
      B: ***Ni*** *keshi/ruguo **shenme**?! Bie   zai   shuo le!*
          you but/if   WHAT   don't again say PERF
          'You, it is not right for you to say "but/if!" Don't say that again.'

An extreme case may involve both the addressee and a quoted third-person subject as in (37). One may find it a bit unnatural. However, it may be due to the longer chunk preceding the refutatory WHAT. In (38) when the quoted form is limited to one word, "he", the co-occurrence of the addressee "you" and the quoted "he" is perfect.

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10. An anonymous reviewer wonders about the status of the vocative *ni* 'you' in sentence-initial position. S/he raises a doubt on the acceptability by replacing *ni* 'you' with a noun *haizi* 'kid' or a proper name *Zhangsan*. In fact, if these items are used as vocatives by addressing to the kid or *Zhangsan*, the sentences are still good.

(i) *Haizi/Zhangsan, shouji   shenme?! Mei shijian le!*
     kid/Zhangsan   cellphone WHAT   no time   PERF
     'Kid/Zhangsan, it is not right for you to say "cellphone!" [We have] no time!'

(37) A: *Ta hao gao (y)a!*
          he so   tall sfp
          'He is so tall!'

   B: ⁷*Ni   (ta) gao shenme?! Lanqiu   yuan bu dou zheme gao?*
          you he tall what   basketball player not all so   tall
          'You, it is not right for you to say he is tall! Aren't basketball players so
          tall?'

(38) A: *Ta …*
          he
          'He...'

   B: *Ni   ta shenme?! Bu yao   zhizhiwuwu!*
          you he what   not want hum.and.haw
          'You, it is not right for you to say "he"! Don't' hum and haw!'

Combining the sentence-final particle *(y)a* discussed in (26), we derive the
sequence in (39a). More interestingly, the vocative *ni* 'you' can also appear at the
end, following the quote-WHAT-SFP sequence in (39b).

(39) a. Vocative-quote-WHAT-SFP
          Ni   shouji   shenme (y)a?!
          you cellphone what   sfp
          'You, it is not right for you to say "cellphone"!'
    b. Quote-WHAT-SFP-Vocative
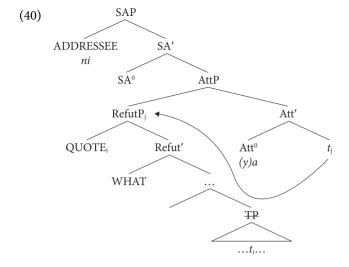   *Shouji   shenme (y)a ni?!*
          cellphone what   sfp you
          'It is not right for you to say "cellphone", you!'

The interpretation of (39a) is almost the same as (39b), except in the latter the
sequence quote-WHAT-SFP preceding the vocative has the function of drawing
the hearer's attention (Haegeman & Hill 2013).

   To accommodate the vocative *ni* 'you', let us suppose there is a certain syntac-
tic projection that is highly associated with the hearer/addressee, say, the "Hear-
erP". Or we also could follow previous studies of a similar thread that there is a
Speech Act Projection, SAP, which sits above CP and is highly associated with the
hearer/addressee (Speas & Tenny 2003; Speas 2004; Hill 2007a, 2007b; Haegeman
2014), then we may have the SAP as the designated position of the vocative. Com-
bining (27), we derive the sequence vocative-quote-WHAT-SFP (cf. Jheng 2017):

(40)

To derive the quote-WHAT-SFP-vocative sequence in (39b) where the vocative *ni* 'you' appears in the end, the whole AttP further undergoes the so-called fore-grounding movement to adjoined to SAP, where the AttP foregrounds the vocative *ni* 'you' and enforces attention drawing (see also Jheng 2017: 247, following Haegeman & Hill 2013). In this way, the correct word order of the two sequences in (39) is successfully derived while the incorporation of the addressee is also syntactically represented in the speech act domain.

6.   Concluding remark

This study shows that although the *why*-like WHAT has recently already attracted much attention, the refutatory WHAT is also worth exploring since it behaves distinctly from the former both syntactically and pragmatically and, therefore, should constitute an independent type.[11] Moreover, the latter is heavily

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11. An anonymous reviewer notes that a special template *shenme gui* 'what ghost' is compatible with the SF-WHAT but not the SI-WHAT:

(i)   A: *Wo xiang chi hanbao*
           I   want eat hamburger
           'I want to eat a hamburger.'
       B: Chi shenme gui.
           eat   what   ghost
           'You should not eat!'

related to the speaker's attitude or speech act, which can be nicely captured by employing a component contributing to the speaker's refutatory force at the left edge of a sentence, which is a cross-disciplinary research field that is unfolding with the advent of CP exploration. Such an approach directly fits in with the postulation of a certain speaker projection and, therefore, the refutatory WHAT addressed in this study serves as an interface element mapping discourse/pragmatics function onto syntax.

A reviewer notes that a truncated monosyllabic word is perfect while a disyllabic one may also be fine, but may be subject to some prosodic and morphological constraints. Also, there seems to be some difference between the first syllable and the rest of the syllables.

(41) A: *Wo xiang mai diannao.*
          I   want buy computer
          'I want to buy a computer.'
      B: ?*Dian/*Nao   shenme ya!*
          DIAN/NAO WHAT   SFP
          (lit.) 'It's not right for you to say "?dian/*nao"!'

I admit that some prosodic and morphological constraints might play a role in the truncated part/quote. I have demonstrated that the SF-WHAT cannot tolerate a whole clause as its quote, unlike the SI-WHAT. It can only allow a smaller chunk. As for how small the chunk may be, it may take a whole paper to discuss the prosodic and morphological constraints (see, for example, Wang 2017; Wang & Chin 2019). Let me try to make a brief comment on this issue. First of all, the quote has to be a constituent. This can be evidenced in (42b) where *shu lai* 'books come' is not a constituent.

(42) a. A: *Ni dai shu lai   zheli.*
              you bring book come here
              'You bring books to come here.'
      b. B: **Shu lai   shenme?!*
              Book come WHAT
              'It is not right for you to say "books come"!'

(ii) B: **Shenme gui   chi.*
          what   ghost eat
          Intended: 'You should not eat!'

In my opinion, (i)B should be regared as the *why*-like WHAT construction, instead of the SF-WHAT. Moreover, with *gui* 'ghost' the negative sense is strengthened. It is read as "You should not eat!" For how such a template is derived, the reader may refer to Yang (2021) for a solution.

Second, it has been demonstrated that the SF-WHAT cannot take a whole clause as its quote. As for how small a quoted chunk can be, at least it can be as small as a syllable, particularly, the first syllable.

(43)   A: *Wo xiang kan   dianshi.*
             I   want watch TV
             'I want to watch TV.'
       B: [?]*Dian/*Shi   shenme?! Qu dushu!*
             DIAN/SHI wʜᴀᴛ   go   study
             'It is not right for you to say "dian/shi"! Go study!'

Yet, under proper context even the last syllable can serve as the quote. For example, when someone pronounces a certain syllable incorrectly, s/he may be corrected:

(44)   A: *Wo xiang kan   diansi.*
             I   want watch TV
             'I want to watch TV.'
       B: **Si** *shenme?!* **Shi** *la! Yao   juan she.*
             SI wʜᴀᴛ   SHI sfp need curl tongue
             'It is not right for you to say "si"! (It should be) "shi"! You need to curl your tongue (when pronouncing).'

This shows that a certain factor may be at issue here.[12] Such a factor may even violate the Lexical Integrity Principle. Wang (2017) and Wang & Chin (2019) point out that a prosodic factor may play a role in determining the length of a quote. Specifically, WHAT bears a focus stress while the quote bears a nucleus stress. The length of a quote is a consequence of the interaction of the focus stress and the nucleus stress. Since the discussion of this issue may take up an independent paper, I shall stop here for the time being and leave it for further research.

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12. A reviewer wonders whether WHAT can be an affix-like element and the attachment of WHAT is a morphological process. However, although the quote form tends to be short, still a larger phrasal chunk can be a candidate as indicated below. In this sense, the attachment of WHAT cannot be a process of morphological markup.

   (i)   A: *Wo ye   xiang qu.*
               I   also want go
               'I also want to go.'
         B: *Xiang qu shenme?!*
               want go wʜᴀᴛ
               'It is not right for you so say (you) "want to go"!'

Acknowledgements

Abbreviations

BE	be verb	SF	sentence-final
EXCL	exclamative marker	SFP	sentence-final particle
PERF	perfective marker	SI	sentence-initial
SAP	Speech Act Projection	WHAT	non-canonical what

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