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DAO AS A VERBAL SUFFIX IN CHINESE VERBS

BY

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THESIS

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Abstract

This thesis focuses on the resultative ending *dao* as a suffix to Chinese verbs. Although *dao* is commonly understood as a mono-morphemic verb, a preposition or a verbal complement, little attention has been given to its function as a verbal suffix. This study attempts to highlight the inflectional nature of *dao* first by elaborating its differences from the virtually synonymous resultative ending *jian* in the case of perception verbs. Based on a stativity test proposed by Lakoff (1965), it was able to prove that *dao* has more inflectional features compared to the *jian* counterpart as it shows higher compatibility with intentionality adverbs and more natural occurrences in imperative contexts.

However, since the initial research only deals with a limited amount of perception verbs that allow both *jian* and *dao* as a resultative ending, it is insufficient to prove whether *dao* actually operates as a verbal suffix in other types of perception verbs. Thus, a wider range of perception verbs that do not take *jian* but *dao* as a resultative ending were analyzed to explore *dao*'s inflectional nature to Chinese perception verbs. Using Vendler's verb classification (1965) and corpus data analysis, it was able to show that *dao* is the most frequent grammatical morpheme to occur directly after perception verbs and has a function of assigning the feature of achievement verb to the entire verb compound.

Furthermore, this thesis also discusses novel *dao* use in internet language where *dao* is being infixes in V-O compounds verbs. Chen and Tao (2014) argue for *dao*'s function as a transitivity marker by going through the examples of extended *dao* usages in contemporary Chinese language. Yet, the examples where *dao* co-occurs with intransitive compound verbs indicate that *dao* is not merely a transitivity marker, but behaves as a grammatical morpheme

that increases the sense of achievement without drastically altering the meaning of the entire compound verb just as it does to perception verbs. Given the researches all put together, this paper highlights *dao* being grammaticalized into a verbal suffix in contemporary Chinese language.

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1. Introduction

Chinese is widely known as an isolating language having very little inflection operating on its words. However, Chinese actually has a non-trivial number of grammatical morphemes that realize inflection processes on its words. Besides noun suffixes such as *-men*, *-zi*, *-tou*, and etc, Chinese also has some verbal suffixes that operate as aspectual markers. These verbal suffixes include *-le*, *-zhe* and *-guo*, and usually entail the result or completion of the action denoted by the verb they attach to. Unlike many resultative endings such as *-jian* ‘to perceive’, *-wan* ‘to finish’, and *-dong* ‘to understand’, all of which are also used to denote the result or completion of the action, the verbal suffixes do not percolate their meaning up to the compound verbs they form, but only perform morphological operation as grammatical markers. Such features of verbal suffixes are known to have resulted from grammaticalization, which causes their original meaning to be bleached to a great degree leaving only grammatical functions behind.

Since grammaticalization is a linguistic process that occurs over an extended period of time, it is difficult to measure the extent to which it is in the middle of an on-going process. These new language usages usually occur outside the boundary of canonical usages, so they sometimes disappear into the background of linguistic history unless they are officially recognized as proper language expressions. Despite its relatively short life span, such novel language usages provide us with valuable information about which direction a certain part of language is moving towards if sufficient evidence can be provided. Since the novel language usages originate from canonical usages, it allows linguists to conjecture a path of grammaticalization.

Speaking of a novel language usage going through grammaticalization, this paper focuses on *dao* as a verbal suffix, which has long been understood as a bound root or a preposition. As Chen and Tao (2014) explain, the use of *dao* in contemporary Chinese has been extended over to the context where it is not necessarily required, and some tokens from a corpus show that they can even attach to prepositions. From these new usages of *dao*, it can be assumed that there is some kind of synchronic linguistic transformation process underway in contemporary Chinese.

As the first step to discuss *dao* as a verbal suffix, the paper starts with the chapter that explains how *dao* differs from the bound morpheme *jian*. Since *dao* and *jian* are considered virtually synonymous in case of some perception verbs, it is appropriate to compare the two resultative endings to identify distinctions between them in order to highlight inflectional nature of *dao*. Since the first chapter only deals with certain perception verbs that allow both *jian* and *dao* as resultative ending, the next chapter extends the range of research over to other perception verbs, for which *dao* but not *jian* is available as a verbal ending, to stress that the former is more than a bound root as far as perception verbs are concerned. The final chapter then talks about the extended usages of *dao* in the contemporary Chinese based on internet language use in which *dao* is used to operationalize inflection on the Chinese V-O compound.

2. Comparison of *Jian* and *Dao* in the Case of Perception Verbs

2.1. Introduction

Among many resultative complements that share similar meanings, *jian* ‘to perceive’ and *dao* ‘to arrive’ are particularly difficult to distinguish from one another in term of their usages when combined with perception verbs. For example, *kandao* ‘to see’ and *kanjian* ‘to see’ are both translated into the same expression as the examples shown below, and causes learners of Chinese language to take two different types of verbs as synonyms.

- (1) *Wo* *kanjian* *ta* *le.*
 I see-perceive him ASP
 ‘I saw him.’
- (2) *Wo* *kandao* *ta* *le.*
 I see-arrive him ASP
 ‘I saw him.’

Moreover, in terms of dictionary interpretation, V-*jian* and V-*dao* perception verbs are treated as synonyms. The dictionary interpretation of *kanjian* ‘to see’ is defined as *kandao* ‘to see’. For *tingjian* ‘to hear’, it is *tingdao* ‘to hear’. For *wenjian* ‘to smell’, it is *wendao* ‘to smell’. As in these examples, both V-*jian* and V-*dao* perception verbs are treated as interchangeable words. However, it should be emphasized that *jian* and *dao* are two different characters that represent two different meanings. Therefore, it can be assumed that there exists difference in meaning between V-*jian* and V-*dao* verbs. *Modern Chinese Dictionary* and *Modern Chinese Standard Dictionary* are considered as the representative Chinese dictionaries. In these dictionaries, *jian* and *dao* as resultative complement are defined as in the table below.

Table 1: Dictionary Interpretations of *Jian* and *Dao*

	<i>Modern Chinese Dictionary</i>	<i>Modern Chinese Standard Dictionary</i>
<i>Jian</i>	X	Used after some verbs (usually the verbs related to visual, auditory, olfactory perception) to express that something has been perceived. <i>-de</i> (-得) and <i>-bu</i> (-不) can be inserted in the middle.
<i>Dao</i>	Used as a complement of verb to describe the result of action.	Used after verb as a complement to describe the action has reached a goal or achieved a result

Both dictionaries agree with each other that *dao* functions as a resultative complement. Yet, *Modern Chinese Standard Dictionary* is more specific in interpretation of *dao* as resultative complement than *Modern Chinese Dictionary*. Unlike *Modern Chinese Dictionary*, it states that the meaning of *dao* is to achieve a goal or a result. As for *jian*, the two dictionaries show a clearer discordance in their interpretation. *Modern Chinese Dictionary* does not mention any grammatical function of *jian* as a complement at all whereas its counterpart clearly state that the meaning of *jian* used as resultative complement is to perceive the object. Moreover, what should be noted about *dao* is that both dictionaries give a grammatical definition of it as a complement. However, for *jian*, both dictionaries do not mention explicitly its function as a complement. Another point to be noted is that in most cases, perception verb + *jian* are treated as lexicalized word by dictionaries, but perception verb + *dao* are not. Given this, this chapter will focus on comparison of semantic structure between V-*jian* and V-*dao* as perception verbs.

2.2. Liu's Comparative Study on V-*jian* and V-*dao*

Comparative analysis on V-*jian* and V-*dao* by Liu (2009) indicates that although there are many differences between the two types of verbs, they show a great degree of similarity of

meaning in some cases. According to Liu, when used as perception verbs, V-*jian* and V-*dao* can be interchangeable in their meaning.

Liu conducts comparative analysis on V-*jian* and V-*dao* for each type of verb excluding those considered as uncommon in modern Chinese. Liu first begins with visual perception verbs, *kanjian* and *kandao*. Regarding these two verbs, Liu does not reveal much about difference in meaning between them. Liu explains that they are almost identical in grammatical position and function, and simply mentions that their difference in meaning only occurs in subtle aspects and that their selection differs by dialects.

When combined with the auditory perception verb *ting*, Liu presents relatively clear semantic distinction between *tingjian* and *tingdao* by analyzing the sentences where those verbs appear. She states that *tingjian* occurs much more frequently than *tingdao* to describe the situation where the agent hears physical sound. Conversely, in the sentences where the agent hears some news or information, only *tingdao* can occur. What causes this difference is that the meaning of *jian*, which is ‘to perceive’, percolates and constrains the meaning of the whole compound verb. On the other hand, in the case of *tingdao*, *dao* has only a complementary function of representing the result of the action that the head verb describes; thus, *dao* has a low level of restriction on selection of objects.

The last case to be discussed is *zhuang* ‘to bump’ and *peng* ‘to bump’. In prior to comparative analysis on *zhuangjian*/ *pengjian* and *zhuangdao*/ *pengdao*, Liu shows dictionary definitions of *zhuang* and *peng* as following: a) to abruptly crash into a moving person or an object, b) to come across, to encounter, to meet (*pengjian*, *yudao*, *jian*), c) to search, to explore (*shitan*). The primary definition of *zhuang/peng*, which is a), indicates that both verbs describe

the action of physically encountering an object, but does not entail the result of visually perceiving it. Therefore, by adding *jian*, whose meaning is ‘to perceive’, *zhuangjian* and *pengjian* are able to represent the result of visual perception. However, *dao*, unlike *jian*, does not have the meaning of visual perception, but as already mentioned in the case of *tingdao*, only plays a role as a complementary, which describes the completion of the action described by the head verb. In this case, *zhuang* and *peng* are understood not as a) definition, but as b) definition, which is ‘to encounter or to come across’. Furthermore, Liu also discusses *yu* ‘to meet’ and suggests that it differs from those physical contact verbs in that it implies visual perception. Based on this assumption, Liu explains *yudao* and *yujian* as interchangeable words, but at the same time, points out that each of them has a different semantic focus. According to Liu, *yujian* emphasizes the result of visual perception whereas *yudao* simply the result or completion of action itself. As it can be seen from the example like *yudao yige wenti* ‘to encounter a problem’, *yujian* is not allowed in a context in which visual perception is not possible. If *yujian* happens to appear in this case, this would make the entire sentence sound unnatural.

Liu attempts to explain difference of meaning between V-*jian* and V-*dao* through a comparative study on each type of head verbs that often allow both *jian* and *dao* as resultative endings. In this study, Liu makes relatively clear semantic distinction with regard to non-visual perception and physical contact verbs such as *ting* and *zhuang*. However, as for the case of *kan* ‘to see’, Liu does not provide much information on the semantic distinction between *jian* and *dao*. Therefore, the following section will focus on the semantic distinction between *kanjian* and *kandao* in order to elaborate the semantic difference between V-*jian* and V-*dao* perception verbs.

2.3. Comparing V-*jian* and V-*dao*

2.3.1. Methodology

For the comparative analysis, *kanjian* and *kandao* were chosen because these two words are considered to be the most similar in meaning among many V-*jian* and V-*dao* verb pairs. A comparative study by Liu (2009) only indicates that the former is literary in its tone while the latter colloquial without mentioning any difference in meaning. However, as *jian* and *dao* represent different meanings, ‘to perceive’ and ‘to arrive’, respectively, it can be assumed that there are some points where V-*jian* and V-*dao* can be semantically distinguished even when they have the identical head perception verb. According to Packard (2000), *jian* and *dao* are both classified as ‘attainment’ resultatives whose arguments do not appear as arguments of the gestalt verb. Yet, it can be observed that the meaning of *jian* is clearly percolated up to the gestalt compound verb whereas that of *dao* is absorbed into the head verb and assigns the entire verb compound with sense of achievement. Following is the argument structure analysis based on Packard (2000).

*A: agent T: Theme

- (3) *Wo* i(A) *kan jian ta* j(T) *le*.
I look - perceive him ASP
‘I saw him.’
kan ‘look’ [AiTj]
jian ‘perceive’ [AiTj]
kanjian ‘See’ [AiTj]

* A: Agent, T: Theme, L: Locative

- (4) *Wo* i(A) *kan dao ta* j(T) *le*.
I see - arrive him ASP
‘I saw him’
kan ‘see’ [Ai Tj]
dao ‘arrive’ [Ai Lj]
kandao ‘see’ [Ai Tj]

Considering this, *V-jian* can be defined as achievement and stative verb in that it describes the result of perceiving the object via action represented by the head verb. On the other hand, it is possible to classify *V-dao* as achievement verb because it puts more emphasis on the completion of action of seeing itself. Despite the fact that both types of verbs share in common that they refer to the activity that has already occurred, they still differ from each other in its stative-ness. In order to prove this point, the verb stativity test proposed by Lakoff (1965) is applied to examine whether there is any semantic distinction between *V-jian* and *V-dao* perception verb with the same head. According to Lakoff, stative verbs can be distinguished from non-stative verbs through testing their compatibility with intentionality adverb and availability of transformation into imperative sentence. If any semantic difference between *kanjian* and *kandao* can be found, then it would help in elaborating semantic distinction between the two resultative morphemes. In order to do this, comparison of *kanjian* and *kandao* was conducted based on data collected via corpus of Communication University of China (National Language Resources Monitoring and Research Center Broadcast Media Language Branch, 2009). Moreover, the text analysis using Linux was conducted to provide empirical evidence that *dao* holds more productivity than *jian* by comparing the number of tokens where each morpheme occurs as a verbal ending.

2.3.2. Compatibility with Intentionality Adverbs

According to what has been discussed so far, when used as perception verbs, *V-jian* and *V-dao* can be understood as stative-like verb and non-stative verb respectively. Although both have a feature of achievement verb, there exists a difference between them in that *V-jian* describes the state of perceiving an object. Lakoff suggests a test of compatibility with adverbs as a way to distinguish stative and non-stative verbs. However, this does not mean that any type

of adverb is allowed for the test. The adverbs adequate for the test are the ones that involve agent’s intentionality such as ‘deliberately’ and ‘carefully’. These intentionality adverbs are used to modify the process of action, not the resultative state of action because it is during the process or procedure of action that the agent’s intention can be involved in. For example, the verb like ‘to know’ does not describe an effortful action but only the mental state of perceiving the object, which is not concerned about the process of how the state has been achieved. Thus, a sentence like ‘John carefully knew the answer’ is considered as an awkward expression except for some specific contexts (Dowty, 1979). Conversely, non-stative verbs are compatible with intentional adverbs as in ‘John carefully said the word’ because ‘to say’ is an action for which the agent’s effort is required.

Therefore, with the idea that the difference between *V-jian* and *V-dao* is stativity, contrastive analysis was conducted by testing the verbs’ compatibility with Chinese adverbs that have the meaning of ‘carefully or deliberately’, which are *liuxin* ‘carefully’, *youyi* ‘deliberately’, *guyi* ‘deliberately’, *zhuyi* ‘carefully’. The table below shows the number of examples found for each adverb from the corpus.

Table 2: Compatibility of *Kanjian* and *Kandao* with Intentionality Adverbs

	<i>Kanjian</i>	<i>Kandao</i>
<i>Liuxin</i>	X	X
<i>Youyi</i>	X	X
<i>Guyi</i>	X	X
<i>Zhuyi</i>	X	6

The result shows that both *kanjian* and *kandao* do not show much compatibility with intentionality adverbs in general. However, what should be noted here is that there is no example

found for *kanjian* that combines with intentional adverbs while there are a few examples where the intentional adverb *zhuyi* ‘carefully’ modifies the verb *kandao*. Since *zhuyi* means ‘attentively or carefully’ in English, it can modify the process or the procedure of action. See the example below.

- (5) *Wo hen zhuyi kandao xinwen meiti.*
 I very carefully look-arrive news meidia
 ‘I saw the news very carefully.’
- (6) *Dajia zhuyi kandao gongfu xiongmao*
 everyone carefully look-arrive kungfu panda
ji ge zi.
 some CLF letter
 ‘Everyone, please see these letters ‘Kungfu Panda’ carefully.’

All examples above describe that an agent’s action of seeing itself has been made in a careful manner. Since *kan* ‘to look’ is understood as an active process to achieve perception of an object, it is possible for the resultative verb *kandao* to co-occur with the adverb *zhuyi*. However, for *kanjian*, no sentence in which it occurs with intentional adverbs was found because the resultative ending, *jian*, which means ‘to perceive’, plays a significant role in the meaning of the gestalt verb and leaves the feature of stative verb, which makes combination with intentional adverb like *zhuyi* unnatural. Given the result above, a test of compatibility with a series of intentional adverbs highlight a strong stative feature that *-jian* has.

2.3.3. Compatibility with Imperative Auxiliary Verbs

Although *kanjian* and *kandao* show a clear difference in terms of their compatibility with *zhuyi*, there are only a limited number of examples to be examined. Moreover, there are no examples found for other intentionality adverbs. With the number of examples being limited, it is difficult to conclude that *kanjian* is more stative-like than *kandao*. Thus, another analysis was

conducted by testing the two resultative verbs' compatibility with auxiliary verbs with imperative tone, so a clear contrast could be discovered. For the analysis, Chinese auxiliary verbs such as *yinggai* 'must', *yidingyao* 'have to', *bixu* 'must', *bixuyao* 'have to' and *bixudei* 'have to' were selected, and the result of the research on the number of examples found for each auxiliary verb is as in Table 3.

Table 3: Compatibility of *Kanjian* and *Kandao* with Imperative Auxiliary Verbs

	<i>Kanjian</i>	<i>Kandao</i>
<i>Yinggai</i>	1	320
<i>Yidingyao</i>	X	28
<i>Bixu</i>	X	89
<i>Bixudei</i>	X	3
<i>Bixuyao</i>	1	18

According to the result, when it comes to combination with auxiliary verbs, *kandao* shows much higher frequency than *kanjian*, for which only one example each for *yinggai* and *bixuyao* was found. From here, we will focus on how *kanjian* and *kandao* differ in meaning when combined with imperative auxiliary verbs by reviewing the examples below. We will first start with *yinggai*.

The result of the corpus analysis indicates that there is only one sentence in which *yinggai kanjian* occurs.

- (7) *Ni yinggai kanjian rujin bei yulehua de*
 you must look-perceive nowadays PASS entertaining DE
Naxie xueshu dou shi shenme xueshu.
 those scholarship all be what scholarship
 'You must have seen which fields of study became entertainment-like these days.'

What is interesting about this sentence is that *yinggai* is not construed as imperative modality, but as epistemic modality, which describes the speakers' judgement about the truth of proposition. Thus, in this instance, *yinggai kanjian* expresses certainty about the truth of proposition. Below are the examples of *yinggai kandao*.

- (8) *Women yinggai kandao zhe bu dianying you*
 we must look-arrive this CLF movie exist
yi ge feichang zhongyao de tedian.
 one CLF very important DE characteristic
 'We have to see that there is an important characteristic about this film.'

In examples above, *yinggai kandao* does not describe certainty about truth of proposition as *yinggai kanjian* does, but imperative modality of obligation. An auxiliary verb used with imperative modality is an expression that requires an agent's effort in his action under presupposition that the action has not yet been fulfilled. Similarly, imperatives ask the hearer of the conversation to pay extra attention to or put more effort into a certain action. Based on what has been discussed, *yinggai kandao* can be considered as having a tone of imperatives. In this case, it is possible to test another standard to distinguish stative and non-stative verbs. Lakoff (1965) states that a sentence like '*know the answer*' cannot be accepted in general because the perception verb *know* describes the state of knowing a fact or an object. On the other hand, non-stative verbs such as *run* and *build* can be transformed into imperatives without any problem (Dowty, 1970). Based on the result of the analysis on the example above, this standard can be applied to compare *kanjian* and *kandao*. *Kanjian*, which inherits stativity from the resultative morpheme *jian* 'to perceive', comes to emphasize the certainty of some fact when preceded by *yinggai*, but *yinggai* combined with *kandao* describes the obligation of the action. Let us turn to the next case where another modal verb *bixuyao* is followed by *kanjian* and *kandao*. A sentence below is an example found for *kanjian*.

- (9) *Wo bixuyao kanjian dixia de shui qing wo*
 I must look-perceive below DE water clear I
cai xia.
 then descend
 ‘I must see that water below is clear, and then I dive into it.’

In this sentence, *bixuyao* in *bixuyao kanjian* seems to have imperative modality.

However, closer examination calls into question whether this expression represents imperative modality. First of all, if you examine the meaning of the entire sentence, it can be found that the clause within which *bixuyao kanjian* occurs has the subjunctive mood. What should be noted about the expression *wo cai xia* is the word *cai*. *Cai* ‘then’ presupposes that in order for *xia* ‘to descend’ to be carried out, situational condition must be fulfilled prior to the action to be taken. In terms of expressing fulfillment of a certain condition, the clause with subjunctive mood needs to describe the result or completed state. Therefore, a more natural interpretation for *wo bixuyao kanjian dixia de shui qing* would be ‘the water below must be seen clearly (by me)’, which is closer to epistemic modality that emphasizes certainty about a fact. Let us move on to cases where *bixuyao* is followed by *kandao*.

- (10) *Bixuyao kandao wenti de yanzhongxing.*
 must look-arrive problem DE seriousness
 ‘You have to see the severity of the problem.’

From the example above, it can be observed that *bixuyao* in *bixuyao kandao* has deontic modality of obligation as *yinggai* in *yinggai kandao* does. As indicated in the meaning of each sentence, all of the examples have imperative tone which calls for the hearer’s attention to a certain action. Based on the result of analysis, it has been shown that *bixuyao*’s combination with *kanjian* describes epistemic modality where that with *kandao* describes imperative modality, and this result is in accordance with Lakoff’s standard for stative verbs.

2.3.4. Text Analysis of *Jian* and *Dao* as Verbal Ending

It has been discussed on the theoretical basis how *dao* is more suffix-like compared to *jian*. This section focuses on providing the empirical evidence supporting the argument that *dao* can be treated as a suffix comparing their productivity in the corpus data. For the analysis, tokens containing *jian* and *dao* were downloaded in the format of txt from the corpus developed by Communication University of China. The text file containing *jian* has 130614 tokens while that containing *dao* has 1048727 tokens. For the analysis, 10 different sets of 10 tokens (100 tokens in total) were selected for each morpheme by using the command '\$ sort -R input.txt | head -n 10 > output.txt'. Examining 10 different sets of 10 tokens allows to parse the tokens where *jian* and *dao* occur as a verbal ending from those where they occur as otherwise since the size of the data is manageable. Moreover, the selected 100 tokens can represent the entire text file because they were randomly picked out by using the Linux command.

In order to properly measure the productivity of *jian* and *dao*, the number of single occurrences or singletons was measured and calculated into percentage. According to Baayen (1992), productivity of a morpheme can be determined by the probability of a new words form or unseen expression of affixation found in a corpus. The probability of all unseen expressions (Gale, can be measured by the percentage of all single occurrences out of the entire tokens ($N1$: the number of single occurrences, N : the total number of tokens, Probability of all unseen expressions: $N1/N$). Given this, the number of single occurrence was counted for *jian* and *dao*, and their productivity was measured in percentage.

As a result of the analysis, 2 single occurrences (*pengjian* 'to come across', *yujian* 'to come across') were found for *jian*, and 6 single occurrences (*jiandao* 'to meet', *weihaidao* 'to

damage’, *ganshoudao* ‘to feel’, *fandao* ‘to search through’, *xiangdao* ‘to think’, *gandao* ‘to feel’) for *dao*. Thus, the probability of a new word form using *jian* and *dao* is 2% ($N1/N=2/100$) and 6% ($N1/N=6/100$) respectively, and it shows that *dao* has higher productivity than *jian* because it is capable of producing more unseen expressions. The result of the analysis on single occurrences encountered in the corpus data for *jian* and *dao* provides convincing evidence that *dao* is more likely to behave as a suffix compare to *jian*.

2.3.5. Discussion

The result of comparing *kanjian* and *kandao* by testing compatibility with intentionality adverb and imperative auxiliary verb indicates that the former verb maintains the characteristic of achievement and stative verb while the latter only that of achievement verb. This aspectual distinction can be traced to the difference of meaning between the two verbs as *kanjian* describes the state of perceiving an object via action of seeing whereas *kandao* describes simply the completion of the action of seeing. Such distinction is caused by the difference in semantic structure between *jian* and *dao*. *Jian* maintains semantic significance in the gestalt compound as its meaning and argument structure are transparently reflected. On the other hand, *dao* functions as a suffix which turns the entire compound into an achievement verb as much more semantic focus is given to the head verb. Moreover, the corpus data analysis on singles occurrences encountered in the tokens for *jian* and *dao* attests to the fact that *dao* has higher productivity than *jian*, thus is more likely to behave as a suffix compared to its counterpart. Considering this, *jian* can be viewed as a bound root constituting V-*jian* verbs while *dao* behaves as an inflectional marker that assigns V-*dao* verbs the sense of achievement. However, since section 1 only deals with a limited number of perception verbs that take both *jian* and *dao* as resultative ending, the following section attempts to focus on a wider range of perception verbs with *dao* ending.

3. *Dao* as a Verbal Suffix in the Case of Perception Verbs

3.1. Introduction

The previous chapter concluded that in cases of perception verbs, *dao* should be treated as a suffix which assigns the feature of achievement verb to the entire compound word whereas *jian* should be considered as a bound root whose meaning percolates up to the gestalt word. Since the previous research focused on examining the semantic distinction between the resultative endings *jian* and *dao*, it did not delve much into why *dao* should be understood as a verbal suffix when it is used as a resultative ending of perception verbs. For the purpose of the current research, *dao* will be compared with other well-known Chinese verbal suffixes such as *le*, *zhe*, *guo* to see whether *dao* holds as much productivity as these suffixes. In order to give more focus on *dao*'s function as verbal suffix, the current research will look at different perception verbs from the ones analyzed in the previous research. The perception verbs selected for the current study differs from the previous ones in that they cannot be paired with *jian* endings while they can with *dao*. Given this, section 3 discusses classification of the head verbs that are used in V-*dao* perception verbs. It also focuses on analysis of corpus data to examine how frequently *dao* occurs with Chinese perception verbs in order to illustrate the inflectional nature of *dao*.

3.2. *Dao* as a Verbal Suffix

The resultative ending *dao*, though bleached in its meaning and semantic structure, still contributes to the compound by assigning the feature of achievement verb. This is quite understandable because *dao* originally has the meaning of 'to arrive or reach'. Therefore, when used as a verbal ending, it usually expresses the point or the degree to which action denoted by

the head verb arrives. Because of this, *dao* is often understood as a preposition which means ‘up to some point’.

- (11) *Nimen du dao di shiyiye.*
 you(pl) read up to page 11.
 ‘Read up to page 11.’
- (12) *Women zai huiyi shang tandao shijie heping*
 we LOC conference on talk up to world peace
de huati.
 DE topic
 ‘We talked up to the topic of the world peace on the conference.’

As can be observed in (11) and (12), *dao* is interpreted as a preposition meaning ‘up to’ instead of a verbal ending that expresses the result or completion of action. Since *dao* in this case is understood as a preposition, an assumption can be made that the head verb and *dao* are loosely connected, and *dao* is more closely related to the following NP as a head modifying the entire PP, meaning ‘up to a certain point.’ However, when attached to a perception verb, *dao* functions as a verbal suffix as in the following examples.

- (13) *Wo zai lu shang kandao gaozhong pengyou.*
 I LOC street up saw high school friend
 ‘I saw a friend from high school on the street.’
- (14) *Zhangsan tingdao hen shuxi de shengyin.*
 Zhangsan heard very familiar DE voice
 Zhangsan hear a very familiar voice.

As discussed previously, not only is the original meaning of *dao* bleached, but its argument structure also fails to appear on the compound verb. *Dao* as a verb requires the two arguments, agent and goal since it means ‘to arrive or reach’. If it is assumed that *dao* actually percolates its meaning up to the entire word, then a ‘theme’ argument should be reflected on the entire verb compound as well.

- * A: Agent, T: Theme, L: Locative
- (15) *Wo* i(A) *kan dao* *ta j(T) le.*
 I see - arrive him ASP
 ‘I saw him’
kan ‘see’ [Ai Tj]
dao ‘arrive’ [Ai Lj]
kandao ‘see’ [Ai Tj]

However, *V-dao* perception verbs only require an agent and theme in their argument structure, and this leads to the assumption that *dao* functions as a suffix with its semantic feature absorbed into the head verb. Moreover, given that many Chinese verbs behave as activity verbs when used alone without being followed by any resultative ending, *dao* can be understood as a suffix that assigns the feature of achievement verb to the entire compound verb. Considering its original meaning ‘to arrive or reach’ and prepositional interpretation ‘up to’, *dao* as a suffix can be interpreted as an aspect marker that pins down the point at which the action denoted by the head verb is achieved or completed. But it should be taken with caution that any single morpheme Chinese verb behaves as activity verb. According to Wang (2008), some Chinese verbs do express situational types other than activity due to context coercion. Wang argues that not all single-morpheme Chinese verbs should be treated as activity verb because their situation type can vary depending on syntactic position in a sentence and elements preceding or following them. Given Wang’s assertion, it is necessary to examine whether all Chinese perception verbs with *dao* suffixation can be classified as activity verbs before discussing *dao* as a suffix. Therefore, the next section will focus on analyzing Chinese perception verbs based on Vendler’s (1967) classification of four verb types.

3.3. Head of V-*dao* Perception Verbs

Before going into more detailed discussion, it is necessary to pin down the definition of ‘perception verb’. Perception verbs can be subcategorized into mental perception verbs and sensory perception verbs. Mental perception verb denote mental states that are unavailable for outside evaluation. English mental perception verbs include *know*, *think*, *realize*, *feel*, and etc. On the other hand, sensory perception verbs refer to states that have been reached through the physical senses. English sensory perception verbs include *see*, *smell*, *hear*, and etc. What should be noted about the two types of perception verb just mentioned is that based on Vendler’s model (1967) for four verb situation types, mental perception verbs can be identified as state verb whereas sensory perception verbs can be understood as achievement verbs.

Achievement:	[+punctual], [+telic], and [+dynamic]
Accomplishment:	[-punctual], [+telic], and [+dynamic]
Activity:	[-punctual], [-telic], and [+dynamic]
State:	[-punctual], [-telic], and [-dynamic]

Since mental perception verbs refer to states which cannot be subject to change unless there is external force acted upon them, they are non-dynamic, atelic and non-punctual. On the other hand, sensory perception verbs involve an agent’s active involvement in the action that requires an endpoint. Given this, sensory perception verbs can be identified as achievement verbs due to its punctuality and telicity. However, it is not an easy task to distinguish state verbs from other verbs with different situation types because some of the verbs can be identified with multiple situation types depending on the contexts. In order to draw distinction between state verbs and other non-stative verbs, Lakoff (1965) proposed a stativity test for which compatibility with progressive tense, transformability into imperative sentence and intentionality of action are

examined. If a verb fails to satisfy those criteria, then it would be classified as a non-state verb. Out of three criteria mentioned above, compatibility with progressive tense is most frequently used to examine stativity of verbs. The result of the progressive tense test shows that state verbs cannot be paired with progressive tense because the perception verb such as *know* cannot occur in an ongoing phase, but is the state in which an agent of the verb experiences internally.

Therefore, such an expression as *I am knowing* is understood as ungrammatical due to state verbs' incompatibility with progressive tense. The result of the stativity test by Lakoff is not contradictory with Vendler's model as Vendler also identifies *know* and some other perception verbs as stative. But the models proposed by Vendler and Lakoff should be taken with caution in analyzing Chinese perception verbs because many Chinese verbs do not fall neatly under the classification, which is based on English. Therefore, for the purpose of the current research, we will discuss the characteristics of Chinese perception verbs with *dao* suffixation in relation to Vendler's and Lakoff's models.

3.3.1. Sensory Perception Verbs with *Dao* and *Jian* Resultative Ending

Chinese perception verbs that allow *dao* suffixation can be divided into two subtypes. The one is the perception verbs that allow both *dao* and *jian* as resultative ending, and the other is the ones that only allow *dao* suffixation. The former type of verbs has already been introduced in the previous research, and they include the verbs such as *kan* 'to see', *ting* 'to hear', *wen* 'to smell' and etc. And the latter group of verbs includes *xiang* 'to think', *gan* 'to feel', *yishi* 'to be aware of', *ganjue* 'to feel' and etc. If Vendler's model is applied to classifying the Chinese perception verbs mentioned above, then they all fall under the category of achievement verbs. Although Vendler's model might be able to speak for some aspects about Chinese verbs, some claims have been made that Chinese verbs cannot be classified with the four situation types.

With respect to this issue, Lin (2004) questions the validity of Vendler's model in analyzing Chinese verbs. He argues that Chinese verbs have only two situation types which are activity and state, and the result or end-state of the action denoted by the verb is derived through compounding with an additional morpheme.

Lin's claim seems to be in line with the argument proposed in the previous research. As mentioned above, perception verbs that take both *jian* and *dao* as resultative endings include *kan* 'to look', *ting* 'to listen', *wen* 'to smell' which are considered as sensory perception verb. Furthermore, Vendler's situation type model classifies these verbs as achievement since they are dynamic, telic, and punctual. However, the previous research is based on the assumption that Chinese perception verbs do not entail the result or end-state of the action. *Kan*, for example, just refers to action of looking or attempt to look at some object, but the result of that action, which is to visually perceive an object, is not implied in this mono-morphemic verb. In order to express the result of action, these perception verbs need to be accompanied by a complementary morpheme that expresses the result of the action. With this being said, Chinese sensory perception verbs such as *kan*, *wen* and *ting* should be understood as activity verbs because though dynamic, they do not have a certain end point.

Although sensory perception verbs allow attachment of both *jian* and *dao* as resultative ending, the two resultatives assign different situation types to the verbal compound they form. Based on Lakoff's stativity test using compatibility with intentional adverb and transformation into imperative sentence, *-jian* perception verbs are found to be more stative than *-dao* counterparts. Stativity of *-jian* perception verb can be attributed to situation type entailed in *jian*. *Jian* as a resultative ending conveys the meaning of 'to perceive', and this should be classified as state verbs as in Vendler's model because 'to perceive' refers to a mental state that an agent

experiences just like the verb *know*. On top of being stative itself, *jian* percolates its argument structure upward and assigns stativity to the entire verbal compound.

On the other hand, *dao* counterparts are proven to be non-stative as they show compatibility with intentional adverb and natural transformation into imperative tone. As already mentioned in the earlier section, when *dao* is used as a resultative ending, its original meaning and argument structure become bleached out, and it does not contribute much to the gestalt compound semantic-wise. Nonetheless, the resultative ending *dao* still affects the gestalt verbal compound by assigning the feature of ‘achievement verb’ to it. For example, the Chinese sensory verb *ting* ‘to listen’ is just an activity verb, and it only denotes action of listening which can in theory continue indefinitely. But when *dao* functions as a resultative ending, it marks the completed state of acoustically perceiving something by making the action of listening reach a certain point or object. Since unlike *jian*, *dao*’s meaning is not reflected on to the entire verbal compound but has a grammatical function of switching the verb’s aspect from activity to achievement, it is possible to treat this morpheme as a verbal suffix. For more evidence to support the argument of *dao* as a verbal suffix in case of perception verbs, section 3.3.2 will focus on the verbs that are available for *dao* suffixation but do not allow *jian* resultative ending.

3.3.2. Mental Perception Verbs with *Dao* Suffixation

Unlike sensory perception verbs, perception verbs that denote mental states usually do not co-occur with the resultative ending *jian*. Instead, these verbs show natural compatibility with other verbal suffixes such as *-le*, *-zhe* and *-guo*. Besides these three verbal suffixes, mental perception verbs occur frequently along with *dao* which functions as a suffix. As briefly mentioned previously, this type of mental perception verbs includes *xiang*(to think), *gan*(to feel),

yishi(to be aware of), *ganjue* (to feel). As can be seen from below, attachment of *jian* to these mental perception verbs results in unacceptable verbal compounds.

- (16) **xiangjian*, **ganjian*, **yishijian*, **ganjuejian*

Incompatibility of mental perception verbs with *jian* can be attributed to their situation type being different from sensory perception counterparts. In the previous section, it has been discussed that sensory perception verbs in Chinese should be understood as activity verbs which do not entail result, but just action. However, if Vendler’s model is applied again to determine the situation type of mental perception verbs, then they are classified as state verb because situations like ‘to think’ or ‘to feel’ are states that an agent experiences internally. Therefore, it can be assumed that *dao* suffixation on mental perception verbs gives rise to the feature of achievement verb on the entire verbal compound by transforming a state verb into an achievement verb. Following are the examples of how a mental perception verb with *dao* suffixation is used in actual contexts.

- (17) *Xiangdao* ‘to think’
Zui leguan de ren ye mei xiangdao
 most optimistic DE person also not think
zhongmei guanxi you jintian de fazhan.
 China-US relationship exist today DE progress
 ‘Even the most optimistic person did not expect the progress that the US-China relation has achieved today.’

The example (17) shows that the verbal compound *xiangdao* requires different interpretation from the mono-morphemic *xiang*. When *xiang* occurs alone, it is likely to behave as a state verb because it means ‘to think’ which refers to a mental state. However, when *xiang* is suffixed by *dao*, it experiences slight change in its meaning and situation type. As indicated in (17), the verbal compound *xiangdao* does not simply mean ‘to think’, but it has the reading of ‘to

expect or realize’. Unlike the stative *xiang*, the situation denoted by *xiangdao* entails that the event has begun and achieved at a certain point. This feature of *xiangdao* indicates that the verb is telic and punctual at the same time. Considering that English verbs *expect* and *realize* can be classified as achievement verb, it can be asserted that the Chinese verb *xiangdao* can also be understood as holding the feature of achievement verb. Based on this example, assumption can be made that *xiangdao* gains the feature of achievement verb through *dao* suffixation. Now let us look at another example of a mental perception verb with *dao* suffixation.

- (18) *Yishidao* ‘to be aware of’
Wo yishidao zhe bu shi yi ge jiandan
 I be aware of this not be one CLF simple
de jingji wenti.
 DE economy problem
 ‘I realized that this was not a simple economic problem.’

In the example (18), *dao* suffixation assigns the verbal compound with the feature of achievement verb. Just as in (17), *dao* behaves as an achievement marker, which designates the endpoint of the situation denoted by the head verb *yishi*. Therefore, the verb *yishi* in (6) calls for the interpretation of ‘realize’ instead of ‘be aware of’ which refers to a mental state. However, in addition to being an achievement marker, *dao* suffixation plays another significant role in this case by enabling the entire compound to function as a verb in a sentence. Notable features of the verb *yishi* are that it is a dimorphemic word and requires a verbal suffix to function as a verb in a sentence. When it occurs independently of any verbal suffix, it usually requires noun interpretation.

- (19) *Zhe ge ren de fengjian yishi*
 this CLF person DE feudalism consciousness
feichang nongyu.
 very strong
 ‘This person’s feudal consciousness is very strong.’

- (20) *Yishi* *chuyu* *momohuhu* *de* *zhuangtai*.
 consciousness be placed in blurred DE condition
 ‘One is having blurred consciousness.’

As in the examples (19) and (20), *yishi* is interpreted as a noun meaning ‘consciousness’ when it is placed in a position where a noun phrase (NP) usually occurs. *Yishi* in (19) takes the position of object NP in the sentence while in (20), it takes the subject NP position. In this case, *yishi* does not occur with any additional morpheme following itself, and verb reading of the word is not permitted. For *yishi* to occur as a verb in a sentence, it must be accompanied by a verbal suffix like *dao*. Given the analysis so far, it has been found that mental perception verbs usually require a following grammatical morpheme to complement the feature of achievement verb of the entire compound. In order to examine whether *dao* has a frequency high enough to be considered as a verbal suffix, the corpus data analysis will be discussed the following section 4.

3.4. Corpus Data Analysis

Based on the theoretical analysis in the previous sections, it has been proposed that *dao* behaves as a verbal suffix to both sensory and mental perception verbs as it assigns the achievement verb feature without greatly affecting the meaning of the compound. Although it has been shown that *dao* functions like a verbal suffix, it is necessary to examine whether the grammatical morpheme actually occurs the most frequently among the Chinese perception verbs. For this purpose, this section focuses on analysis of corpus data containing Chinese perception verbs.

3.4.1. Data and Methodology

Data was collected from the corpus developed by Communication University of China (National Language Resources Monitoring and Research Center Broadcast Media Language

Branch, 2009). In order to measure the frequency of *dao* as a suffix out of the total number of tokens found from the corpus, 4 mono-morphemic (*kan* ‘to look’, *ting* ‘to listen’, *xiang* ‘to think’, *gan* ‘to feel’) perception verbs and 4 dimorphemic (*yishi* ‘to notice’, *ganjue* ‘to feel’, *renshi* ‘to understand’, *kaolü* ‘to consider’) perception verbs were selected. For the current research, the Cygwin Linux emulator was used to measure the frequency of morphemes following each perception verb selected for the analysis. By applying appropriate commands, the Cygwin Linux emulator calculated the frequency of each element that occurs directly after the perception verbs chosen for the analysis and listed the top 23 frequent morphemes. The following section will discuss the result of the analysis.

3.4.2. Result

The Cygwin Linux emulator produced a list of 23 most frequent elements to follow the selected perception verbs. For analysis, non-character elements such as comma, period, quote marks were excluded from the analysis. For the full list of 23 most frequent elements, you may refer to the appendix section. First of all, mono-morphemic perception verbs were analyzed to measure the frequency of *dao*. For mono-morphemic perception verbs, two physical perception verbs (*kan*, *ting*) and two mental perception verbs (*xiang*, *gan*) were selected to examine if the two types of verbs differ from each other in the frequency of the following grammatical morphemes. Since sensory perception verbs are identified as activity verbs while mental perception verbs are as stative verb based on Vendler’s verb classification, it is possible that the two types of verbs might select slightly different forms of suffixation. However, the result of the corpus data analysis shows that the two types of perception verbs have a similar pattern in selecting a grammatical morpheme.

Table 4: Frequency List of Morphemes after Mono-Morphemic Perception Verbs

	<i>Kan</i> (421016)	<i>Ting</i> (112747)	<i>Xiang</i> (211190)	<i>Gan</i> (167873)
1	79597 <i>dao</i> (到)	13874 <i>zhong</i> (众)	16382 <i>dao</i> (到)	33078 <i>jue</i> (觉)
2	18145 <i>kan</i> (看)	10576 <i>dao</i> (到)	7618 <i>fa</i> (法)	18386 <i>xie</i> (谢)
3	14639 <i>yi</i> (一)	7894 <i>shuo</i> (说)	6226 <i>yao</i> (要)	15185 <i>shou</i> (受)
4	12422 <i>lai</i> (来)	7353 <i>qu</i> (取)	5716 <i>xiang</i> (象)	11440 <i>dao</i> (到)
5	10932 <i>zhe</i> (这)	3977 <i>zheng</i> (证)	5483 <i>de</i> (的)	8139 <i>ran</i> (染)
6	9488 <i>le</i> (了)	3161 <i>yi</i> (一)	5055 <i>zhe</i> (这)	6950 <i>dong</i> (动)
7	7905 <i>bu</i> (不)	3015 <i>ting</i> (听)	4607 <i>qi</i> (起)	6032 <i>qing</i> (情)
8	7232 <i>zhe</i> (着)	2670 <i>le</i> (了)	3690 <i>xiang</i> (想)	4101 <i>de</i> (的)
⋮	⋮			
12	5924 <i>jian</i> (见)	1637 <i>ta</i> (他)	2557 <i>shuo</i> (说)	1995 <i>mao</i> (冒)
13	5461 <i>bing</i> (病)	1376 <i>qi</i> (起)	2495 <i>yi</i> (一)	1868 <i>ren</i> (人)
14	4932 <i>ta</i> (他)	1365 <i>zhe</i> (着)	2460 <i>wo</i> (我)	1853 <i>kai</i> (慨)
⋮	⋮			
17	4581 <i>dai</i> (待)	1104 <i>jian</i> (见)	2109 <i>guo</i> (过)	1269 <i>en</i> (恩)
18	4336 <i>qi</i> (起)	1027 <i>guo</i> (过)	1999 <i>qu</i> (去)	1078 <i>que</i> (确)
⋮	⋮			

The table indicates that though different in frequency, *dao* is shown to be the most frequent grammatical morpheme to follow all the mono-morphemic perception verbs listed above. In case of *kan* and *ting*, *dao* takes up about 18.9% (79597) and 9.3% (10576) out of all the tokens found respectively (the total number of tokens is indicated next to each perception verb at the top of the table). Although *zhong* appears to be the morpheme of the highest frequency in the result, it cannot be counted as a verbal ending because it behaves as a bound root constituting the noun *tingzhong*. Therefore, for both *kan* and *ting*, *dao* is observed to be the most frequent post-verbal morpheme. On the other hand, other grammatical morphemes *-le* and *-zhe* seem to be less frequent compared to *dao* in case of *kan* and *ting* as they are ranked far lower than *dao* in the frequency list above. Furthermore, the verbal suffix *-guo* did not even make it to the top 23 of the frequency list. Another interesting fact about the result from *kan* and

ting is the difference in frequency between *dao* and *jian*. While *dao* occurs as the most frequent post verbal grammatical morpheme for *kan* and *ting*, *jian* is ranked much lower in the list as it shows a frequency of around 1% for the both perception verbs. As previously discussed, due to the difference in semantic information that each verbal ending contains, V-*jian* verbs can only allow objects that physically exist in reality while V-*dao* verbs are less limited in their option for objects as it is capable of having abstract entities as objects. Given this, the relatively lower frequency of *jian* compared to *dao* can be explained by its limited set of objects which have physical existence in reality.

As for the mono-morphemic metal perception verbs *xiang* ‘to think’ and *gan* ‘to feel’, the same frequency pattern can be observed as well. In the case of *xiang*, *dao* appeared as the most frequent morpheme with the frequency of 7.8% (16382). Speaking of other verbal suffixes, only *-guo* made it on the list as the rank 20 with the frequency of around 1% (2109). In case of *gan*, the situation looks a little different from *xiang* as *dao* appears as the fourth most frequent morpheme to follow the verb. However, it should be noted that the top three frequent morphemes *jue* ‘to feel’, *xie* ‘to thank’, *shou* ‘to receive’ actually behave as a bound root in the words that each of them is a part of. Thus, in *gan*, *dao* appears to be the most frequent grammatical morpheme that is placed in the post-verbal position. Another interesting aspect about the result from *gan* is that none of other grammatical morphemes *-le*, *-zhe*, and *-guo* made it to the top 23 frequency list.

The result from dimorphemic perception verbs also indicates that *dao* is the most frequent verbal ending to this type of verbs.

Table 5: Frequency List of Morphemes after Dimorphemic Perception Verbs

	Yishi (14681)	Ganjue (35673)	Renshi (15568)	Kaolü (27926)
1	2589 <i>dao</i> (到)	5204 <i>dao</i> (到)	1795 <i>dao</i> (到)	5060 <i>dao</i> (到)
2	792 <i>xing</i> (形)	1257 <i>shi</i> (是)	1196 <i>de</i> (的)	1785 <i>de</i> (的)
3	779 <i>de</i> (的)	1053 <i>jiu</i> (就)	847 <i>le</i> (了)	652 <i>zhe</i> (这)
4	698 <i>he</i> (和)	947 <i>hen</i> (很)	764 <i>yi</i> (一)	511 <i>yi</i> (一)
5	301 <i>bu</i> (不)	913 <i>bu</i> (不)	459 <i>he</i> (和)	468 <i>le</i> (了)
⋮	⋮			
8	136 <i>hai</i> (还)	503 <i>wo</i> (我)	281 <i>wo</i> (我)	274 <i>guo</i> (过)
⋮	⋮			
17	58 <i>ti</i> (提)	247 <i>le</i> (了)	81 <i>ta</i> (她)	144 <i>ta</i> (他)
⋮	⋮			

According to the analysis of the corpus data, *dao* was the grammatical morpheme that co-occurs most frequently with the dimorphemic perception verbs as well. Though preceded by comma (,) in *yishi* and *renshi*, *dao* is shown to have the highest frequency in all the verbs with 17.6% (2589/14681) in *yishi*, 14.6% (5204/35673) in *ganjue*, 11.5% (1795/15568) in *renshi* and 18.1% (5060/27926) in *kaolü*. Given the frequency of *dao*, it is possible to treat *dao* as a verbal suffix that co-occurs with all the dimorphemic perception verbs listed above as *-le*, *-zhe* and *-guo* do not show the significant frequency except for the case of *-le* in *renshi*, which accounts for the frequency of 5.4% (847/15568). Given the results above, it can now be said that *dao* is the most frequent grammatical morpheme that can occur in the post verbal position to the Chinese perception verbs selected for the analysis as *dao* tops the list for most of them. Even though *dao* did not appear as the most frequent morpheme in some perception verbs such as *ting* ‘to listen’, *gan* ‘to feel’, *yishi* ‘to notice’ and *renshi* ‘to understand’, it was only preceded by bound morphemes or comma. Moreover, it has been shown that *dao* is not only the most frequent grammatical morpheme, but also the most frequent morpheme in general to occur next to the

perception verb. The fact that *dao* occurs more frequently right next to the perception verbs than any other morphemes attests to the possibility that it behaves as a verbal suffix in this case.

3.4.3. Discussion

The result of corpus data analysis indicates that *dao* is the most frequent grammatical morpheme to co-occur with all the perception verbs listed above. As for the mono-morphemic perception verbs such as *kan*, *ting*, *gan* and *xiang*, *dao* occurs the most frequently in the post verbal position regardless of the verb types (activity and stative). Similarly, the dimorphemic perception verbs analyzed in this section co-occur with *dao* much more frequently than the other verbal suffixes *le*, *zhe* and *guo*. Moreover, *dao* did not simply occur more often than the other verbal suffixes, but also was the most frequent morpheme in general to occur right next to the perception verbs. Given the result, it can be said that *dao* has a frequency high enough to be considered as a verbal suffix in the case of perception verbs.

At this point, it is necessary to recall *dao*'s capability of assigning the achievement verb feature to the compound verb. In the previous sections, it was stated that since physical and mental perception verbs are activity and stative verbs respectively, they require a post verbal element to denote the result or the endpoint. However, as indicated by the result of the corpus data analysis, they are heavily inclined to select *dao* over the other verbal suffixes as their resultative ending. The compatibility of *dao* with perception verbs can be explained by the fact that perception is an internal state or activity that the speakers do not have a total control of. As a result, it requires a resultative ending for these verbs to be able to reach out to the theme or the object, and *dao* fulfills this requirement of perception verbs with its function as an achievement marker.

3.5. Summary

The above research attempted to show *dao*'s function as a verbal suffix in case of its attachment to the Chinese perception verbs. Chinese perception verbs can be divided into two different groups: sensory perception and mental perception verbs. As for sensory perception verbs such *kan* 'to look', *ting* 'to listen' and *wen* 'to smell', they are treated as activity verbs in Chinese and allow both *jian* and *dao*. And when they are suffixed by *dao*, they are assigned with the feature of achievement verb which indicates endpoint or result of action. On the other hand, mental perception verbs like *xiang* 'to think', *gan* 'to feel', *yishi* 'to notice' and *ganjue* 'to feel' do not allow *jian* as a resultative ending and occur most frequently with the suffix *dao*.

According to Vendler's verb classification, these mental perception verbs fall under the category of state verb since they all refer to mental states which occur internally to an agent. As indicated in their usage in actual contexts, *dao* assigns the feature of achievement verb by transforming a mono-morphemic mental state verb into a verbal compound that requires the interpretation of achievement verb. Moreover, when *dao* is attached to dimorphemic mental perception verbs such as *yishi* 'to notice' and *ganjue* 'to feel', *dao* gains an additional function besides being an achievement marker. Dimorphemic mental perception words like *yishi* and *ganjue* have different word classes depending on their syntactic position in a sentence. When these words are placed in a position where noun phrases occur (subject or object position), they need to be interpreted as a noun. If the dimorphemic mental perception verbs were to occur as a predicate in a sentence, they require *dao* suffixation. Given this, it can be said that for dimorphemic perception verbs, *dao* suffixation was selected not only for marking achievement but also to enabling themselves to function as predicates in a sentence. Moreover, the result of corpus data analysis also supports the theoretical analysis by showing that *dao* occurs as the most frequent grammatical morpheme

to follow the Chinese perception verbs and attests to the fact that *dao* can be treated as a verbal suffix in case of perception verbs. In the next section, a broader range of verbs will be analyzed to examine if *dao* suffixation can occur outside of perception verbs.

4. *Dao* as a Verbal suffix in a Broader Range of Contexts

4.1. Introduction

The previous two sections have talked about how *dao* functions as a verbal suffix when it attaches to different types of perception verbs by adding the achievement verb feature to the entire compound without substantially altering its meaning. In order to further the argument of *dao* as a verbal suffix, this chapter attempts to examine non-perception verbs that are suffixed by *dao*. As the first step to investigating non-perception *-dao* verbs, this chapter focuses on the V-O compounds verbs that allow *dao* as a verbal suffix.

It is widely known that aspect markers like *-le*, *-zhe* and *-guo* can be attached internally to Chinese V-O compound verbs. As noted by Li and Thompson (1981), a vast majority of V-O compounds can be separated, and one way of separating morphemes is by inserting an aspect marker as in (24).

- (24) *Zhangsan* *bi* *le* *ye* *le*.
Zhangsan finish ASP instruction ASP
'Zhangsan has graduated.'

Addition of a verbal suffix does not change the meaning of the compound verb, but only alters the aspect of the verb to highlight continuation or completion of the event. Although some may argue that infixing aspect markers proves the syntactic nature of V-O compound verbs, there is sufficient evidence that insertion of these grammatical markers is an inflection, which is more of a morphological process. According to Packard (2000), unlike the phrases created through syntactic reanalysis from the V-O compounds, infixing verbal suffixes onto V-O compounds should be understood as inflection operating on the head of the gestalt word.

- (25) *Shui yi jiao.*
 sleep one sleep
 ‘(I) take a nap’
- (26) *Shuile san ge zhongtou de jiao.*
 sleep-ASP three CLF hour DE sleep
 ‘I slept for three hours’
- (27) *Zhe yi jiao, shui de zhen hao.*
 this one sleep sleep ADV real well
 ‘I had a real good sleep’
- (28) *Wo shuile jiao le.*
 I sleep-ASP sleep ASP
 ‘I’ve slept’

In (25) and (26), the V-O compound verb *shuijiao* is separated by a modifier which turns the word into a syntactic phrase. (27) is another instance of syntactic reanalysis where the bound morpheme *jiao* becomes topicalized and takes the sentence-initial position. On the other hand, separation of verb by aspect marker *le* in (28) cannot be understood as syntactic since *-le* operates as a verbal suffix operating on the head verb.

Given the fact that insertion of verbal suffix onto the V-O compound is a morphological operation, this chapter examines whether *dao* has the same function as other verbal suffixes when it is used to separate the morphemes of V-O compounds verbs. For this purpose, the chapter focuses on the cases of *dao* infixed in V-O compound verbs found in Weibo, which is the biggest social network service operating in China. As noted by Chen and Tao (2014), internet language tends to create novel expressions. Since insertion of *dao* into V-O compounds is assumed as a non-canonical language use, it is appropriate to examine how internet language users are using *dao* to inflect Chinese V-O compounds verbs. If it is possible to show from the *dao* usages by internet language users that *dao* can also appear in the same position as *-le*, *-zhe* and *-guo* in the V-O compound verbs, and functions as a grammatical marker without changing

the meaning of the gestalt word, then this strengthens the argument of *dao* as a verbal suffix. The following section would discuss some data drawn from an internet corpus to examine how *dao* is used in the selected Chinese V-O compounds by the internet language users in Chinese today.

4.2. Literature Review on Chen and Tao (2014)

It has been understood by many that *dao* operates syntactically as a preposition, complement or a monosyllabic motion verb, but Chen and Tao (2014) go on to explain that *dao* in contemporary Chinese tends to be used in the post-verbal position so as to increase the level of transitivity while not affecting the meaning of the compound created by attachment of *dao*. Although they do not clearly state that *dao* is a verbal suffix, they provide examples where *dao* is attached to the verb even in the context where it is not actually required. As for the main cause of the extended use of *dao*, Chen and Tao focus on the fact that the majority of verbs that incorporate *dao* entail physical (*yinru* ‘to lead into’, *jin* ‘enter’) or metaphorical (*yingxiang* ‘to affect’, *ganran* ‘to infect’) motions. Since the original meaning of *dao* means ‘to reach’, it shows natural compatibility with such verbs that have semantically related meaning. Taking off from this, the use of *dao* has been extended over to semantically unrelated verbs such as *shuo* ‘to say’, and the sense of ‘reaching’ entailed in *dao* increases the level of transitivity of the compound verb. Transitivity refers to events or situations where an action is transferred from an agent to patient. As the degree of transitivity increases, the degree to which the patient is affected by the action increases as well. According to Hopper (1980), a high degree of transitivity can signal to a complete impact of the action denoted by the verb on the patient, and thus it emphasizes the completion of action.

- (29) *Wo gei ni.*
 I give you
 ‘I give (something) to you’
- (30) *Wo gei dao ni.*
 I give DAO you
 ‘I gave (something) to you.’

Semantically, (29) and (30) do not differ from each other because they both refer to the same situation where the agent ‘I’ gives some object to the patient ‘you’. However, when they are analyzed in terms of transitivity, *geidao* in (30) puts more focus on the patient or the receiver’s side and stresses that an activity of giving an object is successfully carried over from one side to another. From this aspect, *dao* as a transitivity marker has some similarity to the argument proposed in the previous chapters that *dao* assigns achievement verb feature to the perception verbs, which are activity and stative verbs, and creates compound verbs that denote situations where an action or state of perceiving an object is successfully carried out. Nevertheless, Chen and Tao deal with a wider range of cases where *dao* attaches to various types of verbs and increases the level of transitivity without radically altering the meaning of the compounds created. Below are the examples pointed out in Chen and Tao.

- (31) *Dajia you meiyou faxian dao.*
 everyone ever NEG discover DAO
 ‘Did anyone notice?’
- (32) *Keneng bu shi wanquan neng manzu dao ziji*
 perhaps NEG COP completely can satisfy DAO self
de yi ge suqiu.
 DE one CLF demand.
 ‘(We) may not be able to meet your own demand.’
- (33) *Danshi lixing fangmian wo neng bangzhu*
 but rationality aspect I can help
dao ni.
 DAO You
 ‘But I can help you with thinking it through rationally.’

- (34) *Zhe ge gangwei shangmian leiji dao*
 this CLF post above accumulate DAO
de yixie jingyan.
 DE some experience
 ‘The experience that have been accumulated through this position’

The examples (31) and (32) are the cases where *dao* is used overtly even though it is optional, and (33) and (34) show the examples where *dao* is used as a transitivity marker, which Chen and Tao consider as highly innovative usages through which the level of affectedness of action denoted by the verb increases. Another interesting fact to be found from Chen and Tao is that *dao* can even be attached to prepositions.

- (35) *Ta wen wo de wenti jiu gen dao*
 he ask I DE question just with DAO
zhiye youguan.
 profession related
 ‘The questions he asked me were about my profession.’

- (36) *Ruguo yi ge nusheng zai yi qun ren mian*
 if one CLF girl in one crown person face
qian dui dao yi ge nansheng shuo.
 front to DAO one CLF guy say
 ‘What if a girl says to a guy right in front of a whole bunch of people?’

Both (35) and (36) are the examples found from internet language, and they all show interesting cases where *dao* is attached to the prepositions *gen* and *dui*. Even with *dao* attached after them, these prepositions do not lose their functions as prepositions, and the intended meaning of the sentence does not differ from the when *dao* is omitted from them. *Dao* in (35) and (36), without providing syntactic or semantic information, plays a role as a pragmatic marker which gives the tone of assurance by raising the level of transitivity. What should be noted about these prepositions is that they are classified as co-verb which refers to a set of mono-morphemic words that function as both preposition and verb depending on contexts. According to Li and

Thompson (1981), co-verbs originated from the verbs used in Old Chinese, and attained the function of preposition as a result of grammaticalization. Having gone through grammaticalization from verbs, some Chinese prepositions widely used today still maintain verbal features, and this can be proven from the case where some co-verbs (*an* ‘according to’, *ni* ‘against’, *chong* ‘facing’, *ping* ‘according to’, *chao* ‘facing’, *shun* ‘along’, *dui* ‘toward’, *xiang* ‘facing’, *wang* ‘toward’, *wei* ‘for the sake of’, *yan* ‘along’, *ai* ‘adjacent to’) are followed by verbal suffix *-zhe* while still behaving as a preposition in the sentence.

(37) *Women dei an zhe falu ban.*
 we must according to ZHE law do
 ‘We must do it according to the law.’

(38) *Tamen wang zhe chuan shang fang qiang.*
 they toward ZHE boat on fire gun
 ‘They fired at the boat.’

Just as *dao* in (35) and (36), addition of *zhe* in (37) and (38) does not alter the meaning or grammatical function of the prepositions *an* and *wang*, it only makes tone of the expressions stronger than their bare forms. From the examples where co-verbs are suffixed, it can be assumed that *dao*, though limited in its usages with co-verbs, is capable of targeting the verbal features of prepositions and making itself available as a suffix just as *-zhe* behaves on some prepositions.

Although Chen and Tao deal with many different cases where the extended uses of *dao* occur, they only touch on the structure where V *dao* compound is followed by object. Given this, this chapter attempts to focus on a structure that is not covered by Chen and Tao, which is *dao*’s attachment to V-O compounds, in order to provide evidence that *dao* is moving towards the direction of grammaticalization into a verbal suffix.

4.3. V+*dao*+O Compound Verb

Since Chen and Tao's analyses of *dao* is based on the concept of transitivity, they mainly deal with the verbs that require agent and patient arguments to stress that the degree to which the patient is affected by the action or the situation denoted by the verb is enhanced through addition of *dao*. The previous chapters discuss perception verbs that require post-verbal or topicalized NP objects. Given this, the current section attempts to show whether *dao* can operate as a verbal suffix outside its role as a transitivity marker. Since the previous chapters mainly dealt with demonstrating the achievement verb feature assigned by *dao*, this section will focus on providing evidence that the pragmatic effect of *dao* as a transitivity marker originates from its function as a verbal suffix assigning the achievement verb feature. *Dao* often operates as a preposition when it combines with a mono-morphemic intransitive verb as in the following.

- (39) *Zhangsan pao dao xiaoyuan le.*
Zhangsan run to campus ASP
'Zhangsan ran to campus.'
- (40) *Lisi yizhi shui dao jiu dian le.*
Lisi continuously sleep to nine hour ASP
'Lisi kept on sleeping until nine o'clock.'

As can be seen from (39) and (40), *dao*'s post verbal position does not give rise to its verbal suffix-like function, but it rather behaves as a preposition that requires a locative or temporal NP to indicate the destination or the time point that the action or the event denoted by the verb has continued on to. However, it should be noted that there are some cases where *dao* can function as a verbal suffix even in the context where intransitive verbs are used. Such examples come from V-O compounds verbs, the majority of which are compounds that do not

allow post-verbal NP objects. Nonetheless, not all V-O compounds are intransitive as some of the compounds like *danxin* can actually be followed by an NP object.

- (41) *Wo hen danxin zhe jian shiqing.*
I very worry this CLF situation
'I really worry about this situation.'

However, the majority of the V-O compound verbs are still classified as intransitive verbs, which do not allow any NP object, and such V-O compounds include *paobu*, *sanbu*, *youyong*, *xizao* and etc. In order to examine how *dao* can behave as a verbal suffix to a certain type of intransitive verbs, the current research intends to focus on intransitive V-O compounds. As mentioned earlier in the introduction section, a verbal suffix is usually attached to the verb head on the left side in case of the V-O compounds. Thus, the analysis is based on examples of V+*dao*+O structure to investigate whether *dao* occurs as a verbal suffix in this case.

4.3.1. Examples from Weibo

Since V+*dao*+O compounds are assumed to be relatively non-canonical language use, it is difficult to find examples where this type of verbs occurs from corpus data that is devoted to transcription of refined language usages. Therefore, it is necessary to refer to internet language since people use language in a less refined and more creative manner on internet than on other traditional media platforms. Given this, this section delves in to how Weibo users are using *dao* as suffix to the V-O compound verbs in their posts to examine whether *dao* behaves as a verbal suffix in this case. For the research, many different V-O compounds were selected, and the following examples have been collected via search through Weibo.

- (42) *Xizao* ‘to take shower’
Jintian zhongyu xi dao zao le, hao kaixin ya!
 today finally take shower-DAO ASP good happy YA
 ‘Today I finally took shower, so I am feeling really good.’
 (http://weibo.com/1733295444/Dj369bMEr?refer_flag=1001030103_&type=comment#_rnd1457850234383)
- (43) *Youyong* ‘to swim’
Zhongyu you dao yong, hai hao mei fangqi.
 finally swim-DAO, quite good NEG give up
 ‘I finally swam. It is pretty good that I have not given up.’
 (http://weibo.com/5850347052/Dhtx2wHqg?refer_flag=1001030103_&type=comment)
- (44) *Paobu* ‘to run’
D22, zhongyu pao dao bu le, 6km, hao shufu.
 D22 finally paobu-DAO ASP 6km good comfortable
 ‘Day 22, I finally ran. 6km. It feels really good.’
 (http://weibo.com/2108678917/Dk86S4oC2?refer_flag=1001030103_&type=comment#_rnd1460747548270)
- (45) *Shuijiao* ‘to sleep’
Zuowan zhongyu shui dao jiao duzi mei teng.
 last night finally sleep-DAO stomach NEG hurt
 ‘Last night I finally slept. And I didn’t have any stomachache’
 (http://weibo.com/1742523421/DjA4PpTyA?refer_flag=1001030103_&type=comment)
- (46) *Sanbu* ‘to walk’
Zhongqiujie quaile zhongyu sandaobu le.
 full moon festival happy finally take a walk-DAO ASP
 ‘Happy Full moon festival! I finally took a walk.’
 (http://weibo.com/2086513711/CCwB9Flr2?refer_flag=1001030103_&type=comment#_rnd1460747680500)

4.3.2. Discussion

4.3.2.1. *Dao* as an Achievement Verb Marker

The earlier chapters have shown that *dao* behaves as a verbal suffix to perception verbs and adds the achievement verb feature on the complete word as it denotes the semantic endpoint at which the action or the event has been completed. Such tendency of *dao* usage can also be

observed in the examples introduced in the section 3.1. Based on Vendler’s verb classification, the intransitive V-O compounds verbs (*chifan* ‘to eat’, *xizao* ‘to take shower’, *paobu* ‘to run’, *shuijiao* ‘to sleep’, *sanbu* ‘to take a walk’) that occur in the examples of the section 3.1 can be identified as activity verbs, and such intransitive V-O compound verbs like many bare form Chinese verbs simply refer to activity itself without any specific endpoint or result. For example, the verb *shuijiao* simply refers to the activity of sleeping itself, so if the verb is used in bare form, it does not necessarily imply whether the activity has been completed or not. However, the examples in the section 3.1 indicate that *dao* can also function as an achievement verb marker when attached to intransitive V-O compound verbs.

- (47) *Paobu* ‘to run’
 D22, *zhongyupao dao bu le, 6km, hao shufu.*
 D22 finally paobu-DAO ASP 6km good comfortable
 ‘Day 22, I finally ran. 6km. It feels really good.’

- (48) *Xizao* ‘to take shower’
Jintian zhongyu xi dao zao le, hao kaixin ya!
 today finally take shower-DAO ASP good happy YA
 ‘Today I finally took shower, so I am feeling really good.’

First of all, in all of the examples above, it can be observed from the example above that addition of *dao* does not alter the original meaning of the V-O compound verbs as it occurs as an element incorporated in the gestalt compound verb. Moreover, since all of the verbs above are intransitive, and more importantly, the verbal suffix *dao* occurs as an infix right in between the two morphemes of the verb, there is little possibility that *dao* can be interpreted as a preposition or a complement. In order to highlight this point, an example excerpted from Weibo is given below.

- (49) *Zuotian* *youyong* *dao* *11* *dian*.
yesterday swim to 11 hour
'Yesterday I swam until 11 o'clock.'
(http://weibo.com/1403150290/zjpHx29K7?refer_flag=1001030103_&type=comment#_rnd1460748104352)

In the example above, it can be observed that *dao* located in the post-V-O compound position behave as a preposition that marks the point of time the action has continued on to. The examples confirm the intransitive nature of the given V-O compound verbs and also highlight the fact that infix of *dao* is quite far from being a syntactic process as it is not followed by any locative or temporal NP. With regards to this issue, some may argue against the claim being made here by saying that availability of *dao* infix actually is another proof supporting its function as a transitivity marker. This argument can be understood if the assumption is made that V-O compound verb is a phrase, not a word. However, such a claim can be countered by a simple example like *youyong* in (49). When each morpheme is parsed apart, it is difficult to treat *yong* as a free morpheme since it cannot stand independently as a free word with actual meaning. Therefore, it is also difficult to understand *dao* as a transitivity marker in this case because the action denoted by the verb cannot be carried over or transferred to an entity that does not semantically make sense.

Another question could be raised as to why *dao*, unlike other verbal suffixes, should be understood as an achievement marker. It should be noted that most of V+*dao*+O intransitive compound verb often co-occur with the adverbs such as *zhongyu*, *cai* and *zongsuan*, all of which have the meaning of finally. Here the example (42) is repeated for illustration.

- (50) *Xizao* ‘to take shower’
Jintian zhongyu xi dao zao le, hao kaixin ya!
 today finally take shower-DAO ASP good happy YA
 ‘Today I finally took shower, so I am feeling really good.’

The sentence above implies that the person had initially been in the situation where she could not take a shower even though she really wanted to. But then after a certain amount of time, she was finally able to achieve the activity of taking shower. Let us take a look at another example.

- (51) *Shuijiao* ‘to sleep’
Zuowan zhongyu shui dao jiao duzi mei teng.
 last night finally sleep-DAO stomach NEG hurt
 ‘Last night I finally slept. And I didn’t have any stomachache’

Similarly, the example also deals with the situation where strong sense of achievement is required. In the example, the Weibo user talks about the situation where he was finally able to sleep. The adverb ‘finally’ is often used to stress that a goal set by an individual has been achieved at a certain point of time. Therefore, such an adverb might call for verbs with strong sense of achievement for natural compatibility.

- (52) Achievement: [+punctual], [+telic], and [+dynamic]

Based on Vendler’s definition again, it can be shown that achievement verb is quite compatible with the semantic implication of the adverb ‘finally’ as it entails the sense of a goal being achieved (+telic) and the endpoint of the activity (+punctual). And *dao* adds the sense of achievement verb as a verbal suffix to intransitive V-O compound verb without causing any drastic alteration in semantic information of the verb. Moreover, since the V-O compound verbs analyzed in this section are intransitive verbs, it is difficult to assume that attachment of *dao* to

the head V is not concerned with assigning case to the following argument. Thus, it is not appropriate to view *dao* suffixation in this case as C-selection. *Dao* suffixation should be viewed as S-selection, which is born out of semantic resort to assign the entire compound verb the feature of an achievement verb (Petsesky, 1993).

4.3.2.2. Comparison with Other Verbal Suffixes

At this point, a question can be raised as to how *dao* actually differs from other verbal suffixes. In this section, *dao* will be compared specifically with the verbal suffixes *-le* and *-guo* because it is usually used to express completed situation. Such an aspect can be identified from the fact that V+*dao*+O compounds verbs are negated by *mei(ou)* whereas their bare form is negated by *bu*. It is quite a reasonable question considering that the verbal suffixes such as *le* and *guo* are aspect markers that also indicate completion of the action denoted by the verb that they attach to. However, close examination of their semantic information reveals that there actually exist differences between canonical verbal suffixes and *dao*.

(53) *Wo chang le ge.*
I sing-ASP
'I sang'

(54) *Wo chang guo ge.*
I sing-ASP.
'I have sung before'

(55) *Wo chang dao ge.*
I sing-DAO
'I got to sing.'

The examples both talk about the situation where the activity of singing has already occurred just as the one denoted by *dao* suffixed verbs. However, sense of achievement in *-le* and *-guo* verb is much weaker than *dao* as they are more focused on the actual fact of whether

the action has actually occurred or not. First of all, *chang le ge* simply refers to the situation in which the activity of singing has happened at some point prior to utterance of the sentence. And then *chan guo ge* emphasizes the fact that the agent has experienced the activity at some point of time in the past. Unlike the verbs with *le* and *guo*, *dao* verbs involve higher degree of volitionality or intentionality of the agent as it entails stronger sense of achievement. Therefore, it can be assumed that *dao* as a verbal suffix puts more emphasis on the moment when the activity has been achieved.

Given the discussion so far, *dao* is more punctual compared to *-le* and *-guo* in a sense that it is concerned with a specific point of time when the activity has been achieved. Such sense of achievement entailed in *dao* can be traced from the original meaning, which is ‘to reach’, and this is what makes *dao* distinguishable from *-le* and *-guo* as a verbal suffix.

4.4. Summary

The section 4 focused on intransitive V-O compound verbs to examine whether *dao* can be identified as a verbal suffix. While Chen and Tao (2014) attempts to identify *dao* as a transitivity marker as they highlight the fact that *dao* increases the effectiveness of the action on the patient or beneficiary side, this chapter focused on the context where *dao* is used in intransitive contexts. Although *dao* behaves as a preposition when it is attached to monomorphemic intransitive verbs, it tends to function as a verbal suffix when it combines with intransitive V-O compounds verbs by attaching to the V head. When the intransitive V-O compound verbs are suffixed by *dao*, no change in the meaning is found, but close examination of the examples drawn from Weibo indicates that *dao* adds a sense of achievement to the activity that does not necessarily entail the endpoint or result. Given the discussion up to this point, it can

be proposed that the increased level of transitivity by *dao* might be a generalization of its function as an achievement marker. As already mentioned in the previous chapters with V-*dao* perception verbs, the verbal suffix *dao* behaves as a thematic link between the verb and the patient denoting that the verb can affect the following NP object. Therefore, it can be claimed that this function of *dao* as an achievement marker actually gives rise to a thematic effect, which is the increased level of transitivity. Furthermore, comparison with the verbal suffixes *-le* and *-guo* points to the possibility that *dao* can be classified as a verbal suffix with a distinct grammatical function on the verbs without altering their meaning or the syntactic identity. Although the data in this chapter mainly deal with less formal language taken from Weibo, such non-canonical usages of *dao* in the highly active social network context provides us with real-time and dynamic evidence that *dao* is moving towards grammaticalization into a verbal suffix.

5. Concluding Comments

In order to explain the nature of *dao* as a verbal suffix, the paper first delved into its broad usages in the Chinese perception verbs. As the first step of the project, *dao* was compared to the resultative ending *jian*, which is considered as virtually synonymous in the case of perception verbs. Based on argument structure analysis and the stative verb test proposed by Lakoff, it has been shown that *dao* differs from *jian* only in that it functions as a grammatical marker that assigns the achievement feature to perception verbs without affecting the meaning of the gestalt compound verb.

In the next step, a wider range of perception verbs were analyzed to better explain *dao* as a verbal suffix. Perception verbs can be subcategorized into sensory and mental perception verbs, with sensory and mental perception verbs identified as activity and stative verbs respectively using Vendler's verb classification, thus requiring an additional morpheme to indicate the result or endpoint of action or state. The theoretical analysis based on Vendler's verb classification tells us that *dao* functions as a grammatical marker that expresses the sense of achievement by enabling the action or state denoted by a perception verb to reach an endpoint or object. Furthermore, analysis of the corpus data indicates that compared to the verbal suffixes such as *-le*, *-zhe* and *-guo*, *dao* shows a significantly higher frequency of co-occurrence with the perception verbs. *Dao*'s highly frequent co-occurrence and its function as a grammatical marker point to the possibility that *dao* can be understood as a verbal suffix in the case of Chinese perception verbs.

Lastly, in order to further the discussion of *dao* as a verbal suffix, extended use of *dao* was described based on its usage in V-O compound verbs. In contemporary Chinese, the use of *dao* has been extended to non-canonical contexts where *dao* is not necessarily required. Based on

the pragmatic concept of transitivity, *dao* is placed in post-verbal position to emphasize the effectiveness of the action transferred or carried over from an agent to a patient. However, the analysis of *dao* use on V-O compound verbs points out that the increased degree of transitivity is in fact the byproduct of *dao*'s function as an achievement verb marker. Since the majority of Chinese V-O compound verbs constitute intransitive verbs, it is difficult to apply the concept of transitivity as the compound lacks an external patient argument. The tokens of V-O compound verbs infixed on V head by *dao* indicate that *dao* is used to express a sense of achievement because it often co-occurs with the adverb meaning 'finally' or 'at last'. Therefore, it should be understood that the increased level of transitivity with the use of *dao* is actually a pragmatic effect resulting from a sense of achievement being applied to the situation where an agent and a patient are involved.

From the use of *dao* on perception verbs to its more novel use as an affix on the V of V-O compound, this paper focused on its grammatical function of *dao* as an achievement verb marker. Given that *dao* usages are being extended to various types of verbs creating novel language expressions and maintaining the function of achievement marker without radically altering the meaning of the original verb, it is possible to claim that *dao* might be on the path of grammaticalization into a verbal suffix. Considering that the morphological cycle is not strictly a unidirectional but rather a multidirectional linguistic process, the discussion of *dao* usages covered in this paper points to an on-going morphological shift that the Chinese morpheme *dao* is undergoing in the grammar of contemporary Chinese.

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Appendix

Table 4: Frequency List of Morphemes after Mono-Morphemic Perception Verbs

	<i>Kan</i> (421016)	<i>Ting</i> (112747)	<i>Xiang</i> (211190)	<i>Gan</i> (167873)
1	79597 <i>dao</i> (到)	13874 <i>zhong</i> (众)	16382 <i>dao</i> (到)	33078 <i>jue</i> (觉)
2	43366 ,	10576 <i>dao</i> (到)	14495 ,	18386 <i>xie</i> (谢)
3	18145 <i>kan</i> (看)	7894 <i>shuo</i> (说)	7618 <i>fa</i> (法)	15185 <i>shou</i> (受)
4	14639 <i>yi</i> (一)	7353 <i>qu</i> (取)	6226 <i>yao</i> (要)	11440 <i>dao</i> (到)
5	12422 <i>lai</i> (来)	4212 ,	5716 <i>xiang</i> (象)	8139 <i>ran</i> (染)
6	10932 <i>zhe</i> (这)	3977 <i>zheng</i> (证)	5483 <i>de</i> (的)	6950 <i>dong</i> (动)
7	10450	3757	5055 <i>zhe</i> (这)	6682 ,
8	9488 <i>le</i> (了)	3161 <i>yi</i> (一)	4607 <i>qi</i> (起)	6032 <i>qing</i> (情)
9	7994 。	3020 。	4307	4809
10	7905 <i>bu</i> (不)	3015 <i>ting</i> (听)	4211 。	4101 <i>de</i> (的)
11	7232 <i>zhe</i> (着)	2670 <i>le</i> (了)	3690 <i>xiang</i> (想)	3628 。
12	7123 <i>fa</i> (法)	1778 <i>de</i> (的)	3653 <i>bu</i> (不)	2753 <i>bing</i> (病)
13	6540 <i>de</i> (的)	1712 <i>zhong</i> (中)	2916 <i>wen</i> (问)	2372 <i>xing</i> (兴)
14	5924 <i>wo</i> (我)	1682 <i>wo</i> (我)	2608 <i>zai</i> (在)	2070 <i>yi</i> (疫)
15	5924 <i>jian</i> (见)	1637 <i>ta</i> (他)	2557 <i>shuo</i> (说)	1995 <i>mao</i> (冒)
16	5461 <i>bing</i> (病)	1376 <i>qi</i> (起)	2495 <i>yi</i> (一)	1868 <i>ren</i> (人)
17	4932 <i>ta</i> (他)	1365 <i>zhe</i> (着)	2460 <i>wo</i> (我)	1853 <i>kai</i> (慨)
18	4912 <i>de</i> (得)	1316 <i>ji</i> (记)	2295 <i>ban</i> (办)	1364 <i>chu</i> (触)
19	4802 <i>chu</i> (出)	1233 <i>bu</i> (不)	2163 <i>ba</i> (把)	1316 <i>he</i> (和)
20	4581 <i>dai</i> (待)	1104 <i>jian</i> (见)	2109 <i>guo</i> (过)	1269 <i>en</i> (恩)
21	4336 <i>qi</i> (起)	1027 <i>guo</i> (过)	1999 <i>qu</i> (去)	1078 <i>que</i> (确)
22	4168 <i>wang</i> (望)	997 <i>bao</i> (报)	1967 <i>rang</i> (让)	1024 <i>tan</i> (叹)
23	3796 <i>ni</i> (你)	888 <i>jian</i> (今)	1965 、	865 <i>ji</i> (激)

Table 5: Frequency List of Morphemes after Dimorphemic Perception Verbs

	<i>Yishi</i> (14681)	<i>Ganjue</i> (35673)	<i>Renshi</i> (15568)	<i>Kaolü</i> (27926)
1	3443 ,	5204 <i>dao</i> (到)	2195 ,	5060 <i>dao</i> (到)
2	2589 <i>dao</i> (到)	5128 ,	1795 <i>dao</i> (到)	3724 ,
3	1093 。	3115 。	1196 <i>de</i> (的)	1785 <i>de</i> (的)
4	969 、	1257 <i>shi</i> (是)	877 。	1547 。
5	792 <i>xing</i> (形)	1053 <i>jiu</i> (就)	847 <i>le</i> (了)	652 <i>zhe</i> (这)
6	779 <i>de</i> (的)	947 <i>hen</i> (很)	764 <i>yi</i> (一)	572
7	698 <i>he</i> (和)	913 <i>bu</i> (不)	459 <i>he</i> (和)	511 <i>yi</i> (一)
8	301 <i>bu</i> (不)	888 <i>zhe</i> (这)	349 <i>zhe</i> (这)	468 <i>le</i> (了)
9	237	827	300	415 <i>zai</i> (在)
10	185 <i>di</i> (地)	609 <i>you</i> (有)	297 <i>ta</i> (他)	370 <i>shi</i> (是)
11	155 <i>ye</i> (也)	565 ?	281 <i>wo</i> (我)	274 <i>guo</i> (过)
12	136 <i>hai</i> (还)	503 <i>wo</i> (我)	261 <i>bu</i> (不)	245 ?
13	129 <i>shang</i> (上)	441 <i>fei</i> (非)	237 、	239 <i>dui</i> (对)
14	126 <i>dan</i> (淡)	380 <i>hao</i> (好)	190 <i>ni</i> (你)	186 <i>jiang</i> (将)
15	103 <i>shi</i> (是)	367 <i>te</i> (特)	172 <i>shang</i> (上)	186 <i>wo</i> (我)
16	103 <i>li</i> (里)	342 <i>zi</i> (自)	151 <i>li</i> (历)	178 <i>zi</i> (自)
17	76 <i>dou</i> (都)	341 <i>hai</i> (还)	137 <i>zhong</i> (中)	165 <i>jin</i> (进)
18	72 <i>bi</i> (比)	326 <i>ta</i> (他)	110 <i>xing</i> (行)	153 <i>de</i> (得)
19	72 ”	276 <i>ting</i> (挺)	88 <i>zi</i> (自)	149 <i>bu</i> (不)
20	67 <i>zai</i> (在)	260 <i>shang</i> (上)	84 <i>dang</i> (当)	149 <i>wen</i> (问)
21	58 <i>jiu</i> (就)	247 <i>le</i> (了)	81 <i>ta</i> (她)	144 <i>ta</i> (他)
22	58 <i>ti</i> (提)	237 <i>de</i> (的)	81 <i>shi</i> (是)	132 <i>kao</i> (考)
23	57 <i>you</i> (有)	225 <i>bi</i> (比)	80 <i>jia</i> (加)	131 <i>ru</i> (如)