

Insignificance is Significant: Interpretation of the *wh*-pronoun *shenme* ‘what’ in Mandarin Chinese*

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This paper offers a semantic analysis of the ‘insignificance’ reading observed in negative sentences with the *wh*-pronoun *shenme* ‘what’ in Mandarin Chinese. We propose that *shenme* is a proform of NP modifiers, partitioning the denotation of the NP it modifies into kinds of entities. Under certain pragmatic conditions, this semantic property of *shenme* determines that the insignificance reading can be assigned to negative sentences with *shenme*. The proposed analysis is extended to explain the lack of the insignificance reading in a class of cases, including (i) sentences with the Negative Polarity Item *renhe* ‘any’; (ii) sentences with ‘head’ *wh*-pronouns, such as *shei* ‘who’; (iii) sentences with the adverb of quantification *dou* ‘all’; (iv) sentences with bare nouns; (v) sentences involving imperfective aspect; and (vi) sentences with non-local negation. The examination of the insignificance reading hence indicates that a variety of aspects of Chinese grammar play a role in licensing this reading.

Key words: Mandarin *wh*-pronouns, modifier, kind, insignificance reading, Negative Polarity Item

* I would like to thank Stephen Crain and Rosalind Thornton for editing an earlier version of this paper. I would also thank Nobuaki Akagi, Ivano Caponigro, Chuansheng He, Paul Law, Jowang Lin, Tørje Lohndal and Francesco-Alessio Ursini who read an earlier version of the paper and gave me valuable comments and useful suggestions. I am particularly grateful to Francesco-Alessio Ursini for his generous help. Fran is always ready to help, and he offered me a number of suggestions and comments throughout the write-up of the paper. Some portions of the paper were presented at GLOW-in-Asia VIII, TEAL 6, and ICFL 5. I would like to thank the audience in these occasions for their questions and comments, particularly Thomas Hun-tak Lee and Haihua Pan. Last but not least, I am grateful for two reviewers whose comments and suggestions helped improve the quality of the paper. This project is funded by the Macquarie University Research Excellence Scholarships (MQRES) and by the Australian Research Council Centre of Excellence for Cognition and its Disorders (CE110001021) <http://www.ccd.edu.au>.

1. Introduction

In Mandarin Chinese, *wh*-pronouns¹ like *shenme* ‘what’ and *shei* ‘who’ are generally prohibited in simple positive declarative sentences, but are licensed in typical affective contexts such as negation, yes-no questions, and the antecedent of a conditional (e.g. Klima 1964). These contexts are also known to license Negative Polarity Items (NPIs) like English *any* (e.g. Baker 1970, Ladusaw 1980, Giannakidou 1998). This similarity in distribution has led some scholars to analyze *wh*-pronouns as (negative) polarity items (Huang 1982, A. Li 1992, Cheng 1991, 1994, Lin 1996, 1998a, Hsin 1999).² This explains why *wh*-pronouns under negation have the same ‘none’ interpretation as *renhe*, which is the counterpart of English *any* in Mandarin Chinese. Consider the examples in (1):

- (1) a. *Zhangsan mei chi shenme dongxi.*³
 Zhangsan Neg eat what thing
 ‘Zhangsan did not eat anything.’
 b. *Zhangsan mei chi renhe dongxi.*
 Zhangsan Neg eat any thing
 ‘Zhangsan did not eat anything.’

Both sentence (1a) and sentence (1b) are interpreted as the meaning that Zhangsan did not eat anything.

¹ In traditional Chinese grammar, *wh*-phrases are generally called *yiwen daici*, roughly equivalent to ‘*wh*-pronouns’, to refer to both the interrogative and non-interrogative uses of *wh*-phrases (e.g. Ding et al. 1961). In more recent studies of *wh*-phrases in Mandarin, linguists give the name ‘*wh*-indefinites’ to refer to the non-interrogative use of *wh*-phrases (e.g. A. Li 1992). In this study, we follow the traditional Chinese grammar, and refer to *wh*-phrases as ‘*wh*-pronouns’. We focus on the non-interrogative use of *shenme* unless specified otherwise.

² Note that the licensing contexts of Mandarin *wh*-pronouns only partially overlap with the licensing contexts of English *any* (A. Li 1992, Lin 1996, Lin 1998a). There are some linguistic contexts that license Mandarin *wh*-pronouns but not English *any*. Conversely, there are some linguistic contexts that license English *any* but not Mandarin *wh*-pronouns (See Lin 1998a for details). However, the discrepancy in distribution between Mandarin *wh*-pronouns and English *any* does not necessarily lead to dismissing the idea that Mandarin *wh*-pronouns are (negative) polarity items. For instance, Lin (1996, 1998a) suggests that both Mandarin *wh*-pronouns and English *any* are licensed by the semantic constraint of ‘non-existence’.

³ This paper uses the following abbreviations: ASP = aspect marker; Aux = Auxiliary; CL = classifier; De = the modificational marker *De*; Neg = negation marker; Pass = Passive; Q = question particle.

However, a second reading is available for negative statements containing *shenme*, in addition to the ‘none’ reading (Li 1924, Wang 1943, Ding et al. 1961, Chao 1968, Zhu 1982, Lü 1985, W. H. Li 1992, Lin 1996, 1998a, 2004, Hsiao 2002, Hole 2004, Dong 2009, Zhang 2010, Cui 2012). We call this second reading the ‘insignificance’ reading, as illustrated in (2a). The corresponding statement with *renhe*, as in (2b), is not acceptable.

- (2) a. *Wo mei you shenme youpiao, zhi you yixie hen lao de (youpiao).*
 I Neg have what stamp only have some very old De stamp
 ‘I hardly have any stamps, only some old ones.’
 b. *Wo mei you renhe youpiao, *zhi you yixie hen lao de (youpiao).*
 I Neg have any stamp only have some very old De stamp
 ‘I don’t have any stamps, *only some old ones.’ (W. H. Li 1992:148)

Examples (2a) and (2b) reveal a semantic difference between *shenme* and *renhe*. The focus operator *zhi you* ‘only have’ in the second conjunct of (2a) draws attention to the existence of some ‘insignificant’ kind of entities (i.e. old stamps) that are in the possession of the speaker,⁴ thereby ruling out the ‘none’ reading (W. H. Li 1992:140-149, Hsiao 2002:126-127). We have glossed the example using the English word *hardly* to convey the insignificance reading of negated *shenme* (p.c. Rosalind Thornton). Notice that the same continuation (with the focus operator *zhi you*) is deviant with the NPI *renhe*, as in (2b). Negative sentences with *renhe* exclusively generate the ‘none’ meaning.

This difference in interpretation between *shenme* and *renhe* can be further demarcated using another diagnostic test. As example (3a) show, a negative sentence with *shenme* can follow a contrastive topic, marked with *shi*, but *renhe* is not permitted in this structure, as indicated by the unacceptability in (3b).

- (3) a. *Jintian zaofan, Zhangsan chi shi chi le, keshi mei chi shenme dongxi.*
 today breakfast Zhangsan eat Aux eat Asp but Neg eat what thing
 ‘Zhangsan did eat breakfast today, but he hardly ate any food.’
 b. *Jintian zaofan, Zhangsan chi shi chi le, *keshi mei chi renhe dongxi.*
 today breakfast Zhangsan eat Aux eat Asp but Neg eat any thing
 ‘Zhangsan did eat breakfast today, *but he did not eat any food.’

⁴ If the subsequent focus clause specifies the existence of ‘significant’ kinds of entities, the sentence will sound weird. Consider the sentence below:

- (i) *Wo mei you shenme youpiao, ??zhi you yixie hen guizhong de youpiao.*
 I Neg have what stamp only have some very precious De stamp
 ‘I hardly have any stamps, ???only some precious ones.’

The insignificance reading (i.e. Zhangsan hardly ate any food) expressed by the second conjunct of (3a) adds a comment to the meaning of the first conjunct (i.e. Zhangsan did eat breakfast today). In a negative sentence with *renhe*, as in (3b), the same contrastive comment amounts to a contradiction.

Taking stock, the insignificance reading is attested in negative sentences with *shenme*, but this reading is not possible for negative sentences with *renhe*. The insignificance reading is widely acknowledged, but how this reading arises remains obscure. The goal of this paper is to provide a semantic analysis to account for the insignificance reading. The remainder of this paper is organized as follows. Section 2 offers a comprehensive examination on the distribution of the insignificance reading. It will be shown that this reading has to do with various aspects of Chinese grammar, including *wh*-morphology, sentential aspect, locality and pragmatic inference. Section 3 reviews the treatment of the insignificance reading in traditional Chinese grammar and in recent works. In §4, we introduce some linguistic properties of the *wh*-pronoun *shenme* that are relevant to the analysis of the insignificance reading. We propose that *shenme* is a proform of NP modifiers, partitioning the denotation of the NP it modifies into kinds of entities. Section 5 offers an analysis of the insignificance reading. In §6, the proposed analysis is extended to explain the lack of the insignificance reading in a class of cases, including (i) sentences with NPI *renhe*; (ii) sentences with the adverb of quantification *dou*; (iii) sentences with ‘head’ *wh*-pronouns; (iv) sentences with bare nouns; (v) sentences with imperfect aspect; and (vi) sentences with non-locality negation. Section 7 concludes the paper.

2. Distribution of the insignificance reading

The insignificance reading is common in daily conversations in Mandarin Chinese. Related to the wide distribution of the insignificance reading, there is no restriction with the semantic type of common nouns following *shenme*. Specifically, the common noun could be an NP denoting a concrete object like *pingguo* ‘apple’ (i.e. (4a)), or an NP denoting an abstract notion like *zuoyong* ‘positive effect’ (i.e. (4b)); furthermore, the common noun could be an NP denoting an individual, as is the case with *ren* ‘person’ (i.e. (4c)), or it could be an NP denoting a non-individual, as with *shui* ‘water’ (i.e. (4d)).⁵

⁵ An anonymous reviewer pointed out that the insignificance reading is not obvious with nouns like *mao* ‘cat’ or *gou* ‘dog’. For instance, the reviewer judged the following sentence to be awkward.

(i) *Wo jintian mei kanjian shenme mao, zhi kanjian yi zhi xiao-zhi de.*
 I today Neg see what cat only see one CL small-CL MOD
 ‘I hardly saw any cats today, only saw a little one.’

- (4) a. *Zhangsan mei chi shenme pingguo.*
 Zhangsan Neg eat what apple
 (i) ‘Zhangsan hardly ate any apples.’
 (ii) ‘Zhangsan did not eat any apples.’
- b. *Laoshi de xunhua mei qi shenme zuoyong.*
 teacher De criticism Neg cause what positive effect
 (i) ‘The teacher’s criticisms hardly made any positive effect (to students).’
 (ii) ‘The teacher’s criticisms did not make any positive effect (to students).’
- c. *Zhangsan zuotian mei jian shenme ren.*
 Zhangsan yesterday Neg meet what person
 (i) ‘Zhangsan hardly met any persons yesterday.’
 (ii) ‘Zhangsan did not meet any persons yesterday.’
- d. *Zhangsan zuotian mei he shenme shui.*
 Zhangsan yesterday Neg drink what water
 (i) ‘Zhangsan hardly drank any water yesterday.’
 (ii) ‘Zhangsan did not drink any water yesterday.’

Since the insignificance reading is not confined to any particular noun type, this reading is also available when *shenme* is embedded in a NP structure in which the noun phrase is elided. This is illustrated in (5), where the NP *dongxi* ‘thing’ can be elided, as indicated by the bracket:

- (5) *Bingxiang li mei shenme chi de <dongxi> le.*
 fridge in Neg what eat De thing Asp
 (i) ‘There is hardly any food left in the fridge.’
 (ii) ‘There isn’t any food left in the fridge.’

Despite the lack of the constraint in the noun type, the distribution of the insignificance reading is subject to a range of constraints that involve various aspects of Chinese grammar. Let us take them in turn.

In our view, this sentence would be very natural once a felicitous context is provided (see more discussions in §2.4 and §5). A possible felicitous context is like this. Suppose you told me that Zhangsan had adopted many kinds of cats, and I was very curious about it and went to visit Zhangsan. However, I ended up seeing only one little cat in Zhangsan’s place. I was a little bit disappointed and said sentence (i) to you. Against this backdrop, (i) sounds perfect.

2.1 *Wh*-morphology

The first linguistic constraint governing the distribution of the insignificance reading concerns *wh*-morphology. Specifically, *shenme* is the only *wh*-pronoun that licenses this reading. A relevant observation is contributed by Lin (1998a:251). Lin points out that negative sentences containing *shenme ren* ‘what person’, as in (6a), can be assigned the insignificance reading (in addition to the ‘none’ reading); by contrast, negative sentences with *shei* ‘who’ can only receive the ‘none’ reading, as illustrated in (6b):

- (6) a. *Mei you shenme ren yuanyi bang ta.*
 Neg have what person willing help him
 (i) ‘There is hardly any person who is willing to help him.’
 (ii) ‘Nobody is willing to help him.’
 b. *Mei you shei yuanyi bang ta.*
 Neg have who willing help him
 ‘Nobody is willing to help him.’

The presence/absence of the insignificance reading is not merely an idiosyncratic property of *shenme ren* and *shei*. A similar discrepancy can be found in the pair *shenme difang* ‘what place’ and *nali* ‘where’. The insignificance reading is available for the sentences containing *shenme difang*, but not for the sentences containing *nali*. Consider (7):⁶

- (7) a. *Zhangsan jintian mei qu shenme difang, zhi qu le tang caishichang.*
 Zhangsan today Neg go what place only go Asp CL market
 ‘Zhangsan hardly went to any places today, and he only went to the market.’

⁶ A reviewer pointed out that example (7b) is acceptable. According to the reviewer, there does not exist a contrast between *shenme difang* ‘what place’ and *nali* ‘where’. However, most of our informants confirmed the meaning difference between (7a) (with *shenme difang*) and (7b) (with *nali*), as we are arguing here. Nevertheless, we found that the meaning difference between *shenme difang* and *nali* is more transparent in another linguistic structure as in (i).

(i) *Beijing huozhe Shanghai, nali/*shenme difang hao-wan jiu qu nali/*shenme difang.*
 Beijing or Shanghai where/what place good-play then go where/what place
 (lit.) ‘Among Beijing or Shanghai, which city is attractive then I will go to which city.’

In (i), the first clause provides a limited set of individuals (i.e. Beijing and Shanghai), which the *wh*-pronoun in the second clause can refer back to. In this individual-denoting context, it is *nali* ‘where’ but not *shenme difang* ‘what place’ that is legitimate. This is confirmed with all of our informants. We shall get back to this in §4, where the denotation of these two distinct types of *wh*-pronouns will be discussed.

- b. *Zhangsan jintian mei qu nali, *zhi qu le tang caishichang.*
 Zhangsan today Neg go where only go Asp CL market
 ‘Zhangsan did not go to any place today, *and he only went to the market.’

In (7a), a negative statement containing *shenme difang* ‘what place’ is followed by a clause with the focus operator *zhi* ‘only’. This clause indicates that Zhangsan went to a place, i.e. the market, though this place is not ‘significant’. So it is not true that Zhangsan did not go anywhere. In other words, the subsequent follow-up clause suggests the existence of the insignificance reading in (7a). However, the same focus structure is not appropriate in (7b), in which *nali* ‘where’ is embedded in the first clause.

The grammatical contrast in (6) and (7) thus indicates that the *wh*-pronoun *shenme* is the only *wh*-pronoun that can generate the insignificance reading.

2.2 Sentential aspect⁷

Sentential aspect is another linguistic constraint governing the license of the insignificance reading. This is manifested by the selection of the relevant negation operator. In particular, there are three negation operators in Mandarin Chinese, *mei*, *bu*, and *bie*, each encoding distinct aspectual features, but only *mei* licenses the insignificance reading, as in (8). Negative sentences with *bu*, as in (9), and negative sentences with *bie*, as in (10), do not license the insignificance reading.

- (8) *Zhangsan mei chi shenme pingguo.*
 Zhangsan Neg eat what apple
 (i) ‘Zhangsan hardly ate any apples.’
 (ii) ‘Zhangsan did not eat any apples.’
- (9) *Zhangsan bu chi shenme pingguo.*⁸
 Zhangsan Neg eat what apple
 ‘Zhangsan does not like to eat any apples.’
- (10) *Bie chi shenme bingjiling. (Tian tai leng le.)*
 Neg eat what ice cream (weather too cold Asp)
 ‘Don’t eat any ice cream. (It is too cold.)’

⁷ We are grateful for a reviewer pointing out the aspectual factors involved in the licensing of the insignificance reading.

⁸ A reviewer pointed out that the use of *shenme* in (9) exhibits a metalinguistic use of *wh*-pronouns. In this case, it means “whatever apples you mention, Zhangsan does not like to eat.”

It is widely known that the negation operator *mei* differs from the other two negation operators *bu* and *bie* in the selection of aspectual viewpoint and situation type (Wang 1965, Teng 1973, Li & Thompson 1981, Ernst 1995, Hsieh 2001, Lin 2003, among many others). Generally speaking, *mei* associates with dynamic situations, including activities, accomplishments and achievements (Hsieh 2001, Lin 2003, cf. Vendler 1967). Moreover, *mei* is taken as the negative counterpart of the perfective aspect marker *le* (Wang 1965, Chao 1968:439, cf. Li & Thompson 1981:430-438); in this regard, the use of *mei* invokes a perfective viewpoint. The perfective viewpoint represents a situation as a single whole, and spans the initial and final endpoints of the situation (Comrie 1976, Smith 1991, 1994).

On the contrary, the negation operator *bu* selects unbounded or static situations, or situations that do not change or develop over time (Ernst 1995, Hsieh 2001, Lin 2003). As for the negation operator *bie*, it is restricted to imperative sentences. It is suggested that *bie* selects an unbounded or imperfective event. This is because by using a negative imperative, the speaker is actually urging that it *not* happen (Li & Thompson 1981:211). In short, both *bu* and *bie* invoke an imperfective viewpoint. Imperfective viewpoints represent the internal temporal constituency of a situation, with no information about its endpoint. In this regard, imperfectives are informationally open (Comrie 1976, Smith 1991, 1994)

In view of the fact that the perfective negation operator *mei* is the only negation operator associated with the construction of the insignificance reading, we conclude that the licensing of the insignificance reading requires a dynamic situation type and a perfective viewpoint. The negation operators *bu* and *bie* do not accommodate such aspectual features, thus fail to license the insignificance reading.

Note that the use of the perfective negation operator *mei* cannot guarantee the insignificance reading. When an imperative aspect marker, such as the progressive aspect marker *zai* or the durative aspect marker *zhe* is present, the insignificance reading disappears, as shown in (11).

- (11) a. *Zhangsan mei zai tui shenme che.*
 Zhangsan Neg Asp push what car
 ‘Zhangsan is not pushing any cars.’
 b. *Zhangsan mei tui zhe shenme che.*
 Zhangsan Neg push Asp what car
 ‘Zhangsan is not pushing any cars.’

The aspect marker *zai* indicates that an action or an event is in progress, hence the name of progressive marker. The aspect marker *zhe* indicates that a situation is enduring or

continuing. Both the progressive aspect marker *zai* and the durative aspect marker *zhe* are categorized as imperfective aspect makers in Mandarin (Li & Thompson 1981, Smith 1991, 1994). The presence of these two aspect markers in (11) renders the sentences an imperfective viewpoint. The lack of the insignificance reading in (11) gives further support on the generalization that the aspect of perfectivity constitutes a licensing condition for the insignificance reading.

2.3 Local negation

To license the insignificance reading, the negation operator *mei* and the *wh*-pronoun *shenme* have to be part of the same clause. When *mei* and *shenme* are separate in different clauses, the insignificance reading is not available, as shown in (12).

- (12) *Wo mei shuo Zhangsan chi le shenme pingguo.*
 I Neg say Zhangsan eat Asp what apple
 ‘I did not say Zhangsan ate any apples.’

In (12), the clause that contains *Zhangsan chi le shenme pingguo* is embedded in the clause with the negation *mei*. The insignificance reading is not available in this case.

2.4 Pragmatic inference

As noted earlier, negative sentences with *shenme* are tended to be assigned the ‘none’ reading when they are processed out of context (cf. ex. (1)). We observe that the insignificance reading is more transparent when negative sentences with *shenme* are used for a comparison. For instance, the insignificance reading is obvious in (13). On the insignificance reading, this sentence means that the food eaten by Lisi is trivial (i.e. close to nothing) compared to the food eaten by Zhangsan.

- (13) *Zhangsan chi le henduo pingguo, keshi Lisi mei chi shenme pingguo.*
 Zhangsan eat Asp lots of apple but Lisi Neg eat what apple
 (i) ‘Zhangsan ate a lot of apples, but Lisi hardly ate any apples.’
 (ii) ‘Zhangsan ate a lot of apples, but Lisi did not eat any apples.’

As will be discussed in more detail in §5, the comparison in question sets up a contrast set, and this contrast set triggers some pragmatic inferences that give rise to the insignificance reading.

To wrap up, we have exhibited a cluster of licensing conditions for the insignificance reading. These conditions are related to a wide range of aspects of Chinese grammar: *wh*-morphology, sentential aspect, locality and pragmatic inference. The listing of these licensing conditions is not sufficient for an understanding of the insignificance reading. We need to explain *how* the insignificance reading emerges by taking into account the licensing conditions. This is the main task for the remainder of the paper. Before we present the analysis, let us see how the insignificance reading is treated in previous literature.

3. Traditional grammars and recent work

The insignificance reading is widely documented in traditional Chinese grammar (Li 1924, Wang 1943, Ding et al. 1961, Chao 1968, Zhu 1982, Lü 1985). The accepted view is that *shenme* softens the tone of negative sentences, as compared to the same sentence without *shenme*. For instance, if somebody says {*Wo mei shuo shenme hua*. ‘I-not-say-what-word’}, it could be the case that he did not say anything; alternatively, this sentence could mean he did not say anything important, implying he may have said one or two irrelevant things. The two readings are exactly what we identify here as the ‘none’ reading versus the insignificance reading in negative sentences containing *shenme*. By contrast, the sentence {*Wo mei shuo hua*. ‘I-not-say-word’}, in which the common noun *hua* ‘words’ occurs immediately following the verb *shuo* ‘say’, means only ‘I did not say anything’ (the examples are from Lü Shuxiang 1985:160-161).

In recent studies of Chinese *wh*-pronouns, the insignificance reading of *shenme* is largely ignored, probably due to the trend of analyzing *wh*-pronouns as (negative) polarity items (cf. Lin 1996).⁹ To the best of our knowledge, among a large body of literature on Mandarin *wh*-pronouns, only a handful of studies are aware of this phenomenon (Lin 1996, 1998a, 2004, Hole 2004, Dong 2009, Cui 2012). Hole (2004) and Cui (2012) offer an account of the insignificance reading that goes into any relevant detail. Next we take a close look at these two studies.

3.1 Hole (2004)

In Hole (2004:203-209), the insignificance reading and the ‘none’ reading are illustrated with the sentences in (14):

⁹ Lin (1996) argues that *wh*-pronouns cannot receive a unified account. Particularly, Lin contends that *wh*-pronouns in *wh*-dou constructions are not polarity items. Readers are invited to refer to Lin’s work for details.

- (14) a. *Lao Li mei mai shenme.*
 Old Li Neg buy what
 ‘Old Li hasn’t bought anything special.’ Insignificance reading
- b. *Lao Li shenme dou/ye mei mai.*
 Old Li what all/also not buy
 ‘Old Li hasn’t bought ANYTHING AT ALL.’¹⁰ ‘None’ reading

In (14a), *shenme* occurs in the post-verbal position, under the scope of negation. In (14b), *shenme* is preposed to the pre-verbal position followed by the adverb of quantification *dou* ‘all’ or *ye* ‘also’. Hole contends that *shenme* has different interpretations in these two structures. Suppose Lao Li goes shopping to buy a big present for his wife, such as a diamond ring or something else expensive like a fur coat. However, Lao Li ends up buying a pair of socks, which is much undervalued compared to what Lao Li is expected to buy. Under this scenario, (14a), where *shenme* is in the post-verbal position, can still truthfully hold. This is because the denotation of *shenme* ‘thing’, which is only applicable to costly presents in this context, does not include trivial things like a pair of socks that is beyond the speaker’s expectation. In this regard, Lao Li can be said to have bought ‘nothing’ for his wife. According to Hole, this gives rise to the ‘weak’ interpretation of (14a) (or the insignificance reading in our terminology).

On the other hand, when *shenme* is in the pre-verbal position followed by *dou* or *ye* as in (14b), it becomes the focus of the sentence. According to Hole, then, the criterion of defining the ‘thing’ is “relaxed” in this focalized context: things that would not count in (14a) are instantaneously considered to be something. In this circumstance, even a pair of socks does count as something in (14b). So this situation cannot be rendered true by (14b), as one cannot say that Lao Li has not bought anything for his wife when a trivial thing like a pair of socks is under consideration. As a consequence, the negation in (14b) is semantically stronger than the negation in (14a).

To sum up, Hole attributes the alternation of the ‘none’ reading and the insignificance reading to the particular linguistic contexts in which *shenme* NP occurs: while the ‘none’ reading corresponds to the pre-verbal focus structure containing *dou* ‘all’, the insignificance reading is tied to the post-verbal structure in which *shenme* NP is under the scope of negation. Hole’s account captures the intuition that the existence of entities

¹⁰ Hole analyzes (14a) and (14b) along the lines of Krifka’s (1995a) treatment of *anything* and stressed *ANYTHING (AT ALL)* in English. Technical details aside, these two are taken as representatives of weak and strong negative polarity items, respectively. So sentences like {*Mary did not get anything.*} can be rendered true in a situation in which Mary got something petty like a piece of chewing gum from her friend as her birthday gift, but the same situation is considered as false for the interpretation of the sentences like {*Mary did not get ANYTHING (AT ALL).*}, with the stress on *anything (at all)*.

conveyed by the ‘weak’ reading must be insignificant: in his story the socks are undervalued, and are not the kind of expensive and valuable gifts Lao Li is expected to buy. However, there are several points in Hole’s analysis that deserve consideration.

First, this analysis does not provide a complete picture on the interpretation of *shenme* in negative statements. Essentially, the ‘none’ reading does not necessarily resort to the preposed focus structure as in (14b); the ‘none’ reading is also available when *shenme* is in the post-verbal structure as in (14a). In other words, the one-to-one correspondence does not hold between the ‘none’ reading and the preposed focus structure on the one hand, and between the insignificance reading and the post-verbal structure on the other hand. A more appropriate description of the phenomenon is that, while the post-verbal structure accommodates both the ‘none’ and the insignificance readings, the pre-verbal focus structure allows only the ‘none’ reading.

Second, Hole’s analysis does not draw a distinction between the *wh* phrases like *shenme ren* ‘what person’ and the *wh*-pronouns like *shei* ‘who’, so the (un)availability of the insignificance reading associated with these two groups of *wh*-pronouns is not explained. In particular, on Hole’s analysis, sentences containing *shei* would be assigned an insignificance reading when *shei* is put in the postverbal position. This is contrary to fact, as shown in (6b) {*Mei you shei yuanyi bang ta*. ‘Nobody is willing to help him.’} This sentence can only receive the ‘none’ reading, and the insignificance reading is not available for the *wh*-pronouns like *shei* ‘who’.

3.2 Cui (2012)¹¹

Cui (2012) identifies the insignificance reading by using the following scenario and example.

- (15) Scenario: a person asked his friend what movies she watched lately.
(Wo zui-jin mei kan shenme dianying,) jiu yi bu Ha-li Bo-te.
 I lately not watch what movie only one CL Harry Potter
 ‘I didn’t watch SHENME movies lately; only Harry Potter.’

(15) is described with the meaning ‘there is at least one movie the speaker watched’. This reading is called Existential Inference reading by Cui (Hereafter we provisionally use this term to refer to the insignificance reading when we review Cui’s account). The Existential Inference reading is formally represented as (16).

- (16) $\exists x$ [CN’ (x) & Pred’ (Subj’, x)]

¹¹ I would like to thank Tørje Lohndal for making this work accessible to us.

Cui contrasts the negative sentences containing *shenme* with negative sentences containing bare nouns. Importantly, negative sentences with bare nouns do not accommodate the Existential Inference reading, as shown in (17):

- (17) #*Wo zui-jin mei kan dianying; jiu yi bu Ha-li Bo-te.*
 I lately not watch movie only one CL Harry Potter
 ‘I didn’t watch movies lately; only Harry Potter.’

(17) is infelicitous. The negative sentence with the bare noun *dianying* in the first clause only generates the ‘none’ reading (i.e., I didn’t watch movies lately). This is in conflict with the proposition expressed in the second clause, i.e., I watched Harry Potter.

To explain the Existential Inference reading, Cui advances two theoretical assumptions. First, the Existential Inference reading is a conversational implicature, and not an entailment. This is supported with the defeasibility of this reading, as shown in (18).

- (18) *Wo zui-jin mei kan shenme dianying. Yi bu dou mei kan.*
 I lately not watch what movie one CL all not see
 ‘I didn’t watch SHENME movies lately. Not even one.’

Second, *shenme* is argued to have the domain selection function *f*. This function takes the common noun that *shenme* combines with, and returns a subset of the extension of that common noun. The domain selection function of *shenme* is formalized as (19).

- (19) Components of the meaning of *shenme*:
 \exists : quantification over individuals
f: selection of the domain of quantification
 $[[shenme]]^f = \lambda P. \lambda Q. \exists x [x \in f(P) \ \& \ Q(x)]$

Applying the domain selection function of *shenme*, the negative sentence with *shenme* (20a) (formally the first conjunct of (15)) is captured with the logical form (20b). This differs from the logical form associated with the negative sentence with bare noun (21a) (formally the first conjunct of (17)), as indicated in (21b).

- (20) a. *Wo mei kan shenme dian-ying*
 b. $\neg \exists x [x \in f(\text{movie}) \ \& \ \text{Watch}(I, x)]$
 (21) a. *Wo mei kan dian-ying*
 b. $\neg \exists x [\text{movie}(x) \ \& \ \text{Watch}(I, x)]$

Now, when the domain selection function returns a domain smaller than the extension

of the common noun that *shenme* combines with, (21b) entails (20b), such that sentence (21a) is stronger than sentence (20a).

Taken together, the Existential Inference reading is inferred through the following Gricean pragmatic principles:

- (22) i. The speaker said (20a) rather than (21a), which would have also been relevant.
- ii. (21a) is stronger than (20a).
- iii. If (21a) is true, the speaker would have said so. Maxim of quality
- iv. The speaker has not evidence that (21a) holds.
- v. It is not the case that (21a) holds. This is the Existential Inference $\exists x$ [Movie (x) & Watch (I, x)]

There are some interesting insights in Cui's analysis. First, she recognizes that the Existential Inference reading is not part of the compositional meaning of negative sentences with *shenme*. Instead, the Existential Inference reading is an outcome of conversational implicature. Second, she contends that *shenme* has a semantic function that can select a subset of entities denoted by the common noun. However, there are several issues that deserve our careful attention.

First, Cui does not recognize that, apart from the insignificance reading, the 'none' reading is also available with negative sentences with *shenme*. This problem is similar to one we pointed out for Hole's (2004) account.

Second, Cui advances the idea that *shenme* can select a subset of entities denoted by the common noun. However, this proposal does not explain **why** *shenme* has such a semantic function. A related point is that, without identifying the grammatical status of *shenme*, it would be a mystery for Cui to explain why some other *wh*-pronouns such as *shei* 'who' do not embrace the domain selection function in their meaning, if one ascribes the domain selection function to the construction of the insignificance reading. Remember that only *wh*-pronoun *shenme* can receive the insignificance reading (cf. §2.1).

Third, Cui simply imputes an existential reading to the Existential Inference reading, without recognizing a sense of insignificance involved in this reading. For instance, (20a) is semantically represented as $\exists x$ [Movie (x) & Watch (I, x)], which says there exists at least one movie that I watched. This is not an appropriate way to capture the Existential Inference reading, because the logical form $\exists x$ [Movie (x) & Watch (I, x)] does not say anything about the significance of the movie(s). In principle, it would allow the situation that the movie(s) is/are 'significant'. As noted earlier (fn. 4), negative statements with *shenme* are not appropriate to describe the situations that allow the existence of significant entities. As will become clear in the remainder of the paper, the sense of insignificance is crucial for the appreciation of the insignificance reading.

Taking stock, we have seen that negative statements containing *shenme* NPs have a peculiar insignificance reading, in addition to the ‘none’ reading. However, Chinese linguists generally do not recognize these two alternative meanings in a comprehensive way. Two kinds of extremes are identified. Some Chinese linguists intend to assign only the ‘none’ reading to the sentence structure, ignoring the insignificance reading (e.g. Huang 1982, A. Li 1992); conversely, some other Chinese linguists admit of the insignificance reading, but precluding the ‘none’ reading (e.g. Hole 2004, Cui 2012). Furthermore, it remains obscure how the insignificance reading is derived, and how various licensing conditions as discussed in §2 are integrated into the analysis of the insignificance reading. In §5, we shall offer an alternative analysis on the interpretation of *shenme* NPs in negative statements. To prepare for the analysis, we need to examine first some basic linguistic properties of *shenme*. This is the task for §4.

4. Linguistic properties of *shenme*

In this section, we first propose that *shenme* is a proform of NP modifiers. The modifier status of *shenme* makes it distinguished from other *wh*-pronouns such as *shei* ‘who’, which are proforms of nominal heads. Then we shall provide a range of independent evidence supporting the idea that *shenme* partitions the denotation of NP it modifies into kinds.

4.1 *Shenme* is a proform of NP modifiers

Traditional Chinese grammarians contend that the *wh*-pronoun *shenme* can be used as a modifier, functioning as a proform that substitutes for a set of attributes (or kind) (Li 1924, Wang 1943, Ding et al. 1961, Chao 1968, Zhu 1982, Lü 1985). This can be illustrated by Zhu’s (1982:90) characterization of the meaning difference that arises in questions with *shenme ren* ‘what person’ as compared to questions with *shei* ‘who’. The difference in interpretation is illustrated in (23):¹²

¹² *Shenme ren* and *shei* in (23) can be answered with the same definite description, such as *wo tongxue de didi* in sentence (i):

(i) *Ta shi wo tongxue de didi.*
 he Be my classmate De younger-brother
 ‘He is the younger brother of my classmate.’

However, the definite description functions differently in responding to *shenme ren* and *shei*. In responding to the *shenme ren* question in (23a), this definite description is predicated of the subject *Zhangsan*, specifying the attribute of being a person who is my classmate’s younger brother. This suggests that (23a) is a typical copular sentence in Mandarin, consisting of a

- (23) a. *Zhangsan shi shenme ren?*
 Zhangsan be what person
 ‘What kind of person is Zhangsan?’
 b. *Zhangsan shi shei?*
 Zhangsan be who
 ‘Who is Zhangsan?’

According to Zhu (1982), *shenme ren* in (23a) is used to query about the kind of person Zhangsan is. By contrast, *shei* in (23b) is used to simply identify a particular person among a set. A similar interpretive difference between *shenme ren* and *shei* is found in statements, as in (24):

- (24) a. *Wo bu zhidao Zhangsan shi shenme ren.*
 I Neg know Zhangsan be what person
 ‘I don’t know what kind of person Zhangsan is.’
 b. *Wo bu zhidao Zhangsan shi shei.*
 I Neg know Zhangsan be who
 ‘I don’t know who Zhangsan is.’

Since *shenme ren* ‘what person’ and *shei* differ in their semantic denotation, it is not a surprise that they can line up in a sequence of questions, as shown in (25):

referential term in the subject (*Zhangsan*) and a non-referential term in the predicate (*shenme ren*). Due to the structural constraint of the copular sentence, we cannot reverse the position of subject and predicate in this structure. This explains the ungrammaticality of (ii).

- (ii) **Shenme ren shi Zhangsan?*
 what person Be Zhangsan
 ‘*What person is Zhangsan?’

On the other hand, in responding to the *shei* question in (23b), the definite description *wo tongxue de didi* is used to identify a particular person. In this case, (i) constitutes an identity statement, $x=y$, where both x and y are referential terms. Since the two referential expressions in an identity statement are identical, we can freely reverse their position, such that $[x=y] \leftrightarrow [y=x]$. This explains why the proper name *Zhangsan* and the referential *wh*-pronoun *shei* in (23b) can freely swap their position without causing much meaning difference, as shown in (iii).

- (iii) *Shei shi Zhangsan?*
 who Be Zhangsan
 ‘Who is Zhangsan?’

The grammatical contrast between (ii) and (iii) is consistent with the categorical distinction between *shenme* and other *wh*-pronouns to be discussed in this section.

- (25) *Zhe Meiding shi shei a? Shi ge shenme ren ya?*
 this Meiding Aux who Q Aux CL what person Q
 ‘Who is this Meiding? What kind of person is he?’ (Lü 1985:116)

In (25), the speaker is first locating a particular person named Meiding by using the sentence containing *shei*; then he goes further to ask what kind of person Meiding is by using the sentence containing *shenme ren*. These two *wh*-phrases are used to query about different aspects of a single entity, so no redundancy is observed here.

Zhu’s (1982) characterization of the meaning difference between *shenme ren* and *shei* reflects a categorical distinction between two types of *wh*-pronouns. On the one hand, *shenme* occupies a modifier position; it combines with a common noun to form a phrase, *shenme* NP. In this regard, we refer to *shenme* as the modifier *wh*-pronoun. The *shenme* NPs such as *shenme ren* ‘what person’, *shenme yuanyin* ‘what reason’, or *shenme fangshi* ‘what way’ are examples of modifier *wh*-phrases. On the other hand, *wh*-pronouns such as *shei* ‘who’, *nali* ‘where’, *weishenme* ‘why’, or *zenmeyang* ‘how’ form a phrasal unit by itself; they serve as the syntactic head of the phrase.

The syntactic difference between the modifier *wh*-pronoun *shenme* and head *wh*-pronouns determines that these two types of *wh*-pronouns have distinct denotational meanings. In particular, denotation of a head *wh*-pronoun involves a set of individual objects. For instance, (26) indicates that the speaker believes at least one person came in.¹³ In this case, *shei* substitutes for a set of individual persons such as John, Mary, and so forth. By using the indefinite *wh*-pronoun *shei*, the speaker indicates that he does not have the knowledge which individual person came in, or he intends not to spell out the name. In this regard, *shei* in (26) introduces an open set of individual persons: without specifying the exact name(s), the person(s) in question could be John, or Mary, ... or Jeff. In short, *shei* in (26) introduces a disjunctive sequence of names.

- (26) *You shei jin lai le.*
 have who come in Asp
 ‘Somebody came in.’

On the other hand, the modifier *wh*-pronoun *shenme* partitions the denotation of the NP it modifies into kinds, such that *shenme* introduces a set of kinds of entities. To illustrate, consider (27).

¹³ In Mandarin Chinese, there is no plural marker attached to the nominal phrases. Instead, the quantification function is taken by the classifier system (Greenberg 1972, Krifka 1995b, Chierchia 1998, Borer 2005, Au Yeung 2005, Huang 2009, Huang & Lee 2009). In (26), no classifier is used, so the number of persons that came in is underspecified.

- (27) *Zhangsan haoxiang mai le shenme pingguo.*
 Zhangsan seem buy Asp what apple
 ‘Zhangsan seems to have bought some apple(s) of some kind or other.’

In (27), the speaker states that Zhangsan bought at least one, possibly more than one apple (cf. fn. 13). Suppose Zhangsan bought three apples. One possibility is that all three apples are of the same kind, say Pink Lady apples. Another possibility is that one of them is a Pink Lady, but the other two are Granny Smith apples. Alternatively, each of the three apples could belong to different kinds. The basic intuition is this: The speaker of (27) asserts that Zhangsan bought at least one apple, but the speaker is not committed to knowing the specific kind of apple or kinds of apples that Zhangsan bought. So, *shenme* is an indefinite proform without explicit descriptive content. In this regard, *shenme* in (27) introduces an open set of (possibly different) kinds of apples {Granny Smith apples, Pink Lady apples, red apples, big apples, ...}.¹⁴

To recap, the categorical distinction between head *wh*-pronouns (functioning as a proform of syntactic Head) and the modifier *wh*-pronoun *shenme* (functioning as a proform of NP modifiers) has a profound impact on their semantic denotation. While head pronouns stand for an open set of individual objects, the modifier *wh*-pronoun *shenme*, when combined with a NP, stands for an open set of individual kinds.

Since modifier *wh*-pronoun and head *wh*-pronoun have distinct denotations, it is predicted that a pair of modifier *wh*-pronoun and head *wh*-pronoun cannot forge a co-reference. This prediction is borne out in Chinese donkey sentences like (28) (see Cheng & Huang 1996, Lin 1996, Chierchia 2000, Pan & Jiang to appear for relevant theoretical discussions of Chinese donkey sentences). This observation is due to Cheng & Huang (1996), but now we have a straightforward explanation on the inconsistency.

- (28) **Ni xihuan shei, wo jiu piping shenme ren.*
 you like who I then criticize what person
 ‘If you like X, I will criticize X.’ (Cheng & Huang 1996:129)

4.2 More on the kind concept of *shenme*

There is nothing new to claim that head *wh*-pronouns denote individual objects (e.g. Lin 1999). However, we need elaborate more on our claim that *shenme* partitions the denotation of the NP it modifies into kinds. In this section, more independent

¹⁴ The underspecification in denotation contributed by *shenme* and other *wh*-pronouns is expressed in traditional Chinese grammar with the terms *xu zhi* ‘null denotation’ and *wuding zhicheng* ‘nonspecific denotation’ (e.g. Li 1924, Lü 1985).

evidence will be provided to support the claim. First of all, a kind-denoting co-reference can be established in Chinese donkey sentences containing *shenme*, an observation due to Lin (1999). To illustrate, (29) states that, the object you go to buy, say, a bowl, should be the same kind of entities you break. In this respect, the co-referential link established between the pair of *shenme dongxi* ‘what thing’ in the antecedent and in the consequent of (29) is built at the kind-denoting level. Thus, the pair of *wh*-pronoun *shenme* in Chinese donkey sentences may refer to a different object but of the same kind. Actually, the pair of *shenme* NP in (29) cannot refer to the same object, because, once an object is broken, we cannot compensate the owner with the original object.

- (29) *Ni dapo shenme dongxi,*
you break what thing
jiu dei qu mai shenme dongxi lai pei.
then must go buy what thing come compensate
‘If you break something, then you must go to buy another object of the same kind for compensation.’

Interestingly, it is observed that the pair of the modified common nouns does not need to be identical for the licensing of a kind-level co-reference. A set of illustrative examples is given in (30) (Hua 2000:184-187).

- (30) a. *Bo shenme zhong, jiu jie shenme guo.*
sow what seed then grow what fruit
‘What fruit will grow depends on what seed one sows.’
b. *Jian shenme ren, jiu jiang shenme hua.*
see what person then say what words
‘(Always) say the thing that suits the person you meet with.’
c. *Dao shenme changhe, jiu chuan shenme yifu.*
go what occasion then wear what clothes
‘What one wears should best suit the occasion one finds himself in.’
d. *Women he shenme jiu, jiu yong shenme bei.*
we drink what wine then use what cup
‘We should use a type of cup that fits the type of wine one drinks.’
(Hua 2000:184)

In each of the sentences in (30), the pair of modifier *wh*-phrases denotes two distinct types of entities, but these two types of entities share certain properties that define their categorial identity; *shenme* as a modifier stands for the relevant defining properties.

For example, sentence (30a) means: every kind of crop should be planted in its matching kind of land (e.g. rice should be planted in paddy fields, and corn should be planted in drylands, and so forth). That is, the two sets of things denoted by the pair of modifier *wh*-phrases match the identity in kind.

By contrast, head *wh*-pronouns in Chinese donkey sentences accommodate only the object-level co-reference. For instance, (31) states that if a person comes first, the same person will eat first.

- (31) *Shei xian lai, shei xian chi.*
 who first come who first eat
 ‘If x comes first, x eats first.’

The fact that a kind-denoting co-reference is involved in Chinese donkey sentences containing *shenme* thus constitutes one piece of evidence showing that a kind-concept is involved in the semantics of *shenme*. This kind concept is absent in head *wh*-pronouns, as attested by the lack of the kind-denoting co-reference in donkey sentences with head *wh*-pronouns.¹⁵

Secondly, since *shenme* partitions the denotation of the NP it modifies into kinds of entities, it is anticipated that *shenme* is prohibited if a partition of kinds is not possible. This explains why *shenme* in (32a) cannot precede and modify the nominal expression *gebi de ren* ‘in-the-next-room-De-person’. This nominal expression only describes a temporary location of a group of people, without specifying regularities that occur in

¹⁵ Lin (1999) points out that some Chinese donkey sentences containing *shenme*, such as (i) below, exhibit the object-denoting co-reference.

- (i) *Wo zheli de dongxi, ni yao shenme jiu na shenme.*
 I here De thing you want what then take what
 ‘As for my things here, if you want x, then you can take x.’ (Lin 1999:573)

Notice that Lin (1999) takes a different approach dealing with *shenme* in (29) and in (i). To Lin, while (29) accommodates the kind-denoting co-reference, (i) allows only the object-denoting co-reference. In our view, the apparent object-denoting co-reference in (i) is a derived concept, and the kind-denoting co-reference is also involved in this sentence. Specifically, sentence (i) can be interpreted as ‘If you want an object x of kind y, then you can take the same object x of kind y.’ That is, the denotation of the *shenme* NP in the antecedent and the one in the consequent of (i) are identical both at the object-denoting level and at the kind-denoting level. In this regard, both (i) and (29) allow the kind-denoting co-reference, but (i) additionally requires the object-level co-reference. In a sense, (i) is a special case of (29). Our analysis of the modifier *wh*-pronoun *shenme* and head *wh*-pronouns in Chinese donkey sentences is consistent with the grammatical distinctions between these two types of *wh*-pronouns discussed throughout the present paper.

nature. So it is not possible to carve out a sub-kind of entities with the denotation of *gebi de ren*.¹⁶

- (32) a. **Ta haoxiang tingdao shenme gebi de ren zai jianghua.*
 he seem hear what in-the-next-room De person Asp talk
 b. *Ta haoxiang tingdao gebi de shenme ren zai jianghua.*
 he seem hear in-the-next-room De what person Asp talk
 ‘He seemed to hear someone of some sort in the next room talking.’

Note that it is not a problem to say *shenme ren* ‘what-person’, as shown in (32b). In this case, *shenme* modifies the common noun *ren* ‘person’. This is allowed, because *shenme* picks up persons at a more specific sub-kind level, for instance, kind persons, elegant persons, etc. There is no restriction for *shenme* here to pick up a kind of entities denoted by the common noun *ren* ‘person’.¹⁷

¹⁶ When we replace *shenme ren* with *shei* ‘who’ in (32b), as shown in (i), two kinds of responses are solicited from our informants. Some of the informants judged (i) to be unacceptable. This is conceivable, as *shei* is a substitute for individual persons, and hence it cannot be partitioned into kinds of persons by attaching to a modifier. Alternatively, some other informants said (i) is grammatical, but this sentence is used in a situation different from that for (32b). That is, the use of *shei* in (i) implies that the speaker has a particular person in mind but he momentarily fails to retrieve the person’s name from his memory. Such ‘specific’ use of *shei* is identified in the literature (cf. Ding et al. 1961:166). In this case, *gebi de* seems to function as a non-restrictive relative clause, though the theoretical assumption is not crucial for us. By the contrast, the same informants pointed out that the speaker of (32b) does not know the person in question.

(i) *Ta haoxiang tingdao gebi de shei zai jianghua.*
 he seem hear in-the-next-room De who Asp talk
 ‘He seemed to hear someone in the next room talking.’

Again, the meaning difference between (32b) and (i) supports the divide between modifier *wh*-pronoun *shenme* and head *wh*-pronouns.

¹⁷ The argument here is analogous to the one put forward by Carlson (1977:230-236) arguing *such* in English is a proform of NP modifiers (cf. Siegel 1994, Spinillo 2003). Specifically, Carlson observes that modifiers like *in the next room* cannot be an antecedent of *such*, as shown by the question marks in (i). This is because this kind of expressions describes a temporary location or state of a group of entities, rather than picking out a kind of things with regularities that occur in nature.

(i) People *in the next room*...??*Such* people (are obnoxious)

Note that *shenme* and *such* differ in one aspect. While the semantic value of *such* is always specific, picking up some contextually salient kind, the semantic value of *shenme* is under-specified by default, as previously indicated.

Another related expression, i.e. one with a ‘kind’ interpretation, is English *what*. Heim (1987) suggests that *shenme* takes a kind interpretation that distinguishes it from other *wh*-phrases such as *which* and *who*. We refer the reader to a detailed discussion in Heim (1987).

Sentence (33) represents another case showing *shenme* is banned when a partition of kinds is not possible. In (33a), the first clause {*Wo you yi ge erzi he yi ge nü'er*. ‘I have a son and a daughter’} specifies that the speaker is talking about two particular persons, i.e. his son and daughter, without resorting to a kind concept. In this case, the modifier *wh*-phrase *shenme ren* cannot be used to establish an anaphoric relation in the second clause. Instead, the head *wh*-pronoun *shei* is obligatory in this structure, as shown in (33b). Note that the second clause of (33a) {*Shenme ren xiaoshun wo, wo jiu ba yichan liu gei shenme ren*. (lit.) what person_i show filial obedience to me, I will give my legacy to what person_i} can stand on its own as a Chinese donkey sentence (cf. (29) and (30)); in this case, the denotation of *shenme ren* is not restricted to any particular person.

- (33) a. *Wo you yi ge erzi he yi ge nü'er. *Shenme ren*
 I have one CL son and one CL daughter what person
xiaoshun wo, wo jiu ba yichan liu gei shenme ren.
 show-filial-obedience me I then BA legacy leave to what person
- b. *Wo you yi ge erzi he yi ge nü'er.*
 I have one CL son and one CL daughter
Shei xiaoshun wo, wo jiu ba yichan liu gei shei.
 who show-filial-obedience me I then BA legacy leave to whom
 (lit) ‘I have a son and a daughter, who shows filial obedience to me, I will leave the legacy to whom.’

In a similar vein, the use of *shenme* would not be felicitous if the head noun denotes a unique entity in certain linguistic and pragmatic contexts. This is due to the fact that, it is not possible to make any further partition if the denotation includes just one entity. An example is given in (34):

- (34) ?? *Zhangsan haoxiang kanjian le shenme taiyang.*
 Zhangsan seem see Asp what sun
 ‘Zhangsan seemed to see a sun of some sort.’

Our real world knowledge tells us that one can see one and only one sun in the world at a time. In other words, a unique entity is presupposed for the denotation of the common noun *taiyang* ‘sun’ in this context. On the other hand, the semantics of *shenme* requires that it must delineate kinds of entities denoted by the modified common noun, as we are arguing here. Taken together, the denotation of *taiyang* in (34) is paradoxical with the semantics of *shenme*. This contradiction explains why *shenme* is absurd in (34), as shown by the question marks. However, one can draw different kinds of sun, e.g. red sun, green

sun, as much as one can imagine. This explains why *shenme taiyang* ‘what sun’ is less awkward in (35), in which the predicate is changed to *hua* ‘draw’:

- (35) ?*Zhangsan haoxiang hua le shenme taiyang.*
 Zhangsan seemingly draw Asp what sun
 ‘Zhangsan seemed to draw a sun of some sort.’

Now let us summarize §4. Inspired by traditional Chinese grammar, we propose that the *wh*-pronoun *shenme* is a proform of NP modifiers, and it partitions the denotation of the NP it modifies into kinds of entities. A range of data is presented showing that a kind-concept is involved in the denotation of *shenme*. We also show that *shenme* exhibits systematic distinctions from head *wh*-pronouns such as *shei* ‘who’ and *nali* ‘where’. Head *wh*-pronouns are proforms for an entire NP and denote individual objects.

From the perspective of indexicality, *shenme* in (35) and many other similar cases in simple statements exhibits a ‘free’ use of pronominals (Recanati 2005), as the semantic value of *shenme* in these cases are open-ended. This is the default or unmarked interpretation of *shenme*. As a pronominal element, *shenme* exhibits context-dependent features, restricting to a subset of kinds of entities that are salient in the context (cf. Recanati 2005, and references therein). This is how the insignificance reading arises in negative sentences with *shenme*. This interpretation of *shenme* is more ‘marked’, as contextual support is required in this case. Now we turn to the next section for details.

5. Analysis on the insignificance reading

To show how the insignificance reading arises in negative sentences with *shenme*, let us consider a felicitous context for this reading. As noted earlier, the insignificance reading is felicitous when a contrast set is provided. To illustrate, consider the story in (36), where both Mr. Dog and Mr. Pig are hoping to eat lots of food. Mr. Dog gets his wish, but Mr. Pig is only able to eat a small prawn.

- (36) *Mr. Dog and Mr. Pig were going to Mickey Mouse’s birthday party. Mr. Pig was eating a hard walnut before they started off to the party, and unfortunately he broke some of his teeth. At the party, Mr. Dog ate a big pizza, a big hamburger and vegetable noodles; Mr. Pig also wanted to eat all these kinds of the food, but he was only able to eat a small soft prawn taken from a big seafood noodle dish, because he was suffering from a toothache. In the end, Mr. Dog was very full and happy and went to sleep, but Mr. Pig was still very hungry, and regretted eating the hard walnut.*

With this story as backdrop, consider how sentence (37) is interpreted, with *shenme* in the second conjunct.

- (37) *Xiaogou chi le henduo dongxi, keshi xiaozhu mei chi shenme dongxi.*
 Mr. Dog eat Asp a lot food but Mr. Pig Neg eat what food
 ‘Mr. Dog ate a lot of food, but Mr. Pig hardly ate any food.’

The first conjunct in (37) explains that Mr. Dog ate lots of food (a big pizza, a big hamburger and vegetable noodles). This sets the standard of comparison for Mr. Pig, who is the protagonist mentioned in the second conjunct, with *shenme*. The food eaten by Mr. Dog is ‘significant’, as underscored by the fact that Mr. Dog was full and happy after the meal. As weighed against these criteria, the small prawn eaten by Mr. Pig was insignificant (i.e. close to nothing). This is emphasized with the story that Mr. Pig was still very hungry at the end of the party. In these respects, a contrast between significant versus insignificant kinds of food is established in the story. Then it follows that the modifier *shenme* NP *shenme dongxi* picks up those significant kinds of food, precluding insignificant kind of food in the domain of quantification.¹⁸ When *shenme* NP is combined with negation, it yields the insignificance reading: for (37), if Mr. Pig did not eat significant kinds of food, then by implicature he may have eaten some insignificant kind of food. The formation of the insignificance reading in (37) thus undergoes a series of pragmatic inferences.

- (38) Step 1: *Shenme* is combined with negation. The literal ‘none’ meaning (*Mr. Pig did not eat any food*) is derived. This reading makes the sentence (37) false.
 Step 2: Assuming that the speaker is attempting to say something that is true, the hearer seeks an alternative to the literal meaning.
 Step 3: This is accomplished by partitioning the entities in the domain of discourse into significant kinds versus insignificant kinds.

¹⁸ This context-dependent feature of *shenme* is analogous to that of *such* in English, which is also a proform of NP modifiers (cf. fn. 17). Siegel (1994) contributes a discussion on this. Consider Siegel’s sentence below:

(i) Conscientious students know that everyone resents such students. (Siegel 1994:482)
 If (i) is uttered while watching students attending a wild three-day party, *such* might be taken to mean the sort of *un*-conscientious students who might attend such a party. This is a case showing that pronominals like *such* pick up a meaning from the surrounding non-linguistic context.

Step 4: The *wh*-pronoun *shenme* is anaphorically linked to the significant kinds of entities in the discourse context.

Step 5: When *shenme* is combined with negation, it yields the insignificance reading.

Mr. Pig did not eat significant kinds of food → *Mr. Pig ate some insignificant kind of food.*

Since the insignificance reading is derived by a pragmatic inference, it is anticipated that this reading will be cancelled (Cui 2012; cf. Chierchia 2004). This prediction is verified, as illustrated in (39).

- (39) *Zhangsan mei chi shenme pingguo. Shijishang, ta mei chi renhe pingguo.*
 Zhangsan Neg eat what apple in-fact he Neg eat any apple
 ‘Zhangsan hardly ate any apples. In fact, he did not eat any apples.’

The analysis is supported by some empirical data. We tested 10 Mandarin-speaking adults by using a variant of Truth Value Judgement Task (Crain & Thornton 1998). These participants were tested individually. In particular, we presented a story script to each of the participants, and this story script is organized based on the story summary in (36), but in a more detailed version. After they finished reading the story script, we then presented the sentence (37), and asked them to judge whether (37) is true or false based on their understanding of the story. If they indicated that the sentence was false, we asked them why.

The results confirm our analysis. All of the Chinese speakers stated that (37) is true. The acceptance of the test sentence against the context specified by (36) indicates that the Chinese speakers assigned the insignificance reading to the negative sentence with the modifier *wh*-phrase *shenme dongxi* ‘what food’.

This experimental setting offers support for our hypothesis on the insignificance interpretation. However, we note that insignificance readings can also appear in more ‘natural’ contexts. In everyday conversations, the contrast set could be implicitly assumed in conversational settings, due to social or cultural conventions; in this case, the insignificance reading could also arise. For example, if you are thanking me for doing you a favor, then I am likely to respond by saying (40) below:

- (40) *Wo mei bang shenme mang.*
 I Neg help what favor
 ‘I did not do much for you.’

This reply indicates that what I did for you was insignificant compared to what I would have been willing to do for you; it is a way signaling my enthusiasm to help you. So, the contrast set of significant versus insignificant kinds of things can be inferred, in the opportune extra-linguistic conditions.

On the proposed analysis, a contextually-determined partition into significant versus insignificant kinds is required to license the insignificance reading. When such a partition is established, the semantic value of *shenme* is ‘marked’ as restricting to the set of significant kinds of entities. Following this analysis, it is predicted that whenever a partition is not viable in the domain of discourse, the insignificance reading will not be generated. The semantic value of *shenme* is open-ended in the absence of a partition in the domain of discourse, and is hence assigned the ‘none’ reading when *shenme* is associated with negation. This prediction is borne out in a range of cases. In the remainder of this section, we shall show one of the cases, namely, the lack of the insignificance reading in negative sentences with *shenme* when a contrast set is not provided. Other cases will be covered in the next section.

Consider the story in (41). In this story, Mr. Dog sets the condition for a prize: as long as Mr. Pig finds some of the treasure (whatever treasure it is), he will get the Thomas Train. Mr. Pig ends up finding a small pearl and the big diamond, and he gets the Thomas Train from Mr. Dog.

- (41) *Mr. Pig is always careless, and his friend Mr. Dog enjoys making fun of him. One day, Mr. Dog invited Mr. Pig to play a seek-the-treasure game with him. Mr. Dog promised Mr. Pig that if Mr. Pig found any one of the treasure he was going to hide, he would give Mr. Pig his favorite toy — a Thomas Train. Mr. Dog then hid a lot of small pearls and a diamond. Mr. Pig eventually stumbled upon a pearl and the diamond by accident, and Mr. Dog gave the Thomas train to Mr. Pig as promised.*

Following this story, consider now how the sentence in (42) would be interpreted.

- (42) *Xiaozhu zhaodao le baoshi,*
 Mr. Pig find Asp diamond
keshi ta meiyou zhaodao shenme zhenzhu.
 but he Neg find what pearl
 ‘Mr. Pig found the diamond, but he did not find any pearl.’

The first conjunct asserts that Mr. Pig found the diamond. This constitutes a correct description of one event that took place in the story. The second conjunct is a negative

statement with the *wh*-phrase *shenme zhenzhu* ‘what pearl’. The question is whether or not the small pearl that Mr. Pig found suffices for Mr. Pig to have found any of the pearls. In the present context, it does, because the pearl is just as significant as the big diamond — both are categorized as ‘treasure’ in the story. It does not matter what kind of pearl Mr. Pig finds, small or large. Any kind of pearl will suffice for Mr. Pig to receive the prize he was promised. When the underspecified *shenme* NP in (42) is negated, therefore, the ‘none’ reading is generated, to the effect that Mr. Pig did not find any kind of pearl.¹⁹ Clearly, this is an inaccurate description of the story. In short, the story (41) sets up a story in which a partition between significant versus insignificant kinds is prohibited. Against this backdrop, the insignificant reading is not available for the negative statement with *shenme* in (42).

To examine our analysis, we presented sentence (42) to 10 Mandarin-speaking adults against the story (41). We used the same experimental method as we used for testing the ‘insignificance’ reading above. That is, we first presented each of the participants the story (41); after they finished reading the story, we proceeded to ask whether the test sentence (42) was true or false based on their understanding of the story. To make a within-subject comparison, we used the same Mandarin-speaking adults that participated in the testing of the insignificance reading above. The two testings were conducted on different days, with 3 days apart for each participant.

As expected, all of the Chinese speakers stated that the test sentence (42) is false. When asked to justify their response, they indicated that Mr. Pig did find a pearl. From their judgment and the corresponding justification, it is clear that they assigned the ‘none’ reading to the second conjunct of sentence (42). Note that we did provide a small amount context in the story, as manifested by the design that the small pearl Mr. Pig stumbled upon is one from a large number of pearls that Mr. Dog hid. But the story is manipulated to prohibit a partition between significant versus insignificant kinds. With this design, the ‘none’ interpretation is biased, even though negative sentences with *shenme* are open to both the ‘none’ reading and the insignificance reading. The fact that the same Mandarin-speakers rejected (42) but accepted (37) supports our analysis that a

¹⁹ The informal intuition is the following. Suppose that the discourse contains four types of pearls in total: *p*, *q*, *r*, and *s*. Then the second conjunct of (42) means Mr. Pig did not find the types of pearls that are labeled as *p*, *q*, *r*, or *s* (cf. §4.1). By applying one of de Morgan’s Laws ($A \vee B \Rightarrow (\neg A \wedge \neg B)$), where ‘ \vee ’ and ‘ \wedge ’ correspond to Boolean disjunction and conjunction, respectively, we end up with a circumstance in which Mr. Pig did not find any of the pearls, i.e. the ‘none’ reading of the sentence. The derivation of the ‘none’ reading is represented in (i):

$$\begin{aligned} \text{(i)} \quad & \neg \exists x[\text{found}'(p, x) \ \& \ \text{pearl}'(x) \ \& \ x \in \{p, q, r, s\}] \\ & = \neg[\text{found}'(p, p) \vee \text{found}'(p, q) \vee \text{found}'(p, r) \vee \text{found}'(p, s)] \\ & = \neg\text{found}'(p, p) \wedge \neg\text{found}'(p, q) \wedge \neg\text{found}'(p, r) \wedge \neg\text{found}'(p, s) \end{aligned}$$

partition between significant versus insignificant kinds in the domain of discourse is vital for the triggering of the insignificance reading.

Now we move on to other cases in which the insignificance reading is not licensed. We shall show that all of the cases could be traced back to the lack of a partition between significant versus insignificant kinds.

6. The lack of the insignificance reading

In this section, we discuss a range of linguistic structures that cannot generate the insignificance reading, including: (i) sentences with the Negative Polarity Item *renhe* ‘any’; (ii) sentences with ‘head’ *wh*-pronouns, such as *shei* ‘who’; (iii) sentences with the adverb of quantification *dou* ‘all’; (iv) sentences with bare nouns; (v) sentences involving imperfective aspect; and (vi) sentences with non-local negation. The lack of the insignificance reading in these structures will be eventually traced back to the prohibition of a partition among significant versus insignificant kinds, for various semantic reasons.

6.1 NPI *renhe*

As mentioned in §1, the insignificance reading is not possible for negative statements with the NPI *renhe*, and only the ‘none’ reading is available for this case (W. H. Li 1992, Hsiao 2002).

- (43) *Zhangsan mei chi renhe dongxi.*
Zhangsan Neg eat any thing
‘Zhangsan did not eat anything.’

Basically, the absence of the insignificance reading in (43) is due to the semantic properties of the NPI *renhe*. In particular, *renhe*, like its English counterpart *any*, extends the domain of quantification, so as to encompass entities that are not typically associated with the accompanying common noun, i.e. atypical entities of the same class. This semantic property is called ‘domain widening’ (Kadmon & Landman 1993). (For further details on the syntax and semantics of *renhe*, see Wang & Hsieh 1996, Hua 1997, Hsiao 2002, Kuo 2003, Hua & Zeng 2009, Zhang 2010, Cheng & Giannakidou 2012) An example of domain widening is given in (44).

- (44) Q: *Ni you gan wazi ma?*
you have dry sock Q
‘Do you have dry socks?’

A: *Wo mei you renhe wazi.*
 I Neg have any sock
 ‘I don’t have any socks.’

In the dialogue (44), the question is about dry socks. But, in responding to this question, the speaker’s use of *renhe* extends the class of socks to include socks of any kind, even wet socks. The domain-widening effect of *renhe* renders it impossible to make any further partitioning of socks in the domain of discourse, let alone a partition between significant versus insignificant kinds. Consequently, the entire domain of kinds of socks has been exhausted. Furthermore, the domain widening effect of *renhe* determines that the semantic interpretation of *renhe* is not affected by context. This explains why the insignificance reading is not possible for negative sentences with *renhe*, no matter how the context is manipulated. The insignificance reading is not possible even when a contrast set is set up, as shown in (45).

(45) *Xiaogou chi le henduo dongxi, keshi Xiaozhu mei chi renhe dongxi.*
 Mr. Dog eat Asp a lot food but Mr. Pig Neg eat any food
 ‘Mr. Dog ate a lot of food, but Mr. Pig did not eat any food.’

6.2 Adverb of quantification *dou*

We have another case showing that the insignificance reading is not possible when a partition among the kinds of entities denoted by *shenme* NP is prohibited. This is the case when the adverb of quantification *dou* ‘all’ occurs with the modifier *wh*-pronoun *shenme* (Hole 2004).

(46) *Shenme ren dou mei pa shang zhe ke shu.*²⁰
 what person all Neg climb up this CL tree
 ‘Nobody climbed up the tree.’

Setting aside the various controversies on the complex semantics of the universal *dou* (see Lee 1986, Cheng 1995, Huang 1996, Lin 1998b, Hole 2004, among others), it is appropriate for us to say this adverb of quantification requires that negation must be

²⁰ Due to the distributional constraint of the universal *dou*, *shenme ren* in (46) has to occur to the left of *dou* (e.g. see Lee 1986). So on the surface, *shenme ren* is not in the scope of negation. However, we assume that the association between negation and denotation of *shenme ren* is derived at some level of logical form. We leave aside more specific syntactic matters, as they are not crucial here.

associated with **all** of the kinds of entities denoted by *shenme* NP. In this example, (46) means it is not the case that any kind of people was able to climb up the tree, i.e. the ‘none’ reading of the sentence.²¹

6.3 Head *wh*-pronouns

As noted in §2.1, head *wh*-pronouns in negative statements do not receive the insignificance reading, and only ‘none’ reading is possible for this type of *wh*-pronouns (cf. Lin 1999). An example is given in (47).

- (47) *Lisi mei piping shei.*
 Lisi Neg criticize who
 ‘Lisi did not criticize anyone.’

The lack of the insignificance reading in (47) is due to the semantics of head *wh*-pronouns. As discussed in §4, head *wh*-pronouns serve as a proform for an entire NP, and they denote individual objects. For instance, the head *wh*-pronoun *shei* ‘who’ in (47) stands for a set of individual persons, such as Zhangsan, Lisi, Wangwu, etc. In a sense, these individual persons constitute a single kind, the kind of being a person. Since only one kind is involved here, it does not make sense to make any further partition with the kind. Without a partition among its referents, the entire set of individual entities denoted by head *wh*-pronouns is ‘connected’ to an external operator like negation. This explains why the insignificance reading is not attested in head *wh*-pronouns like *shei* ‘who’, and only the ‘none’ reading is possible when they appear under a negation in sentences like (47).

²¹ *Dou* can also be used as a scalar operator (in the sense of Fauconnier 1975), when it occurs in the *lian-dou* construction. This use of *dou* is semantically similar to that of English *even* (Jiang 2008, Xiang 2008). Interestingly, the insignificance reading is available when *dou* takes this *even*-like interpretation. Consider the example below.

- (i) (*Lian*) *Zhangsan dou mei chi shenme shuiguo.*
 LIAN Zhangsan DOU Neg eat what fruit
 (a) ‘Even Zhangsan did not eat any fruit.’
 (b) ‘Even Zhangsan hardly ate any fruit.’

When used as a scalar operator, *lian-dou* is associated with the focused subject *Zhangsan*, introducing a set of alternative propositions: among a set of persons specified in a discourse, Zhangsan is the least likely person who hardly ate any fruit. In other words, since the scalar operator *dou* does not prevent a partition of the denotation of *shenme* NP, the insignificance reading can be triggered when relevant felicity conditions are provided (cf. §5).

6.4 Bare nouns

The insignificance reading is not possible for negative statements with bare nouns (Cui 2012). An illustrative example is given in (48) below:

- (48) *Zhangsan mei chi pingguo.*
 Zhangsan Neg eat apple
 ‘Zhangsan did not eat any apples.’

(48) can only mean Zhangsan did not eat any apples, the ‘none’ reading. Or put in different way, (48) says that Zhangsan did not eat any instantiation of the apple kind.²² Here, only one individual kind, the apple kind, is involved. So, it is not possible to make any further partition within the denotation of the bare noun *pingguo*, let alone a partition between significant vs. insignificant entities. Thus, the absence of the insignificance reading for negative sentences with bare nouns is eventually due to the lack of a partition of significant versus insignificant kinds in the domain of discourse.

6.5 Imperfectivity

In §2.2, it is shown that the imperfective situations do not license the insignificance reading. This was illustrated by the facts that the insignificance reading is not possible with sentences containing the imperfective negation operators *bu* and *bie*, and when imperfective aspect markers like *zhe* and *zai* are present. Relevant examples are reproduced below.

- (49) a. *Zhangsan bu chi shenme pingguo.*
 Zhangsan Neg eat what apple
 ‘Zhangsan does not like to eat any apples.’
 b. *Bie chi shenme bingjiling. (Tian tai leng le.)*
 Neg eat what ice cream (weather too cold Asp)
 ‘Don’t eat any ice cream. (It is too cold.)’
 (50) a. *Zhangsan mei zai tui shenme che.*
 Zhangsan Neg Asp push what car
 ‘Zhangsan is not pushing any cars.’

²² Readers are referred to Krifka (1995b), Chierchia (1998), and Lin (1999) for the arguments that bare nouns in Mandarin Chinese refer to kinds.

- b. *Zhangsan mei tui zhe shenme che.*
 Zhangsan Neg push Asp what car
 ‘Zhangsan is not pushing any cars.’

The lack of the insignificance reading in sentences with imperfective operators follows naturally from our analysis. Crucially, making a partition between significant versus insignificant kinds requires a perfective event, which is informationally closed (Smith 1991). Only in perfective situations can one judge which kinds of entities are significant and which kinds of entities are insignificant. In imperfective situations, the activities or events are still in progress and are open to additional information, thus the evaluation of the significance of entities in the domain of discourse cannot be conducted. In this regard, it is straightforward that the insignificance reading does not arise in imperfective situations, because this kind of situation type cannot generate a partition between significant versus insignificant kinds.

6.6 Non-local negation

We now explain why a non-local negation does not license the insignificance reading, as the empirical data in §2.2 shows.

- (51) *Wo mei shuo Zhangsan chi le shenme pingguo.*
 I Neg say Zhangsan eat Asp what apple
 ‘I did not say Zhangsan ate any apples.’

In (51) (formally (12)), the negation operator *mei* applies to the matrix clause verb *shuo* ‘say’, denying that the speaker thinks a certain proposition constituted by the embedded clause *Zhangsan chi le shenme pingguo*. In other words, the linguistic elements within the embedded clause will not be accessible to the negation *mei* in the matrix clause. Furthermore, embedded clause *Zhangsan chi le shenme pingguo* is an affirmative clause, and a partition between significant versus insignificant kinds is not possible in affirmative clauses.²³ Taken together, the insignificance reading does not arise in (51), as we expect.

²³ A reviewer asked why a partition is not possible in affirmative sentences. A possible answer is this. A context of utterance may indicate some kinds of entities are relevant (or significant) and other kinds of entities are not relevant (hence insignificant). However, in affirmative sentences, there is no linguistic means to tease apart those relevant/significant kinds of entities from those irrelevant/insignificant kinds of entities formulated in the non-linguistic context. By contrast, negation is a focus-sensitive operator (Jackendoff 1972, Xu & Li 1993, Lee & Pan 2001), facilitating an anaphoric relation between *shenme* and relevant/significant kinds of entities when *shenme* is associated with negation.

If a local negation occurs, then the insignificance reading resurfaces. This is the case in (52).

(52) *Wo mei shuo Zhangsan mei chi shenme pingguo.*

I Neg say Zhangsan Neg eat what apple

(i) ‘I did not say Zhangsan ate any apples.’

(ii) ‘I did not say Zhangsan hardly ate any apples.’

On the insignificance reading, (52) states that the speaker does not think (external negation) that Zhangsan ate apples of the significant kind. Local, or internal negation negates that the apples Zhangsan did not eat, according to the speaker’s thoughts, are the significant ones. The implicature arising from this interpretation is that the speaker thinks Zhangsan ate some ‘insignificant’ kind of apples. Then the external negation denies that the speaker thinks a certain proposition, which involves a certain set of apples. So, under the opportune licensing conditions in embedding contexts with the local negation *mei*, the insignificance reading can be licensed (cf. §4.1).

Summing up, in this section we discussed the lack of the insignificance reading in a range of cases, including (i) sentences with NPI *renhe*; (ii) sentences with the universal *dou* ‘all’; (iii) sentences with head *wh*-pronouns; (iv) sentences with bare nouns; (v) sentences involving imperfective aspect; (vi) sentences with non-local negation. This is by no means an exhaustive list of the lack of the insignificance reading. There are many other cases where *shenme* cannot be assigned the insignificance reading. But what we attempted to show here is that the lack of the insignificance reading in these cases always follows from the proposed analysis on the insignificance reading, namely, the lack of the insignificance is traced back to the lack of a partition between significant versus insignificant kinds. When such a partition is absent, the semantic value of *wh*-pronoun *shenme* takes its unmarked form, as being an open-valued proform of NP modifiers (cf. §4). This explains why the ‘none’ reading is the only reading when unmarked *shenme* is associated with negation.

7. Discussion and conclusion

This paper offers a semantic analysis on the insignificance reading associated with negative sentences with *shenme*. In this account, we showed that the construction of the insignificance reading needs extra contextual support. That is, when a contrast set of significant entities versus insignificant entities is provided in the discourse, the insignificance reading can be obtained through a series of pragmatic inferences. Essentially, when the *wh*-pronoun *shenme* anaphorically selects a set of significant kinds of entities,

and these significant kinds of entities are denied as existing in the domain of discourse, one can infer that some insignificant kind of entities may exist. The proposed analysis is extended to explain the lack of the insignificance reading in a set of cases, including (i) sentences with NPI *renhe*, (ii) sentences with the universal *dou*, (iii) sentences with head *wh*-pronouns, (iv) sentences with bare nouns, (v) sentences involving imperfective aspect, and (vi) sentences with non-local negation. The lack of the insignificance reading in these cases is traced back to the lack of a partition between significant versus insignificant kinds.

From a broader theoretical perspective, the study of the insignificance reading allows us to see that various aspects of Chinese grammar, including *wh*-morphology, sentential aspect, locality, and pragmatic inference, have a bearing on the interpretation of *wh*-pronouns. In this respect, the research of the insignificance reading is significant. Two points are worth highlighting here. First, this study supports a divide between modifier *wh*-pronoun *shenme* and head *wh*-pronouns. While modifier *wh*-pronoun *shenme*, when combined with an NP, denotes a set of individual kinds, head pronouns denote a set of individual objects (or a single kind). The divide between modifier *wh*-pronoun *shenme* and head *wh*-pronouns underscores the un-uniformity of *wh*-pronouns in Mandarin Chinese with particular reference on the denotational properties of *wh*-pronouns (cf. Lin 1999, Cheng & Giannakidou 2012).

Now we turn to the second theoretical issue we would like to highlight. Discourse information is identified as a crucial factor determining the alternation of the insignificance reading and the ‘none’ reading. Specifically, the *wh*-pronoun *shenme* is restricted to a set of significant kinds of entities in the case of the insignificance reading, whereas the semantic value of *shenme* is open-ended in the case of the ‘none’ reading. This brings us to an important semantic distinction between *wh*-pronouns and the NPI *renhe*. That is, unlike *wh*-pronouns, the interpretation of *renhe* is not subject to change in the discourse. This is probably due to the domain widening effect of *renhe*.

Three issues remains. First, one may observe that *shenme* can sometimes stand alone without attaching to a common noun. Actually it is implicitly assumed in the literature that *shenme* functions as a proform of bare nouns when it occurs alone. This idea is explicitly spelled out in Lin (1999:573): “*shenme* can be a proform of bare NPs and hence has the same kind of denotation as bare NPs.” The main argument Lin presents is that a bare noun, such as *shu* ‘book’ in (53), can be used to answer a *shenme*-question.

- (53) Q: *Ni xihuan shenme?*
 you like what
 ‘What do you like?’

A: *Wo xihuan shu.*
 I like book
 ‘I like books.’

However, some independent evidence shows the bare *shenme* account cannot hold. As widely acknowledged in traditional Chinese grammar (Ding et al. 1961:189, Zhu 1982:90, Lü 1985:152), bare *shenme* is highly restricted in distribution. In particular, the common noun following *shenme* can be elided only when a generic noun like *dongxi/shiqing* ‘thing’ is assumed. Common nouns denoting animate entities, such as *ren* ‘person’ in (54a), cannot be elided without changing the meaning of the sentence. Moreover, common nouns denoting a specific kind, say *pingguo* ‘apple’ in (54b), cannot be elided either.

- (54) a. *Zhangsan shi shenme *(ren)?*
 Zhangsan be what person
 ‘What kind of person is Zhangsan?’
 b. *Zhangsan chi le shenme *(pingguo)?*
 Zhangsan eat Asp what apple
 ‘What kind of apple did Zhangsan eat?’

By contrast, a *bona fide* proform of NP, like *one* in English, has no such distributional restriction. In English, DPs containing *one* could refer to anything, either animate or inanimate, as long as the associated denotation is countable. For instance, *one* in (55) can denote any countable entity salient in the context.

- (55) This one is imported from China.

Thus, the restriction in distribution of *shenme* as shown in (54) casts doubt on the claim that *shenme* is a proform of bare nouns. It is more reasonable to assume that a covert generic NP follows *shenme* when *shenme* stands alone. Therefore, *shenme* uniformly functions as a modifier, as we are arguing here.

A second remaining issue is to explain the object-level denotation associated with some *shenme* questions. This concerns whether we can maintain the proposal that *shenme* uniformly partitions the denotation of the NP it modifies into kinds. To illustrate, a *shenme* question can be answered with a sentence containing a definite object-denoting expression (cf. Lin 1999).

- (56) A: *Ni mai le shenme?*
 you buy Asp what
 ‘What did you buy?’
 B: *Wo mai le zhe ge pingguo.*
 I buy Asp this CL apple
 ‘I bought this apple.’

In (56), B uses a sentence containing the object-denoting expression *zhe ge pingguo* ‘this apple’ to answer A’s *shenme* question.

The object-denoting concept in the conversation of (56) can be explained by using Carlson’s (1977) account of kinds. That is, a *shenme* NP is a kind-denoting term, and the object-denoting concept involved in the conversation is attributed to the verbal predicate *mai* ‘buy’. *Mai* is a stage-level predicate, and it makes the *shenme* question in (56) apply to the stages of the kind picked up by *shenme*. This is so because one can only buy some instances of the apple kind, not the whole apple kind. To compare, a *shenme* sentence containing an individual-level predicate, like *xihuan* ‘like’ in (57), cannot be answered with a sentence containing an object-denoting expression.

- (57) A: *Ni xihuan chi shenme pingguo?*
 you like eat what apple
 ‘What apple do you like to eat?’
 B: **Wo xihuan chi zhe ge pingguo.*
 I like eat this CL apple
 ‘I like to eat this apple.’
 B’: *Wo xihuan chi zhe zhong pingguo.*
 I like eat this CL apple
 ‘I like to eat this kind of apples.’

In (57), a sentence containing the individual classifier *ge*, which singles out the unit of apple objects, is not an appropriate answer to the *shenme* question {*Ni xihuan chi shenme pingguo?* ‘What apple do you like to eat?’}. Instead, a sentence with the kind classifier *zhong* is a suitable answer. So when a *shenme* question containing a stage-level predicate is used to search for a particular kind, a possible answer could be a sentence with an object-denoting NP. But this does not constitute a counterexample arguing against the idea that the *wh*-pronoun *shenme* introduces a set of kinds. The object-denoting notion is just a derived concept, being a stage of the kind associated with *shenme*.

The third remaining issue concerns about the notion of insignificance. Apparently, two kinds of insignificance readings are viable in negative sentences with *shenme* (Lü

1985). For instance, the insignificance reading expressed by (58) seems to be: (i) Zhangsan hardly ate any ‘significant’ kinds of fruit, or (ii) Zhangsan did not eat much fruit, i.e. he ate only a small amount of fruit. The first reading represents an insignificance in quality, and the second one represents an insignificance in quantity.

(58) *Zhangsan mei chi shenme shuiguo.*

Zhangsan Neg eat what fruit

(i) ‘Zhangsan hardly ate any fruit.’

(ii) ‘Zhangsan did not eat any fruit.’

Some independent evidence shows that the insignificance in quality is the basic reading. Attesting to this is the fact that, a negative sentence with *shenme* is felicitous in a context in which reference is being made to a large quantity of entities, as long as the kinds of these entities are insignificant as defined by the context. (59) is such a case. Suppose Zhangsan is planning to buy some clothes, to dress up for an important meeting. I expect Zhangsan to buy some formal and smart outfit, say, a suit. However, it turns out he buys a lot of cheap T-shirts and jeans, none of which I think appropriate for such a formal event. In this context, I can use (59) to convey the opinion that the large quantify of clothes Zhangsan buys is not appropriate.

(59) *Zhangsan jintian mei mai shenme yifu,*

Zhangsan today Neg buy what clothes

jiu mai le yi da dui meiyong de yifu.

only buy Asp one big pile useless De clothes

‘Zhangsan hardly bought any useful clothes today. He only bought a lot of useless clothes.’

Furthermore, a small amount of entities could be significant. This is so when a partition is prohibited between the denotations of the NP modified by *shenme*. The little pearl in our Mr. Pig-find-treasure story discussed in §6 is such an example. In short, quantity is not a crucial thing for the licensing of the insignificance reading; it can be a small amount or a large amount. Therefore, we conclude that insignificance in quality is the *basic* meaning of the insignificance reading, and insignificance in quantity is just a special case of insignificance in quality.²⁴

²⁴ To express insignificance in quantity, Chinese speakers resort to another *wh*-pronoun, i.e. *ji* ‘how-many’. When *ji*, with an accompanying classifier such as *ge* appears in a simple negative statement, it receives a ‘small-amount’ interpretation, i.e. the insignificance in quantity, as in (i). Note that no insignificance in quality is licensed in this example.

A related point is raised by a reviewer regarding the notion of insignificance. The reviewer pointed out that a quantity reading seems to be more salient than the quality reading when a mass noun is used. Examples in (60) are offered by the reviewer.

- (60) a. *Wo mei he shenme shui.*
 I Neg drink what water
 (i) ‘I hardly drank any water.’
 (ii) ‘I did not drink any water.’
 b. *Ta mei zhuan shenme qian.*
 he Neg earn what money
 (i) ‘He hardly earned any money.’
 (ii) ‘He did not earn any money.’

Furthermore, the reviewer pointed out that the salience of the quantity reading in (60) can be diagnosed using the adverb of quantification *dou* ‘all’, as in (61). It is said the use of the universal *dou* invokes a quality reading; this quality reading, however, is not compatible with the quantity reading associated with the mass noun. According to the reviewer, this quality versus quantity mismatch explains why the two sentences in (61) sound odd, as indicated by the question mark.

- (61) a. ?*Wo shenme shui dou mei he.*
 I what water all Neg drink
 ‘I didn’t drink any water.’
 b. ?*Ta shenme qian dou mei zhuan.*
 he what money all Neg earn
 ‘He didn’t earn any money.’

In our view, the oddness in (61) comes from the assumption that only one kind is involved in the domain of discourse (one kind of water in (61a) and one kind of money in (61b)). When such an assumption is removed, the oddness will disappear. Suppose there are different kinds of water under consideration, for instance, tap water, boiled water, bottled water, and the speaker did not drink any kind of water. Against this backdrop, (61a) sounds perfect. Likewise, if we are talking about different kinds of currency, like US dollars, Renminbi, British pounds, Australia dollars, etc., (61b) does not sound

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- (i) *Zhangsan mei chi ji ge pingguo.*
 Zhangsan Neg eat how-many CL apple
 ‘Zhangsan did not eat many apples.’

weird at all. Therefore, the apparent oddness in (61) comes from real world knowledge, not from the grammar. As long as the denotation of a mass noun can be partitioned into a set of kinds by *shenme*, the basic quality reading will surface. This can be further confirmed by replacing *shui* ‘water’ in (60a) and (61a) with another mass noun, i.e. *yao* ‘medicine’.

- (62) a. *Wo mei he shenme yao.*
 I Neg drink what medicine
 (i) ‘I hardly drank any medicine.’
 (ii) ‘I did not drink any medicine.’
 b. *Wo shenme yao dou mei he.*
 I what medicine all Neg drink
 ‘I didn’t drink any medicine.’

It is easy to think of a variety of kinds of medicine existing in the domain of discourse. This explains why the insignificance reading in (62a) is not biased to the quantity reading, and (62b) is a very good sentence. To wrap up, the insignificance reading speaks of insignificance in kind. This concept of insignificance is consistent with the proposal that *shenme* introduces a set of kinds.

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[Received 13 February 2012; revised 20 June 2012; accepted 10 August 2012]

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“不重要”意義的重要性 ——漢語疑問代詞“什麼”的解讀

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本文研究漢語普通話疑問代詞“什麼”在簡單否定句中‘不重要’這個意義是如何產生的。我們認為“什麼”是一個名詞修飾語的替代詞，它引進所修飾名詞的子類。“什麼”這個語義特點決定了‘不重要’這個意義在滿足一定語用條件下能夠出現在含有“什麼”的簡單否定句中。我們的分析可進一步解釋為什麼‘不重要’這個意義不能出現在其他一系列語法結構中，包括 (1) 含有負極詞“任何”的句子；(2) 含有像“誰”這樣的名詞詞組替代詞的句子；(3) 含有全稱量化副詞“都”的句子；(4) 含有光杆名詞的句子；(5) 含有未完成體的句子；(6) 含有非局部否定的句子。本文揭示了漢語的多種語法要素參與了‘不重要’這個意義的允准過程。

關鍵詞：漢語疑問代詞，修飾語，類別，“不重要”意義，負極詞