Word categorization in Mandarin

with special attention to its system of classifiers and measure words

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Chinese Linguistics
6-7-2017

Abstract

In this thesis I focus on the system of word categorization in Mandarin. The discussion on this topic is an ongoing one. I try to shed some light on categoriality in Mandarin by discussing several different views and contrasting proposals which have been put forward by different authors.

In order to obtain some new insight I conducted two experiments, based on Borer's (2003) theory about the exo-skeletal approach, in which I tested verbal coercion on nouns. The results of these experiments have led me to adopt the term 'categorical fluidity' (Kwong & Tsou, 2003) to describe word classes in Mandarin. This fluidity proved to be accommodated by the high potential for innovative ambiguities, which, in turn is caused by characteristics of Mandarin when it comes to morphology and syntax.

I then take a sidetrack and focus on one word category in particular to point out a peculiar similarity. The results of a third experiment show that the flexibility that is found between different word classes in Mandarin, is also found within the word category of classifiers and measure words.

First reader **Prof.dr. R.P.E. Sybesma**
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1. Introduction

The existence of word classes in Mandarin is a topic under debate. In this thesis I am going to focus on word categorization in Mandarin. I will pay attention to the relevant literature that discusses word categorization in general but also presents different views on how word categorization works in Mandarin. I will take time to discuss both points that argue in favor of word categorization in Mandarin and points that argue against it. But mainly I will try to find out what is the most useful way of looking at word categorization in Mandarin. I am not interested in assumptions about how languages 'should' work based on how other languages tend to. I am interested in the features that make a language different from better studied languages and I believe that one should always stay open-minded when analyzing languages. Word categorization in Mandarin, I suspect, might be one of those 'different' features.

I will start my thesis off with a well-known example sentence from Chomsky and explain a theory of Borer, using this quote, to introduce a special way of looking at the assignment of word classes. This theory is fundamental for my thesis and therefore needs to be mentioned at the very beginning. After that I will discuss Mandarin and the views of different authors on this topic, some more general while others are really specific.

Then I will introduce two experiments which I designed, inspired by Borer's theory, and conducted on a small scale. These experiments will lead to my conclusion on Chinese word categorization.

Lastly I will pay attention to a peculiar similarity between word categorization in general and the word category of classifiers in Mandarin. For this last section I conducted a third experiment.

2. Chomsky and Borer

"Colorless green ideas sleep furiously" is a sentence composed by Noam Chomsky in his book *Syntactic Structures* (Chomsky, 1957, 15) to illustrate that "the notion 'grammatical' cannot be identified with 'meaningful' or 'significant' in any semantic sense." (Chomsky, 1957, 15) It also shows that the frequency of a sentence does not tell us anything about the grammaticality of it. "Colorless green ideas sleep furiously" is a sentence that probably doesn't get uttered a lot, but that doesn't automatically mean that it is ungrammatical. It is also a perfect example of a sentence that is grammatically correct, but semantically nonsensical. Although there's nothing wrong with the syntax, no obvious understandable meaning can be derived from this sentence. It thus simultaneously demonstrates the distinction between syntax and semantics.

Borer (2003) takes this distinction even further in her article *Exo-Skeletal vs. Endo-Skeletal Explanations: Syntactic Projections and the Lexicon*. She describes the endo-skeletal explanation as the dominant approach to the projection of argument structure (Borer, 2003, 31). In this approach "the common assumption is that the original, crucial locus for argument structure specification is a lexical entry […], and that at least some level of structure, whether syntactic or lexical, projects directly from that entry" (Borer, 2003, 32). To supplement this explanation, she offers the following schematic representation of this approach (Borer, 2003, 32):

Semantics of lexical item → predicate-argument structure → structure (syntactic or lexical)

If one were to apply the endo-skeletal approach to explain the argument structure of Chomsky's sentence "Colorless green ideas sleep furiously", one would start by looking at the semantics of the lexical items, which are: *colorless, green, ideas, sleep* and *furiously*. By looking at the separate morphology of the lexical entries and the information provided by word order, we can derive the category of each word (noun, verb, adjective, adverb). This will lead to a predicate-argument structure. This structure is the interface between semantics and syntax. It "encodes lexical information about the number of arguments, their syntactic type, and their hierarchical organization necessary for the mapping to syntactic structure. (Bresnan, 2001, 304)". This, finally, gives rise to a structure, whether syntactic or lexical, which may look like the one depicted in figure 1.

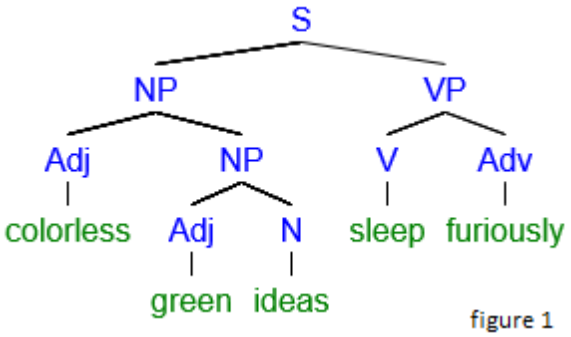

figure 1

Borer, however, in her article, focuses on the exo-skeletal approach which basically works the other way around. Here, the argument structure interpretation is divorced from the lexical entry and rather, is determined by the structure (Borer, 2003, 32):

Syntactic structure → event structure → interpretation of arguments

She thus argues that the syntactic structure gives rise to a template […], which, in turn, determines the interpretation of arguments. "Within such an approach, lexical items do not determine structure, but rather, function as its modifiers." (Borer, 2003, 32). This entails that a syntactic structure, like the one depicted in figure 2, will determine the event structure, the argument structure and, eventually, the semantics of the lexical items that get put into the structure. In the article she describes the items that are put into the structure as encyclopedic items (EI's). She claims that an "EI is not associated with any formal grammatical information concerning category, argument structure or word-formation. It is a category-less, argument-less concept, although its meaning might give rise to certain expectations for a felicitous context." (Borer, 2003, 34). So for example, the encyclopedic item *sleep*, while it still may convey a certain idea, does not carry any information concerning category or argument-type. Only when it is placed in the [V]-slot in the syntactic structure will it start behaving as a verb and interact with the other EI's in the structure as a verb. This exo-skeletal approach doesn't take world knowledge and compatibleness with word knowledge into account. This lies strictly into the conceptual domain which plays no role in this kind of explanation of argument structure.

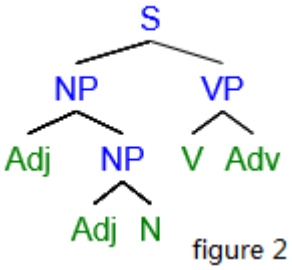

figure 2

What we can derive from this is that an EI never has a word category as an inherent property. It is nothing more than a phonological representation of a concept. There's no part of the EI that tells us the word should be a verb or a noun or informs us on which position it should occupy in a sentence. These properties get assigned to the EI when it's put into a slot in the syntactic structure. This would mean that literally any EI can behave according to any word category once it has been put in a certain slot, no matter what concept it represents. To demonstrate this, Borer (2003, 39) offers the following four example sentences with the EI's *boat, dog* and *sink*.

a. the boat will dog three sinks
b. the dog will sink three boats
c. the boat will sink three dogs
d. three sinks will boat the dog

Here, you can see that the EI's *boat, dog* and *sink*, once put into a syntactic slot, start behaving like the category-type that's associated with that slot. Borer acknowledges that "[s]ome are, of course, more compatible with world knowledge, or with selectional restrictions (the ability of a predicate to determine the semantic content of their argument(s)), than others. This we believe, however, to be outside the domain of the computational grammatical system." (2003, 39) The structure, rather than the EI itself, determines not only grammatical properties, but also the ultimate fine-grained meaning of the lexical items (an effect at times called coercion (2003, 33-34)). Coercion is clearly explained by Lauwers & Willems (2011):

> "[A]t the basis of coercion, there is a mismatch between the semantic properties of a selector (be it a construction, a word class, […]) and the inherent semantic properties of a selected element, the latter being not expected in that particular context. The resulting semantic effect […] is a compromise between the combinatorial constraints imposed by the language system and the flexibility (and creativity) allowed by the same system. There are clearly two processes involved in the coercion phenomenon: the selectional power of the coercing element and the flexibility potential of the coerced lexeme. Coercion […] presupposes a dynamic relation between syntax, lexicon and contextual elements in the interpretation of a sentence. (2011, 1219-1220)"

In this case, the coercing element, the selector, is the syntactic structure and the coerced lexemes; the selected elements are the EI's *boat, dog* and *sink*. The structure coerces a specific, 'fine-grained', meaning from the EI's and this, in turn, requires some flexibility from these items.

These points will prove to be crucial in the reasoning of this thesis. So to summarize the distinction between the endo- and exo-skeletal approach according to Borer: the endo-skeletal approach of explaining argument structure is lexicon-driven while the exo-skeletal approach is syntax-driven. The latter, the syntax-driven approach, leads to a process called coercion in which the syntactic structure forces the elements that are put into the structure to behave according to the grammatical and semantic properties that are associated with that specific slot in the structure.

Let's look back at Chomsky's sentence "Colorless green ideas sleep furiously." Chomsky's two main reasons for uttering this sentence were (1) to prove that frequency of occurrence doesn't have anything to do with the grammaticality of a sentence and (2) to illustrate the grammaticality doesn't necessarily have to be identified with meaningfulness. He does not mention an endo- or exo-skeletal approach but in a way he argues for the same coercion that Borer points out. Borer suggests an approach in which the syntactic structure determines the grammatical properties of the EI's which in turn establish their semantics, their meaning. This meaning doesn't need to resonate with world knowledge; it's coerced. This correlates with Chomsky's "grammaticality doesn't necessarily have to be identified with meaningfulness."

3. Chinese word classes

It is interesting to see what this theory of coercion determining grammatical and semantic properties implies for the notion of word classes. "The words of a language can be grouped into […] so-called

word classes, also known as lexical categories or parts of speech (POS). Word classes group words together according to a number of shared phonological, morphological, syntactic and semantic properties." (Basciano, 2015) However, if the words of a language are only EI's, category- and argument-less concepts, as Borer argues, how can they be grouped together in word classes? And how would this grouping together be relevant or useful?

In this section I will turn to some views on Chinese word classes. The main questions I will try to answer in this thesis are going to be: is there such a thing as word class assignment in Chinese? If there is, how are word classes distinguished and what kind of word classes can be distinguished in Chinese? And if there isn't such a concept in Chinese, how is the categorical ambiguity explained? Finally I will deal with the question how this all relates to Borer's view on syntax coercing EI's to have certain semantics.

Let's first turn to the question on how word classes are identified in general. Basciano (2015) offers three different types of criteria that have generally been used to identify word classes: (1) syntactic criteria. This first type is based on the distribution of words and their compatibility with other elements of a sentence. (2) Morphological criteria are concerned with the word form and (3) semantic criteria which are based on the meaning conveyed by the word.

As for Chinese, the second and third type of criteria for identifying word classes will prove to be inadequate for different reasons. Distinguishing word class on semantic grounds is impossible in Chinese, as it is in many other languages. Chinese has many words that convey similar meanings but differ in syntactic behavior. For example: *tūrán* and *hūrán*, both meaning 'suddenly' display large differences in that *tūrán* may act both as a predicative adjective and as an adverb, while *hūrán* can only be an adverb (Basciano, 2015). This causes semantic criteria to be ruled out. Morphological criteria would be useful for languages with a rich inflectional morphology. But in Chinese word forms are generally invariable. This means that a verb like *shuō* 'speak' is not morphologically different from the noun *shū* 'book'. Here, it must be noted that some exceptions can be found with certain suffixed nouns. These alternations are usually assigned to be residual of a process of nominalization. But overall, these small cases of potential morphology in Chinese cannot be compared with the inflectional morphology seen in languages such as French and Latin. And therefore it can be said that morphological criteria are invalid when it comes to assigning word classes in Chinese. This means that in Chinese, we can only rely on the syntactic context when assigning word class (Basciano, 2015). This sounds a lot like Borer's claim of syntactic slots determining grammatical properties, but that's not what is implied here. Word class assignment based on syntax entails looking at distribution and syntactic functions of words and grouping together those with similar syntactic behaviors. However, it is relevant to keep Borer's view in mind as it will turn out to be easily applicable to the Chinese language.

But before we turn to the part of the discussion where the existence of word categories in Chinese is contradicted, let's see what kind of word classes can be distinguished when we use the syntactic criteria for word class assignment. According to Basciano (2015) "it seems possible to distinguish nouns and verbs according to their syntactic distribution." She lists the following characteristics for nouns: (a) they can be preceded by a number/demonstrative+classifier structure, (b) they can preceded by the subordinative/modificational marker *de*, (c) they cannot be preceded by adverbs. See example (1) below for illustrations on (a) –(c):

1. (a) liǎng wèi[1] lǎoshī
two (num) CL teacher
'two teachers'

1. (b) wǒ de lǎoshī
I SUB/MOD teacher
'my teacher'

*1. (c) bù lǎoshī
NEG teacher

For verbs, the following characteristics are listed: (a) they may be preceded by adverbs, (b) they may be followed by verbal classifiers, (c) they may be followed by aspect markers and (d) they may not be preceded by noun classifiers. See example (2) below for illustrations on (a)-(d):

2. (a) bù qù
NEG go
'not go'

2. (b) lái yī cì[2]
come one CL 'number of times'
'come one time' / 'come once'

2. (c) chī le
eat ASP[3]
'eat-ASP'

*2. (d) yī ge tī
one CL 'individual' kick

Adjectives, as a word class in Chinese, appears to be harder to identify. Adjectives have been called a subclass of verbs because they can function as predicates without requiring a copula, which is a characteristic that's usually ascribed to verbs. It has also been claimed that "Chinese doesn't have the category adjectives and that those items that in English are adjectives correspond to verbs in Chinese." (Basciano 2015, McCawley 1992). Another proposal explains Chinese adjectives as being conflated with verbs, their functions being most similar to those of intransitive verbs. However, there is also evidence for the existence of a distinct word class for adjectives in Chinese (Basciano 2015). For example, not all adjectives can independently act as predicates, while verbs always can. Furthermore, verbs and adjectives differ in their reduplication patterns as verbs are always reduplicated as a whole: $[AB]_V[AB]_V$ (*zhīdao* 'to know' → *zhīdao-zhīdao*), whereas in the case of adjectives each syllable is repeated: $[AABB]_A$ (*gāoxìng* 'happy' → *gāo-gāo-xìng-xìng*). It is also pointed out that the semantic effect of the reduplication is different for each class. For verbs, reduplication results in a tentative aspect while for adjectives it involves a higher degree of liveliness or intensity (Chao, 1968, 224-225). According to Zádrapa (2015) "the question, whether Chinese in

[1] 'polite form of *ge* ('an individual')' (Chao, 1968, 600)
[2] verbal classifier 'number of times' (Chao, 1968, 628)
[3] for the meaning of the aspectual marker *le* is not of further relevance for this paper, I've left this unspecified

general possesses a class that would deserve the conventional label of adjectives, has been extensively debated in linguistics of Modern Chinese, and remains controversial until now." In short, adjectives, as a word class in Chinese, when compared to the categorization of nouns and verbs, is harder to capture in terms of syntactic behavior.

We will leave the discussion on whether Chinese has a distinct category for adjectives or not here and look at a term I have mentioned above: categorical ambiguity. It is a well known fact that Chinese displays a high degree of categorical ambiguity, which means that it is often the case that the same word can appear in different syntactic slots. Basciano (2015) demonstrates this with the word *máfan* 'troublesome/trouble', which can act as an adjective (3a), as a verb (3b) or as a noun (3c):

3.(a)	zhè	jiàn	shì	hěn	**máfan**
	this	CL	fact	very	troublesome
	'This fact is troublesome.'				

3.(b)	tā	bù yuàn	**máfan**	biérén
	he	not-willing	trouble	others
	'He is unwilling to trouble other people.'			

3.(c)	nǐmen	zài	lùshàng	huì	yù dào	yīxiē	**máfan**
	you	LOC	on the road	may/will	meet	some	trouble
	'You may/will run into some troubles on the road.'						

The question on how to treat these words with multiple categories is much debated. According to Basciano's article, there are three main explanations: (1) *máfan* is a word that belongs to more than one lexical category, (2) there are three different *máfan*'s, the *máfan* that behaves like an adjective, the *máfan* that acts like a verb and the one that's a noun. In other words, the three *máfan*'s are homophones; they sound the same, but, syntactically aren't. And finally (3) the words are derived from each other, for example through processes of covert nominalization.

In order to illustrate that *máfan* isn't an exception when it comes to word categorization, I have added another example from Kwong & Tsou (2003, 115) where we see the exact same thing happen with *huáiyí*:

4.(a)	tā	mǎnliǎn	**huáiyí**	biǎoqíng
	he	whole face	suspicious	look/expression
	'He wears a suspicious look'			

4.(b)	wǒ	**huáiyí**	tā	shì	zéi
	I	suspect	he	be	thief
	'I suspect he is a thief.'				

4.(c)	zhè	zhǐ	shì	wǒ	de	**huáiyí**
	this	only	be	I	SUB/MOD	suspicion
	'This is only my suspicion.'					

Kwong & Tsou (2003, 115-116) acknowledge that ambiguity is a major problem in POS (Part of Speech) tagging (word classification) for all languages, but it is especially salient for Chinese, mainly for two reasons. "First, categorical change in Chinese words is not often associated with

morphological marking. Thus the same word form can have more than one syntactic category, and this difference is not marked by any derivational affixes." This point, I have also mentioned earlier when I explained why morphological criteria were inadequate for assigning word classes in Chinese. "Second, the same Chinese word can have different grammatical functions in individual sentences. There is no one-to-one relationship between grammatical function and syntactic category." This is what we see happening with both *máfan* and *huáiyí*. Kwong & Tsou speak of categorical fluidity in Chinese while Marosán (2006) takes it even further by calling Chinese words acategorial; "their word class is manifested only in actual use." Hopper & Thompson (1984, 747), in their article, even conclude "that linguistic forms [in general] are in principle to be considered as 'lacking categoriality' completely unless […] it is forced on them by their discourse functions. To the extent that forms can be said to have an a-priori existence outside of discourse, they are characterizable as acategorial; i.e., their categorial classification is irrelevant. Categoriality is imposed on the form by discourse."

This sounds a lot like Borer's argumentation. The description of words in Chinese as acategorial corresponds to the EI's Borer mentions in her article. They only convey a concept, an idea, but don't posses any grammatical properties. Only when used in discourse, as Hopper & Thompson describe it, or only when put in syntactic slots, as Borer puts it, categories are assigned, argumentation structure is determined and more detailed semantics are established.

So the question on whether different word classes can be distinguished in Chinese is crucial. I have shown that if one is determined to apply word class assignment to the Chinese language, nouns and verbs, to a certain extent can be distinguished based on syntactic criteria. Adjectives, however, quickly become problematic to capture syntactically. Then, it is also useful to think of the relevance of having words of a language grouped together into classes. Is it necessary? Or is it a tendency that originated in Indo-European linguistics and appears not to be working when it is applied to the Chinese language. Chinese, with its proposed categorical fluidity, or even acategoriality, seems to be functioning fine without all the words being assigned to a specific word class beforehand. And if it is indeed the case that Chinese is lacking categoriality, it turns into a perfect fit for the 'model' that is described by Borer because it would make all the Chinese words conform to the given definition of an EI, which only obtains its grammatical properties when its put into a syntactic structure. Only in actual use a word class is coerced on the word, otherwise its nothing more than a category-less EI.

4. Word categories as extrinsic properties or categorical ambiguity?

We have now seen that there are a lot of different views on the Chinese language when it comes to word classes. On the one hand it is said that Chinese does have these word classes. Ambiguity, here, is explained as an overlap in word class. On the other hand Chinese is described as acategorial; word categories are described as extrinsic properties of EI's, and EI's are only interpreted when used in discourse. In this case ambiguity doesn't exist as the words in isolated form don't have any grammatical properties. The relevant question now is: which point of view is more useful when analyzing the Chinese language? Which angle will prove to be more insightful when we are investigating properties of Chinese?

In this section I will analyze each side. I will first discuss Haspelmath's and Baker's view on word categorization in general. Then I will turn to the debatable class of adjectives in Mandarin which I have mentioned briefly above. In the third section I will take morphology as a base for our discussion about the existence of word classes in Mandarin. And lastly I will return to Borer to see

what it would mean for Mandarin if there wouldn't be any categorical assignment beforehand. This evaluation will clarify what the most appropriate approach for Chinese is.

4.1 Haspelmath and Baker

Haspelmath (2007) formulates a very clear view on the establishment of categories in different languages with regard to language description. He starts off by stating that "structural categories of grammar […] have to be posited by linguists and by children during acquisition." A universal list of pre-established categories would be helpful in this process, however, "existing proposals for what such a list might be are still heavily based on the Latin and English grammatical tradition." This means that descriptive linguists are forced to adopt an approach of positing categories, that are highly language-particular, for each language they're describing. This approach is unrealistic as "almost every newly described language presents us with some 'crazy' new category that hardly fits existing taxonomies." (Haspelmath, 2007, 119) The tendency of assuming pre-established word categories in every languages makes us ask questions like "are Mandarin Chinese property words adjectives or verbs?" (Haspelmath, 2007, 119). But when one reasons from the non-existence of these categories and the terminology that accompanies it, these kind of questions become insignificant. Haspelmath stresses that linguists should not be fitting observed phenomena into existing moulds. Instead they should be describing them in as much detail as possible. He thus concludes that cross-linguistic comparison cannot be category-based, because the presumption of fixed categories for each language has proven to be deficient. Instead, comparison should be substance-based, because substance (unlike categories) is universal.

I deem this point to be a great point of departure for this discussion. It is relevant because it stresses the influence of the Latin and English grammatical tradition on the concept of word categorization. At the same time Haspelmath mentions that the cross-linguistic evidence is not converging on such a smallish set of universal categories. "Not only are similar categories in two languages never identical, but languages also often exhibit categories that are not even particularly similar to categories in other languages." (Haspelmath, 2007, 123) There are, of course, many similarities between categories across languages, and this, in turn, has lead to the temptation of equating language-particular categories with each other. "However, it is important to realize that similarities do not imply identity." (Haspelmath, 2007, 127) In order to find generalizations across languages, one has to start with the awareness that each language may have new categories.

Haspelmath doesn't suggest anything specifically about word classes in Mandarin since his article isn't about Mandarin in particular. His claim is that word categorization, for every language, may differ. It doesn't have to fit anything that is pre-established. The point he makes is that every language must be described in accordance with its own specific system of word categorization. He appears to take the existence of word classes in every language as a foundation and doesn't discuss the possibility of a language without any categories. We thus cannot derive from Haspelmath's article that Mandarin may be acategorial as this isn't one of the options in his view. The only thing we can really conclude from Haspelmath's article is that the word categorization of Mandarin possibly may be different from what we think is 'standard'.

Next, let's turn to Baker (2003) who presents us with a view that is close to Borer's. He first states that "[p]robably the most traditional and widespread view about category distinctions is that they are essentially morphological in nature. Particularly in well-inflected languages, it is a salient fact that some roots take one class of inflections whereas other roots take a different class of inflections.

[…] The fully inflected words then feed into the syntax, and their syntactic possibilities are determined in large part by the ways they have been inflected." (Baker, 2003, 265). He, too, stresses that this is one of the oldest views about categories that was held by most ancient Greek and Roman grammarians. Naturally, it has shaped the European way of looking at and describing new languages. Here, "category is first and foremost a property of roots and stems. From there it projects into the syntax by determining how a word can be inflected and hence what its syntactic possibilities are." (Baker, 2003, 265). An endo-skeletal approach, as Borer has labeled it.

He then mentions the opposite view, adopted by Borer, where categorical identity is determined by the syntactic environment. Baker then adopts a point of view that is somewhere in between. He has four things to say about lexical categories in general:

> "(1) crisp and simple definitions of the lexical categories do exist. (2) categories are defined by one feature each, not by complexes of features, and their various grammatical behaviors can be deduced from their one essential feature in an explanatory way. (3) the definitions of the categories are primarily syntactic in nature, but they project into the morphology and semantics in various ways because of the interconnections between these components. (4) all natural human languages have the same three lexical categories, and these have recognizably the same core grammatical behavior." (Baker, 2003, 301-302)

So, Baker does reject the endo-skeletal approach in which morphology plays a key-role in assigning word classes. He seems to support Borer's exo-skeletal view when he states that categories are primarily syntactic in nature. However, unlike Borer, he mentions these three lexical categories that all languages must have. This claim contradicts Haspelmath who dismisses any pre-established word classes. It is important to keep in mind that Baker is talking about 'lexical categories'. The three categories he is alluding to are nouns, verbs and adjectives. He argues that these categories are innate in the human mind as physical objects, dynamic events and physical properties respectively. Deep-seated into our minds, this knowledge allows us to intuitively distinguish nouns, verbs and adjectives. "As such, […] they are available to play a role in guiding language acquisition from the beginning." (Baker, 2003, 299). But the lexical categories are different from the functional categories. "The cognitive/acquisition-based reasons for saying that nouns, verbs and adjectives are universal […] do not apply to functional categories as they do not seem to be universal."

Baker thus makes a distinction between lexical and functional categories. As for the lexical categories, he claims that each language at least has nouns, verbs and adjectives. The functional categories, however, may vary for each language. So, actually, in a way, Baker supports both Borer's and Haspelmath's view. He is arguing for an exo-skeletal approach when it comes to word categories and mentions that functional categories aren't necessarily universal. He adds to these claims by arguing that each language possesses the lexical categories nouns, verbs and adjectives. The fact that he states that these three categories are innate doesn't necessarily reject the possibility of Mandarin being acategorial as he also claims that categories are primarily syntactic in nature. In other words, he says that word categories only manifest in a syntactic context, but among these categories that are eventually assigned are at least nouns, verbs and adjectives.

4.2 Adjectives as a separate word class in Mandarin

As I have mentioned and illustrated above, nouns and verbs are easily distinguished based on their syntactic distribution. These are two out of the three lexical categories that Baker claimed every language to have. Now, what about adjectives in Mandarin?

There appears to be a lot of discussion about the existence of a separate word class for adjectives in Mandarin. I touched upon this discussion briefly but left it without going into too much detail by stating that adjectives, as a word class in Chinese, when compared to the categorization of nouns and verbs, is harder to capture in terms of syntactic behavior. The absence of an official category of adjectives may be a good starting point in proving complete acategoriality in Chinese, especially since Baker has claimed that an adjective class is one of the (lexical) categories every natural language must have. If it turns out that Chinese doesn't have all three of these categories, that would mean that Baker's theory is flawed or that Chinese is an exception. The absence of an adjective class is no proof for the absence of classes for verbs and nouns, but it would be a first step in claiming that Chinese may be different. Actual proof for the existence of a separate class for adjectives, on the other hand, would contribute to the argumentation of the opposite point.

Paul (2015) argues in favor of adjectives as a distinct category. In fact, she goes a step further and argues that Chinese has as many as two morphologically different classes of adjectives with distinct semantic and syntactic properties. As this is less relevant for this discussion, I will now mainly focus on how she distinguishes adjectives from verbs. As I have mentioned before, adjectives have been described as a category conflated with verbs and as a subclass of verbs. But Paul identifies verbs and adjectives as being two different word categories with the following three pieces of evidence.

First she shows that verbs and adjectives cannot be conflated into a single class as adjectival reduplication and repetition of the verb are two completely different processes. Not only is there a difference in pattern, there also appears to be a difference in tone preservation and an interpretational difference. (Paul, 2015, 146) Verbs are reduplicated as a whole ($[AB]_V[AB]_V$), in the repetition of the verb the second syllable is in the neutral tone and its repetition gives rise to a tentative aspect. Adjectives are reduplicated according to the pattern $[AABB]_A$, the lexical tones are maintained and it is said to involve a higher degree of liveliness or intensity.

But, keeping Borer's theory in mind, this argumentation seems to be the wrong way around. Paul argues that words, because they belong to different categories, behave consistently different when they are reduplicated. Another way of looking at it is taking these two patterns, [ABAB] and [AABB], as part of predicative and modification slots respectively. Only in the predicative slot do words take the reduplication pattern on [ABAB], and only in the modification slot do they replicate as [AABB]. Only after words, or EI's as Borer has put it, are put into these slots, are they interpreted and assigned grammatical properties and potentially their reduplication patterns. Before, they're nothing more than an EI, they're empty and don't belong to any category. This would mean that any word can be put into these two slots. When it's put in the [ABAB] slot, it will be interpreted as having verbal properties and when it's put in the [AABB] slot, a modification interpretation will emerge. This is illustrated in the examples below:

		predicative [ABAB]	
5.	nǐmen	gāoxìng gāoxìng	ba
	you	happy	PAR[4]
	'Let's just be happy.'		

[4] Sentence final particle, often indicating a suggested action or an imperative mood.

modification [AABB]

6. gāogāoxìngxìng shàngbān
happy go to work
'going to work happily'

We can thus conclude that these reduplication patterns can be rejected as pieces of evidence for a successful distinction between the word classes verbs and adjectives. Let's turn to the two arguments that remain.

According to Paul, the acceptability of the *de*[5]-less modification pattern also allows us to distinguish between adjectives and verbs, because only the former, but not the latter, can modify a noun without *de*.

7. yī jiàn zāng yīfu
a CL dirty dress
'a dirty dress' (Paul, 2015, 147)

8. zāng -le *(de) yīfu
become-dirty PERF[6] SUB dress
'the dress which has become dirty' (Paul, 2015, 150)

This second argument seems more convincing. In example (7) and (8) we see that the same word, *zāng*, is used in different syntactic slots. In (7), its position causes an adjectival interpretation while in (8) *zāng* appears to have verbal properties.

The third difference is an interpretational one: "when an adjective in its bare form without any adverbial modifier functions as a predicate, it is understood as indicating the comparative degree, while this is not the case for a bare stative verb." (Paul, 2015, 151) Paul gives the following two examples to illustrate this:

9. tā cōngmíng / piàoliang / kāixīn / lei
she intelligent / good-looking / joyful / tired
'She is more intelligent / good-looking / joyful / tired.'

10. tā xǐhuan shùxué
she like mathematics
'She likes mathematics.'

If the positive degree is intended in (9), instead of the comparative degree, the adverb *hěn* 'very' should be used. In this case, the *hěn* wouldn't make any semantic contribution. It remains untranslated and is therefore often referred to as 'bleached' *hěn*.

11. tā hěn cōngmíng / piàoliang / kāixīn / lei
she very intelligent / good-looking / joyful / tired
'She is intelligent / good-looking / joyful / tired.'

When the *hěn* is modifying the verb in (11), however, its lexical meaning does contribute to the meaning of the sentence:

[5] subordinative/modificational marker
[6] perfective marker

12. tā hěn xǐhuan shùxué
she very like mathematics
'She likes mathematics very much.'

These interpretational differences also successfully contribute to a distinction between verbs and adjectives. Even when we reject Paul's first piece of evidence about the reduplication patterns she still convincingly points out differences between verbs and adjectives in Mandarin by paying attention to distribution and interpretation. This means that besides the word categories of nouns and verbs, which were quite easily identified based on syntactic criteria, there would now be also proof for a category of adjectives in Mandarin.

4.3 Mandarin as an isolating language or signs of productive morphology in Mandarin?

For the next part of the discussion, I will briefly return to the part where Baker, in his own words, offers a description of the endo-skeletal approach for assigning word class. Haspelmath already mentioned the influence of the Latin and English grammatical tradition. Baker, in turn, points out the influence of Greek and Roman grammarians. It can thus be said that there is a certain Western dominance when it comes to theories on word categorization. This becomes problematic when we are trying to examine Mandarin. Most Indo-European languages are synthetic languages which entails that they exhibit a high morpheme-per-word ratio. They feature inflectional morphology which allows a word to vary in form depending on the word class it belongs to. Because of these prominent morphological markings it is easy to assume that word category is part of the root and that inflections determine syntactic possibilities. Mandarin, however, is an isolating language with almost no inflectional morphology. When a form doesn't show morphological markings, this endo-skeletal approach suddenly seems less 'obvious'. It is not as evident that word class is part of the root. Take a look at the following examples where I compare Dutch and English with Mandarin.

13.	Dutch	English	Mandarin
verb	ontdekken	discover	发现 *fāxiàn*
noun	ontdekking	discovery	发现 *fāxiàn*

14.	Dutch	English	Mandarin
verb	voelen	feel	感觉 *gǎnjué*
noun	gevoel	feeling	感觉 *gǎnjué*

In Dutch and English there is an apparent difference in the form, whereas in Chinese nothing changes. This makes Mandarin very suitable for supporting the exo-skeletal approach of Borer. As the form is invariable it is impossible to derive any grammatical properties from the isolated form. Only when put into syntactic slots will more detailed semantics be assigned, including word category. The fact that Mandarin is an isolating language makes it more plausible that its categorical inventory is limited, if not entirely absent. The absence of a rich inflectional system makes it harder to mark and recognize word categories and suggests that, in Mandarin, categorical assignment isn't of great importance either.

Mandarin is widely known as one of the most isolating languages. (Pereltsvaig, 2012, 126) It doesn't display inflection and variations in form in the way we may be used to see it in for example French or Spanish. But that doesn't mean that we can simply assume that Mandarin has no morphology at all. It is actually the case that Mandarin does exhibit morphology. We have

established earlier that morphological criteria can be used to identify word classes. For example, in English, a morphological analysis will divide *singer* into *sing*, the stem, and *–er*, which marks the word as a noun, the agent of the activity expressed by the stem. (Matthews, 2014, 252). *Sing* is a free morpheme, which means that it can be used separate from, in this case, *-er. –er*, however, is a bound morpheme, which has to be connected to another morpheme. Both *sing* and *–er*, because they are morphemes, convey semantics, but the difference is that the stem is free while the marking is bound. In Mandarin, the same thing happens. The only difference is that Chinese morphology, in comparison with, for example English, isn't as consistent.

I will now look at few examples of morphology in Mandarin, presented by Tiee (1979) and discuss whether they can be used effectively to identify word classes.

Tiee (1979, 252-253) gives examples of six different nominal suffixes. He claims that these suffixes, when they are placed behind a verbal or adjectival stem, derive a nominal form:

15.			**verbal stem**	**adjectival stem**
	a.	*-zi*	*tànzi* ('to spy' + *-zi*) 'a spy'	*fēngzi* ('mad' + *-zi*) 'mad man'
	b.	*-r*	*huór* ('to live' + *-r*) 'work'	*liàngr* ('bright' + *-r*) 'light'
	c.	*-tou*	*kàntou* ('to see' + *-tou*) 'worth seeing' / 'spectacle'	*tiántou* ('sweet' + *-tou*) 'sweetness'
	d.	*-chu*	*yòngchù* ('to use, to utilize' +*-chu*) 'use' / 'utilization'	*nánchù* ('difficult' + *-chu*) 'difficulty'
	e.	*-zhe*	*jìzhě* ('to write' + *-zhe*) 'reporter' / 'journalist'	*xiánzhě* ('wise, brilliant' + *-zhe*) 'the wise' / 'the noble'
	f.	*-shou*	*zhùshǒu* ('to help' + *-shou*) 'helper'	*hǎoshǒu* ('good' + *-shou*) 'skilled person'

In example (15) we see that Tiee (1979) indicates that the suffixes (a)-(f), when they are connected to these verbal and adjectival stems, cause a switch in word category. By offering translations of both the stems and the compounds he shows that the latter get a nominal interpretation. However, it seems to me that these translations are not sufficient in proving that a switch in word category has taken place. Valid statements about verbal, adjectival and nominal features could only have been made when all the stems and compounds would have been used in syntactic contexts. Translations of isolated forms, in the context of our discussion on word classes, are not enough. They don't provide us with hard evidence on there being a word class in the stem in the first place, let alone evidence of a switch in word class when a certain suffix is added. Take for example *liàng* 'bright'. In (15.b) it's presented as an adjectival stem. The following examples, however, show that depending on its place in the sentence *liàng* can be either an adjective (16) or a verb (17):

16. wū lǐ hěn liàng
room inside very bright
'The room is very bright.' (Pleco, 2017)

17. wūzi lǐ liàng zhe dēngguāng
room inside shine PART light
'Lights were shining in the room.' (Pleco, 2017)

Of course, the word categories of the stems are not the point here, but the examples above do show that these features cannot simply be determined with a translation of a form in isolation. It

would be interesting to see how the suffixed forms would behave when put in syntactic context. I will return to this later on.

Tiee (1979, 252-253) also lists a verbal suffix, *-huà*, and an adjectival affix, *kě-*.

18.			**nominal stem**	**adjectival stem**	**verbal stem**
	verbal suffix	*-huà* '-ize' / 'ify'	*ōuhuà* ('Europe' + *-huà*) 'Europeanize'	*měihuà* ('beautiful' + *-huà*) 'to beautify'	
	adjectival affix	*kě-* 'worth' / '-able' / '-ful'			*kěpà* (*kě-* + 'to fear') 'fearful
					kěkào (*kě-* + 'to depend') 'dependable'

Now that we have listed a few of the frequently used derivational suffixes and discussed how the assignment on verbal, adjectival and nominal features to stems or isolated forms is questionable, it is time to discuss whether these suffixes prove the existence of word categories in Mandarin. Are they effective and productive enough? The first thing that needs to be pointed out is that these suffixes cannot be combined with every morpheme. As you can see in example (18), *kě-* only gets put in front of a stem that is normally identified as verbal and not in front of a nominal one. But besides that, it is not the case that *kě-* can be combined with every verbal stem either. This, however, is not particular for Chinese. In English, the morphological marker *–er* cannot be combined with every verbal stem either. *Laugh*, for example, is a stem that takes no *–er*. But in English, whenever a word contains the bound morpheme *–er*, it surely is a noun. *Kě-*, however, seems to not always signify an adjective. *Kěnéng* and *kěyǐ*, besides their adjectival meaning 'possible' are also both verbs meaning 'may'; and *kěshì*, 'but'/'however', is a conjunction. These inconsistencies in distribution make *kě-* as a category marker questionable. The same goes for *–huà* in *biànhuà* 'to change / a change', which is both a verb and a noun. So at least for the verbal suffix and the adjectival affix it can be concluded that they're not productive enough to identity a word category exclusively. The nominal suffixes listed above seem to only create derived nominals, but still, it must be kept in mind that these suffixes don't combine with all verbal and adjectival stems. These suffixes, although they show us that Mandarin isn't completely lacking morphology, fail to consistently mark word classes. The most we can now ascribe them is that they 'hint' at the existence of different classes.

4.4 Word category as an extrinsic property of EI's

Finally, let's turn to Borer. I will briefly summarize what Borer has labeled as the exo-skeletal approach. As we have seen, she states that words or lexical items as EI's, only when they get put into a certain slot in a syntactic structure, start behaving according to the word category that matches that position. This means that one EI can be put in all different kinds of slots. When it's put into a noun-slot, it will start behaving like a noun, and when it's put into a verb-slot, it will start behaving like a verb. This approach doesn't take world knowledge or semantic compatibility into account. What this approach would mean for word categorization in general is that there would be no point in distinguishing different word categories as literally any word can behave according to any word category. Acategoriality is actually its foundation.

The exo-skeletal approach is hard to accept when you're dealing with a language that displays a lot of inflectional morphology. One can hardly imagine a word like *singer* into a verb-slot or an adjective-slot. We have seen that Mandarin isn't purely an isolating language, but it still has relatively few morphological markings, which makes it more appropriate for the exo-skeletal approach. In other words, for Mandarin, this approach would probably be easier imaginable. Let's look back at example (4) where *huáiyí* takes three different word categories in three different sentences without displaying any morphological differences. Kwong & Tsou (2015) speak of categorical fluidity, which is one way of putting it. But a more appropriate approach may be one of complete absence of word categories in general and a complete dependence on syntax for interpretation instead.

5. Experiment 1

5.1 Introduction

Would Borer's exo-skeletal approach be an effective model for explaining word categorization in Mandarin? I will try to find an answer to this question by testing this with a couple of sentences. I have composed a few sentences where I have tried to coerce a verb-reading of a word that's normally interpreted as a noun in Mandarin. Let's briefly return to the examples Borer presented:

a. the boat will dog three sinks
b. the dog will sink three boats
c. the boat will sink three dogs
d. three sinks will boat the dog

These four sentences gave me the idea to apply this to Mandarin in a similar way. They are perfect examples of coercing a word category and the properties that accompany that category on an EI. *Boat*, *dog* and *sink* all, in turn, become nouns or verbs and even take on different thematic roles based on their syntactic position, for example: in (a) *sinks* is a noun with a patient role, in (b) and (c) *sink* functions as the main verb, and in (d) *sinks* is a noun again, but this time with an agent role. As you can see with *sink,* there are variations in the form. In (a) and (d) *sink* becomes *sinks* because of the need for the plural marker *–s* in English, while in (b) and (c) there are no markers because *sink* is in a verb slot where no morphological marking is needed. Mandarin has relatively few morphological markings which makes it quite ideal for this kind of approach. In my test sentences I have decided to focus on a verb coercion on nouns. The reason why I decided to use verbs and nouns and not adjectives is because verbs and nouns have the advantage of being quite easily syntactically distinguishable. For adjectives, as we have seen, this is more complex.

5.2 Methodology

I have chosen three different types of nouns: (a) monosyllabic nouns, (b) polysyllabic nouns, and (c) suffixed nouns. Mandarin has quite a few nominal markers. It is only fair to include these to see what the influence of nominal suffixation is on verbal coercion in comparison with nouns that are not suffixed like that. For each type there are four nouns that refer to something concrete and four that refer to abstract concepts. I am curious to see if all these differences will influence the acceptability and/or interpretation of the sentences. I have tried to coerce an interpretation of a transitive verb

because I expect this to be the easiest to coerce. I have used the following four (A-D) transitive verb coercion patterns for each noun (N):

A. tā N le yí ge píngguǒ
he PERF an apple
'He N(+perf) an apple.'

B. tā N le wǒ
he PERF me
'He N(+perf) me.'

C. tā N le yí ge yuányīn/yìsi
he PERF a reason/meaning
'He N(+perf) a reason/meaning.'

D. tā hěn N yīnyuè
he very music
'He very N(+pres) music. / He N(+pres) music very much.'

With the patterns A, B and C, I try to coerce the verb-reading by placing the 'noun' between a subject *tā* 'he' and an object. While the subject stays the same in A, B and C, the object varies from the NP (noun phrase) *yí ge píngguǒ* 'an apple', a concrete thing, to *wǒ* 'I/me', a personal pronoun, to the NP *yí ge yuányīn/yìsi* 'a reason/meaning', something abstract. I have chosen to use different types of objects because I suspect it may have an influence on the interpretability. The verbal perfective marker *le* is supposed to stress that the 'noun', here, in fact is a transitive verb. There are thus various cues for the N behaving like a verb in these sentences.

In the D pattern, I try to coerce a gradual verbal meaning. This sentence is based on the following sentence: *Tā hěn xǐhuān yīnyuè.* 'He really likes music.' I have replaced *xǐhuān* 'to like' with the different types of nouns to see if they get the same gradual verbal interpretation.

The following coercion pattern I choose to use is a little bit different because, besides verbal coercion, this pattern would also be able to coerce the nouns as adjectives. As you can see below, the E pattern coerces a comparative meaning:

E. tā bǐ wǒ N déduō
he to compare I/me much more
'He, compared to me, N much more.'

In *Tā bǐ wǒ hē déduō.* 'He drank more than me.' the verb *hē* 'to drink' gets a comparative interpretation because of the pattern formed by *-bǐ* 'to compare' and *déduō* 'much more'. But in *Tā bǐ wǒ gāo déduō.* 'He is taller than me.' The adjective *gāo* 'high' receives the comparative interpretation. First, I am curious to see if this pattern will successfully coerce the nouns in any way. If this is the case, I am curious to see if this pattern will be more successful than the other four coercion patterns, as it allows both verbal and adjectival interpretations.

I have attempted to find a balance between the need for an identical syntactic environment in every sentence and the necessary variations. It is important to keep the test sentences as similar as possible for clear results while at the same time slight changes are important to highlight differences. Also, as you can see from the coercion patterns, I have kept the sentences simple and

short and their semantics as neutral as possible. This is all in order to keep their influence on the test results limited.

As I have mentioned before, I will focus on three types of nouns: (a) monosyllabic nouns, (b) polysyllabic nouns, and (c) suffixed nouns. For every kind I have four nouns that refer to something concrete and four that refer to something abstract. In the table below I have listed every noun that I have used in the test sentences:

	monosyllabic		**polysyllabic**		**suffixed**	
concrete	*yú*	'fish'	*xióngmāo*	'panda'	*xiézi*	'shoes'
					xié	'shoes'
	sǎn	'umbrella'	*yǎnjīng*	'eyes'	*huār*	'flower'
	tián	'field'	*chuāngkǒu*	'window'	*xuézhě*	'scholar'
	chá	'tea'	*zhèngfǔ*	'government'	*zhěntou*	'pillow'
abstract	*tiān*	'day'	*jīhuì*	'oppurtunity'	*niàntou*	'idea'
	meng	'dream'	*guānniàn*	'concept'	*miànzi*	'face'/'reputation'
	yīn	'sound'	*zìrán*	'nature'	*kòngr*	'free time'
	chūn	'spring'	*dàolǐ*	'reason'	*jìnr*	'effort'
					jìn	'strength'

In the column of the suffixed nouns, you can see that I have used both *xiézi* and *xié* in the test sentences to get a clearer understanding on the potential effect of the nominal suffix *-zi* on the verbal coercion. I have done the same for the *-er* suffix by including both *jìnr* and *jìn*. Differences or similarities on the interpretation between *jìnr* and *jìn* and between *xiézi* and *xié* may shed some light on the question on the existence of word categories in Mandarin.

For all of these nouns I have five patterns available that will possibly coerce a verb-interpretation. Five test sentences per noun results in 130 sentences. I have presented these sentences to three native speakers of Mandarin to test for their grammaticality and their interpretability. I am aware that the scale of this research is very limited and that no real conclusions can be drawn from its results as the number of participants is simply too few. However, for this thesis, this scope will suffice for now, and will steer us into the right direction for answering questions about word categorization in Mandarin.

I presented these sentences written in characters, to avoid phonetic ambiguities, and asked the participants to rate each sentence (1/10) for (1) grammaticality and (2) interpretability. I elaborated on these two terms by asking the following questions:

- ✓ Grammaticality: In terms of your own perception, to what degree is this sentence grammatical? (1 = completely grammatical, 10 = completely ungrammatical)
- ✓ Interpretability: In terms of your own perception, to what degree is the sentence concerned understandable and interpretable? To what degree are you able to use your imagination to understand the meaning of the sentence? (1 = completely uninterpretable, 10 = completely interpretable)

These two specific questions are relevant because, when a native speaker gets presented a sentence, there are mainly two possible scenarios for their reaction: acceptance or correction. When a sentence gets accepted it means that the native speaker feels that it successfully conveys information and that he or she can easily imagine what it could mean. If there's correction it means

that the native speaker does not consider the sentence to successfully transmit information, or it means that the native speakers assumes a mistake is being made in the process of trying to convey a certain meaning. But even when a sentence gets rejected for being incorrect or ungrammatical, it is still interesting to ask the native speaker if he or she can try to think of what may have been meant with it. To what degree can they use their imagination to think of a specific meaning it may have in that particular kind of syntactic environment? If one can come up with something then there's still something happening semantically, but if one cannot there's no semantic value in generating that sentence.

I have let the native speakers rate their answers on a scale from 1 to 10 instead of asking them to answer yes or no because grammaticality and interpretability are not things that are that black and white. Instead it has to do with language instinct and associations. It is subjective and may differ from speaker to speaker. With these kind of ratings we get a more clear overview, which is valuable and leaves us with a lot of room for comparison.

5.3 Hypothesis

My expectations are that all the sentences are going to score low on grammaticality, because forcing verb-interpretations on words that are generally considered to be nouns is very unusual and pushing the boundaries of the imagination. For interpretability, I expect there to be differences in ratings among the participants because sentences don't necessarily need to be grammatical to make sense. Children, for example, regularly make minor grammatical mistakes like *I drawed a cat* (instead of *I drew a cat*). This small error in grammar however doesn't cause complete confusion. The interpretation is still clear, but the parents will probably correct the grammar of the child in some way. In this experiment, I am curious to see how these sentences will score on interpretability. Because interpretation is something that's highly correlated with association and even imagination, I expect many differences in ratings among the participants.

I think the monosyllabic nouns will score higher on interpretability than the polysyllabic nouns. Monosyllabic nouns only consist of one morpheme. I expect this simplicity to facilitate fluidity in word class. Polysyllabic nouns consist of compounded morphemes, some of which are free and some are bound. I think that especially the presence of bound morphemes within such a compound may challenge the potential of fluidity when it comes to word category. That is also the reason why I predict the suffixed nouns to score the lowest on interpretability. The suffixes used in the test sentences are known to have a nominalizing effect. The 'noun-ness' is therefore stressed and that makes me think that these suffixed nouns won't do well in a verb position. For *jìnr* and *xiézi* I've also tested the non-suffixed counterparts. My expectations are that these will score significantly better in comparison with their suffixed counterparts.

Furthermore, I think the abstract nouns will score higher on interpretability than the concrete ones. By putting nouns into verb slots, I am already pushing the limits of the imagination a bit. I expect nouns that refer to abstract concepts to accommodate this experimental exo-skeletal approach better than concreteness will.

Lastly, I think that coercion pattern E will prove to be the most successful one because it allows for both a verbal and adjectival interpretation. As for the other patterns, I expect C to be easier to interpret because the object of the sentence is abstract. A, accordingly, I expect to be harder to interpret because the object is concrete. For B and D, I am not sure what to expect. I am

curious to see if the gradual pattern or the pattern with the personal pronoun will make for significant ratings.

5.4 Results

Let's now turn to the results. A complete overview of the results is to be found in the appendix below (Experiment 1 + results). The first thing that stands out is that among the participants the results are very different. Where two of the three participants filled in scores varying per sentence, one almost consistently filled in '1' to indicate that all the sentences were completely incorrect. Considering the small amount of participants, we cannot really draw any conclusions from this diversity. Differences may indicate a general and widespread disagreement regarding these sentences, or they may only reflect the differences among the participants, like age, place of birth and even degree of open-mindedness towards these kind of linguistic experiments.

For comparison, I will now look at the different types of nouns which can be divided into the following six:
(1) monosyllabic – concrete
(2) monosyllabic – abstract
(3) polysyllabic – concrete
(4) polysyllabic – abstract
(5) suffixed – concrete
(6) suffixed – abstract

In order to keep a clear overview, I will discuss them all one by one. I will refer to the test sentences with the numbers that are on the questionnaire form in the appendix.

(1) Despite all the differences in ratings, it can definitely be said that the category 'monosyllabic – concrete' scored the lowest. In grammaticality all sentences received a rating of '1' from all participants. Interpretability did not score much higher: mostly 1's and 2's. One participant rated sentence (17) with a 5 for interpretability, explaining that this, for her, could possibly mean that "he caught more fish than I did".

(2) The 'monosyllabic –abstract' category scored significantly better. One participant still scored all the sentences in both sections (grammaticality and interpretability) with 1, except for the following two sentences: (22) and (26). These sentences both scored a 1 on grammaticality, but a 7 on interpretability. According to the participant the sentences could mean "He dreamed of an apple." and "He dreamed of me." respectively. This view is affirmed by other participants. One even rated all five sentences with *mèng* 'dream' with double 10's. *Chūn* 'spring' also received some high scores on both grammaticality and interpretation. *Tiān* 'day' and *yīn* 'sounds' are less successful grammatically but still score on interpretation. What seems to stand out for all four monosyllabic abstract nouns is that the last coercion pattern (37-40) makes for the most grammatical and the most interpretable sentences.

(3) Next are the 'polysyllabic – concrete' nouns. One participant rated all sentences with '1' in both sections. Among the other participants, the sentences are almost all rated 1 for grammaticality. One participant rated the *zhèngfǔ* 'government' sentences with 3 for grammaticality and another participant rated the last verb coercion pattern significantly higher in grammaticality for all words. The ratings for interpretation are higher, in some cases way higher, but the only conclusion I can draw from this is that acceptability and interpretation are very personal and vary from participant to

participant. It is interesting to see that for some participants this category scores better than the 'monosyllabic – concrete' one.

(4) Next we turn to 'polysyllabic – abstract' nouns. The main thing that stands out in this category is the complete acceptance in grammaticality and interpretability for test sentence (79), which was explained as "He is more natural than me." The fifth coercion pattern, again, scores well, and for one participant the second verb coercion pattern (65-68) also receives high scores: 7's on grammaticality and 8's on interpretability. Other than that, scores on grammaticality linger around 1-2 and on interpretability around 1-4.

(5) The 'suffixed + concrete' nouns don't score well on both grammaticality and interpretability. However, there are some remarkable ratings. One participant rated everything with 1, except for the interpretability of (85), which she, while giggling, explained as "He put a pillow underneath an apple." as for the apple to sleep on it. Others, however, did not get this interpretation. Another sentence that stood out was (104), which got almost perfect scores on both grammaticality and interpretability from two participants. It was explained as "He is more educated than me." *Xuézhě*, thus takes the adjectival interpretation and not the verb one. Another participant did not get this interpretation but said that 他比我更学者。did sound grammatical to her:

19.	他	比	我	更	学者
	tā	bǐ	wǒ	gèng	xuézhě
	he	to compare	I/me	even more	scholar
	'He is more educated than me.'				

Here, the noun *xuézhě* also gets an adjectival interpretation. So although there's no verbal coercion in both sentences, *xuézhě* does function as an adjective instead of a noun here, which is just as significant. And finally, for the suffixed and non-suffixed counterparts *xiézi* and *xié*, the overall view seems to be that *xié* is easier to coerce the verbal interpretation on than *xiézi*. With some coercion patterns this is indicated with just a one point difference in grammaticality and interpretability. One participant, however, indicated a large difference in acceptability between sentences (86) and (87). While (86) was rated a 1 for grammaticality and a 2 for interpretability, (87) got rated a 6 for both.

(6) Lastly, we have the 'suffixed – abstract' category. Again, the ratings were very diverse. One participant completely rejected all the sentences and rated them all with 1. Another rated all the sentences around 1-3 from both sections but rated sentence (128) with 9's for both grammaticality and interpretability. She explained that this sentence meant the following to her: "He has more free time than I do." Another participant rated quite high for this category, especially for the interpretations of the second and fifth coercion patterns. (130) was rated with two 10's and was explained as: "He has more energy than I do." This is remarkable as this sentence received double 1's from all the other participants. This again stresses how diverse the results were. Differences between *jìn* and *jìnr* were acknowledged, but the results weren't very conclusive. One participant consistently rated *jìn* as less grammatical and less interpretable than *jìnr*, while another participant rated the other way around, except for (129) and (130), where (130) got a double 10 rating. In other words, the participant, for most of the patterns, considered the suffixed form to take verbal coercion better than the non-suffixed form.

Based on the results of this experiment I decided to conduct a follow-up experiment (experiment 2), on which I elaborate below. I will combine the information I gather from the results of this second experiment and then I will formulate a conclusion about both experiments.

6. Experiment 2

6.1 Introduction

The results of experiment 1 for the category of suffixed nouns surprised me. I hypothesized the suffixed nouns to score lowest on interpretability because the suffixes stress the 'noun-ness'. For *jìnr* and *xiézi* I expected their non-suffixed counterparts to score significantly better. Furthermore, I assumed that abstract concepts would accommodate this experimental exo-skeletal approach better than concreteness would.

The category, overall, didn't score that well; but it still scored better than I had expected. I thought a nominalizing suffix would completely obstruct acceptability for native speakers of such a noun in a verb-slot. But it turned out that in quite a few cases the nominalizing suffix didn't create such a challenge that the sentence was completely dismissed. This is the first thing that surprised me. The second thing is that there are actually sentences in which suffixed nouns as verbs are (almost) completely accepted by native speakers and that, in some cases, the suffixed nouns scored better than their non-suffixed counterparts. This last point has to do with the sentences with *jìn* 'effort' and *jìnr* 'strength'. As I have mentioned before, there was one participant who (almost) consistently rated *jìn* as less grammatical and less interpretable than *jìnr*, which is opposite to my hypothesis.

This made me think about the actual influence of these nominal suffixes in Mandarin. Is the nominalizing effect really so strong that we must assume verbal coercion to be unlikely, or are there any other factors that may possibly be of bigger influence? When you compare the ratings of *jìn* and *jìnr* to *xiézi* and *xié* (suffixed-concrete), you will see that *xiézi* never scores significantly better than *xié*. This could potentially mean that the contrast between concrete and abstract may be a factor that is of bigger influence than a nominalizing suffix. But this, again, is hard to say because of the small amount of participants. To get more data on this I have set up a follow-up experiment. This research focuses on 2 variables: (1) suffixed/non-suffixed, (2) concrete/abstract. I am curious to find out which one of the two is of bigger influence when it comes to verbal coercion of nouns. I realize that the topic of this follow-up is really specific but I still consider it relevant in two ways: (1) it contributes to the discussion of our current subtopic of verbal coercion on nouns and (2) it contributes to the discussion of the main topic of this paper which focuses on the existence of word classes in Mandarin. If nominalizing suffixes in this experiment turn out to be of less importance than another factor (concrete/abstract) in coercion processes it would be significant for the credibility of the category of nouns in Mandarin.

Let's turn to the experiment. I use the same format I used for the first experiment, i.e. the same verbal coercion patterns and the same rating system. I use four concrete and four abstract nouns that occur in both suffixed and non-suffixed form. Five sentences for every noun result in 80 test sentences. These are the test-nouns:

	suffixed		**non-suffixed**	
concrete	*xiézi*	'shoes'	*xié*	'shoes'
	chēzi	'small vehicle'	*chē*	'vehicle/machine'
	huār	'(small) flower'	*huā*	'flower'
	nǎozi	'brain/mind/head'	*nǎo*	'brain/mind/head'
abstract	*miànzi*	'face/reputation/prestige'	*miàn*	'face/surface'
	jìnr	'effort'	*jìn*	'strength'
	fǎzi	'way/method'	*fǎ*	'law'
	xìngzi	'temper/strength'	*xìng*	'nature/character'

I have asked two native speakers to participate and not only rate the sentences from one to ten in the two categories but also explain their personal interpretation of the meaning of the sentences. This resulted into some very interesting ratings and answers which were, in some cases, very different from each other. Again, I need to stress that the scale of this research was very limited. This compromises the reliability of the results. Because the results are only used to give us a general idea and point us in the right direction, they will suffice for the scope of this thesis. I will now discuss these results by starting off with the concrete nouns and after that I will move on to the results of the abstract category. All the results of experiment 2 are to be found in the appendix below (Experiment 2 + results).

6.2 Results

Judging by the results of the category of concrete nouns, the overall observation for this category appears to be that the non-suffixed nouns are more easily coerced as verbs than their suffixed counterparts. This is often expressed with slightly higher ratings in both categories of grammaticality and interpretability. The third and fourth verbal coercion patterns are the hardest to interpret and therefore not only score lowest but also don't display significant differences between suffixed and non-suffixed nouns. The other three patterns, however, do show these differences quite clearly. But still, there is a lot of variation between the participants which make for interesting results. For example, one participant rated sentence (4) with a seven for grammaticality and a ten for interpretability, while (3) only received two one's. *Chē* was explained as functioning as a verb meaning 'to make/to manufacture'. She explained that she has this particular association because of the word *chēchuáng*, which means 'lathe' or 'to lathe'. The other participant rated (3) and (4) both with a 7 for grammaticality and a 10 for interpretability and explained that *chē* and *chēzi* in these sentences both meant 'to transport apples'. This difference in ratings between the participants highlights that in these cases there is not always consensus on the grammaticality and interpretability of the suffixed and non-suffixed nouns. In sentence (6) *xié* is rated as being slightly more interpretable than *xiézi*. One participant explained to me that *xié* in (6) meant the following to her: 'make things hard for somebody by abusing one's power', which finds its origin in the following idiomatic compound: *chuānxiǎoxié*, which entails *xié*. (20) was rated with double ten's and *chē* was explained as taking the adjectival meaning of 'stubborn' here, whereas (19) didn't have this connotation at all. The other participant didn't get this interpretation and gave both sentences low ratings. The fact that some interpretations aren't shared suggests language variation and innovation. It points out that there is no consensus on how these words in these positions should be interpreted.

Huā 'flower' as a noun taking verbal coercion turned out to be a complicated one in two ways: (1) it already functions as a verb meaning 'to spend' and (2) one participant explained to me that *huār* in the Beijing dialect was standardly used to refer to 'flower' and that *huā* without the suffix sounded strange to her for that reason. R-suffixation is often used in the Beijing dialect. Its frequent occurrence in common speech may have caused a certain degree of neutralization of its nominalizing function and the fact that the suffix merges with the preceding syllable may disguise it from being an actual suffix. This confusion is exhibited as there seems to be no consensus among the participants about whether *huā* or *huār* functions better as a verb. One participant pointed out that in sentences (25) and (26) *huā* and *huār*, in that verbal position, actually mean 'to flirt'. And both participants mentioned that in (37) and (38) *huā* and *huār* meant 'flirty' to them. On the one hand

this could mean that *huā* is actually also an adjective meaning 'flirty'. This would suggest that *huā* and *huār* weren't the best test 'nouns' for this experiment. On the other hand, one could argue that 'flower' still is its basic meaning and that 'flirty' is its adjectival derivation caused by coercion.

Lastly, we'll turn to *nǎozi* and *nǎo*. For both participants *nǎo* scored significantly better than *nǎozi*, but they explained the verbal meaning of *nǎo* differently. While one participant explained *nǎo* as 'to imagine', the other explained to me that *nǎo* was a 'new' verb that was used in Sci-Fi series to refer to brainwashing. She told me that it was part of slang among youth to jokingly refer to these series. Both participants agreed that *nǎozi* didn't have these connotations. The overall conclusion for the concrete nouns is that it is clear that the non-suffixed nouns function better as verbs than the suffixed ones. The non-suffixed nouns in particular seemed to trigger various verbal meanings that also sometimes varied per participant. This tells me that it is a current phenomenon that is sensitive to variations. The meaning that is ascribed strongly depends on the associations one has with that specific word.

Let's now turn to the abstract nouns. The ratings in this category were significantly lower in general compared to the 'concrete' category and the contrast between suffixed and non-suffixed nouns is less present and less consistent. In the 'concrete' category, the non-suffixed nouns clearly scored higher, but in the 'abstract' category, in some cases the suffixed nouns scored better and in some cases it is the other way around. There are also quite a few instances where no decision is made, for example with (41) and (42) that are rated with double one's. One participant explained to me that she found it hard to interpret *miàn* because she felt that it had a lot of different meanings which instead of making it easier to interpret, made it more complicated. The other participant considered (42) to sound more grammatical but couldn't really explain why. There is a big contrast between the ratings on sentence (49). One participant told me it was something that was part of common speech, while the other one completely dismissed it. This is an example of the suffixed nouns getting better ratings than the non-suffixed counterpart. In (46) both participants translated *miàn* as 'interviewing someone for a job', and in (58) *miàn*, according to one native speakers, behaves as an adjective meaning 'indecisive' (etymology: *miàn* 'noodles').

Jìnr and *jìn* don't really clear things up. The ratings either are exactly the same or differ only a little bit, not making for any significant contrasts. One participant did explain to me that *jìnr* and *jìn* both took a verbal meaning of 'to try' and in sentences (59) and (60) the meaning of 'stubborn'.

Fǎzi in (61) scores a little bit better than *fǎ* in (62) and is explained by one of the participants as 'He finds a way to find an apple.' Sentences (65) and (66) get very different interpretations. While *fǎzi* in (65) gets understood as 'he tricked me', *fǎ* in (66) is explained as 'he copied me', 'he blamed me' or, quite literally, 'he put law on me'. In (77) and (78) this difference is again highlighted as (77) is explained as 'he has more ideas than me' and (78) as 'he is more serious/loyal to the law than me'.

Lastly we have *xìngzi* and *xìng*. One participant wasn't triggered by either of these nouns as verbs, while the other explained *xìngzi* and *xìng* in (67) and (68) to mean 'to inspire'; they both got even scores on grammaticality and interpretability. She pointed out a difference between *xìngzi* and *xìng* in (79) and (80): *xìngzi* in (79) meant 'to have a bigger temper' while *xìng* in (80) meant 'inspirational'. When we compare these results to the results of the previous category, it is more or less clear that for the concrete nouns a contrast between the suffixed and non-suffixed nouns is quite prominent while for the abstract nouns this contrast isn't really represented in the ratings. It is remarkable that in the abstract category almost all nouns take a specific verbal meaning, like *fǎzi* and *fǎ*, while in the concrete category the suffixed nouns are in some cases completely rejected as verbs and as having a verbal meaning, like *nǎozi*.

6. 3 Conclusion (experiment 1 and 2)

There are a few things that can be concluded from these small experiments. Firstly, the reactions and ratings of the participants were very diverse. This, to me, shows and highlights that language is something dynamic and that language instinct varies from person to person. It is constantly changing and although, in general, there is a lot of consensus on what is considered grammatical in a language, there will always be topics that people disagree on. As for interpretation, there will be even more differences because it is even more subjective and has to do with associations and people's ability to imagine.

The second thing that the results point out is actually the answer to our research question: is verbal coercion on nouns accepted in Mandarin? When glancing over the results, one, at first, would get the impression that all sentences were rejected for being completely ungrammatical or uninterpretable because of the dominance of 1's. But this reaction was expected. What I am doing with composing these sentences with verbal coercion patterns is experimenting on the verge of the understandable. The sentences all greatly challenge the imagination as the majority of the sentences lack semantic matches between the lexical items. It was therefore no surprise to me to see that a lot of the sentences were dismissed. The interesting thing, however, is that it turns out that not all of them were consistently rated as ungrammatical or uninterpretable. If a certain linguistic phenomenon, like verbal coercion on nouns, really doesn't occur in a language, I suppose it won't be accepted, not even a little bit, on both levels of grammar and interpretation. But the results show us differently.

One would naturally expect more flexibility on the level of interpretation in comparison with acceptance on a grammatical level, which is reflected in the results. Some sentences got rated with 2 or 3 for interpretability which still is quite low but hints at hesitation towards the acceptance. Ratings around 5, 6 and 7 reflect a more confident attitude, and there were even some sentences that were rated with double 10's or double 9's which point at complete acceptance. I was, for example, really surprised to see these ratings for sentence (104) and (130) in experiment 1. I was also astonished to hear the different understandings of the participants in the second experiment. I didn't expect the test sentences to make as much sense to native speaker as they apparently did and I was surprised to see that the same word triggered different interpretations among the participants. I won't be able to build a convincing argument on which category of nouns scored the best and which scored the worst because I would need more data for those kind of conclusions. But the main thing that can be concluded from the ratings is that verbal coercion on nouns as a linguistic phenomenon in Mandarin isn't rejected by native speakers. This doesn't mean that it is completely accepted. It may mean that it is a recent linguistic phenomenon or that it is more used in spoken language than it is in written language. It may have something to do with age, it may be popular among youth but not among older people. It also may have something to do with locality, for example, some words or sentence patterns are used in the north of China but don't occur in the south. This may very well be one of those occurrences.

But for now that doesn't really matter. What matters is that these results have shown us something about Mandarin, which is that in some cases nouns take verbal coercion when they are put in the syntactic position in which verbs manifest. Of course, it needs to be taken into account that the scale of these experiments is very small and that it only tests verbal (and sometimes adjectival) coercion on nouns. But in a way these results argue for some kind of acategoriality in

Mandarin, by which I mean that words in Mandarin aren't assigned categories beforehand but start behaving according to a category once they are put into a syntactic context.

Finally, let's turn to the more specific conclusions of experiment 2. The results of this experiment, first and foremost, have stressed what is concluded above: nouns, in Mandarin, do take verbal coercion in some cases. In experiment 2 I tested to see which one of following two variables were of bigger influence on verbal-coercion: (1) concrete/abstract, (2) suffixed/non-suffixed. I consider the results to be inconclusive, but they point into the direction of some interesting points. First of all, the category of concrete nouns was more easily coerced than the abstract ones. This is remarkable because it is the complete opposite of what I had expected. I assumed that abstractness accommodated the experimental nature of my research, but it turns out that it either doesn't matter whether a noun refers to something abstract or something concrete, or concreteness actually works better. Furthermore, in the category of concrete nouns there seems to be a clear contrast between suffixed and non-suffixed nouns; the non-suffixed nouns appear to coerce better as verbs than their counterparts. This contrast isn't as clear-cut in the category of abstract nouns. In some cases the suffixed nouns score better and in some cases the non-suffixed ones score better. It is hard to draw conclusions from this keeping the small amount of participants in mind. It is, however, remarkable that the words in the abstract category all get some meaning ascribed to them when you gather the interpretations of both participants. In the category of concrete nouns, this is not the case: some sentences are rejected by both participants and get no interpretation at all.

I should refine my initial conclusion about this experiment. The concrete category may have higher ratings in general and show a more clear-cut distinction between suffixed and non-suffixed nouns, the abstract nouns all get interpreted in some sense, which in fact confirms my suspicion that abstractness facilitates this kind of experimentalism. It hints that the suffixes, which are known to stress 'noun-ness' and which are expected to complicate verbal coercion, are not of as much influence as we may have thought they were, at least, in the category of abstract nouns. For a more solid conclusion about the concrete category it is necessary to get more input from more native speakers. In this case it is hard to decide if these results are just coincidental or suggest something significant.

These results, in turn, diminish the credibility of a fixed category of nouns in Mandarin. Put differently: if a noun that is suffixed with a specific nominal marker starts to function effectively as a verb when it's put in that syntactic position (like in sentences (3) or (49)), there are consequences for the credibility of the influence of the nominal marker. It is a cue for questions about the exclusiveness of specific suffixes and questions about the fixedness of word categories. How does one explain that a word that's clearly marked as a noun and functions effectively as a noun, also takes a verbal position and functions as a verb without any problems? And this question brings us back to our main question which focuses on the existence of separate word categories in Mandarin. These two experiments, taking their small scope in disregard, have argued for the possibility of Mandarin being considerably fluid when it comes to word classes.

7. Concluding remarks: innovative ambiguity as an explanation

I have tried to shed some light on categoriality in Mandarin by discussing several different views on this topic. The debate is an ongoing one and contrasting proposals have been put forward by different authors varying from Baker's view (2003) that all languages have at least three lexical categories (nouns, verbs and adjectives) that are innate in the human mind to Borer's view (2003)

that a word category is only determined when lexical items are put into syntactic context. These theories are quite general and are meant to be applicable to languages in general. We have also encountered some proposals that are specific for Mandarin, for example Paul (2015) who argues in favor of the existence of a separate word category for adjectives in Mandarin, Marosán (2006) who argues for acategoriality when it comes to Chinese words and Kwong & Tsou (2003) who mention categorical fluidity to describe the categorization system. While the term acategoriality sounds a bit rigid, categorical fluidity (Kwong & Tsou, 2003) sounds quite appropriate to describe word classification in Mandarin, keeping experiment 1 and 2 in mind.

The experiments I conducted were inspired by Borer's view on word categorization in general. I consider her theory to be very rigorous because it leaves no room for exceptions. According to her theory any EI must fit into any syntactic slot and will, in every case, start behaving accordingly. The results of my experiments show that, at least for Mandarin, this model is not completely applicable. At first it seemed that Borer's theory about the exo-skeletal approach was very fitting for Mandarin especially because word categorization in some cases indeed is such a flexible thing, as we have seen with *máfan* in example (3) and *huáiyí* in example (4). But now, after a more detailed investigation, I must conclude that Borer's theory does not entirely explain how word categorization works in Mandarin. Therefore, I am going to take a step back from the term acategoriality, which suggests complete flexibility when it comes to word categorization, and look into Kwong & Tsou's term 'categorical fluidity', which seems more appropriate now judging from the results of the experiments.

Kwong & Tsou (2003, 115) explain categorical fluidity as "the relative flexibility of a word being used for different grammatical functions." Instead of a one-to-one relation between grammatical function and lexical category, Chinese has a so-called many-to-many relation. "Where a word has multiple potential POS (part-of-speech) tags, the ambiguity has to be resolved in context." Kwong & Tsou (2003, 116) also explain that categorical ambiguity is especially salient in Chinese for two reasons: (1) categorical change is not often associated with morphological marking, and (2) the same Chinese word can have different grammatical functions in individual sentences. They offer the following example to illustrate this second point:

20. tā **chànggē**
    he to sing
    'he sings'

21. **chànggē** jìqiǎo
    to sing skill
    'singing skill'

In (20) *chànggē* is the predicate while in (21) *chànggē* is a modifier. These terms, however, are not part of POS, there is not necessarily a one-on-one relation between the term predicate or modifier and a specific word category. The labeling and terminology of Kwong & Tsou isn't erroneous, but it doesn't connect well to the main topic of this thesis right away. We can 'translate' what they illustrate in (20) and (21) as *chànggē* having both a verb and a noun interpretation. In their article they stress this categorical fluidity and discuss the implications it causes for POS tagging. They also spend one section of their paper discussing different kinds of ambiguities. I consider their take on ambiguity to be valuable and very relevant for the conclusion on word categorization in Mandarin in general in this paper. They distinguish three 'levels' of ambiguity (2003, 116):

"1. Regular ambiguity: a word has multiple POS's which are well accepted and described in any existing lexicon.

22. yī zhāng táibù
a CL 'flat surface' tablecloth
'a tablecloth'

23. fàn lái, zhāng kǒu
rice to come to open mouth
'rice ready, open mouth'

24. zhāng xiānshēng
surname Zhang mr.
'mr. Zhang'

2. Transitional ambiguity: a word undergoes a process of categorical shift, where it originally belongs to a particular syntactic category and gradually assumes usage of another category as well.

25. yángguāng tòuguò chuānghù
sunlight to pass through window
'sunlight passes through the window'

26. tòuguò tǎolùn zhǎo dá'àn
through discussion to find answer
'finding an answer through discussion'

3. Innovative ambiguity: sometimes words are deliberately used in peculiar ways to create a special effect. Such individual cases cannot be regarded as genuine ambiguities, until the special use becomes common enough.

27. tā hěn xiǎochǒu
he very clown
'He's very clown[ish]' "

These three levels perfectly describe the fluidity of Chinese word categorization. Some words already belong to multiple different categories, like *zhāng*. Some are going through a transitional stage like *tòuguò*; besides their original word class, they also start belonging to another word class as well. And lastly, some words are used in a completely new way. The example shows that the *xiǎochǒu*, which originally is a noun meaning 'clown', is put in an adjective position and starts behaving like an adjective, 'clownish'. Kwong & Tsou do stress that this particular innovative use creates a specific effect. Because of its unusualness it will probably sound quite peculiar and possibly comical to native speakers. The more it's used, however, the more it will be accepted as being part of common speech. I suppose this kind of innovative use of language is natural for all languages; it is part of the constant variations. For example, I know that in Dutch, the noun *trein* 'train', is often verbalized as *treinen* to express 'traveling by train'. And even though *treinen*, in isolated form, can also be the plural form of *trein*, i.e. 'trains', in the right context *treinen* is completely accepted as a verb. This is another example of innovative ambiguity. The only difference here is that in Dutch *–en* is added to indicate a shift in word category from noun to verb; in other words, morphology gets involved. In Mandarin, because there is relatively few morphology, there is no need for it to be involved in such innovative processes.

Mandarin, of course, has verbal particles like *le*, which could be compared to the Dutch *–en* as they both indicate verb-ness. *Le* gets described as a "perfective aspect marker" (HLL, 2014, 131) on a verbal level and as a "current relevant state" –marker (HLL, 2014, 131) when it appears at the end of a sentence. The verbal *le* is also described as a realization marker and the sentential one as indicating a certain "change" (HLL, 2014, 131). It thus has a lot of connotations that don't accompany *–en* in *treinen*, which, in turn, make *le* semantically less neutral than the Dutch suffix. A verb doesn't necessarily needs to be accompanied by *le*. It is possible, and even common, to have a sentence with a predicate, but no *le*. But the same goes for the Dutch *–en* as this inflectional suffix changes according to tense, number and person. For example, *-en* indicates the infinitive form of the verb and simultaneously is the form used for 'first-person plural present'. *–en* changes into *–de* for 'third-person-singular past' which then gets attached to the stem *trein*, which makes *treinde*. The Dutch language needs these inflections, because without them sentences are considered ungrammatical and sometimes even uninterpretable because they are responsible for conveying important bits of information. For Mandarin, this is not the case with *le*, or any other verbal particles. Verbs still function as verbs and are still identified as verbs in their bare form as you can see in example (28) below:

28. tā hē chá
he to drink tea
'He drinks tea.'

This in turn marks the difference between the innovative ambiguity of *xiǎochǒu* in example (27) that's caused by a change in syntactic position and the innovative ambiguity of *treinen* in which case the shift in word category is also marked morphologically. *Xiǎochǒu* is put into an adjectival mold and *treinen* in a verbal one, but *xiǎochǒu* doesn't change in form, while *treinen* does. In Mandarin, syntax seems to be enough for successful coercion, while in Dutch for *treinen* we see that syntax and morphology work together.

The lack of need for these morphological processes thus makes Mandarin a very interesting language for experimental use. One could say that the fact that one doesn't need to change anything about the form of a word makes it incredibly easy to try new things with certain words. This doesn't mean, of course, that everything automatically works. Some words won't fit in certain syntactic slots and won't be accepted behaving according to certain word categories. But these rejections will be for semantic reasons rather than syntactic or morphological ones. The ability of connecting different elements in a sentence is something that will vary from person to person. This is basically what we have seen with experiment 1 and 2. The fact that the participants didn't unanimously reject all sentences indicated that the coercion was in fact possible. The different ratings show us differences in degrees of imagination, interpretation and association.

Creating innovative ambiguities is some kind of word-play. But in Mandarin, it gets a new layer of sophistication because the word-play is disguised in a way. In Dutch, it is immediately clear that *treinen* used as a verb is strange because verbal morphology is applied, while in Chinese in many cases no morphology is present to indicate the experimental nature of its usage. Because in Mandarin the shift is sort of 'hidden' I consider Mandarin to facilitate innovative ambiguities rather well.

This is, simultaneously, what I conclude about word categorization in Mandarin: it accommodates a high potential for innovative ambiguities. There is already a lot of regular ambiguity and transitional ambiguity in Mandarin. And the facts that (1) in Mandarin, categorical change is not

often associated with morphological marking and (2) a word can have different grammatical functions in individual sentences makes experimental usage considerably easy. This, in theory, would indeed make Mandarin acategorical, but in reality there are some restrictions as sentences semantically need to make sense.

Innovative ambiguity, as Kwong & Tsou mention, is the initial phase of creating a regular ambiguity that is widely accepted and understood. Not all experimental word-plays travel up this ladder from 'innovative' to 'regular', but they don't have to to become part of the language. Once something is uttered or written down and even if only a few people accept and understand it, it has become part of the language as a specific kind of variation. This way, nouns can become adjectives, adjectives can become verbs, verbs can become nouns, etc. As long as their usage makes sense to the language-users, they can become part of a corner, the periphery, of the language.

I will conclude this section by adopting Kwong & Tsou's terminology. In Mandarin, the system of word categorization is dominated by categorical fluidity which indicates the relative flexibility of a word being used for different grammatical functions. This fluidity is accommodated by the high potential for innovative ambiguities.

8.Sidetrack: classifiers and measure words in Mandarin

8.1 Introduction: similar characteristics

In this paper, I have focused on the fluidity of word categorization in Mandarin by conducting experiments in which I have tried to coerce nouns as verbs. My main focus point until now has been on the interchangeability of words between different word classes: do nouns function as verbs? Do verbs fit into adjective slots? Is there even a difference between verbs and adjectives? In the concluding remarks I have explained the fluidity as a phenomenon that relates to innovative ambiguity. I have mentioned before that the concept of word categorization is highly dominated by Western views and is based on how Indo-European languages generally work. But, it must be kept in mind that the assumption that every language exhibits the same set of phenomena is erroneous. On a lexical level variations often occur as certain languages have words that other languages don't which may cause challenges in translations. Variations like this are just as often represented in the grammar of a language, so it is not that strange that Mandarin has its own unique way of word categorization that doesn't conform to Western 'norms'.

In the next section I will look at a similarity between word classes in Mandarin in general and one specific word class in Mandarin. Until now, I've only focused on the interchangeability between word classes, which has proved to be moderately accepted. Now I want to see how coercion might work within one specific word class. Mandarin is a language that lends itself very well for this kind of research because it has a special category of words called classifiers (and measure words). I will elaborate on what classifiers are and how they work in the section below, but first I will briefly explain the similarity.

For word categorization, our point of departure was the idea of fixedness. This fixedness turned out to be part of the Western view and didn't characterize Chinese word categorization in particular. Fixedness is also something I associate with the category of classifiers in Mandarin. When I first learned about classifiers I was taught that a noun always goes with one specific classifier. Later I learned that there were a few exceptions to this rule and that there was one more general classifier that basically went with every noun (*ge*). But still the prevailing idea remained that one noun always gets accompanied by the same classifier. I have challenged this fixedness with word categorization

and found flexibility and innovative ambiguity. I am curious to see what I find when I challenge the fixedness of the word class of classifiers.

8.2 Classifiers (and measure words)

Classifiers are words that are used before nouns when they are preceded by numerals (29), demonstrative pronouns (30) or both (31).

29. sān **zhāng** zhuōzi
three CL (sheet) table
'three tables'

30. nà **zhāng** zhuōzi
that CL (sheet) table
'that table'

31. nà sān **zhāng** zhuōzi
that three CL (sheet) table
'those three tables'

As you can see in the examples (29) to (31) the classifier *zhāng,* which means 'extension' or 'sheet' (Chao 1968, 602) (Wiedenhof 2004, 242), alludes to the external semantic properties of a tabletop, which basically is a flat surface. Even though the noun *zhuōzi* has *zhāng* as its standard classifier, it is not the case that *zhāng* only functions as a classifier for *zhuōzi*. *Zhāng*, for example, also appears in front of the noun *zhǐ* 'paper', where it again matches the externals, the 'sheet'-ness.

In Chinese it is the case that every noun belongs to a specific classifier and that every classifier resonates with nouns in specific ways. *Zhāng* matches a 'sheet'-ness while the classifier *tiáo*, for example, alludes to the 'long flexible'-ness of certain nouns like *kùzi* 'pants' and *yú* 'fish'. *Ge* fits more or less every noun (Chao 1968, 598). As a classifier, individualizes and its meaning can therefore be translated as 'item', which is quite generic and explains why it would fit with almost every noun.

Besides classifiers, there are also measure words. Measure words, syntactically, function exactly the same way as classifiers do. To effectively explain the difference between the two I first need to point out two different types of nouns in Mandarin. According to Cheng/Sybesma (2005, 12) nouns can be divided in two categories: count nouns and mass nouns. Mass nouns are nouns that represent things that naturally don't appear in units in which they can be easily counted, while count nouns represent things that do. Classifiers are used for count nouns and measure words for mass nouns. The difference between classifiers and measure words thus is that classifiers simply point at the natural unit in the semantic denotation of the noun, while measure words create a unit of counting or measuring for the subsequent mass noun. Let's look at the following examples for illustration with the mass noun *shuǐ* 'water'. *Shuǐ* does not refer to anything that appears in a countable unit. So if we want to refer to *shuǐ* or count *shuǐ*, the first thing we would need is a unit. This is provided by the measure words (32) and (33):

32. yì dī shuǐ
a MW (drop) water
'a drop of water'

33. yì tān shuǐ
a MW (pool) water
'a pool of water'

Unlike *zhāng* 'sheet' in (29), (30) and (31), *dī* 'drop' and *tān* 'pool' do not particularly match any of the semantics that *shuǐ* already has. *Dī and tān* provide two different units that, when combined with *shuǐ,* result in completely different manifestations of *shuǐ.* One could derive from this that measure words for mass nouns, compared to classifiers for count nouns, are not only less fixed, but also seem to be more semantically determinative.

It also occurs that measure words get put in front of count nouns (34):

34. yí tang zhuōzi
a MW (row) table
'a row of tables' Pleco (2017)

When making these combinations, it needs to be taken into account that *zhuōzi* 'table' already has a particular shape, a unit. In phrases that include a measure word and a count noun, the measure word fits with the unit of the count noun. In these cases, the measure word is still very determinative: in (34) you've seen that the measure word adds to the semantics by conveying plurality and a row-like shape in which the multiple tables manifest. But I would argue that when a measure word gets put in front of a count noun, it is less determinative than when it gets put in front of a mass noun, in which case the whole initial unit still is undecided upon. In a 'measure word-count noun' phrase, the measure word needs to be compatible with the unit of the count noun first before its semantic determinative character can show. The combination of 'classifier-mass noun' is uncommon and generally considered to be ungrammatical.

In the table below, I have briefly summarized what is mentioned above to create a clear overview:

	Classifiers: 'mention the unit'	Measure words: 'create a unit'
Count nouns: 'nouns that represent things that appear in units in which they can be counted'	v *yí zhāng zhuōzi* 'a table'	v *yí tàng zhuōzi* 'a row of tables'
Mass nouns: 'nouns that represent things that naturally don't appear in units in which they can be counted'	x **yí zhāng shuǐ* *'a sheet of water'	v *yì dī shuǐ* 'a drop of water'

8.3 Fixedness and semantic match

In example (32) and (33) we have seen that for mass nouns, different measure words can be used with the same noun and that these measure words, among themselves, can be semantically very different. *Dī* 'drop' and *tān* 'pool' combined with *shuǐ* 'water' is semantically not problematic at all because the measure words on a certain level match intrinsic properties of *shuǐ*, for example its liquidness. Therefore combined together, they create an understandable phrase that semantically doesn't form an obstacle for any listener. Measure words for mass nouns are very interchangeable,

but still, there is a reason to think that there needs to be a match, just like there is a strong need for a semantic match between a classifier and a count noun, and a measure word and a count noun.

But how important is a semantic match exactly? Do words always need to match semantically? And if this is the case, how do we determine exactly what matches semantically and what doesn't? Would we be able to clearly map this out and prescribe what can be uttered and what cannot based on semantic matching? I think this would probably be quite complex because this will be different for everyone. For some people 'a sheet of water' will sound strange, for others it may make perfect sense in the right context. When you think about it, this point is exactly the same as the one we encountered during experiment 1 and 2. Some participants completely accepted certain nouns behaving like verbs while others dismissed them immediately. And, looking back at Chomsky's example at the beginning of this paper:

"Colorless green ideas sleep furiously."

Nothing in this sentence appears to match semantically. *Colorless* doesn't match *green,* the assignment of colors or colorlessness doesn't match the abstract concept *ideas*, sleep also doesn't fit with such an abstract concept and *furiously*, finally, doesn't match *sleep* which is supposed to be peaceful and quiet. But still, the sentence exists and functions syntactically. To a lot of people it won't make sense, but there may be some who will interpret this, maybe literally, maybe poetically. It, again, relates to the ability one has to imagine, on how willing one is to interpret and what kind of associations one might have with certain words.

So, how do we deal with this established fixedness of specific classifiers going with specific nouns? And secondly, how should we, in turn, deal with the division between types of nouns and the division of classifiers and measure words. These two will be the questions I try to answer in the following section.

8.4 Experiment 3

8.4.1 Introduction and methodology

In this experiment I try to challenge the fixedness of specific classifier-noun compounds. Example (32) and (33) display flexibility within the compound and this, in turn hints at interchangeability of measure words with other measure words in all cases. However, the claim that there always needs to be some kind of semantic match prevents this. Above, I have discussed the complexity of defending this claim. If you keep some of the surprising results of experiment 1 and 2 in mind, certain questions arise like: why should we bother about semantic matches? Aren't we limiting ourselves when we claim that something should match semantically? Could it be that we are underestimating not only the descriptive tool, the language, but also our personal interpretive tool, our minds, our capability to imagine things? Maybe, when we let go of the need for a semantic match, we will find out that language as a descriptive tool becomes even more comprehensive.

The interesting thing is: when we ignore semantics, there are no other obstacles for complete fluidity within the word class of classifiers and measure words. An important characteristic that classifiers and measure words have in common is that they are always presented in more or less the same syntactic structure, only few variations are possible:

demonstrative pronoun (+ numeral) + classifier/measure word + (count/mass) noun

This results in the fact that the syntax, in this case, doesn't obstruct interchangeability in any way. With this in mind, I composed the following carrier sentence, which I tried to keep as semantically neutral as possible:

35. tā gānggang kànjiànle NOUN PHRASE
he just saw
'he just saw …. '

In the blank space of the carrier sentence I filled in different noun phrases. For this purpose I picked two different nouns: a count noun and a mass noun: *zhuōzi* 'table' and *shuǐ 'water'*. First, to examine the fixedness, I created noun phrases in which *zhuōzi* combines with different classifiers and *shuǐ* combines with different measure words. Then, to find out how to deal with the different types of nouns and the division between classifiers and measure words, I have mixed these fixed patterns up. This resulted into the following four categories of noun phrases:

1. measure word + mass noun (MM)
2. classifier + count noun (CC)
3. measure word + count noun (MC)
4. classifier + mass noun (CM)

I came up with eight noun phrases per category, which resulted into 32 test sentences. I purposely, per category, made sure half of the noun phrases matched semantically and half of them didn't. Or, at least, I tried to create semantically sensible compounds. I earlier on mentioned that such things are influenced by various factors, so it is likely that not everyone would agree on this. But there might be some general consensus on the fact that some of these sentences match more on a semantic level than others. I am interested to see how this will influence the overall acceptability. These test sentences, along with the translations of the classifiers and measure words, are in the appendix below (Experiment 3).

This experiment was conducted the same way as experiment 1 and 2 were. I asked a few native speakers to rate grammaticality and interpretability and based on outstanding ratings I asked for clarification and more details on their precise interpretation of the test sentences.

8.4.2 Hypothesis

First of all, I am curious to see if any of these self-thought-of test sentences are going to be accepted and/or interpreted. I expect to see a similar fluidity I encountered in the previous experiments. If suffixed-nouns can be interpreted as fully functioning verbs I expect classifiers to be quite interchangeable as well. I expect results that will vary a lot per participant, but just like in experiment 1 and 2, variations won't really matter. As long as I can point out some kind of interpretation and acceptation when it comes to grammar, there will be a clear conclusion about the fixedness or flexibility of the category of classifiers and measure words.

My expectations per category are that the category MM (measure words and mass nouns) is going to score best among native speakers, because this category is already known to be more flexible. In this category we have on the one hand mass nouns that refer to things that are in general quite moldable and on the other hand measure words that can refer to any unit or shape and are

very determinative, but are not as specific as some classifiers are. For example, there's one classifier, *pǐ*, that can only be used for the noun *mǎ*, which means 'horse'. I expect the category CC (classifiers and count nouns) to score lowest (except for (17) as I already know that *yí zhāng zhuōzi* is 100% grammatical and interpretable), because I think native speakers are going to be the most critical towards these test sentences and any deviations on the standard noun phrase. For this category the fixedness seems the most highlighted as for some classifiers, like *pǐ,* it indeed is the case that they only combine with one noun, which makes for a very specific compound.

As for the two leftover categories I predict MC (measure word and count noun) to score better than CM (classifier and mass noun) because MC at least, in some cases, is accepted as a compound in general while CM is usually rejected for being ungrammatical. I do expect CM to score a bit higher than CC because of the fact that mass nouns are very moldable.

I also expect the semantics to have a considerable influence, but I am not quite sure how this is going to manifest. I think it will be interesting to see which factor has more influence: the nature of the classifier/measure word and type of noun or the semantics of the different elements in the noun phrase and how they will match each other.

8.4.3 Results

The answer to my first question (on how to deal with this established fixedness of specific classifiers going with specific nouns) became clear quite quickly. As expected the reactions were very diverse, but they unanimously pointed out that the classifier-count noun combination wasn't as fixed as I'd originally learned it was. Because this part of the paper can be considered as a 'sidetrack' of the main topic, I won't spend too much time dealing with the exact ratings of the participants. Instead I will focus on the explanations and translations they added, because these will depict the results more clearly.

Zhuōzi combined with different classifiers than *zhāng* to my surprise made for noun phrases that were interpretable. In the table below I have summarized the different interpretations of the participants of the test sentences in the CC category to illustrate this:

17.	他刚刚看见了一张桌子。	张 'flat surface'	perfectly grammatical and interpretable
18.	他刚刚看见了一面桌子。	面 'surface'	1. 'He just saw a table.' 2. 'He just saw a side of table.'
19.	他刚刚看见了一台桌子。	台 'heavy object'	'He just saw a table.'
20.	他刚刚看见了一盘桌子。	盘 'flat objects'	1. 'He just saw a plate of table.' (unclear whether it's a plate to hold the table, or a table to hold plates)
21.	他刚刚看见了一头桌子。	头 'head'	1. 'He just saw a part of some table.' 2. 'table as a monster' (cute metaphor)
22.	他刚刚看见了一匹桌子。	匹 'CL for horses'	'He just saw a table that sounded like a horse.'
23.	他刚刚看见了一间桌子。	间 'room'	'He just saw a room of table.'
24.	他刚刚看见了一条桌子。	条 'long flexible objects'	1. 'He just saw a table.' 2. 'He just saw a strip of table.'

It is really interesting to see how sentences (18) to (24) were all interpreted in some way, even though the classifiers all deviated from the 'standard' classifier of *zhuōzi*. I was expecting this category to be the hardest to interpret for native speakers because I was taught that the classifier-

count noun combinations were very fixed. It still must be stressed that the ratings of these sentences point out that these noun phrases don't usually appear in common speech. They sound peculiar and in some cases even made up. This brings us back to the innovative usage of language. In this case, we see the same thing happening as we saw with the verbal coercion of nouns. The syntax allows that the classifiers interchange and this creates units that come across as a bit strange, but not completely ungrammatical. The participants described they interpreted these sentences as being part of poetic speech or possibly slang. This, however, doesn't matter because the main thing is that the sentences weren't rejected as a whole.

Let's see what happened when *zhuōzi* was combined with a series of different measure words in the category MC:

25.	他刚刚看见了一堆桌子。	堆 'pile'	1. 'He just saw some tables.' 2. 'He just saw a pile of tables.'
26.	他刚刚看见了一排桌子。	排 'row'	1. 'He just saw a set of tables that were arranged in order.' 2. 'He just saw a line of tables.'
27.	他刚刚看见了一组桌子。	组 'group'	'He just saw a set of tables.'
28.	他刚刚看见了一块桌子。	块 'piece'	'He just saw a table.'
29.	他刚刚看见了一口桌子。	口 'mouthful'	1. 'He just saw a table.' 2. the table is square shaped and big
30.	他刚刚看见了一碗桌子。	碗 'bowl'	1. 'He just saw a bowl of table.' 2. a table to hold bowls or a bowl to hold the table
31.	他刚刚看见了一串桌子。	串 'string'	1. 'He just saw a series of/a group of tables.' 2. 'He just saw a string of tables.'
32.	他刚刚看见了一袋桌子。	袋 'bag'	'He just saw a bag of table.'

These sentences were fully interpreted as well and were generally conceived as more common than the sentences in the CC category. This also becomes clear when looking at the ratings: in both categories the MC ratings were higher than the CC ones. Even though I was expecting this category to score better than the CC category, I was surprised to see such high ratings for all the MC sentences, the ones that didn't match semantically included.

Shuǐ, as a mass noun, was expected to behave more flexibly, but still surprised me in some cases. The sentences in the CM category, especially:

9.	他刚刚看见了一层水。	层 'level'	1. 'He just saw a layer of water.' 2. 'He just saw some water that may appear on the surface of something.'
10.	他刚刚看见了一场水。	场 'scene'	1. 'He just saw it raining/the river running for a while.' 2. 'He just saw a flood disaster.'
11.	他刚刚看见了一件水。	件 'item'	'He just saw a box of bottled water.'
12.	他刚刚看见了一路水。	路 'street'	1. 'He just saw a running stream of water.' 2. 'He just saw a road of water.'
13.	他刚刚看见了一笔水。	笔 'pencil'	
14.	他刚刚看见了一粒水。	粒 'grain'	1. 'He just saw a small piece of water.'

			2. ‘He just saw a drop of water.’
15.	他刚刚看见了一篇水。	篇 ‘written work’	
16.	他刚刚看见了一朵水。	朵 ‘bundle’	‘He just saw some water in the shape of a flower.’

The fact that *shuǐ*, as a mass noun, is shapeless really facilitates interpretation in this category. The results of the CM category highlight that classifiers and measure words are much more flexible than they are described to be and that they replace each other quite easily. However, the fact that (13) and (15) didn’t get any interpretations and were rated very low points out the importance of semantics. Where semantics didn’t create problems in the categories CC, MC and MM, in CM the lack of semantic match seems to push the boundaries of the imagination too far in some cases.

Finally, let’s turn to MM, the category I expected to be the most flexible:

1.	他刚刚看见了一滩水。	滩 ‘pool’	‘He just saw a pool of water.’
2.	他刚刚看见了一瓶水。	瓶 ‘bottle’	‘He just saw a bottle of water.’
3.	他刚刚看见了一滴水。	滴 ‘drop’	‘He just saw a drop of water.’
4.	他刚刚看见了一杯水。	杯 ‘cup’	‘He just saw a cup of water.’
5.	他刚刚看见了一米水。	米 ‘meter’	1. ‘He just saw a water stain of one meter.’ 2. ‘He just saw a meter of water.’
6.	他刚刚看见了一块水。	块 ‘piece’	1. ‘He just saw some stain of water.’ 2. ‘He just saw a piece of water.’
7.	他刚刚看见了一盒水。	盒 ‘box’	1. ‘He just saw a box of water.’ 2. ‘He just saw a container of water.’
8.	他刚刚看见了一堆水。	堆 ‘pile’	1. ‘He just saw some water.’ 2. ‘He just saw a pile of water.’

Most of these sentences got perfect ratings for both grammaticality and interpretability. They were perceived as the most common sentences. In other words, where the CC sentences come across as strange and poetic, the MM sentences are part of standard speech. This, of course, was already known about this category, but it had to be included for a comprehensive comparison.

8.4.4 Conclusion (experiment 3)

In summary, the results suggest that there is space to mix the categories up. All sentences in the CC category were interpreted in some way and there even turned out to be room to combine classifiers with mass nouns. As far as the role of the presence of a semantic match is concerned, it is hard to draw a clear conclusion from the results. Only two of the thirty-two sentences were dismissed because they didn’t make any sense to the participants. Here, the lack of semantic match definitely played its part. But there were more sentences that were very peculiar on semantic levels and did get interpreted. The overall conclusion when semantics are concerned thus is that its influence turned out to be less than expected.

Huang and Ahrens (2003) wrote an article about a topic that is very similar to this sidetrack: classifier coercion on nouns. Theirs is an interesting point of view because it stresses the parallelism between the verbal coercion on nouns and what they call ‘classifier coercion on nouns’. In their study, they acknowledge the validity of the classifier/measure word dichotomy, but their emphasis is on

how the 'classifier' system correlates with the semantic properties of a noun. They therefore treat measure words as a sub-category of classifiers.

They state that "[i]n addition to individual nouns occurring with the semantically neutral *ge*, nouns can also occur with different specific classifiers, although this fact has not been examined closely in the previous literature." (2003, 359) "It is the classifier that selects the relevant properties of the noun and coerces the appropriate meaning." (2003, 360) In other words, "the classifiers can coerce nouns to have a particular individual reading depending on the information entailed in the classifier itself. The classifier [...] forces the noun to undergo a semantic type shifting, so that the salient properties that the classifier entails are then viewed as the salient properties of that noun (even if they weren't viewed as salient previously)." (2003, 361)

36.(a) yī jià fēijī
one CL (machine/instrument) airplane
'one airplane'

36. (b) yī zhǒng fēijī
one CL (kind) airplane
'one kind of airplane' (a particular kind of airplane, e.g. jet)

36. (c) yī bān fēijī
one CL (trip) airplane
'one scheduled flight' (the completed event of flying)

37.(a) yī jù diànhuà
one CL (machine/instrument) telephone
'one telephone' (telephone machinery)

37. (b) yī xiàn diànhuà
one CL (line) telephone
'one telephone line'

37. (c) yī zhǒng diànhuà
one CL (kind) telephone
'one kind of telephone' (a particular kind of phone, e.g. cordless)

37.(d) yī tòng diànhuà
one CL (an instance) telephone
'one phone call' (the completed event of calling)

Huang/Ahrens (2003, 370-371)

The examples they chose to illustrate this point stay within certain boundaries of what generally would be considered 'normal'. I would say that they have tried to keep it safe. In my opinion, they could have pushed the boundaries of this so-called semantic type-shifting a bit more. But still, these examples suffice in illustrating the semantic influence of classifiers (and measure words). They demonstrate the flexibility I was looking for in this word class. And where they decide to 'abandon' their search of the boundaries of this type of coercion and consider their point to be proven, I have continued to look by conducting this third experiment. While Huang and Ahrens thought the classifier had to, in one way or another, allude to a property of the noun (i.e. match semantically), I have encountered some cases like sentence (22), where this turns out to be

unnecessary. In some instances the coercion of a classifier (or a measure word) on a noun is so strong that it seems to provide the noun with certain properties that originally weren't even part of the noun's properties before. This, again, sounds very similar to what happened in experiment 1 and 2. The verbal coercion on nouns in some cases made particular semantic properties emerge that weren't even there when the nouns were just nouns. For example, in experiment 2, the word *jìn*, which as a noun means 'strenght', according to native speakers adopts the meaning of 'to try' in sentence (60) and 'beat with strong power' in sentence (48). In both cases these semantics weren't part of the noun-semantics of *jìn*.

One last example I want to add is one that was suggested by one of the native speakers that participated in one of the experiments I conducted. We were discussing the possibility of classifiers being way more flexible than they were presented to be. She started linking this topic to internet language and slang and gave me the following example, which involves a classifier I had never heard of before:

"一坨我"

She described this as meaning 'one lump me'/ 'me as one heap of shit', and she explained that she would say this to her friends whenever she felt a bit out of it, for example, when getting up early in the morning after a late night and feeling hung-over.

38.	一	坨	我
	yī	tuó	wǒ
	one	CL (lump/heap)	I/me

'one lump me'

She told me *yī tuó wǒ* was a very modern, popular saying. The most interesting thing however was that she also told me that *tuó*, as a classifier, actually can be used for anything. In all cases it conveys a certain repulsiveness or unattractiveness. For example, it can be used for food and it means that it is disgusting or looks unappealing. It can be used for clothes and it means that they're ugly. She was a bit uncomfortable mentioning *tuó* because its usage is considered quite rude. She told me that she wouldn't ever use it in the presence of her parents, and only when she was among her friends.

Tuó is a perfect example of classifier coercion on nouns. It is also a perfect example of a classifier not only making certain noun-properties more salient, but also adding things to the properties of the noun that weren't there before.

9. Overall conclusion

In this thesis, I have focused on the system of word categorization in Mandarin. I experimented with verbal coercion on nouns to test the flexibility of word classes. Something that was expected to be very fixed because of theories dominated by Western views, turned out to be very flexible and fluid. I adopted Kwong & Tsou's term 'categorical fluidity' to describe word classes in Mandarin, which is explained as "the relative flexibility of a word being used for different grammatical functions." This fluidity is accommodated by the high potential for innovative ambiguities, which, in turn is caused by characteristics of Mandarin when it comes to morphology and syntax.

After the flexibility ‘among’ word classes was more or less established, I turned to one word class in particular to investigate the existent similarity. I tested the word class of classifiers and measure words in a similar way and found a similar flexibility. Verbal coercion on nouns and the classifier coercion on nouns turned out to be suspiciously alike. In both cases, semantics played less of a role than expected. In some cases, both coercion types really pushed the boundaries of the imagination and I have also encountered instances in which the coercion was unsuccessful. But the overall conclusion is that flexibility, fluidity and interchangeability for the purpose of coercing semantics is something that characterizes Mandarin word classification. This is represented on a small scale within the category of classifiers and on a large scale between word classes. This fluidity, in many cases, makes for everyday renderings and is represented in common speech; there are also instances in which this fluidity can be used to give rise to really particular meanings, that may be poetic, funny, or, on the other side of the spectrum, quite crude and unrefined.

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First published online: 2015

Appendix

1. Experiment 1 + results

Grammaticality: In terms of your own perception, to what degree is this sentence grammatical. (1 = completely incorrect, 10 = completely correct)
Interpretability: In terms of your own perception, to what degree is the sentence concerned understandable and interpretable? To what degree are you able to use your imagination to understand the meaning of the sentence? (1 = completely uninterpretable, 10 = completely interpretable)

			Grammaticality (1/10)			Interpretabilitly (1/10)		
1	他**鱼**了一个苹果。	*yú* 'fish'	1	1	1	1	2	1
2	他**伞**了一个苹果	*sǎn* 'umbrella'	1	1	1	1	3	1
3	他**田**了一个苹果。	*tián* 'field'	1	1	1	2	2	1
4	他**茶**了一个苹果。	*chá* 'tea'	1	1	1	2	2	1
5	他**鱼**了我。	*yú* 'fish'	1	1	1	1	4	1
6	他**伞**了我。	*sǎn* 'umbrella'	1	1	1	2	3	1
7	他**田**了我。	*tián* 'field'	1	1	1	1	2	1
8	他**茶**了我。	*chá* 'tea'	1	1	1	2	2	1
9	他**鱼**了一个原因。	*yú* 'fish'	1	1	1	1	2	1
10	他**伞**了一个原因。	*sǎn* 'umbrella'	1	1	1	1	2	1
11	他**田**了一个原因。	*tián* 'field'	1	1	1	1	2	1
12	他**茶**了一个原因。	*chá* 'tea'	1	1	1	1	2	1
13	他很**鱼**音乐。	*yú* 'fish'	1	1	1	1	3	1
14	他很**伞**音乐。	*sǎn* 'umbrella'	1	1	1	1	2	1
15	他很**田**音乐。	*tián* 'field'	1	1	1	1	2	1
16	他很**茶**音乐。	*chá* 'tea'	1	1	1	1	2	1
17	他比我**鱼**得多。	*yú* 'fish'	1	1	1	1	5	1
18	他比我**伞**得多。	*sǎn* 'umbrella'	1	1	1	1	4	1
19	他比我**田**得多。	*tián* 'field'	1	1	1	2	3	1
20	他比我**茶**得多。	*chá* 'tea'	1	1	1	2	3	1
21	他**天**了一个苹果。	*tiān* 'day'	1	1	1	1	2	1
22	他**梦**了一个苹果。	*meng* 'dream'	10	7	1	10	9	7
23	他**音**了一个苹果。	*yīn* 'sound'	4	1	1	2	2	1
24	他**春**了一个苹果。	*chūn* 'spring'	10	6	1	6	6	1
25	他**天**了我。	*tiān* 'day'	2	1	1	6	2	1
26	他**梦**了我。	*meng* 'dream'	10	7	1	10	9	7
27	他**音**了我。	*yīn* 'sound'	2	1	1	4	2	1
28	他**春**了我。	*chūn* 'spring'	8	6	1	9	8	1
29	他**天**了一个意思。	*tiān* 'day'	1	1	1	1	1	1
30	他**梦**了一个意思。	*meng* 'dream'	10	1	1	10	3	1
31	他**音**了一个意思。	*yīn* 'sound'	4	1	1	8	1	1
32	他**春**了一个意思。	*chūn* 'spring'	8	1	1	6	1	1

33	他很**天**音乐。	*tiān* ‘day’	1	1	1	1	1	1
34	他很**梦**音乐。	*meng* ‘dream’	1	1	1	3	1	1
35	他很**音**音乐。	*yīn* ‘sound’	1	1	1	2	1	1
36	他很**春**音乐。	*chūn* ‘spring’	1	2	1	1	3	1
37	他比我**天**得多。	*tiān* ‘day’	10	1	1	9	1	1
38	他比我**梦**得多。	*meng* ‘dream’	10	10	1	10	10	1
39	他比我**音**得多。	*yīn* ‘sound’	2	1	1	6	1	1
40	他比我**春**得多。	*chūn* ‘spring’	7	10	1	7	10	1

41	他**熊猫**了一个苹果。	*xióngmāo* ‘panda’	1	1	1	6	3	1
42	他**眼睛**了一个苹果。	*yǎnjīng* ‘eyes’	1	1	1	6	2	1
43	他**窗口**了一个苹果。	*chuāngkǒu* ‘window’	1	1	1	1	3	1
44	他**政府**了一个苹果。	*zhèngfǔ* ‘government’	3	1	1	8	1	1
45	他**熊猫**了我。	*xióngmāo* ‘panda’	1	1	1	8	1	1
46	他**眼睛**了我。	*yǎnjīng* ‘eyes’	1	1	1	2	1	1
47	他**窗口**了我。	*chuāngkǒu* ‘window’	1	1	1	1	2	1
48	他**政府**了我。	*zhèngfǔ* ‘government’	3	4	1	9	5	1
49	他**熊猫**了一个意思。	*xióngmāo* ‘panda’	1	1	1	1	2	1
50	他**眼睛**了一个意思。	*yǎnjīng* ‘eyes’	1	1	1	7	2	1
51	他**窗口**了一个意思。	*chuāngkǒu* ‘window’	1	1	1	1	2	1
52	他**政府**了一个意思。	*zhèngfǔ* ‘government’	3	1	1	7	2	1
53	他很**熊猫**音乐。	*xióngmāo* ‘panda’	1	1	1	1	2	1
54	他很**眼睛**音乐。	*yǎnjīng* ‘eyes’	1	1	1	1	2	1
55	他很**窗口**音乐。	*chuāngkǒu* ‘window’	1	1	1	1	2	1
56	他很**政府**音乐。	*zhèngfǔ* ‘government’	1	1	1	1	2	1
57	他比我**熊猫**得多。	*xióngmāo* ‘panda’	1	5	1	8	7	1
58	他比我**眼睛**得多。	*yǎnjīng* ‘eyes’	1	3	1	1	2	1
59	他比我**窗口**得多。	*chuāngkǒu* ‘window’	1	1	1	1	2	1
60	他比我**政府**得多。	*zhèngfǔ* ‘government’	1	4	1	8	5	1

61	他**机会**了一个苹果。	*jīhuì* ‘opportunity’	1	1	1	1	1	1
62	他**观念**了一个苹果。	*guānniàn* ‘concept’	1	1	1	1	1	1

63	他**自然**了一个苹果。	*zìrán* ‘nature’	2	1	1	1	1	1
64	他**道理**了一个苹果。	*dàolǐ* ‘reason’	5	1	1	1	2	1
65	他**机会**了我。	*jīhuì* ‘opportunity’	2	2	1	8	2	1
66	他**观念**了我。	*guānniàn* ‘concept’	7	3	1	8	3	1
67	他**自然**了我。	*zìrán* ‘nature’	7	1	1	8	1	1
68	他**道理**了我。	*dàolǐ* ‘reason’	7	2	1	8	3	1
69	他**机会**了一个原因。	*jīhuì* ‘opportunity’	1	1	1	1	1	1
70	他**观念**了一个原因。	*guānniàn* ‘concept’	1	1	1	1	2	1
71	他**自然**了一个原因。	*zìrán* ‘nature’	1	1	1	1	1	1
72	他**道理**了一个原因。	*dàolǐ* ‘reason’	1	1	1	4	7	1
73	他很**机会**音乐。	*jīhuì* ‘opportunity’	1	1	1	1	1	1
74	他很**观念**音乐。	*guānniàn* ‘concept’	1	1	1	1	1	1
75	他很**自然**音乐。	*zìrán* ‘nature’	1	1	1	1	1	1
76	他很**道理**音乐。	*dàolǐ* ‘reason’	1	1	1	1	1	1
77	他比我**机会**得多。	*jīhuì* ‘opportunity’	1	4	1	5	5	1
78	他比我**观念**得多。	*guānniàn* ‘concept’	8	2	1	7	2	1
79	他比我**自然**得多。	*zìrán* ‘nature’	10	10	10	10	10	10
80	他比我**道理**得多。	*dàolǐ* ‘reason’	8	3	1	9	6	1

81	他**鞋子**了一个苹果。	*xiézi* ‘shoes’	1	1	1	2	4	1
82	他**鞋**了一个苹果。	*xié* ‘shoes’	1	1	1	3	2	1
83	他**花儿**了一个苹果。	*huār* ‘flower’	1	7	1	2	7	1
84	他**学者**了一个苹果。	*xuézhě* ‘sholar’	1	1	1	1	1	1
85	他**枕头**了一个苹果。	*zhěntou* ‘pillow’	1	1	1	4	3	6
86	他**鞋子**了我。	*xiézi* ‘shoes’	1	1	1	2	2	1
87	他**鞋**了我。	*xié* ‘shoes’	1	6	1	3	6	1
88	他**花儿**了我。	*huār* ‘flower’	1	3	1	2	3	1
89	他**学者**了我。	*xuézhě* ‘sholar’	1	1	1	2	1	1
90	他**枕头**了我。	*zhěntou* ‘pillow’	1	2	1	3	2	1
91	他**鞋子**了一个意思。	*xiézi* ‘shoes’	1	1	1	1	1	1
92	他**鞋**了一个意思。	*xié* ‘shoes’	1	1	1	1	1	1
93	他**花儿**了一个意思。	*huār* ‘flower’	1	1	1	1	1	1
94	他**学者**了一个意思。	*xuézhě* ‘sholar’	1	1	1	2	1	1
95	他**枕头**了一个意思。	*zhěntou* ‘pillow’	1	1	1	1	1	1
96	他很**鞋子**音乐。	*xiézi* ‘shoes’	1	1	1	1	1	1

97	他很**鞋**音乐。	*xié* ‘shoes’	1	1	1	1	1	1
98	他很**花儿**音乐。	*huār* ‘flower’	1	2	1	1	4	1
99	他很**学者**音乐。	*xuézhě* ‘sholar’	1	2	1	1	4	1
100	他很**枕头**音乐。	*zhěntou* ‘pillow’	1	1	1	1	1	1
101	他比我**鞋子**得多。	*xiézi* ‘shoes’	1	1	1	1	1	1
102	他比我**鞋**得多。	*xié* ‘shoes’	1	2	1	2	2	1
103	他比我**花儿**得多。	*huār* ‘flower’	3	2	1	3	2	1
104	他比我**学者**得多。	*xuézhě* ‘sholar’	9	10	1	10	10	1
105	他比我**枕头**得多。	*zhěntou* ‘pillow’	5	1	1	7	1	1

106	他**念头**了一个苹果。	*niàntou* ‘idea’	1	1	1	5	2	1
107	他**面子**了一个苹果。	*miànzi* ‘face’	1	1	1	1	2	1
108	他**空儿**了一个苹果。	*kòngr* ‘free time’	5	1	1	4	2	1
109	他**劲儿**了一个苹果。	*jìnr* ‘effort’	5	1	1	4	2	1
110	他**劲**了一个苹果。	*jìn* ‘strenght’	6	1	1	7	1	1
111	他**念头**了我。	*niàntou* ‘idea’	1	1	1	7	3	1
112	他**面子**了我。	*miànzi* ‘face’	2	1	1	7	2	1
113	他**空儿**了我。	*kòngr* ‘free time’	5	1	1	7	2	1
114	他**劲儿**了我。	*jìnr* ‘effort’	5	4	1	7	4	1
115	他**劲**了我。	*jìn* ‘strenght’	5	1	1	8	1	1
116	他**念头**了一个原因。	*niàntou* ‘idea’	1	1	1	7	2	1
117	他**面子**了一个原因。	*miànzi* ‘face’	1	1	1	2	1	1
118	他**空儿**了一个原因。	*kòngr* ‘free time’	5	1	1	2	1	1
119	他**劲儿**了一个原因。	*jìnr* ‘effort’	5	1	1	1	1	1
120	他**劲**了一个原因。	*jìn* ‘strenght’	5	1	1	1	1	1
121	他很**念头**音乐。	*niàntou* ‘idea’	1	1	1	2	1	1
122	他很**面子**音乐。	*miànzi* ‘face’	1	1	1	1	1	1
123	他很**空儿**音乐。	*kòngr* ‘free time’	1	1	1	1	1	1
124	他很**劲儿**音乐。	*jìnr* ‘effort’	1	1	1	1	1	1
125	他很**劲**音乐。	*jìn* ‘strenght’	1	1	1	1	1	1
126	他比我**念头**得多。	*niàntou* ‘idea’	1	1	1	6	2	1
127	他比我**面子**得多。	*miànzi* ‘face’	1	3	1	6	4	1
128	他比我**空儿**得多。	*kòngr* ‘free time’	1	9	1	7	9	1
129	他比我**劲儿**得多。	*jìnr* ‘effort’	1	2	1	7	3	1
130	他比我**劲**得多。	*jìn* ‘strenght’	10	1	1	10	1	1

2. Experiment 2 + results

			Grammaticality (1/10)		Interpretabilitly (1/10)	
1.	他**鞋子**了一个苹果。	*xiézi* 'shoes'	3	1	4	1
2.	他**鞋**了一个苹果。	*xié* 'shoes'	4	1	5	1
3.	他**车子**了一个苹果。	*chēzi* 'small vehicle'	7	1	10	1
4.	他**车**了一个苹果。	*chē* 'vehicle/machine'	7	7	10	10
5.	他**鞋子**了我。	*xiézi* 'shoes'	3	1	4	2
6.	他**鞋**了我。	*xié* 'shoes'	5	1	4	5
7.	他**车子**了我。	*chēzi* 'small vehicle'	5	1	6	1
8.	他**车**了我。	*chē* 'vehicle/machine'	6	7	6	9
9.	他**鞋子**了一个原因。	*xiézi* 'shoes'	1	1	2	1
10.	他**鞋**了一个原因。	*xié* 'shoes'	1	1	2	1
11.	他**车子**了一个原因。	*chēzi* 'small vehicle'	1	1	2	1
12.	他**车**了一个原因。	*chē* 'vehicle/machine'	1	1	2	1
13.	他很**鞋子**音乐。	*xiézi* 'shoes'	1	1	2	1
14.	他很**鞋**音乐。	*xié* 'shoes'	1	1	2	1
15.	他很**车子**音乐。	*chēzi* 'small vehicle'	1	1	2	1
16.	他很**车**音乐。	*chē* 'vehicle/machine'	1	1	2	1
17.	他比我**鞋子**得多。	*xiézi* 'shoes'	1	3	3	7
18.	他比我**鞋**得多。	*xié* 'shoes'	2	4	3	1
19.	他比我**车子**得多。	*chēzi* 'small vehicle'	1	3	2	7
20.	他比我**车**得多。	*chē* 'vehicle/machine'	2	10	2	10
21.	他**花儿**了一个苹果。	*huār* '(small) flower'	5	6	7	8
22.	他**花**了一个苹果。	*huā* 'flower'	4	10	7	10
23.	他**脑子**了一个苹果。	*nǎozi* 'brain/mind/head'	3	1	3	1
24.	他**脑**了一个苹果。	*nǎo* 'brain/mind/head'	5	10	6	10
25.	他**花儿**了我。	*huār* '(small) flower'	4	8	3	10
26.	他**花**了我。	*huā* 'flower'	3	10	3	10
27.	他**脑子**了我。	*nǎozi* 'brain/mind/head'	3	1	5	1
28.	他**脑**了我。	*nǎo* 'brain/mind/head'	4	10	7	10
29.	他**花儿**了一个意思。	*huār* '(small) flower'	2	1	3	1
30.	他**花**了一个意思。	*huā* 'flower'	4	3	6	1
31.	他**脑子**了一个意思。	*nǎozi* 'brain/mind/head'	2	1	4	1
32.	他**脑**了一个意思。	*nǎo* 'brain/mind/head'	2	1	7	1
33.	他很**花儿**音乐。	*huār* '(small) flower'	1	1	2	1
34.	他很**花**音乐。	*huā* 'flower'	1	1	2	1
35.	他很**脑子**音乐。	*nǎozi* 'brain/mind/head'	1	1	2	1
36.	他很**脑**音乐。	*nǎo* 'brain/mind/head'	1	1	2	1
37.	他比我**花儿**得多。	*huār* '(small) flower'	2	10	2	10
38.	他比我**花**得多。	*huā* 'flower'	3	10	2	10
39.	他比我**脑子**得多。	*nǎozi* 'brain/mind/head'	2	3	2	7
40.	他比我**脑**得多。	*nǎo* 'brain/mind/head'	2	10	2	10
41.	他**面子**了一个苹果。	*miànzi*	1	1	1	1

		‘face/reputation/prestige’				
42.	他**面**了一个苹果。	*miàn* ‘face/surface’	1	8	1	2
43.	他**劲儿**了一个苹果。	*jìnr* ‘effort’	1	1	1	1
44.	他**劲**了一个苹果。	*jìn* ‘strength’	1	1	1	1
45.	他**面子**了我。	*miànzi* ‘face/reputation/prestige’	2	1	4	1
46.	他**面**了我。	*miàn* ‘face/surface’	10/1	10	10/1	10
47.	他**劲儿**了我。	*jìnr* ‘effort’	1	1	1	1
48.	他**劲**了我。	*jìn* ‘strength’	3	1	3	1
49.	他**面子**了一个意思。	*miànzi* ‘face/reputation/prestige’	1	10	1	10
50.	他**面**了一个意思。	*miàn* ‘face/surface’	1	1	1	7
51.	他**劲儿**了一个意思。	*jìnr* ‘effort’	1	7	1	7
52.	他**劲**了一个意思。	*jìn* ‘strength’	1	3	1	8
53.	他很**面子**音乐。	*miànzi* ‘face/reputation/prestige’	1	1	1	1
54.	他很**面**音乐。	*miàn* ‘face/surface’	1	1	1	1
55.	他很**劲儿**音乐。	*jìnr* ‘effort’	1	1	2	1
56.	他很**劲**音乐。	*jìn* ‘strength’	2	1	2	1
57.	他比我**面子**得多。	*miànzi* ‘face/reputation/prestige’	1	8	2	10
58.	他比我**面**得多。	*miàn* ‘face/surface’	10/2	10	10/2	10
59.	他比我**劲儿**得多。	*jìnr* ‘effort’	2	10	3	10
60.	他比我**劲**得多。	*jìn* ‘strength’	2	10	4	10

61.	他**法子**了一个苹果。	*fǎzi* ‘way/method’	2	1	2	1
62.	他**法**了一个苹果。	*fǎ* ‘law’	1	1	1	1
63.	他**性子**了一个苹果。	*xìngzi* ‘temper/strength’	1	1	1	1
64.	他**性**了一个苹果。	*xìng* ‘nature/character’	1	1	1	1
65.	他**法子**了我。	*fǎzi* ‘way/method’	2	3	2	3
66.	他**法**了我。	*fǎ* ‘law’	3	1	4	6
67.	他**性子**了我。	*xìngzi* ‘temper/strength’	1	4	1	7
68.	他**性**了我。	*xìng* ‘nature/character’	1	4	1	7
69.	他**法子**了一个原因。	*fǎzi* ‘way/method’	1	1	2	1
70.	他**法**了一个原因。	*fǎ* ‘law’	1	1	1	1
71.	他**性子**了一个原因。	*xìngzi* ‘temper/strength’	1	1	1	1
72.	他**性**了一个原因。	*xìng* ‘nature/character’	1	1	1	6
73.	他很**法子**音乐。	*fǎzi* ‘way/method’	1	1	1	1
74.	他很**法**音乐。	*fǎ* ‘law’	1	1	1	1
75.	他很**性子**音乐。	*xìngzi* ‘temper/strength’	1	1	1	1
76.	他很**性**音乐。	*xìng* ‘nature/character’	1	1	1	1
77.	他比我**法子**得多。	*fǎzi* ‘way/method’	1	3	2	7
78.	他比我**法**得多。	*fǎ* ‘law’	3	2	6	4
79.	他比我**性子**得多。	*xìngzi* ‘temper/strength’	1	3	1	7
80.	他比我**性**得多。	*xìng* ‘nature/character’	1	6	2	3

3. Experiment 3

1.	MM	measure word + mass noun	1 2 3 4	他刚刚看见了一**滩**水。 他刚刚看见了一**瓶**水。 他刚刚看见了一**滴**水。 他刚刚看见了一**杯**水。	滩 ‘pool’ 瓶 ‘bottle’ 滴 ‘drop’ 杯 ‘cup’
	MM		5 6 7 8	他刚刚看见了一**米**水。 他刚刚看见了一**块**水。 他刚刚看见了一**盒**水。 他刚刚看见了一**堆**水。	米 ‘meter’ 块 ‘piece’ 盒 ‘box’ 堆 ‘pile’
2.	CM	classifier + mass noun	9 10 11 12	他刚刚看见了一**层**水。 他刚刚看见了一**场**水。 他刚刚看见了一**件**水。 他刚刚看见了一**路**水。	层 ‘level’ 场 ‘scene’ 件 ‘item’ 路 ‘street’
	CM		13 14 15 16	他刚刚看见了一**笔**水。 他刚刚看见了一**粒**水。 他刚刚看见了一**篇**水。 他刚刚看见了一**朵**水。	笔 ‘pencil’ 粒 ‘grain’ 篇 ‘written work’ 朵 ‘bundle’
3.	CC	classifier + count noun	17 18 19 20	他刚刚看见了一**张**桌子。 他刚刚看见了一**面**桌子。 他刚刚看见了一**台**桌子。 他刚刚看见了一**盘**桌子。	张 ‘flat surface’ 面 ‘surface’ 台 ‘heavy object’ 盘 ‘flat objects’
	CC		21 22 23 24	他刚刚看见了一**头**桌子。 他刚刚看见了一**匹**桌子。 他刚刚看见了一**间**桌子。 他刚刚看见了一**条**桌子。	头 ‘head’ 匹 ‘CL for horses’ 间 ‘room’ 条 ‘long flexible objects’
4.	MC	measure word + count noun	25 26 27 28	他刚刚看见了一**堆**桌子。 他刚刚看见了一**排**桌子。 他刚刚看见了一**组**桌子。 他刚刚看见了一**块**桌子。	堆 ‘pile’ 排 ‘row’ 组 ‘group’ 块 ‘piece’
	MC		29 30 31 32	他刚刚看见了一**口**桌子。 他刚刚看见了一**碗**桌子。 他刚刚看见了一**串**桌子。 他刚刚看见了一**袋**桌子。	口 ‘mouthful’ 碗 ‘bowl’ 串 ‘string’ 袋 ‘bag’