

CHAPTER ONE

INTRODUCTION

1.1 *DAOJIA* (PHILOSOPHICAL TAOISM) AND *DAOJIAO* (RELIGIOUS TAOISM)

In using the English term ‘Taoism’, by which we mean ‘philosophical Taoism’, we are referring to the philosophy of *Daode Jing* (Lao Zi) and *Zhuang Zi*¹. This sense of the word ‘Taoism’ has sometimes been confused with religion that originated in China and which also bears the same name.

The Chinese themselves distinguish between two types of Taoism, namely *Daojia* (道家) and *Daojiao* (道教). Generally speaking, *Daojia* is a philosophy and *Daojiao* is a religion. This, however, is only a superficial view. These two terms cannot be understood in a simplistic way. In fact, the philosophy of Lao Zi and Zhuang Zi is usually called *Daojia* in modern academic circles. Historically, the distinctions between ‘*Daojia*’ and ‘*Daojiao*’ were not clearly made in the minds of the people living in the past.

¹ The *Pinyin* system of romanization is used in this thesis.

Since the Chinese paid little attention to the definition of a word, *Daojia* and *Daojiao* were therefore not clearly defined. These two terms are sometimes synonymous and interchangeable, but sometimes they are distinct. This created confusion and ambiguity in the past. Inevitably, it has evoked a heated discussion today. However, we must admit that this is a major misunderstanding, which cannot be instantly cleared up. In order to clear the misunderstanding mentioned above, we need to clarify the meaning of 'Dao' (道).

'Dao' is innate in the mind of Chinese. It is the fundamentals for the existence of universe, function and practice. Hence, not every Chinese philosophy uses the term 'Dao' is Taoist, for in reality they all do. 'Dao' is, indeed, the central doctrine of the various schools of thought and presents in the innermost recesses of every Chinese heart. For this reason, looking at 'Dao' as a starting-point to solve the problem is indispensable.

The Chinese character 'Dao' (道), at first meant 'road' in the classics. It is clearly understood that the meaning of the 'way' or the 'path' is acceptable as its metaphorical philosophical meaning. From this, *Dao* develops the sense of the 'way of man' and is often used to denote the manner of conduct of an individual. It is restricted to human affairs. For the Confucian, *Dao* is the way of right conduct for the individual² and for the state³. However, when we come to Lao Zi, *Dao* is given a metaphysical meaning. Nevertheless, it is noted that *Dao* acquired its metaphorical philosophical meaning centuries before the birth of the philosophy, which had been

² see *Lun Yu (The Analects of Confucius, 论语)* chapter 4.5, 5.16, 9.3, 11.20. Pan, F. & Wen, S. trans., Qi Lu Press, 1993.

³ see *Lun Yu*, chapter 5.21, 8.13, 14.1, 14.3.

labeled ‘Taoism’, or more precisely, before the terms, ‘*Daojia*’ and ‘*Daojiao*’ emerged.

Daojiao has the actual meaning of ‘The teachings of the Way’. It was first applied in section 39 of the *Mo Zi* to Confucian beliefs,

“Poverty and disorder destroy the basis of the government, and yet the Confucians accept such ideas, believing that they are the doctrine of the Way.”⁴

Following the introduction of Buddhism into China, ‘*Daojiao*’ was also applied to Buddhism. It is stated that some Chinese translated Buddhist texts regard image Buddhism as ‘*Daojiao*’. Obviously, ‘*Daojiao*’ was a common term which was used to apply to certain teachings that show the course of conduct in the former times.

As for ‘*Daojia*’, it was first applied in *Shiji* (*Historical Records*, 史記, chapter 130) of the Han Dynasty. Sima Tan (司馬談), the father of Sima Qian (compiler of the *Shiji* and China’s first great general history), classified Chinese philosophers into six schools that of the *Yin-yang* (陰陽家), the Confucians (*Lujia*, 儒家), the Mohists (*Mojia*, 墨家), the Legalists (*Fajia*, 法家), the Names (*Mingjia*, 名家) and Taoists (*Daodejia*, 道德家). Next, he went on to remark,

“The Taoist school (*Daojia*) urged men to unity of spirit, teaching that all activities should be in harmony with the unseen, with abundant liberality toward all things in nature. As to practice, they accept the orderly sequence of nature from the *Yin-yang* school, gather the good points of Confucians and Mohists, and combine with these the important points of the (school of) Names and Law. In accordance with the changes of the seasons, they respond to the development of natural objects. Their achievements fit everywhere. Their ideas

⁴ ‘Against Confucians’ (‘*Fei Lu*’, ‘非儒’), *Mo Zi* (墨子), Watson, B. trans., New York and London: Columbia University Press, 1963: 127.

are simple and easily carried out. They perform but little, yet their achievement are numerous.”⁵

According to the above-mentioned statement, it could be mentioned that this Taoist school (*Daojia*) is an agglomeration of various schools, including the philosophy of Lao Zi and Zhuang Zi. Hu Shi (胡适, 1891-1962) commented that the Taoist school mentioned by Sima Tan is merely the Taoist school as it existed at the beginning of the Han Dynasty and is regarded as the Miscellaneous school (*Zajia*, 杂家), rather than the original school of Lao Zi and Zhuang Zi.⁶ Thus, it is proven that the term, ‘*Daojia*’ did not exist prior to the Han Dynasty; it only came into existence in the early Han period since it was the only way for the combination of all the best points of the other schools.

Lao Zi did not originate *Daojia*. To call his system or his school by that name is confusing. The view that Lao Zi and Zhuang Zi belong to *Daojia* is an opinion which is prevalent in sinological academic circles over a long period of time until now. Nevertheless, it is easily seen, from a variety of evidence that during the *Chunqiu* (Spring and Autumn, 770-722 BC) and *Zhanguo* period (Warring States, 722-221 BC), only Laoism and Zhuangism exists at that time. Lao Zi and Zhuang Zi never group themselves as *Daojia*. And yet these two great men had no relation between teacher and student. In fact, the philosophical Taoists were only but a handful of authors scattered through history. On the contrary, Confucius and his students claim to be Confucianist and have a series of transmission of teachings.

⁵ Sima Qian 司马迁, *Shiji* (*The Historical Records*, 史记) chap. 130, (quoted from trans. of Fung, Y.L., *A history of Chinese Philosophy*, vol 1, trans. by Derk Bodde, Princeton: Princeton University Press, 1952: 170.

⁶ Hu, S., *Zhongguo Zhexueshi Dagang* (*An Outline History of Chinese Philosophy*, 中国哲学史大纲), Peking: The Commercial Press, 1919: 9.

The term ‘*Daojia*’ reflects the world of thought inclined to seek unification of thought at that time. Fung Yu-lan, in his book *A Short History of Chinese Philosophy*, states, “The people of the third century BC, discouraged by centuries of inter-state warfare, longed for a political unification; their philosophers, also consequently tried to bring about a unification in thought.”⁷ According to him, the scholars believed in the whole Truth (*Dao*), and hoped by adopting good points from various schools, to attain to *Dao*.⁸ As a result, two monumental works, namely *Lushi Chunqiu* (*Master Lu’s Spring and Autumn Annals*, 吕氏春秋) and *Huainan Zi* (*The Book of Huainan*, 淮南子)⁹ formed under such circumstances.

As we know, Sima Tan applied the term ‘*Daojia*’ to a much wider assortment of *Zhanguo* figures. His son, Sima Qian, in his well-known work, *Shiji*, thus used the term *Daojia* interchangeably with another term, ‘*Huang-Lao*’ (The teachings of the Huangdi [the Yellow Emperor, 黄帝] and Lao Zi). During the early part of the Han Dynasty, in fact, the teaching of Huang-Lao had become a tool that emphasized on the techniques of government and ruling people, and was prevalent for some time. Since the reign of Emperor Wu (武帝, 40-87 BC) of the Han dynasty, when Dong Zhongshu (董仲舒) proposed to “banish all the other schools and exalt Confucius’ teachings alone”, *Huang-Lao* school lost its dominant ideological position

⁷ Fung, Y.L., *A Short History of Chinese Philosophy*, ed. by Derk Bodde, New York: The Free Press, 1966: 187. Ren J.Y. 任继愈, ‘*Daojia yu Daojiao*’ (‘Philosophical Taoism and religious Taoism’, ‘道家与道教’) in *Daojiao yu Chuantong Wenhua* (*Daojiao and Traditional Culture*, 道教与传统文化), Beijing: Chong Hwa Book Store, 1992: 3-9.

⁸ *ibid.*, p.187(Fung), pp.3-9(Ren).

⁹ Both were the compilations of groups of intellectuals gathered together under the patronage of a powerful person. *Lushi Chunqiu* under Lu Buwei 吕不韦 who was associated with the first emperor Qin; *Huainan Zi* under Liu An 刘安 prince of Huainan in the Former Han Dynasty (202BC-9AD).

in the court. Subsequently, it was forced to undergo a major transformation. It came to be associated with the whole cult of 'personal' immortality as well as shamanistic beliefs to form the Chinese indigenous religion of later times, and in that capacity came to cover works on alchemy, hygiene, magic, as well as religious ritual.

According to historical record, this popular religion which is mentioned above, is usually known as *Daojia*. '*Daojiao*' was first used for this religion probably in the 5th. century.¹⁰ Sometimes '*Daojia*' and '*Daojiao*' are synonymous and are used to address this indigenous religion. With this fact, and the fact that was mentioned in the above passages, it could be seen that the term '*Daojiao*' had been used loosely to refer to the three religions in China, namely Confucianism, Buddhism and Taoist religion.

During that time, three religions in a situation of tripartite confrontation emerged. As an indigenous religion, '*Daojia*' (Taoist religion) had came into antagonism with the foreign religion of Buddhism. Under this circumstance, '*Daojia*' is gradually named as '*Daojiao*' truly.

In a nutshell, we can conclude the above-mentioned discussion into 4 points:

a. The term '*Daojia*' did not exist prior to the Han dynasty. The name, '*Daojia*' was first coined by Han scholars. It represented a trend of thought which combined all the best points of the other schools during the Former Han dynasty. It took the quiescence and non-activity of *Huang-Lao* as the main stream of this thought.

¹⁰ Jiuqing Zhongfu et al. 酒井忠夫等. *Daojiao* (Taoism. 道教) vol 1, trans. by Zhu Yuefeng 朱越利, Shanghai Guji Publications (上海古籍出版社), 1990: 10.

- b. 'Daojia' in modern times is referred to a rather broad intellectual stream in the history of Chinese thought in which *Dao* is taken to be the central concept and whose fundamental theory is that of nature (*ziran*) and nonaction (*wu wei*). This broad 'school' would therefore include the teachings of Lao Zi, Zhuang Zi, Lie Zi, Yang Zhu, Huang Lao and others scattered through history. Now, it is known as the Taoist school (or philosophical Taoism).
- c. 'Daojiao' first is a word that is generally used to address some teachings which propagate the 'Dao' of sage.
- d. 'Daojiao', in modern sense, is a salvation religion that aims to lead the faithful to life eternal. It is an organized religion almost totally unrecognizable to early philosophical Taoism, which is why it is known as the Taoist religion (or religious Taoism). Nevertheless, *Lao Zi* and *Zhuang Zi* are regarded as the classics of the Taoist religion, thus it is hard to say they never had a strong influence on it.

Some scholars thought that Taoism, in its original form, was purely philosophy, which later expanded into a system of religious belief from whence it degenerated into superstition.¹¹ However, there is a lack of evidence to substantiate this. In academic research, a distinction between *Daojia* and *Daojiao* is necessary. However, one may feel difficult to make exact distinctions between them when he studies the science of Chinese. The ancient Chinese who were engaged in scientific research, may be influenced by philosophical Taoism (*Daojia*) in their thinking, but in action may display some religious form.¹² These two subtraditions of Taoism have been woven together and intermixed. Hence, in this work, it must be pointed out

¹¹ see Needham, J., *Science and Civilisation in China: History of Scientific Thought*, vol 2, Cambridge: At The University Press, 1969: 33-164.

¹² see Needham, J., *op. cit.*, vol.5, 1974: 83.

that the term, 'Taoism' is used in a general sense to denote *Daojia* (philosophical Taoism) and *Daojiao* (religious Taoism).

1.2 PROBLEMS

Lao Zi and Zhuang Zi are not scientists. The claim that *Daode Jing* (*Lao Zi*) and *Zhuang Zi* are scientific books hardly seems credible. As Lau pointed out,

" Admitting that they did take a certain interest in Nature, need it necessarily be scientific? Wordsworth, for example, was not necessarily a scientist because he took an interest in Nature. The interest the Taoist philosophers took in Nature was not scientific but philosophical, or, to be more precise, ethical. They were interested, that is to say, only in the lesson implicit in the Way (*Dao*) of Nature for man as to how he should lead his life."¹³

Jones also took a skeptical attitude, he said,

" If one accepts the basic objective of the natural science in the West from the Greeks to the present to be intellectual understanding of nature, with technological advantages hovering nearby, it would then be hard to assert that the fundamental intent of the Taoist texts is scientific. ... Taoists were certainly not ignorant of nature - all societies have some natural knowledge necessary for survival - but their goal was not to further empirical understanding. ... (Taoist texts) contain questions which scientists would also ask - whether the sky is revolving and the earth standing still, whether they are mechanically arranged, and so forth (*Zhuang Zi*, chapter 14), while the Taoist reply is couched not in terms of specific testable hypotheses, but of general structures more metaphysical in nature."¹⁴

¹³ Lau, D.C., 'Review on Chinese Thought and Science', *Nature*, vol., 178, 1956: 1201.

¹⁴ Jones, R.H., 'Joseph Needham's Mysticism and Science: Against Needham on Taoism', *Journal of Chinese Philosophy*, 8(1981): 245-247.

On the contrary, Needham, in his second volume of his monumental work, confirmed that the Taoists took a scientific interest in Nature. Fung, in his work, *A Short History of Chinese Philosophy*, pointed out, "The Taoist religion has the spirit of science, which is the conquering of nature. If one is interested in the history of Chinese science, the writings of the religious Taoists will supply much information."¹⁵ Fung did not mention what the writings of the religious Taoists are. But, he is probably referring to the Taoist Canon (*Dao Zang*, 道藏).

The *Dao Zang* is the fruit of thousand years' painstaking labour and wisdom of many people. All the texts of Taoism including *Daode Jing* and *Zhuang Zi* are to be found in the *Dao Zang*. In fact, the books of *Daode Jing* and *Zhuang Zi*, together with the book attributed to *Lie Zi* were respectfully called the Three Great Bible. The whole corpus of texts is divided into three *dong* (洞). The Chinese character for *dong* actually means 'cave' as well as 'to communicate' and 'to see through the mysterious'. Since people, especially the Taoist religious practitioners, believed that many texts were hidden in mountain caves, the word *dong* conjures up 'mysterious caves with unknown treasures of books' and 'sacred powers which are revealed in these books'¹⁶

We find that the *Dao Zang* stores a wealth of material concerning sitting in meditation, concentration of thought, dietary techniques, medicine, breathing exercises, bathing of all sorts, including sun bathing, various kinds of gymnastics, such as extending and contracting the body, sexual techniques, and alchemy, all

¹⁵ Fung, Y.L., *op. cit.*, 1966: 2.

¹⁶ Steinger, H., 'Religions of China', in *Historia Religionum - Handbook for the History of Religions*, edited by Bleeker, C.J. and Widengren, G., vol. 2, Leiden: E.J. Brill, 1971: 504.

directed to the search for the preservation of life, that is longevity and for immortality. All these mentioned above were definitely pseudo-scientific adventures.

The Taoist religious practitioners used the *Daode Jing* and *Zhuang Zi* as their bibles. It seems that the Taoist religious practitioners and these two philosophical works were closely related. Thus, it is hard to say that *Daode Jing* and *Zhuang Zi* never exert any influence on them, especially their activities seeking for longevity and immortality. Fung showed this tendency,

“... the terseness and ambiguity of the *Lao Zi* had made it possible for the religious Taoists to interpret it according to their own aims. Primary among these aims was that of acquiring long life or even permanent immortality, and it so happens that there are several paradoxical passages in the *Lao Zi* that could readily be interpreted as esoteric allusions to this subject. Examples are: ‘He who has a true hold on life, when he walks on land does not encounter tigers or wild buffaloes’(chap. 50); ‘When one dies one is not lost: there is no other longevity’ (chap. 33); ‘Make the roots penetrate deep and preserve the trunk: this is the way to maintain long life and protracted sight’ (chap. 59)”¹⁷

From what has been discussed, we can well observe that there is still some confusion in our understanding of the relation between the two high philosophies, namely *Daode Jing* and *Zhuang Zi* with Chinese science. In my work, I cannot evade questions like: “Is there any scientific thought in *Daode Jing* and *Zhuang Zi*?” and “Is there any relation between these two philosophical works with Chinese science and technology?” If there is, to what extent do these two great works influence the scientific works of ancient China? These questions will to be discussed in this thesis.

¹⁷ Fung, Y.L., *op. cit.*, vol. 2, 1952: 425

1.3 TWO GREATEST TAOIST BOOKS: *DAODE JING (LAO ZI)* AND *ZHUANG ZI*

It is difficult to learn anything clear or reliable about early Taoism.

The biography of Lao Zi in *Shiji* states,

“Lao Zi practiced the Way (*Dao*, 道) and the Power (De, 德). His doctrine aimed at self-effacement and namelessness. ... Lao Zi was a recluse gentleman. ...”¹⁸

Since Lao Zi ‘was a recluse gentleman’, it is not at all surprising that his life is unknown to us. However, it is ironically stated that because of his self-effacement and namelessness, he has become a favourite subject for all kinds of legends. All stories or legends of Lao Zi have acquired an element of mystery and wonder. Even though in *Shiji* of Sima Qian, which has trustworthy historical records also gave a very inconsistent and unsystematic narrative made up of a number of stories stemming from heterogeneous origins. No wonder at last *Shiji* comes to conclusion that “no one in the world knows if it is correct or not.”¹⁹ Nevertheless, for the present purpose of this study, the problem of the life of Lao Zi is not vitally important.

Zhuang Zi is also a hermit. Little is known about Zhuang Zi, but we feel ourselves standing on a far more solid ground that Zhuang Zi’s life is not in a terrible state of uncertainty as Lao Zi. Zhuang Zi lived during the fourth century BC., at the height of the *Zhanguo* period. According to *Shiji*, he had tremendous erudition, however his doctrine was essentially based on the teachings of Lao Zi. He, as well as Lao Zi are ranked together as the founders of philosophic Taoism.

¹⁸ Sima Qian, *Shiji*, chap. 63, see Fung, Y.L. trans., *op. cit.*, 1952: 171.

¹⁹ Sima Qian, *Shiji*, chap. 63, *ibid.* p. 171.

The Taoist texts with which this study will principally deal are the *Daode Jing* and the *Zhuang Zi*. These two books have influenced Chinese thought through the ages, and out of all proportion to its length. They are incomprehensive, written in cryptic and suggestive style that often seems deliberately obscure.

Daode Jing, which consists of around 5,300 words, is a compendious and comprehensive philosophical poetry. It may be regarded without exception to be the most profound and beautiful work in the Chinese language²⁰ and often compared by critics to a dragon, which suddenly showed up from amid the clouds.²¹

Tradition says that the inner chapters of *Zhuang Zi* were written by Zhuang Zi himself and that the outer and miscellaneous chapters are largely the works of the later disciples of Zhuang Zi. However, there is no consensus of this opinion. However, this claim is a guess not based on firm evidence. Nevertheless, we must admit that *Zhuang Zi* is not of the same hand. The enormous influence that *Zhuang Zi* had on later generations is based on this work, as a whole, and not on any one chapter. Hence, *Zhuang Zi* will be looked upon as a whole in this thesis. Although *Zhuang Zi* was not written by one person, the central insight from whom this influence is derived none other than Zhuang Zi.

It is worthy to remark that there is almost no connection between these two great Taoist texts and the traditional culture of Yin (殷) and Zhou (周). In other words, they are different from *Mo Zi* and *Lun Yu*; their thoughts do not attach importance to past events neither do they mention any historical personage to expound and prove their teaching. Confucius, to be sure, very often stressed precedents. He

²⁰ Needham, J., *op. cit.*, 1969: 35

²¹ Hu, M.C., *History of Chinese Education*, pp. 109-110 (quoted from Chang C.Y., 'China's Cultural Achievements During the Warring States Period', *Chinese Culture*, vol. 24 no. 3, 1988: 1)

said in *Lun Yu*, "I am a transmitter and not an originator, believing in and loving the ancients" and "I am not one who was born with innate knowledge. I am simply one who loves ancient culture and who is diligent in seeking it."²² Although Mo Zi opposed the traditional institutions and practices, he also held precedents in high regard in his "Three tests of judgment" (三表法). He said, "... On what is it to be based? It should be based on the deeds of the ancient sage-kings...."²³

In a word, among the various schools, the thought of *Daode Jing* and *Zhuang Zi* are rather special because they seldom draw their material from accomplished thoughts. They do not rigidly adhere to the authority of ancient kings; their voices came from wilderness, not from history. We can say that they assist Nature to transmit its voice, or they can be regard as microphone of Nature. This implies that they overstep tradition.

There is no denying fact that *Zhuang Zi* mentioned many times the deeds of ancient kings in various parts of this work. For example, chapter one states,

"The Emperor Yao (尧) wished to abdicate in favour of Hsu Yu (许由)...."²⁴

And chapter 12 states,

"The Yellow Emperor travelled to the north of the Red Lake and ascended the Kun-lun Mountains. Returning south he lost his magic pearl...."²⁵

Many of them are sheer fabrications and parables. *Zhuang Zi* plays idly with all these ancient kings without giving them the greatest respect in order to convey his thought.

²² *Lun Yu*, chap. 7.1, 7.20, Pan, F. & Wen, S. trans., *op. cit.*, 1993: 65, 73.

²³ 'Against Fatalism' ('*Fei Ming*', '非命'下), *Mo Zi*, Watson, B. trans., *op. cit.* 1963:118.

²⁴ *Zhuang Zi*, chap. 1, Giles, H.A. trans., *Chuang Tzu: Mystic, Moralist and Social Reformer*, London: Bernard Quaritch, 2nd. ed., 1969: 5-6.

²⁵ *ibid.*, p. 139.

The sayings and writings of the Chinese philosophers are full of suggestiveness, especially in *Daode Jing* and *Zhuang Zi*. Furthermore, there are many new concepts or terms being used in these two great books. However, they are so ambiguous that they can be interpreted to mean almost anything, such as *xinzhai* (the fast of the mind, 心齋), *zuowang* (sitting in forgetfulness, 坐忘), *zhenren* (the True man, 真人) and others in *Zhuang Zi*. Wei Zhengtong comments *Zhuang Zi* is really a great repository of concepts or terms.²⁶ The religious Taoism took full advantage of this book and made it virtually the manual for the preservation of life and the search for immortality. These ideas stimulated the development of the techniques of alchemy in China.

Similarly, in many places the *Daode Jing* is difficult to understand so that the Taoist priests could interpret it to suit their own purpose. They regarded this book as well as *Zhuang Zi* as theoretical grounds for their practices to achieve a material immortality. For instance, in the commentary of He Shangong (河上公) on the *Daode Jing* is found constantly to emphasize on the cultivation of longevity, which is a misrepresentation of Lao Zi. No matter how the *Daode Jing* and *Zhuang Zi* are interpreted, we may in fact say that *Daode Jing* and *Zhuang Zi* accidentally gave a boundless room of thought for later generations to work out in full.

1.4 TAOIST PHILOSOPHY AND THE SPIRIT OF CHU

In *Shiji*, Sima Qian made Lao Zi a man of Chu (楚). He stated, "Lao Zi was a native of Quren hamlet (曲仁里), in Lixiang (厉乡), in the district of Ku

²⁶ Wei, Z.T. 韦政通, *Zhongguo Shixiangshi (The History of Chinese Thought, 中国思想史)*, Taipei: Shuiniu Publications, 1994: 179-180.

(古), in the state of Chu. ... Lao Zi was a recluse gentleman. ..."²⁷ It was in this state that Confucius met most of the recluses, such as Jie Yu (接輿)²⁸ who can be regarded as a former Taoist.

The state of Chu is a land of wild marshes, rivers, forest and mountains, rich in terms of nature. It is also the lush region of the South where warm weather and ample water from rainfall, rivers, and lakes provide ideal conditions for rice cultivation. As the *Qian Han Shu* (*History of the Former Han Dynasty*, 前汉书, 206BC-24AD) tells us,

“Chu has an abundance derived from the Jiang (Yangzi Jiang, 扬子江) and Han rivers, and from streams, marshes, mountains and forests. ... Its food products are always sufficient. Therefore (its people) make little exertion, delight in life, and neglect to store anything. They have sufficient for food and drink, without thought for cold or starvation; on the other hand, there is no family worth one thousand ounce (of gold).”²⁹

The Kingdom of Chu is always regarded as a barbaric state whose original civilization seems to have been the product of a synthesis between autochthonous traditions of ‘barbarian’ people of the middle Yangzi and the ‘Chinese’ traditions of the principalities of the centre. Under such circumstances, the state of Chu is formed with very peculiar and variegated customs. Moreover, it is worthy to mention that the men of Chu did not suffer from the restraints of Zhou culture and Confucian scholastic knowledge of this-worldly social-mindedness. The Confucian social-ethical thought-complex was hard and rational. As Needham said, ‘His

²⁷ Sima Qian, *Shiji*, chap 63, see Fung, Y.L. trans., *op. cit.*, 1952: 171.

²⁸ see *Lun Yu*, chap. 18.5.

²⁹ *Qian Han Shu*, chap. 28, Beijing: Chong Hwa Book Store, vol. 4, 1962: 1666 (see Fung, Y.L. trans., *op. cit.*, 1952: 176).

(Confucius) in the orderly administration of affairs may seem dry and unromantic. ...³⁰

The area north of the Huang He (Yellow River, 黄河) where Zhou culture originated is bitter cold and barren. The people did not have easy lives. They were busy day and night working for three meals and also maintaining the social order. They always emphasize on all investigation of human affairs. Under these circumstance it would be difficult for them to bestride the mysterious and abstruse philosophical thinking.

The Chu people, on the other hand, lived in abundance. They did not have to worry about food and clothing. Furthermore, under edification of characteristic geographical conditions and features, the people of Chu were rather imbued with imaginative and romantic feelings. Liu Dajie (刘大杰) gave an interesting description of these two cultures,

“When we read *Shijing* (*Book of Odes*[ancient folksongs], 诗经),and *Elegies of Chu* (*Songs of the South*, 楚辞), we will immediately feel that we place ourselves in two different world : one is our actual life or society; another one is highly imagination of mystical forest.”³¹

The men of Chu ‘believe in witches (*wu*, 巫) and spirit (*gui*, 鬼), and lay emphasis on excessive sacrifices.’³² *Wu*, often known as ‘shamans’, are said to

³⁰ Needham, J. *op. cit.*, 1969: 56.

³¹ Liu, D.J. 刘大杰, *Zhongguo Wenxue Fazhanshi* (*The History of Development of Chinese Literature*, 中国文学发展史), Hong Kong: Chong Hwa Book Store, 1960: 83-91.

³² *Qian Han Shu*, chap. 28, Beijing:Chong Hwa Book Store, vol. 4, 1962: 1666. (see Fung, Y.L. trans., *op. cit.*, 1952: 176)

have been especially numerous in the southern state of Chu. Thus, all kinds of superstitious beliefs were rampant, as well as shamanistic practices thrived. This 'uncultured' or 'irrational' atmosphere encouraged many extremely novel and creative ideas which sprang up among the men of Chu. In this atmosphere, an ideal fostering ground is provided to produce a very peculiar kind of metaphysical thinking.³³

The land of Chu is the birthplace of Taoist philosophy. It is undeniable that 'there is something of spirit of Chu running through the entire book of *Daode Jing*'³⁴. In *Zhuang Zi*,

"To take the root (from which things spring) as the essential (part), and the things as its coarse (embodiment); to see deficiency in accumulation; and in the solitude of one's individuality to dwell with the spirit-like and intelligent; such a course belonged to the *Dao* of antiquity, and it was appreciated by Guan Yin (关尹) and Lao Dan (老聃). When they heard of such ways, they were delighted with them. They built their system on the assumption of an eternal non-being and eternal being, and made the ruling idea in it that of the 'Grand Unity' (*taiyi*, 太一)"³⁵

This "Grand Unity" which is mentioned in *Elegies of Chu (The Nine Songs, 九歌)* as Grand Unity of Monarch of the East (*donghuang taiyi*, 东皇太一), is a supreme god of Chu people. Lao Zi had conceptualized 'Grand Unity' as the essence of universe (*Dao*). Starting from this point, Lao Zi developed his profound metaphysical thought.

Zhuang Zi is a native of Meng (蒙) which bordered Chu. The form of Zhuang Zi's thought is close to that of the Chu people. He was influenced by Chu. *Shiji* gives a brief biography of Zhuang Zi,

³³ Izutsu, T., *A Comparative Study of The Key Philosophical Concepts in Sufism And Taoism (II)*, Tokyo: Keio University, 1967: 5-6.

³⁴ *ibid.*, p. 5.

³⁵ *Zhuang Zi*, chap 33, Giles, H.A. trans., *op. cit.*, 1969: 5-6.

“His erudition was most varied, but his chief doctrines were based upon the sayings of Lao Zi.”³⁶

The style and thought of the *Zhuang Zi*, like the *Elegies of Chu*, show a richness of imagination and great freedom.³⁷

The development of science, besides relying on logic and mathematics, need a lot more alert insight and unrestrained imagination as well as a creative mind. In this way, science will be able to develop models of all kinds to describe all things on earth. Hence, imagination can be said as the motivating force in the development of science.

Taoist philosophy offers scope for interplay of imagination. In *Zhuang Zi*, we can find a lot of bold hypotheses, which are full of scientific value. There are many examples, however, which will be reserved for the following chapters. This valuable scientific thought had aroused great intellectual interest.

1.5 CHINESE SCIENCE AND TAOISM

Chinese science in this study is referred to as science of the ancient and mediaeval China before modern science from the West spreads eastward. It is based on organic analogies and relations of harmony between the individual self and nature. It is also based on both reason and faith and its main goal is to understand the meaning and significance of things in Nature, rather than manipulation, exploitation and control.

Ancient scientific knowledge is derived from two main streams of knowledge, namely philosophical knowledge and general knowledge. Every

³⁶ Sima Qian, *Shiji*, chap. 63 (see Fung, Y.L., trans., *op. cit.*, 1952: 221).

³⁷ Fung, Y.L., *op. cit.*, 1952: 221-222.

primitive community possessed a considerable store of general knowledge, based on experience and fashioned by reason.³⁸ This knowledge which is gained by experience of life, offers useful materials for the development of ancient scientific knowledge.

As the domain of culture is very wide, we must examine one culture from various angles such as literature, history, science, economy, politics, and so on in order to understand a national culture. However, when getting to the innermost part of this subject, we cannot refrain from discussing the problems of philosophy. Philosophy is a direction or wisdom to guide the development of a national culture. Philosophy is a sea of knowledge and also the pivot of all system of knowledge. It is the first ancestor of science. It provides the foundations, inspiration and viewpoints for the development of ancient science.

It is well known that the life of the Chinese people has been conditioned strongly by their philosophy, or to say the least, the teachings of their Sages is always in the depths of their subconscious. Therefore, Chinese science and technology in general cannot be studied apart from Chinese philosophy.³⁹

Confucianism is normally regarded as the main stream of the Chinese thought, but it has also often been blamed as an obstacle to scientific development in China. Joseph Needham considered Confucianism as a conservative force that opposed all innovation.⁴⁰ Such criticisms may be excessive. It cannot be denied that the Confucians are interested in moral and social affairs. They did not speculate on the abstract nature of things which is often required in scientific accomplishment. They also did not speculate on the detailed working of the natural forces, plants and

³⁸ Malinowski, B., *Magic, Science And Religion And Other Essays*, New York : The Free Press, 1954: 1.

³⁹ Fung, Y.L., *op. cit.*, 1966: 1-6.

⁴⁰ Needham, J., *op. cit.*, 1969: 154-168

animals. Nevertheless, as a matter of fact, some Confucians in various ages were scientists at the same time.⁴¹

Taoism, another main Chinese trends of thought, has arrived at widely different valuations on science in comparison with Confucianism. Taoism is concerned primarily with the observation of nature in order to discern the 'characteristics of the *Dao*', thus the Taoists had developed an attitude which was essentially scientific.⁴² Owing to their strong concentration on nature, the Taoists tend to emphasize nature-mysticism rather than adopt a rational-systematic approach. Hence, Fritjot Capra, in his book *The Dao of Physics*, said, "... the careful observation of nature, combined with a strong mystical intuition, led the Taoist sages to profound insights which are confirmed by modern scientific theories."⁴³

Needham, in his monumental work, went further to affirm that Taoism is very important for the understanding of Chinese science and technology on account of their very strong religious emotions, magic, proto-science, divination and Taoist philosophy serving as a fundamental base. He pointed out that it is among the Taoist that we have to look for most of the roots of Chinese scientific thoughts. The Taoist had brought about a genius and profound study of astronomy, cosmology, chemistry, medicine, biology and so on.⁴⁴

Both Taoism⁴⁵, philosophical and religious, embraced systematic theories of cultivation of live. The religious Taoists advocated healthy living and

⁴¹ Nakayama, S., *Joseph Needham, Organic Philosopher in Chinese Science*. The MIT Press, 1973: 37-39

⁴² Capra, F., *The Tao of Physics*. London: Wildwood House, 1979: 118-123.

⁴³ *ibid.* pp. 118-123

⁴⁴ Needham, J., *op. cit.*, 1969: 161-164.

⁴⁵ Both are concerned with the meaning of life and death. But philosophical Taoism taught people to become reconciled to death as a part of nature's cycle of change, while the religious Taoism by magic and proto-science, to seek immortality.

searched for individual salvation in order to prolong their life. On that score, they were keen on the investigation of respiratory and gymnastic techniques, thus they had accumulated much knowledge in pathology, physiology and hygiene.

Since the Han period, the *Daode Jing* and *Zhuang Zi* had already begun to be reinterpreted by the Taoist religious practitioners and magicians in various ways to suit their own purpose. The religious Taoists twisted the words in these two books into the texts describing a life-prolonging elixir. No matter how, it is undeniable that philosophical Taoism had exerted a great influence on the religious Taoism.

The quest for longevity and for immortality took a prominent place in the history of Taoism, and the search for an elixir of life led to the development of a considerable Taoist alchemy. Philosophical Taoists shared many of the same underlying ideas as the religious Taoists, such as, the *xian* (仙) immortal was continuous with *Zhuang Zi's zhengren* (The True man, 真人). But, in fact, it is the religious Taoists appropriated the ideas of philosophical Taoists. Many ideas from philosophical Taoism stimulated the development of the techniques of alchemy (proto-chemistry).

The Taoist alchemists believed that the life of a human being lies in his own hands and is not based on destiny. They also emphasized that prevention of illness of every human being can be overcome by individual cultivation from the aspect of Taoism point of view. Thus, they were keen to produce elixir for immortality, both physical and spiritual. Due to the use of elixir (known as 'dan' 丹) as a drug for immortality, it was finally extended to mean any medicine, pills or prescriptions. Although the ulterior motive of Taoist alchemists to become 'xian' (an

immortal person) is not that realistic, it is very encouraging because their health may be improved. Such daily Taoist practice has resulted in their contribution to the growth of pharmaceutical and medical development in China.

With regard to the Chinese medicine, Dr. Edward H. Hume said: "To understand the older conceptions of medicine, it is essential to form a picture of the cosmogony, or philosophy of the origin of the world existing for centuries, but given form chiefly by Taoism."⁴⁶ We see that Chinese medicine has a close relation to the Chinese philosophy, especially philosophical Taoism. As Unschuld pointed out, the Taoist philosophy of Nature and society had a direct influence on the conceptualization and practice of Chinese healing.⁴⁷

The philosophical Taoists also carried out significant exploration in astronomy. "The sky turns round; the earth stands still; sun and moon pursue one another. Who causes this? Who has leisure enough to see that such movements continue?" "Some think it is a mechanical arrangement which makes these bodies move as they do. Others think that they revolve without being able to stop."⁴⁸ These words express that the Taoists were eager to speculate philosophically about the course of stars and moon. Although the rumination was based on the guesses, their profundity in astronomical thoughts were praise worthy.

A close study of classical Taoism, however, reveals that cosmology plays a central role in the thought of *Daode Jing* and *Zhuang Zi*. Their mysteries

⁴⁶ Hume, E.H., 'Some Foundations of Chinese Medicine', *Chinese Medical Journal*, LXI, 1942: 296.

⁴⁷ Unschuld, P.U., *Medicine in China: A History of Ideas*, California: University of California Press, 1985: 101.

⁴⁸ *Zhuang Zi*, chap. XIV, Giles, H.A. trans., *op. cit.*, 1926: 173.

preserve important elements of ancient mythology, which have contributed in a decisive way to cosmological science. *Dao*, in these two works, plays a key cosmogonical role as the source of creation. All things, thus, are interrelated because they came from the same origin. As the philosophical concepts of Chinese cosmology developed, other theories such as theory of *qi*(^气) and the concept of resonance also developed based on the concept of *Dao*.⁴⁹ All the theories mentioned above play an important part in Chinese scientific thoughts and established as a theoretical basis for Chinese science, especially alchemy and medicine.

Taoism lies at the basis of all Chinese science. It has great heuristic value in the initial phases of Chinese science. It has developed many of the most important features of the scientific attitude, and is therefore of cardinal importance for the development of science in China.

The following chapters of this thesis will examine the philosophical thought of Lao Zi and Zhuang Zi. I will elaborate on the above mentioned features of Taoist naturalism with an eye to their significance of scientific thought. In order to clarify the influence of the philosophical Taoism on Chinese science, I will then survey Chinese cosmology and medicine in the next two chapters. Conclusion will be made at the end of this thesis.

⁴⁹ *Dao, qi* and the concept of resonance will be discussed in the following chapter.