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古漢語測量義「度」的識解：從歷時原型語義學出發

Construal of Measurement Sense of DU in Classical

Chinese from the Perspective of Diachronic Prototype

Semantics

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中文摘要

本研究藉由語料庫抽樣的方式考察分析古漢語測量義「度」字的義項。我們同時考慮其兩個讀音 duó 和 dù 的情況，從歷時原型語義學角度考察其語義演變的過程，建立「度」字各個義項之間所構成的歷時語義網路。我們從語料庫抽樣所得出的主要 22 個義項進行語義分析，以「度」字的原型義「測量」為起點，把「度」字的語義演變歸類成 3 個主要演變方向，依序分成 3 個義群，並從「聯想」和「類推」入手，探討其語義演變的認知動因。每個義項在其各自所屬的義群中，也是依照其先後出現順序進行編碼。在釐清每個義項所屬的義群以及義項之間的關聯後，我們整合成一個完整的歷時語義網絡。最後，藉由統計驗證「度」字義項的消長情形。

關鍵字：測量義, 度, 義項, 歷時原型語義學, 語義網絡, 義群

ABSTRACT
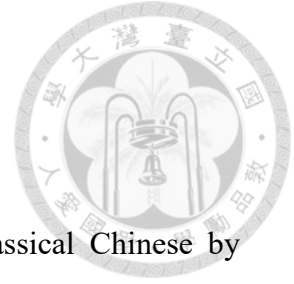
This study investigates the senses of "measurement" 度 in Classical Chinese by corpus sampling. We consider its two pronunciations *duó* and *dù* at the same time, examine its semantic change from the perspective of diachronic prototype semantics, and establish a diachronic semantic network of these senses. We conduct semantic analysis on the main 22 senses obtained from the sampled tokens. Then we take prototype meaning of 度 (i.e. to measure) as a starting point, classify the semantic change of the word 度 into three main directions (three sense clusters), and explore the cognitive motivation of senses through 'association' and 'analogy'. Each sense is labeled according to the order of its appearance in its sense cluster. After clarifying the semantic cluster to which each sense belongs and the relationship among senses, we obtain a complete diachronic semantic network of 度. Finally, we verify the growth and decline of the senses of 度 through statistics.
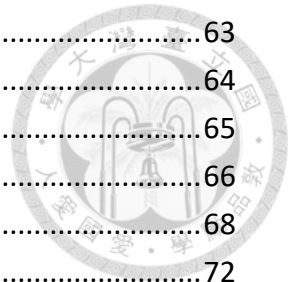
Keywords: measurement, *dù* (*duó*), sense, diachronic prototype semantics, semantic network, sense cluster

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1. Introduction

Measurement is one of the most important cognitive behavior for human beings. Through measurement, people can perceive the length, capacity, and mass of objects. People's measurement behavior can be divided into 'physical' and 'mental' level. The former refers to the fact that people collect external information by manipulating visual senses and make measurement judgments. The latter refers to the psychological process that people's thinking about the information, and judge the importance or value of it.

People can obtain the most information through measurement, which will surely be reflected in language. It shows that many words in language are related to 'measurement', and these words related to such concept play an important role in people's cognitive system.

In Chinese, the first thing that comes to our mind about the so-called lexicon with 'measurement' reading is *míngliàngcí* 名量詞 (nominal classifier) and *dòngliàngcí* 動量詞 (verbal classifier). A nominal classifier (NCL) is a word that accompanies nouns and can be viewed as 'classify' a noun depending on the type of its referent. Typical examples are *wèi* 位 and *kē* 顆 as in (1) and (2).

(1)

兩	位	老師
liǎng	wèi	lǎoshī
two	NCL	teacher

'two teachers'

(2)

五	顆	蘋果
wǔ	kē	píngguǒ
five	NCL	apples

'five apples'

In Chinese, we cannot directly quantify a noun through the addition of a numeral before it. Instead, we must add a 'nominal classifier' to intervene between the numeral and the noun to express the referent 'be quantified'.

Verbal classifiers (VCLs) are more distinctive in Chinese language since they refer to classifiers which are 'selected by lexical verbs'. To be specific, selected by lexical verbs together with their objects. Few languages have such linguistic representations for measuring actions. For example, the Chinese way of expressing 'to kick' is "*tī yī jiǎo*" 踢一腳 (to kick [with foot]). The use of verbal classifier '*jiǎo*' 腳 (foot) reflects the characteristics of the Chinese language in contrast with English. Therefore, we can say that the semantics of verbal classifiers have their own special characteristics in Chinese.
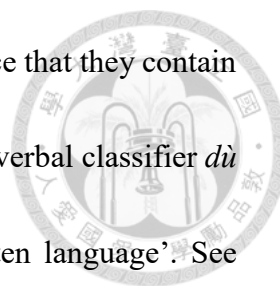
It is interesting that some words in Modern Chinese are hard to notice that they contain

the concept of measurement reading, such as *dù* 度. The use of the verbal classifier *dù*

度 occurs in some 'more formal' expressions especially in 'written language'. See

example (3) as follows. Here the verbal classifier *dù* 度 refers to the 'times' of the

event '*dàole jiùfù jiā*' 到了舅父家 (go to uncle's house).

(3)

申純　　假託　說　外出　　就　醫，

Shēn-chún　jiǎtuō　shuō　wàichū　jiù　yī

Shēn-chún　pretend　say　go out　for　medical treatment

'Shen-Chun pretended to go out for medical treatment.'

再　　度　　到　　了　　　舅父　　家。

zài　dù　dào　le　jiùfù　jiā

again　VCL　go　ASP　uncle　house

'and went to his uncle's house again.'

Few people can think of this for the first time: in Classical Chinese, *dù* 度 originally

has the usage of the verbal classifier. The verbal classifier *dù* 度 as in (4) refers to the

'times' of the event '*shū ér juǎn zhī*' 舒而卷之 (spread out and roll up books).

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(4)

必须	三	度	舒	而	卷	之。
bìxū	sān	dù	shū	ér	juǎn	zhī
must	three	VCL	stretch	and	roll	books

'All books must be spread out and then rolled up for three times.'

<div align="right">(from Qímín Yàoshù 《齊民要術》)</div>

In fact, the usage of *dù* 度 we know better in Modern Chinese is the so-called '*lèi cízhuì*' 類詞綴 (quasi-affix). Mǎ (1995) defines quasi-affixes as morphemes with abstract meaning and with a relative fixed position, which cannot be words. Tāng (1992, p. 19) states that these morphemes do not have a clear 'lexical meaning', but a 'grammatical meaning' that determines the part of speech. Besides, these morphemes are quite productive, and many new words are constantly produced by such word formation in Modern Chinese. Tāng (1992, p. 23) regards the word *dù* 度 in Modern Chinese as '*míngcí cíwěi*' 名詞詞尾 (nominal suffix). The nominal suffix *dù* 度 is affixed to nouns, adjectives, verbs and other morphemes to form nouns. For example, *chángdù* 長度 (length), *gāodù* 高度 (height), *kuāndù* 寬度 (width), *língmǐndù* 靈敏度 (sensitivity), and *qīngxīdù* 清晰度 (sharpness). We can say that *dù* 度 is a quasi-suffix in Modern Chinese and semantically means 'degree of something'.

From the above discussion, we can find two semantics of the word *dù* 度 in Modern

Chinese and Classical Chinese. They are 'times' as 'verbal classifier' (both in Classical

Chinese and Modern Chinese) and 'degree of something' as 'quasi-suffix' (specific to

be in Modern Chinese). In fact, both semantics are related to 'measurement' reading.

The semantic relationship between them has a context to follow, and such contextual

relationship must be reflected through a 'diachronic semantics' perspective.

1.1 Problems and Aims

For the semantics of *dù* 度, previous studies have made preliminary discussion (see

section 2.2). It is a pity that these studies only state the semantics of *dù* 度 during a

particular period of time (i.e. synchronic discussion). According to our literature search,

we find only one journal paper discussing on the semantics of *dù* 度 from diachronic

perspective (X. Sūn, 2020). However, it basically discusses the original meaning of *dù*

度 and its partial extended meanings. The paper is also centered on the level of 'proper

nouns' and 'cultural meanings' of *dù* 度. Therefore, a more in-depth discussion of *dù*

度 made by the theoretical and empirical proposal would have been desirable. For such

research gap, this study aims to comprehensively analyze the diachronic structure of *dù*

度, and integrate the semantic associations of *dù* 度 from Classical Chinese to Modern

Chinese based on the theory of diachronic prototype semantics (Geeraerts, 1997).

Diachronic prototype semantics integrates diachronic semantics with prototype theory[1],

and explores the diachronic conceptual variation of lexicon at extensional[2] and

intentional[3] level. This study belongs to the intentional level.
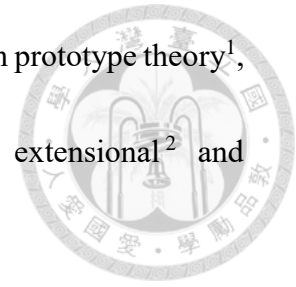
By using CCL (Center for Chinese Linguistics PKU) corpus, we better describe

the diachronic structure of *dù* 度 (see section 3.2 for more detailed discussion).

Besides, we take a 'dynamic construal' (Cruse, 2011) viewpoint (see section 3.1.1),

which is different from the traditional semantic analysis of word meaning. We believe

that the 'purport' of *dù* 度 is an important factor in the construction of its sense clusters.

Such a view originates from reflections on construal processes of *dù* 度, and more

importantly, from the investigation of its cognitive shift manipulated by image schemas.

Langacker (2008, p. 32) mentions that image schemas are 'schematized patterns' of

'activity' abstracted from everyday bodily experience, especially related to vision,

space, motion, and force.

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[1] Prototype theory is a theory of graded categorization in cognitive linguistics, in which all members of a conceptual category do not have equal status. Some members are more central than others.
[2] i.e. on the referential level.
[3] i.e. on the level of senses.

There are still some issues that need to be clarified as follows:

First of all, based on the dual view of 'form' and 'meaning' in linguistics, we consider the main problems to be solved in diachronic semantics as 'onomasiology' and 'semasiology', which correspond to 'differentiation of naming' and 'differentiation of meaning' respectively. The discussion on the semantic change of *dù* 度 in this study belongs to the latter. Thus, we study the meaning of *dù* 度 regardless of how it is pronounced. (We consider two sounds *dù* and *duó* simultaneously.)

Second, because we take a diachronic point of view, the discussion of the meanings of *dù* 度 in Classical Chinese will inevitably involves a problem:

> Classical Chinese lexicon is dominated by monosyllabic words. A syllable (form) and a certain meaning are combined to form a Chinese character. Namely, each Chinese character has a certain form, sound, and meaning. A Chinese character can be viewed as a 'word' in Classical Chinese.

Third, our corpus-based approach does not advocate any preconceived judgments, but only provides objective evidence for the diachronic structure of *dù* 度. Also, we will judge by the actual situation of the data, and make an objective statistics analysis of the corpus data.

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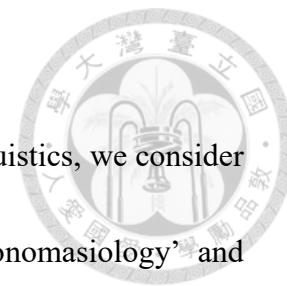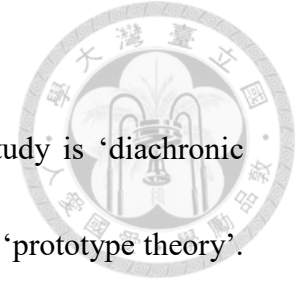
Fourth, as mentioned above, the theoretical framework of this study is 'diachronic prototype semantics', which combines 'diachronic semantics' with 'prototype theory'. Prototype theory belongs to the field of cognitive linguistics, and cognitive linguists adopts the so-called 'categorization' for dealing with polysemous words.

Categorization refers to 'classification' of categories. L. Xú (2017, pp. 21-25) reviews a series of 'cognitive semantic models' to explain the categorization of polysemous words proposed by cognitive linguists such as Taylor, Lakoff, and Langacker. According to the complexity of category classification, cognitive semantic models can be divided into three situations: from 'meaning chain' to 'radial model' and then to 'network model'.

(1) Taylor (2003) discusses the 'meaning chain model'. He believes that multiple meanings of polysemous words form a 'meaning chain', in which adjacent meanings on the chain have more common features, while distant meanings have less common features. The connection of meanings is realized through metaphor and metonymy (see **Figure 1.1**).

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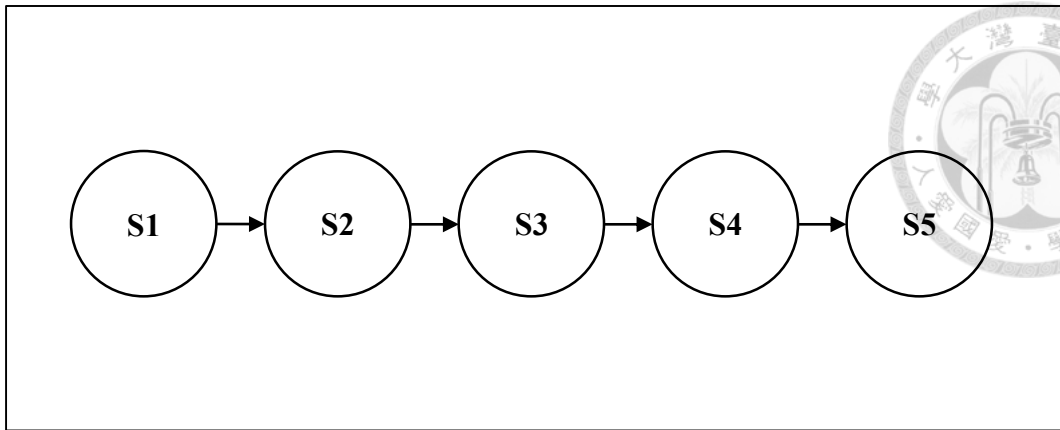
Figure 1.1 Illustration of meaning chain model

(2) Lakoff (1987) discusses the 'radial model' of polysemous words to solve the limitations of the 'meaning chain model' because meanings are not semantically extended in a straight line. Multiple meanings are associated with the 'prototype meaning' at the same time (see **Figure 1.2**).
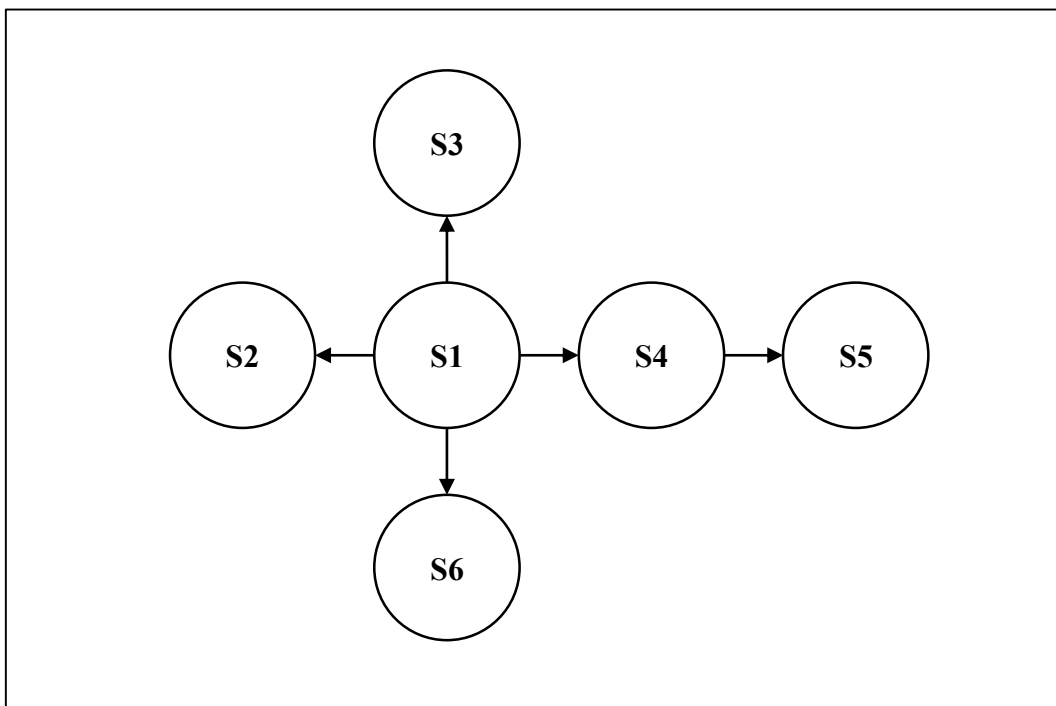
Figure 1.2 Illustration of radial model
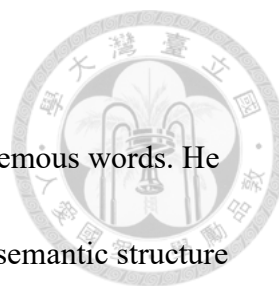
(3) Langacker (2008, p. 37) illustrates the 'network model' of polysemous words. He

thinks that the meanings of polysemous words form a network-like semantic structure

of both meaning chain and radial category (See Figure 1.3).
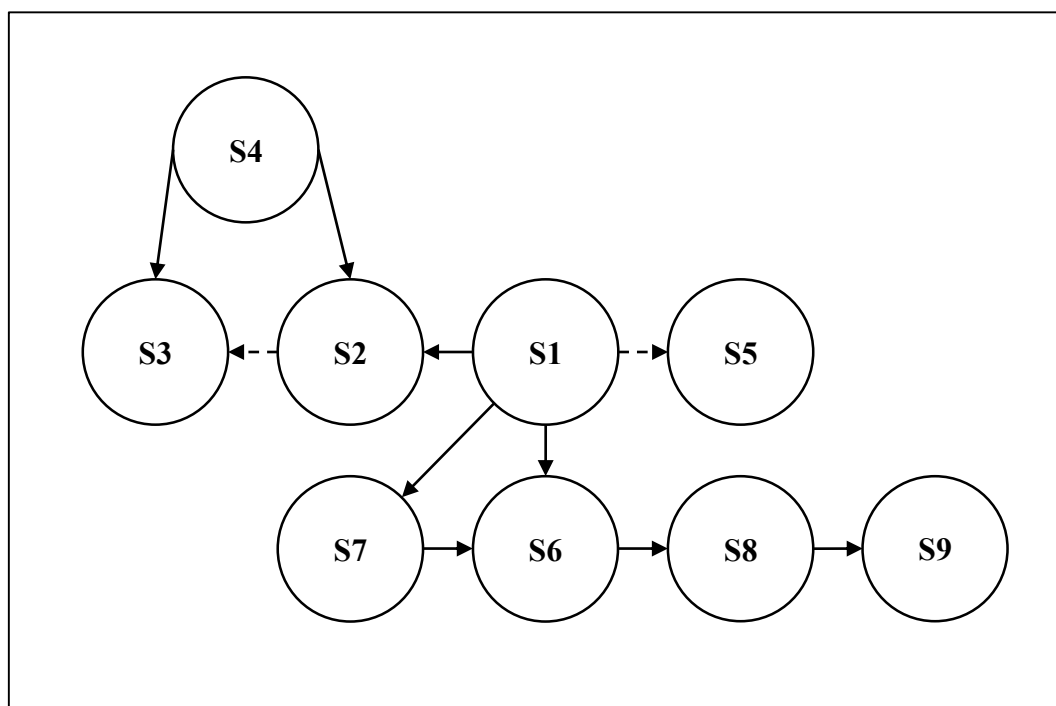
Figure 1.3 Illustration of network model
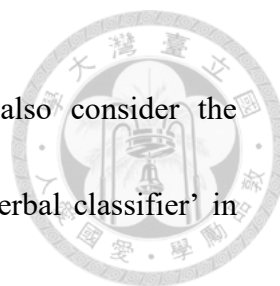
Fifth, in addition to 'lexical polysemy' of *dù* 度, we must also consider the 'grammatical polysemy' of *dù* 度 because it has the usage of 'verbal classifier' in terms of grammatical units. The notion of grammatical polysemy involves the interaction between 'grammaticalization' and 'construction'. The grammatical polysemy of *dù* 度 appears in *yīdù* 一度 (referring to the word 'once' in English) construction. This study only makes a brief discussion on *yīdù* 一度 (once) that we observe from the corpus. The concepts of 'lexical polysemy', 'grammatical polysemy' and 'grammaticalization' are defined below.

A lexical polysemy refers to a word that has different but 'related' senses. Since polysemy involves the vague concept of the relatedness, sometimes it is difficult to determine whether a word is polysemous or not. We can handle this problem by looking at sense extension explainable in terms of metaphor and metonymy.

The term 'grammatical polysemy' refers to grammatical forms that are used in different ways. The issue of grammatical polysemy deals with how people use a 'grammatical construction'. Since it does not simply be explained within lexicon (lexical aspects itself), grammatical polysemy is overlapped with construction and grammaticalization (Locatell, 2017).

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An example of grammatical polysemy can be seen in the polysemy of the English adverb 'once' which may be times (frequency) as in (1) or time (temporal) as in (2).
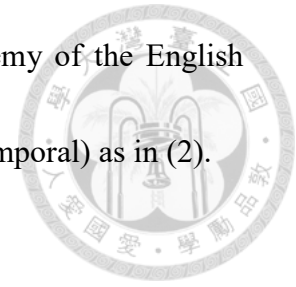
(1) He went fishing once, but he didn't like it.

(2) This land once belonged to my grandmother.

In English, when 'once' refers to 'frequency of times', it occurs after the event (post-modifier); when 'once' refers to 'at some time in the past', it appears before the event (pre-modifier).

For the definition of grammaticalization, scholars always refer to Hopper and Traugott's definition (Hopper & Traugott, 2003). Hopper and Traugott (2003) view grammaticalization as lexical items and constructions changing into grammatical functions in certain linguistic contexts. Once grammaticalized, they continue to develop new grammatical functions.

For this definition, we can see that grammaticalization is divided into two stages:

(1) the process of changing from lexical to grammatical.

(2) the further development from 'weakly grammaticalized' to 'strongly grammaticalized'.

To sum up, grammaticalization means that the lexical nature is weakened and the grammatical nature is strengthened.

1.2 Scope of the Research

In the past, we spent a lot of time investigating on the 'original meaning', 'extended meaning' and the 'lexical field' of words. This part of the research has been done well, but there is little discussion on the 'cognitive shifts' of the semantic change of word meanings. The cognitive shifts of word meanings must be realized through diachronic study.

In addition, as mentioned in the previous section, most of the literature focuses on the analysis of a specific meaning of the word *dù* 度 in a certain period. From diachronic perspective, the 'linguistic motivations' between the meanings of *dù* 度 are comprehensively surveyed. We generalize the 'sense clusters' among the meanings of *dù* 度, and use this as a basis to investigate its cognitive shifts.

Language is part of the human cognitive system. Behind the expression of our words lie two cognitive mechanisms, 'association' and 'analogy' which are the basic tools for humans to carry out abstract thinking. Our research is carried out under the two mechanisms which contribute to the construction of 'semantic network'. We use the sampled tokens in CCL Corpus to infer the semantic change of *dù* 度. Metaphorical

and metonymic readings help us determine the semantic extension of *dù* 度.

It must be clarified that we are not trying to verify all the meanings of the word *dù* 度

in the dictionary. The entries in the dictionary are listed one by one, and sometimes it

is difficult for readers to understand the relationship between the entries of a word. With

the semantic network, we think it is a good idea to understand the relationship between

the meanings of *dù* 度.

The specific research questions to be answered are as follows:

(1) What diachronic conceptual variation pathways are showed in the intensional

readings of *dù* 度?

(2) How do the multiple intensional readings of *dù* 度 arise from our different

construals?

1.3 Research Concepts and Methods

The study of Chinese lexicon has always paid more attention to lexical phenomenon

during a certain period of time. This kind of research has an implicit premise that the

language phenomena of each period are regarded as scattered concepts. This point of

view will give people an illusion: the development of the lexicon of the previous period

into the lexicon of the next period is suddenly changed. In fact, the evolution of lexicon

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is gradual, and the lexicon of the previous period is continuous and non-discrete, and cannot be absolutely separated from the lexicon of the next period. Therefore, the lexicon at each stage is definitely not a simple system, but a complex system involving historical and cultural backgrounds.
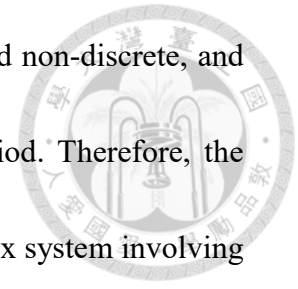
As a diachronic lexical study, this study divides the evolution of the meanings of *dù* 度 by dynasties, mainly to find out the subtle semantic change of the main meanings of *dù* 度 in different dynasties. For all the meanings of *dù* 度 in the dynasties, it is not easy to completely divide their old and new meanings.

Sometimes in a certain dynasty, it is also hard to observe the semantic change of *dù* 度. Therefore, we choose a more practical and feasible method, which is to try to find out the first usage of a certain meaning of *dù* 度 in a certain dynasty. After labeling a certain number of tokens in a certain dynasty, we begin to conduct semantic analysis of *dù* 度 if we observe a certain pattern. In this study, we conduct a more in-depth investigation on the corpus of Old Chinese. According to our investigation, the main meanings of the word *dù* 度 have already been formed in Old Chinese. As for the corpus of 'Middle Chinese' and 'Old and Middle Mandarin', due to a large number of tokens, it is impossible to examine them all thoroughly. Therefore, the semantic

distribution of *dù* 度 can only be verified by token sampling. In this way, we try our best to make this study a so-called 'diachronic' study. Jiǎng (2005) proposes to study Classical Chinese lexicon from the perspective of examining the senses in different historical stages. This study is in accordance with this idea.
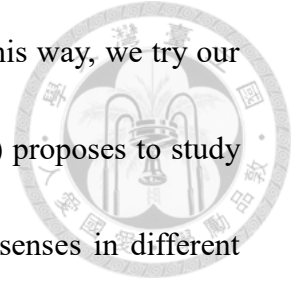
2. Sense Identification of *Dù* 度

In this section, we will identify the senses of *dù* 度 in dictionaries and previous studies.

2.1 *Dù* 度 in Dictionaries

A list of the semantics of *dù* 度 appear more in dictionaries, so we inspect the four common reference books, *Jiàoyù bù zhòng biān guóyǔ cídiǎn xiūdìngběn* 教育部重編國語辭典修訂本 (Revised Mandarin Chinese Dictionary, **RMCD**), *Xiàndài Hànyǔ Cídiǎn* 現代漢語詞典(XHCD, 2016), *Hànyǔ Dàzìdiǎn* 漢語大字典 (HYDZD, 2010), and *Hànyǔ Dàcídiǎn* 漢語大詞典 (HYDCD, 1989), and find that their definitions of *dù* 度 are not exactly the same. This not only shows that our understanding of *dù* 度 is not comprehensive, but also reflects that as a word frequently used in Classical and Modern Chinese, *dù* 度 has abundant meanings. We list the meanings of partial dictionaries and give examples as follows.

According to **RMCD**, du can function as a noun which has multiple meanings (see Table 2.1). It refers to (1) 'a quality of something', as in '長度, 硬度, and 密度', when it is compared to other things like it; (2) 'an official order' i.e. 'decree' ,as in '制度, and 法度', from a ruler or a government; (3) 'a standard' by which something is judged as in '尺度 and 限度'; (4) 'tolerance', the ability to suffer something, especially pain or difficult conditions, as in '器度'; (5) 'the behavior' of somebody towards things as in

'風度 and 態度'; (6) 'a unit for measuring temperature' as in '攝氏三十六度' and 'an

occasion or times when a person does something' as in '再度光臨'; (7) 'a unit for

measuring angles' in math as in '三百六十度'; (8) 'last name' especially in 'Han

Dynasty'. Notice that here 教育部重編國語辭典修訂本 treats the item (6) as a

'classifier'. However, our discussion on du 度 as a classifier is under the condition that

it refers to the meaning of 'times' as in 再度光臨.

Table 2.1 Nominal *dù* 度 in RMCD

Noun	*Meaning*	*Example*
(1)	表示物質的相關性質所達到的狀況。	長度、硬度、溼度、密度、酸度。
(2)	法制、規範。	「制度」、「法度」。
(3)	標準。	「尺度」、「限度」。
(4)	人的器量、胸懷。	「器度」。
(5)	外表、儀態。	「風度」、「態度」。
(6)	量詞	
	a. 計算依一定標準劃分的單位。	耗電三百度、今天氣溫高達攝氏三十六度。
	b. 計算次數的單位。	「再度光臨」。
(7)	數學上指：a. 計算圓弧及角的單位。圓周的三百六十分之一為弧的一度；一度的弧所對的中心角，為角度的一度。b. 物體的長、寬、高。如：「三度空間」。	
(8)	姓。	漢代有度尚。
	(教育部重編國語辭典修訂本)	

Du can also serve as a verb which means: (1) 'to spend time' as in '度日如年 and 光陰虛度'; (2) 'to move from one side of a river to the other side of it' as in '渡江'; (3) 'to move past' as in '飛渡'. Notice that *du* 度 is the same as *du* 渡 when used in the context (2) and (3). Namely, they are variant Chinese characters that are synonyms and homophones. The two variants are allographs in most circumstances, but in some contexts, we require the usage of one of the variants. (see Table 2.2).

Table 2.2 Verbal *dù* 度 in RMCD

Verb	Meaning	Example
(1)	過、經歷。	「度日如年」、「光陰虛度」。
(2)	由此岸到彼岸。	同「渡」。
(3)	通過、跨越。	同「渡」。
教育部重編國語辭典修訂本		
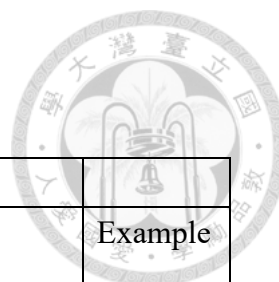
Table 2.3 Dù 度 in XHCD

Sound	Part of speech	Chinese sense with English annotations	Example
dù	No mention	(1) Jìliàng chángduǎn 計量長短 (Measuring length)	度量衡
	No mention	(2) Biǎomíng wùzhí de yǒuguān xìngzhì suǒ dádào de chéngdù.表明物質的有關性質所達到的程度。(Indicating the extent to which the relevant properties of the substance have reached)	硬度、熱度、濕度等。
	Numeral Classifier	(3a) Hú huò jiǎo, bǎ yuánzhōu fēn wéi 360 děng fèn suǒ chéng de hú jiào 1 dù hú. 1 Dù hú suǒ duì de yuánxīn jiǎo jiào 1 dù jiǎo. 1 Dù děngyú 60 fēn. 弧或角，把圓周分為 360 等份所成的弧叫 1 度弧。1 度弧所對的圓心角叫 1 度角。1 度等於 60 分 (A degree (of arc) refers to a measurement of a plane angle in which one full rotation is 360 degrees.)	
		(3b) Jīngdù huò wěidù 經度或緯度(longitude or latitude)	北緯 38 度。
		(3c) Diànliàng, 1 dù jí 1 qiānwǎ xiǎoshí.電量，1 度即 1 千瓦小時。(Electricity, 1 degree is 1 kilowatt-hour.)	
		(3d) Yǎnjìng jiāo dù de dānwèi,1 dù děngyú 0.01 Mǐ$^{-1}$ 眼鏡焦度的單位，1 度等於 0.01 米$^{-1}$ (A diopter is a unit of measurement of the optical power of a lens or curved mirror, which is equal to the reciprocal of the focal length measured in meters. (1 diopter = 1 m^{-1}))	
	No mention	(4) Chéngdù 程度 (degree)	極度 知名度 透明度 高度責任感
	Noun	(5) Xiàndù 限度 (limit)	勞累過

			度 以能熔 化為度
	No mention	(6) Zhāngchéng; xíngwéi zhǔnzé 章程；行為準則 (code of conduct)	法度 制度
	Noun	(7) Zhéxué shàng zhǐ yīdìng shìwù bǎochí zìjǐ zhì de shùliàng jièxiàn. Zài zhège jièxiàn nèi, liàng de zēng jiǎn bù gǎibiàn shìwù de zhì, chāoguò zhège jièxiàn, jiù yào yǐnqǐ zhìbiàn. 哲學上指一定事物保持自己質的數量界限。在這個界限內，量的增減不改變事物的質，超過這個界限，就要引起質變。 (In philosophy, it means that certain things maintain their own qualitative and quantitative limits. Within this limit, the increase or decrease in quantity does not change the quality of things, and beyond this limit, it will cause qualitative changes.)	
	No mention	(8) Duì rén duì shì kuānróng de chéngdù. 對人對事寬容的程度。 (The degree of tolerance for people and things.)	度量 氣度
	No mention	(9) Rén de qìzhí huò zītài. 人的氣質或姿態。 (The temperament or posture of a person.)	風度 態度
	No mention	(10) Yīdìng fànwéi nèi de shí jiàn huò kōngjiān 一定範圍內的時間或空間 (A certain range of time or space.)	年度 國度
	No mention	(11) Suǒ dǎsuàn huò jìjiào de 所打算或計較的 (Planned or cared about)	英雄把自己的生死早已置之度外
	Verbal Classifier	(12) Cì 次 (times)	再度聲明 一年一度 這個劇曾兩度公演
	Verb	(13) Guò (zhǐ shíjiān) 過 (指時間) (pass (refers	歡度春

		to time))	
	Verb	(14) Fójiào dàojiào yòngyǔ, zhǐshǐ zhòngshēng cóng shēngsǐ fánnǎo zhōng jiětuō chūlái, dàodá zìzài de jìngjiè. Yě zhǐ sēngní dàoshi quàn rén chūjiā. 佛教道教用語，指使眾生從生死煩惱中解脫出來，到達自在的境界。也指僧尼道士勸人出家。 (The terms of Buddhism and Taoism instruct all living beings to free themselves from the troubles of life and death and reach the realm of freedom. It also refers to monks, nuns and Taoist priests persuading people to become monks.)	
	Noun	(15) Xìng 姓 (name)	

Sense identification has long been a problem to tackle for practical lexicographers. Lexicographers do not reach a consensus on how to identify and distinguish senses of a polysemous word. Besides, there are no relatively objective criteria for sense identification of polysemous words. Sense identification cannot be based on lexicographers' intuition, but must be based on sufficient corpus empirical evidence. The usual method is to use keywords in contexts (KWIC) to find out all the concordance lines of keywords in a large corpus, examine the various contexts of keywords, and provide a reliable basis for the identification of meanings. In the past, the early lexicographers mostly used the existing literature to distinguish the meaning of a word due to the lack of corpus assistance.

2.2 *Dù* 度 in Previous Studies

Regarding the research of *dù* 度, many scholars analyze it from different angles. These studies can be classified into three categories. The first category is the research from the basic analysis of form, sound, and meaning of *dù* 度. This type of research is mainly based on the investigation of multiple dictionaries. In the previous section, we have already had a preliminary understanding of the semantics of *du* based on the three dictionaries. The second type of research analyzes *dù* 度 from the perspective of philosophical interpretation. This type of research touches on the discussion of the conceptual and cultural meanings of *dù* 度, which helps us understand the semantic nature of *dù* 度. The last category focuses on the discussion of the grammaticalization of *dù* 度. This type of research focuses on the process of the semantics of *dù* 度 from content word to function word, mainly because the sense of *dù* 度 has three functions in linguistic level: quantifier, classifier, and quasi-affix. Here we review some definitions of *dù* 度 based on these researchers' findings.

2.2.1   The Form, Sound, and Meaning of *Dù* 度

Huáng (2019) looks up the word *dù* 度 in *Kāngxī Zìdiǎn* 康熙字典, *Shuō Wén Jiě Zì* 說文解字, *Hànyǔ Dà Zìdiǎn* 漢語大字典, *Hànzì Yuánliú Zìdiǎn* 漢字源流字典 and other reference books. She tries to help people understand the meaning of *dù* based on

its character structure and the relationship among its major senses.

Shuō Wén Jiě Zì 說文解字:

The concept of *dù* is the foundation of the legal system. The structure of the character

dù is formed by yòu 又 indicating "hand meaning". Its pronunciation is close to "庶".

As to the level of governance of the country, it has the meaning of 'law'.

Xiàngxíng Zìdiǎn 象形字典:

In ancient times, people work with their hands due to the lack of tools. Therefore,

hands are the most primitive tool of measurement. The original meaning of *dù* is to

measure, and its sound is '*duó*'.

Hànzì Zìyuán 漢字字源
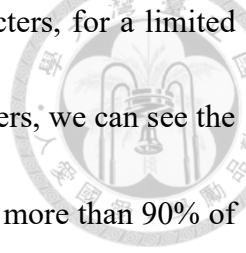
The word 度 is explained like this: It is composed of 广, 廿 and 又. The character

广 is like a house with an open side. The character 廿 is ox. The meaning of 度 can

be understood as measuring how many cows can be housed in the cowshed, and thus

it implies the meaning of measurement.

The relationship between the shape and meaning of *dù* brings a certain degree of difficulty for learners to fully understand it. The author starts with the analysis of the initial glyph structure of 度 by some related materials and focuses on analyzing the meanings of 度 in these materials. However, the author just highlights some relevant senses of 度, and omits uncommon uses of 度.
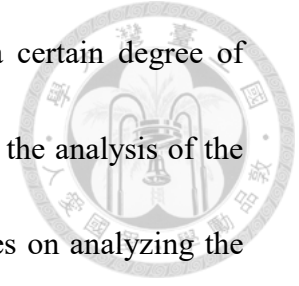
2.2.1.1   The Form of *Dù* 度

Chinese character is a kind of ideographic writing. It is one of the earliest characters in the world. If we count from the oracle bone inscriptions, it has a history of more than 3,500 years. In its long-term development, its writing style has undergone many evolutions, but it has never deviated from the characteristic of "expressing meaning with form". Because of this, its "expressiveness" enables us to deduce some meaning clues from the shape of the characters. In addition, in ancient Chinese lexicon, "monosyllabic words" are absolutely dominant, and the word-forming elements of all monosyllabic words and all polysyllabic words are recorded by Chinese characters one by one. Therefore, the "monosyllabic nature" of Chinese characters, in a certain sense, makes the meaning of Chinese character as "word meaning".

Through the analysis of "glyphs" to explore the meaning of characters, for a limited number of 獨體字 (象形, 指事), which is close to ancient characters, we can see the concept expressed by the glyphs and understand their meaning. For more than 90% of 合體字 (ideal and pictophonetic characters), it is not so simple: it is necessary to analyze its radicals according to the construction principle of Chinese characters, and judge whether it is an ideographic character or a pictophonetic character by pronunciation. Finally, according to the meaning of the pictograph, the meaning of the whole word is deduced.

Jì (2010, p. 212) interprets "*dù* 度" as "measurement; legal system". For the interpretation of "du", he adopted the oracle bone inscriptions "从又持石，石亦聲", and annotates "Shuowen" with "庶亦從石聲". In addition, he also mentions that the original meaning of "du" is "measurement".

2.2.1.2　The Sound of *Dù* 度

Y. Sūn (2015, pp. 609-612) analyzes the word "du" from the perspective of phonology, and gives comprehensive comments on its word formation. Based on a large number of rhyme data as evidence, he believes that the original meaning is "to measure", a verb; the extended meaning is "a tool for measuring length", a noun. He also cites Zhou's

classification of the tone-modified words of "du" as "those who are tone-modified due to different parts of speech". Namely, those who are used as nouns in order to distinguish verbs. He even quotes (Downer, 1959) as saying that the word "du" belongs to the category of the tone sandhi that the original meaning is a verb, and the extended meaning is a noun. He translates the original meaning as "to measure" and the extended meaning as "measurement, rule".
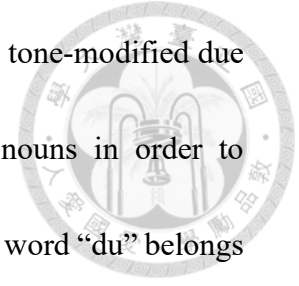
2.2.1.3 The Meaning of *Dù* 度

Yáng (2010) conducts a semantic analysis on *dù* 度 and *zhì* 制. He believes that although *dù* 度 and *zhì* 制 can be regarded as synonyms, the meanings of the two are actually significantly different. He uses the "componential analysis" approach[4] of traditional semantic analysis to compare the semantic components of *dù* 度 and *zhì* 制. First of all, he investigates the "semantic source" of *dù* 度 and *zhì* 制, and observes their semantic extension. Then he analyzes the collocation of *dù* 度 and *zhì* 制 respectively. Finally, from the perspective of "word formation as a morpheme", the semantic differentiation between the two characters is verified.

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[4] He does not directly point out that the method he adopts is "componential analysis". By examining his analysis, we believe that his method is "componential analysis" at the level of traditional semantics. More precisely, it is "seme analysis".

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The noun *dù* 度 is derived from its verb meaning "to measure". Therefore, nominal *dù* 度 must also have the semantic features of its verb meaning. The features are as follows:
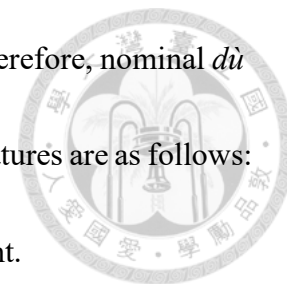
(1) [+specificity]: There must be specific standards for measurement.

(2) [+Locality]: Any part of a thing is measurable.

(3) [+Operational]: Measurement itself is an operational behavior.

Just because the noun *dù* 度 has these semantic features, *dù* 度 can be artificially changed. However, once it is changed, although it is still a specific *dù* 度, it is no longer "standard".

The noun *zhì* 制 is derived from its verb meaning "create". Therefore, nominal *zhì* 制 also has the following semantic features as its verb meaning:

(1) [+Integrity]: New things created and produced must have integrity.

(2) [+Normativeness]: Implement behavior according to certain requirements.

Because of its [+integrity] and [+normative] nature, *zhì* 制 cannot be destroyed or changed. If destroyed, *zhì* 制 will no longer exist.

M. Gāo (2008, pp. 117-118) mentions that the word *dù* 度 means "speculate" in Old

Chinese, and it is still used in Middle Chinese. The word *dù* 度, together with *liàng*

量, *chuǎi* 揣, *tú* 圖, *yǐn* 隱, and *kuí* 揆, forms the lexical field of "speculation".
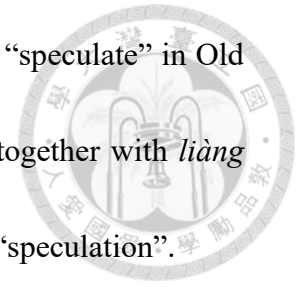
Y. Wáng (1999, pp. 152-153) states that the word *dù* 度 means "singing and playing

music", which occurs frequently in the poems of the Six Dynasties. Then Y. Wáng

(2010) comprehensively investigates Middle Chinese lexicon, and finds that *dù* 度,

referring to the measurement of length, can form a disyllabic word with a morpheme

containing "morality reading". "X 度" is often used for "compliment reading". She

listed words such as *shídù* 識度 (knowledge), *zhìdù* 志度 (ambition), *zhìdù* 智度

(wisdom), *yìdù* 意度 (magnanimity), *cáidù* 才度 (talent), *fēngdù* 風度

(temperament), *dédù* 德度 (virtue), and believes that "X 度" is a nominal construction.

Féng (2010) investigates the word *dù* 度 in Daoist book *Zhōushì Míngtōng Jì* 周氏冥

通記, and claims that the word *dù* 度 should be a "classifier" that indicates the

overlapping of paper. She further infers that it is the ellipsis of the word *dá* 縛

(overlapping silk).

W. Sòng (2009) examines the word *júdù* 局度 in *Sòng Shū* 宋書 (Book of Song), and claims that the two characters *jú* 局 and *dù* 度 are synonymous, which means "magnanimity".
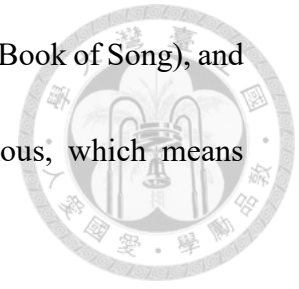
Liáng (1994, pp. 53, 165) believes that *dù* 度 is a verb morpheme that is highly productive. Some monosyllabic verbs in Buddhist texts occur in the form of "predicate-complement compounds" such as *dùtuō* 度脫 (liberation from the suffering of life and death) and *guīyī* 歸依 (taking refuge). In addition, there exist neologisms in the form of "subject-predicate compounds" such as *zìdù* 自度 (save yourself) and *zìjué* 自覺 (self-awakening) in Buddhist texts. Because they represent important Buddhist concepts, they occur in Buddhist texts frequently.

W. Gāo (2018, pp. 51-56) conducts an in-depth study on the semantics of *dùtuō* 度脫 (liberation from the suffering of life and death), *dùhuà* 度化 (guide and let you know yourself), and *jiùdù* 救度 (free from painfulness) in Buddhist texts, and groups *dù* 度 and *huà* 化 to the same lexical field.
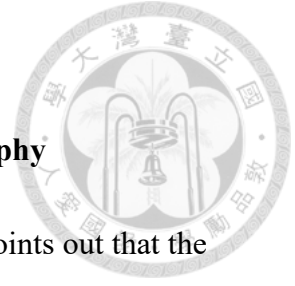
2.2.2   The Conceptual Meaning of *Dù* in Traditional Philosophy

Guō (2008, pp. 8-11) regards *dù* 度 as a philosophical term. She points out that the

concept of *dù* 度 first appears in *Huángdì Sìjīng* 皇帝四經, but it is not valued in

traditional philosophy.

道　者，　　神明　　　之　　　原　　　也。

dào　zhě,　　shénmíng　zhī　　yuan　　yě

dào　NOM　　spirit　　GEN　　source　PART

'Dào is the source of spirit.'

神明　　　者，處於　度　之　內　而　見於　度　之　外　　者　也。

shénmíng zhě,　chǔyú　dù　zhī　nèi　ér　jiànyú　dù　zhī　wài　zhě　yě

spirit　　NOM　stand　dù GEN inside　and display　dù GEN outside NOM PART

'Spirit is that which is inside the human heart and is able to display itself outside the

heart.'

處於	度	之	〔內〕	者，	不	言	而	信；
chǔyú	dù	zhī	〔nèi〕	zhě,	bù	yán	ér	xìn
stand	dù	GEN	inside	NOM	no	word	but	trusted

'Being able to stand [inside] the measure, he is trusted though uttering no word.'

She also points out that *dù* 度 is closely related to the governance system of the world. From the above usages of *dù* 度, we can be see that it is related to the standards that should be followed to govern the country, and it is also related to two abstract concepts: *dào* 道 and *shénmíng* 神明. *Dù* 度 is also used as a standard or tool for calculating length, and it is originally based on the human body. From the cultural explanation of *dù* 度, we can clearly understand the importance of *dù* 度 in life. For example, the desire for standardization of *dùliànghéng* 度量衡 (unit of measurement) during the Spring and Autumn and Warring States period. Finally, she mentions that *dù* 度 as a tool for measurement, is related to the "astronomical calendar" and the "rhythm".

2.2.3 The Grammaticalization of Verbal Classifier *Dù* 度

J. Liú (2020) comprehensively examines the literature of the verbal classifier *dù* 度. She first points out an issue: the generation of the verbal classifier *dù* 度 is "verbal

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source" or "nominal source". She adopts the viewpoint of "nominal source", and believes that the verbal classifier *dù* 度 comes from its noun meaning of "celestial movement unit". Her argument mainly lies in the fact that the noun meaning *dù* 度 of "celestial movement unit" is frequently used in the structure of "*Xíng* 行/ *Yí* 移 (motion) + numeral + *dù* 度", which provides a basis for the grammaticalization of verbal classifier *dù* 度.

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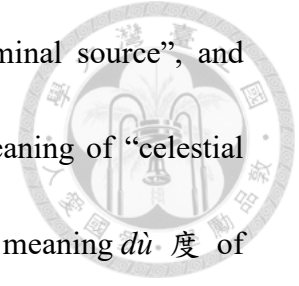
3. Theoretical Framework and Methods

Sense demarcation has always been the work of lexicographers to compile dictionaries. This process involves distinguishing between two or more meanings of the same linguistic form. In the previous chapter, our investigation of several dictionaries and the findings of previous research all come down to the fact that how we distinguish polysemous words depends on our understanding of the context. For different understandings of word meanings, we have different aspects of discussion. We believe that the construction of word meaning is based on the so-called "dynamic construal", which reveals the importance of context in sense demarcation.

Although traditional dictionaries provide readers with a good reference for the division of meanings, the characteristics of dictionaries that use a single word as an entry, listing meanings one by one, sometimes decontextualizes the meaning of words. Then give the reader an illusion: the meaning of each word is entrenched and there is no relationship between each meaning. A better way is that in addition to being fully aware of the importance of context to meaning, we must also grasp the influence of "prototypicality effect" on word meaning, and use this as a starting point to connect the semantic associations between each meaning. That's how we really understand the word meaning. More precisely, it would be even better if we could connect all the senses of a word

from the perspective of "diachronic", and clearly classify the resembling parts of the senses into categories. These all depend on the establishment of the semantic network.

Another point that must be noted is that in the diachronic evolution of word meaning, whether the structure of word meaning also affects the development of word meaning, this is also something we must consider. This chapter starts with the so-called "dynamic interpretation", then discusses diachronic prototype theory. Finally, we discuss the influence of diachronic structure on the meaning of words.

3.1 Theoretical Framework

3.1.1   A Dynamic Construal Method for Variable Senses

In the dynamic construal approach (Cruse, 2011, p. 68), words do not have a set of permanently fixed meanings, and meanings are the result of various "construal processes" (mental processes of meaning construction) in actual use. Each word does have a "purport" corresponding to the "conceptual content", but it does not determine any particular meaning. Namely, purport refers to relatively entrenched conceptual content associated with lexical forms, while meaning refers to a highly context-dependent construal. On the one hand, purport limits the understanding of contextual meaning, and on the other hand, it can provide clues for the construl of meaning. This

makes some readings of words easier to understand than others.
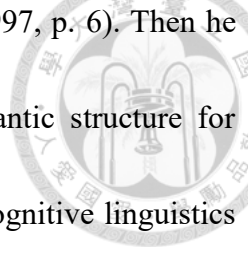
We can say that Cruse's so-called "dynamic construal" provides a very useful way to analyze word meaning. Word meaning should be studied through the context, i.e. the collocation of word. The constituent elements of word meaning are no longer abstract sememe, but concrete words. Under this belief, the analysis of word meaning changes from a static description of introspective and intuitive judgment into a dynamic analysis with observability and operability, and achieves the objectivity.

3.1.2 The Prototypical Effect Analysis for Variable Senses

Geeraerts's *Diachronic Prototype Semantics* is an early work that applies the prototype theory of cognitive linguistics to the study of meaning changes over time. The book mentions five key points: (1) cognitive semantics and prototype theory, (2) the prototypical characteristics of semasiological change, (3) prototypicality in a classification of lexical change, (4) prototypical polysemization and the isomorphic principle, and (5) prototype theory as a scientific paradigm.

Geeraerts first explains the central idea of cognitive semantics. He states that polysemy is one of the topics of interest to cognitive semantics, and the so-called polysemy is the

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synchronic reflection of diachronic-semantic change (Geeraerts, 1997, p. 6). Then he discusses why prototype theory plays an important role in semantic structure for diachronic semantics. He thinks that general research strategy of cognitive linguistics has two characteristics: (1) the treatment of "categorization", and (2) the differentiated issues due to the treatment of "categorization" from different perspectives: (A) "the internal structure of categories" (prototype theory), (B) "the conceptual structures of category" (metaphor research), and (C) the relationship between linguistic form and linguistic meaning (iconicity research). Geeraerts focuses on the prototypical characteristics of semasiological change, and this study follows the background of this concept.

Geeraerts proposes four characteristics of prototypicality as follows:

(1) Prototypical categories exhibit degrees of typicality; not every member is equally representative for a category.

(2) Prototypical categories exhibit a family resemblance structure, or more generally, their semantic structure takes the form of a radial set of clustered and overlapping readings.

(3) Prototypical categories are blurred at the edges.

(4) Prototypical categories cannot be defined by means of a single set of criterial

(necessary and sufficient) attributes.

Characteristics (1), (3) and (4) point out that categories have prototype effects, and deny the Aristotelian treatment of categories based on necessary and sufficient attributes.[5] Characteristic (2) points out the "family resemblance" viewpoint.[6]

Characteristics (1) and (2) represent non-equality: the differences in prototypicality among members of the category and the differences in salience between members. The members within the category are grouped together with the characteristics of family resemblance.

Characteristics (3) and (4) represent non-discreteness: the ambiguity of the boundaries between categories and the inability to clearly define categories with sufficient and necessary attributes.

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[5] Aristotle believes that the categorization reflected by the concept comes from the established category in the objective world. Categorization is determined by the essential attribute of the category, and the category has a clear boundary. All members of the category are of equal status. That is, meaning is an abstraction of the common features of all members of a category.

[6] In the 1950s, the great philosopher Wittgenstein first questions the sufficient and necessary attributes of the category, argues that most words are difficult to be interpreted with the conceptual category of set characteristics, and subsequently puts forward the concept of "family resemblance". He takes the English word "game" as an example to demonstrate the concept. He finds that not all "games" are for entertainment, nor do they all have the characteristics of winning or losing. The reason they can all be called "games" is that the "family resemblance" puts them in the same category.

Geeraerts used the characteristics of these four typical effects and applied it to the discussion at the level of historical semantics to obtain the following four discussions on semantic evolution:

(1) By stressing the extensional non-equality of lexical-semantic structure, prototype theory highlights the fact that changes in the referential range of one specific word meaning may take the form of modulations on the core cases within that referential range.

(2) By stressing the intensional non-equality of lexical-semantic structure, prototype theory highlights the clustered set structure of changes of word meaning.

(3) By stressing the extensional non-discreteness of lexical-semantic structure, prototype theory highlights the phenomenon of incidental, transient changes of word meaning.

(4) By stressing the intensional non-discreteness of lexical-semantic structure, prototype theory highlights the encyclopedic nature of changes in word meaning.

The discussion of *dù* 度 in this study mainly involves its intensional meaning. That is,

the differentiation in the definition of its meaning, which belongs to the discussion of

the second and fourth points above. Regarding the second point, Geeraerts discusses

the diachronic interpretation of the Dutch 'vergrijpen' in different eras. By combining

the analysis of diachronic prototype semantics, he obtains 18 types of the word

'vergrijpen' and outlines their chronological semantic distribution (see **Figure 3.1**).
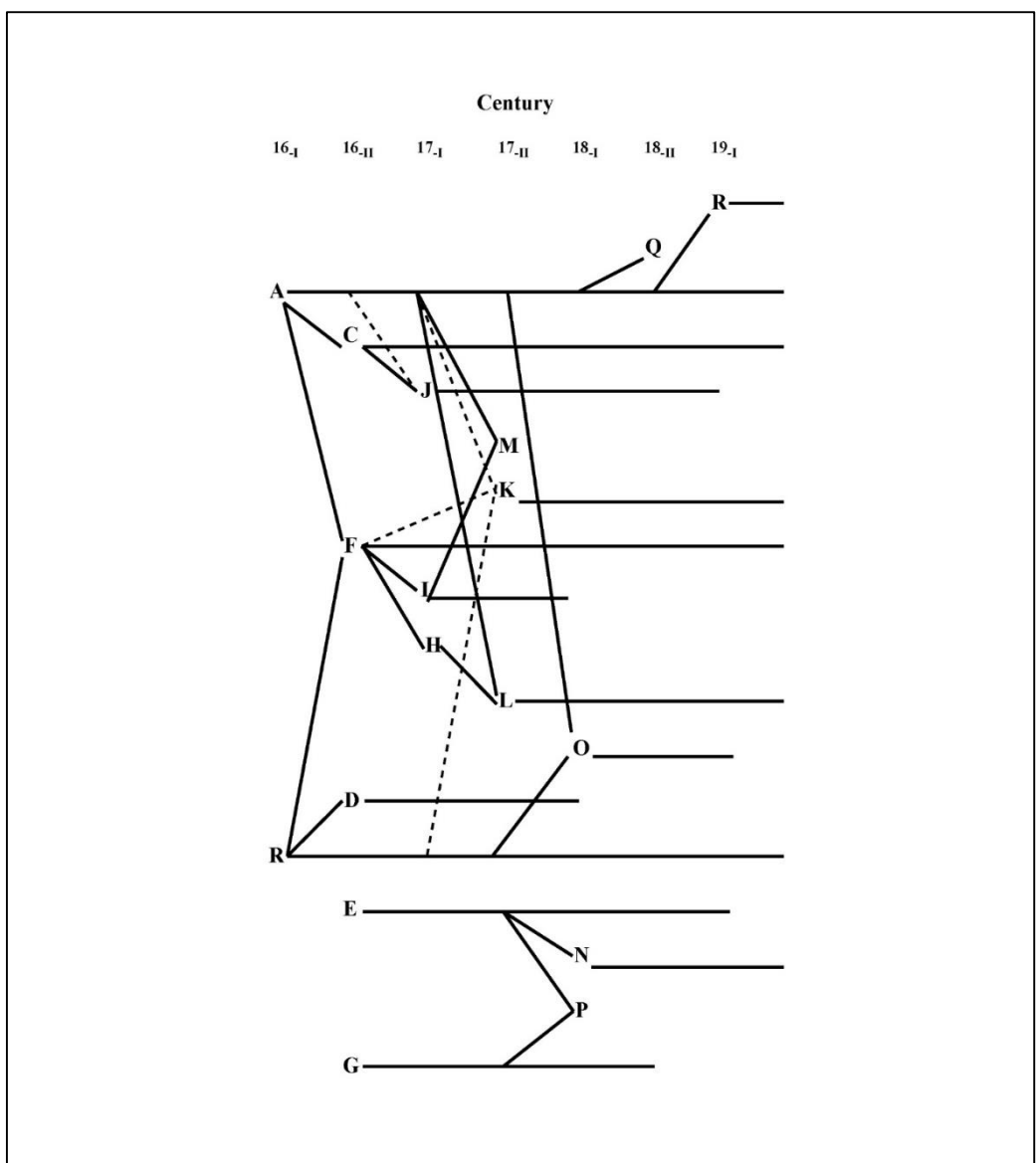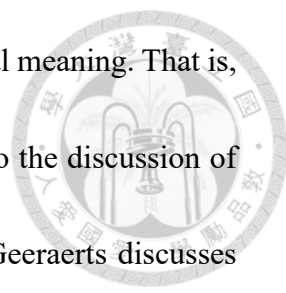
Figure 3.1 The Diachronic structure of vergrijpen
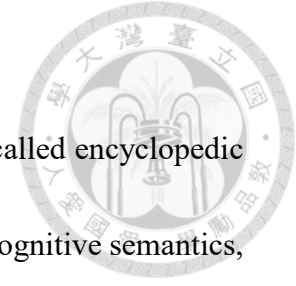
For the analysis of the word 'vergrijpen', Geeraerts adopts the so-called encyclopedic semantic analysis method. This method is also one of the tenets of cognitive semantics, which advocates that meaning is rooted in the 'encyclopedic' knowledge of language user. The interpretation of meaning focuses on describing the cognitive structure and background knowledge of language users from multiple perspectives. People's impressions of things based on their own experience are encyclopedic cues about the thing. For example, when it comes to cars, we generally don't think of the semantic features obtained through component analysis: [+inanimate], [+concrete], [+moving]. We think more of wheels, steering wheels, comfort, speed, and even social status.

3.2 Methods

This section introduces our research methods. We first introduce the source of corpus and the method of filtering tokens. Second, we introduce the specific operation process of quantitative analysis, and finally discuss the rationality of our research method.

Our first urgent task is to select a proper corpus and retrieve the word *du* 度 and its collocates. After careful consideration, we decided to collect data from CCL corpus[7].

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[7] The CCL corpus is established by the Chinese Linguistics Research Center of Peking University and the center enjoys a high reputation in the field of linguistics. Compared with the dictionaries, which mainly extracts examples from classic literary works, the CCL corpus can more comprehensively reflect the use of *du* 度 in Chinese because the goal of CCL corpus is to collect Chinese written texts covering different eras as large as possible for using in Chinese language research and teaching, especially for finding proper examples from the corpus. CCL corpus offers the data in Old and Middle Chinese, and

We also refer to the paraphrase of *du* 度 in dictionaries and annotation books.
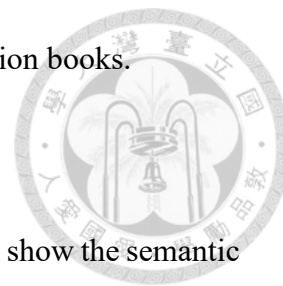
We examine *du* 度 in CCL corpus dynasty by dynasty so that we can show the semantic distribution of it in different dynasties. As to our partitions of Chinese into historical stages. We adopt Wang Li's partition (L. Wáng, 2015) as follows:

I. *Shànggǔ Hànyǔ* 上古漢語 (Old Chinese), spanning from the oldest attestations of the language (ca. 1200 BCE) up to the end of the Han Dynasty (3rd cent. CE).

II. *Zhōnggǔ Hànyǔ* 中古漢語 (Middle Chinese), from the 4th to the 12th centuries.

III. *Jìndài Hànyǔ* 近代漢語 (Old and Middle Mandarin), from the 13th century up to the First Opium Wars (19th cent.).

IV. A transition period, from 1840 to 1919.

V. *Xiàndài Hànyǔ* 現代漢語 (Modern Chinese), up to the present day.

Wang Li's division fits our purposes well because we do not focus on certain specific changes in the Chinese lexicon. Therefore, a more detailed partition is considered to be redundant. In addition, our research concerns that the development of *du* 度 is closely related to written Chinese.

Early and Modern Mandarin as well.

Then we refer to the paraphrase of *du* 度 in dictionaries because the characteristics of dictionaries meet the requirements of this research. For example, *Hànyǔ dà cídiǎn* 漢語大詞典, as an academic masterpiece, is a large-scale historical Chinese dictionary and the authoritative reference book at present. It is known for its collection of classical and modern Chinese words with equal emphasis on origin and development, highlighting the historical evolution of words. Based on this, we believe that the dictionaries can fully meet the requirements of this research in terms of reading supplement.

In order to show more accurate and in-depth analysis of how ancient and modern Chinese people perceive *du* 度, our research has done both qualitative and quantitative analysis on all tokens. The purpose of qualitative analysis of is to reveal the semantic change of *du* 度 in Classical Chinese. Quantitative analysis can help us further improve the qualitative analysis of the corpus.

We use Excel 2016 to make separate analysis tables of tokens in ancient and modern Chinese. The table includes origin meaning, part of speech and allusion. Then we make appropriate adjustments to it to match the actual situation of each usage. Our preworks are as follows:

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I. Read through all the example sentences and the definition of *du* 度 in the dictionary

to establish an overall understanding of the meaning of *du* 度.

II. With the help of the relevant annotations in dictionaries and books, we determine the

specific meaning of *du* 度 in the context set by the example sentence.

III. Compare the contextual meaning of *du* 度 with the literal meaning of *du* 度. If the

contextual meaning is different from the original meaning, but can be understood by

comparing with the original meaning, then the contextual meaning is metaphorical.

IV. We exclude some tokens of *du* 度 for they may be *jiǎjiè* 假借字 (phonetic loan

character[8]) or *ézì* 訛字 (erroneous character)[9].

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[8] *Jiǎjiè* 假借 are characters that are 'borrowed' to write another homophonous or near-homophonous morpheme.
[9] Here refers to a typographical error (i.e. typo), also called misprint, a mistake (such as a spelling mistake) made in the typing of printed material.

Then the detailed research steps are as shown in **Figure 3.2**.

Step 1	**Retrieving *dù* 度 and its collocates**
	(from CCL corpus by sampling)
Step 2	**Labeling the senses of *dù* 度**
	(use dictionaries and annotation books as references)
Step 3	**Quantitative analysis on sampled tokens**
	(Excel 2016)
Step 4	**Examining semantic distribution of *dù* 度**
	(in all dynasties)
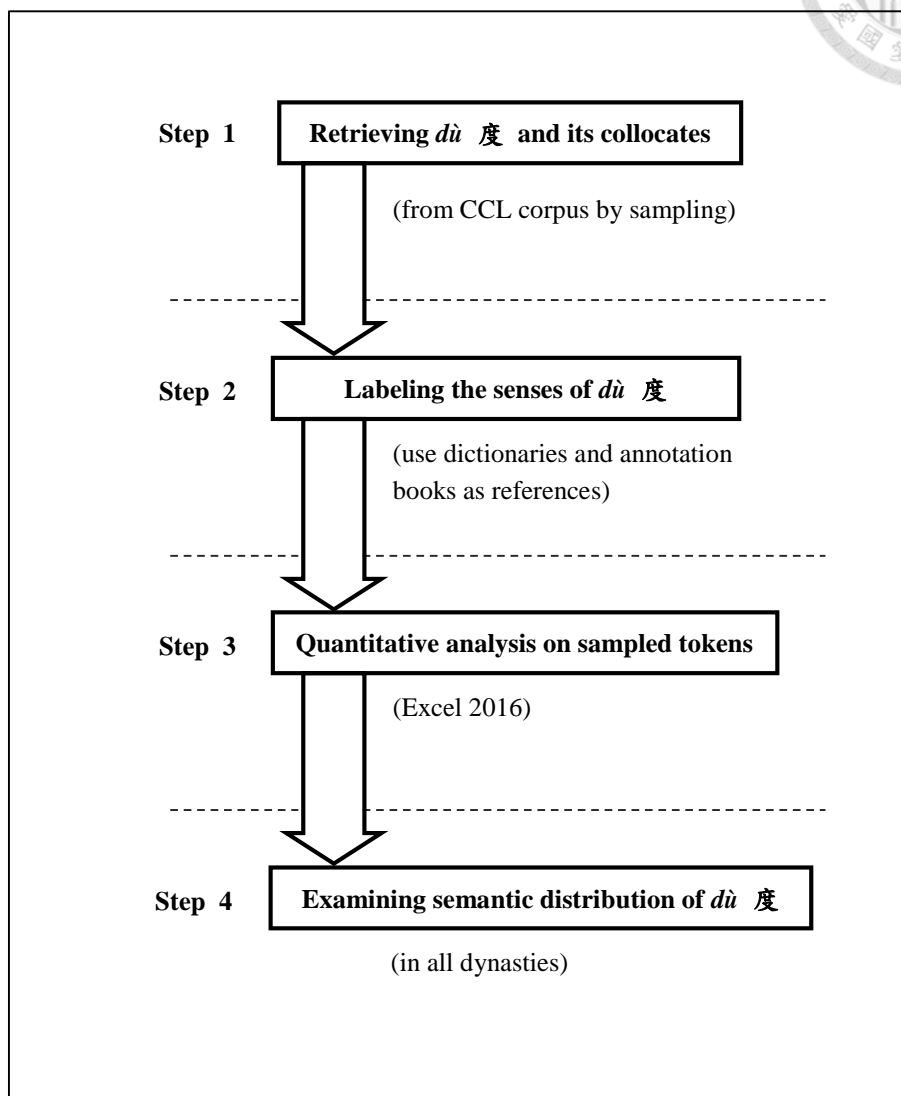
Figure 3.2 Research steps

If we want to explore the semantics of 度 in a certain dynasty, we can find that the number of tokens is quite large. The number of tokens is not our focus in this study. We concern more about the semantic distribution of 度. Thus, this study is a random sampling, and the valid tokens **956**. (see **Table 3.1**).

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Table 3.1 Valid sampled tokens in each dynasty

Dynasty	Zhou Dynasty	Spring and Autumn Period	Warring States Period	Western Han	Eastern Han	Six Dynasties	Sui Dynasty	Tang Dynasty	Five Dynasties and Ten Kingdoms Period	Northern Song Dynasty	Southern Song Dynasty	Yuan Dynasty	Ming Dynasty	Qing Dynasty	SUM
Tokens in corpus	37	158	561	156	513	921	1	1871	337	9064	444	91	1843	3022	19019
Tokens examined	37	158	200	156	200	200	1	200	200	200	200	91	200	200	2243
Valid tokens	34	145	94	99	90	62	1	71	55	61	41	69	67	67	956

As for the number of sampled tokens, we make a more comprehensive investigation in Old Chinese. As to the tokens of "Middle Chinese" and "Old and Middle Mandarin", we take the first "two hundred tokens" for investigation. In the first round of investigation, borrowed and typo characters are deducted. In addition, we exclude some unrecognizable meanings. The valid number of tokens in the first examination is 2243. For the initial token inspection, we do not exclude some proper nouns. Therefore, when we analyze the tokens again in the second round, we deduct these proper nouns. The remaining valid number of tokens is **956**.

4. Results and Discussion

This section analyzes conceptual variation of *dù* 度 in Classical Chinese. First, we figure out the prototype of *dù* 度 in Classical Chinese and clarify the starting point of its semantic extension. Second, we explore its conceptual borrowings that exist in the thinking of the ancients. Finally, we investigate the semantic distribution of *dù* 度 from quantitative perspectives.

4.1 Radial Sets of *Dù* 度 through Classical Chinese

Now let us check out our search results of *dù* 度 in Classical Chinese from CCL corpus. Here our examination is dynasty by dynasty, and *dù* 度 first appears in Zhou Dynasty. Our data shows that the meanings of *dù* 度 in Zhou dynasty are relatively ample. In addition, based on previous studies, we have concluded that the original meaning of the word *dù* 度 is 'to measure'. The first attested occurrence of *dù* 度 stems from the writings of *Shījīng* 詩經 (*Classic of Poetry*).

4.1.1 Sense 1: TO MEASURE 1 (for concrete things)

The original meaning of *dù* 度 is 'to measure'. The earliest usage originates from the ancient people's topographical survey of Nature. It is not difficult to imagine that people measure an object through the visual system 'eyes', and the most direct measurement

tool 'hands'. Sometimes measurement tools are other objects around us. People make

full use of some 'landmarks' as 'reference points' (such as 'the northern and southern

side of the mountain' or 'the northern and southern side of the river'). These landmarks

help people avoid errors of judgment.
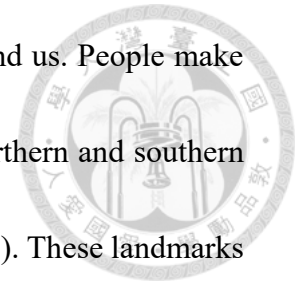
(1)

篤　　　公　　　劉、

dǔ　　　gōng　liú

genuine　duke　surname

'Of generous devotion to the people was duke Liu.'

既　　溥　　既　　長、

jì　　pǔ　　jì　　zhǎng

both　wide　both　long

'[His territory] being now broad and long.'

既　　景　　迺　　岡、

jì　　jǐng　　nǎi　　gāng

both　shadow　　and　　ridge

'He determined the points of the heavens by means of the shadows; and then,

ascending the ridges.'

相　　其　陰　　陽、

xiāng　qí　yīn　yáng

survey　its　shade　light

'He surveyed the light and the shade.'

觀　　其　　流　　　泉、

guān　qí　liú　　quán

view　its　streams　springs

'Viewing [also] the [course of the] streams and springs.'

其　軍　三　　單。

qí　jūn　sān　dān

his　army　three　individual

'His armies were three troops;'

度　　其　隰　　原、

duó　qí　xí　yuán

measure　its　marshes　plains

'He measured the marshes and plains.'

徹	田	為	糧。
chè	tián	wèi	liáng
cultivate	field	for	rice

'He fixed the revenue on the system of common cultivation of the fields.'

(from *Shījīng·dàyǎ·gōngliú*《詩經·大雅·公劉》)

From *Shījīng* 詩經 (*Classic of Poetry*), this quotation talks about the ancestor of Zhou dynasty, Liu, observing the shade and light of the mountains and rivers, and choosing a proper land to grow crops on it together with the military and civilians. The measurement reading of *dù* 度 (here *duó*) as used in this quotation may be rendered by the verb phrase *duó qí xí yuan* 度其隰原 (to measure the marshes and plains). The semantic of *duó* is expressed in the measurement of specific things (here refers to the land).

4.1.2 Sense 2: TO MEASURE 2 (for abstract concepts)

It is the case that a specific sense of a word may be used metaphorically, or may be extended into meanings used in novel collocation. The extent to which one sense is considered metaphorical lies in both word readings and individual perceptions. The verbal semantics of *duó* can also be expressed in modifying abstract things. See

example in (2).

(2)

同	力，	度	德；
tóng	lì,	duó	dé
same	strength	measure	virtue

'Where the strength is the same, measure the virtue of the parties.'

同	德，	度	義。
tóng	dé	duó	yì
same	virtue	measure	righteousness

'Where the virtue is the same, measure their righteousness.'

(from *Shàngshū·tàishì* 《尚書·泰誓》)

Dé 德 refers to the natural 'integrity' of our humanity, and *Yì* 義 represents 'righteousness' which goes beyond simple rule-following. Both concepts are born in mind and involve a moral disposition to do good. The notion of measuring entity is replaced by that of measuring someone's integrity or righteousness. The meaning comes near to that of 'to evaluate'.

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4.1.3   Sense 2-1: SPECULATE
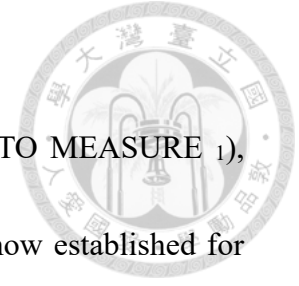
From the above two interpretations, we figure out that *duó* 度 (TO MEASURE 1),

originally referring to physically measure through body parts, is now established for

mental activity (TO MEASURE 2). This extension implies such figurative meaning can

also be extended to 'TO SPECULATE' in (3), inferring the thoughts of others. More

cases are when a person makes an estimate of an unknown thing—the information of

the thing is incomplete and uncertain.

(3)

秩秩	大猷，	聖人	莫	之。
zhìzhì	dàyóu	shèngrén	mò	zhī
great	law	saint	make	them

'The excellent laws are made by that former saint.'

他人	有心，	予	忖度	之。
tārén	yǒuxīn	yú	cǔnduó	zhī
men	intentional	I	speculate	them

'The evil men's ulterior motives cannot escape from my notice.'

(from *Shījīng·xiǎoyǎ·qiǎoyán* 《詩經·小雅·巧言》)

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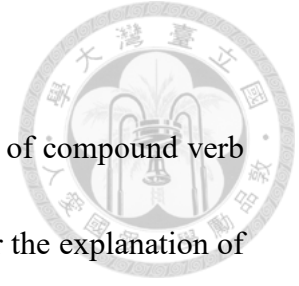
This quotation shows that *cǔn* 忖 and *duó* 度 appear in the form of compound verb

cǔnduó 忖度—verb composed of two synonymous verbs. Consider the explanation of

cǔn 忖 in *Shuōwén Jiězì* 說文解字 (discussing writing and explaining characters) as

follows:

忖:	度	也。	从	心	寸	聲。
cǔn	duó	yě	cóng	xīn	cùn	sheng
cǔn	duó	PTCL	from	xīn	cùn	sound

'*Cǔn* 忖 is *duó* 度. *Xīn* 心 plays a semantic role in *cǔn* 忖, while *cùn* 寸 gives the

sound.'

4.1.4   Sense 2-2: CONSIDER

'To consider' is to speculate about the problems encountered in order to make a decision.

Because a decision must be made, it is necessary to 'speculate' various possible

outcomes in advance to avoid making regrettable decisions. The semantics is to

compare the pros and cons of a thing, infer the unknown based on the known, and finally

dare to make a decision.

(4)

在	今	爾	安	百姓	，	何	擇	，	非	人？
zài	jīn	ěr	ān	bǎixìng		hé	zé		fēi	rén
at	today	you	comfort	people		what	choose		not	people

'It is yours now to give response to the people; what should you be most concerned about the choosing of? Should it not be the proper men?'

何	敬	，	非	刑	？	何	度	，	非	及？
hé	jìng		fēi	xíng		hé	duó		fēi	jí
what	respect		not	punishment		what	consider		not	reach

'What should you deal with the most reverently? Should it not be punishments? What should you consider the most carefully? Should it not be to whom these will reach?'

(from *Shàngshū·zhōushū·lǚxíng* 《尚書·周書·呂刑》)

The meaning of *duó* 度 'to consider' that is exhibited in *héduó* 何度 'what to consider' here, seems to be connected to the reading 'to speculate': it is a concrete specification of the more general meaning, interpreted along the way of thinking. 'To consider' is 'to think about seriously', while 'to speculate' is 'to think, meditate or reflect on a subject'. This quotation elaborates on the purpose of King Mù's words to

warn the dukes how to judge a case. He explains this question in the form of self-questioning and self-answering. His utterances use the word *héduó* 何度 'what to consider' to ask the question, and the answer is in the form of rhetorical question. The word *fēi* 非 'not' in *fēijí* 非及 'not reach' is used to express the positive statement in the negative form, which changes the tone of the utterances and makes the utterances more powerful. Thus, *héduó* 何度 'what to consider' is realized by *jí* 及 'reach (in proper)'.
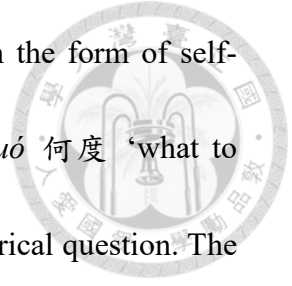
4.1.5   Sense ₂₋₃: CONSULT

'To consult' is to deal with the problems encountered and make decisions through 'seeking opinions'. This reading mostly occurs in the context that one's seeking advice from others for a more comprehensive consideration.

(5)

我	馬	維	駱，
wǒ	mǎ	wéi	luò
I	horse	PTCL	a white horse with black mane

'My horses are white and black-maned.'

六　　轡　　　沃若。

liù　　pèi　　wòruò

six　　rein　　glossy

'The six reins look glossy.'

載　　馳　　　載　　驅，

zài　　chí　　zài　　qū

ride　gallop　　ride　spur a horse on

'I gallop them, and urge them on.'

周　　　　　爰　　　諮度。

zhōu　　　　yuán　　zīduó

everywhere　　prep　　inquire.consult

'Everywhere seeking information and advice.'

(from *Shījīng·xiǎoyǎ·huánghuáng zhě huá* 《詩經·小雅·皇皇者華》)

A more direct relation to the 'to speculate' and 'to consider' readings of *duó* 度 is the

'to consult' reading. Under this interpretation, the meaning could be paraphrase as 'ask

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for advice, with the intention of making a decision.' This quotation is a poem about a messenger's going out to investigate the situation of the people, and his saying that he is dedicated to his duties. The messenger carefully visits and consults people everywhere. The words *zīduó* 諮度, *zīzōu* 諮諏, *zīmóu* 諮謀, and *zīxún* 諮詢 in the original text are all compound verbs with two synonyms juxtaposed (Here we only list the quotation containing *zīduó* 諮度). They all mean 'to consult'.
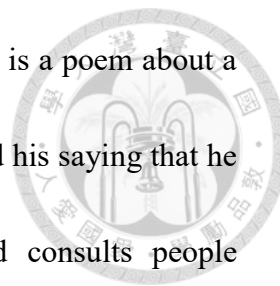
4.1.6   Sense 2-4: CONSIDERATION

This meaning is a 'conversion' or 'functional shift' from S2-2 (CONSIDER). It involves shift from verb (consider) to noun (consideration) without any change in form.

[Western Han]

(6)

夫	聖人	以	天下	為	度	者也。
fū	shèngrén	yǐ	tiānxià	wèi	dù	zhěyě
PTCL	emperor	with	people	as	consideration	PTCL

'The emperor always takes people into consideration'

(from *Xīnxù·shànmóu* 《新序·善謀》)
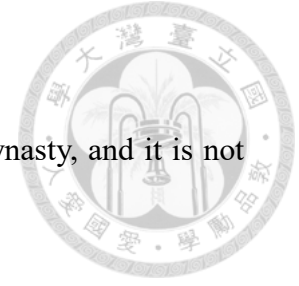
The example included in the **HYDCD** is from the Eastern Han Dynasty, and it is not

the earliest example with this meaning. (see **(7)**)

[Eastern Han]

(7)

帝	曰：	「取	此	兩	子	置	度	外。」
dì	yuē	qǔ	cǐ	liǎng	zi	zhì	dù	wài
emperor	say	take	this	two	person	put	consideration	out

'The emperor says, do not take the two to heart, ignore them.'

(from *Dōngguān hàn jì · Guāngwǔdì jì* 《東觀漢記・光武帝紀》)

From the previous corpus analysis, it can be found that after S_1 (MEASURE $_1$) evolves

into S_2 (MEASURE $_2$), S_2 (MEASURE $_2$) is divided into three meanings: S_{2-1}

(SPECULATE), S_{2-2} (CONSIDER), and S_{2-3} (CONSULT). (see **Figure 4.1**). These

three senses appear in the same period. The meaning of *dù* 度 starts from 'the

measurement of the entity', and then its semantics extends to 'the measurement of

abstract concept' (meaning similar to 'to evaluate'). The semantic change in such

course is a common phenomenon. Interestingly, the three senses concerning the

differentiation of 'the measurement of abstract concepts' involve the semantic reference

at the mental activity level. Also, the semantic change from S_{2-2} (CONSIDER) to S_{2-4}

(CONSIDERATION) involves the process of conversion (from verb to noun).
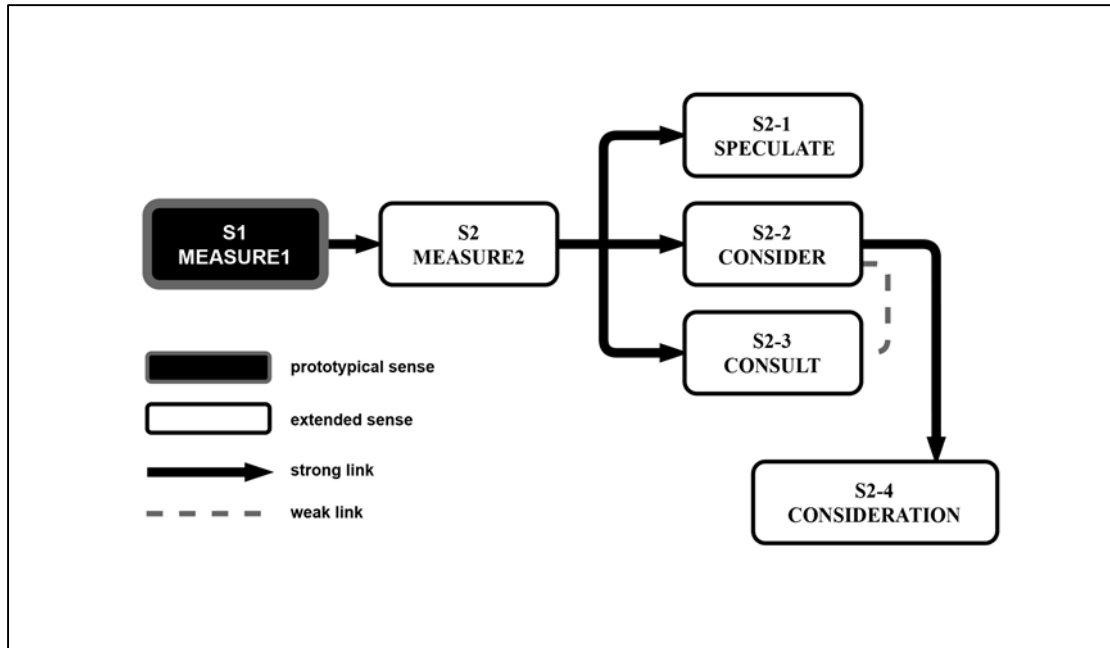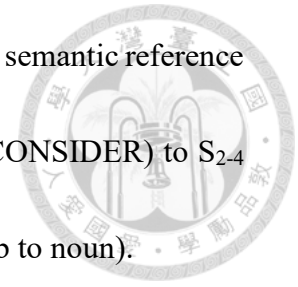
Figure 4.1 Semantic network of *dù* 度 from S1 to S2-cluster

4.1.7　Sense 3: THE MEASUREMENT OF LENGTH

From 'measuring' to 'the measurement unit', this semantic extension is metonymical relationship. Regarding *dù* 度 as a unit, we know more about this usages in Modern Chinese. The earliest meaning of *dù* 度 as a unit is to measure the length of something (see example **(8)**). Then *dù* 度 is used as units of angle, temperature, and electricity in Modern Chinese, and these units are not measured by length. In fact, *dù* 度 we are discussing here as a unit is just a narrow sense of 'length measurement'. In a broad sense, it includes all measurement units that we can set certain standards to express the concept 'quantity of something'.

(8)

協	時	月	正	日，	同律	度量衡。
xié	shí	yuè	zhèng	rì,	tónglǜ	dùliànghéng
set	season	month	regulate	day	unify	units of measurement

'He set seasons and months with one accord, and regulated the days. He made uniform the standard with the measures of length and of capacity, and the steelyards.'

(from *Shàngshū·shùndiǎn* 《尚書·舜典》)
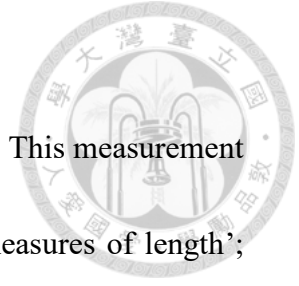
Here *dùliànghéng* 度量衡 refers to Chinese units of measurement. This measurement plays an important role in market system. *Dù* 度 is about 'the measures of length'; *liàng* 量 is about 'the measures of capacity'; *héng* 衡 is about 'the measures of mass'. When Emperor Shùn 舜 travels to the east, he holds many ceremonies including the union of the time (seasons, months, and days), and the measures of length and capacity. The latter is to set standards for the different pitches, scales, capacities, and weights of different regions. He lets the four types of standards be unified in the country, so that there will be no confusion in communication with regional differences. Thanks to these standard measurements, business affairs are easy to conduct and control.

The word *dù* 度 is also a term that is dedicated to 'scientific measurement'. It can describe the measurements of latitude and longitude. The two concepts themselves seem to be foreign, but the reason that we choose *dù* 度 to express such concepts seems to be reasonable. Such concepts can be traced back to Han dynasty.

In Han Dynasty, *dù* 度 refers to a unit used for 'astronomical distances' as in **(9)**. The ancients observe that the sun, moon, and stars form a path in the sky throughout a year.

Based on their movement rules, the ecliptic[10] is divided. The word *dù* 度 here is a standard unit in the field of astronomy, used to measure the position of celestial bodies. This usage often appears in the literature involving astronomy.
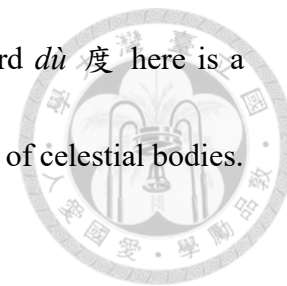
[Western Han]

(9)

紫宮	執	斗	而	左	旋，
zǐgōng	zhí	dòu	ér	zuǒ	xuán
circumpolar stars	operate	big dipper	and	left	revolve

'Zi Gong operates Big Dipper to circumrotate towards the left.'

日	行	一	度，
rì	xíng	yī	dù
day	move	one	unit

'The Big Dipper passes over one degree per day.'

以	周	於	天。」
yǐ	zhōu	yú	tiān
and	circumgyrate	in	sky

'and thus to circumgyrate in the sky.'

(from *Huáinánzi·tiānwénxùn*《淮南子·天文訓》)

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[10] a great circle on the celestial sphere representing the sun's apparent path during the year, so called because lunar and solar eclipses can occur only when the moon crosses it.

4.1.8   Sense 3-1: LAW

The unit of measurement needs to have a set of 'standards' that everyone conforms to.

Then the standard of social behavior generates the 'law' reading. Law, as a system of

rules, regulates individual behavior. The semantics of *dù* 度 shifts from private norms

to social norms. The word *dù* 度 frequently occurs as a 'law' reading in Zhou Dynasty

(with 15 tokens). Here we list two of them (see **(10)** and **(11)**).

(10)

儆戒　　　無　虞，　　罔　失　法　度。」

jǐngjiè　　wú　yú,　　wǎng　shī　fǎ　dù

admonish　no　worried　no　lose　law　decree

'Admonish yourself to caution when there seems to be no occasion for anxiety. Do

not fail to observe the laws and ordinances.'

(from *Shàngshū·Yú shū·Dàyǔ mó* 《尚書·虞書·大禹謨》)

(11)

盤庚　　教　於　民，

Pán-gēng　xiào　yú　mín,

Pángēng　teach　to　people

由	乃	在	位，	以	常	舊服，	正	法	度。
yóu	nǎi	zài	wèi,	yǐ	cháng	jiùfú,	zhèng	fǎ	dù
do	such	in	position	use	common	law	straight	law	decree

'Pan-geng, in making the people aware of his views, began with those who were in places, and took the constantly-recurring circumstances of former times to lay down the right law and measure.'

(from *Shàngshū·Shāng shū·Pángēng* 《尚書·商書·盤庚》)

In **(10)**, the text reveals that one should admonish oneself and do not fail to observe the laws and ordinances. In **(11)**, the text is about the ruler's laying down laws. The word *Dù* 度, as the whole system of rules that people should conform to, makes the people aware of their beliefs.

4.1.9　Sense 3-2: GOVERN

S$_{3-2}$ (GOVERN) is an extension from S$_{3-1}$ (law). As shown in **(12)**, 'govern' here refers to 'to have a controlling influence on certain activities'.

(12)

啟	呱呱	而	泣	，	予	弗	子	，	惟	荒	度	土功。
Qǐ	guāguā	ér	qì		yǔ	fú	zi		wéi	huāng	dù	tǔgōng
name	sound like	crying			give	no	kid		only	great	govern	flood control

'When Qi was wailing and weeping, I did not regard him, but kept planning with all my might and labor on the land.'

<div align="right">(from Shàngshū·yú shū·yìjì 《尚書·虞書·益稷》)</div>

This quote is from the story about *Dàyǔ* 大禹 (Yu the Great), a legendary ruler in ancient China known for his invention of flood control. Because Yu buries himself in flood control, he does not regard his son *Qǐ* 啟 (Qi). The usage of *huāng dù* 荒度 refers to govern with all one's might or labor.

4.1.10 Sense ₃₋₃: RESTRAIN ONESELF

This reading has the semantic nature of 'limit'. The king measures himself according to *tiānmìng* 天命 (the Mandate of Heaven), a Chinese political philosophy to legitimize the rule of the King. This reading is derived from 'law' reading.

(13)

周公	曰：	「嗚呼！	我	聞	曰：	昔	在	殷	王	中宗，
Zhōugōng yuē		wūhū	wǒ	wén	yuē:	xī	zài	yīn	wáng	zhōngzōng
Zhōugōng say		INTERJ	I	hear	say	past	in	yin	king	zhōngzōng

'Zhougong said, Ah! I heard in the past that King Zhongzong of Yin…'

嚴	恭	寅	畏	，	天	命	自	度，
yán	gong	yín	wèi		tiān	mìng	zì	dù
strict	respectful	respect	scare		heaven	destiny	self	restrain

'Governed the people with the destiny and regarded such destiny as his restraint.'

(from *Shàngshū·zhōu shū·wúyì* 《尚書·周書·無逸》)

In **(13)**, *tiānmìng zì dù* 天命自度 means that the king should restrain himself with reference to 'Heaven's command'.

4.1.11 Sense 3-4: OBEY

Derived from 'law' reading, 'obey' is an important part in the 'law' frame. The reason why the word *dù* 度 can mean 'obey' reading stems from our daily experience of compliance with the conceptual frame of the law.

[Spring and Autumn Period]

(14)

今	京	不	度，	非	制	也，	君	將	不	堪。
jīn	jīng	bù	dù	fēi	zhì	yě	jūn	jiāng	bù	kān
now	name	not	obey	not	law	PTCL	king	will	not	bear

'Jing obviously violates the regulations, and if you grant it to your younger brother, you may bring calamity upon yourself.'

公	曰：	「姜	氏	欲	之，	焉	辟	害？」
Gōng	yuē	Jiāng	shì	yù	zhī	yān	pì	hài
emperor	say	Jiāng	name	want	do	how	escape from	danger

'The sovereign replied, It is my mother's wish, so I will have to take the risk.'

(from *Zuǒ chuán·yǐn gong yuan nián* 《左傳·隱公元年》)

Y. Sòng (2000) treats *dù* 度 as a 'noun' in **(14)**. He thinks that during the Spring and Autumn Period, the king uses specific 'measurement' (height of the defensive walls) to reflect hierarchical relationships between monarch and officials. According to the context, we think it should be treated as a verb 'to obey'.
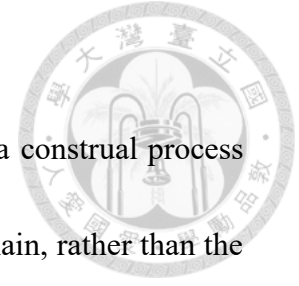
According to the viewpoint of cognitive linguistics, metonymy is a construal process that we choose a prominent conceptual aspect in the cognitive domain, rather than the conceptual aspects symbolized by its literal meaning. We believe that *dù* 度 in **(14)** undergoes a conceptual profiling. The meaning of *dù* 度 is *héfǎdù* 合法度 (obey the law): making a more prominent entity (height of the defensive walls) become the semantics of *dù* 度. This phenomenon is what Langacker called 'active zone' (Langacker, 2008, p. 331).

Only **HYDZD** lists the 'obey' reading, but the example it gives is not the earliest one of this usage.

4.1.12   Sense 3-5: LIMIT

Extended from the concept of law, the 'limit' reading refers to a criterion that regulates human's behavior. If one does something that is not allowed by such standard, they will suffer.

[Spring and Autumn Period]

(15)

楚	令尹	子旗	有	德	於	王，	不	知	度。
Chǔ	lìngyǐn	ziqí	yǒu	dé	yú	wáng	bù	zhī	dù
state	prime minister	person's name	do	favor	to	king	not	know	limit

'The prime minister of the Chu State, Ziqi, do many favors to the king Chu-Ping, but he does not have limit mindset.'

(from *Zuǒ chuán·zhāogōng shísì nián* 《左傳·昭公十四年》)

The word *dù* 度 in **(15)** refers to a 'limit' relationship between the monarch and ministers. The minister cannot violate the standard, and do harm to the ruler.

(16)

布	常	無	藝，	徵	斂	無	度。
bù	cháng	wú	yì	zhǐ	liǎn	wú	dù.
Announce	statute	without	norms	tax	collect	without	limits

'There's no norms, and there is no limit of taxation.'

(from *Zuǒ chuán·zhāogōng èrshí nián* 《左傳·昭公二十年》)

The word *dù* 度 in **(16)** means 'limit'. In addition, *wúyì* 無藝 corresponds to *wúdù* 無度, and *yì* 藝 is synonymous with *dù* 度.

(17)

侵欲	無	厭	，	規求	無	度。
qīnyù	wú	yàn		guīqiú	wú	dù
embezzle	without	satisfaction		covet	without	limit

'The desire for aggression is insatiable, and the demands are endless.'

(from *Zuǒ chuán·zhāogōng èrshíliù nián* 《左傳·昭公二十六年》)

Quotation **(17)** describes the turmoil in the royal family. The courtiers violate the standards of the king, and make chaos in the royal family.

Both **HYDCD** and **HYDZD** list 'limit' reading. However, the example they give is not the earliest one of this reading. They cite quotation **(18)**.

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[Warring States Period]

(18)

用	物	過	度	妨	於	財
yòng	wù	guò	dù	fáng	yú	cái,
use	supplies	over	criterion	affect	to	wealth

'Using supplies over the criterion will affect people's livilihood'

(from *Guóyǔ·zhōu yǔ* 《國語·周語》)

The ancients value the concept of 'harmony between man and nature'. Everything is based on the principle that it is appropriately beneficial to nature and human beings. Quotation **(18)** is the best interpretation of this concept.

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4.1.13   Sense $_{3-6}$: TOLERANCE

S_3 (THE MEASUREMENT OF LENGTH) can also be semantically extended to S_{3-6}

(TOLERANCE). According to the inspection results of the CCL corpus, the earliest

dynasty in which the 'tolerance' reading appears is the Spring and Autumn Period, see

example **(19)**. Tolerance refers to a person's 'acceptance' and 'broadness of mind'. We

can say that tolerance involves the concept of 'capacity', the ability to accommodate.

To say that a person is tolerant is to describe that person as open-minded and

knowledgeable.

[Spring and Autumn Period]

(19)

思	我	王	度，	式	如	玉，	式	如	金。
sī	wǒ	wáng	dù	shì	rú	yù	shì	rú	jīn
think	our	king	tolerance	PTCL	like	jade	PTCL	like	gold

'Think of the tolerance of our king, like jade and gold.'

(from *Zuǒ chuán·zhāogōng shí'èr nián* 《左傳·昭公十二年》)

Quotation **(19)** indicates the king's tolerance is as gentle and strong as jade and gold.

HYDZD lists 'tolerance' reading, and use **(19)** as its example. **HYDCD** also lists the 'tolerance' reading, but its example is not the earliest usage of 'tolerance' reading.

Another point that must be clarified is: we believe that *qìdù* 器度 is more correct than *qìdù* 氣度. The word *qì* 器 is correct one. (**HYDZD** uses the word *qì* 氣.)

The ancients like to use the word *qì* 器 to describe a person's 'achievement'. For example, *dàqìwǎnchéng* 大器晚成 (late bloomer). It is appropriate to use *qìdù* 器度 to describe a person's 'broadness of mind'. Qū (1968, pp. 19, 441) mentions that the word *qìdù* 器度 is equivalent to *qìliàng* 器量 and *qìjú* 器局. He regards *dù* 度, *liàng* 量, and *jú* 局 as synonyms. First of all, *dù* 度 and *liàng* 量 are both 'measures of things', so they are often considered synonyms. Furthermore, both *dù* 度 and *jú* 局 can mean 'limit': words with *jú* 局 as an affix can be explained with *dù* 度 or *liàng* 量.

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It is worth noting that *dù* 度 is originally used for the measurement of length, but later

its semantics can represent *liàng* 量 for the measurement of capacity. The reason why

dù 度 can overlap the semantics of *liàng* 量 is 'combinational assimilation' produced

by *dù* 度's frequent collocation of *liàng* 量. Namely, meanings mutually affected by

frequent collocation.
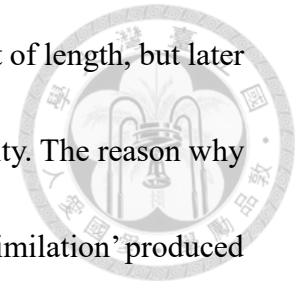
Dù 度 and *liàng* 量 are used together to form a disyllable word *dùliàng* 度量, which

means 'tolerance', see example **(20)**.

(20)

人	之	度量	相越，	豈	不	遠	哉!
rén	zhī	dùliàng	xiāngyuè,	qǐ	bù	yuǎn	zāi!
people	GEN	tolerance	differ	how	not	far	PTCL

'Isn't there a huge difference in the tolerance of two people?'

(from *Shǐjì·sīmǎ xiāngrú lièzhuàn*《史記·司馬相如列傳》)
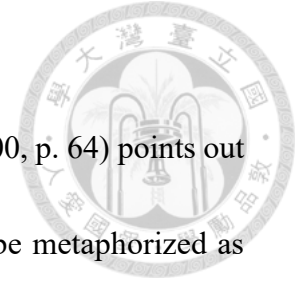
The word *dù* 度 is often mistaken for the word *dù* 肚. (Zhāng, 2000, p. 64) points out

that *dùliàng* 肚量 referring to the 'capacity in the abdomen' can be metaphorized as

'people's tolerance'. He believes that in Chinese, *xīn* 心 (heart), *xiōng* 胸 (chest), *dù*

肚 (belly) and *fù* 腹 (abdomen) are semantically related to emotions. They are often

used to refer to the places where emotions are generated and stored. We think that both

dù 度 and *dù* 肚 have the concept of 'capacity', and this is the reason why *dù* 度 is

mistaken for *dù* 肚.

There is a famous Chinese proverb: 'A prime minister's belly can pole a boat'. It is used

to describe a person's broad-mindedness. See the quotation **(21)**.

(21)

我　　不　　如　　你　　有　　擔待，

Wǒ　　bù　　rú　　nǐ　　yǒu　　dāndài

I　　not　　as　　you　　are　　tolerant

'I'm not as tolerant as you are.'

你　　　做　　　中堂　　　　　　　　　　的，

nǐ　　　zuò　　　zhōngtáng　　　　　　　de

You　　are　　　Grand Secretariat　　　PTCL

'You are the Grand Secretariat.'

是　宰相　　　　肚　　裡　　好　　撑　　　船，

shì　zǎixiàng　　dù　　lǐ　　hǎo　chēng　chuán

is　prime minister　belly　within　very　pole　boat

'A prime minister's belly can pole a boat.'

我　生　　來　　就是　這個　脾氣　　不　好。

wǒ　shēng　lái　jiùshì　zhège　píqì　　bù　hǎo

I　born　with　just　this　temper　not　good

'I was born with this bad temper.'

(from *Guānchǎng xiànxíng jì* 《官場現形記》)
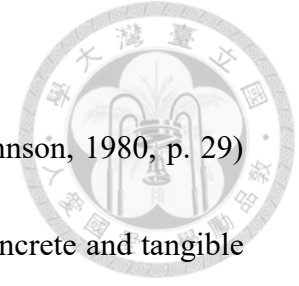
The word *dù* 度 or *dù* 肚 as 'container metaphor' (Lakoff & Johnson, 1980, p. 29)

itself is not difficult to understand. Treating abstract concepts as concrete and tangible

entities is called 'ontological metaphor' (Lakoff & Johnson, 1980, p. 25). The most

typical example of 'ontological metaphor' is 'container metaphor'.

A container is a concrete object with a defined scope, so we can distinguish between

'inner' and 'outer' of it. A container has a certain capacity, so it can store and

accommodate various items. Our understanding of containers is based on the structures

of these container schemas, so that we can use container metaphors to map concrete

objects into abstract concepts. As mentioned earlier, *dù* 度 is a device for measuring;

dù 度 and *liàng* 量 are semantically related. Therefore, it is not difficult to

understand the abstract concept 'tolerance' with *dù* 度. Similarly, if we view body part

'belly' as a larger container to accommodate other smaller body parts (such as stomach

and intestines), it is self-evident that the word *dù* 肚 can be used as a metaphor for

containing other concrete substances (such as *dù lǐ néng chēng chuán* 肚裡能撐船) or

abstract concept (*dùliàng* 肚量). In addition, with container schema, we are not

surprised that the word *dù* 度 is mistaken for *dù* 肚, and the usage *dùliàng* 肚量 can

generally accepted by people.

[Six Dynasties]

(22)

禮	賢	下	士	，	聖人	垂	訓；
lǐ	xián	xià	shì		shengrén	chuí	xùn
honor	sage	respect	wiseman		the saint	pass down	the lesson

'Be courteous to the wise and respectful to the scholar is the lesson that the saints pass down for posterity.'

驕侈	矜尚，	先哲	所	去。
jiāochǐ	jīnshàng	xiānzhé	suǒ	qù
arrogant	conceited	sage	PTCL	despise

'Be unpleasantly proud is what the sage despise.'

豁達	大	度，	漢祖	之	德。
huòdá	dà	dù,	hànzǔ	zhī	dé
open-minded	great	tolerance	name	GEN	virtue

'Be open-minded and magnanimous is the virtue of Emperor Gāozǔ of Hàn dynasty.'

(from *Sòng Shū·Jiāngxiàwáng Yìgōng Chuán*《宋書·江夏王義恭傳》)

Dàdù 大度 as in example **(22)** refers to the concept that the bigger the container, the more things it can hold. In daily life, people classify containers into different sizes. Large containers can hold more things than small containers. Container schemas formed by this daily experience deeply affect our language expressions. It is mentioned earlier that **HYDCD** includes 'tolerance' reading of *dù* 度, but the quotation cited is not the first usage of it. **HYDCD** refers to the quotation from Western Han Dynasty, see example **(23)**.

[Western Han Dynasty]

(23)

常　　有　　大　　度，

cháng　　yǒu　　dà　　dù

often　　has　　great　　broad-mindedness

'He has showed broad-mindednesss since he was a child.'

不　事　家人　　生產　　　作業。

bù　　shì　　jiārén　　shengchǎn　　zuòyè

not　　do　　civilian　　livelihood　　labor

'He doesn't want to make a career as common people do.'

(from *Shǐjì·gāozǔ běnjì* 《史記·高祖本紀》)

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Example **(22)** we give above is from Six Dynasties, and this quotation comes from the allusions of example **(23)**. According to our observation, 'tolerance' reading develops during Six Dynasties. Therefore, we provide the example from Six Dynasties to illustrate.

4.1.14   Sense $_{3\text{-}7}$: TEPERAMENT

S_3 (THE MEASUREMENT OF LENGTH) can also be extended into $S_{3\text{-}7}$ (TEMPERAMENT). $S_{3\text{-}7}$ (TEMPERAMENT) is closely related to $S_{3\text{-}6}$ (TOLERANCE). It is mentioned earlier that $S_{3\text{-}6}$ (TOLERANCE) belongs to 'container schema'. $S_{3\text{-}7}$ (TEMPERAMENT) also involves container schema. However, $S_{3\text{-}7}$ (TEMPERAMENT) shows metaphorical expression of Lakoff's **STATES ARE CONTAINERS** (Lakoff & Johnson, 1980, p. 31). The reason why S_3 (THE MEASUREMENT OF LENGTH) can be metaphorically mapped into $S_{3\text{-}6}$ (TOLERANCE) and $S_{3\text{-}7}$ (TEMPERAMENT) lies in the fact that we regard *dù* 度 as a 'container' with a 'bounding surface' and an 'in-out' orientation. $S_{3\text{-}6}$ (TOLERANCE) shows the capacity that a container can hold. Once the container is full, what appears outside is the 'state' we see on the 'surface'—$S_{3\text{-}7}$ (TEMPERAMENT).

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[Six Dynasties]

(24)

風度	弘簡 ，	體局	深沉。
fēngdù	hóngjiǎn,	tǐjú	shēnchén
demeanor	generous	character	deep

'The temperament is magnanimous; the character is deep.'

(from *Sòng Shū·Liǔyuánjǐng Chuán*《宋書·柳元景傳》)

The word *fēngdù* 風度 (demeanor) in **(24)** means a way of behaving.

It is worth noting here that both **XHCD** and **HYDZD** specifically distinguish 'tolerance' reading from 'temperament' reading, while **HYDCD** does not. We think it is necessary to distinguish nuances between them. Even though both semantics involve container schema (S_{3-6}: CONTAINMENT; S_{3-7}: SURFACE), S_{3-6} (TOLERANCE) refers to a person's inner character, while S_{3-7} (TEMPERAMENT) refers to a person's outer character.

4.1.15   Sense 3-8 BOUNDARY

Sense 3-8 (BOUNDARY) is an extension from S3 (THE MEASUREMENT OF LENGTH). The word boundary refers to 'bounded space', which reveals a 'state of existence' within a certain range. We can distinguish two cases of this state-of-being: (1) a real line that marks the edge. (2) an imagined line that marks the limit of something.

[Six Dynasties]

(25)

頃	民俗	滋	弊，	國	度	未	殷。
qǐng	mínsú	zī	bì	guó	dù	wèi	yīn
just then	folklore	bring	harm	country	boundary	not	flourishiing

'Folklore brought malpractices just then, and the country was not flourishing.'

(from *Sòng shū·běnjì dì jiǔ·hòu fèi dì* 《宋書·本紀第九·後廢帝》)

The word *guódù* 國度 in **(25)** refers to a country in the sense of political boundary. The boundary of a national territory can be demarcated by an actual landmark or an imaginary landmark. In either case, a location must be used as a 'reference point' to form the bounded space. In addition, we interpret the word *dù* 度 here as boundary,

and only **XHCD** handles it in this way.

From the previous corpus analysis, it can be found that after S_1 (MEASURE $_1$) evolves into S_3 (THE MEASUREMENT OF LENGTH) in **Figure 4.2**, it is further differentiated into four sense items, namely S_{3-1} (LAW), S_{3-6} (TOLERANCE), S_{3-7} (TEMPERAMENT) and S_{3-8} (BOUNDARY). S_{3-1} (LAW) is further divided into four meanings, all of which are man-made normative and restrictive concepts, such as S_{3-2} (GOVERN), S_{3-3} (RESTRAIN ONESLEF), S_{3-4} (OBEY), and S_{3-5} (LIMIT). S_{3-6} (TOLERANCE) and S_{3-7} (TEMPERAMENT) are personality essences that are more abstract concepts. S_{3-8} (BOUNDARY) is the concept of territorial boundaries. To sum up, the S3-cluster is classified as a nominal unit formed from the measurement of human behavior, the constraints of human nature, the measurement that constitutes legal norms, and the measurement of national land division.
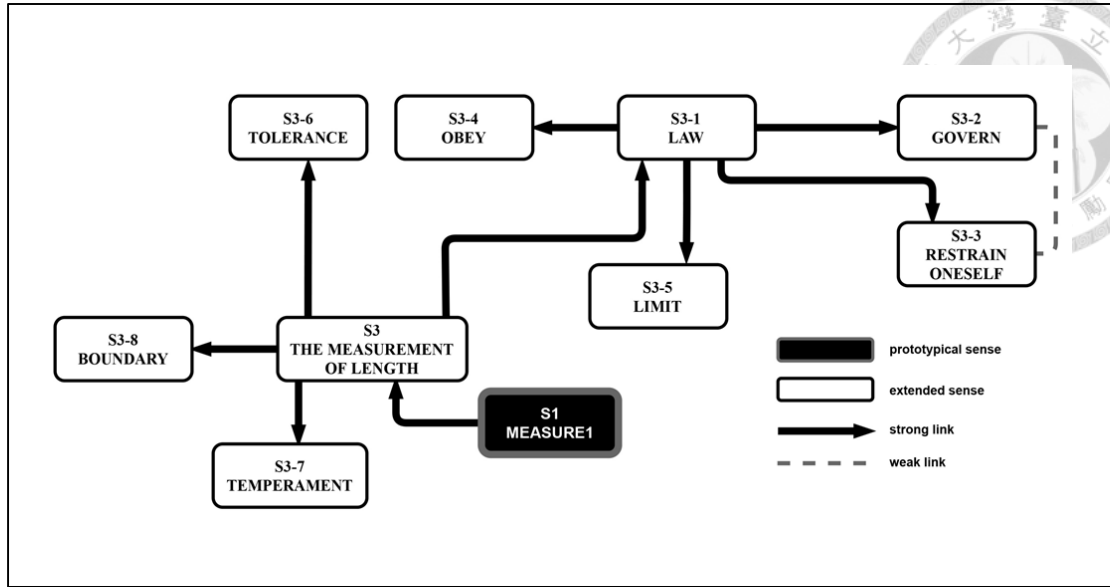
Figure 4.2 Semantic network of *dù* 度 from S1 to S3-cluster

4.1.16 Sense ₄: FERRY

S₄ (FERRY) is an extension from S₁ (MEASURE ₁), and its semantic extension can also be inferred. When measuring an object, we need point A as a 'reference point' to locate point B (target point). So we can say that the semantic nature of *dù* 度 contains the semantic potential 'from one point to another point'. This semantic potential influences us to interpret S₁ (MEASURE 1) as S₄ (FERRY).

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During the Warring States period, *dù* 度 first appears as the 'ferry' reading (to move

from one side of a river to the other side of it) as in **(26)**.

[Warring States Period]

(26)

丈人	度	之，	絕	江。
zhàngrén	dù	zhī	jué	jiāng
fisherman	ferry	him	cross	river

'The fisherman ferries him across the river.'

(from *Lǔ shì chūnqiū·yì bǎo* 《呂氏春秋·異寶》)

For most Chinese native speakers, *dù* 渡 is more likely to be associated with 'ferry'

reading than *dù* 度. We seldom realize that *dù* 度 itself has 'ferry' interpretation.

According to our investigation, as early as the Warring States period, *dù* 度 appears

with 'ferry' reading. In terms of 'ferry' reading, *dù* 度 appears earlier than *dù* 渡.

Afterward *dù* 度 is replaced with *dù* 渡.

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It should be mentioned that example provided in **HYDCD** or **HYDZD** is not the first

usage of 'ferry' reading. Both dictionaries cite the same example **(27)** from *Hàn Shū*

漢書 (The Book of Han).

(27)

是	猶	度	江河	亡	維楫。
shì	yóu	dù	jiānghé	wáng	wéi j
being	like	crossing	river	lose	paddle

'It is like crossing the river, but without the paddle.'

(from *Hànshū·jiǎyì chuán* 《漢書·賈誼傳》)

4.1.17   Sense 4-1: PASS

Originally, *dù* 度 is limited to 'ferry' reading, but later it is generalized to 'pass' reading ('going past something' or 'going past a particular point in time').

'Pass' reading for non-river space motion first appears in the Warring States period.

[Warring States Period]

(28)

陽	杲杲	其	未	光	兮，
yáng	gǎogǎo	qí	wèi	guāng	xī
sun	bright	it	not	shine	PTCL

'The bright sun has not yet shined.'

凌	天	地	以	徑	度。
líng	tiān	dì	yǐ	jìng	dù
rise	sky	earth	by	straight	pass

'But it has risen over Earth.'

(from *Chǔ cí·yuǎn yóu* 《楚辭·遠游》)

'Pass' reading of *dù* 度 in **(28)** is very obvious—going past Earth. The word *jìngdù* 徑度 means 'going straight through'.

'Pass' reading for 'going past a particular point in time' also first appears in the Warring States period.

(29)

時	遲遲	其	日	進	兮，
shí	chíchí	qí	rì	jìn	xī
time	slow	PTCL	day	go	PTCL

'Time seems to be slow, but it goes by day by day.'

年	忽忽	而	日	度。
nián	hūhū	ér	rì	dù
year	quickly	PTCL	day	pass

'Years actually pass by fast'

<div align="right">(from Chǔ cí·jiǔ tàn·xī xián 《楚辭·九嘆·惜賢》)</div>

The word *dù* in **(29)** refers to 'the passing of time'. Originally limited to 'moving in the space' by entities, it has changed to 'moving in time' by abstract concepts (such as

years). The 'passing of time' is understood by referring to our knowledge structure of 'motion'. It is a metaphorical mapping between 'space' and 'time'.

Two more examples in **(30)** and **(31)** from Northern Song are provided for comparison.

[Northern Song]

(30)

吾	首座	已	度	嶺	矣，	姑	待	之。
wú	shǒuzuò	yǐ	dù	lǐng	yǐ	gū	dài	zhī.
my	monk	already	pass	ridge	PTCL	tentatively	wait	him

'My monk has already passed the mountain ridge! Just wait him for the moment.'

(from *Chánlín Sēngbǎo Chuán* 《禪林僧寶傳》)

(31)

已而	又	囑	曰，	光陰	莫	虛	度。
yǐér	yòu	zhǔ	yuē	guāngyīn	mò	xū	dù
then	also	remind	say	time	not	in vain	pass

'Then asked, don't waste time.'

(from *Chánlín Sēngbǎo Chuán* 《禪林僧寶傳》)

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The usage exemplified by **(30)** and **(31)** is closely connected with motion event based on the semantic source—ferry reading. The semantics of *dù* 度 transfers from 'crossing the river' to 'the movement in the space' (here passing the mountain ridge), and is further metaphoricalized as 'the passing of time' (abstract concept). Here *dùlǐng* 度嶺 refers to monk's passing the mountain ridge, whereas *guāngyīn xūdù* 光陰虛度 refers to man's wasting time.

4.1.18 Sense 4-2: SURPASS

Metaphorical projections from 'spatial passage' into the concept of 'comparison'— transcending others. Sense 4-2 (SURPASS) with a 'comparison' meaning first appears in Eastern Han. Surpass involves 'comparison' with others in terms of ability or achievement, and its meaning is close to 'outdo'. Sense 4-2 (SURPASS) is an extension from Sense 4-1 (PASS). Such semantic extension is a metaphorical mapping between 'the gap in the space' and 'the gap in ability or achievement'. Besides, measuring, as a basic cognitive ability, can be regarded as a type of 'comparison'. To measure an object, we must use another object as a comparison (reference point). Similarly, crossing a river requires a riverbank as a comparison. The semantic attribute 'comparison' affects our

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interpretation of senses of *dù* 度.

Sense 4-2 (SURPASS) as in **(32)** comes from *Qián Hàn Jì* 前漢紀 (*Annals of Han*),

which is another version of *Hàn Shū* 漢書 (*Book of Han*).

[Eastern Han]

(32)

若	後	世	遇	明識	君子。
ruò	hòu	shì	yù	míngshí	jūnzǐ
if	next	generation	meet	knowledgeable	emperor

'If he meets knowledgeable emperor in future generations.'

當	度	越	諸子。
dāng	dù	yuè	zhūzǐ
must	surpass	exceed	philosophers

'He will surpass all philosophers'

(from *Qiánhàn jì·xiào āi huángdì jì* 《前漢紀·孝哀皇帝紀》)

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Similar usage can also be found in **(33)** from the Northern Song Dynasty.

[Northern Song]

(33)

仲舒	之	學	度	越	諸子者	以	此，
zhòngshū	zhī	xué	dù	yuè	zhūzǐzhě	yǐ	cǐ
zhòngshū	zhī	learning	surpass	exceed	philosophers	with	this

'Zhongshu's learning surpasses the philosophers with this.'

故	門人	以	先生	學	之	所	就。
gù	ménrén	yǐ	xiānshēng	xué	zhī	suǒ	jiù
so	the people	with	master	learning	what	PTCL	obey

'Therefore, the people of the school obey what they have learned from their masters.'

(from *Tóngméng Xùn* 《童蒙訓》)

4.1.19   Sense 4-3: RELEASE SOULS FROM PURGATORY

Sense 4-3 (RELEASE SOULS FROM PURGATORY) is an extension from S4 (FERRY),

and this semantic extension is also reasonable. If we look up the word *dù* 度 in **XHCD**,

we will find that it lists two Buddhist readings of *dù* 度: (1) to free all sentient beings

from the troubles of life and death, and reach a state of ease. (2) (monks' or nuns')

persuading people to become monks or nuns. Why are 'release from birth and death'

and 'becoming a monk or nun' related to 'ferry' reading? In the previous discussion of

S4 (FERRY), it is mentioned that ferry involves 'going from one bank to another bank',

which has a semantic correlation with measuring from one point to another. Similarly,

Buddhism compares 'the process of Buddhist practice' to 'release from one side of

suffering to the other side without suffering'.
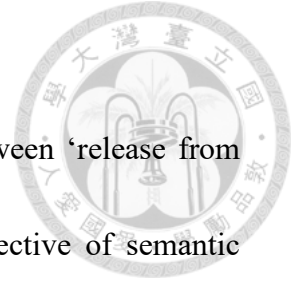
W. Gāo (2018, pp. 51-52) explains the semantic relationship between 'release from birth and death' and 'becoming a monk or nun' from the perspective of semantic cognition. She believes that the former is free from the worries of life and death; the latter is free from the mortal life. Both have the semantics of 'free', and are metaphorical mappings based on 'similarity'. She further points out that 'becoming a monk or nun' is an extension from 'release from birth and death'. Although such extension violates the general metaphorical direction from 'concrete' to 'abstract', the reading of 'release from birth and death' appears as early as in Eastern Han. Our observations support this argument, see **(34)**.

[Eastern Han]

(34)

善	如	佛	教，	可	得	度世	之	道。
shàn	rú	fó	jiào	kě	dé	dùshì	zhī	dào
skillful	as	Buddha	lesson	can	obtain	release	GEN	way

'Everything obeys the teachings of the Buddha, and you can get the way to release from life and death.'

<div align="right">(from Ānán wèn shìfú jíxiōng jīng 《阿難問事佛吉凶經》)</div>

[Tang Dynasty]

(35)

建置	佛堂，		並	剃度	僧	尼	等。
jiànzhì	fótáng		bìng	tìdù	sēng	ní	děng
build	Buddhist temple	and	tonsure	monk	nun	PTCL

'Build Buddhist temples, and then monks and nuns take the tonsure.'

(from *Táng huìyào* 《唐會要》)

According to the results of our sampled corpus, the reading of 'becoming a monk or nun' first appears in Tang Dynasty. In **(35)**, the word *tìdù* 剃度 (to take the tonsure; to shave the head) is a ritual for Buddhist monks to shave their head. Buddhism believes that tonsure is a sign of religious devotion. It is also a requirement for release from life and death. Life is suffering. Only by getting rid of all troubles and becoming a monk or nun can we achieve eternal happiness. There are two meanings for *tìdù* 剃度: (1) getting rid of troubles. (2) getting rid of all concerns.

The Buddhist readings of *dù* 度 develop in Five Dynasties. Examples given below occur in a collection of Buddhist stories in *Dūnhuáng Biànwén* 敦煌變文: as such, they may exhibit the figurative meaning 'to release souls from purgatory' (from one side of life and death to the other side without life and death). *Mièdù* 滅度 as in **(36)** refers to the liberation from troubles and suffering. It also refers to the death of monks. *Jiùdù* 救度 as in **(37)** refers to free from painfulness.

[Five Dynasties]

(36)

如來	滅度	之後，	眾聖	潛形	於	像法	中。
rúlái	mièdù	zhīhòu,	zhòngshèng	qiánxíng	yú	xiàngfǎ	zhōng.
Buddha	pass away	after	eminent monk	hide	in	xiàngfǎ	within

'After Buddha passes away, eminent monks are hidden in xiàngfǎ.'

(from *Dūnhuáng biàn wén·lúshān yuǎn gōng huà* 《敦煌變文·盧山遠公話》)

(37)

我	佛	雖	有	慈悲，
wǒ	fú	suī	yǒu	cíbēi
my	Buddha	though	have	mecy

'Although my Buddha is merciful,'

爭那	佛	力	不	似	他	業力，
zhēngnà	fó	lì	bù	shì	tā	yèlì,
however	Buddha	power	not	like	his	karma

'Buddha's power is inferior to his karma.'

如此	之	[人]	難	為	救度。
rúcǐ	GEN	rén	nán	wéi	jiùdù
such	GEN	person	hard	by	save

'So hard to save such person.'

(from *Dūnhuáng biàn wén·lúshān yuǎn gōng huà* 《敦煌變文·盧山遠公話》)

4.1.20 Sense 4-4: ONCE_VERBAL CLASSIFIER

In Six Dynasties 六朝, *dù* 度 appears as a verbal classifier[11] which indicates the frequency of an action. The verbal classifier *dù* 度 as in **(38)** refers to the 'times' of soaking wheat in water.

[Six Dynasties]

(38)

盆	中	浸	小麥，	即	傾	去	水，	日	曝	之。
pén	zhōng	jìn	xiǎomài,	jí	qīng	qù	shuǐ,	rì	pù	zhī.
basin	in	soak	wheat	then	pour	out	water	sun	dry	it

'Soak the wheat grains in a basin, pour out the water, and put them in the sun.'

一	日	一	度	著	水，	即	去	之。
yī	rì	yī	dù	zhuó	shuǐ	jí	qù	zhī.
one	day	one	time	wet	water	then	out	it

'Soak it in water once a day, and then pour out the water.'

(from *Qímín Yàoshù* 《齊民要術》)

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[11] Verbal classifiers in Chinese are lexically specific and give us the impression that they 'classify' actions or events.

S. Liú (1965, p. 268) believes that *dù* 度, as a verbal classifier in Six Dynasties, has two possible semantic sources: (1) it is derived from the meaning of 'pass' or 'ferry', and 'one pass' or 'one ferry' is called *yīdù* 一度. (2) it originates from the latitude and longitude unit in astronomy.

X. Xú (2014, p. 90) points out that if we search for *yīdù* 一度 in CCL corpus, we can't find any examples of *dùguò yīcì* 度過一次 ('go past something one time' or 'go across an area of water one time') before Six Dynasties. However, there are many examples of astronomy. She infers that the verbal classifier *dù* 度 comes from the astronomical unit. J. Liú (2020) also believes that *dù* 度 as the astronomical unit is critical to the formation of the verbal classifier *dù* 度. We also find a large number of *dù* 度 as astronomical unit in the Western Han Dynasty. However, 'ferry' reading and 'pass' reading of *dù* 度 has already appeared in the Warring States period. If a celestial movement is regarded as a movement in space, then *dù* 度 as an astronomical unit also borrows the concept of 'pass' in terms of 'space' to some extent. Naturally, it is semantically related to 'ferry' reading. To sum up, even though we do not clearly find any examples of *dùguò yīcì* 度過一次 ('go past something one time' or 'go across an area of water one time') before Six Dynasties, we still think that the semantic source of verbal classifier *dù* 度 is 'ferry' reading.

4.1.21　Sense 4-5: ONCE_TIME ADVERB

Sense 4-5 (ONCE_TIME ADVERB) is an extension from Sense 4-4 (ONCE_VERBAL

CLASSIFIER). This reading can only be evoked when it appears in the construction

yīdù 一度. We only find one token for this reading. Yú and Wú (2011) claims that *yīdù*

一度 has three meanings: (1) 'one time' as verbal classifier. (2) 'for a while' as durative.

(3) 'once' as experiential. In addition, the semantic change of *yīdù* 一度 is: 'one time'

> 'for a while' > 'once' (happened in the past).

[Tang]

(39)

曾　　為　　清海　　鎮　　兵馬使。

céng　　wèi　　qīnghǎi　　zhèn　　bīngmǎshǐ.

once　　as　　qīnghǎi　　town　　envoy

'He used to be the military envoy of Qinghai Town.'

在	登	州	赤山	院	時。
zài	dēng	zhōu	chìshān	yuàn	shí.
in	dēng	prefecture	chìshān	temple	then

'When I was in Chishan Temple in Deng Prefecture.'

一度	相	見。
yīdù	xiāng	jiàn.
once	mutually	meet

'We met once.'

(from *Ennin's Diary* 《入唐求法巡禮行記》)

The lexicalized *yīdù* 一度 in **(39)** modifies an action that happened 'at some time in the past'. Notice that the 'temporal adverb' *yīdù* 一度 occurs before the verb. In fact, *yīdù* 一度 here can be interpreted as 'for a while', or 'once' (happened in the past). Since the temporal adverb *céng* 曾 already exists in the quotation to indicate that the action took place in the past, we can say that *yīdù* 一度 here is also a durative. This phenomenon shows the transition from 'for a while' to 'once'.

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4.1.22 Sense 4-6: TRANSFER

[Five Dynasties]

(40)

相公	處分	左右，	取	紙	筆	來	度	與。
xiànggong	chǔfèn	zuǒyòu	qǔ	zhǐ	bǐ	lái	dù	yǔ
prime minister	order	servant	take	paper	pen	coming	transfer	give

'Prime minister orders his servant to take paper and pen to him.'

(from *Dūnhuáng Biàn wén Jí·Lúshān Yuǎngōng Huà*《敦煌變文集·廬山遠公話》)

The interpretation shifts from 'ferry' to 'transfer' seems quite simple: the latter is the figurative extension of the former. The notion of 'moving from one side to the other side' into 'delivering something from one person to the other person'. Both 'ferry' and 'transfer' readings are concrete specifications of the more general meaning 'measure $_1$', interpreted by measurement from one point to another.

From the previous corpus analysis, we chart the semantic development of S4-cluster.

In **Figure 4.3**, after S_1 (MEASURE $_1$) evolves into S_4 (FERRY), S_4 (FERRY) is further

divided into four senses, namely S_{4-1} (PASS), S_{4-3} (RELEASE SOULS FROM

PURGATORY), S_{4-4} (ONCE_VERBAL CLASSIFIER), and S_{4-6} (TRANSFER). S_{4-1}

(PASS) is further semantically extended into S_{4-2} (SURPASS). S_{4-4} (ONCE_VERBAL

CLASSIFIER) (measurement for times) then evolves into S_{4-5} (ONCE_TIME

ADVERB) (measurement for the time).
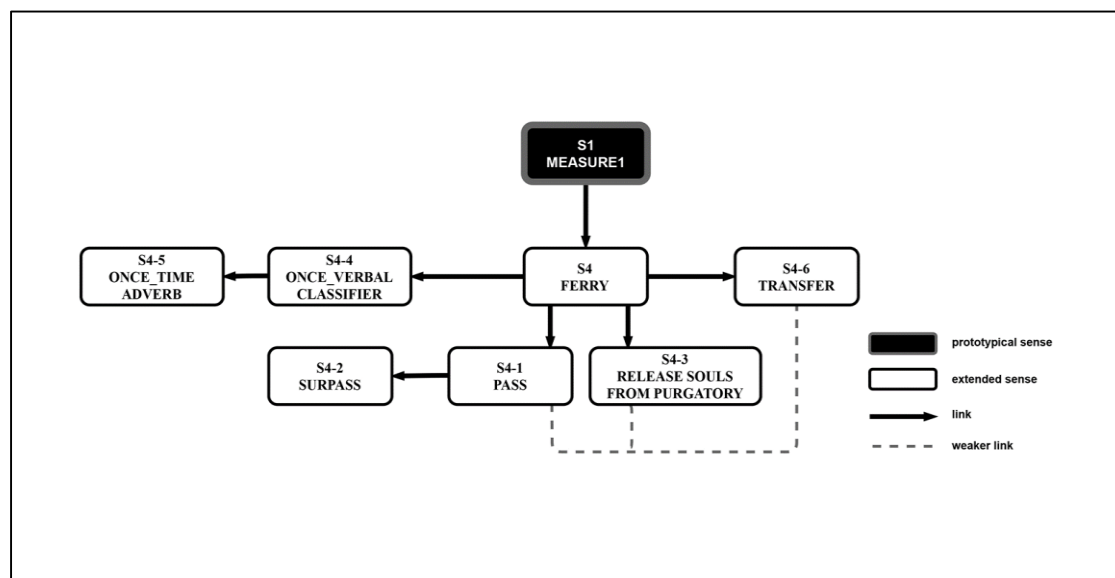
Figure 4.3 Semantic network of *dù* 度 from S1 to S4-cluster

As shown in **Figure 4.4**, the semantic change of *dù* 度 has three main directions (S2 Cluster, S3 Cluster, and S4 Cluster). S2 Cluster is the measurement at the psychological level. S3 Cluster develops from the measurement of length into the norms, which regulates human behaviors. Then the concept of 'constraints' also emerges immediately. Finally, the S4 Cluster is the measurement of space and time. S3-9 is not included in this study because its usage occurs in Contemporary Chinese. We infer S3-9 is derived from S3-6, S3-7, and S3-8 because *dù* 度 in these readings seem to be semantic bleaching.
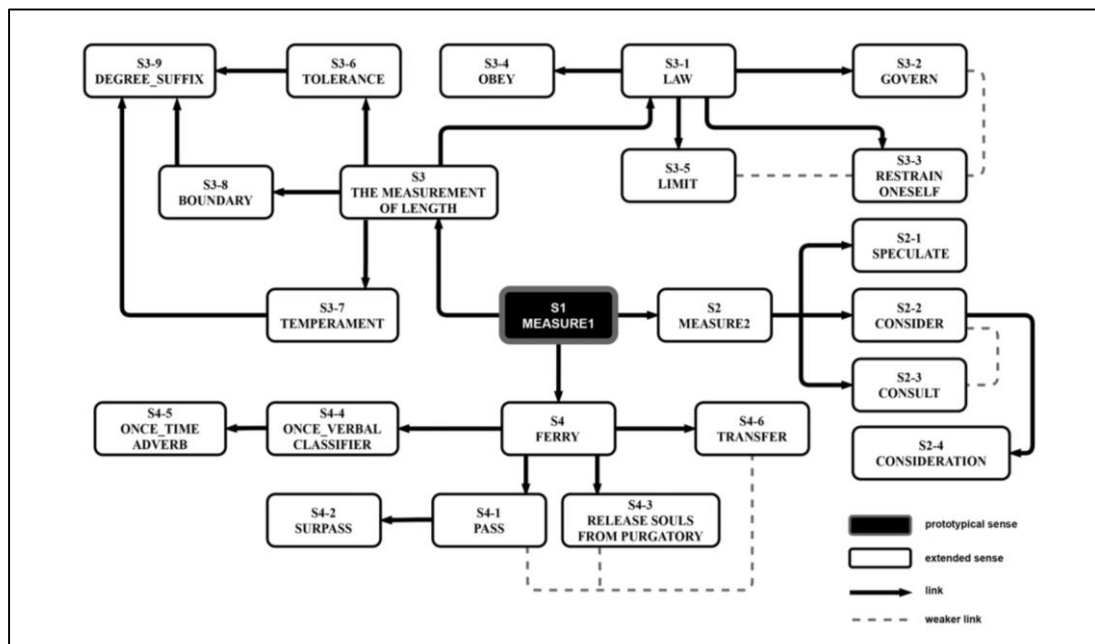
Figure 4.4 Semantic network of *dù* 度

There are a total of 22 senses that we discuss about *dù* 度, and we label these senses in

sequence as shown in **Table 4.1**.

Table 4.1 Definitional gloss of *dù* 度

Label	English definitional gloss	Chinese definitional gloss
S1	**MEASURE1**	測量（實體）
S2	**MEASURE2**	測量（抽象）
S2-1	**SPECULATE**	推測、估計
S2-2	**CONSIDER**	考慮（動詞）
S2-3	**CONSULT**	諮詢
S2-4	**CONSIDERATION**	考慮（名詞）
S3	**THE MEASUREMENT OF LENGTH**	名量單位
S3-1	**LAW**	法制、規範
S3-2	**GOVERN**	治理
S3-3	**RESTRAIN ONESELF**	節制、約束
S3-4	**OBEY**	順應、遵守
S3-5	**LIMIT**	限度
S3-6	**TOLERANCE**	器度
S3-7	**TEMPERAMENT**	性情
S3-8	**BOUNDARY**	國度
S4	**FERRY**	渡過（渡河）
S4-1	**PASS**	過
S4-2	**SURPASS**	超越
S4-3	**RELEASE SOULS FROM PURGATORY**	超度
S4-4	**ONCE_VERBAL CLASSIFIER**	次數（動量單位）
S4-5	**ONCE_TIME ADVERB**	曾經（時間副詞）
S4-6	**TRANSFER**	給予

4.2 Semantic Distribution of *Dù* 度 through Classical Chinese

We examine the overall tokens (2243 tokens), and exclude proper nouns such as place

names and official names that appear in large numbers because whether proper nouns

have meanings or not has always been an issue. In the end, the number of tokens we

analyze is **956 tokens** (see **Table 4.2**). After understanding our principle of labeling,

we discuss the semantic distribution of each sense cluster. It can be observed that $S_{2\text{-}1}$

(SPECULATE) and $S_{3\text{-}1}$ (LAW) have the highest ratio and appear in the early stage.

Besides, the ratio of $S_{4\text{-}3}$ (RELEASE SOULS FROM PURGATORY) is also the highest.

Now we explain why the three ratios are the highest. From 'the measurement on the

physiological level' (S_1) to 'the measurement on the psychological level' ($S_{2\text{-}1}$), its

semantic change is common and very reasonable. Besides, everything must have norms

and constraints, so the unit of measurement (S3-1) is an important concept at that time.

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Table 4.2 The distribution of each sense and sense cluster

Label	Definition gloss	Token	Individual ratio	Cluster ratio
S1	MEASURE1	33	3.5%	3.5%
S2	MEASURE2	46	4.8%	
S2-1	SPECULATE	69	7.2%	
S2-2	CONSIDER	34	3.6%	16.2%
S2-3	CONSULT	2	0.2%	
S2-4	CONSIDERATION	4	0.4%	
S3	THE MEASUREMENT OF LENGTH	63	6.6%	
S3-1	LAW	355	37.1%	
S3-2	GOVERN	2	0.2%	
S3-3	RESTRAIN ONESELF	7	0.7%	
S3-4	OBEY	19	2.0%	56.0%
S3-5	LIMIT	26	2.7%	
S3-6	TOLERANCE	44	4.6%	
S3-7	TEMPERAMENT	17	1.8%	
S3-8	BOUNDARY	2	0.2%	
S4	FERRY	21	2.2%	
S4-1	PASS	45	4.7%	
S4-2	SURPASS	7	0.7%	
S4-3	RELEASE SOULS FROM PURGATORY	79	8.3%	
S4-4	ONCE_VERBAL CLASSIFIER	76	7.9%	24.4%
S4-5	ONCE_TIME ADVERB	2	0.2%	
S4-6	TRANSFER	3	0.3%	
	SUM	956	100%	100%

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By statistical verification, we attest to the diachronic structure of *dù* 度. Such

chronological diagram as in **Figure 4.5** is derived from the statistical data (see **Table 4.3**).
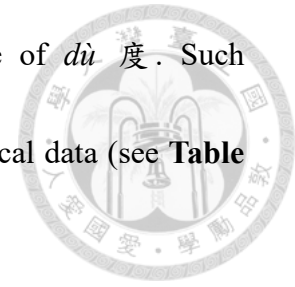
Table 4.3 The distribution of each sense in each dynasty

|		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
		Zhou Dynasty	Spring and Autumn Period	Warring States Period	Western Han	Eastern Han	Six Dynasties	Sui Dynasty	Tang Dynasty	Five Dynasties and Ten Kingdoms Period	Northern Song Dynasty	Southern Song Dynasty	Yuan Dynasty	Ming Dynasty	Qing Dynasty
S1	MEASURE1	8.8%	3.4%	9.6%	3.0%	6.7%	1.6%	0.0%	1.4%	1.8%	0.0%	0.0%	0.0%	4.5%	1.5%
S2	MEASURE2	14.7%	9.0%	1.1%	10.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	19.4%
S2-1	SPECULATE	8.8%	9.0%	3.2%	4.0%	13.3%	1.6%	0.0%	2.8%	1.8%	13.1%	4.9%	2.9%	6.0%	20.9%
S2-2	CONSIDER	5.9%	16.6%	4.3%	2.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S2-3	CONSULT	2.9%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S2-4	CONSIDERATION	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	0.0%	0.0%
S3	THE MEASUREMENT OF LENGTH	2.9%	7.6%	12.8%	28.3%	2.2%	1.6%	0.0%	1.4%	0.0%	0.0%	0.0%	1.4%	6.0%	3.0%
S3-1	LAW	44.1%	37.9%	58.5%	42.4%	43.3%	25.8%	0.0%	19.7%	18.2%	44.3%	12.2%	20.3%	58.2%	35.8%
S3-2	GOVERN	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S3-3	RESTRAIN ONESELF	5.9%	0.0%	0.0%	2.0%	1.1%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	1.4%	0.0%	0.0%
S3-4	OBEY	0.0%	11.0%	1.1%	1.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
S3-5	LIMIT	0.0%	4.1%	5.3%	3.0%	4.4%	6.5%	100.0%	1.4%	1.8%	1.6%	0.0%	0.0%	0.0%	0.0%
S3-6	TOLERANCE	0.0%	0.7%	2.1%	1.0%	2.2%	4.8%	0.0%	11.3%	14.5%	9.8%	2.4%	2.9%	3.0%	11.9%
S3-7	TEMPERAMENT	0.0%	0.0%	0.0%	0.0%	0.0%	6.5%	0.0%	14.1%	3.6%	0.0%	0.0%	0.0%	1.5%	0.0%
S3-8	BOUNDARY	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%
S4	FERRY	0.0%	0.0%	1.1%	2.0%	6.7%	1.6%	0.0%	0.0%	7.3%	0.0%	0.0%	1.4%	6.0%	3.0%
S4-1	PASS	0.0%	0.0%	1.1%	0.0%	3.3%	9.7%	0.0%	7.0%	5.5%	9.8%	2.4%	20.3%	4.5%	4.5%
S4-2	SURPASS	0.0%	0.0%	0.0%	0.0%	2.2%	1.6%	0.0%	1.4%	0.0%	4.9%	0.0%	0.0%	0.0%	0.0%
S4-3	RELEASE SOULS FROM PURGATORY	0.0%	0.0%	0.0%	0.0%	11.1%	8.1%	0.0%	9.9%	29.1%	6.6%	63.4%	15.9%	0.0%	0.0%
S4-4	ONCE_VERBAL CLASSIFIER	0.0%	0.0%	0.0%	0.0%	0.0%	29.0%	0.0%	28.2%	9.1%	9.8%	7.3%	24.6%	10.4%	0.0%
S4-5	ONCE_TIME ADVERB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%
S4-6	TRANSFER	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	1.4%	0.0%	0.0%
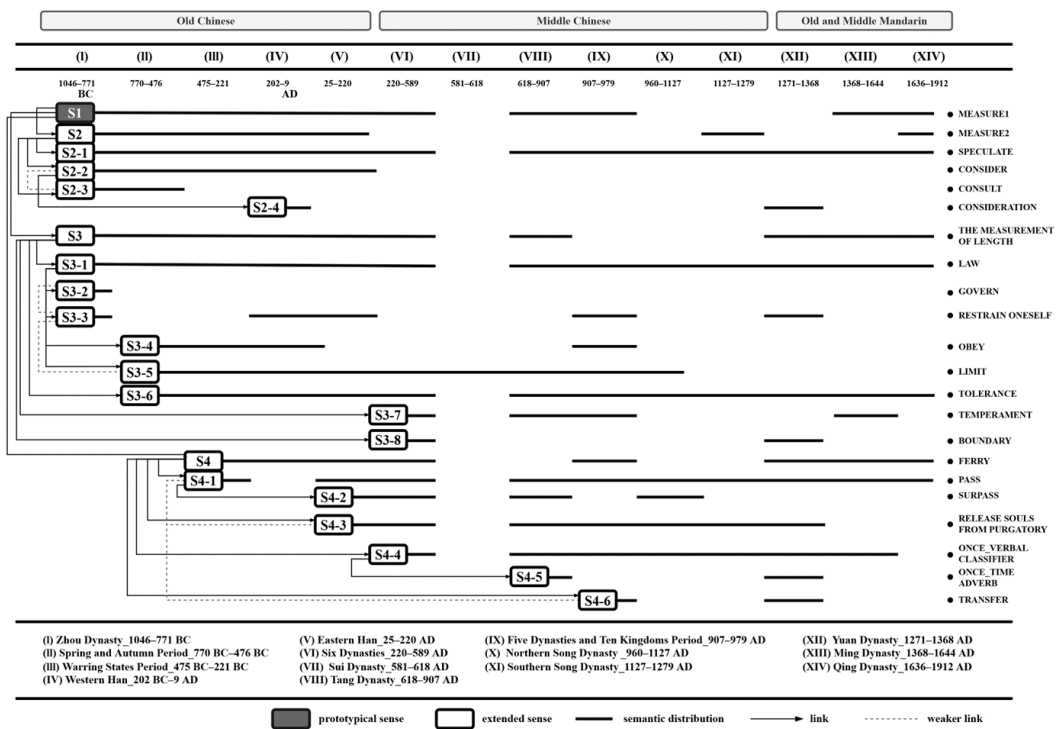
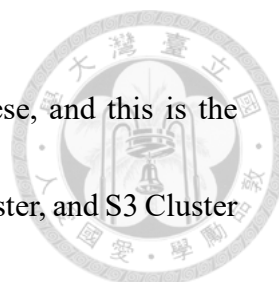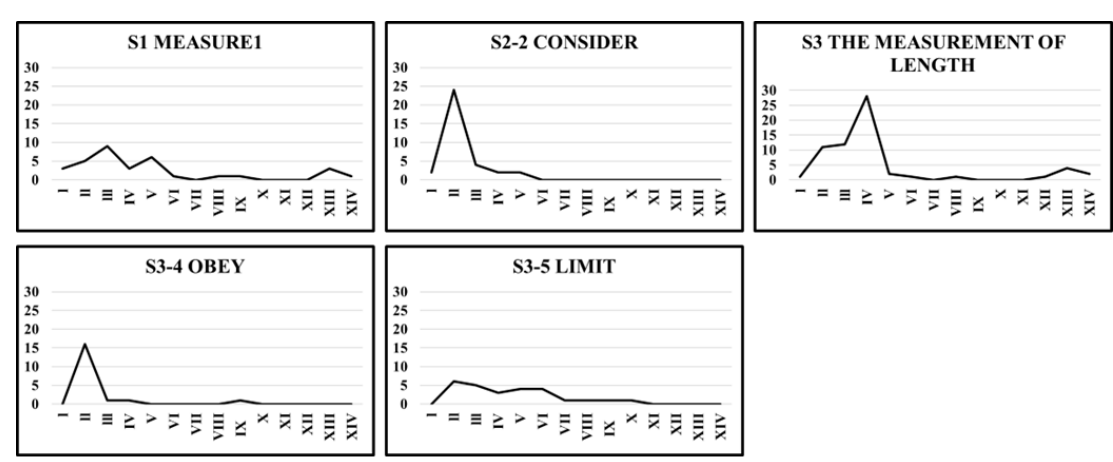**Figure 4.5 The diachronic structure of *dù* 度**

Figure 4.5 shows that most senses of *dù* 度 appear in Old Chinese, and this is the reason why we focus much on the discussion. The S1 Cluster, S2 Cluster, and S3 Cluster are formed before Six Dynasties. We follow the clues from the statistical significance and divides the semantic distribution of *dù* 度 in three occasions: (1) Early prominence distribution (**Figure 4.6**), (2) average distribution (**Figure 4.7**), (3) later prominence distribution (**Figure 4.8**).

4.2.1 Early Prominence Distribution

The first occasion as in **Figure 4.6** is that sense appears in the early stage and tends to disappear in the later stage. They are S_1 (MEASURE $_1$), S_{2-2} (CONSIDER), S_3 (THE MEASUREMENT OF LENGTH), S_{3-4} (OBEY), and S_{3-5} (LIMIT).

Number	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
Dynasty	Zhou Dynasty	Spring and Autumn Period	Warring States Period	Western Han	Eastern Han	Six Dynasties	Sui Dynasty	Tang Dynasty	Five Dynasties and Ten Kingdoms Period	Northern Song Dynasty	Southern Song Dynasty	Yuan Dynasty	Ming Dynasty	Qing Dynasty

Figure 4.6 Early prominence distribution

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4.2.2 Average Distribution

The second occasion as in **Figure 4.7** is the average distribution including S_{2-1}

(SPECULATE) and S_{3-1} (LAW), which evenly distributed in each dynasty. Their ratios

as in Table 4.3 are the highest in the sense cluster that they belong to, with the ratio of

S_{3-1} (37.1%) and of S_{2-1} (7.2%) respectively.

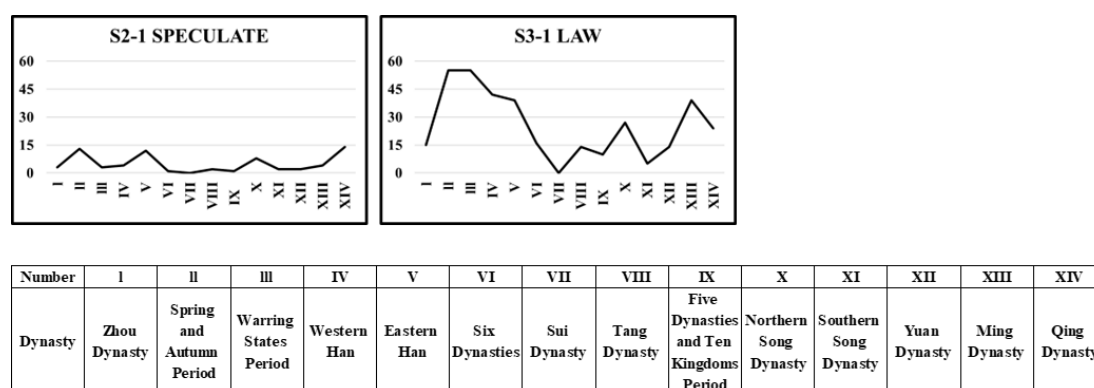| Number	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
Dynasty	Zhou Dynasty	Spring and Autumn Period	Warring States Period	Western Han	Eastern Han	Six Dynasties	Sui Dynasty	Tang Dynasty	Five Dynasties and Ten Kingdoms Period	Northern Song Dynasty	Southern Song Dynasty	Yuan Dynasty	Ming Dynasty	Qing Dynasty

Figure 4.7 Average distribution

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4.2.3 Later Prominence Distribution

The third occasion as in **Figure 4.8** is the later prominence distribution including S$_{4-1}$

(PASS), S$_{4-3}$ (RELEASE SOULS FROM PURGATORY), and S$_{4-4}$ (ONCE_VERBAL

CLASSIFIER). Among them, S$_{4-3}$ (RELEASE SOULS FROM PURGATORY) appears

in large numbers during Song Dynasty, which is related to the prosperity of Buddhism

in that time.

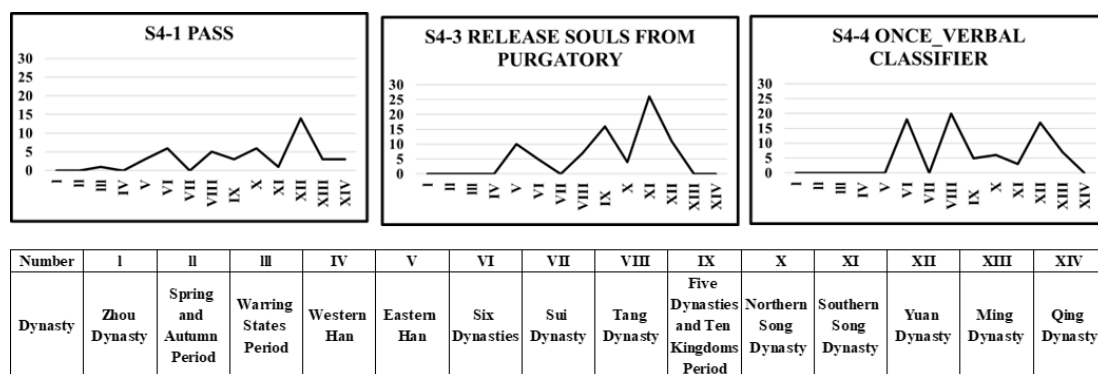| Number	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
Dynasty	Zhou Dynasty	Spring and Autumn Period	Warring States Period	Western Han	Eastern Han	Six Dynasties	Sui Dynasty	Tang Dynasty	Five Dynasties and Ten Kingdoms Period	Northern Song Dynasty	Southern Song Dynasty	Yuan Dynasty	Ming Dynasty	Qing Dynasty

Figure 4.8 Later prominence distribution

5. Conclusion

On the basis of diachronic corpus, this study explores the cognitive structure of the word *dù* 度, summarizes three evolution directions through corpus examination and sense labeling, and obtains three clusters of senses. The formation of these three sense clusters comes from three different levels of "construal". In the construal process, we can find that "purport" plays a very important role. We believe that the "purport" of *dù* 度 involves three basic items: "measurer", "measurable object" and "measurement tool".

When we construe a certain meaning, we will profile certain items of these three elements. For example, the original meaning of the word *dù* 度 is "to measure". "To measure" this action itself requires a "measurer", "measurable objects" and "measurement tools", and profiles the part of "measurable objects" (there are more than one measurable object, there may be object A, B, C, D...). Imagine that one's measuring the distance between object A and object B. The action of measuring itself involves "comparing" (compare A with B), so it will need a "reference point" (i.e., from one end to the other). (see **Figure 5.1**)
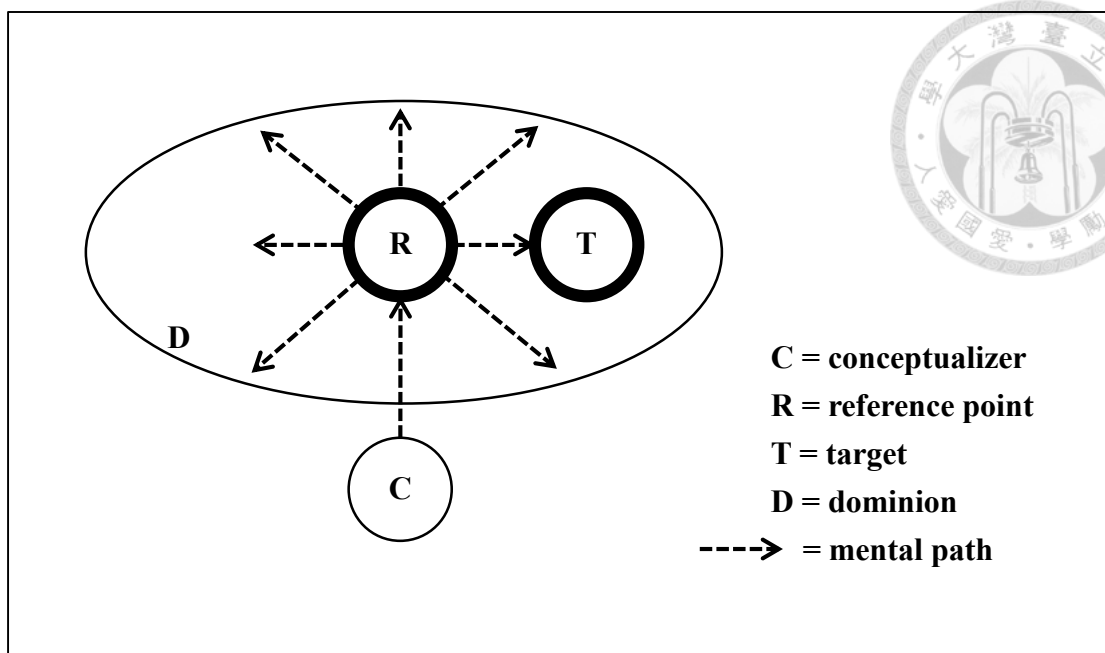
Figure 5.1 Langacker's reference point

This semantic nature affects the subsequent semantic extension. Another example, the

"law" meaning of the word *dù* 度. The concept of "law" itself requires "law-makers",

"law-abiding people", and "laws" (which can be regarded as measurement tool), and

profiles on laws. If we try to use the concept of "purport" to analyze each sense, we can

get **Table 5.1** as follows:

Table 5.1 The Basic Purport of *dù* 度

Label	Definitional gloss	Measurer	Measurable object	Measurement tool
S1	**MEASURE1**	People	**Object A, B, C...**	hand, or ruler
S2	**MEASURE2**	People	**Concept A, B, C**	Mind
S2-1	**SPECULATE**	People	**Concept A, B, C**	Mind
S2-2	**CONSIDER**	People	**Concept A, B, C**	Mind

S2-3	CONSULT	People	**Concept A, B, C**	**Mind**
S2-4	CONSIDERATION	People	**Concept A, B, C**	**Mind**
S3	THE MEASUREMENT OF LENGTH	People	Object A, B, C......	**Scales**
S3-1	LAW	Law maker	Law-abiding people	**Laws**
S3-2	GOVERN	People	Object A, B, C People	**method**
S3-3	RESTRAIN ONESELF	People	People	**Heaven, standard**
S3-4	OBEY	People	People	**standard**
S3-5	LIMIT	People	People	**standard**
S3-6	TOLERANCE	People	People	**standard**
S3-7	TEMPERAMENT	People	People	**standard**
S3-8	BOUNDARY	People	Concept A, B, C	**standard**
S4	FERRY	**People**	**Location A, B, C**	ego
S4-1	ONCE_VERBAL CLASSIFIER	**People**	**Event A, B, C**	counting
S4-2	TRANSFER	**People**	**Object A, B, C**	Hand
S4-3	RELEASE SOULS FROM PURGATORY	**Buddha**	**People**	Buddhist beliefs
S4-4	PASS	**People Time**	**Location A, B, C**	Space line Time line
S4-5	SURPASS	**People**	**People**	Others
S4-6	ONCE_TIME ADVERB	**People**	**Event A, B, C**	Time line

From **Table 5.1**, we can find that when we construe S1 and S2-cluster, our construal

process will profile "measurable objects". When construing S3-cluster, we profile

"measurement tools". As to the construal of S4-cluster, we profile "measurer" and

"measurable objects", emphasizing the relationship between them. Such phenomenon

also reflects that there is a shared frame in the senses of *dù* 度. More precisely, a shared

schema. The cognitive structure of *dù* 度 shifts from "vision schema" to "speculation

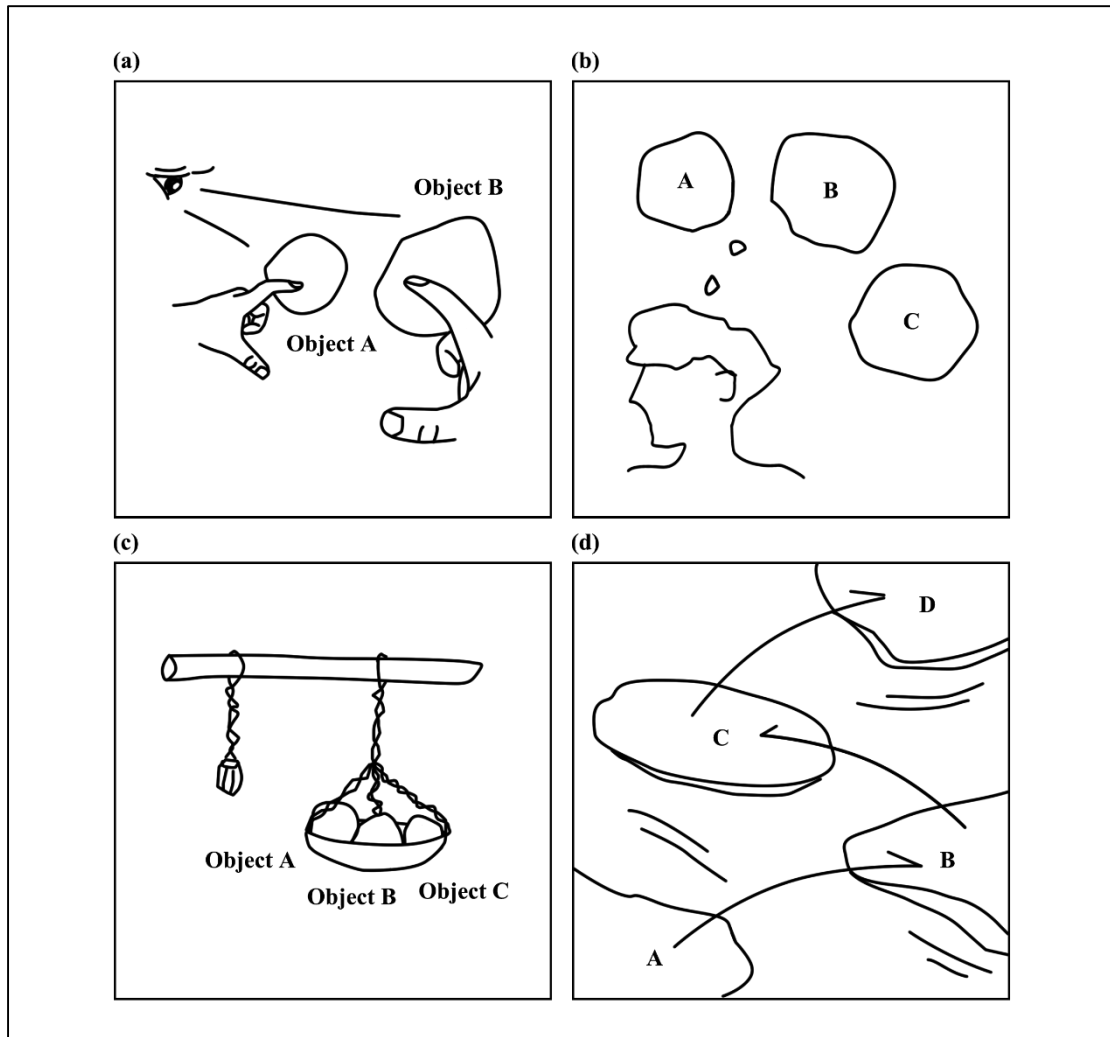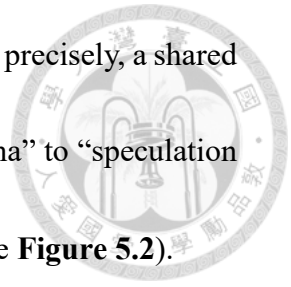schema" to "container schema", and finally to "motion schema" (see **Figure 5.2**).

Figure 5.2 Schema shifts of *dù* 度

The senses in each cluster come from the same "schema", so there will be a

phenomenon of "clustering". We can say that the so-called "construal" involves more

than the two basic concepts "purport" and "meaning". "Schema" also plays an

important role.

Now, let's examine the cognitive mechanisms that cause such schema shifts:

(1) From S1 to S2-cluster:

Measuring initially focuses on the process of conceptualizing the objects we see. When we observe a certain object, our 'visual field' defines the boundary of the area, and uses other objects as reference point. Measuring is essentially 'container schema'. Here we define the original measuring as 'vision schema'. It emphasizes our 'visual interpretation' of locating the target through 'eyes'. Shifting from 'vision schema' to 'evaluation schema' comes naturally from the way we see things. When we observe something, we imagine various situations in our mind at the same time. Therefore, evaluation can also be regarded as a 'container' for various situations. 'Measuring' is metaphoricalized as 'evaluation activity'. This is the first stage of frame-shifting.

(2) From S1 to S3-cluster:

Shifting from 'vision schema' to 'container schema'. Measurement requires 'measurement tools'. These tools can 'quantify' objects and even 'people'. It is not difficult to explain that S1 (TO MEASURE 1) is metonymically extended into S3 (THE MEASUREMENT OF LENGTH). Then S3 can be extended into two levels of meaning:

(1) 'social' standard with readings of 'behaviors and limits under legal norms'. (2) 'human' standard with readings of the human nature. The human nature can be conceptualized as a container. Everyone is a container with 'inner' and 'outer' character.
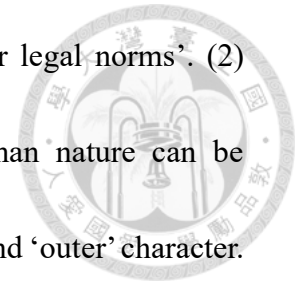
(3) From S1 to S4-cluster

Motion schema summarizes people's most frequent physical activity. Every motion is composed of 'source', 'path' and 'goal'; therefore, this schema is also called 'source-path-goal schema'. Motion schema, like vision schema, involves cross-references from one point to another. The difference is that motion schema refers to a measurer's actual movement in the space. 'Ferry' can be a type of 'measuring', and their relationship is metonymical. 'Ferry' reading can be generally extended into 'passing through space', and 'pass' reading can be metaphorized as 'comparison' reading (surpass). If the process of crossing the river is regarded as 'the number of counts measured', it can be metonymically extended into 'times', which is also acceptable. We can even accept the temporal adverb 'once' which is metaphorized by times. Since the ferry reading refers to path motion, its figurative use as 'a ditransitive construction' is not surprising.

On the whole, the semantic change of 度 is metonymy as main part, and metaphor as secondary in terms of the cognitive mechanism. Metonymy involves shifting cognitive aspects within the same conceptual domain. Senses of 度 investigated in this study all essentially highlight a certain element in the 'measurement' activity. We believe that metonymy still plays a crucial role in metaphorical expressions of 度.
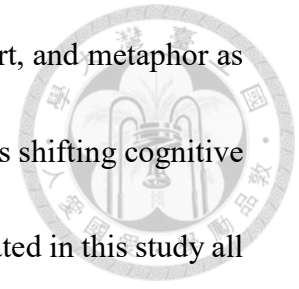
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