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A Semantics-Pragmatics Approach to the Interpretations of Mandarin Bare Nouns

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Abstract

Bare nouns are nouns that occur without demonstratives, numerals or articles. Mandarin bare nouns, like English bare plurals, can have a generic or existential interpretation. But unlike English bare plurals, they can also have definite reference. There have been proposals to account for the interpretations of Mandarin bare nouns in terms of syntactic structure (Audrey Li, 1997; Cheng and Sybesma, 1999) and predicate types (Jie, 1997).

The present paper attempts to account for different interpretations of Mandarin bare nouns by relating the kind referring vs. object referring interpretations to the semantic distinction between individual-level and stage-level predicates (Kratzer, 1989) and shows that Mandarin bare nouns have a generic interpretation with individual-level predicates. With stage-level predicates, they have a definite interpretation when they are in topic position and an existential interpretation when they are not in topic position.

However, bare nouns often do not appear as arguments of any predicates in natural discourse. The current paper attempts to reconstruct sentence fragments based on contexts and show that the Givenness Hierarchy (Gundel et al., 1993) restricts possible interpretations of Chinese bare nouns and that Relevance Theory (Sperber & Wilson, 1995) is needed to explain how people choose the intended interpretation from the possible ones.

Key words: Mandarin Bare nouns; semantic distinction; Givenness hierarchy; Relevance theory

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INTRODUCTION

Most human languages allow nominal phrases headed by nouns without demonstratives,numerals or articles, such as English ‘dogs’ in ‘Dogs bark’ or ‘sugar’ in ‘Sugar is sweet’. These are referred to as ‘bare nouns.’ The interpretations of bare nouns in Mandarin Chinese vary by contexts. For example, in (1) and (2), shu ‘book’ is generic. It refers to the type.

(1) Shu hen gui.
书很贵。 generic
“Books are very expensive.”
(2) a. Wo xihuan shu.
我喜欢书 generic
“I like books.”
b. Shu wo xihuan.
书我喜欢。 generic
“I like books.”

In example (3), shu ‘book’ refers to a specific book or books that the hearer is expected to identify.

(3) a. Shu dao-le.
书到了。
“The book has arrived.”
“The books have arrived.”

An overt existential marker is needed for an existential reading here. For example,

(3) b. You shu dao-le.
有书到了。
“Some books have arrived.”

In (4a), shu ‘book’ yields an existential/indefinite interpretation, while it yields a definite interpretation when it is fronted as in (4b) and (4c).

(4) a. Ta mai le shu.
他买了书。 indefinite/existential
“He has bought a book/books.”
b. Shu ta mai-le
书他买了。 definite
“He has bought the book (s).”

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c. Ta shu mai-le.
他书买了。 definite
"He has bought the book (s)"

This paper attempts to account for different interpretations of Mandarin bare nouns and will show that the kind referring vs. object referring interpretations can be accounted for in terms of the semantic distinction between individual-level and stage-level predicates, while the distinction between definite and indefinite object referring bare nouns will be handled by pragmatics. I will start with previous syntactic accounts and predicate type accounts of Mandarin bare nouns and the deficiency of the previous researches is also pointed out and analyzed and then propose a new account based on predicate types supplemented by a pragmatic account.

Next is a general picture of what has been accomplished in approaches to the interpretations of Mandarin bare nouns.

1. LITERATURE REVIEW

Diesing (1992) propose that Mapping Hypothesis links semantic representation with syntactic structures. That is, material from VP is mapped into the nuclear scope and material from IP is mapped into a restrictive clause. She also assumed that the subject of a sentence can be base-generated within the VP projection, which is referred to as the VP-internal subject hypothesis. English bare plurals in the external subject position is mapped to the restrictive clause, and thus result in a generic interpretation. English bare plurals lowered to the internal subject position in LF are mapped to the nuclear scope, and thus result in an existential interpretation. However, not all predicates allow both the generic and existential interpretation. Adopting Kratzer's (1989) classification of individual-level predicates and stage-level predicates, bare plural subjects of stage-level predicates can be generic or existential, while bare plural

subjects of individual-level predicates can only be generic. Diesing (1992) thus claimed that subjects of stage-level predicates can appear either in [Spec, IP] or in [Spec, VP]. Subjects of individual-level predicates can appear only in [Spec, IP].

There have also been syntactic proposals to account for the interpretations of Mandarin bare nouns in terms of N movement. They assume that bare nouns in Mandarin are part of a full-fledged DP with an empty D head (Audrey Li, 1997) or ClP with an empty Cl (Cheng & Sybesma, 1999) and the different interpretations result from movement of N to different positions within the DP.

Liu (2002) also discusses semantic and syntactic properties of kind-denoting NP (KNP) as typically occurring in subject/topic position in Chinese . Semantically, KNPs can be distinguished from other types of referentiality in terms of its non-individuality and syntactically, KNP subjects require individual-level predicate and rule out stage-level ones.

These accounts both use movement to account for different interpretations of Mandarin bare nouns. However, it is not clear why there is movement in some bare nouns but not others. A complete account of bare nouns in Mandarin will have to include syntax as well as semantics and pragmatics.

Gundel et al. (1993) propose six relevant cognitive statuses that the interpretations of referring expressions can have for the addressee: in focus, activated, familiar, uniquely identifiable, referential, and type identifiable. These statuses are implicationally related in the Givenness Hierarchy as shown below (Gundel et al., 1993, p.275). Each status entails all lower status, but not vice versa (Table 1).

Table 1
The Givenness Hierarchy and Associated Forms in Mandarin and English (Gundel et al., 1993, p.284)

	In focus	Activated	Familiar	Uniquely identifiable	Referential	Type identifiable
Mandarin	# ta"s/he it"	ta"s/he it" Zhe"this" Na "that" Zhe CL N		na CL N "that N"		yi Cl N 'a N' # N
English	it	He, this that this N	that N	the N	indefinite this N	

(CL stands for classifier)

Cognitive statuses on the hierarchy represent memory and attention states that the speaker can assume on the part of the addressee. Type identifiable means the addressee is able to access a representation of the type of the object denoted by the expression. Referential means the speaker intends to refer to a particular object or objects and therefore intends the addressee to have a representation of that object in memory by the time he has finished processing the sentence. Uniquely identifiable means the addressee can identify the speaker's intended reference on the basis of the nominal alone. Familiar means the addressee already has a representation of the referent in memory. Activated means the referent is in current short term memory, and in focus means the referent is at the current center of attention Following from the cognitive status, everything that is at least uniquely identifiable, is definite. The category 'non-referential' also follows from cognitive status. If it is at most type identifiable, it is non-referential. Otherwise, it is referential (Gundel et al., 1993).

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Shi (2002) attempted to apply the Givenness Hierarchy to the study of referring expressions in Mandarin Chinese and demonstrated that the Givenness Hierarchy adequately predicts a correlation between the forms of Chinese referring expressions and their highest cognitive status made. Within the individual categories of the Givenness Hierarchy, she further distinguished them by the degree of discourse salience. For example, she contrasted *one classifier Ns* with bare Ns and claimed that *one classifier Ns* are used for important indefinite referents and bare Ns are used for unimportant indefinite referents. In addition, preverbal generic bare NPs are referentially important in discourse, which are topics and continuing to be talked about later, while postverbal ones are referentially unimportant, which are not topics and not talked about any more. The later is referred to as existential in this paper.

Dong (2010) made a similar claim in his diachronic analysis of Chinese bare nouns. In her view, bare nouns in Chinese can have definite and generic readings throughout the history, but its capacity of having indefinite readings was declining over time. In another words, definite and generic reference can be expressed in an unmarked way throughout the history, whereas indefinite reference became to need a specific marker under many circumstances. On the subject position, bare nouns or "you (have)+bare noun" could express indefinite reading in Old Chinese, but in Modern Chinese, "you (have)+yi (one)+classifier+NP" should be used, in which "yi (one)+classifier" can be regarded as the marker for indefiniteness as is testified by Gao (2004) in his articles. On the object position, indefiniteness was often expressed by bare nouns in Old Chinese, but in Modern Chinese, "(Verb+)yi (one)+ classifier+NP" is more often used as is contended by Lu (2004) that the farther a dependant is away from its head, the more it needs an overt marker indicating the semantic relation of the two units. From the diachronic perspective, Dong (2010) claims that expressing generic and definite readings are the intrinsic functions of bare nouns, and expressing generic readings is the most fundamental function of bare nouns.

According to Gundel et al. (1993), a zero determiner in Mandarin conventionally signals that the referent must be at least type identifiable. Since type identifiable is entailed by all higher statuses, type identifiable referents can have any of the seven cognitive statuses in the Givenness Hierarchy. Shi (2002), however, did not explain how hearers interpret these forms when their referents have a status higher than type identifiable. The author of the present paper will show how this can be explained by the lexical semantics of predicate types along with general pragmatic principles governing language understanding (Grice, 1975; Sperber & Wilson, 1995).

Jie Li (1997) accounts for the meanings of Mandarin bare nouns in terms of predicate types and aspects. There are predicates, such as *jueji* 'extinct' and *burudongwu* 'mammal', that select only a kind-referring NP as the subject. As shown in the following examples, *konglong* 'dinosaur' refers to the type dinosaur and *laohu* 'tiger' refers to the type tiger.

(5) Konglong jueji le.
恐龙绝迹了。
"Dinosaurs are extinct."
(6) Laohu shi burudongwu
老虎是哺乳动物。
'The tiger is a mammal."

Following Krifka et al. (1995), Jie Li distinguishes generic from episodic predicates. Generic predicates express a kind of general property, that is, a regularity which summarizes groups of particular episodes of facts (Krifka et al., 1995, p.2) such as *are extinct* in *dinosaurs are extinct.* Episodic predicates describe a particular event such as *lost the game* in *The Gophers lost the game.* While lexical generic sentences generalize over individuals, habitual sentences generalize over events.

Jie Li (1997) shows that bare nouns in lexical generic sentences can only be interpreted as kind referring; but they can be either kind referring or (definite or indefinite) entity referring in habitual sentences. If the object is kind referring, the subject may also be kind referring but not vise versa.

This generalization does not explain the fact that people can interpret subjects without objects. Some sentences do not have objects, but people can still interpret the subjects. In episodic non-stative sentences, bare nouns are likely interpreted as entity referring, though a kind-referring interpretation is not ruled out. This is true for episodic non-stative sentences with progressive aspect signaled by *zai* or perfective aspect signaled by *-le.* In episodic non-stative sentences with the experiential aspect marker-*guo*, bare nouns may have an entity-referring interpretation as well as a kind-referring one. In episodic stative sentences bare nouns are likely interpreted as entity referring. The kind-referring interpretation does not seem to be possible here. When they are entity referring, bare nouns are preferably interpreted as definite in preverbal position and indefinite in postverbal position.

Summarizing the work described above, we can divide the interpretations of Mandarin bare nouns into referential and non-referential. The referential interpretations can be kind referring or entity referring. Since the distinction between kind referring and generic is not important in interpreting Mandarin bare nouns, this thesis will refer to both as generic here. Entity referring bare nominals can be either definite or indefinite. The non-referential interpretation is called existential in some work. This paper attempts to provide an explanation for Jie Li's (1997) generalizations and will show that the kind-referring vs.

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entity-referring interpretations can be accounted for in terms of the semantic distinction between individual-level and stage-level predicates, while the distinction between definite and indefinite entity referring bare nouns is determined by the topic status of the bare nouns supplemented by general pragmatic principles.

2. PREDICATE AND ARGUMENT CONSTRUCTIONS

Kratzer (1989) proposes two kinds of predicates that denote properties at different levels. Individual-level predicates describe a permanent property of the individual type and stage-level predicates describe a temporary state at a certain stage of an individual. This is illustrated in Example (7):

(7) a. Firefighters are intelligent.
(Generic) (individual-level)
b. Firefighters are on the porch.
(Existential) (stage-level)

(7a) indicates that intelligent is a permanent property of the type firefighters. (7b) indicates that some individual firefighters are currently on the porch. There are predicates such as *are available* in (7c), which can be either individual-level or stage-level depending on the context. The task of this section is not to decide which context gives rise to which predicate type. The key point is to show that the interpretation of the bare noun follows the predicate type.

(7) c. Firefighters are available
(Generic) (individual-level)
(Existential) (stage-level)

are available can be an individual-level or a stage-level predicate. As an individual-level predicate, it describes that firefighters are always available, which is the property of firefighters. Firefighters in this case is interpreted as generic. As a stage-level predicate, it describes the situation in which firefighters are available. Firefighters are available now. It does not say anything about other times. Firefighters here is interpreted as existential.

Following the above definitions, generic sentences, habitual sentences and episodic non-stative sentences with the experiential aspect marker *-guo* have individual predicates because they describe a property of an individual. Episodic sentences with progressive aspect signaled by *zai* or perfective aspect signaled by *-le* involve stage-level predicates.

In the following discussion, we will look at the interpretations of Mandarin bare nouns as subjects of individual-level predicates, objects of individual-level predicates, subjects of stage-level predicates, and objects of stage-level predicates. Subjects and objects of individual-level predicates have a generic interpretation. Subject of stage-level predicates have definite interpretations. Objects of stage-level predicates tend to be existential though they can also be definite.

2.1 Subjects of Individual-Level Predicates

Mandarin bare nouns yield a generic or type referring interpretation when they are subjects of individual-level predicates. Generic refers to all or some of the members of a type. The various examples below are shown with the subclassifications by Jie Li (1997) to show that his analysis can be captured by only two types of predicates. Kind predicates and habitual or experiential sentences all describe properties of individuals. They are then all individual-level predicates.

Kind predicate
(8) Konglong jueji le.
恐龙绝迹了。
"Dinosaurs are extinct."

Konglung 'dinosaur' must be kind referring. All the members of the type dinosaur must have died for the sentence to be true. No exceptions are allowed. The proposition expressed by the sentence is falsified by the existence of any one dinosaur.

Lexical generic
(9) a. Shu dui ren lei hen you yong.
书对人类很有用。
"Books are very useful to human kind."

Shu 'book' in (9a) has a generic interpretation, since the predicate *dui ren lei hen you yong* 'very useful for humankind' is an individual-level predicate, which in this case is predicated as a general property of individuals of the kind books. It is different from kind predicate in that exceptions are allowed. Both of the cases are type identifiable, because one can identify the type when referring to all or most members of the type. On the other hand, something that is type identifiable is not always generic. All referential or non-referential use of nouns assumes at least type identifiable.

Although exceptions are allowed, most books must be useful for the statement to be true. Native speakers of Mandarin do not get the interpretation that shu 'book' is non-referential or denotes a definite book here. A demonstrative is required for the definite interpretation as in (9b). An overt existential marker *you* 'exist' or special existential construction, e.g., locative inversion, is needed for an indefinite interpretation as in (9c).This observation accords with Construction Grammar (Goldberg, 1995). As is claimed by Wang (2008), two main factors determine the semantic interpretation of Chinese bare noun phrases.

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They are the property of predicates and the types of constructions in which they occur.

(9) b. Zhe/na ben shu dui ren lei hen you yong.
这/那本书对人类很有用。
"That/this book is very useful to human kind."
c. You ben shu dui ren lei hen you yong.
有本书对人类很有用。
"There is a book which is very useful to human kind."

Habitual

(10) Ma chi chao.
马吃草。
"Horses eat grass"

Since sentence (10) is in present tense and simple aspect, which states a general property of an individual, the bare noun *ma* 'horse' denotes the type horses.

Experiential aspect also describes a property of an individual. Predicates with experiential aspect are individual predicates. Bare nouns in non-stative sentences with the experiential aspect *-guo* also yield a generic interpretation. The generic here is somewhat different though. It is representative generic. Only one member in the type is needed to satisfy the predicate. For example, (11a) is true if there is one member belonging to humankind who has been to the moon, (11b) is true if there is one member belonging to Chinese who invented paper.

Episodic non-stative sentences with the experiential aspect

(11) a. Renlei dao-guo yueqiu
人类到过月球。
"Humankind has been to the moon."
b. Zhungguo ren faming le zhi.
中国人发明了纸。
"The Chinese invented paper."

2.2 Objects of Individual-Level Predicates

Like bare noun subjects of individual predicates, bare noun objects of individual-level predicates also have a generic interpretation, as in example (12a).

(12) a. Wo xihuan shu
我喜欢书。
"I like books."

The preferred interpretation of *shu* 'book' in (12a) is generic, since the predicate *xihuan* 'like' is an individual-level predicate referring here to a relation between the speaker and the kind books. (Shu 'book' can refer to a book familiar to the hearer when (12a) is in a response to which one the speaker likes among several gifts he/she received. However, *xihuan* 'like' in this context will be a stage-level predicate since it describes what the speaker thinks at the moment rather than a permanent property of the speaker. Therefore, this is not a violation of the generalization about bare nouns with individual-level predicates.) The generic interpretation also holds when the object is topicalized as in (12b) and (12c).

(12) b. Shu, wo xihuan. Ta bu xihuan.
书，我喜欢。他不喜欢
"Books, I like. He doesn't like."
c. Shu, wo xihuan. Hua wo bu xihuan.
书，我喜欢。画我不喜欢。
"Books, I like. Pictures, I don't like."

Let's take a look at another example in (13).

(13) a. Ta chi niurou.
他吃牛肉。
"He eats beef."

Chi niurou 'eat beef' can be interpreted as an individual-level predicate or a stage-level predicate. When (13a) is paraphrased as "Beef is one of the foods he eats" such as in a response to "Does he eat beef?" "Eats beef" is an individual predicate. The only possible interpretation of *niurou* 'beef' in this context is kind referring. This is also true when it is topicalized as in (13b and c).

(13) b. Niurou, wo chi. Ta bu chi.
牛肉，我吃。他不吃。
"Beef, I eat. He doesn't eat."
c. Niurou, ta chi. Zhurou, ta bu chi
牛肉，他吃。猪肉，他不吃。
'Beef, he eats. Pork, he doesn't eat."

"Eat beef" can be a stage-level predicate in a different context. This will be discussed in the following section.

2.3 Subjects of Stage-Level Predicates

Mandarin bare nouns in the subject position of stage-level predicates usually have a definite interpretation as in (14a) and (14b).

(14) a. Shu dao-le.
书到了。
"The book has arrived."
"The books have arrived."

The predicate *dao-le* 'arrived' is a stage-level predicate referring to a temporary property. *Shu* 'book' in (14a) has a definite interpretation referring, for example, to some specific book (s) ordered or expected. The existential interpretation arises only in existential constructions such as locative inversion in Mandarin. Consider the following examples:

(14) b. Xiaohai zai zheli
小孩在这里。
"The child is here."
"The children are here."
c. Zheli you xiaohai

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这里有小孩。
"There are kids here."

The bare noun *xiaohai* 'child' can only have a definite interpretation in (14b). An existential, indefinite interpretation is possible only under locative inversion as in (14c). *Xiaohai* 'child' in (14b) refers to a definite, i.e., uniquely identifiable, child or children known by both the speaker and the listener. *Xiaohai* 'child' in (14c) has an indefinite, existential interpretation.

2.4 Objects of Stage-Level Predicates

Bare noun objects of stage-level predicates in the preverbal position have a definite interpretation, while in the postverbal position, they tend to have an existential interpretation, though a definite interpretation is also possible. As mentioned before, *chi niurou* 'eat beef' can be interpreted as an individual-level predicate or as a stage-level predicate in Example (13a), repeated below. I have shown *chi niurou* 'eat beef' as an individual-level predicate. We are going to see *chi niurou* 'eat beef' as a stage-level predicate here. *Chi niurou* is a stage-level predicate when the speaker is ordering a dish or talking about a past experience. Niurou 'beef' in both contexts receives an indefinite interpretation. It does not refer to some specific beef that the hearer is expected to identify.

Context I
Waiter: What would you like?
A: Ta chi niurou. Wo chi zhurou.
他吃牛肉。我吃猪肉。
"He would like beef and I would like pork."
Context II
A: We had lunch together.
Ta chi niurou. Wo chi zhurou.
他吃牛肉。我吃猪肉。
"He ate beef. I ate pork"

By contrast, objects of stage-level predicates have a definite interpretation in the preverbal position as in (15).

(15) a. Shu ta nian-le
书他念了。
"He has read the book."
b. Ta shu nian-le
他书念了。
"He has read the book."

The bare noun *shu* in both (15a) and (15b) refers to a specific book that the speaker expects the hearer to identify. The definite interpretation is a result of the topic construction. Sentence (15a) is a topicalized construction similar to topicalization in other languages such as English, for example, *Books I like.* The direct object *shu* 'book' is preposed to the beginning of the sentence, because it is the topic. Sentence (15b) involves two topic constructions as shown below.

(15) b. [ta[shu nian-le]]
[he[book read-PERF]

The brackets indicate the boundary of a topic construction and PERF stands for perfective marker. The underlined words, i.e., *ta* 'he' and *shu* 'book' are both topics. Shu 'book' is the topic in the smaller topic construction, which is why it has a definite interpretation.

The definite interpretation of NP in the topic positions can be explained by extending the movement accounts. They assume that a bare noun in Mandarin is part of a full-fledged DP with an empty D head (Audrey Li, 1997), or ClP with an empty Cl head (Cheng & Sybesma, 1999), which is restricted to a lexical governed position. A topicalized position is not a lexically governed position, and therefore a bare noun can only appear in that position only if N to Cl/D movement has occurred, given that the movement results in a definite interpretation, one gets a definite interpretation.

To sum up, the interpretations of Mandarin bare nouns differ depending not only on the type of predicates but also on the type of constructions. Mandarin bare nouns always have a generic interpretation with individual-level predicates, while the interpretations vary with stage-level predicates. Generally, the subjects of stage-level predicates have a definite interpretation except in locative inversion constructions, which result in an existential interpretation. The objects of stage-level predicates have a definite interpretation in preverbal position, and can have either an indefinite or definite interpretation in postverbal position. What if the bare noun stands alone without any predicates? This will be discussed in the next section.

3. EXTRAGRAMMATICAL PRAGMATIC PRINCIPLES

In the previous sections, I examined bare nouns in full sentences constructed by researchers. In this section, I will apply the predicate type analysis to naturally occurring discourse. When we work with natural discourse, we encounter many bare nouns which do not occur with any predicates. I will show how the Givenness Hierarchy (Gundel et al., 1993), Grice's Maxim of Quantity (Grice, 1975) and Relevance Theory (Sperber & Wilson, 1995) together explain how bare nouns are interpreted in full sentences of naturally occurring discourse, and then show how this extends to elliptical sentences where the bare nouns stand alone.

3.1 Relevance Theory

Dan Sperber and Deirdre Wilson (Sperber & Wilson, 1995), in their joint effort to unveil what happens in the process of human communication, advanced Relevance Theory in their book published in 1986. This theory is mainly concerned with communication and cognition. The central claim of their Relevance Theory is that

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human communication crucially creates an expectation of optimal relevance on the part of the hearer that his attempt at interpretation will yield adequate contextual effect at minimal processing effort. Put it another way, the listener will choose the interpretation which has optimal relevance, i.e., one which provides enough contextual effect with minimal processing effort. Contextual effects are achieved only when the new assumption displaces an old assumption, with subsequent weakening or erasure of other contextual assumptions. Although Relevance Theory was originally proposed to replace Grice's Maxims, it failed to account for scalar implicatures which constrain the choice among forms and their interpretations without Grice's Maxim of Quantity, so both are needed (Gundel & Mulkern,1998).

3.2 Maxim of Quantity

Grice's (1975) Maxim of Quantity includes two submaxims: (1) Make your contribution as informative as is required (for the current purpose of the exchange). (2) Do not make your contribution more informative than is required. Thus, a form used should have been the most informative form that could have been used. In the case of referring expressions, they should provide as much information as possible about the cognitive status of the intended referent. Otherwise, the speaker is not being informative enough. Therefore, by using a form signaling a lower status, the speaker often implicates that the referent does not have a higher status. More specifically, if a Mandarin bare noun is used, the implicature would be that the referent is not uniquely identifiable, familiar, activated, or in focus.

3.3 Data Analysis

The data for the present study was an excerpt of natural conversation between two native speakers of Mandarin Chinese sharing a two-bedroom apartment in a university.

The transcript of the whole conversation is included in Appendix.. The paper will discuss some examples for each interpretation in full sentences to show how the author's analysis works. Let's see an example with activated cognitive status in (16).

(16). Suoyi ni jou xi-le chuangdan. (Line 17)
所以你就洗了床单。
"So, you washed the sheet."

In example (16), *chuangdan* 'sheet' is the object of a stage-level predicate *xi-le* 'washed,' and it is not fronted. According to the predicate type analysis proposed above, it can have either a definite or an indefinite, existential interpretation. In this case, it has a definite interpretation. It is uniquely identifiable as the bed that the sheet covered was mentioned in the previous sentence (see below).

Houlai you faxian di shang, chuang shang dou shi suexie. (Line 16)
后来又发现地上床上都是碎屑。
"Then I also noticed scraps all over the floor and the bed."

The sheet was also activated when the bed was mentioned. Being in the extended initial context, this is the most relevant interpretation since it provides adequate contextual effect with minimal processing effort. This example illustrates how pragmatics restricts the possible interpretations from the ones that are allowed by predicate type generalizations.

In example (17), according to Givenness Hieraracy the bare noun *chuang* 'bed' is an example with familiar cognitive status.

(17). Wo yihou chu qu yao ba chuang gai-qilai. (Line 22)
我以后出去要把床盖起来。
"Later on, when I go out, I will cover my bed."

The bare noun, *chuang* 'bed' is the object of stage-level predicate *gai-qilai* 'cover-result,' but it is fronted instead of remaining in the usual postverbal object position in Mandarin. According to the generalization in the previous section, like other bare nouns in topic positions, *chuang* 'bed' has a definite (i.e., at least uniquely identifiable) interpretation. Moreover, it is interpreted as the speaker's bed and not someone else's bed, because the speaker mentioned that her bed was dusty in Line 16.

In example (18), *chuangdan* 'sheet' refers to the sheet the speakers washed, which is the speaker's own sheet.

(18) Wo shang qu shou chuangdan. (Line 1)
我上去收床单。
"I am going up to get my sheet."

Shou 'collect' is a stage-level predicate. The object *chuangdan* 'sheet' could have a definite or existential interpretation. Since this is the first utterance in the conversation, no sheet has been mentioned in the previous context. The sheet cannot be identified from linguistic clues. However, based on extralinguistic information, one can assume that the sheet to be collected must have been washed. Also, with the housemate relationship between the two interlocutors, the listener knows the speakers did not wash other people's sheets but his own. So, the sheet must be the speaker's sheet, which is familiar to both of them. This interpretation is supported by the following context. The speaker actually used this sentence to start the conversation about the dusty room. The bare noun *chuangdan* 'sheet' continued to be talked about in the conversation (see Line 17). This is against Shi (2002)'s generalization that postverbal bare nouns are referentially unimportant, which are not topics and not being talked about any more.

In (19)–(25), the bare nouns all have existential or nonreferential readings. The highest cognitive status can be assumed is only type identifiable.

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(19) Jintian cable de ren you jin lai nong-de daochu shi huichen (Line 2)
今天排线的人进来弄得到处是灰尘。
"Today, cable guys came in and made dust everywhere again."

In (19), the bare noun *huichen* 'dust' is in a locative inversion structure, which results in an existential interpretation in Mandarin. The location phrase *daochu* 'everywhere' occurs before the predicate. It is at most type identifiable, because a referential interpretation would not be relevant here, because dust does not exist in previous context.

(20) Ni kan-jian nali you huichen? (Line 4)
你看见哪里有灰尘？
"Where did you see dust?"

In (20), the bare noun *huichen* 'dust' is the object of the stage-level predicate *you* 'exist,' it has an existential interpretation. Although it occurred in the previous sentence (Line 2), the second occurrence of the bare noun huichen 'dust' does not implicate that the referent is not uniquely identifiable, because it is the property of dust and not the identity of the dust that is relevant. Using the bare noun, which signals type identifiability, is giving as much information as necessary here.

(21) Haishi yinwei wo zai suoyi tamen bu gan jin lai zuan dong. (Line 8)
还是因为我在所以他们不敢进来钻洞。
"Or because I was inside, they dared not get into my room to drill."

In (21), the bare noun *dong* 'hole' is the object of a stage-level predicate *zuan* 'drill.' According to the predicate type generalizations, objects of a stage-level predicate in the postverbal position can have an existential interpretation or a definite interpretation. According to Givenness Hieraracy, a bare noun in Mandarin signals that the referent must be at least type identifiable. In this context, type identifiable, i.e., indefinite is enough to get contextual effects. There is no reason to assume any higher status, because no holes have been mentioned in the previous context or exist in the physical context. *Zuan dong* denotes the action of drilling. *Dong* does not refer to any particular hole.

(22) Na jiangyijia de shihou faxian shang mian dou shi huichen. (Line 15)
拿衣架的时候发现上面都是灰尘。
"At first, I did not notice. When I took a file, I noticed dust all over the surface."

In (22), being the object of *na* 'take,' a stage-level predicate, the bare noun *jiangyijia* 'file' can have a definite or existential reading. Since no files have been mentioned in the previous context, *jiangyijia* 'file' has an existential reading. It is not referential and the focus is on the action of taking a file.

(23) Houlai you faxian di shang, chuang shang dou shi suixie. (Line 16)
后来又发现地上床上都是碎屑。
"Then I also noticed scraps all over the floor and the bed."

In (23), the bare noun suexie 'scrap' is in a locative inversion structure and thus yields an existential interpretation.

(24) Ta-men na wo-men zhe jian zuo shiyan. (Line 21)
他们那我们这间做实验。
"They test on our apartment."

In (24), the bare noun *shiyan* 'experiment' is the object of a general verb *zuo* 'do,' which can be an individual-level predicate such as *zuo laoshi* 'be a teacher' or a stage-level predicate as in *zuo shiyan* 'do experiment' here. The bare noun as the object of a stage-level predicate can have a definite or existential reading. Since no experiment has been mentioned in the previous context and it is not relevant to identify any experiment, the bare noun is interpreted as existential.

(25) Ni you gai chuang de dungxi ma? (Line 23)
你有盖床的东西吗？
"Do you have anything for covering a bed?"

In (25), although the bare noun *chunag* 'bed' has been mentioned in the previous sentence (Line 22), it is not necessary for this *chuang* 'bed' to refer to the same bed. It is the property of the bed rather than a particular bed that is important. Using the bare noun, which signals type identifiability, is giving as much information as necessary here.

Bare nouns often stand alone without predicates in natural conversation. Here are three examples. These bare nouns have different interpretations.

(26) A: Ni kan-jian nali you huichen? Zheli ma?-Keting? (Line 4)
你看见哪里有灰尘？这里吗？客厅？
"Where did you see dust? Here? In the living room?"

The bare noun *keting* 'living room' in (26) is interpreted as definite. It refers to a particular living room familiar to both the speaker and the listener.

According to Grice's (1975) Maxim of Quantity, a form used should have been the most informative form that could have been used. Thus, in the case of referring expressions, they should provide as much information

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as possible about the cognitive status of the intended referent. Otherwise, the speaker is not being informative enough. Therefore, by using a form signaling a lower status, the speaker often implicates that the referent does not have a higher status. More specifically, if a Mandarin bare noun is used, the implicature would be that the referent is not uniquely identifiable, familiar, activated, or in focus. However, this is not the case in (26). The cognitive status of the bare noun keting 'living room' in (26) is at least activated, possibly even in focus as it was just referred to with the form *zheli*. The form that is most informative about cognitive status here, therefore, would have been a pronoun, in this case the demonstrative *zhe* 'this'. We should be able to replace the bare noun with *zh*e 'this' as in (26a).

(26a) A: Ni kan-jian nali you huichen? Zheli ma? zhe?
You see-Result where have dust? This place? this?
"Where did you see dust? Here? Here?"

However, the demonstrative, which is interpreted as 'here' seems to be redundant because of the repetition of 'here'. This suggests that this is too informative because the hearer is easily able to assign the referent with a lower form—bare noun. Use of *zhe* here would thus violate the second submaxim under Quantity—"Do not be more informative than required." While repeating the form that is most informative about cognitive status is redundant, using a form that provides more information about descriptive content (i.e., living room) might be helpful here in case the referent of the pro-form is not clear. Then, how do hearers select the intended interpretation from the possible ones?We need Relevance Theory (Sperber and Wilson, 1995) to explain that.

According to Relevance Theory (Sperber and Wilson, 1995), the listener will choose the interpretation which has optimal relevance, i.e., one which provides enough contextual effect with minimal processing effort. In (26b), for example, the elliptical *keting* will be reconstructed as in (26b) as this interpretation would provide the most contextual effects and would do so with minimal processing effort, given that the content of the initial question is still in short term memory.

(26b). A: Ni kan-jian keting you huichen ma?
你看见客厅有灰尘吗？
"Did you see dust in the living room?"

Under reconstruction, *keting* 'living room' is the subject of a stage-level predicate *you huichen* 'have dust' and so it yields a definite interpretation according to the generalizations given above. The cognitive status encoded in the form *keting* 'living room' is type identifiable. It could be any living room in the world, which would not be informative enough to get any contextual effect here. No living room has been mentioned before this utterance. The initial context is extended by adding to it information about the immediately observable environment (Sperber and Wilson, 1995). The living room that the speaker and the listener were in was thus activated. An interpretation of *keting* as the living room that the speaker and hearer were in is thus the most accessible interpretation since it provides an adequate contextual effect with minimal processing effort. Moreover, the most relevant living room, i.e., the one that yields an adequate contextual effect with the least amount of processing effort, is the one that the interlocutors were in.

(27) A: Ni you gai chuang de dungxi ma?
你有盖床的东西吗？
"Do you have anything for covering a bed?"
B: Baozhi ya huo chuangdan. (Line 24)
报纸或床单。
"Newspapers or sheets"

The bare nouns *baozhi* 'newspaper' or *chuangdan* 'sheet' in (27) have an indefinite existential interpretation. Their referents are not assumed to be uniquely identifiable for the addressee. Only the type 'newspaper' or 'sheet' is identifiable.

(27B) can be reconstructed as (27b).

(27b) B: Wo you Baozhi ya huo chuangdan.
我有报纸或床单。
"I have newspapers or sheets."

Baozhi ya huo chuangdan 'newspaper or sheet' is the object of you 'have,' which is a stage-level predicate here. Having newspaper describes a temporary property rather than a permanent property (such as having blue eyes, for example) associated with an individual. *Baozhi ya huo chuangdan* 'newspaper or sheet' thus has an existential interpretation.

The meaning encoded in the bare nouns *baozhi* 'newspaper' and *chuangdan* 'sheet' in (27) again is anything belongs to the type 'newspaper' or 'sheet,' respectively. These forms can refer to any newspaper or sheet, which is sufficient to get a contextual effect here. Since an interpretation which is at most type identifiable (i.e., any newspaper or sheet) requires little processing effort and provides an adequate contextual effect here, this is the most relevant interpretation. So, there is no need to search for other possibilities such as the sheet mentioned before or any newspaper possibly in the immediate spatial context. Although sheet had been mentioned previously, it was not recent enough to still be activated. The familiar sheet would also

not be the most accessible interpretation given the utterance that immediately precedes (27). Relevance Theory thus explains how a bare noun can be interpreted even though it gives minimal information about the cognitive status of the referent.

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(28) Houlai you faxian di shang, chuang shang dou shi suexie. (Line 16)

后来又发现地上床上都是碎屑。

"Then I also noticed scraps all over the floor and the bed."

In (28), the bare nouns *di* 'floor' and *chuang* 'bed' are locations in a locative inversion construction. They cannot be reconstructed as subjects or objects of any predicates. The cognitive status encoded in the forms is at least type identifiable. However, the speakers have been talking about her room. Identifying only the type, which means any floor or any bed, is not informative enough to get contextual effects. Based on previous context, the bare nouns are interpreted as the floor in the speaker's room and the speaker's bed. The referents are definite and familiar to both the speaker and the hearer.

CONCLUSION

We have seen then that the interpretations of Mandarin bare nouns can be partly predicted from syntax and semantics, specifically by the predicate types and constructions. Bare nominals have a generic interpretation with individual-level predicates. With stage-level predicates, they have definite interpretations in preverbal positions, but they can be definite or indefinite in the postverbal position. Specifically, the subjects of stage-level predicates have a definite interpretation except in locative inversion constructions, which result in an existential interpretation. The objects of stage-level predicates have a definite interpretation in preverbal position, and can have either an indefinite or definite interpretation in postverbal position.The grammar, i.e., syntax and semantics, however only restricts possible interpretations. Pragmatics, specifically the relevance theoretic principles, is needed to arrive at the actually intended interpretation, from among the possible ones. This is especially true when bare nouns occur alone in natural discourse.

The thesis lays great emphasis on how semantics and pragmatics interact with each other in the interpretations of the Mandarin bare nouns and gives some authentic examples for illustration. But the model described in the thesis only offers a very general guideline for the interpretations of the Mandarin bare nouns. Since the interpretations of the Mandarin bare nouns involve so many elements and disciplines, there is a great unpredictability about the problems that may crop up in the interpreting process. Nevertheless, one thing we can be sure of is that the problems are definitely more complicated and diverse than those that can be covered in one thesis. In addition, the thesis does not exhaustively collect include all types of materials . It centers mainly on daily conversation.

If further research can be done in classifying textual materials and interpretation strategies, it will be a big improvement on the current study. The thesis firmly believes that with more aspects involved in the interpretations of the Mandarin bare nouns being researched, a better understanding of what is involved can be achieved.

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APPENDIX

Transcript

1. B: Wo shang qu shou chuangdan.
我上去收床单。
"I am going up to get my sheet.'"

2. B: Jintian cable de ren you jin lai nong-de daochu shi huichen
今天排线的人进来弄得到处是灰尘。
‘‘Today, cable guys came in and made dust everywhere again.’’

3. A: Dui ya. Wo jintian xiawu jiou bei ta-men chao-dao le.
对呀。我今天就被他们吵到了。
‘‘Right! I was disturbed by them this afternoon.’’

4. B: Ni kan-jian nali you huichen? Zheli ma? Keting?
你看见哪里有灰尘？这里吗？客厅？
‘‘Where did you see dust? Here? Living room?’’

5. B: Wo fangjian.
我房间。
‘‘My room.’’

6. A: Wo bu zhidao ta-men jin ni fangjian.
我不知道他们进你房间。
‘‘I did not know they entered your room.’’

7. A: Tamen mei you jin wo fangjian.
他们没有进我房间。
‘‘They did not enter my room.’’

8. A: Haishi yinwei wo zai suoyi tamen bu gan jin lai zuan dong.
还是因为我在所以他们不敢进来钻洞。
‘‘Or because I was inside, they dared not get into my room to drill.’’

9. A: Haishi tamen jin lai guo keshi wo bu zhidao yinwei tamen mei you zuan dong.
还是他们今天来过可是我不知道因为他们没钻洞。
"Or they have entered, but I don’t know because they did not drill."

10. A: Dagai wo chu qu hou ta-men jou jin lai le ba.
大概我出去后他们就进来了吧。
"They probably got in again after I went out."

11. A: Wo zhe jian bu yiyang.
我这间不一样。
"Mine is different."

12. A: Wo de xian cong zheli lai.
我的线从这里来。
"My cable comes from here."

13. A: Ni-de haiyao tong dao na bian.
你的还要通到那边。
"Yours need to go there."

14. B: Wo benlai mei faxian.
我本来没发现。
"At first, I did not notice."

15. B: Na jiangyijia de shihou faxian shang mian dou shi huichen.
拿衣架的时候发现上面都是灰尘。
"When I took a file, I noticed dust all over the surface."

16. B: Houlai you faxian di shang, chuang shang dou shi suixie.
后来又发现地上床上都是碎屑。
"Then, I also noticed scraps all over the floor and the bed."

17. A: Zhen lan. Suoyi ni jou xi-le chuangdan.
真烂。所以你就洗了床单。
"Really bad. So, you washed the sheet."

18. B: Dui. Ta-men daodi nong wan-le mei?
对。他们到底弄完了吗？
"Right. Have they on earch finished?"

19. A: Wo bu zhidao.
我不知道。
"I don't know."

20. A: Ta-men shuo wo-men zhe jian shi ta-men de model, suoyi ta-men yao chang
chang jin lai kan kan zai qu zuo bie jian.
他们说我们这间是他们的模板，所以他们要常常进来看看再去做别间。
‘‘They said our apartment was their model, so they needed to get in to take a
look then went to do it in another room.’’

21. A: Ta-men na wo-men zhe jian zuo shiyan.
他们那我们这间做实验。
" They test on our apartment."

22. B: Wo yihou chu qu yao ba chang gai-qilai.
我以后出去要把床盖起来。
"Later on, when I go out, I will cover my bed."

23. A: Ni you gai chuang de dongxi ma?
你有盖床的东西吗？
"Do you have anything for covering a bed?"

24. B: Baozhi ya huo chuangdan. Wo hai you yi tiao chuangdan.
报纸或床单。我还有一条床单。
"Newspaper or sheet. I have one more sheet."

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