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A Contrastive Study of
Quantifying Expressions in English and Chinese

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Abstract – English

Quantification is an important communicative function. When we talk about things, it is often essential to signal their quantities. The importance of quantification can not only be seen in English but also in other languages.

This thesis shows differences and similarities between English and Chinese quantifying expressions and transfers the findings to use in a day-to-day foreign language classroom setting. First of all, detailed descriptions of quantifying expressions in English and Chinese lead to their comparisons which concern nouns, determiners, measure words, implicit quantifying expressions and overt quantifying expressions in these two languages. Secondly, the semantic explanations for quantifying expressions are discussed. Attempts are made to find out the semantic explanations for the count and mass noun distinction, for selected quantifiers and for measure words. Finally, pedagogical implications emerging from this contrastive study are stated. Since the learning of a second language can be positively or negatively influenced by learners' native languages, and a contrastive study between learners' L1 and L2 can predict potential difficulties and errors in their second language learning processes, this study tries to find out the main sources of difficulties for learners of both languages concerning quantifying expressions and to make some tentative suggestions which could be helpful in overcoming these difficulties.

Zusammenfassung– Deutsch

Quantifizierung ist eine wichtige Funktion der Kommunikation. Wenn man über Gegenstände spricht, ist es oft essentiell deren Mengen anzugeben. Die Wichtigkeit der Quantifizierung existiert nicht nur in der englischen Sprache, sondern auch in anderen Sprachen.

Diese Arbeit zeigt die Unterschiede und Ähnlichkeiten zwischen englischen und chinesischen Ausdrücken der Quantifizierung auf, anschließend werden die Forschungsergebnisse in ein alltägliches Fremdsprachen-Unterrichtsszenario übertragen. Zunächst führt eine detaillierte Beschreibung von Ausdrücken der Quantifizierung im Englischen und Chinesischen zu deren Vergleichen, im Besonderen werden hierbei Hauptwörter, die Bestimmungswörter, die Zahleinheitswörter, implizite Ausdrücke der Quantifizierung, und die offenkundige Ausdrücke der Quantifizierung in beiden Sprachen behandelt. Zweitens werden semantische Erläuterungen der Ausdrücke der Quantifizierung diskutiert. Es wird versucht die semantischen Erläuterungen für die Unterschiede zwischen zählbaren Wörtern und nicht zählbaren Wörten, für ein paar ausgesuchte Quantifikatoren, und fuer die Zahleinheitswörte zu finden. Zum Schluss werden pädagogische Folgerungen, die in dieser kontrastierende Studie herausgefunden wurde, festgestellt. Die Muttersprache kann das Erlernen einer zweiten Sprache positiv oder negativ beeinflussen. Kontrastierende Studien zwischen L1 und L2 der Lernenden können die potentialen Schwierigkeiten und Fehler in deren Lernprozess vorausberechnen. Daher wird in dieser Studie versucht die Hauptschwierigkeiten, die während des Lernens der Ausdrücke der Quantifizierung in beiden Sprachen auftreten können aufzulegen. Abschließend werden Vorschläge eingebracht, die bei der Überwindung diesen Schwierigkeiten nützlich sein könnten.

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1. Introduction

Quantification is an important communicative function. When we talk about things, it is often essential to signal their quantities (Bache 1997: 348). The importance of quantification can not only be seen in English but also in other languages.

In this thesis I will be concerned with quantifying expressions in English and Chinese and I will try to find out their differences and similarities. Subsequently, I will try to apply these findings to foreign language teaching, hoping that these findings could contribute to the improvement of foreign language teaching methods concerning quantifying expressions.

In the second chapter, I will look at quantifying expressions in English. Quantifying expressions in English have to do with modification, determination, and countability of nouns. In order not to extend the scope of this paper too widely, I will only concentrate on aspects of determination and the noun. Concerning the noun, I will talk about the count and mass distinction in combination with the number of nouns in general. This will be followed by a brief discussion of determiners, including predeterminers, central determiners and postdeterminers. Quantifiers, which are members of determiners, will be pointed out and their functions will be discussed. These two separate discussions will lead to the topic of quantifying expressions which are the combinations of determiners and nouns. I will divide them into implied quantifying expressions and overt quantifying expressions. Under implied quantifying expressions, *a/an*, *the*, and zero determiner plus nouns will be looked at. Overt quantifying expressions will be further divided into numerals plus nouns, quantifiers plus nouns and quantifying expressions with English measure phrases. English measure phrases are expressions like *a piece*

of(equipment), *three quarters of (the cake)*, *two pounds of (cabbage)*, *three rows of (beans*), etc., which are similar to Chinese measure phrase constructions.

In the third chapter, I will look at Chinese quantifying expressions, starting with an observation of nouns, including types of nouns and plural forms of nouns, and then proceed to determiners, including numeral determiners, demonstratives, specifying determiners, and quantitative determiners. Measure words, different from the second chapter, will be analyzed separately here, as they play a more important role in Chinese quantifying expressions than in English. The analysis will include distinctions between non-individual measure words and individual measure words (classifiers)[1], obligatoriness and functions of individual measure words (classifiers), the debate on the categorization of measure words, and my suggestions for categorizing measure words. These separate analyses will again, the same as in the second chapter, lead to the discussion of quantifying expressions, which will also be divided into implied quantifying expressions and overt quantifying expressions.

The comparison chapter will be organized as follows: first, nouns in English and Chinese will be discussed, including bare nouns in English and Chinese, mass and count noun distinctions in the two languages and the interaction between measure words and number. This will be followed by a comparison between determiners in these two languages. I will take a few determiners from English and compare their meaning and functions with their Chinese equivalences. After this, measure words in English and Chinese will be compared, which concerns types of measure words, their grammatical functions, and the problem of equivalency (one Chinese measure word with a

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[1] According to Chao (1968: 585) individual measure words are also known as classifiers.

variety of English equivalences and vice versa).This chapter will be closed with a summary of quantifying expressions in English and Chinese.

The fifth chapter will be devoted to the discussion of semantics underlying quantifying expressions. I will look at the semantic basis for the mass and count noun distinction, and the mass to count / count to mass shifts of nouns. These will be followed by semantic distinctions between selected determiners in English and their counterparts in Chinese. I will then proceed to semantic parameters underlying measure words, semantic roles of measure words and semantic organizations of measure words.

In the last chapter, I will try to apply the findings from above chapters to foreign language teaching. The role of contrastive studies will be taken into discussion at the beginning. Then I will try to find out the main sources of difficulties for foreign students learning English and Chinese quantifying expressions. Finally, I will try to make some suggestions on foreign language teaching and learning concerning quantifying expressions.

2. English quantifying expressions

Speakers of English normally combine reference to an instance of a thing with information about its quantity. Notions of quantity can be typically expressed by number and quantifiers. We can quantify both things and situations (Radden and Dirven 2007: 115). Let us look at the following examples:

(1). a. I always get the eight o'clock train.

    b. My mother very rarely wears jewellery.

    c. Dervla Murphy's latest book describes her many adventures in Nepal.

    d. There are a few animals in the barn.

<div align="right">(Macmillan English Dictionary 2002)</div>

Sentences (1a) and (1b) quantify the occurrence of the same situation at different times, namely the situation when 'I' get the eight o'clock train and the situation when my mother wears jewellery, by using the frequency adverbs *always* and *rarely*. Sentences (1c) and (1d) quantify things, namely, the number of adventures Dervla Murphy describes and the number of animals that are in the barn, by using the quantifiers *many* and *a few*, as well as through the plural forms of the nouns (*adventures* and *animals*).

In this thesis I will only concentrate on nominal quantifying expressions and leave situational quantification for future research. In any discussion of quantification, it is always necessary to draw a distinction between countable and non-countable things. Countable things are indivisible while non-countable things are divisible. The singular and plural distinction referring to countable entities is very important to quantification but not the only way of expressing this communicative sub function which also involves non-countable concepts (*more or less water*). Quantifying expressions are also in connection with determination (*a, this, these, some*) and sometimes with

modification (Bache 2000: 162). In the following sections of this chapter, I will first discuss the countability and determination of nouns separately, and then combine these factors and look at quantifying expressions as a whole.

2.1. Countability of nouns

In English, when we use a noun phrase, it is always necessary that we make it clear whether the referent is perceived as a discrete, countable entity, either one or more than one, or as an indivisible, non-countable 'mass' entity (Downing & Locke 1994: 420). In other words, with countable nouns we can use their singular forms to refer to one entity and their plural forms to refer to more than one entity, while with non-countable nouns no such number contrast can be formed through plural morphology. Chierchia suggests that we can individuate at least ten main empirical properties that jointly characterize the different behavior of count and mass nouns:

Property 1: availability of plural morphology
Property 2: distribution of numeral determiners
Property 3: obligatoriness of classifier and measure phrases for combining
        with numerals: a) *three grains of rice*, b) *a gallon of milk*
Property 4: some determiners occur only with count nouns
        Singular determiners: *every, each, a*
        Plural determiners: *several, few, a few, many, both*
Property 5: some determiners occur only with mass nouns: *little, much*
Property 6: some determiners occur only with plurals and mass nouns: *a lot*
        of, all, plenty of, more, most
Property 7: some determiners are unrestricted: *the, some, any, no*
Property 8: independence of the distinction from the structure of matter:
        shoes vs. *footwear*, *clothes* vs. *clothing*
Property 9: a (predominantly) count noun can be made mass
Property 10: a (predominantly) mass noun can be made count
                               (Chierchia 1998: 55-57)

Properties 1-2 are commonly acknowledged, and properties 4-7 are closely related. What we need to notice is that if a count noun is preceded by a plural determiner, its invariable or plural form is used, as in *these aircraft*, or *many*

choices. The plural number also concords with the verb and the pronoun (*People like to be happy, don't they?*)(Downing & Locke 1994: 422).When we explore the example *these aircraft* a bit further we can see that count nouns like *aircraft* are different from common count nouns because plural morphology cannot be applied to these nouns. These nouns are known as having zero plurals (Freeborn 1995: 41; Greenbaum 1995: 95) or as having no formal difference between the singular and the plural (Bache 2000: 190). This applies to a number of animal names (*deer, grouse, sheep, snipe*), nationality names with –ese (*Chinese, Japanese*) and *Swiss*, *craft* as well as compounds containing –*craft* (*aircraft, spacecraft*). When we come to Chinese nouns, we will see that these nouns work in a very similar way as Chinese bare nouns because Chinese nouns do not change for number.

Another type of noun which is important is the collective noun, which normally behaves like an ordinary count noun. The singular form of a collective noun can be interpreted in two different ways: a) as referring to a singular unit; b) as referring to a collection of individuals. Examples of collective nouns are: *audience, band, chorus, class, crowd, family, herd,* etc.

Property 3 is about the possibility of combining a numeral with a noun, which brings the terms 'classifier' and 'measure phrase' into discussion. The distinction between classifier phrases and measure phrases has been the subject of much debate for a long time. Some scholars (Allan 1977; Lehrer 1986, etc..) refer expressions like *three grains of rice* and *a gallon of milk* to classifier phrases. Others (Dodge and Wright 2002; Brems 2003) refer them to measure phrases or measure noun constructions. Still others (Ouirk and Greenbaum 1985; Carter and McCarthy 2006) define them as partitive constructions. I will return to this discussion later.

The fact that the distinction between count and mass nouns cannot simply be

explained by referring to the nature of the entity as it appears in the real world (property 8) is also pointed out by other scholars (Eastwood 1994: 180; Crystal 2004: 184). This can be exemplified as follows: *advice* (mass) vs. *suggestion* (count), *baggage* (mass) vs. *suitcase* (count), *cash* (mass) vs. *coin* (count), and *jewellery* (mass) vs. *jewel* (count).

Crystal (2004: 184) states that when we talk about countability, we are actually talking about the way nouns can be used in a language. There are a number of nouns that are considered as mass nouns in English but as count nouns in other languages (*information, hair, progress, sunshine,* etc.).

Due to the possibility of count to mass and mass to count shifts of nouns (property 9 and property 10), the distinction between count and mass nouns is blurred. Quite a number of nouns can be used either as a count noun or as a mass noun. As the mass to count and count to mass shifts of nouns can be best understood semantically, I will leave this topic for the fifth chapter which concerns the semantic parameters underlying quantifying expressions.

2.2. Determiners

A determiner appears before a noun in order to specify its number and definiteness. We can divide determiners into three groups, namely, 1) central determiners, 2) predeterminers, and 3) postdeterminers (Crystal 2004: 204-216).

1) Central determiners: they determine the references of the nouns they precede. We can characterize nouns in a number of very specific ways by choosing different central determiners, chiefly with reference to various kinds of quantification. Under this category, we have articles, demonstratives, possessives and a list of quantifiers (*some, any, no, either,* etc.).

2) Predeterminers: the chief function of predeterminers is to work together with central determiners to express the notion of quantity. Their meaning range from the universal sense of *all* to the sense of fraction. Under this category we have three basic quantifiers (*all*, *both*, *half*), a class of multipliers, a class of fractions and two exclamatory items (*such*, *what*).

3) Postdeterminers: the chief role of postdeterminers is to enable us to express different kinds of quantification, at varying levels of precision. Here we have the cardinal numbers, the ordinal numbers, a set of quantifiers (*much*, *many*, *few*, *a few*, etc.), and a set of phrasal quantifiers (*a number of*, *a lot of*, etc.). The following chart summarizes the division of determiners.

Predeterminers	Central determiner	Postdeterminers
Multipliers: *twice*, *double*	Articles: *a/an*, *the*	Cardinal number: *one*, *two*, etc.
Fractions: *a quarter*,	Demonstratives: *this/that*, *these/those*	Ordinal number; *first*, *second*, etc.
Quantifiers: *all*, *both*, *half*	Possessives: *my/your/her/his/John's*	Quantifiers:
Exclamation item: *such*, *what*	Quantifiers: *some*, *any*, *no*, *every*, *each*, *either*, *neither*, *enough*	*much/many*, *(a) few/ (a) little*, *several*
		Phrasal quantifiers: *a number of*, etc.

Table 1: *Determiner groups*

Among these determiners, quantifiers are the ones that specify nouns in terms of their quantities. We can use numerals to refer to exact quantities and use quantifiers to refer to inexact quantities. As I have shown above, numerals can be put in front of count nouns directly, while they can only be put in front of

mass nouns by means of measure phrases. Thus, we have *four apples*, but *four grains of rice*.

If we divide quantifiers according to their extensibility, we have close-class quantifiers and open-class quantifiers. There are two small groups of close-class quantifiers which function as postdeterminers:

1)   *many*, (*a*) *few*, *several* occur with plural count nouns
2)   *much*, (*a*) *little* occur with mass nouns

Open-class quantifiers consist of phrasal quantifiers which function semantically like the close-class quantifiers, but most of which consist of a noun of quantity followed by *of* and often preceded by the indefinite article, such as, *a lot of*, or *a great deal of* (Quirk, Greenbaum & Leech 1985: 262-264).

Some of these phrasal quantifiers can co-occur with mass nouns and plural count nouns (*plenty of , a lot of, lots of*); some others can only occur with mass nouns (*a great deal of, a large quantity of*); still others can only occur with plural count nouns (*a number of*) (Quirk, Greenbaum & Leech 1985: 262).

We can put quantifiers on the scale below according to their meaning:

<div align="center">

Count   Mass

</div>

```
all/every                                                    all

most                                                         most

many                                                         much

some                                                         some

several

a few                                                        a little

few                                                          little

                        no
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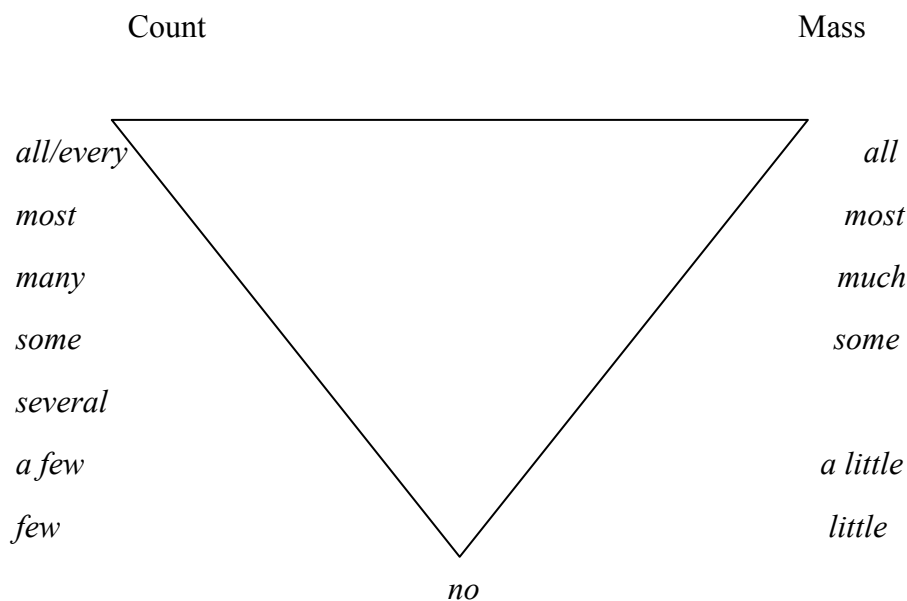
Figure 1: *The scale of quantifiers* (Leech & Svartvik 1994: 50)

At the top of this scale we have the quantifier *all* (*all* and *every* for count nouns), at the bottom we have *no*, and in the middle we have *some* which divides the scale into two parts: quantifiers between *all* and *some* describe a large quantity, while quantifiers between *some* and *no* describe a small quantity (Leech & Svartvik 1994: 50). As we can see, this scale only includes a small number of quantifiers, a large number of quantifiers, like phrasal quantifiers, are absent from the scale. However, the absent quantifiers can be put roughly along the scale according to their meaning, for example, beside *all* and *every*, we can still put *each, both*, etc. We can try to fill more quantifiers on the scale and get the following list of quantifiers:

1) The upper extreme: *all, both, every, each, any, and either*

2) A large quantity: *a lot of /lots of, many, much, a large number of, a great deal of, a large/huge/tremendous amount of, masses of, heaps of, loads of,* etc..

3) *Some*

4) A small quantity: *(a) few, (a) little, a bit of, several, a small/ tiny amount of,*

a small number of, etc…

5) The lower extreme: *no*, *not…any*

After having discussed the properties of nouns and determiners separately, let us combine them and look at quantifying expressions as a whole.

2.3. Quantifying expressions

When we talk about the quantity of an entity, the first thing that comes to our minds is numerals and then quantifiers, but there are also other ways to express quantity. Aldridge states that:

> Objects may be quantified either overtly with quantifying words, or implicitly by context, general or contained within the sentence concerned (Aldridge 1982: 172).

The first type of quantification is referred to as 'overt quantification' and the second as 'implicit quantification'.

I will follow Aldridge's example and assign *a/an* to the group of implicit quantification, although *a/an* frequently functions as a quantifier equivalent to the cardinal *one*. One reason for such a division is the fact that all overt quantifiers can occur in the configuration: *quantifier- of - NP*, while *a/an* cannot be employed in such a configuration. For example, we can say *many of the sheep* or *all of the sheep*, but we cannot say **a of the sheep* (Aldridge 1982: 173). In the following sections I will deal with some of the issues regarding overt and implicit quantifications.

2.3.1. Implicit quantification

As a starting point, let us have a look at this passage:

> As with other parts of its equipment, *an animal* evolves the kind of nose it needs. *The hippo* has grown its ears and eyes on the top of its head, and its nostrils on top of its hose, for lying in water. *Camels* and *seals* can close their noses; they do it in the same way but for different reasons. *The camel* closes its nose against the blowing sand of the desert and *the seal* against the water in which it spends most of its time.
>
> (From F.E. Newing and R. Bowood *Animals And How They Live*. Quoted in Eastwood 1994: 203)

The italicized words or phrases in this passage (*an animal*, *the hippo*, *camels*, etc.) are for the purpose of generalization. This kind of generalization is what Aldridge defines as implicit quantification, or more precisely, 'implicit universal quantification'(Aldridge 1982: 181), because he further divides implicit quantification into 'implicit universal quantification' and 'implicit particular quantification'.

2.3.1.1. Implicit universal quantification

Whether a subject NP holds a universal status or not depends on the patient (when there is one), the tense of the verb and many other factors regarding the predication in question. It seems that a patient in a universally quantified string is usually not specific, i.e. not having reference to one single, unique individual (Aldridge 1982: 182-183). Thus, sentence (2) belongs to universal quantification, while (3) is not:

(2) A monkey eats bananas

(3) A monkey ate my banana.

Despite the patient, we should also take the tense of the verb into consideration. Generally speaking, the tense in a universally quantified string

is usually simple present (Aldridge 1982: 183). Thus, sentence (4) is a universal statement, while (5) and (6) are not:

(4) A monkey eats bananas.

(5) A monkey ate a banana.

(6) A monkey is eating a banana.

The most obvious exception to this tendency is that when the entire membership of the class acting as an agent no longer exists(Aldridge 1982: 184), as in (7):

(7) Dinosaurs had widely varying lifestyles and adaptations.

Surface manifestation of implicit universal quantification can be summarized as follows:

1) Definite article *the* plus singular count noun, which suggests a class considered as an undifferentiated whole, e.g. *The rat is a rodent.*
2) Definite *the* plus plural count noun, which suggests that the class is thought of as made up of distinct individuals, e.g. *The Indians like corn.*
3) Indefinite *a/an* plus count noun singular, which conceptualizes a class made up of distinct individuals, e.g. *A rat is a rodent.*
4) Ø plus non-count noun, which represents the common conceptualization of a non-countable as having no individual members, e.g. *Water is a fluid.*
5) Ø plus count noun plural, which represents the conceptualization of a set made up of distinct individuals, e.g. *Birds have feathers* (Aldridge 1982: 193).

2.3.1.2. Implicit particular quantification

What Aldridge (1982: 194) considers as typical examples of implicit particular quantification are, for example, *a ship was launched*, or *the magpies left the tree*, which are treated by the majority of scholars as indefinite and definite references, and which, in my opinion, do not really deal with the quantify of

entities.

Although I am not fully convinced of the implicit particular quantifying function of *a/an*, *the*, and *ø*, I do feel that it is necessary to draw a clear distinction between the generalizing function of *a/an*, *the*, *ø* and their specifying function. With this distinction in mind, let us turn to our next topic, overt quantification.

2.3.2 Overt quantification

With overt quantification, quantifying expressions in the following sentences are meant:

(8) Four men came yesterday.

(9) Four of the men are Chinese.

(10) There were many people at the party.

(11) Many of my books are novels.

(12) I want a cup of coffee.

(13) There were a crowd of people on the street.

All these sentences quantify objects by using quantifying words, and we can divide them roughly into three groups: sentences (8) and (9) use numerals, (10) and (11) use quantifiers, and sentences (12) and (13) employ measure phrases. Let us start with the first group: quantification by using numerals

2.3.2.1. Quantification by using numerals

Although there are many subcategories under the term 'numeral', I will only focus on cardinal numbers which play a chief role in quantifying objects.

As I have shown in the examples above, two patterns of using a numeral with a noun are:

1) Numeral - noun

2) Numeral - of - determiner- noun

These two patterns can only be applied to count nouns. With mass nouns we have to add a measure word between the numeral and the noun, which will be discussed below when we are dealing with quantification by using measure phrases.

The difference between patterns 1) and 2) could be understood, in my opinion, either grammatically or semantically. Grammatically speaking, in pattern 1) the noun is indefinite, thus in sentence (8) *four men* is indefinite, they could be any four of the mankind, while in pattern 2) the noun is definite as it is preceded by the determiner, thus in sentence (9) *four of the men* cannot be any four of the mankind, but four of a restricted group of men. Semantically speaking, in sentence (8), *four men* form a whole set with the exact number of four, while in (9) *four of the men* are only a part of a whole set whose exact number we do not know.

We can also use plural forms of round numbers to express approximate numbers. In such uses, we normally use the plural forms of round numbers with a following of - phrase and a plural count noun, as in *billions of dollars*, or *thousands of accidents*.

2.3.2.2. Quantification by using quantifiers

Two patterns of using quantifiers in quantifying expressions are similar to the ones with numerals:

1) Quantifier - Noun

2) Quantifier - of - determiner –Noun

Quantifiers can combine with indefinite NPs and definite NPs, and in the latter case they are generally followed by *of* (Biber 1999: 275). Pattern 1) implies that speakers or writers are making general statements, having no particular persons, places, or things in mind, while pattern 2) implies that speakers or writers are specifying particular persons, places, things or groups (Mauer 1995: 88). Thus, in sentence (10) *people* which is quantified by *many* is not specific, they could be anybody; while in sentence (11) *books* that are quantified by *many* are specifically only *my books* and not just any books.

Aldridge (1982: 207-208) offers an explanation for the use of '*of*' in pattern 2) by saying that *of* can indicate the partitive relation in the same way as the genitive case, thus *of* should be interpreted as a partitive marker.

We seem to reach firmer ground if we combine the generic and specific difference mentioned by Mauer and the part and whole difference explained by Aldridge, namely, pattern 1) refers to a generic set, while pattern 2) refers to a subset which is a part of a specific set.

Exceptions to pattern 2) are also noticed by Aldridge (1982: 207). He points out that the problem of the optional deletion of the partitive *of* after the three quantifiers *all*, *both*, and *half* is difficult to explain, as in:

(14) *All* the men/ *All* of the men.
(15) *Both* the men/ *Both* of the men.
(16) *Half* the orange/ *Half* of the orange.

(Aldridge 1982: 207)

A possible answer to this problem, suggested by Aldridge is that

When we delete *of*, we are thinking of the set in question as an

undifferentiated whole, whereas, if we retain it, we are conceptualizing the set as made up of distinct individuals. (Aldridge 1982: 207-208)

Neither Aldridge himself nor I can find enough convincing examples to support this hypothesis. I will leave the problem for further research and proceed to our next section about measure phrases.

2.3.2.3. Quantification by using measure phrases

When we want to talk about a particular quantity of something, we can use a measure phrase construction, like *two cups of coffee*, *a sheet of paper*, or *a blade of grass*. Measure phrases collocate strongly with mass nouns but count nouns can be quantified in a similar way, like *a group of soldiers*, *a basket of apples*, or *a page of a book*. Strictly speaking, the term 'measure phrase' still requires some discussion. In the following sections, I will have a closer look at 1) the introduction of the term, 2) the measure phrase construction, 3) their functions, and 4) their categorizations.

1) The term 'measure phrases'

It seems that such constructions like *a piece of bread*, *a cup of coffee*, have been given different names by different scholars. Some scholars focus on the part and whole relationship between the head noun and the quantified noun and define such constructions as 'partitive constructions' (Greenbaum & Quirk 1990: 71), or 'partitive structures' (Sinclair 1990: 110). Some scholars consider the head nouns as measures for the quantified nouns and choose the name 'measure noun constructions' (Brems 2003: 283) or 'measure phrases' (Dodge & Wright 2002: 75). Allan (1977: 305) defines English measure nouns like *bunch*, *herd*, and *piece* as classifiers, and Lehrer (1986: 109) follows him in defining such constructions as 'classifier constructions'. Some other scholars, like Eastwood (1994: 180), simply call them 'of patterns'. As the name of such a construction, in my opinion, does not influence its contents

and functions, I will not go further into this question and adopt, for reasons of convenience in our comparison between such constructions in English and Chinese, the term 'measure phrases'.

2) The measure phrase construction

Examples of measure phrases like *a cup of coffee*, *a blade of grass* or *two head of cattle* show us that they are all of the form X of Y (Dodge & Wright 2002: 76). Dodge and Wright also claim that in such a construction, X is a count noun and Y is a mass noun or a plural count noun. However, as pointed out by many scholars, like Bache (2000: 168), Greenbaum and Quirk (1990: 72), Y could also be a singular count noun, as in the construction '*a page of a book*' or '*two acts of a play*'. Thus, while the X element is undebatably a count noun, the Y element could be a singular count noun, a count noun plural, or a mass noun.

Lehrer (1986: 110) analyzes the X of Y pattern further and provides the syntactic form of the measure phrase construction:

(Det) $N_{1\ pp}$ [of (Det) N_2]

We have N_1, the count noun, which Lehrer classifies as a classifier and in our terminology a measure word, followed by a prepositional phrase. In some of such constructions, there are very close relations between the head noun and the quantified noun, as in *a sheet of paper*, *a pride of lions*, or *a flock of sheep*. There are also general measure words which can be used with different types of nouns, like *piece*. We can have *a piece of advice*, *a piece of bread*, or *a piece of furnitur*e.

3) The function of measure phrases

Dodge and Wright (2002: 77-78) state that measure phrases serve to make

mass nouns countable. They measure, individuate, and give classificatory information about the mass nouns. The X-element provides the structure by which the unmeasured and internally undifferentiated Y-element is individuated. For count noun plurals, they supply information about the shape or configuration of the group. Thus, *a pile of books* is more descriptive than *many books*, as *pile* not only supplies information about the quantity of books but also the shape of these books. With count noun singulars which Dodge and Wright have not included in their discussion, there is a part-whole relationship between the measure word and the quantified noun, for instance, *a page of a book* or *a branch of a tree*.

4) The categorization of measure phrases

The question concerning the categorization of measure phrases is rather complicated, because different scholars categorize them differently. Generally, we can divide these categorizations into two groups: the first group categorizes measure phrases according to the category of the quantified noun (whether the noun is a mass noun, a count noun singular or a count noun plural); the second group divides measure phrases according to the characteristic of the measure word itself (whether it is a standard measure, a container measure, or a collective measure). Because of the limitation of space, it is impossible to discuss all these different categorizations. I will only choose a few typical examples and have a brief discussion of them.

-Quirk, Greenbaum & Leech (1985: 249-250)

They divide partitives (in our terminology measure phrases) that denote quantity into three groups: i) mass nouns, ii) plural count nouns, and iii) singular count nouns. They point out that countability of mass nouns can be achieved by means of certain general partitive nouns, in particular *piece, bit, item*, followed by an *of*-phrase like *two pieces of cake*. In addition, there are some more restricted and descriptive typical partitive nouns which form

expressions with specific concrete mass nouns, such as *a blade of grass, a grain of sand, a drop of water,* etc... For plural count nouns, they provide us with examples like *a flock of sheep, a bunch of flowers*, or *a crowd of people*. Examples given for singular count nouns are *a piece of a loaf, a branch of a tree*, and *a page of a book.*

They also emphasize that words like *type, sort* or *kind* do not deal with the quantities of entities but with their quality, as in *a new kind of computer* and *new kinds of computers*. They also mention that standard measures denoting length, volume and weight, such as *pound, inch, liter*, relate to precise quantities.

On the one hand, their categorization is very helpful, because when we need to specify the quantity of something, the first 'thing' we confront is always the noun that needs to be quantified. Quirk, Greenbaum and Leech's categorization tells us exactly how to use a partitive structure to quantify a noun according to the category of the noun. On the other hand, their categorization has certain disadvantages, because it does not tell us what kind of nouns can function as measure words and what kind of relationship the measure word and the quantified noun really have. Thus, it will not be very helpful for us to produce measure phrases by ourselves.

The majority of scholars categorize measure phrases according to the characteristics of the measure word itself. Among them, we have:

- Dodge and Wright (2002: 75-86)
They divide measure phrases into i) Container-Measure: *a cup of tea*, or *a cupful of wine*. In this type of measure phrases, the quantified noun is either a mass noun or a plural count noun. Container-measures constrain and individuate fluid and other entities that must be physically contained to be

measured. This group also includes those measures formed by adding *–ful* or *–load* to objects. Objects that are not typically conceptualized as containers usually require this suffix *a handful/*hand of peanuts*. ii) Standard-Measures such as *a gallon of milk* are measurements on a standardized scale. They provide exact information about the length, volume or area of the quantified entity. Both mass nouns and count noun plurals can be quantified in this way. iii) Dimensional-boundaries as *a stick of butter* or *a sheet of paper* provide information about the shape, rigidness and dimensionality of the quantified noun. Only mass nouns can be quantified as such. iv) The configuration type includes phrases like *a line of trees* and *a heap of stones*. In this type, individuals are arranged in a particular configuration and the measure word provides information about the configuration's shape and orientation. Only count noun plurals can be quantified in this way. v) Collection of members includes phrases like *a team of soccer players*, *a herd of zebra* and *a swarm of bees*. This type of phrases can only quantify count noun plurals, and the measure word provides information about the social and functional relationships between the individuals.

This categorization combines the characteristics of the measure words with the categories of the quantified nouns, which is very plausible. However, it seems to me that there is still at least one question that needs to be clarified, namely, if, according to this categorization, mass nouns can be quantified by container-measures, standard-measures and dimensional-boundaries, how can we explain the examples like *a piece of furniture, a glimmer of light, or a pinch of salt*? In English, *furniture*, *light*, and *salt* are all considered to be mass nouns, whereas the measure words that are used to quantify them cannot be assigned to container-measures, standard measures, or dimensional-boundaries. These measure words and the quantified nouns denote a kind of part - whole relation which is excluded from Dodge and Wright's categorization.

- Biber (1999: 247-254)

In this categorization, measure words are called 'quantifying nouns'. Under this terminology we have i) Quantifying collectives as *crowd* or *group*, most of collective nouns are associated with a particular type of entity: people (*crowd*, *gang*), animals (*flock*, *herd*, *shoal*, and *swarm*), and plants (*bouquet*, *chump*). ii) Unit nouns like *piece*, *chunk*, *item*, and *slice* make it possible to split up an undifferentiated mass and refer to separate instances of a phenomenon. iii) Nouns denoting types of containers like *box*, *cup*, or *packet*. iv) Nouns denoting shape like *heap*, *pile*, *stick* or *wedge*. v) Standardized measure terms such as *liter*, *gallon*, *foot*, and *pound*. vi) Plural numerals refer to plural forms of round numbers. They are used with a following *of* – phrase and plural count nouns to express approximate numbers: *thousands of accidents*, *billions of dollars*. vii) Nouns denoting large quantities as in *a load of cars*, *a mass of stuff*, *masses of homework*, etc... viii) Nouns ending in *–ful* such as *armful*, *handful*, or *mouthful*.

As we can see, this categorization includes almost every type of noun that can be used in an *of* - pattern. However, the most obvious problem, in my opinion, is cross-categorization. Nouns like *pile* and *heap* can, at the same time, belong to two types: nouns denoting shape and nouns denoting large quantities. The category 'nouns ending in *–ful*', relates closely to nouns denoting containers, and unit nouns like *sheet, stick, grain*, and *drop* also denote shape.

With the recognition of the ambiguities that I have mentioned above, I suggest that we could possibly categorize measure phrases into the following categories:

1) Quantifying collectives (combine parts into a whole) which include two subcategories. First of all, we have the minimal collection realized by '*pair*' with reference to entities that occur in a group of two, such as *a pair of glasses*.

Then we have the collection of an indefinite number which is realized by nouns like *group*, *herd*, *team*, *gang*, etc. such as in *a group of people* or *a herd of cattle*, and, as emphasized by Dodge and Wright, these measures indicate the social and functional relationships between the individuals.

2) Configuration measures (sometimes called arrangement) include measure phrases like *a line of trees* or *two heaps of stones*. The measure words provide information about the shape and orientation of the configuration.

3) Partitive measures (split a whole into parts) include the part-whole relation for singular count nouns as in *a page of a book* or *a branch of a tree*. For mass nouns, partitive measures function as unit counters (adapted from Allan 1977: 293) that make it possible to split up an undifferentiated mass, such as *a drop of water* or *a head of cattle*. Many unit counters are based on shape, as in *a sheet of paper*, *a drop of water*, or *a ball of wool*. There are also some unit counters that are derived from verbs (Lehrer 1986: 116), as in *a pinch of salt*, *a grind of pepper*, and *a toss of chopped onions*.

4) Container measures: nouns ending in *–ful* denoting some kind of containers can also be included in this category as in *an armful of straw*, *a mouthful of food*, or *a spoonful of sugar*. This type of measures can be applied to both mass nouns and count noun plurals.

5) Standard measures are undebatably included in all categorizations of measure phrases. They provide exact information about length, area, volume or weight of their quantified nouns. Both mass nouns and count noun plural can be quantified in this way.

A summary of this categorization would look like this:

Measure phrase {
    Quantifying collectives a) minimal collection: *pair*; b)
    collection of indefinite number: *group, team, gang,*
    crowd
    Configuration: *heap, pile, line, row*
    Partitive nouns: a) part-whole relation;
    b) unit counters :*drop, piece*
    Container measures: *box, cup, glass, mouthful*
    Standard measures: *liter, kilogram, meter*
}
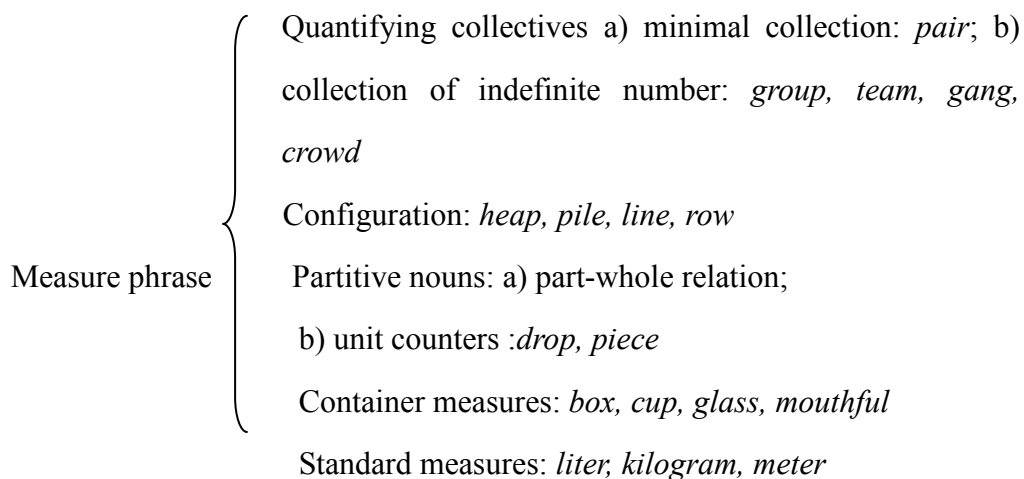
Figure 2: *Categorization of English measure words*

To summarize: at the beginning of this chapter, I have briefly discussed the countability of nouns, indicated the distinction between count and mass nouns. I have also looked at the properties of count and mass nouns. Types and functions of determiners, with quantifiers being our focus, have been given due treatment in this chapter. Quantifying expressions have been divided into implied quantification and overt quantification. Implied Quantification can be realized by *the* plus singular count noun, *the* plus plural count noun, *a/an* plus singular count noun, Ø plus plural count noun, and Ø plus mass noun. Overt quantification is realized in the following patterns: 1) Numeral – (of) – (Det) – Noun; 2) Quantifier – (of) – (Det) – Noun; 3) (Det) $N_{1 pp}$ [of (Det) N_2] with N_1 being a measure word.

3. Chinese quantifying expressions

As a starting point I want to make it clear that with the term 'Chinese' I am referring exclusively to Mandarin Chinese, because in other varieties of the Chinese language expressions of quantity may be very different from that in Mandarin. In Chinese, like in English, quantity can be expressed through numerals, quantifiers and measure words. What is different is that in Chinese nouns do not change for number and the presence of a measure word is obligatory in most quantifying expressions. In the following sections I will have a brief look at the properties of nouns and the categorization of determiners. After this, I will proceed to the discussion of Chinese measure words. At the end of this chapter, I will summarize all possible quantifying expressions in Chinese.

3.1. Nouns

Chinese nouns do not change for number, which means that Chinese nouns make no distinction in form between the singular and the plural (Po-ching & Remmington 1998: 1).

17) a)　yi　　　　duo　　　　　　　　　　　　hua

　　　　a　CL[2]: object in the form of a flower　　flower

　　　　a flower

　　　　liang　　duo　　　　　　　　　　　　hua

　　　　two　CL: object in the form of a flower　flower

　　　　two flowers

　　b)　yi　di　shui　　　　　liang di shui

　　　　a　drop water　　　　two drop water

　　　　a　drop of water　　　two drops of water

---

[2] For the reason of convenience I use CL to stand for classifier. As I have mentioned above, classifiers are also known as individual measure words.

In the above examples, the nouns *flower* and *water* remain the same in both phrases without making a distinction between a singular and a plural form 'CL' refers to "classifier" or individual measure word which is a subclass of measure words. We will return to the classifiers below. Although in English *flower* is a count noun and *water* is a mass noun, in Chinese both of them require a measure word in order to be quantified. In other words, in Chinese a measure word is needed for any noun to be preceded by a numeral. A question that confronts us immediately is that whether there is a count and mass distinction in Chinese. Different opinions are expressed on this question. Chao (1968), Cheng and Sybesma (1999) insist that the count and mass distinction is relevant to Chinese nouns. Chao (1968: 507-513) divides Chinese nouns into four subclasses: 1) individual nouns, 2) mass nouns, 3) collective nouns, and 4) abstract nouns.

1)   Individual nouns are associated with individual measure words (classifiers). They correspond to English count nouns. For instance, *yi zhang zhuozi* 'a CL: thin and flat object table /a table' and *liang ba dao* 'two CL: object with handle knife /two knives'. Some individual nouns have no specific individual measure words and take the general individual measure word (classifier) *ge*. For example *yi ge zei* 'a CL: ge thief /a thief'.

2)   Mass nouns are associated with non-individual measure words. They correspond to English mass nouns. Examples include *yi bei cha* 'a cup tea/ a cup of tea', *san sheng shui* 'three liter water /three liters of water', and *yi wuzi yan* 'a room smoke /a roomful of smoke'.

3)   Collective nouns in Chinese are different from those in English. In English nouns like *class*, *jury* or *government* are considered as collective nouns, whereas in Chinese they are treated as individual nouns, because they also take individual measure words (classifiers). Thus, we have *si ge banji*

'four CL: ge class /four classes', *yi ge peishentuan* 'a CL: ge jury /a jury', and *yi ge zhengfu* 'a CL: ge government /a government'. A number of English collective nouns like *group*, *flock*, or *set* are considered to be measure words and are not autonomous nouns in Chinese, as in *yi dui shibing* 'a group soldier /a group of soldiers', *yi qun yang* 'a flock sheep /a flock of sheep', and *liang tao yifu* 'two set clothes /two sets of clothes'. In Chinese, collective nouns can be formed by combining an individual noun with its measure word, such as the collective noun *cheliang* 'car CL: vehicle'. The individual measure for *che* 'car' is *liang* 'CL: vehicle', and in order to say *a car* we have to use the phrase *yi liang che* 'a CL: vehicle car'. In order to form a collective noun we have to put the noun *che* before its measure word *liang* and get the noun *cheliang*. We have to remember that not every, but only a very limited number of individual nouns can be formed into collective nouns in this way. Some collective nouns can be recognized by the plural suffix *–men*, as in *haizimen* 'child-plural/children'. Collective nouns can also be formed by enumerating or exemplifying the individuals in the collections, as *fumu* 'father mother/ parents'.

4)   Abstract nouns: Like in English, nouns for many abstractions can be either individual nouns or mass nouns. Thus, in *yi ge meng* 'a CL: ge dream /a dream', and *san ge wenti* 'three CL: ge problem /three problems', the words *meng* 'dream' and *wenti* 'problem' are individual nouns; in *si nian shijian* 'four year time/ four years of time' and *yi fen liliang* 'a portion strength /a portion of strength', *shijian* 'time' and *liliang* 'strength' are mass nouns.

Although it is not very plausible to divide abstract nouns as opposing to individual nouns, mass nouns and collective nouns, what is important is the count and mass noun distinction that Chao points out in his categorization.

In contrast to Chao's categorization of nouns, a number of scholars (Chierchia

1998: 90-92) believe that all Chinese nouns are mass, because plural morphology does not apply to Chinese nouns and a measure word is always obligatory when a noun is quantified. We will find some evidence for this hypothesis during our discussion of Chinese nouns and measure words below and will come back to this question in the next section.

Since Chinese nouns do not change for number, the question we now have to confront is that how can we express the notion of singular and plural in Chinese? Li and Cheng (1994: 18) state that the plural forms of Chinese nouns can be expressed by suffixing –*men* to the noun, by pre-modifying numeral-measure words or other words implying the plural, and by other elements in the sentence. Let us look at these three methods separately.

1) The suffix –*men*

The suffix –*men* is reserved, in principle, for words referring to human beings, and is systematically used with personal pronouns (Iljic 1994: 91-92). The suffixed noun undergoes two changes. First of all, a noun with –*men* becomes definite in reference. One can say:

(18) xuesheng men   jin lai   le

    Student plural come in past tense particle

    The students came in.

One cannot say

(19) *wo xiang   jiao   pengyou   men.

    I   want   make   friend   plural

    I want to make friends.

            (Po-ching & Rimmington 1998: 3)

A noun with the suffix –*men*, e.g. *pen you men* (friends), does not mean 'friends in general', but 'the friends in question'. A noun with –*men* never

refers to an abstract class or to the indefinite, but invariably to a situationally anchored and defined group (Iljic 1994: 94).

The second change with the suffixed nouns is that the suffixed noun is incompatible with a numeral - measure word phrase (Po-ching & Rimmington 1998: 3). Thus, we can say:

(20) san   ge xuesheng   but not   *san   ge   xuesheng men

three CL: ge   student   three CL: ge student   plural

three students   three students

A more thorough investigation of larger contexts provides evidence that a human noun suffixed by –*men* can be followed by an indication of number, as in (21)

(21) Gemenr   san ge

Brother- Men   three CL: ge

'the brothers, the three [of them]

(Zhang and Sang 1986: 492 quoted in Iljic 1994: 93)

The above example demonstrates that the use of –*men* is not only due to the speakers' attention to emphasize the plurality when they do not know the exact number, but also that one can very well know the number of entities that is apposed to a noun suffixed by -*men* and specify it. However, this number does not appear in the position of modifier in the same noun phrase. One cannot say **san ge gemenr* (three CL: ge brother- men) (Iljic 1994: 93-94).

2) Pre-modification through numeral-measure word phrases or other words
In numeral classifier languages number marking is optional or it is restricted to a set of nouns, most frequently to human nouns or animate nouns

(Aikhenvald 2000: 249). In the case of Chinese, a numeral classifier language, the plural suffix –*men*, as I have stated above, can be only applied to nouns referring to human beings and pronouns. It is the numeral-measure words or the quantitative determiners that determine whether we are dealing with the singular or the plural form of the noun. We will return to the function of measure words and quantitative determiners later, and for the moment, it will be enough to point out their interrelationships with number of the noun.

(22) a) yi   ge   ren   b) wu   ge   ren   c) yi   qun   ren

a CL: ge person   five CL: ge person   a   crowd   person

a person   five people   a crowd of people

In the examples above, the plurality of the noun *ren* 'person' is indicated either by the numeral *wu* 'five' (example b) or by the measure word *qun* 'crowd' (example c).

The notion of plurality can also be expressed by *yixie*, as in

(23) a) yixie ren   b) yixie shu

some person   some book

some people   some books

Yixie occurs freely before nouns in the sense of 'some, a few', and can be regularly inserted between the demonstrative and the noun when the number (greater than one) is not specified (Iljic 1994: 92). Whether *xie* should be defined as a measure word for unspecified quantity or as a quantitative determiner still needs some discussion, and we will return to this question later.

Pre-modification through other words includes expressions as follows:

(24) hen duo ren   hao xie ren   da bufen   ren

    a lot of   person   many   person   most   person

    a lot of people   many people   most of people

In these examples, quantitative determiners, which we will also discuss in detail later, indicate the plurality.

3) Context

If a noun is not used with any numeral-measure word phrase or any quantitative determiner in a sentence, the other elements in the sentence can help us interpret the noun either as a singular or as a plural. For instance:

(25) a) ren dou dao le   douxi quan diu   le

    person all come particle: past tense   thing all lose particle: past tense

      People all came.   Things were all lost.

    b) wo shi xuesheng   women   shi xuesheng

     I   be   student   I plural   be student

     I am a student.   We are students.

In example a) the adverbs *dou* 'all', *quan* 'all' indicate the plurality. In example b) the contrast between the pronoun *wo* 'I' and *women* 'we' signals the singular or the plural interpretation of the noun *xuesheng* 'student'.

After this brief discussion of properties of nouns, I will turn to look at the categorization and function of determiners.

3.2. Determiners

Different from English determiners that are normally divided according to their positions in a sentence into predeterminers, central determiners, and

postdeterminers, Chinese determiners are divided according to their functions into four subgroups: 1) demonstrative determiners, 2) specifying determiners, 3) numerical determiners, and 4) quantitative determiners (Chao 1968: 565). Reasons for the difference could be, first of all, while in English most predeterminers and postdeterminers are defined as such because they can precede or follow the central determiner *the*, as in *all the time*, *double the cost*, and *the five main categories*, in Chinese the article *the* does not exist and most determiners are used together with measure words. Secondly, in order to express the notion *all my friends* in English, the quantifier *all* must be put before the possessive *my*, whereas in Chinese both orders *wo suoyou de pengyou* 'my all friends' and *suoyou wo de pengyou* 'all my friends' are possible. Thus, Chinese determiners are divided according to their functions rather than according to their positions before nouns. Chao (1968: 564-584) illustrates the subgroups of determiners as follows:

1) Demonstrative determiners which include: *zhe* 'this', *na* 'that' and *nar* 'where'. As bound determiners, they are as versatile as numerals in that they can combine with all classes of measure words, as in *zhe ge (ren)* 'this CL: ge (person)/ this (person)', or *na xiang (pingguo)* 'that box (apple)/ that box (of apples)'. A numeral can be inserted between a demonstrative and a noun, for example, *na san bei (cha)* 'that three cup (tea)/those three cups (of tea)'.

2) Specifying determiners: typical examples are *mei* 'every' and *ge*[3] 'each'. *Mei* 'every' can combine with all except temporary measure words and *ge* 'each' usually refers to a group as a whole, as in *ge guo de zhengfu* 'the governments of various countries'.

3) Numerical determiners include cardinals, ordinals, fractions and multipliers. First of all, the determiner *yi* 'one/a/an' can be used in various ways depending on whether it is stressed. A stressed *yi* differs from an unstressed *yi,* which is similar

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[3] Homophone of the individual measure word ge.

to the contrast between 'one' and 'a/an' in English. For example, *zhi he 'yi bei jiu* 'only drink one cup wine/only drink one cup of wine' but *he yi bei jiu* 'drink a cup wine/drink a cup of wine'. If *yi* (a) is further weakened, it can be entirely dropped, as in *he bei jiu* 'drink cup wine/drank cup of wine'. Secondly, the number '2' can be represented by *er* and *liang*. *er* can be used in isolation, for instance in *yi er san…* 'one, two, three…', but *liang* cannot; In serial numbers, ordinal numbers and fractions *er* is also used. Before a measure word, *liang* is normally used, for instance, *liang bei jiu* 'two cup wine/ two cups of wine'.

4) Quantitative determiners do not give exact numbers, but express relative quantities. Typical examples are: (a) *yi* (with full stress which means all over or throughout). It can only be followed by a temporary measure or a container measure: *yi lian hui* 'a face dirt/a faceful of dirt'; (b) *ban* 'half': *ban bei shui* 'half cup water/half cup of water'; (c) *xuduo* 'many, much', *haoxie* 'many, a good deal of', *haoduo* 'a good many', and *henduo* 'a great deal of', these determiners can be used with or without a measure word as in *haoxie dao cai* 'many courses of food' and *xuduo tang* 'much sugar'. (d) *yidianr* 'a little', *yixie* 'some'. Whether we can include these two expressions in quantitative determiners is still an open question. A number of scholars (Chao 1968: 598-600, Lin 1984: 107) consider them as measure words, but I believe that *dianr* and *xie* should be considered as quantitative determiners, because, first of all, unlike other measure words that can be preceded by numerals, *dianr* and *xie* cannot be preceded by any numeral but *yi* 'one'; secondly, as other quantitative determiners, they also express relative quantities; thirdly, their English equivalents *a little* and s*ome* are undebatably quantifiers and not measure words.

As determiners are closely related to measure words, I will turn to look at the properties of measure words below.

3.3. Measure words

In Chinese measure words can be roughly divided into two classes: measure words that precede and modify nouns and measure words that follow and complete verbs. In this thesis I will only concentrate on the first class: the nominal measure words. Strictly speaking the term measure words still needs some discussion.

3.3.1. Measure word phrase or classifier phrase

Various names have been given to the words that join numerals to nouns in Chinese. A number of scholars (Li 1960: 90; Lin 2001: 107; Huang 2001: 483) choose to use the term "classifiers" to refer to this type of nouns. Other scholars (Po-ching & Rimmington 1998: 2) prefer to call them "measure words". Still others (Chu 1983: 16; Li & Thompson 1981: 104) claim that measure phrases are also known as classifier phrases. The best definition, in my opinion, is provided by Chao (1968: 585) who defines individual measure words that are also called classifiers as a subcategory of measure words. By using "measure words" as the cover term for this type of nouns Chao brings forth the aspect of these words that is in common with "measure words" in western languages. By distinguishing "individual measure words" or "classifiers" from non-individual measure words, Chao emphasizes the aspect of measure words that is typical to the Chinese language. In the following example (26a) *zhang* 'CL: thin and flat object' is an individual measure word (classifier) that is specific to Chinese, while in (26b) *shu* 'bunch' is a configuration measure that is the same as in English.

(26) a.wu   zhang   chuang   b. wu   shu   hua

       five CL: thin and flat object bed   five   bunch   flower

       five beds   five bunches of flowers

The dispute about distinguishing individual measure words (classifiers) from non-individual measure words has always existed in Mandarin. Various criteria have been suggested in order to distinguish individual measure words (classifiers) from non-individual measure words. According to Huang and Ahrens (2001: 356), the genitive *de* particle can be put in the position between a non-individual measure word and its following noun but not in the position between an individual measure word (classifier) and its following noun. Thus, we cannot say **wu zhang de chuang* (five CL: thin and flat object *de* bed) but we can say *wu shu de hua* (five bunch *de* flower). However, this criterion is not generally accepted because it is rather vague, and in many cases it is very difficult to judge the acceptability of a measure word - *de* - noun sequence. Tang (2005: 444) points out the unreliability of this criterion by providing examples in (27) and concludes that in Chinese both individual measure words and non-individual measure words may co-occur with *de* in a noun phrase.

27) a. [liang ben] (-de) shu

     two CL   DE book

(lit.) two books/ books that are sorted in accordance with two in number

   b. [san zhi] (-de) bi

     three CL DE   pen

(lit.) three pens/ pens that are sorted in accordance with three in number

                 (Tang 1993: 744 quoted in Tang 2005: 436)

Another suggestion is that individual measure words (classifiers) occur only with count nouns, they are not measures in the real sense of the word, but indicators of prominent features which can be attached to a particular set of nouns, e.g. we have *si ben shu* 'four CL: volume book /four books' and *san tiao yu* 'three CL: long and thin object fish/three fish', whereas non-individual measure words can occur with both count nouns and mass nouns, they create units to count. They express universally accepted concepts of measurement on the one hand and packaging,

grouping and partitioning on the other. Thus we have *yi bei cha* 'a cup tea /a cup of tea' or *yi qun haizi* 'a crowd child /a crowd of children' (Po-ching & Rimmington 2004: 27).

Cheng and Sybesma (1999: 515) further explain the distinction between non-individual measure words and individual measure words (classifiers) by saying that as count nouns have a built-in semantic partitioning, they come in naturally countable units. Individual measure words (classifiers), then, do not create any unit to count by but simply name the unit that the semantic representation of the noun naturally provides (Cheng & Sybesma 2005: 11). As in the examples given above, *shu* 'book' and *yu* 'fish' provide natural units by which they can be counted. As a result, individual measure words (classifiers) *ben* 'volume' and *tiao* 'long and thin object' do not create units but simply name them, while *cha* 'tea' and *haizi* 'children' do not come naturally in cups and crowds, thus, nouns like *bei* 'cup' and *qun* 'crowd' are used to create units by which the amount of tea and children can be measured..

3.3.2. The function of individual measure words

The question that comes up immediately is: why do we need individual measure words (classifiers) to name natural units?

A possible explanation suggested by Doetjes (1996 quoted in Cheng & Sybesma 2005: 11) is that numerals require the presence of a syntactic marker of countability, while in some languages (e.g. English), number morphology is the grammatical marker, in languages that lack number morphology (e.g., Chinese) the grammatical marker is the individual measure word (classifier). Thus, individual measure words (classifiers) and number morphology both indicate the presence of countable units.

Individual measure words (classifiers) also have classifying function. As in the example *yi tiao shengzi* 'a CL: long and thin object rope/ a rope' the individual measure word (classifier) *tiao* not only names a unit, but also provides a semantic classification of the head noun by indicating that the object *shengzi* 'rope' is long and narrow, and the same individual measure word (classifier) also combines with other nouns that denote entities with similar features (such as *she* 'snake' and *he* 'river') (Yang 2001: 65).

3.3.3. The categorization of measure words

Most categorizations blur the distinction between individual measure words (classifiers) and non-individual measure words and treat them as the same. As a result, categorizations of measure words become rather ambiguous. I will follow Chao (1968: 585) and assign individual measures (classifiers) as a subcategory of measure words. Since non-individual measure words are shared by English and Chinese and only individual measure words (classifiers) are specific to Chinese, I will only focus on the categorizations of individual measure words (classifiers) below.

Taking the categorizations of measure words suggested by various scholars and the functions of individual measure words (classifiers) into consideration, I suggest dividing individual measure words (classifiers) into categories as follows (based on Po-ching & Rimmington 1997; Aikhenvald 2000; Huang 1989):

1) Individual measure words (classifiers) for human: *ge* (general classifier), *wei* (polite form), *ming* (formal)

   yi ge ren 'a person', *yi wei keren* 'a guest', *yi ming gongren* 'a worker'

2) Individual measure words (classifiers) for non-human:

   a). Shape:

tiao (long and thin)	*liang tiao maojin*	two towels
zhi (long and slender)	*san zhi bi*	three pens

ke (small and round)	*yi ke zhenzhu*	a pearl

b). Function:

liang (for vehicles)	*si liang che*	four cars
tai (for machines)	*yi tai dianshi*	a television
jian (for clothes and matters)	*yi jian waiyi*	a coat
	liang jian shi	two matters
suo (for institutions)	*san suo xuexiao*	three schools

c). Event (instance or occurrence of an event):

chang (events last a long spell)	*yi chang xi*	a play
tong (a limited time span)	*yi tong dianhua*	a phone call

d). particular sets:

zhi (for animals and one of a pair)	*liang zi laohu*	two tigers
	yi zhi wazi	a sock
ke (for certain plants)	*san ke shu*	three trees

e). general individual measure word *ge* (for nouns that do not require a specific individual measure word)

e1) abstract concept:	yi ge zhuyi	an idea
	yi ge wenti	a problem
e2) Location:	liang ge guojia	two countries

Strictly speaking, the categories listed above have vague boundaries, and categories may merge into each other. For example, words for animals normally occur with individual measure word (classifier) *zhi* but certain animal words occur with individual measure words (classifiers) denoting shape, as *yi tiao yu* 'a CL: long and thin object fish/a fish'. There are also a number of individual measure words (classifiers) that cannot be put into any categories that have been listed above. Since individual measure words (classifiers) can be best understood semantically, I will return to this point in the fifth chapter below, and for the moment I will combine nouns, determiners and measure words and look at

quantifying expressions in Chinese as a whole.

3.4. Quantifying expressions

In Chinese, expressions of quantity can be expressed by means of specific numerals or by less specific quantitative determiners (quantifiers) such as *xuduo* 'many', *hen duo* 'a great deal of', *yixie* 'some' etc. In most of these quantifying expressions, the presence of measure words is obligatory (Downing 1996: 2). As with English quantifying expressions, I will divide Chinese quantifying expressions into implicit quantification and overt quantification. Overt quantification will be further divided into two subcategories: 1) quantifier - (measure word) - noun; 2) numeral - measure word - noun.

3.4.1. Implicit quantification

In Chinese, implicit quantification or generic references can be realized by bare nouns:

(28) a. Wo xihuan   gou.   b. Laohu   ai   chi   rou.

    I   like   dog.   Tiger   like eat   meat.

    I   like   dogs.   Tigers like eating meat.

As we can see in the examples above, no matter the bare nouns are in a preverbal or a post-verbal position, they can receive a generic reading. However, like English bare nouns, bare nouns in Chinese may also receive a definite or an indefinite interpretation. What kind of interpretation they get is essentially determined by the nature of the predicate (Cheng & Sybesma 2005: 2).I will not go further into this question as it is irrelevant to the discussion of quantification.

Liu (2001: 143) points out that sometimes a numeral-measure word- noun phrase with the numeral *yi* 'a/an/one' can also get a generic interpretation as in his

example:

(29) yi   ge   guojia   jingji   fazhan   kuai   mai…...

    a CL: ge   country economic development quick   slow…

      Whether the economic development of a country is quick or slow…

<div align="right">Liu (2001: 143)</div>

However, this kind of interpretation is rare. A possible reason for this, as pointed out by Cheng and Sybesma (1999: 534), is that although a *yi*-measure word-noun phrase is always translated as 'a/an N', it has in fact the interpretation 'one N'. Furthermore, the presence of the measure word also suppresses the generic interpretation.

3.4.2. Overt quantification

Overt quantity can be expressed either in the form of quantifier - (measure word) - noun, or numeral - measure word - noun.

3.4.2.1. Quantification by using quantifiers

Most quantifiers require the presence of measure words to be combined with nouns. However, this principle can only be applied to most quantifiers and not all of them. Chao (1968: 582-583) points out that a few quantifiers can be used with or without a measure word.

(30) a. xuduo   gen   tanggunr.   b. Xuduo   tang.

    many   CL: thin and slender object candy stick   much   sugar

    many candy sticks.   much sugar.

(31) a. haoxie dao cai.   b. haoxie   cai

    many course dish   many   dish

    many courses of dishes   many   dishes

<div align="right">(Chao 1968: 582-583)</div>

3.4.2.2. Quantification by using numerals and measure words

Yang (2001: 58) claims that in a numeral-measure word-noun phrase, the numeral and the measure word form a syntactic unit that can never be separated. However this theory is not generally acknowledged. Chao (1968: 554) points out that although the position of modifiers in a numeral-measure word- noun phrase is normally after the measure word and before the noun, like *yi ge hao ren* 'a CL: ge good man /a good man', when the modifier does modify the measure word, it precedes the measure word, as in *yi xiao kuai dangao* 'a small piece cake /a small piece of cake'. Furthermore, when both orders make sense and are synonymous, the advanced position of the modifier has a livelier affect:

(32) a. yi da kuai shitou.   b. yi kuai da shitou.

    a big piece stone   a piece big stone

    a big piece of rock   a large rock

                            (Chao 1968: 554)

Liu (2001: 137) also emphasizes that if the noun that follows the measure word can be further divided, then the adjectives *da* 'big' and *xiao* 'small' can be inserted between the numeral and the measure word, as in *yi da dui ren* 'a big crowd person/a big crowd of people'. In addition, adjectives like *hou* 'thick', *bao* 'thin' and *chang* 'long' that describe the shape of an object can also be sometimes inserted between the numeral and the measure word, for instance, *yi chang pai zhuozi* 'a long row table /a long row of tables'.

Another feature of numeral- measure word -noun phrases is that the numeral-measure word (N-M) sequence can be reduplicated either in the form N-M-N-M, as *liang ge liang ge* 'two CL: ge two CL: ge', or, when the numeral is *yi* 'one', in the form N-M-M, like *yi ge ge* 'one CL: ge CL: ge' This kind of reduplications is used as attributives and they show that something is in a great quantity (Liu 2001: 140-141) To illustrate:

(33) zhe shi   yi   jian   jian   wangshi   you yong shang xintou.

  At this time a CL: item CL: item past event again rush into mind

  Many past events rush into the mind at this time. (Liu 2001:141)

Reduplications of N-M sequences can also be used as adverbial adjuncts, but in such contexts they do not express the meaning of 'many' but 'one by one'.

There are a small number of nouns that can follow the numeral directly. They are called quasi-measures. They are measures in that they follow numerals and other determinatives directly. However, unlike other measures, they are autonomous and do not belong to a noun or certain nouns (Chao 1968: 608).

(34)   a. san ke   b. wu nian

        three lesson   five year

        three lessons   five years

The boundary between true measure words, quasi-measures and true nouns is not clear-cut. The behavior of quasi-measure is somewhat erratic. They sometimes occur in direct connection with numerals, but these same forms may also act as true nouns and appear along with full numeral-measure word phrases in other cases (Downing 1996: 14). As examples, consider (35) in comparison with (34):

(35) a. san   jie   ke   b. wu nian shijian

        three CL: section   lesson   five year time

        three lessons   five years of time

we can see that in example (34a) *ke* 'lesson' is a quasi-measure word preceded directly by the numeral *san* 'three', while in (35a) *ke* 'lesson' acts as a true noun preceded by the partitive measure word *jie* 'section', and in (34b) *nian* 'year' is a quasi-measure word that can follow the numeral *wu* 'five' directly, while in (35b)

nian 'year' acts as a measure word for *shijian* 'time'. Due to the erratic behavior of quasi-measure words, the establishment of clear-cut boundaries becomes very difficult.

To summarize: at the beginning of this chapter the properties of Chinese nouns have been investigated. We can see that Chinese nouns do not change for number and the singular and plural distinction can be realized through the suffix *–men* (for human beings), the pre-modification of numeral-measure word phrases or other words, as well as through the context. Determiners in Chinese can be divided into four subgroups: demonstrative determiners, specifying determiners, numerical determiners, and quantitative determiners. Measure words fall into two major categories: non-individual measure words and individual measure words (classifiers). Quantifying expressions in Chinese can also be divided into implicit quantification and overt quantification. Overt quantification includes two subcategories: 1) quantifier - (measure word) - noun; 2) numeral - measure word - noun. The question about the existence of the count and mass noun distinction in Chinese remains unsolved. With this question in mind I will move on to the next chapter, in which the question will be given due treatment.

4. The comparison

In this chapter I will compare quantifying expressions in English and Chinese. First of all, I will compare nouns in both languages, then I will proceed to the comparison of determiners and measure words in both languages, and finally I will combine these factors and compare quantifying expressions as a whole.

4. 1. Nouns in both languages

The comparison of nouns will be divided into three subsections: the bare noun, the count and mass noun distinction, and the number distinction of nouns in both languages.

4.1.1. The bare noun

As I have mentioned in the above chapters, nouns in English are obligatorily specified for number, which means every occurrence of a noun is either a singular or a plural. A singular count noun cannot stand alone but requires a determiner and a bare singular count noun cannot give rise to a generic-reading. It is English bare plurals and mass nouns that give rise to indefinite and generic readings. To illustrate:

36) Cats are mammals. (cats in general)
37) I saw cats yesterday. (some cats)

In contrast, Chinese nouns are not specified for number and in many respects Chinese bare nouns behave like English mass nouns. In addition to the indefinite and generic readings that English bare nouns can get, Chinese bare nouns in post verbal positions can be interpreted as indefinite, definite, or generic and in preverbal position they can get definite and generic interpretations.

38) Wo kanjian mao le.

    I   see   cat particle: past tense

    i. I saw   a cat /some cats. (indefinite)

    ii. I saw the cat / the cats. (definite)

39) Wo xihua mao. (generic)

    I   like   cat

    I like cats.

40) Mao ai chi yu. (generic)

    Cat like eat fish

    Cats like eating fish.

41) Mao chi wan yu. le(definite)

    Cat eat finish fish particle: past tense

    The cat / cats finished eating the fish.

4.1.2. The count and mass noun distinction

English nouns can be divided into count and mass nouns. Count nouns have the following syntactic properties:

1)   They cannot appear in the singular form without a determiner.
2)   They have singular and plural forms.
3)   They can be quantified by numerals directly and they may but need not to occur with measure words in order to be quantified.
4)   They can occur with quantifiers like *every*, *each*, and *many*.

The mass nouns have the opposite properties:

1)   They can appear in the singular form without any determiner.
2)   Plural morphology does not apply to mass nouns
3)   In order to quantify mass nouns measure words are needed.
4)   They can occur with quantifiers like *much* and *a little*.

There are a number of nouns that can be used either as a count noun or as a mass noun depending on the context in which the noun is used.

In contrast, the count and mass distinction in Chinese is still debatable. A number of scholars (e.g. Chao 1968: 507-513, Cheng & Sybesma 1999: 515) state that the count and mass distinction is also relevant to Chinese nouns. The count and mass distinction is not encoded in the noun but in the measure words. While count nouns can occur either with individual measure words (classifiers) or non-individual measure words, mass nouns cannot occur with individual measure words (classifiers) but only with non-individual measure words.

A different opinion (Chierchia 1998: 92) is that in Chinese every noun functions in the way English mass nouns function. Shared properties of Chinese nouns and English mass nouns are listed below:

1) Like English mass nouns, Chinese nouns can appear in their singular forms without determiners.
2) The plural morphology which cannot be applied to English mass nouns is also lacking in Chinese and a bare Chinese noun can be either singular or plural.
3) In order to be quantified by numerals, measure words are required for all Chinese nouns and English mass nouns.

Although these two opinions seem to be contradicting, a further investigation into the properties of Chinese nouns will show that the best explanation for the count and mass noun distinction in Chinese is the combination of these two opinions. Namely, the Chinese nouns are syntactically mass and the count and mass distinction is relevant to Chinese nouns semantically (Doetjes: *Count and mass properties of nouns and verbs*). In order to illustrate this point, let's look at the examples below:

42) a. Wo mai pingguo le   b. liang ge pingguo

      I buy   apple   particle: past tense   two CL: ge apple

      I   bought apple   two apples

      I bought an apple/ apples

43) a. Wo xiang he   shui   b. yi di shui

      I   want drink water.   a drop water

      I want to drink water   a drop of water

In the examples above, the noun *pingguo* 'apple'*,* and *shui* 'water' can be used without any determiner, and the bare noun *pingguo* can be interpreted either as an apple or apples. The quantification of *pingguo* 'apple' and *shui* 'water' require the general individual measure word *ge* and the partitive measure word *di* 'drop' respectively. All these properties are shared by English mass nouns. However, it is not appropriate to conclude that in Chinese all nouns are perceived as mass. The semantic difference between count and mass nouns is also relevant to Chinese nouns. Nouns like p*ingguo* 'apple' provide us with minimal parts to count, whereas nouns like *shui* 'water' do not. The first category of nouns can be combined with individual measure words (classifiers) and non-individual measure words, and the second category of nouns can only occur with non-individual measure words. We still have to notice that there are differences in the semantic notion of count and mass nouns between English and Chinese. In other words, there are a number of nouns that are considered to be mass in English but count in Chinese. For instance:

44) a. yi   zhang   chuang   b. yi   zhang   zhi

      a CL: thin and flat object   bed   a   CL: thin and flat object   paper

           a   bed   a piece of paper

45) a. liang   li   sha   b. liang   li   mi

      two CL: small and round object sand   two CL: small and round object rice

      Two grains of sand   two grains of rice

46) a. si   jian   shi   b. si   jian   jiaju

    four CL: item matter   four CL: item furniture

    four matters   four pieces of furniture

we can see from the above examples that although *paper* (in the particular sense of writing and wrapping material)*, sand, rice, furniture* are considered to be mass nouns in English, in Chinese they are perceived as count nouns and are used with individual measure words. I will return to the semantic notion of count and mass nouns later.

4.1.3. Number marking

A fundamental difference between English and Chinese nouns is in relation to the notion of number. As I said above, English nouns are classified into count and mass nouns. All English count nouns are marked for plurality (Chan 2004: 34-35). In Chinese, except the plural marker *–men* that can be suffixed to pronouns and nouns denoting human beings, all the other nouns do not change for number. In other words, in Chinese the number distinction is not encoded in the noun but somewhere else. Generally speaking, there are seven ways to distinguish singular from plural forms of nouns in Chinese. Take the following noun phrases as examples:

47) a.   yi   ge   ren

    a CL: ge person

    a   person

 b1. ren   men   b2. yi qun   ren   b3. liang ge ren

    person pl suffix   a crowd person   two CL: ge person

    people   a crowd of people   two persons

b4   liang qun ren   b5.yi xie ren   b6. ren qun

    two crowd person   some person   person crowd

    two crowds of people   some people   crowd

If the noun is used in a sentence, the other components of the sentence can also indicate whether the singular or the plural form of the noun is used:

b7. ren   dou lai   le.

person all come particle: past tense

All people came.

Thus, in order to indicate the plural notion of a noun, we can b1) add the suffix –*men* if the noun denotes human beings; b2) change a individual measure word to a non-individual measure word, like quantifying collectives: *qun* 'crowd', *bang* 'gang', *zu* 'group', temporary measure: *wuzi* 'roomful', etc.; b3) change the numeral; b4) change the measure word and the numeral; b5) use a quantitative determiner; b6) with a few nouns we can form a collective noun by changing the position of the noun and the measure word; b7) if it is in a sentence, other components of the sentence can help us indicate the plural notion of the noun. Thus, although Chinese nouns do not change for number, the singular and plural notions of nouns can still be distinguished.

After having looked at nouns in English and Chinese, let us now turn to the comparison of determiners in both languages.

4.2. Determiners

In this section I am going to compare selected determiners from English and Chinese and try to find out their syntactic similarities and differences. The semantic aspect of these determiners will also be included in the comparison but detailed discussions of them will be left for the next chapter.

4.2.1. *A/an, one* vs. *yi*

In English, *a/an* and *one* both refer to one thing but *one* puts more emphasis on the number (Eastwood 1994: 204). As in the example:

48) a. The computer has a CD-player. (One can play CD on the computer)

    b. The computer has one CD-player. (One cannot play two CDs at the same time)

<div align="right">(Eastwood 1994: 204)</div>

However, the indefinite article *a/an* does not exist in Chinese. It is generally agreed that the numeral *yi* 'one' followed by an individual measure word (classifier) can be interpreted either as 'a/an' or 'one', and which interpretation it gets depends on whether the numeral *yi* 'one' is stressed or not. Take the phrase *yi ge pingguo* 'an apple / one apple' as an example. The phrase is the functional equivalence of *one apple* and *an apple* in English. The sequence *yi ge* 'one CL: ge' corresponds to English *one* when *yi* is stressed. When unstressed, the sequence corresponds to English *an* (Rullmann & You 2003: 2).

Furthermore, if the numeral *yi* is weakened still more, it can be entirely omitted. This omission is only possible, as we can see in the example (49) below, when the *yi*-NP occurs directly after verbs (Chao 1968: 568). This is the syntactic property that English *a/an* and *one* do not have, because in English a singular count noun can never stand alone but always requires the presence of a determiner.

49)   wo   xiang mai   ben   shu

        I   want buy   CL: volume book

        I want to buy a book.

The correspondence between singular indefinites in English and Chinese can be summarized as follows:

Stressed yi - individual measure word (classifier) - N ~ One N

Unstressed yi - individual measure word (classifier) - N ~ a/an N

            Individual measure word (classifier) -N ~ a/an N

4.2.2. *All* vs. *dou/quan/suoyou/quanbu*

Traditionally, Chinese *dou, quan, quanbu, suoyou* are all translated into English *all*. However, this is confusing and misleading, because there are differences among these expressions and not all of them can be considered as a counterpart for English *all*. In the following section, I will try to exclude the inappropriate translations and find out the best counterpart for the English *all*.

The English *all* can be used either as a determiner or as an adverb, as illustrated:

50) a. All those children went home.

    b. Those children all went home.

However, the Chinese *dou* cannot function as a determiner but only as an adverb that occurs preverbally, as illustrated in (51):

51) a. *Dou na xie haizi   hui   jia   le

       All those children go back home particle: past tense

       All those children went home.

   b. Na xie haizi   dou hui   jia   le

      Those children all go back home particle: past tense

      Those children all went home.

The examples (51a) and (51b) are the syntactic parallels to their English counterparts (50a) and (50b) respectively. The unacceptability of (51a) shows that *dou* cannot be used as a determiner, which makes *dou*, strictly speaking, an implausible counterpart for the English *all*.

After having excluded *dou* from the list of candidates, let us have a look at *quan*. Like English *all*, *quan* can be used either as a determiner or as an adverb, to illustrate:

52) a. Quan ban xuesheng dou tongguo kaoshi le

      entire class student   all   pass   exam particle: past tense

      The entire class students all passed the exam.

   b. Ta men   quan tongguo   kaoshi le

      he/she plural all   pass   exam   particle: past tense

      They all passed the exam.

Although both *quan* and *all* can occur before a noun phrase and a verb phrase, there are still some differences between them. For example, in English we can use *all* with either a count noun or a mass noun (Leech & Svartvik 1994: 45) whereas the Chinese *quan* is usually used with quasi-measure words and measure words (e.g. collective measure words) but not with nouns directly (Chao 1968: 579):

53) a. quan guo   renmin (quasi-measure word)

      entire country people

      People of the entire country

From the examples above, we can also see that in a determiner position, the Chinese *quan* should be more exactly translated into *entire* but not into *all*, whereas in a preverbal position a translation of *quan* into *all* is acceptable.

Let us have a look at the Chinese *suoyou*. *Suoyou* can only be used as a determiner. It can be combined with bare nouns or *de* (particle) plus bare nouns (Zhang 2007: 69). Like English *all*, it can be used either with a semantically count or mass noun:

54) a. Suoyou (de)   ren   dou   lai   le.

      All   (particle) person all   come particle: past tense

      All people came.

b. Ta   xuyao   suoyou (de)   shui.

   he/she/it   need   all   (particle) water

   He/she/it needs all the water

However, the difference between *suoyou* and *all* lies in the fact that while in English a determiner *all* and an adverbial *all* can never occur in the same sentence, in Chinese this is allowed (Yang 2001: 92). The example below is the grammatical parallel of (54a) which is ungrammatical in English:

55) a. * All people all came.

In Chinese, when the determiner *suoyou* is used in the subject position (54a), *dou* 'all' is always required, whereas in a object position there is no such requirement (54b) (Yang 2001: 102).

The last candidate on our list is *quanbu*. Like English *all*, *quanbu* can be used either as a determiner or an adverb:

56) a. quanbu (de)   xuesheng   dou lai   le.

   all   (particle) student   all come particle: past tense

   All students came.

  b. xuesheng quanbu dou lai   le.

   Student   all   all   come particle: past tense

   Students all came.

  c. wo ren shi quanbu (de) xuesheng.

   I know   all   (particle) student

   I know all the students.

Like *suoyou*, when *quanbu* is used as a determiner in a subject position, *dou* is required (56a), while in a object position, there is no such requirement (Yang 2001:

92) (56c).

Quanbu tends to occur with a noun phrase directly or with *de* (particle) plus a noun phrase. Similar to the English *all*, *quanbu* can be used either with a semantically count or mass noun.

57) a. quanbu   (de)   xuesheng

    all   (particle) student

    all students

  b. quanbu (de)   liliang

    all   (particle) strength

    all strength

We can summarize the comparison in the table below

	All	Dou	Quan	Suoyou	Quanbu
Function as a determiner	Yes	No	Yes	Yes	Yes
Function as an adverb	Yes	Yes	Yes	No	Yes
Acceptability of double all	No	Yes	Yes	Yes	Yes
Direct occurrence with nouns	Yes	No	No	Yes	Yes
Occurrence with C/M nouns	Yes	No	No	Yes	Yes

Table 2: *Comparison between the English all and its counterparts in Chinese*

Based on the table above, we can conclude that the Chinese *quanbu* and *suoyou* bear the most similarities to the English *all*. However, there is no absolute identical equivalent in Chinese for the English *all*.

4.2.3. *Every* vs. *mei*

In this section, I will try to compare the English *every* and its counterpart in Chinese *mei*. Their similarities and differences are explored mainly from the following points of view: the lexical meaning, the ability to occur with numerals and nouns, and their syntactic properties (Zhang 2007: 68-72).

Both the English *every* and the Chinese *mei* put emphasis on individuals. They emphasize that there is no exception among individuals. The English *every* can be used before a singular count noun directly to talk about all members of a group (Eastwood 1994: 225). In Chinese, *mei* is also used with semantically count nouns but in order to occur with nouns, a measure word is required.

58) English: every student

　　Chinese: mei　　ge　　xuesheng

　　　　　　　every CL: ge student

　　　　　　　every student

In English numerals except *one* can be inserted between *every* and the singular noun, whereas in Chinese all numerals including *yi* 'one' can be inserted between *mei* and the measure word.

59) English: a. *every one student

　　　　　　b. every two students

　　Chinese: a. mei　　yi　　ge　　　xuesheng

　　　　　　　every one CL: ge student

　　　　　　　every student

b. mei liang   ge xuesheng

every two CL: ge student

every two students

Moreover, in Chinese, the construction *mei - (yi) - MW - N* can be sometimes replaced by the reduplicative measure word and the noun (*MW - MW - N*):

60) mei   (yi)   ge   xuesheng ~~ ge   ge   xuesheng

every (one) CL: ge   student ~~ CL: ge CL: ge   student

However this kind of reduplication cannot be applied to all *mei - (yi) - MW - N* constructions.

On the syntactic level, *every* in English stands alone and cannot co-occur with *all* in the same sentence, whereas its counterpart *mei* in Chinese requires the co-occurrence of an quantificational adverb, such as *dou*:

61) Englisch: a. Every student passed the exam.

b. * Every student all passed the exam.

Chinese: a. *Mei   ge   xuesheng   tongguo kaoshi le.

Every CL: ge student   pass   exam   particle: past tense

Every student passed the exam.

b. Mei   ge   xuesheng   dou tongguo kaoshi le.

Every CL: ge student   all   pass   exam   particle: past tense

Every student passed the exam.

The above examples show that in English *every* can and must stand alone whereas in Chinese, apart from a few exceptions, another quantificational adverb is required to co-occur with *mei*. The following sentence can be considered as an exception:

62) Mei   ge   xuesheng hua   yi   zhang   hua.

Every CL: ge student draw a CL: thin and flat object picture

Every student draws a picture.

In sentences as (62) *mei* can be used alone, whether this has to do with the predicate or the object in the sentence still needs further exploration.

4.3. Measure words in English and Chinese

The most noticeable difference between measure words in English and Chinese relates to the fact that measure words are established as a separate word class in Chinese but not in English. In the following sections I will try to find out how different (or similar) measure words in the two languages are.

4.3.1. The categorization of measure words

Measure words in English can be categorized into five main categories (see chapter 2 for some details) as described in the chart below:

1) Quantifying collectives a) minimal collectives b) collection of indefinite number

2) Configuration

3) Partitive measures a) part – whole relation b) unit counters

4) Container measures

5) Standard measures

Figure 3: *The English measure words*

All five categories of measure words are parallel to non-individual measure words in Chinese:

1) *shuang* 'pair', *zu* 'group', *bang* 'gang'

2) *pai* 'row' *dui* 'pile'

3) *di* 'drop' *pian* 'piece'

4) *lan* 'basket', *he* 'box', *bao* 'bag'

5) *gongjin* 'kilogram' , *mi* 'meter'

Figure 4: *The Chinese non-individual measure words*

The difference lies in individual measures that are included in Chinese but not in English, for example, *zhang* 'thin and flat object' in *yi zhang chuang* 'a CL: thin and flat object bed/ a bed', *fu* 'object with frame' in *yi fu hua* 'a CL: object with frame picture/ a picture', which means that there are more similarities than differences between English and Chinese measure words.

Although it is suggested by Senft (2000 quoted in Tang 2005: 432) that sortal classifiers (in our terminology "individual measure words") individuate whatever they refer to in terms of the kind of entities that they are, and mensural classifiers (in our terminology "non-individual measure words") individuate in terms of quantity, this is not true. Tang (2005: 445) states that sortal classifiers (individual measure words) can also contribute to the expression of quantity and the mensural classifiers (non-individual classifiers) also have bearing with the kind of entities. This is due to the fact that in Chinese individual measure words (classifiers) need to co-occur with numerals when they appear with nouns, thus the individual measure words together with the numerals contribute to the expression of quantity. The non-individual measure words, both in English and Chinese, can add an extra layer of meaning by providing information about shape, dimensionality, extent, orientation and consistency of the entities they quantify (Dodge and Wright 2002: 77). For example, configuration measure words indicate constellational arrangements (*a ball of paper or a pile of books*), many partitive measures are based on shape (*a sheet of paper or a drop of water*), and even the container

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measures and standard measures bear some kind of semantic agreement with the nouns they quantity (*a kilo of apples* but not * *a kilo of idea*).

It should be noticed that cross-categorization of measure words exist in both languages. In other words, a number of measure words can belong to different categories depending on their meaning and the entities being quantified (McEnery & Xiao 2007: 12):

63) a. a cup of coffee (container measure)

    b. three cups of sugar (standard measure)

64) a. a pack of cigarettes (container measure)

    b. a pack of envelops (collective measure)

65) a. yi tou   niu (individual measure/ classifier)

    a CL: head   cow

    a cow

    b. yi   tou   bai fa (temporary measure)

    a   headful   white hair

    a   headful of white hair

66) a. liang ba shouqiang   (individual measure/classifier)

    two CL: object with a handle pistol

    two pistols

    b. yi ba qian (temporary measure)

    a handful coin

    a handful of coins

After having looked at the categorization of measure words in both languages, let us now turn to the syntactic properties of measure words.

4.3.2. Syntactic features of measure words

As I have mentioned at the beginning of this chapter, in Chinese the measure word is a separate word class. This is caused by their mandatory grammatical status, which means that in Chinese every noun requires a measure word in order to occur with a numeral. In contrast, measure words in English are not considered to be a separate word class as they are only obligatorily required for mass nouns and are optional for count nouns (McEnery & Xiao 2007: 16).

In English, measure words as a special group of nouns have singular and plural forms, while their counterparts in Chinese do not:

67) a. one cup of tea

    b. two cups of tea

68) a. yi bei cha

      a cup tea

      a cup of tea

    b. liang bei cha

      two cup tea

      two cups of tea

Furthermore, in Chinese temporary measures are only allowed to be used with the numeral *yi* 'one', while in English temporary measures are not restricted to singular forms, for example, we can say *handfuls of coins*.

Another difference is that in Chinese the majority of monosyllabic measure words can be reduplicated. Reduplicated measure words can function as attributes of subject nouns and express the meaning of 'every member in a whole group', 'without exception'. Take the following sentence as an example:

69) a. ge   ge   xuesheng dou hen nuli

    CL: ge CL: ge   student   all very hard-working

    Every student works hard

This kind of use of measure words is not found in English.

As I have mentioned above, in Chinese, the numeral *yi* 'one' in a measure phrase can be omitted if the phrase is in the object position of a sentence, while in English the omission is not allowed, as shown in (70):

70) a wo xiang he (yi) bei cha

     I want drink (a) cup tea

     I want to drink a cup of tea

   b. I want to drink *(a) cup of tea

Apart from the differences that have been discussed above, there are still a number of syntactic differences concerning quantifying constructions between English and Chinese, which I will return to in the next section.

4.3.3. The translation of measure words

A few Chinese measure words have a variety of translations in English according to the noun they are linked with (Po-ching & Rimmington 1998: 47):

71) bei vs.a. cup, b. mug, c. glass

a. liang bei cha   b. liang bei kafei   c. liang bei shui

   two cup tea   two mug coffee   two glass water

   two cups of tea   two mugs of coffee   two glasses of water

72) qun vs. a. herd, b. pack, c. flock, d. swarm…..

a. yi qun lu   b. yi qun lang   c. yi qun yang   d. yi qun mifeng

  a herd deer   a pack wolf   a flock sheep   a swarm bee

  a herd of deer   a pack of wolves   a flock of sheep   a swarm of bees

Conversely some measure words in English have a range of translations in Chinese (Po-ching & Rimmington 1998: 47), for example:

73) piece vs. a. pian 'thin and flat', b. zhi 'long and slender', c. kuai 'block', d. tiao 'long and thin'……

a. a piece of bread   b. a piece of chalk c. a piece of stone d. a piece of news

  yi pian   mianbao   yi zhi   fenbi   yi kuai   shitou   yi tiao xinwen

The examples above show that a generic measure word like *piece* may have a number of specific translations like *pian, zhi, kuai, tiao* in the other language. However, measure words with a variety of equivalents in the other language are not many, and the majority of measure words in both languages do have their regular translations in the other language. For the measures words with a range of equivalents we have to rely on the conventional co-occurrence principles between the measure word and the noun in the target language to choose the appropriate translation.

4.4. Quantifying expressions in English and Chinese

In this section I will try to summarize the descriptions on English and Chinese quantifying expressions in chapter two and three, compare them, and find out how different or similar they are.

4.4.1. Implicit quantification

A review of the discussions of implicit quantifying expressions in English will show that there are five surface manifestations of implicit universal quantification in English, which are:

1) *the* - singular count noun, e.g. *The rat is a rodent.*

2) *the* - plural count noun, e.g. *The Indians like corn.*

3) *a/an* - count noun singular, e.g. *A rat is a rodent.*

4) *ø* - mass noun, e.g. *Water is a fluid.*

5) *ø* - count noun plural, e.g. *Rats are rodents.*

In contrast, there is normally only one way to express implicit universal quantification in Chinese, which is through bare nouns, e.g. *Laohu ai chi rou.* 'tiger like eat meat /tigers like eating meat'. Only in rare cases, a numeral-measure- noun phrase, with the numeral *yi* 'one', can also get a generic interpretation.

4.4.2. Overt quantification

Typical overt quantifying constructions in English include:

1) Numeral - Count Noun

2) Quantifier - Noun

3) Numeral / Quantifier - (modifier) - measure word - of - (modifier) – Noun

While pattern 1) expresses exact quantity, pattern 2) expresses inexact quantity. Quantifiers in pattern 2) include a number of quantifiers that only combine with count nouns, some quantifiers that only combine with mass nouns, and a few quantifiers that can occur with both count nouns and mass nouns. Pattern 3) is typically used for quantifying mass nouns, and it can also be optionally used for quantifying count nouns. Quantifiers in pattern 3) can only be those that can occur

with count nouns, as measure words belong to a special group of count nouns. I will look at the syntactic properties of pattern 3) in the following sections.

In Chinese, since numerals cannot co-occur with nouns directly but require the presence of measure words between them, English quantifying construction pattern 1) is not allowed in Chinese and only pattern 2) and 3) have their equivalents in Chinese.

However, not every quantifier in Chinese can be used directly with a noun. We can divide quantifiers into three groups, the first group of quantifiers, e.g. *yixie* 'some', *yi dianr* 'a little' can combine with nouns directly, as in:

74) a. yixie ren   b. yidianr shui

　　　Some person   a little water

　　　Some people

For the second group of quantifiers, the measure words are optional, which means for these quantifiers both the construction 2) and 3) are possible, as shown in:

(75) a. haoxie dao   cai   b. haoxie cai

　　　　many course dish   　many dish

　　　　many courses of dishes   many dishes

For the last group of quantifiers measure words are obligatory, which means they are used in the same way as numerals that require the presence of measure words in order to co-occur with nouns, as in:

(76) a. ban   ge   pinguo   b. ji   zhi   mao

　　　　half CL: ge apple   　several CL: animal cat

　　　　half of an apple   　　several cats

While in a normal word order of a quantifying construction the numeral or the quantifier always comes before the noun, in Chinese this order could be violated and the noun can be put before the numeral/quantifier - measure word sequence in order to emphasize the quantity of the referent of the noun. The inverted quantifying construction of this kind typically occurs at the end of a clause so that the end focus falls upon the numeral-measure word sequence (McEnery & Xiao 2007: 8). To illustrate this point:

(77) a. jidan si ge,   zhurou liang bai   ke,   yan yi shao

      egg four CL: ge meat two hundred gram, salt one spoon

      four eggs, two hundred grams of meat, one spoonful of salt

    b…zu zhi yan tao hui er shi   chang, da cheng xie yi si shi duo xiang, ….

 …organize discussion twenty CL: long event get agreement forty more CL: case

   …organize twenty discussions, get more than forty agreements

One reason for such uses is that there is a contrast in the enumeration of various items (77a), the other reason is that the numeral-measure word sequence is topicalized in a conjoined clause (77b) (McEnery & Xiao 2007: 8). In contrast, such inverted quantifying constructions are rare in English.

4.4.2.1. Number in quantifying expressions

One interesting grammatical fact of English quantifying constructions with measure words is their agreement properties. A singular measure word could trigger either singular or plural agreement on the verb, as shown in (78):

78) A herd of cattle is/are…..

Thus, the agreement is sensitive to something besides the measure word in the quantifying construction. A hypothesis is that the particular predicate and the nature of measure words are the factors that determine whether speakers tend to

interpret the group as individuals or as a collective whole. When the actions expressed by the predicates are easily understood as applying to each individual, plural agreement tends to be used(79a), and when the actions affect the entire group, singular agreement is more likely to be used (79b) (Dodge & Wright 2002: 84).

79) a. A herd of cattle are grazing.
    b. The entire herd of cattle was shot.

While (79a) describes the cattle as salient entities in a group, (79b) describes them as a collection of undifferentiated individuals.

In contrast, number morphology cannot be applied to Chinese nouns, and the number of verbs also remains the same.

4.4.2.2. Modification in quantifying expressions

In a Chinese quantifying construction, the modifier comes regularly after the measure word and before the noun, as in *liang ge da pingguo* 'two CL: ge big apple /two big apples'. When the modifier does modify the measure word, then it precedes the measure word, as in *liang da kuai dangao* 'two big piece cake / two big pieces of cake. However, the latter pattern (numeral - modifier - measure word – noun) only has restricted uses:

1)   Nouns that are further divisible can be used in such a pattern, e.g. *dangao* 'cake', *zhi* 'paper'.
2)   Most indefinite collective measures can be further modified, as in *yi da bang ren* 'a big gang person /a big gang of people'. Definite collective as *shuang* 'pair' *da* 'dozen' cannot be used in such a pattern (Liu 2001: 107).
3)   Modifiers for Chinese measures are largely intensifiers which emphasize the large or small quantity or amount (McEnery & Xiao2007: 18), such as *da* 'big',

xiao 'small'. Adjectives that describe the shape of the entity like *hou* 'thick', *bao* 'thin', *chang* 'long' can also be found in such a pattern (Liu 2001: 137), e.g. *liang bao pian rou* 'two thin piece meat /two thin pieces of meat'.

Measure words in English take a considerably greater variety of modifiers than in Chinese. There are two major types of modifiers that can be inserted between numerals and measure words in English, i.e. intensifiers like their counterparts in Chinese (80), and evaluative modifiers relocated from the nouns being quantified (81) (McEnery & Xiao 2007:18):

80) I ate a big piece of cake.
81) a. I ate a delicious can of fish.

   b. I ate a can of delicious fish.

In (81a), although the adjective *delicious* is put before the measure word, it does not modify the measure word *can* but the noun *fish* (Dodge & Wright 2002: 84). No such relocation occurs with measure word modifiers in Chinese.

To summarize, except for the pattern *Numeral - Count Noun* that is only possible in English and inverted quantifying constructions that are allowed in Chinese but rare in English, all the other quantifying constructions in English and Chinese are similar. In English a singular measure word can trigger either singular or a plural agreement on the verb, while in Chinese there is no number contrast on the verb. English measure words take a greater variety of modifiers than those in Chinese.

5. Quantifying expressions and Semantics

This chapter is concerned with the semantic explanations of quantifying expressions, focusing on the semantic explanations of count and mass noun distinction, semantics of selected quantifiers, and semantics of measure words.

5.1. The count and mass noun distinction

Radden and Dirven (2007: 64-66) state that we can distinguish count nouns from mass nouns on the basis of three conceptual criteria: 1) boundedness, 2) internal composition, and 3) countability.

1) Boundedness

The referents of count nouns like *car* have clear perceptual outlines which give them their characteristic forms. Such well-delineated things appear to us as discrete, individuated objects. Referents of mass nouns like *water*, by contrast, do not have inherent boundaries and are continuous rather than discrete and individuated. Water appears to us as an unbounded, shapeless liquid.

2) Internal composition

Referents of count nouns and mass nouns are also distinguished with respect to their internal compositions. Referents of count nouns have heterogeneous compositions. For example a car is composed of many different parts which are arranged so that they function in an integrated way. If a car is divided into pieces, its structure as a car is also destroyed. Referents of mass nouns like *water* have homogeneous compositions. One portion of water is made up of much the same kind of material as any other portion of it. Water can therefore be expanded, contracted or divided without destroying its identity. Referents of mass nouns are therefore divisible.

3) Countability

Entities that are similar in their appearances or equivalent in their functions may be subsumed under the same category and be counted. For example, *the Bible*, *the Oxford English Dictionary* and *Shakespeare's Sonnets* can be subsumed under the same category '*book*' and may be counted as *three books*. Referents of mass nouns, by contrast, are only divisible into portions of the same kind and cannot be counted.

These three criteria are sufficient in explaining a number of semantic distinctions between count and mass nouns. However, such a theory also has a number of flaws.

First of all, the criteria can be applied to most of the concrete nouns, but the count and mass distinction of abstract nouns cannot be shown. For instance, abstract nouns are neither bounded nor further divisible, but they can be either mass or count: *suggestion* (count) vs. *advice* (mass), or *joy* (count) vs. *fun* (mass).

Secondly, entities which come in natural units of equal perceptual salience may be defined as count and mass differently, e.g. *rice* (mass) vs. *lentil* (count). Furthermore, there are pairs of synonyms or near synonyms with one of the pair being mass and the other being count, e.g. *coins/ change* or *shoes/ footwear* (Rothstein 2007: 3).

Thirdly, different languages define the same entity as count and mass differently. For instance, *hair* is a mass noun in English but its counterpart in Chinese *toufa* is used with the individual measure word *gen* 'long and thin object' and is perceived as a natural unit.

Finally, there are some mass nouns that are heterogeneous and some count nouns that are homogeneous. Heterogeneous mass nouns include nouns like *furniture*.

Furniture consists of chairs, tables, cupboards that cannot be limitlessly divided, because a leg of a chair can no longer be called *furniture*. Nouns like *rope* and *twig* are considered to be count nouns but are homogeneous, as a rope or a twig can be cut into many ropes or twigs (Rothstein 2007: 6).

Thus, we can say that although these three conceptual criteria can help us distinguish a number of count nouns from mass nouns, we cannot rely on them to explain all count and mass distinctions.

5.1.1. Mass mass nouns vs. Count mass nouns

We can further divide mass nouns into two subgroups. The first group 'mass mass nouns' can be distinguished from count nouns based on the three criteria that have been discussed above: *water*, *milk*, *blood* etc... They are not inherently bounded, are internally homogeneous and cannot be counted.

Another type of mass nouns, the 'count mass noun', is illustrated by the example *furniture*. It covers a variety of objects- tables, desks, chairs. The sub divisibility feature applies here only to a limited extent. We can divide furniture into a chair, a desk, a table, but no further. This type of mass nouns denotes heterogeneous aggregates of parts. The aggregates are not inherently bounded, so that we can add or subtract pieces and still call the aggregates *furniture*. This is what makes it uncountable. We can count desks and chairs that make up furniture but not the aggregate itself (Huddleston 2002: 334).

5.1.2. The Count-Mass and Mass-Count shifts

The distinction between count and mass nouns is more flexible than it may appear. Nouns can shift from a count sense to a mass sense and vice versa.

In count – to –mass shifts, we construct an object as a substance, either we restrict its essence as a thing to one particular domain (Radden & Dirven 2007: 73) or we

denote the substance of which the object is made of (Doetjes "Count and mass properties of nouns and verbs": 22), as illustrated in the examples below:

82) a. There is banana in the salad. (domain: food)

    b. The whole neighborhood is full of skunk. (domain: smell)

    (Radden & Dirven 2007: 73)

    c. Johnny is very choosy about his food. He will eat book, but he won't touch shelf. (substance of the object) (Doetjes "Count and mass properties of nouns and verbs: 22)

From the above examples we can see that in (82a) *banana* is used as a mass noun as banana in a salad can no longer be recognized in its original shape but is, probably, cut into pieces, hence it is reduced to the domain of food. In (82b) *skunk* is reduced to the domain of smell. *Book* and *shelf* in (82c) denote the substance of which book and shelf are made. Radden & Dirven (2007: 73) claim that almost any count noun can be mentally transformed into a mass noun. However, this is not true. It is pointed out that only count nouns that have physical objects in their extensions can be used as a mass noun within appropriate contexts (Doetjes "Count and mass properties of nouns and verbs": 22). In other words, abstract count nouns cannot be used as mass nouns.

The mass- to – count shift is a bit more complex. It is often possible to interpret a mass noun as a count noun by referring to *a variety of Noun (mass), a portion of Noun (mass)*, or we can use the characteristic forms, containers or measuring units that we typically associate with the object to refer to this object (Radden & Dirven 2007: 72).

We can understand a mass noun being used as a count noun in the sense of a variety, a sort, or a brand. In such usages a mass noun is used as a bounded and individuated count noun (*whiskies*) and stands for a variety of the referent of the mass noun (*brand of whisky*). Plural mass nouns *cheeses, wines, waters, beers,*

refer to different varieties of the referents of these mass nouns: sorts of cheese such as cheddar, brie and gouda, sorts of wines such as Chablis and Beaujolais, etc. (Radden & Dirven 2007: 72).

When we order a glass of beer by saying *Can I have another beer?* we name the substance, and in using *beer* as a count noun, we treat it as if it was an object. We use a bounded substance (*another beer*) to stand for a portion of the substance. Once the mass noun is used as a count noun, it can also be pluralized like any other count nouns. Thus, we can order *three beers* (Radden & Dirven 2007: 72).

We can also order a glass of beer by saying *Can I have another pint?* Since the referents of concrete mass nouns normally come to us in smaller portions which take an individual form: they have a bounded shape that we typically associate with them. We may describe a portion of a mass noun as *a drop (of rain)*, *a cup (of tea)*, *a pint (of beer)*, *a lump (of sugar)*, *a gust (of wind)*, etc. The conceptual link between the referents of mass nouns and their characteristic forms, containers, or measuring units they come in may become so conventionalized that we can describe the thing by naming the forms, containers, or measuring units of the referents of the mass nouns (Radden & Dirven 2007: 71-73).

Chinese nouns share the syntactical characteristics with English mass nouns. However, it is inappropriate to conclude that all nouns in Chinese are mass, as there are clear signs that in Chinese there are nouns that provide us with a criterion for counting. In order to show that Chinese has nouns with minimal parts in their denotations, we have to look at elements that force us to count units, but that do not tell us what the units are (Doetjes "Count and mass properties of nouns and verbs": 33). We can find three arguments in favor of the existence of count nouns in Chinese. First of all, in contrast with other individual measure words, for example *zhang* 'thin and flat object', *tiao* 'long and thin object', that indicate the shapes or functions of the nouns they co-occur with, the general individual

measure word *ge* corresponds to something close to *unit*, but does not convey any information about the noun it co-occur with, therefore we expect that in the context of *ge*, the choice of what counts as a unit can only be made on the basis of the denotation of the noun itself or on the basis of conventions or contexts. As *ge* does not give us any information about the unit we are looking for, it functions in this respect like English number morphology. In English the plural ending in *three books* indicates that there is more than one book but it does not give us any information about what unit can be considered to be a single book, therefore we know that this information must be present in the denotation of the noun *book*. Similarly, as the general individual measure word *ge* does not convey any information about what counts as a unit, the noun itself should contain this information. Furthermore, as the general individual measure word *ge* is able to replace other specific individual measure words, as shown in (91), we can presume that all nouns that are compatible with *ge* or with individual measure words that can be replaced by *ge* are semantically count nouns in Chinese(Doetjes "Count and mass properties of nouns and verbs": 34).

83) san   ben shu

   Three CL: volume book

   three books

   San   ge   shu

   Three CL: ge book

   three books

Secondly, we can also find out whether a noun has count property or not on the basis of other tests. One of these tests is the compatibility with collective measure words, e.g. *qun* 'crowd', *zu* 'group'. Semantically, these measure words are used for a group or a collection of individuals' (Chao 1968: 595). They are similar to plural morphology in the sense that they indicate that there is a plurality of individuals, while they do not indicate what counts as an individual. Therefore the

information must be indicated by the noun (Doetjes. "Count and mass properties of nouns and verbs": 35).

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A further sign of count/mass distinction in Chinese is the distribution of the suffix *–zi* which only selects count nouns. For example, *fangzi* 'house', *erzi* 'son', *yuanzi* 'garden'. This suffix also occurs in words like *shazi* 'sand' whose English counterparts are mass nouns. However, one can argue that *shazi* 'sand' is a count nouns in Chinese as it is used with an individual measure word *li* 'round and small object' (Doetjes. "Count and mass properties of nouns and verbs": 32-36).

Thus, we can conclude that all nouns in Chinese have the syntactic distribution of English mass nouns, but semantically Chinese nouns can be divided into mass nouns which do not provide us with a criterion for counting and count nouns which do.

5.2. Semantics of quantifiers

In the following section I will try to find out semantic explanations for selected quantifiers, focusing on the universal quantifiers: *all*, *every*, and *each*.

5.2.1. *All, quan bu / suo you*

All combines the notions of collectivity and distribution of its individual elements. Collectivity focuses on a collection of individuals which is equivalent to a whole set. Distribution picks out and focuses on the individual elements of a whole set (Radden & Dirven 2007: 121).

Aldrige (1982: 231) points out that very often it is possible to establish which use of *all* is in question by substituting *each* and *whole* and observing any change of meaning or level of acceptability which results. To illustrate:

84) a. All England was at war.

   b. All men must die.

   (Aldrige 1982: 231)

We may say instead of (84a): *the whole of England was at war*, and instead of (84b): *each man must die.* Thus, (84a) receives a collective reading while (92b) gets a distributive reading.

As we can see from (84) both singular and plural nouns can be used after *all*. We can either use indefinite plural nouns or definite plural nouns after *all*. When indefinite plural nouns are used after *all*, it is known as 'universal quantification'. Universal statements as in *All cows eat grass* can be paraphrased by the logical formula 'it is true for all x that, if x is a cow, then x eats grass' In most everyday situations, speakers do not make universal statements but have a 'restricted universe' in mind, therefore definite plural nouns are used after *all* to refer to definite referents (Radden & Dirven 2007: 124):

85) All the passengers are boarded now. (Radden & Dirven 2007: 124)

Such a sentence combines the notions of definiteness of the group of passengers (*the passengers*) and their collectivity and distribution invoked by *all*.

The central aspect of meaning conveyed by *all* in combination with a singular noun is that of '*the whole of* '. As in the example above '*All England was at war*'. A collective noun can also be used in this way as in:

86) We shared our food with all the family. (Radden & Dirven 2007: 125)

The combination of *all* with the collective noun *family* emphasizes the wholeness of the collective family elements (Radden & Dirven 2007: 123-125).

As a determiner, the most appropriate counterparts of *all* in Chinese are *quanbu* and *suoyou* which can also get both distributive and collective readings. Like English *all*, it is also possible to distinguish between its distributive and collective uses (Zhang 2007: 96-97). First of all, if the predicate in the sentence has the intrinsically collective property, *qnanbu* and *suoyou* can be used alone and get collective reading, as in (87)

87) Quanbu / Suoyou   shi   sheng   huan   ju yi tang

        All   teacher student happily gather together

  All teachers and students gather together happily.

Secondly, if the predicate in the sentence is potentially ambiguous between a distributive and collective reading, the interpretation of a subject noun phrase with *quanbu* and *suoyou* is determined by the quantification-related adverb occurring in the sentence as in (88):

88) a. Quanbu / Suoyou laoshi gongtong hua   yi   zhang   hua

        all   teacher together draw one CL: flat and thin object picture

    All teachers draw a picture together.

  b. Quanbu / Suoyou laoshi   ge   hua   yi   zhang   hua

     all   teacher each draw one CL: flat and thin object picture

    Each teacher draws a picture.

Thus, semantically speaking, the English *all* and its Chinese counterpart *quanbu / suoyou* share the property of getting either a distributive or a collective reading.

5.2.2. *Every* and *each, mei and ge*

The quantifiers *every* and *each* are distributive in that they pick out a single representative instance of a set and invoke the full set. *Every* and *each* differ in the way they invoke the full set. *Every* links the individual elements to each other

until we reach the complete full set, while *each* focuses on each single element of the set by examining it individually. In other words, *every* indicates that the collective set is focused upon, while *each* indicates that the individuals are focused upon and the full set recedes into the background. We can see these differences in the sentences below (Radden & Dirven 2007: 125-126).

89) a. Every piece of the jigsaw puzzle fits some other piece.

   b. Each piece of the jigsaw puzzle fits its neighbouring pieces.

(Radden & Dirven 2007: 126)

While (89a) makes us see the piecing together of the puzzle until it is completed, (89b) shows the step - by - step work of fitting one piece to the next piece without having the completed set.

A set invoked by *every* consists of at least three elements, while a set described by *each* implies at least two elements. Thus, we can say, for example, *each of my parents has a car*, but not * *Every of my parents has a car*. It seems that when the number of a set is well known and especially when that number is small, people tend to select *each* in preference to *every*. By contrast, when the member of a given set is so large as to be beyond counting, people tend to employ *every* in preference to *each* (Aldrige 1982: 218).

The Chinese *mei* is the counterpart for the English *every*. Zhang (2007: 87-94) claims that when *mei* is used alone (without any quantificational adverb nor with the conditional operator *jiu*) in a subject position, it always gets a distributive reading (90); However, when mei co-occur with the quantificational adverb *dou* in a sentence, it may get either a distributive reading or a collective reading. Furthermore, when a *mei* – NP is the indirect object of a double object construction, it gets a distributive reading (91), and when a *mei* – NP is the only

object in a sentence, it gets a collective reading[4]. (92).

90) Mei   ge   ren   jiao shi ouyuan

Every CL: ge person pay ten euro

Everyone pays ten euros.

91) Wo gei   mei ge ren yi ben shu

I   give every CL: ge person a CL: volume book

I give everyone a book

92) Wo xihua ban li de mei   ge   xuesheng

I   like class in DE every CL: ge student

I like all students in the class.

The counterpart of *each* in Chinese is *ge*. However, unlike *each* in English, *ge* may get either a distributive reading or a collective reading. In most situations, the determiner *ge* has to co-occur with a quantificational adverb and the reading of the *ge*-NP depends on the quantificational adverb: when the adverb has a collective property, it gets a collective reading; when the adverb has a distributive property, it gets a distributive reading (Zhang 2007: 95-96), we can see the contrast in (93):

93) a. ge wei laoshi   gongtong hua   yi   zhang   hua

each CL: wei teacher together draw   a CL: flat and thin object picture

All teachers draw a picture together

  b. ge   wei   laoshi dou hua yi   zhang   hua

   each CL: wei teacher all draw   a CL: flat and thin object   picture

   Each teacher draws a picture.

The minimal number of reference contrast between English *every* and *each* is not mentioned between Chinese *mei* and *ge*. All native speakers that I have consulted

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[4] For further explanations see Zhang, Lei.   2007. "A Semantic Study of Universal Quantification in Chinese" http://lbms03.cityu.edu.hk/theses/ftt/mphil-ctl-b22179574f.pdf.

including myself believe that this contrast cannot be applied to Chinese *mei* and *ge*.

Therefore there are considerable differences between the semantic interpretations of the English *every* and *each* and their Chinese counterparts *mei* and *ge*.

5.3. Semantics and Measure words

Chinese is a numeral classifier language, while English is not. According to Aikhenvald:

> Numeral classifiers are perhaps the most commonly recognized type of classifier system. They appear contiguous to numerals in numeral noun phrases and expressions of quantity. (Aikhenvald 2000: 98)

The element that appears contiguous to numerals in numeral noun phrases and expressions of quantity, as we have discussed in chapter three, include both individual measure words (classifiers) and non-individual measure words. While individual measure words (classifiers) are specific to the Chinese language, non-individual measure words are shared by Chinese and English. The subsequent question is why is Chinese defined as a classifier language and English is not? It is argued that in English measure words constructions are used in the enumeration of a limited set of referents and are not required for the enumeration of all referents in the language (Downing 1996: 2). Furthermore, in Chinese, the measure word between the numeral and the noun is obligatory, while in English it is not (Lehrer 1986: 110). Since the borderline between a numeral classifier language and a non numeral classifier language lies on the obligatoriness and the scope of use, we may deduce that the non-individual measure words that are used in English do share properties with non-individual measure words in Chinese.

Most discussions on numeral classifiers include the semantic interpretations of both individual measure words (classifiers) and non-individual measure words,

since non-individual measure words are also used in English, it seems reasonable to assume that the semantic properties of non-individual measure words in numeral classifier languages can also be applied to English measure words.

5.3.1. Semantic parameters underlying measure words

Numeral classifiers can be divided into sortal (in our terminology 'individual measure word') and mensural (in our terminology 'non-individual measure word') types. It has frequently been remarked that there are a number of basic semantic parameters that are repeatedly used, cross-linguistically, in defining the referent classes associated with numeral classifiers (In our terminology 'measure words') (Downing 1996: 23). These parameters fall into three large classes: 1) animacy, 2) physical properties, and 3) function (Aikhenvald 2000: 272-293).

1) Animacy: the choice of sortal classifiers (individual measure words) is often based on animacy, while mensural classifiers (non-individual measure words) operate with animacy distinctions to a lesser extent than sortal classifiers. Numeral classifiers often provide a two way division of nouns into human and non-human. Alternatively, nouns can be divided into animate and inanimate. A three-way division may divide nouns into humans, non-human animate and non-human inanimate. Since in Chinese both animate and inanimate nouns may share the same individual measure words, for example, the individual measure word *tiao* 'long and thin object' can be used with *yu* 'fish' in *yi tiao yu* 'a fish', with *shengzi* 'rope' in *yi tiao shengzi* 'a rope' or with *duanxin* 'message' in *yi tiao duanxin* 'a message', Chinese measure words provide a two way division of nouns into human and non-human. In Chinese there are several individual measure words that are used with human nouns, therefore, a further classification of humans according to their social status is possible, e.g. the referents of the human nouns that are used with *wei* have a higher social status than those with *ge.* For instance, *yi wei keren* 'a CL: wei guest /a guest' vs. *yi ge zei* 'a CL: ge thief /a thief'.

2) Physical properties: non-human nouns can be divided according to their physical properties, for instance, according to their shape/dimensionality, directionality, size, consistency, arrangement and quanta. Different properties may correlate with each other. For instance, directionality often goes together with shape (flat objects are often horizontally spread, and long objects tend to be vertical), and arrangement often combines with the quanta category. The examples below can help us understand this point better:

94) a. shape:

Ch. yi tiao she 'a CL: long and thin object snake /a snake'

liang zhang zhi 'two CL: thin and flat object paper /two pieces of paper'

san ke zhenzhu 'three CL: round and small object pearl /three pearls')

Eng. a head of cabbage/ cauliflower

a stalk of celery

a ear of corn

a blade of grass (Lehrer 1986: 114)

b. arrangement and quanta:

Ch. liang qun ren 'two crowd person /two crowds of people'

yi shu hua 'a bunch flower /a bunch of flowers'

yi lan shuiguo 'a basket fruit /a basketful of fruit'

Eng. a bunch of flowers,

a heap of books,

a crowd of people

3) Function: measure words that refer to specific uses of objects, or kinds of action which are typically performed on them. There are measure words for means of transport and housing. Actions performed on objects and encoded in measure words may involve cutting, peeling, and piercing. In Chinese we have *liang* for vehicles, e.g. *yi liang che* 'a CL: vehicle car /a car', and *tai* for machines, e.g. *yi tai diannao* 'a CL: machine computer /a computer'.

Furthermore, the perceptual salience has been repeatedly stressed and it has been argued that the classifier systems of different languages tend to resemble each other because they encode categories which are based on perceptual parameters that are universally salient regardless of the language spoken by the perceivers (Downing 1996: 24).

5.3.2. The semantic roles of measure words

It has been suggested that measure words differ semantically from common nouns, since they encode important classes of entities defined by the way human interact with them. Measure words can be used in combination with nouns to expand the referential capabilities of the lexicon as a whole without vastly increasing the number of members which compose it (Downing 1996: 53).

The semantic loads carried by measure words and by common nouns may differ in some systematic ways. Denny (1976 quoted in Downing 1996: 25) suggests that classifiers (I call them measure words) serve to place objects in a few especially important classes different from and additional to those associated with common nouns. Nouns provide descriptions of the world specific enough to allow the listeners to pick out particular referents, while the primary function of classifiers is to denote the membership of the referents in classes defined by the ways in which we, as human beings, interact with them. This interaction may be physical (e.g. classifiers reflecting shape, size or consistence of the referents), functional (e.g. classifiers for vehicles), or social (e.g. classifiers for human vs. non-human) (Downing 1996: 25).

Measure words are seldom semantically redundant, because they highlight some relevant aspects of the noun referents. They can have various semantic functions, such as:

1) Quantifying and individuating functions: the quantifying function of measure words is connected to the idea that 'the noun refers to some kind of mass and the classifier gives a unit of this mass' (Denny 1986: 298 quoted in Aikhenvald 2000: 318). Measure words are used when references to particular individuals are required. This is why in a discourse nouns can be more often deleted from numeral phrases than measure words, since measure words refer to the type of individuals being enumerated, and nouns only specify some of their properties (Denny 1986: 301 quoted in Aikhenvald 2000: 318). Consider the following conversation:

95) A: wo mai pingguo 'I buy apple /I want to buy apples'.
   B: ni yao ji ge? 'you want how many CL: ge /how many do you do want'.
   A: shi ge. 'ten CL: ge /ten'.

As it is shown in the example above, while the noun *pingguo* 'apple' can be readily deleted when it is already known by both interlocutors, the individual measure word (classifier) *ge* for *pingguo* 'apple' must remain.

In English, measure words are most typically used with mass nouns and fulfill the function of making mass nouns countable.

2) Clarifying function: as there are a number of nouns that can co-exist with more than one individual measure word, and each of which corresponds to and highlights different attributes associated with the noun, therefore speakers can, by the use of individual measure word, extend or clarify the meaning of the common noun with which the measure word co-exists. As in (96) below:

96) a. yi   zhang   hua 'a picture'
       a   CL: flat and thin object picture

b. yi   fu   hua 'a picture mounted in a frame'

    a   CL: object with frame picture

a. yi   shan   men 'a door, the physical object'

    a   CL: fan-like object door

b. yi   dao   men   'a door, the doorway'

    a   CL: road-like object door

In this way, measure words fill a semantic role complementary to the one filled by the noun and expand the referential capabilities of the lexicon (Downing 1996: 25-26).

5.3.3. Semantic organizations of measure words

In this section I will look at the semantic complexity of measure words and try to find out the principles of semantic extensions and the co-selection criteria between nouns and measure words.

It has been recognized that some members of nouns that share the same measure word are perceived by speakers as more salient than others, which means these members are cognitively more central. Other more peripheral members are used with the same measure word because they share at least one feature with those more prototypical members. For instance, prototypical nouns that go with the measure word *duan* are *lu* 'road' and *xiepo* 'slope', based on these prototypical members other members are also included, such as, *rizi* 'days', *jingli* 'experience', *lishi* 'history' and *lianqing* 'love affair' (Shie 2003: 77). In English, prototypical examples of *bunch* are *grapes*, *bananas* or other pluralities of individuals which are tightly tied together. Extensively, it can also be used in expressions such as *a bunch of people* or *a bunch of stuff* to specify a large amount of entities. In order to understand these collocations better, we have to look at the co-selection criteria between nouns and measure words.

Based on the investigations of nouns and measure words made by Shie (2003: 73-83) and Xiao (2006: 25), I suggest distinguishing three co-selection criteria that are most commonly used: 1) similarity, 2) metonymical extension, 3) convention.

1)   Similarity: a measure word is closely related to the shape of its associated noun, for instance, *tiao* 'long and thin object' is used with *she* 'snake', *yu* 'fish', *shengzi* 'rope', *jie* 'road', *he* 'river' etc. abstract nouns, such as, *xinwen* 'news', *guiding* 'regulation', or *renming* 'life' can also go with *tiao* by the means of metaphorical extension. In such uses, *xinwen* 'news', *guiding* 'regulation', and *ren ming* 'life' are perceived as concrete objects with a long and thin shape similar to the prototypical members like *yu* 'fish' and *shengzi* 'rope'. The example below can help us understand such extensions better:

97)   . yi   dui   shu   b. yi dui fannao

         a heap book   a heap worry

         a heap of books   a heap of worry

Similarities between the prototypical members and the peripheral members are not restricted to the shape but can extend to their shared properties, for instance:

98) a. yi   duo   hua

       a CL: flower-like object flower

       a flower

     b. yi   duo   weixiao

       a CL: flower-like object   smile

       a smile

The nouns following the individual measure word (classifier) *duo* 'flower-like object' are *hua* 'flower' and *weixiao* 'smile'. They are metaphorically related by

virtue of their shared properties - they are both beautiful and imply happiness (Shie 2003: 73).

2)   Metonymical extension: metonymy is usually described as the substitution of the name of one thing for the name of another closely related thing. There are a number of metonymic schemas, including a) part for whole; b) spatial association; c) verbal association, etc.(Shie 2003: 77-78).

a)   Part – whole: the original lexical meaning of measure words refer to the most salient features of the entities that are quantified, such as *tou* 'head' in *yi tou niu* 'a CL: head cow /a cow' or *ding* 'top' in *yi ding maozi* 'a CL: top hat /a hat'.

b)   Spatial association: some measure words mark the places where the referents of their succeeding nouns are located. All container measure words and temporary measure words belong to this schema. For example, *a roomful of people*, *a vase of flowers*, or *a shelf of books*.

c)   Verbal association: some measure words are formed from verbs. These measure words indicate actions that are associated in one way or another with the referents of their succeeding nouns. The referents of the succeeding nouns can be moved by the action, or being acted upon by the action. For example, *a swallow of beer, a sniff of fresh air*, *a pinch of salt*, or *a dash of tobacco* (Lehrer 1986: 116).

3)   Convention: Sometimes, the co-selection has to be interpreted by linguistic conventions, because it is not always possible to ascertain the relationship between the measure word and its succeeding noun (Xiao 2006: 25). For example, why is the individual measure word *tou* 'head' used for *niu* 'cattle' but not for other animals? Why is the English measure word *piece* used with nouns like *furniture* although the core meaning of *piece* is 'part, not whole' and *a piece of furniture* does not refer to a leg of a table? (Lehrer 1986: 115). Xiao (2006: 25) suggests that such missing links have to be accounted for by linguistic conventions of the speech community.

However, the criteria that have been discussed above cannot be applied to every noun and measure word combination. In Chinese there are still a large number of semantically count nouns that do not have their specific individual measure words. This is why the general individual measure word *ge* is employed. The general individual measure *ge* does not carry any semantic information about the referent of the noun, neither the physical property nor the function. The function of *ge* is listed below (Chen & Hsu "Comparison of general classifiers of Chinese and Japanese": 293-294).

a) It can be used with nouns that do not have their specific individual measure words, such as: *zei* 'thief', *haizi* 'child', *zhuyi* 'idea', or *wenti* 'problem'.

b) In casual conversations, *ge* can be used to substitute specific individual measure words, for instance, instead of saying *yi suo xuexiao* 'a CL: institution school /a school' one can also say *yi ge xuexiao* 'a CL: ge school /a school'.

c) Sometimes the change from a specific individual measure to *ge* could make the noun phrase awkward but still understandable, e.g. use *yi ge bi* 'a CL: ge pen /a pen' instead of *yi zhi b*i 'a CL: long and slender object pen /a pen'.

d) Although ge is the most general and most frequently used individual measure word, it cannot be used with mass terms, e.g. **yi ge shui* 'a CL: ge water' is not acceptable.

As we can see, the general individual measure *ge* is not so general as it sounds, it is acceptable with most nouns but not all of them.

To summarize: at the beginning of this chapter I have looked for the semantic explanations for the count and mass noun distinction and have found out that for most concrete nouns, the count and mass distinction is based on boundedness, internal composition and countability. Mass nouns can be further divided into mass mass nouns (like *water* or *blood*) and count mass nouns (like *furniture* or *luggage*). The boundary between count and mass nouns is flexible, because in

particular contexts a count noun can be used as a mass noun and vice versa. All Chinese nouns resemble English mass nouns syntactically. However, the semantic distinction between count and mass nouns is also relevant to the Chinese language. Then, I moved on to talk about the semantic interpretations of quantifiers: *all*, *every* and *each*. In the last section measure words have been discussed, including the semantic parameters underlying measure words (animacy, physical properties, and function), the semantic roles of measure words (to individuate and quantify the referents of their following nouns as well as to clarify the meaning of the nouns with which they co-exist). Finally, the co-selection criteria between the measure word and the noun are proposed (similarity, metonymical extension and convention).

6. Quantifying expressions in second language teaching

As one purpose of this study is to contribute to the task of foreign-language teaching, I will now try to arrive at the pedagogical implications which can be drawn from the comparisons and remarks above. First, I will look at the role and the function of contrastive studies in general, and then move on to the pedagogical implications of this contrastive study on quantifying expressions. I will try to highlight the main difficulties concerning quantifying expressions in foreign language teaching and learning, to find out the reasons for such difficulties and to make some tentative suggestions which could be helpful in overcoming these difficulties.

6.1. Pedagogical implications of contrastive studies

The 'strong' version of the contrastive analysis is stated by Lee (1968: 186). He says,

> 1. that the prime cause, or even the sole cause, of difficulty and error in foreign-language learning is interference coming from the learners' native languages;
> 2. that the difficulties are chiefly, or wholly due to the differences between the two languages;
> 3. that the greater these differences are, the more acute the learning difficulties will be;
> 4. that the results of a comparison between the two languages are needed to predict the difficulties and errors which will occur in learning the foreign language;
> 5. that what there is to teach can best be found by comparing the two languages and then subtracting what is common to them, so that 'what the student has to learn equals the sum of the differences established by the contrastive analysis.'
>
> (Quoted in Sridher 1981: 211)

Not all theoreticians and practitioners of contrastive analysis would go along with these hypotheses. Scholars differ on how strongly they claim the influence of learners' native languages on their foreign-language learning. Nevertheless, some

assumptions of these hypotheses are assumed by most scholars of contrastive studies. For instance, Corder (1991: 28) agrees with Lee that contrastive studies can predict learning difficulties and states that intensive contrastive studies on the system of learners' second languages and their mother-tongues can help teachers predict areas of difficulties that the learners may encounter. Consequently teachers' attention will be drawn to these areas and they might denote special care and emphasis in their teaching to the overcoming or avoidance of these predicted difficulties. Jackson (1981: 204) states that contrastive studies can not only predict areas of potential errors but also provide explanations of a great number of errors that arise from the interference of learners' native languages. Scholars like Nickel and Wagner (1968 quoted in Sridhar 1981: 212) point out the crucial role of contrastive analysis in both 'didactic' and 'methodic programming. Hall (1968 quoted in Sridhar 1981: 212) asserts that the structure of textbooks – selection of teaching items, degree of emphasis, kinds of practice drills, nature of exposition, etc – should be geared to the native language of the learner. Duskova (1991: 44) also recognizes the value of contrastive analysis in the preparation of teaching materials. However, it does not mean that students should only be presented with the sum of differences established by contrastive studies instead of the whole system of the target language. Using contrastive analysis as a basis for the preparation of teaching materials does not mean that the teaching is limited to those items which constitute learning problems. Contrastive analysis helps teachers put emphasis on those items, especially in terms of more intensive drilling (Marton 1981: 160-161).

One of the rationales for undertaking contrastive studies comes from theory learning, in particular, the theory of transfer, which has been considered to support the contrastive analysis hypotheses that have been listed above. The transfer theory assumes that if a structure that has to be learnt in the target language (L2) has a counterpart in the learner's mother tongue (L1), then 'positive' transfer may take place and the learning could be facilitated. If a L2 structure does not have a

counterpart in L1, or if the equivalent structure in L1 and L2 exhibits a measure of differences, then 'negative' transfer may take place and the learning could be hampered (Sridhar 1981: 210).

Based on the language transfer theory as well as the comparisons between Chinese and English quantifying expressions that have been drawn in the previous chapters, I will now try to find out the main sources of difficulties for learners concerning quantifying expressions .

6.2. The main sources of difficulties

According to the transfer theory, the perceived distance between L1 and L2 largely determines how relevant a learner's prior linguistic knowledge is to the learning of another language. The smaller the distance the more relevant this prior knowledge is to the learning. If the L2 is closely related to the L1, learners' intuitive L1 knowledge does not require much restructuring for the L2, since the basic linguistic categories are the same. The more similarities learners perceive between their L1 and the L2, the more they will profit from their mother-tongue in learning to understand the new language (Ringbom 1986: 150-151). From the comparisons that have been drawn in the previous chapters, we can conclude that English and Chinese quantifying expressions differ in the following aspects:

1) English nouns can be divided into count and mass nouns, both syntactically and semantically, while Chinese nouns are syntactically mass but can be divided into count and mass nouns semantically.

2) All English count nouns can be marked for plurality, while in Chinese, except the plural marker *–men* that can be suffixed to pronouns and nouns denoting human beings, all the other nouns do not change for number.

3) There are differences between selected determiners in English and Chinese: Chinese numeral *yi* can express the meaning of English *a/an* and *one*,

depending on whether *yi* is stressed or not; there is no absolute identical equivalent in Chinese for the English *all*; the English *every* and its Chinese counterpart *mei* bears lexical and syntactical differences.

4) While in English there are only non-individual measure words, there are both individual and non-individual measure words in Chinese.

5) Due to the differences that have been listed above, implicit quantification can be realized through five surface manifestations in English (see page 13), while in Chinese there is normally only one way to express implicit universal quantification, which is through bare nouns.

6) Overt quantifying expressions in English and Chinese are similar except that the pattern 'Numeral - Count noun' is only possible in English, the inverted quantifying construction is allowed in Chinese but rare in English, and English measure words take a greater variety of modifiers than Chinese measure words.

According to the transfer theories, we can assume that these differences between English and Chinese quantifying expressions will be difficult for the learners and will cause problems in the learning process.

Furthermore, Duskova (1991: 55) argues that categories that exist in both L1 and L2 but display differences in their functions and distributions give rise to difficulties but they do not seem to be the main sources of difficulties. What proves to be even more difficult is a category that does not exist in the learners' L1. Here the learners have no frame of reference to which they can relate their expressions in the foreign language. Stockwell and Bowen (1965: 10) also state that the highest degree of difficulty is to be found when a learner of a language faces an obligatory choice in the L2 while his or her L1 has a zero choice in this particular case. According to these claims, it seems reasonable to assume that the main sources of difficulties in the learning process of quantifying expressions lie in the categories and structures that exist in English but not in Chinese and vice

versa, namely, the plural suffixes that exist in English but not in Chinese, and the individual measure words that exist in Chinese but not in English.

In addition, the reason why we assume that the categories and structures that exist in the L2 but not in the L1, and not categories and structures that exist in the L1 but not in the L2 cause difficulties for the learners is, according to Jackson's study (1981: 203), that learners will not try to form equivalent categories in their L2 to those in their L1, since it represents a reduction in categories. Thus, in the learning process of Chinese nouns, English learners can reduce the different plural suffixes to one (*-men*), and Chinese learners of English measure words can reduce individual measure words and non-individual measure words to non-individual measure words only, which will not cause many problems in the learning process.

6.3. English plurals and the measure words

In this section, I will summarize the differences between English and Chinese plurals and measure words, explore the learning difficulties for foreign language learners, and try to offer some suggestions for overcoming these difficulties.

6.3.1. Chinese learners and English plurals

Many Chinese students have difficulties with the use of English plural forms. As has been stated above, the lack of plural suffixes in Chinese plays a significant role in causing such difficulties.

6.3.1.1. Differences in plural formation

The differences between plural formation in English and Chinese can be summarized in the table below:

Chinese	English
Adding the suffix –*men* after a human-denoting noun and pronoun e.g. *ren men* 'person -men/ people'	The addition of the morpheme –*s* or –*es* e.g. *dog-dogs*, *wish-wishes*
The use of numerals e.g. *san ge ren* 'three CL: ge person/ three people'	The change of the internal vowel e.g. *man-men*
The use of non-individual measure words e.g. *yi qun ren* 'one crowd person/ a crowd of people'	The change of a consonant + -s e.g. *wife-wives*
The use of quantifying determiners e.g. *yixie ren* 'some person/ some people'	Zero plural e.g. *sheep-sheep*
The contextual indication of plural e.g. *ren dou lai le* 'person all come past particle/ all people came'	The application of the rules of foreign plurals to English words e.g. *criterion- criteria*

Table 3: *Plural formation in English and Chinese*

From this table we can see that except the suffix –*men* that can be added to human-related nouns and pronouns, Chinese does not have any plural suffix and the noun itself does not change for number. Rather, the number difference is realized by the other elements in the noun phrase or sentence (determiners, measure words, and contexts).

In contrast, the number difference in English is realized by changes on the noun itself (addition of the plural morpheme, vowel alternations, etc…) along with plural indicative elements in the noun phrase or sentence (e.g. three students, some students or a crowd of students). These contrasts lead to difficulties for the Chinese students, and interference errors that will be discussed in the following section can be predicted.

6.3.1.2. Interference errors

1). Omission of regular plural endings

Chinese learners of English may drop the *–s* and *–es* endings in both written and spoken forms of English. Phrases such as *two apple*, *some student*, or *many book* commonly occur in the beginning and intermediate stages of the learning process. These errors can be explained by the differences between plural formation rules in English and Chinese. As it is noted above, in Chinese, the plurality of a noun is not encoded in the noun itself but in the preceding numerals, quantitative determiners, measure words or in the context. Students may attempt to apply the plural formation rules in Chinese to the formation of plurals in English. Another reason for such omission could be that when the learners encounter both the singular and the plural forms of a countable noun, they subconsciously select the singular form for storage instead of keeping both forms. A possible explanation of this selection is that the singular form contains the core meaning they need to know about the new English item. The inclination to use the singular form could also be due to the system they encounter in dictionaries whereby all entries of countable nouns are presented in the singular form (Mohamed, Goh. & Wan 2004: 86).

2). Over-generalization of rules.

English plural formation rules tend to be fraught with exceptions. In the learning process, students encounter the arbitrary nature of English inflections, and the problem of over-generalization of rules may emerge. For instance, students may apply regular plural formation rules to nouns with irregular plurals: *gooses* instead of *geese*, or *deers* instead of *deer* (Liu 2006: 136).

3). The count and mass distinction

In a broad sense, the terms count and mass nouns are conceptualized in the same way in English and Chinese. However, differences exist in how individual lexical items are categorized (Liu 2006: 137). In other words, as I have discussed in the

previous chapters, while a noun is considered to be a count noun in Chinese it is defined as a mass noun in English or vice versa. Such differences may bring difficulties to the learners in differentiating count nouns from mass nouns. Students may tend to make the following types of errors (Liu 2006: 137):

99) * There are a lot of good furnitures in his house.

    * I had two breads today.

    * There are three chalks on the desk.

<div align="center">(Liu 2006: 137)</div>

Problems also arise with words that are not visible or tangible, such as, *feeling, smell, sound, attitude, desire, laugh, thought, strength*, etc... These nouns are considered to be mass nouns in Chinese but used as either count or mass nouns in English, depending on the context. Such blurred distinction can be confusing for Chinese learners of English. The following types of errors may emerge (Liu 2006: 137):

100) * Congratulation on your graduation.

    * There is some strange sound in the sky.

    * I have mixed feeling about going home.

<div align="center">(Liu 2006: 137)</div>

Due to learners' prior knowledge of Chinese, *congratulation, sound*, and *feeling* are perceived as abstract uncountable concept, and the *–s* endings are dropped. These examples show that pre-conceptualizations concerning the classification of count and mass nouns in Chinese may markedly affect the learners' acquisition of plural forms in English (Liu 2006: 137).

6.3.1.3. Pedagogical implications

According to what has been found in the above sections and Liu's (2006: 139-145) study on English plurals and Chinese learners, the following instructional recommendations can be made:

1) Teach the differences in plural formation between English and Chinese

In order to assist Chinese students with the task of mastering English plurals, teachers can highlight the salient differences in plural formation rules between English and Chinese. Teachers should begin with the similarities between English and Chinese plural making, and then move on to the differences. This instructional sequence can not only attract students' interest and build their confidence, but may also initiate the construction of new linguistic schemata for the formation of plurals in English. The direct teaching of differences in plural formation rules between English and Chinese should be accompanied by explanations of the similarities and differences between the two languages regarding count and mass nouns. Since the matter of count and mass nouns is particularly confusing for many Chinese students, more teaching and practice time should be allotted to this aspect of plural formation (Liu 2006: 140-141). Once students recognize the differences, the acquisition will be facilitated. In the behaviorist view, more drills on the differences between the L1 and the L2 may serve as stimuli to produce correct responses in the future (Huang 1994: 6).

2) Explain English plural formation rules

Although the English plural formation rules are replete with exceptions, many rules hold true for a high percentage of words. The teaching of rules should be accompanied by practices in meaningful contexts, which include conversations, reading with a focus on plural forms, and writing using plural forms. It should also be useful to list the commonly-used English plural rules and categorize words according to these rules (Liu 2006: 141).

3) Identify and explain errors

Identifying learners' errors can help teachers recognize the areas of difficulties which the learners may encounter in their learning processes and direct teachers' attention to these areas so that they can find correct ways to improve students' learning. Teachers can highlight these occurring errors to learners and explain possible reasons for the occurrence of such errors, for instance, a number of errors can be explained by the differences in plural formation rules between English and Chinese. Teachers could make use of these errors and help students more efficiently acquire the English plural formation rules.

4) Teach self-learning strategies

When students encounter unknown or confusing English plural forms, the following strategies can be recommended: a) self-questioning strategy, b) look up a dictionary, and c) make use of informational technology (Liu 2006: 142-144):

a)   The self-questioning strategy includes three steps: Does this word match a rule – how can I find more about this plural form – how can I remember this plural form. This strategy provides students with a systematic problem–solving process that they can use when they encounter unknown or confusing plurals.

b)   Dictionaries can be employed to identify count and mass nouns, as well as to look up irregular plural forms of nouns. When students encounter nouns that they cannot decide whether to classify them as count or mass, they should not rely on their intuition for the classification, but use a dictionary for this purpose. The irregular forms of plurals are also marked in dictionaries. Students can match plural forms to their corresponding rules, combine this strategy with the self-questioning strategy, and find out the best way to remember these irregular plural forms.

c)   The informational technology provides an abundant array of information for students. Many grammatical topics can be searched on the internet. When writing on a computer, students can take advantage of the spelling and grammar-check

function of the computer and immediately correct wrong plural forms

To summarize, the differences in plural formation rules between English and Chinese may notably influence Chinese learners' acquisition of English plurals. Major interference errors include omission of regular plural endings, over-generalization of rules, and blurred distinctions between count and mass nouns. In order to assist students with the task of mastering English plurals, teachers can highlight the differences in plural formations between English and Chinese, explicitly explain English plural formation rules and guide students in developing their self-learning strategies.

6.3.2. English learners and Chinese measure words

Since the use of measure words is mandatory in Chinese, it is important that learners of Chinese learn Chinese measure words correctly. However, many learners of Chinese find measure words especially difficult to master.

6.3.2.1. Differences between English and Chinese measure words

Categorical differences between English and Chinese measure words can be summarized in the following table:

	English	Chinese
Individual measure words/ Classifiers	No	1) Classifiers for human: *ge*, *wei*, etc... 2) Classifiers for non-human: a) shape: *tiao*, *zhi*, etc..; b) function: *liang*, *tai*... ; c)event: *chang*, *tong*....; d) particular set: *zhi*, *ke*… e) general classifier *ge*
Non-individual measure words	1. Quantifying collectives a) minimal collection: *pair*; b) collection of indefinite number 2. Configurations 3. Partitive nouns: a) part-whole relation; b) unit counters 4. Container measures 5. Standard measures	1. Quantifying collectives a) minimal collection: *shuang*; b) collection of indefinite number 2. Configurations 3. Partitive nouns: a) part-whole relation; b) unit counters 4. Container measures 5. Standard measures

Table 4: *Measure words in English and Chinese*

As it is shown in this table, all five categories of non-individual measure words in English have parallels in Chinese. The difference lies in individual measure words that are included in Chinese but not in English. According to the theory that the main sources of difficulties are categories that do not exist in the learners' L1, it is reasonable to assume that it is the individual measure words (classifiers) that cause most problems for English learners of the Chinese quantifying expressions.

6.3.2.2. Learning difficulties

In my opinion, the difficulties that students perceive in the learning process are not only caused by the vague boundaries between different categories of Chinese measure words, but also caused by the traditional approaches used for teaching Chinese measure words. If the teaching method can be improved, the learning difficulties should be subsequently reduced.

1) Ambiguous categorizations of measure words

As I have mentioned in the third chapter, most categorizations blur the distinction between individual measure words (classifiers) and non-individual measure words. A number of scholars (Li 1960: 90; Lin 2001: 107) use the term 'classifiers' to refer to both individual measure words (classifiers) and non-individual measure words, other scholars (Chu 1983: 16; Li & Thompson 1981: 104) claim that measure words are also known as 'classifiers'. The ignorance of the distinction between individual measure words (classifiers) and non-individual measure words leads to diverse ambiguous categorizations of measure words. For instance, Lin (2001: 107) refers all measure words to classifiers and suggests that the nominal classifiers can be divided into four categories: 1) singular measure words, 2) collective measure words, 3) approximate measure words, and 4) standard measures. This categorization is rather misleading. First of all, the notion of 'singular' is ambiguous, because singular can only be applied to count nouns. In Chinese not only count nouns but also mass nouns need measure words to be preceded by numerals. If we only put measure words that can be used with singular count nouns into this category, then measure words that are used with mass nouns like *di* 'drop', *fen* 'portion', or *pian* 'slice' cannot be put into any category according to this categorization. Secondly, according to this categorization, all other measure words (except for standard measure words) that indicate the notion of 'more than one' should belong to the category 'collective', which is not true, as these measure words can be further divided into a number of subcategories. Thirdly, as I have argued in the third chapter, words like *yixie*

(some) and *yidianr* (a little) that are defined as 'approximate measure words' should belong to determiners.

Po-ching and Rimmington (1997: 27-30) divide measure words into the following nine categories:

1) *Ge*: the commonest measure word

2) Shapes: *tiao* 'long and thin', *zhi* 'long and slender'

3) Associated actions: *feng* 'to seal'

4) Particular sets: *zhi* 'for animals, birds and insects', *ke* 'for certain plants'

5) Containers: *bei* 'cup', *wan* 'bowl'

6) Standard measures: *gongjin* 'kilo'

7) Collections: *qun* 'crowd', *tao* 'set'

8) Portion: *pian* 'slice', *di* 'drop'

9) Indefinite small numbers or amounts: *yixie* 'some' *yidianr* 'a little'

This categorization is much more useful for learners than the first one, as it not only lists almost all categories of measure words, but also tells learners which parameters are used in the categorization. In this way, learners can put all measure words that they have learnt into different categories according to these parameters. However, the problems with this categorization are, first of all, that it attempts to divide all measure words directly into nine categories without firstly making the distinction between individual measure words and non-individual measure words. This ignorance may lead learners to get the wrong impression that all these categories are specific to the Chinese language and all these categories need to be learnt newly; secondly, the same as Lin's (2001:107) categorization: It also includes phrases such as *yixie* (some) and *yidianr* (a little) to measure words, whereas in my opinion they should belong to determiners.

2) Misleading introductions of measure words

The traditional approach used for introducing Chinese measure words is to a certain degree misleading and increases the learning difficulties for the learners. The traditional view promotes the idea of one–to–one concordance, which means each noun has it its own measure word and one has to learn the measure word along with the noun that matches. For instance, Chu (1983: 17) states that measure words have to be learned individually, especially in relation to specific nouns. Li and Thompson (1981: 112) emphasize that which noun occurs with which measure word must be memorized. Consequently, a number of introductions of Chinese measure words prefer to provide a list of commonly used measure words without making any categorization. For instance, Chu (1983: 16-17) provides learners with a list of thirteen measure words and explains them as the most commonly used measure words. A number of online resources choose to provide long lists of measure words with their main uses in alphabetical orders. A small part of such a list is quoted below:

	Pinyin	Main uses
把	bǎ	"handful" — objects that can be held (knives, keys; also chairs)
班	bān	scheduled services (trains, etc.)
包	bāo	"package", "bundle"
杯	bēi	"cup" — drinks
本	běn	"Volume" — bound print matter (books, etc.)
笔	bǐ	large quantities of money
部	bù	novels, movies
册	cè	volumes of books
层	céng	"storey", "layer" — buildings, etc
场	chǎng	public spectacles

Table 5: *A list of Chinese measure words*

(http://en.wikipedia.org/wiki/Chinese_measure_word)

If we accept the view that Chinese measure words should be listed alphabetically and have to be memorized one by one, then the learning of Chinese measure words would be extremely complicated, which is in fact not true. Let us return to the individual measure word and non-individual measure word distinction. If such a distinction is made, the list of measure words that need to be memorized can be reduced to individual measure words, and the non-individual measure words that are identical with their English counterparts do not need to be memorized but only to be translated.

3) The individual measure words

The difficulties that learners encounter during the learning of Chinese measure words are also caused by the complex nature of individual measure words. The properties of individual measure words may give rise to learning difficulties for foreign learners. Some of the problems are listed below:

a) As I have mentioned in the fifth chapter, there are a number of nouns that can co-occur with more than one individual measure word according to variations in meaning. For example, the contrast between *yi shan men* 'one CL: fan-like object door/a door' and *yi dao men* 'one CL: road-like object door/a doorway', or between *yi zhang hua* 'one CL: thin and flat object picture/ a picture' and *yi fu hua* 'one CL: object with a frame picture/ a picture mounted in a frame'.

b) More than one individual measure word may have similar physical attributes but have to be used with different nouns. For instance, *tiao*, *zhi*[5] and *gen* all refer to long and thin objects, but these three individual measure words are not always interchangeable. We can say *yi tiao xian* 'a CL: long and thin object thread/ a thread' instead of saying *yi gen xian* 'a CL: long and thin object thread/ a thread' or use *yi gen xiangyan* 'a CL: long and thin object cigarette/ a cigarette' instead of *yi zhi xiangyan* 'a CL: long and slender object cigarette', but with a lot of nouns such changes are not allowed. The noun *yu* 'fish' can be used with tiao in y*i tiao*

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[5]   It is the homophone of the individual measure word *zhi* for animal nouns and the noun *zhi* 'paper'.

yu 'a CL: long and thin object fish/ a fish' but not with *zhi* nor *gen*; the noun *maojin* 'towel', *he* 'river' or *kuzi* 'trousers' can be used with *tiao* but not with *gen* or *zhi*.

c) Sometimes the connection among nouns with the same individual measure word is not obvious. For instance, nouns that require the individual measure word *tiao* include many long and thin objects such as *she* 'snake', *shengzi* 'role' *lu* 'road', *he* 'river', etc… However nouns such as *xinwen* 'news', *guiding* 'rule' or r*enming* 'life' also require this individual measure word. As we have discussed in the fifth chapter, the connection among nouns with the same individual measure word does not only rely on physical similarities but also has to do with metaphorical extensions, metonymical extensions and conventions

d).Although individual measure words can be divided into a number of commonly used categories, boundaries among these categories are vague, and there are always a number of exceptions to each category. For instance, animal nouns usually occur with the individual measure word *zhi*, but nouns such as, *yu* 'fish' and *sh*e 'snake' occur with the individual measure word *tiao* (CL: long and thin object) which relates to the shape of the referents of the nouns.

e) A few individual measure words can also serve as non-individual measure words depending on the nouns that they precede. For example, in *yi kou zhong* 'a CL: mouth-like object bell/a bell' or *yi kou jing* 'a CL: mouth-like object well/a well' *kou* is an individual measure word, however in *yi kou fan* 'a mouth rice/ a mouthful of rice' *kou* is a temporary measure word.

Based on these problems that may lead to learning difficulties, I will now try to find possible solutions to these problems and help foreign learners master Chinese measure words better.

6.3.2.3. Recommendations for improvement

The teaching of Chinese measure words for foreign learners should also begin with the similarities between Chinese and English measure words and then move

on to the differences. In order to do so, teachers should highlight the distinctions between individual measure words and non-individual measure words and inform students that the non-individual measure words in Chinese are similar to the measure words in English and only the individual measure words are specific to the Chinese language. The non-individual measure words should not pose many difficulties for the learners, because English and Chinese share these measure words, and learners only need to translate them from English into Chinese. However, it may be difficult for learners to decide which nouns can be used with non-individual measure words and which nouns need individual measure words. I would suggest learners to take the following steps to find the appropriate measure word for a certain noun: 1) When English learners confront a Chinese noun, they will automatically translate it into English, 2) if the English translation of the noun is a mass noun, learners can directly translate the English measure word for this noun into Chinese, 3) if the translation of the Chinese noun is a count noun, learners need to look at the context of the noun and decide whether the plural meaning or the singular meaning is needed, 4) if the plural meaning is needed, learners can again translate the English measure word for this noun into Chinese, but 5) if the singular meaning is needed, then an individual measure word is required. As we have discussed in the third and fifth chapters, individual measure words are closely related to the referents of the nouns they precede (human or non-human, shape, function, event, particular set). For a large number of nouns, the co-selection between the individual measure word and the noun should also rely on metaphorical extensions, metonymical extensions and conventions. The measure word choosing process can be summarized in the graphic below:
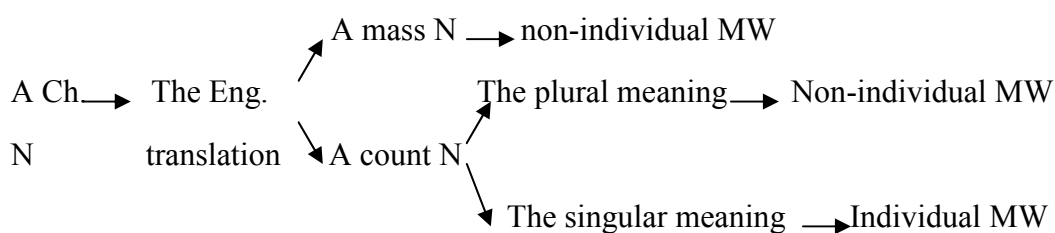
A Ch → The Eng.
N   translation

A mass N → non-individual MW

A count N

The plural meaning → Non-individual MW

The singular meaning → Individual MW

Figure 5: *The measure word choosing process*

Let us take some words as examples: take the word *shui*: its English translation is *water* which is a mass noun, the measure word for water could be *a drop (of water), a liter (of water), a cup (of water)*, etc… and learners can find out the needed measure word in English and translate it into Chinese directly. If we have the word *shu*: its English translation is *book* which is a count noun. Then learners have to look at the context in which the word occurs and decide whether the meaning *books* or *a book* is needed. If the plural meaning is needed, the English measure words for books like *a pile (of books)*, *a shelf (of books)*, and *a roomful (of books)* can again be translated into Chinese. If the singular meaning is need, learners have to consider the categories of Chinese individual measure words and the co-selection rules between measure words and nouns in Chinese. Because books and magazines can be considered as a set, the measure word for this set *ben* (CL: volume) should be chosen.

This method is only a tentative suggestion, and I will leave the verification of it for further research. Problems with this method could be that, as I have mentioned in the fourth chapter, a number of Chinese non-individual measure words have a variety of English translations and some English measure words have a range of translations in Chinese. For instance the Chinese measure *bei* can be translated into *glass*, *cup*, *mug*, etc.., and the English measure word *piece* can be translated into *zhang*, *tiao*, *kuai*, etc… Thus, for these measure words students still have to rely on conventional co-occurrence principles between the measure word and the noun in the target language to get the appropriate translation.

In sum, measure words pose many difficulties to foreign learners, especially the individual measure words which are specific to the Chinese language. Ambiguous categorizations of measure words, misleading introductions of measure words and the complex nature of individual measure words all lead to difficulties. A recommended method to learn Chinese measure words is to make a clear

distinction between non-individual measure words and individual measure words. When the English translation of a Chinese noun is a mass noun, the non-individual measure word is used; when the English translation of a Chinese noun is a count noun, learners have to decide whether the plural or the singular meaning is needed in the context. The plural meaning is to be used with non-individual measure words and the singular meaning is to be used with individual measure words

7. Conclusions

In this thesis, I have tried to state three things: first, I have compared quantifying expressions in English and Chinese; second, I have explored the semantic explanations for quantifying expressions; and finally I have attempted to apply my findings to the foreign language teaching.

Following the introductory chapter, chapter two, three, and four are devoted to the comparisons between English and Chinese quantifying expressions. The detailed descriptions of quantifying expressions in English (chapter two) and Chinese (chapter three) lead to their comparisons which concern nouns, determiners, measure words, implicit quantifying expressions and overt quantifying expressions in these two languages. Concerning the nouns, I have put the bare noun, the count and mass distinction and the number of nouns under discussion and found out that while nouns in English are obligatorily specified for number and a singular count noun cannot stand alone but requires the presence of a determiner, Chinese nouns are not specified for number and in many respects Chinese nouns behave like English mass nouns. While English nouns can be syntactically and semantically divided into count and mass nouns, Chinese nouns are syntactically mass but can be divided into count and mass nouns semantically. In contrast to English count nouns which can be marked for plurality, Chinese nouns do not change for number (except the plural marker *–men* that can be added to nouns denoting human beings and pronouns). The singular and plural distinction in Chinese depends on the determiner, especially the numeral, the measure word that precedes the noun, and the context in which the noun occurs. Determiners in English differ from those in Chinese: first of all, while in English determiners are divided according to their positions before nouns into central determiners, predeterminers and postdeterminers, in Chinese they are divided according to their functions into demonstrative determiners, specifying determiners, numerical determiners and quantitative determiners. Secondly,

determiners in English and Chinese differ in regard to their lexical meaning, their abilities to appear with nouns and their syntactic properties. The comparison between English and Chinese measure words shows that there are more similarities than differences between them. The non-individual measure words are shared between English and Chinese. The difference lies in individual measure words that are specific to the Chinese language. In order to avoid ambiguities in the categorization of measure words, I have suggested dividing the non-individual measure words into five groups which are quantifying collectives, configurations, partitive nouns, container measures and standard measures. The individual measure words (classifiers) can be firstly divided into individual measure words (classifiers) for humans and for non-humans. Under individual measure words (classifiers) for non-humans, we can still divide a number of subcategories: individual measure words (classifiers) that indicate (1) shapes of the referents of the nouns, (2) functions of the referents of the nouns, (3) the occurrence of an event, (4) individual measure words (classifiers) for particular sets of nouns, (5) the general individual measure words (classifier) *ge* and (6) other individual measure words (classifiers) that cannot be assigned to the above listed categories. Moving on to the implicit quantifying expressions we can see that in English there are five surface manifestations of implicit universal quantification, which include: 1) the - singular count noun, 2) the - plural count noun, 3) a/an - singular count noun, 4) ø - mass noun, 5) ø - plural count noun. In contrast, possibly due to the lack of articles and number changes in Chinese, implicit quantity can be normally realized only through bare nouns in Chinese. Overt quantifying expressions in English include: 1) numeral - count noun, 2) quantifier - noun, 3) numeral/quantifier - (modifier) - measure word - of - (modifier) -Noun. In Chinese, since numerals cannot co-occur with nouns directly but require the presence of measure words between them, only pattern 2) and 3) can be formed.

In chapter five, the semantic explanations for quantifying expressions are discussed. I have tried to find out the semantic explanations for the count and

mass distinction, and have explored the semantics of selected quantifiers and measure words. I have found out that the conceptual criteria which include boundedness, internal composition and countability can help us distinguish a number of count nouns from mass nouns, but we cannot solely rely on them to explain all count and mass distinctions. The distinction between count and mass nouns is flexible because nouns can shift from a count sense to a mass sense and vice versa. It also shows that mass nouns can be further divided into mass-mass nouns and count-mass nouns. I have argued that although Chinese nouns have the syntactic distributions of English mass nouns, the semantic distinction between count and mass nouns is still relevant to the Chinese language. Through the discussion of semantic interpretations of selected quantifiers we can see that there are a number of semantic differences between English and Chinese quantifiers. For instance, while the universal quantifier *each* only gets a distributive reading in English its Chinese counterpart *ge* can get either a distributive or a collective reading. Concerning measure words, I have talked about the semantic parameters underlying measure words which include animacy, physical properties and function, the semantic roles of measure words (to individuate and quantify the referents of their succeeding nouns as well as to clarify the meaning of the nouns with which they co-occur), and the co-selection criteria between measure words and nouns (similarity, metonymical extension and convention).

In the final chapter, I have tried to state some pedagogical implications emerging from this contrastive study. In order to know how this study could be useful in the day-to-day teaching in the classroom, I have decided to look at the roles and functions of contrastive studies in general at first. It has been shown that since the learning of a second language can be positively or negatively influenced by the learners' native languages, a contrastive study between learners' L1 and L2 can predict difficulties and errors in their second language learning processes. I have then followed the assumption that differences between a L2 structure and its counterpart in the L1 as well as the lack of a L2 structure in the L1 pose

difficulties for learners, and have further tried to find out the main sources of difficulties for the learners concerning quantifying expressions. I have tried to show that the differences in plural formation rules may pose notably difficulties for Chinese students learning English. They may omit the regular plural markers, over-generalize the plural formation rules and blur the count and mass noun distinction. In order to assist students to overcome these learning difficulties, teachers are recommended to highlight the differences in plural formation rules between English and Chinese, explicitly explain the English plural formation rules and guide students in developing their self-learning strategies. With regard to English students learning Chinese quantifying expressions, it is measure words that may pose the biggest difficulties to them, because individual measure words do not exist in English. The difficulties may be caused by the complex nature of individual measure words, ambiguous categorizations and misleading introductions of measure words. I have tried to argue that the learning difficulties could be considerably reduced by making the clear distinction between individual measure words and non-individual measure words. Finally, a five-step model of selecting an appropriate measure word for a noun is provided. There are still challenges to this model, but it can be applied to most nouns and should be helpful for students to learn Chinese measure words.

This thesis shows differences and similarities between English and Chinese quantifying expressions and transfers the findings to use in a day-to-day foreign language classroom setting. Still, this thesis is just the beginning of research on this topic. A lot of questions are still open and need to be further investigated. One open question concerns the quantification pattern 'quantifier - of - determiner - noun'. I have not been able to find convincing explanations for the optional deletion of the partitive *of* after the three quantifiers *all*, *both*, and *half*. Additional investigations are still needed to search for the root of the count and mass noun distinction. Further research needs to be conducted in order to verify the usefulness of the noun-measure word selecting method that has been suggested.

It is important to investigate these questions further in order to help second language learners to learn English or Chinese with more ease. As so many people are trying to learn English and Chinese nowadays this research will be expedient.

References

Aikhenvald, Alexandra Y. 2000. *Classifiers*. New York: Oxford University Press.

Aldridge, M.V. 1982. *English Quantifiers: A study of quantifying expressions in linguistic science and modern English usage*. Amersham: Avebury Publishing Company.

Alexander, L.G. 1990. *Longman English Grammar Practice*. New York: Longman.

Allan, K. 1977. "Classifiers". *Language* 53, 293-310.

Bache, Carl. 2000. *Essentials of Mastering English*. Berlin: Mouton de Gruyter.

Bache, Carl; Davidsen-Nielsen, Neils. 1997. *Mastering English: an advanced grammar for non-native and native speakers*. Berlin: Mouton de Gruyter.

Biber, Douglas. 1999. *Longman Grammar of Spoken and Written English*. Harlow: Longman.

Brems, Lieselotte. 2003. "Measure Noun constructions: An instance of semantically-driven grammaticalization". *International Journal of Corpus Linguistics* 8:2, 283-312.

Carter, Ronald; McCarthy, Michael. 2006. *Cambridge Grammar of English*. Cambridge: Cambridge University Press.

Chan, Alice Y. W. 2004. "Noun Phrases in Chinese and English: A Study of English Structural Problems Encountered by Chinese ESL Students in Hong Kong". *LANGUAGE, CULTURE AND CURRICULUM* Vol. 17, No. 1, 33-47. http://www.multilingual-matters.net/lcc/017/0033/lcc0170033.pdf (29 April 2008).

Chao, Yuen Ren. 1968. *A Grammar of Spoken Chinese*. Berkeley: University of California Press.

Chen, Xuezhu; Hsu, Yu-ying. "Comparison of general classifiers of Chinese and Japanese". *Wu Feng Xue Bao* 11, 291-300. http://140.130.128.66/files/34.pdf (25 June 2008).

Cheng, Lisa. L-S; Sybesma, Rint. 1999. "Bare and Not-So-Bare Nouns and the Structure of NP". *Linguistic Inquiry* 30, 509-542.

Cheng, Lisa. L.-S; Sybesma, Rint. 2005. "Classifiers in four varieties of Chinese". http://www.cbs.polyu.edu.hk/tang/papers/PAPER%20Cheng%20&%20Sybesma.PDF (06 May 2008).

Chierchia, Gennaro.1998. "Plurality of mass nouns and the notion of 'semantic parameter'". In Rothstein, S (ed.). *Events and Grammar*. London: Kluwer Academic Publishers, 53-103.

Chu, Chauncey Cheng-hsi. 1983. *A Reference Grammar of Mandarin Chinese for English Speakers*. New York: Lang.

Corder, S.P. 1991. "The significance of learners' errors". In Nells, Dietrich (ed.). *Studies in Contrastive Linguistics and Error Analysis*. Heidelberg: Julius Groos Verlag, 27-35.

Croft, William. 1994. "Semantic universals in classifier systems". *Word* 45/2, 145-171.

Crystal, David. 2004. *Making Sense of Grammar*. Harlow: Pearson Longman.

Denny, J. Peter. 1976. 'What are noun classifiers good for?' In Salikoko, S. Mufwene, et al. (eds.). *Papers From the 12th Regional Meeting, Chicago Linguistic Society*. Chicago: Chicago Linguistic Society, 122-132.

Denny, J. Peter. 1986. 'The Semantic Role of Classifiers'. *Craig* 1986a, 297-308.

Dirven, Rene; Radden, Guenter. 2007. *Cognitive English Grammar*. Philadelphia: John Benjamins Publishing Company.

Dodge, Ellen; Abby Wright. 2002. "Herds of wildebeest, flasks of vodka, heaps of trouble: An embodied Construction Grammar approach to English measure phrases". In J. Larson; M. Paster (eds.). *Proceedings of the 28th Annual Meeting of the Berkeley Linguistics Society*. Berkeley: Berkeley Linguistic Society, 75-86.

Doetjes, Jenny. 1996. "Mass and count: syntax or semantics?" *The Proceedings of the meaning on the HIL*, 34-52. Leiden: Leiden University.

Doetjes, Jenny. "Count and mass properties of nouns and verbs". http://www.let.uu.nl/~jenny.doetjes/personal/proefschrift/ho2.pdf (05 Jan 2009)

Downing, Angela; Locke, Philip. 1994. *A University Course in English Grammar*. New York: Prentice Hall Internat.

Downing, Pamela. 1996. *Numeral Classifier Systems*. Philadelphia: John

Benjamins Publishing Company.

Duskova, Libuse. 1991. "On sources of errors in foreign language learning". In Nells, Dietrich (ed.). *Studies in Contrastive Linguistics and Error Analysis*. Heidelberg: Julius Gross Verlag, 37-62.

Eastwood, John. 1994. *Oxford Guide to English Grammar*. Oxford: Oxford University Press.

Freeborn, Dennis. 1995. *A Course Book in English Grammar.* London: Macmillan.

Greenbaum, Sidney; Quirk, Randolph. 1990. *A Student's Grammar of the English Language*. Harlow: Longman.

Hall, Robert A Jr. 1968. "Contrastive grammar and textbook structure". *Alatis* (1968), 175-183.

Huang, Chu-Ren. 1989. "From Quantitative to Qualitative Studies: Developments in Chinese Computational and Corpus Linguistics". *Han xue yan jiu di 18 juan te kan.* http://ccs.ncl.edu.tw/Chinese_studies_18_s/18_s_20.pdf   (26 May 2008).

Huang, Chu-Ren; Ahrens, Kathleen. 2001. "Individual, kinds and events: classifier coercion of nouns". *Language Sciences* 25 (2003), 353-373.

Huang, J. M. 1994. "A Study of L1 Interference in Chinese Senior High Students' Writing". *Xi Song Lun Tan* 4. http://163.21.50.23/communitize/share/94/94-4.pdf (28 Aug 2008)

Huddleston, Rodney D; Pullum, Geoffrey K. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

Iljic, Robert. 1994. "Quantification in Mandarin Chinese: two markers of plurality". *Linguistics* 32, 91-116.

Jackson, Howard. 1981. "Contrastive Analysis as a Predictor of Errors, with Reference to Punjabi Learners of English". In Fisiak, J (ed.). *Contrastive Linguistics and the Language Teacher*. Oxford: Pergamon Press, 195-205.

Lee. W. R. 1968. "Thoughts of contrastive linguistics in the context of foreign language teaching". *Alatis* (1968), 185-194.

Leech, Geoffrey; Svartvik, Jan. 1994. *A Communicative Grammar of English*. London: Longman.

Lehrer, Adrienne. 1986. "English classifier constructions" *Lingua* 68, 109-148.

Li, Chi. 1960. *A Provisional System of Grammar for Teaching Chinese*. Berkeley: University of California Press.

Li, Deijin; Cheng, Meizhen. 1994. *A Practical Chinese grammar for Foreigners*. Beijing: Sinolingua.

Li, N; Thompson, Sandra A. 1981. *Mandarin Chinese*. Berkeley: University of California Press.

Li, Wendan. 1998. "The pragmatic function of numeral-classifers in Mandrin Chinese". *Journal of Pragmatics* 32, 1113-1133.

Lin, Helen T. 1984. *Essential Grammar for Mandarin Chinese*. Boston: Cheng & Tsui Company.

Lin, Hua. 2001. *A Grammar of Mandarin Chinese*. Munich: Lincom Europa.

Liu, Jing. 2006. "Chinese Learners and the English Plural Forms". *The Linguistic Journal*, 127-147.
http://www.linguistics-journal.com/Nov2006LinguisticsJournal.pdf
(28 June 2008).

Liu, Yuehua; Pan, Wenyu; Hu, Weihua. 2001. *Shi Yong Xian Dai Han Yu Yu Fa*. Beijing: Shang Wu Yin Shu Guan.

Lu, Fubo. 1995. *Dui Wai Han Yu Jiao Xue Shi Yong Yu Fa*. Beijing: Bei Jing Yu Yan Wen Hua Da Xue Chu Ban She.

Marton, Waldemar. 1981. "Pedagogical Implications of Contrastive Studies". In Fisiak, Jacek (ed.). *Contrastive Linguistics and the Language Teacher.* Oxford: Pergamon Press, 157-170.

Mauer, Jay. 1995. *Focus on Grammar: An advanced Course for Reference and Practice*. London: Longman.

McEnery, A.;Xiao, Z. 2007. "Quantifying constructions in English and Chinese: A corpus-based contrastive study".
http://209.85.129.132/search?q=cache:EF5YjboXIn0J:ucrel.lancs.ac.uk/publicatio ns/CL2007/paper/19_Paper.pdf+Quantifying+constructions+in+English+and+Chi nese:+A+corpus-based+contrastive+study&hl=zh-CN&ct=clnk&cd=10&gl=at
(20 July 2008).

Mohamed, Abdul Rashid; Goh L. L.; Wan, Rose Eliza. 2004. "English errors and Chinese learners". *Sunway College Journal* I, 83-97. http://www.sunway.edu.my/others/vol1/rashid.pdf   (08 Aug 2008)

Newing, F.E.; Bowood, Richard. 1965. *Animals and How They Live*. Wills & Hepworth Ltd.

Nickel, Gerhard; Wagner, K H. 1968. "Contrastive linguistics and language teaching". *IRAL* 6, 233-255.

Po-Ching, Yip; Rimmington, Don. 1997. *Chinese: an essential grammar*. London: Routledge.

Po-Ching, Yip; Rimmington, Don. 1998. *Basic Chinese*. London: Routledge.

Po-Ching, Yip; Rimmington, Don. 2004. *Chinese: A Comprehensive Grammar*. London and New York: Routledge.

Ouirk, Randolph; Greenbaum, Sidney. 1973. *University Grammar of English*. Harlow: Longman Group UK Limited.

Ouirk, Randolph; Greenbaum, Sidney; Leech, Geoffrey. 1985. *A Comprehensive grammar of the English Language*. London: Longman.

Ringbom, Hakan. 1986. "Crosslinguistic influence and the foreign language learning process". In Kellerman, Eric; Sharwood Smith, M (eds). *Crosslinguistic influence in second language acquisition*. New York: Pergamon Press, 150-162.

Rothstein, Susan. 2007. "Counting and Mass-Count Distinction". http://faculty.biu.ac.il/~rothss/Counting%20and%20the%20Mass%20Count%20Distinction%20june%202007.pdf (19 June 2008).

Rullmann, Hotze; You, Aili. 2003. "General Number and the Semantics and Pragmatics of Indefinite Bare Nouns in Mandarin Chinese". http://semanticsarchive.net/Archive/jhlZTY3Y/Rullmann&You2003.pdf (19 April 2008)

Rundell, Michael; Fox, Gwyneth (eds). 2002. *Macmillan English Dictionary*. Oxford: Macmillan Education.

Senft, Gunter. 2000. *Systems of nominal classification*. Cambridge: Cambridge University Press.

Shie, J-S. 2003. "Figurative extension of Chinese classifiers". *Journal of Da-Yeh*

University 12, 73-83. http://journal.dyu.edu.tw/dyujo/document/cv12n207.pdf (22 June 2008)

Sinclair, John (ed.). 1990. *Collins COBUILD English Grammar*. London: Collins.

Sridhar, S.N. 1981. "Contrastive Analysis, Error Analysis and Interlanguage: Three Phrases of One Goal". In Fisiak, Jacek (ed.). *Contrastive Linguistics and the language Teacher*. Oxford: Pergamon Press, 207-241.

Stockwell, Robert P.; Bowen, Jean D. 1965. *The Sounds of English and Spanish.* Chicago: University of Chicago Press.

Tang, Chih-Chen, J. 1993. "Chinese de and English's" *Bulletin of the Institute History and Philology, Academia Sinica*, 63.4.: 733-757.

Tang, Chih-Chen, J. 2005. "Nouns or Classifiers: A Non-movement Analysis of Classifiers in Chinese". *Language and Linguistics* 63, 431-472.

Wikipedia. 2008. "Chinese measure word". http://en.wikipedia.org/wiki/Chinese_measure_word (29 June 2008).

Woods, Edward G; Mcleod, Nicole J. 1990. *Using English Grammar: meaning and form.* New York: Prentice hall International.

Xiao, R. 2006. "Using corpora to study classifiers in mandarin Chinese". http://www.lancs.ac.uk/postgrad/xiaoz/papers/Berlin_talk.ppt (22 June 2008).
.

Yang, Rong. 2001. "Common Nouns, Classifiers, and Quantification in Chinese". *Rutgers University Doctoral Dissertation*. http://ling.rutgers.edu/downloads/RYThesis.PDF (29 July 2008).

Zhang, Lei. 2007. "A Semantic Study of Universal Quantification in Chinese" http://lbms03.cityu.edu.hk/theses/ftt/mphil-ctl-b22179574f.pdf (20 June 2008).

Zhang, Xinxin; Sang, Ye (eds.). 1986. *Beijingren: yi bai ge putong ren de zishu.* Shanghai: Shanghai wenyi chubanshe.

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