



Candidates must complete this page and then give this cover and their final version of the extended essay to their supervisor.

Candidate session number

Candidate name

School name

Examination session (May or November)

MAY

Year

2015

Diploma Programme subject in which this extended essay is registered: WORLD RELIGIONS

(For an extended essay in the area of languages, state the language and whether it is group 1 or group 2.)

Title of the extended essay: To what extent should the  
teachings of the Huang Di Neijing Su  
Wen be considered a science?

### Candidate's declaration

*This declaration must be signed by the candidate; otherwise a mark of zero will be issued.*

The extended essay I am submitting is my own work (apart from guidance allowed by the International Baccalaureate).

I have acknowledged each use of the words, graphics or ideas of another person, whether written, oral or visual.

I am aware that the word limit for all extended essays is 4000 words and that examiners are not required to read beyond this limit.

This is the final version of my extended essay.

Candidate's signature: \_\_\_\_\_

Date: 02/26/2015

### Supervisor's report and declaration

The supervisor must complete this report, sign the declaration and then give the final version of the extended essay, with this cover attached, to the Diploma Programme coordinator.

Name of supervisor (CAPITAL letters) \_\_\_\_\_

Please comment, as appropriate, on the candidate's performance, the context in which the candidate undertook the research for the extended essay, any difficulties encountered and how these were overcome (see page 13 of the extended essay guide). The concluding interview (viva voce) may provide useful information. These comments can help the examiner award a level for criterion K (holistic judgment). Do not comment on any adverse personal circumstances that may have affected the candidate. If the amount of time spent with the candidate was zero, you must explain this, in particular how it was then possible to authenticate the essay as the candidate's own work. You may attach an additional sheet if there is insufficient space here.

This declaration must be signed by the supervisor; otherwise a mark of zero will be issued.

I have read the final version of the extended essay that will be submitted to the examiner.

To the best of my knowledge, the extended essay is the authentic work of the candidate.

As per the section entitled "Responsibilities of the Supervisor" in the EE guide, the recommended number of hours spent with candidates is between 3 and 5 hours. Schools will be contacted when the number of hours is left blank, or where 0 hours are stated and there lacks an explanation. Schools will also be contacted in the event that number of hours spent is significantly excessive compared to the recommendation.

I spent  hours with the candidate discussing the progress of the extended essay.

Supervisor's signature: \_\_\_\_\_

Date: 26/2/15



**Assessment form (for examiner use only)**

Candidate session number		
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**Achievement level**

Criteria	Examiner 1	maximum	Examiner 2	maximum	Examiner 3
A research question	<input type="checkbox"/> 2	2	<input type="checkbox"/>	2	<input type="checkbox"/>
B introduction	<input type="checkbox"/> 2	2	<input type="checkbox"/>	2	<input type="checkbox"/>
C investigation	<input type="checkbox"/> 4	4	<input type="checkbox"/>	4	<input type="checkbox"/>
D knowledge and understanding	<input type="checkbox"/> 3	4	<input type="checkbox"/>	4	<input type="checkbox"/>
E reasoned argument	<input type="checkbox"/> 3	4	<input type="checkbox"/>	4	<input type="checkbox"/>
F analysis and evaluation	<input type="checkbox"/> 3	4	<input type="checkbox"/>	4	<input type="checkbox"/>
G use of subject language	<input type="checkbox"/> 4	4	<input type="checkbox"/>	4	<input type="checkbox"/>
H conclusion	<input type="checkbox"/> 1	2	<input type="checkbox"/>	2	<input type="checkbox"/>
I formal presentation	<input type="checkbox"/> 4	4	<input type="checkbox"/>	4	<input type="checkbox"/>
J abstract	<input type="checkbox"/> 2	2	<input type="checkbox"/>	2	<input type="checkbox"/>
K holistic judgment	<input type="checkbox"/> 3	4	<input type="checkbox"/>	4	<input type="checkbox"/>
Total out of 36	<input type="checkbox"/> 31		<input type="checkbox"/>		<input type="checkbox"/>

Name of examiner 1: \_\_\_\_\_ Examiner number: \_\_\_\_\_  
(CAPITAL letters)

Name of examiner 2: \_\_\_\_\_ Examiner number: \_\_\_\_\_  
(CAPITAL letters)

Name of examiner 3: \_\_\_\_\_ Examiner number: \_\_\_\_\_  
(CAPITAL letters)

IB Assessment Centre use only: B: \_\_\_\_\_

IB Assessment Centre use only: A: \_\_\_\_\_

February 20, 2015

I have worked with \_\_\_\_\_ on his extended essay for the past year. He began looking at a subject in which he had very little knowledge, he only knew that his mother was undergoing acupuncture treatments and it intrigued him as to how it worked since she told him how much better she felt after.

During his viva voce, he spoke in depth about the contrast between science and religion and how Taoist belief systems are able to reconcile the two by taking Taoist beliefs and turning them into medicine which has been shown to help people.

\_\_\_\_\_ was able to use several sources, although in his viva voce he mentioned that he would have liked to have used more medical professionals as sources and conduct more interviews with doctors.

He was easy to work with and seemed on the ball at all times. He clearly showed risk-taking by looking into an area in which he was unsure of what he was actually going to find.

I have no concerns about plagiarism with \_\_\_\_\_.

Social Studies Department

# **IB Diploma**

## **Extended Essay**

**Subject: World Religions**

*“To what extent should the teachings of the Huang Di  
Neijing Su Wen be considered a science?”*

Word Count: 3999

## **Abstract**

The *Huang Di Neijing Su Wen* is a Chinese text which teaches the concepts of Traditional Chinese Medicine (TCM). However, different from western medicine, the Chinese base their explanations on the beliefs of their predominant religion: the Taoism. This essay will analyze the TCM concepts and belief systems to answer the question "To what extent should the teachings of the *Huang Di Neijing Su Wen* be considered a science?"

Before engaging on the discussion, the essay first gives a brief introduction of Taoism by explaining its origin and its general beliefs. Later, the essay continues by overviewing the *Huang Di Neijing Su Wen's* origin; analyzing its author, time period and title. The next part of the essay shows how Taoist concepts of *qi*, *yin yang* and *wuxing* are present on the *Huang Di Neijing Su Wen* to show how crucial these concepts are to TCM and to prove the dependence of TCM on the Taoist believes. Later, it analyzes the differences between a religion and a science to further conclude that the *Huang Di Neijing Su Wen* should be considered a science because of its strong explanatory power and low vulnerability to counter-theories.

Word Count: 193

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## Introduction

In ancient China, during the Shang Dynasty (1751-1122 B.C.E.), a system of religious beliefs known today as the Ancient Chinese Religion was instituted. The highest deity of the Shang spiritual world was the *Shangdi*, who was an antecedent of the Shang lordly dynasty. The *Shangdi* supervised the physical world and led the Shang to rule with authority and rightfulness.

Later in 1122 B.C.E, the Shang ruler was overthrown by a rebellion staged by a former minister who founded the Zhou Dynasty. The Zhou founders disregarded the *Shangdi* and explained that *Tian*, a distinct deity that meant the “force above”, sanctioned the rebellion. The *Tian* also had a path, or a way, for humans to follow throughout their lives. This path was known as the *Tao*, which sought optimal fulfillment of both the natural and human world. The idea of living according to the *Tao* spread and two religions derived from the evolution of the Ancient Chinese Religion: Confucianism and Taoism.

Taoism only started having its own particular practices and belief system sometime around the 3<sup>rd</sup> and 4<sup>th</sup> century B.C.E., during the Warring States. It was during this time that the *Tao-te Ching* and the *Zhuangzi* were written by Master Lao-tzu and Master Zhuang respectively. These two texts are considered the most influential Taoists texts and contain the main beliefs of Taoists today. In mid 200 C.E., Taoism became an organized religion. Believing every single element of the cosmos belong to an organic whole and that they all interact in a self-generating process, the Taoists see the *Tao* as our original nature, and don't believe in evil, only in unbalanced forces. Trying to improve in nature, humans have created conflict and chaos on Earth, a place we should be able to live forever by living fully in accordance with the *Tao*.

Living in accordance with the *Tao* means living “a life of balance, wellness and harmony”<sup>1</sup>. According to Taoism, one is only sick if his life is unbalanced, therefore ancient Taoists strived for treatments to balance people's lives. These

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<sup>1</sup> "Five Elements, TCM, Heart, Spleen, Lung, Kidney, Liver | TCM World Foundation." *TCM World Foundation*. N.p., n.d. Web. 08 Feb. 2015. <<http://www.tcmworld.org/what-is-tcm/the-five-elements/>>



treatments, known today as Traditional Chinese Medicine, were explained in accordance to Taoist beliefs and are found in the text *Huang Di Neijing Su Wen* .

## **Body**

### ***Huang Di Neijing Su Wen***

It may be hard to believe that the medicinal teachings of a two thousand five hundred-year-old text has gained worldwide recognition on the twenty first century. The constant thirst for scientific resolutions has challenged twenty first century biomedical scientists studying the *Huang Di Neijing Su Wen* , who agree over the positive outcomes of TCM but can't find concrete explanations to it. Furthermore, the ancient origin of the *Neijing* (as it is commonly abbreviated) has made its research even harder because simple information about the text also challenges twenty first century archeologists.

## **Author**

For decades it had been believed that the author of the *Neijing* was Huang Di, an ancient emperor of China. However, in 2003, a research conducted by the director of the Institute of the History of Medicine at the University of Munich, Paul U. Unschuld, proposed an alternate theory, where Huang Di's name is actually stated out of respect: "The ordinary people often venerate the old and despise the new. Hence those who set up the Way are forced to do so under the names of Shen nong and Huang Di, and it is only then that they may enter the discourse"<sup>2</sup>, stated Mr. Bojian, one of the scholars who accompanied the research.

## **Time period**

The majority of the scientists who have studied the *Neijing* believe it was written throughout a long period of time by different authors that lived through the Warring states of the Zhou dynasty, the Qin dynasty and Han dynasty in ancient China. This gives a range of around 700 years from 475 B.C. to 220 A.D. David Keegan, the first Western scholar to research the origin of the *Neijing*, identifies a three-step generation throughout these 700 years: The first

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<sup>2</sup> Unschuld, Paul U. *Huang Di Nei Jing Su Wen*. Vol. 1. Bei Jing: Zhong Guo Zhong Yi Yao Chu Ban She, 2009. Web. Page 8

generation was the composition of ideas, the second was the compilation of these ideas into texts, and third was the compilations of these texts into one text only, the *Neijing*.

### Meaning of its title

#### 1. Huang Di

As it has been previously explained, *Huang Di* is probably mentioned in the title and throughout the text because the real authors venerated him.

#### 2. Neijing

The meaning of the word *Neijing* was unknown until archaeologists discovered the *Huang Di waijing*. By analyzing and comparing the content of each text, it was concluded that while *wai* means “outer”, *nei* means “inner”, referring to the inner and outer part of the body.

The meaning of *-jing*, on the other hand, is still questionable. While it could denote either “manual”, “canon” or “classic”, Paul Unschuld explains: “A classic, though, is ‘a work of enduring excellence’. A book or a piece of music, to name but two examples, deserved to be named a classic once it has shown it speaks to an audience beyond its own time, that is, once it is expected that its impact and acceptance will last for a long time if not forever. This, of course, is the idea behind the character *jing*; hence a translation of *Neijing* as ‘Inner Classic’ appears quite justified.”<sup>3</sup>

#### 3. Su Wen

It was not until the 11<sup>th</sup> century when the *Huang Di Neijing Su Wen* was referred to as *Su Wen* that people started to ask themselves what could *Su Wen* mean. Again, several different hypotheses arouse, but by using the same techniques of comparing titles and content, archaeologists were able to get closer to the real denotation. While texts that were entitled as *tai Su* “referred to the widely shared cosmological notion of ‘grand simplicity’ in the sense of the basics of existence unaffected by human culture, (...) *Su Wen* could be interpreted

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<sup>3</sup> Unschuld, Paul U. *Huang Di Nei Jing Su Wen*. Vol. 1. Bei Jing: Zhong Guo Zhong Yi Yao Chu Ban She, 2009. Web. Page 18

as 'Basic Questions,' that is, questions pertaining to the basics of human existence."<sup>4</sup>

Hence, the interpretation of the title "Huang Di Neijing Su Wen " is "Huang Di's Inner Classic, Basic Questions". As it may be deduced from the title, the text teaches the basics of TCM, specifically focusing on the inner part of the human body. However, the western culture has condemned the Chinese healing methods as placebos due to its reliability on Taoist beliefs, making them appear highly subjective on the Westerners' culture perspective. Refusing to believe on Taoist concepts, biomedical scientists still struggle to find an explanation for treatments which TCM easily explains by believing in the miracle of *qi*, the *Yin Yang* theory, and the *Wuxing*.

## Qi

The concept of *qi* on its own is not one of the most complex ones in Taoism, but it is the most important building block of the whole system of belief. *Qi* is described as the vital energy that allows all beings to survive. Organisms receive a certain amount of *qi* at birth and are responsible for its regulation throughout their lives. It is believed that the loss of *qi* is inevitable, this is why organisms age, but through certain habits this loss might be reduced. However, there are other costumes that may increase the loss of *qi*, and this will result in an earlier death to the organisms, which weakens with the loss of vital energy.

The flow of *qi* inside the body is described by Livia Kohn, a Professor of Religion and East Asian Studies, as "a complex system of waterways with the 'Ocean of Qi' in the abdomen; rivers of *qi* flowing through the upper torso, arms, and legs; springs of *qi* reaching to the wrists and ankles; and wells of *qi* found in the fingers and toes."<sup>5</sup>

It is impossible to explain anything about TCM without talking about *qi*. In accordance with the Taoist belief that all living organisms need *qi* to survive, this

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<sup>4</sup> Unschuld, Paul U. *Huang Di Nei Jing Su Wen*. Vol. 1. Bei Jing: Zhong Guo Zhong Yi Yao Chu Ban She, 2009. Web. Page 21

<sup>5</sup> Kohn, Livia. *Health and Long Life the Chinese Way*. Cambridge, MA: Three Pines, 2005. Print.

energy was directly observed and studied to understand how it flows and functions in the body and in nature. According to the *Neijing*, there is a complex system of channels through which *qi* flows through in our body. Even though our whole body is composed of *qi*, it tends to travel along in certain pathways called *Jing Luo*. These pathways are also known as the Meridians and it connects all aspects of the body to form a single network of energy flow. The paths form due to slight depressions between bones and muscles, which causes *qi* to accumulate and flow just like water in rivers. Pools of *qi* are also formed due to some larger depressions, creating points where energy is more concentrated. The *qi* flow is one of the concerns of TCM practitioners. As the *Neijing* states, "health and well-being can be achieved only by [...] promoting the constant flow of *qi*"<sup>6</sup>, but due to imbalances of the outside world this flow may be stagnated, which can cause aches, pains, diseases, or any other kind of suffering.

Several methods are used to regulate the flow of *qi* through the *Jing Luo*, but the most common one is acupuncture. In this method, thin needles are inserted into the patients skin in peculiar points of the body. These points are known as acupoints and they are different location on the meridians where pools of *qi* form and block the flow. By inserting the needles, the healthy flow of *qi* is restored and the patient will feel better.

However, some westerner's have condemned acupuncture ignoring its positive effects: "No one has been able to detect life energy or formulate a scientifically coherent theory as to what life energy is, where it comes from, and how it interacts with matter or other forms of energy. Within science, the vitalists lost the debate over a century ago. Without *qi*, there is no underlying basis for acupuncture as a medical intervention"<sup>7</sup>. Others have recognized and studied the positive effects acupuncture has, still refusing the *qi*'s theory, and still have not found any concrete conclusion to why it actually works. It is still only

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<sup>6</sup> Ni, Maoshing. *The Yellow Emperor's Classic of Medicine: A New Translation of the Neijing Suwen with Commentary*. Boston: Shambhala, 1995. Web. <<http://www.five-element.com/graphics/neijing.pdf>>

<sup>7</sup>"Acupuncture." Science-Based Medicine. N.p., n.d. Web. 05 Nov. 2014. <<http://www.sciencebasedmedicine.org/reference/acupuncture/>>.

“suggested that the healing power of acupuncture comes from its effect on the nervous system”<sup>8</sup>.

### **Yin Yang**

The first appearances of the *yin yang* were on the “oracle bones inscriptions” during the Shang dynasty. With conceptual meanings hard to define, at the time the *yin yang* was first used to designate simple natural phenomena such as movement of the sun. The sunlight during the day was *yang*, and the lack of sunlight was *yin*. Since people woke up when the sun came out and rest when the sun went down, a conception of *yang* being movement and *yin* being rest was created. This was the first evolution of the *yin yang*, which was still seen as separate and independent. By the time the *Tao-te Ching* and the *Zhuangzi* were written the *yin* and *yang* had already been applied to many other areas. The following table shows some examples of what is considered *yin* and what is considered *yang*.

<b>Yang</b>	<b>Yin</b>
Hot	Cold
Activity	Rest
Expansion	Retraction
Day	Night
White	Black
Bright	Dark
Explosion	Implosion
Left	Right

<sup>8</sup> "Scientists Seek Clues for Acupuncture's Success." WebMD. N.p., n.d. Web. 08 Sept. 2014. <<http://www.webmd.com/pain-management/features/acupuncture-pain-killer?page=3>>.



Sun	Planets
Superficial	Profound
High	Low
Mountain	Beach
North	South
Men	Women
Outer part of body	Inner part of body

The *yin yang* is interpreted in two different ways in Taoism: as *qi* and as *Xingzi*. Lao Tzu described *qi* as the vital energy that composed literally everything in the universe. The *yin yang* as *qi* is seen as two opposite, complimentary energies that interact to form a continuum. The *yin yang* may also be seen as concrete substances (*Xingzi*) that have physical effects on the world and on things. Since these two definitions enclose everything in the universe, Taoists believe nothing exists out the cosmos and that everything is related. Even the *Tian* (the sky) and the *Di* (Earth) are part of the cosmos.

Apart from believing in the *yin yang*, the scriptures state that to live in accordance with the *Tao* the two forces should be in harmony with each other, this mean that there shouldn't be no more *yin* than there is *yang* in an object; the two energies must be balanced. Furthermore, these two energies will never separate; for example, night (*yin*) and day (*yang*) may look very different, but it is impossible to have day without night or night without day, so there is always a little of *yin* inside the *yang* and vice versa. The same way these energies don't exist without each other, when they reach their maximum they become the other; if *yin* is as its extreme, it will become *yang*; if *yang* is at its extreme, it will become *yin*. For example, in the case of ice, where cold (*yin*) reaches its extreme, it starts to burn, becoming *yang*. Or in a case of an atomic bomb explosion where heat (*yang*) reaches extreme, it becomes *yin* with a -150 degrees Celsius following the explosion. This proves there is a relationship of growth and

reduction between the two. From these characteristics, a symbol for the *yin/yang* was created:

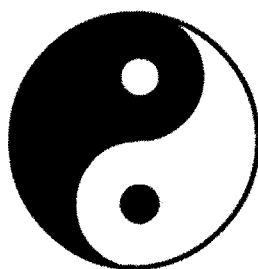


Image 1<sup>9</sup>

With the dot of opposing color in each side this symbol shows how there is always *yin* within *yang* and vice-versa. Also, instead of having a straight line dividing the two, the symbol gives the appearance that both energies are constantly moving and interacting with each other.

The same way the harmony between *Yin* and *Yang* is valued in Taoism, it is valued in the teachings of the *Neijing*. The *Neijing* applies the *Yin Yang* theory to the human body, stating that there should be balance and harmony between *Yin* and *Yang* aspects inside each organism. The following table shows, according to the *Neijing*, the most important *Yin*'s and the most important *Yang*'s in our body.

<b>Yin</b>	<b>Yang</b>
Solid Organs (Zang) - constantly active, produce and store substances	Hollow Organs (Fu) - Receive and circulate substances, but do not store them
Inferior	Superior
Anterior	Posterior
Interior	Exterior

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<sup>9</sup> "Yin, Yang Theory, Universal Messages, TCM | TCM World Foundation." *TCM World Foundation*. N.p., n.d. Web. 06 Feb. 2015. <<http://www.tcmworld.org/what-is-tcm/yin-yang-theory/>>

Since one characteristic of the *Yin Yang* is that there should not be more *Yin* than *Yang* in an object, all organs should work perfectly to maintain balance. If there is a deficiency in *Yang*, there will be a deficiency in *Yin* and vice versa. The same way, if there is excess of *Yang* there will be a lack of *Yin* and vice versa. If one acts over another, harmony between the forces will not be reached and wellness won't be attained.

One way to identify diseases or imbalances is by identifying patterns according to the Zang Fu organs. Each organ has a certain function, and the malfunction of the organ will result in patterns that, if analyzed properly, show which organ is impaired. For example, if a patient presents heat symptoms, the malfunctioning organ is probably a Fu organ, since both heat and Fu are *Yang*. By analyzing further physical appearances of the patient such as hair, nails, tooth etc... the malfunctioning organ may be precisely detected.

## ***Wuxing* (Five Elemental Phases)**

The *wuxing* is another ancient theory created and developed throughout a long period of time. Having its first appearance during the Warring States Period (478 – 221 BCE), the *wuxing* analyzed the relationship between the five elements fire, water, metal, earth and wood. Between these 5 elements three cycles were noticed: the Generating Cycle, the Controlling Cycle and the Insulting Cycle.

### The Generating Cycle

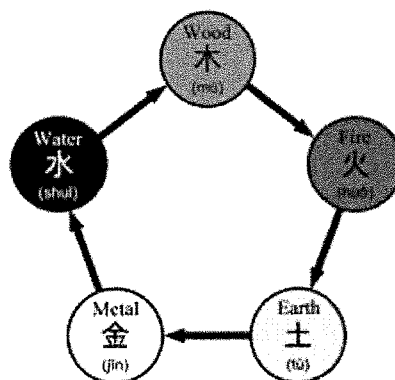


Image 2<sup>10</sup>

The Generating Cycle shows how the five elements are mutually nurturing. While water nourishes trees (wood), wood feeds fire, which reduces everything back to ashes (earth), which produces ores (metal), which dissolves into liquid (water).

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<sup>10</sup>"TCM Student: Five Element Theory." *TCM Student: Five Element Theory*. N.p., n.d. Web. 2015. <<http://www.tcmstudent.com/theory/Five%20Element%20Theory.html>>

## The Controlling Cycle

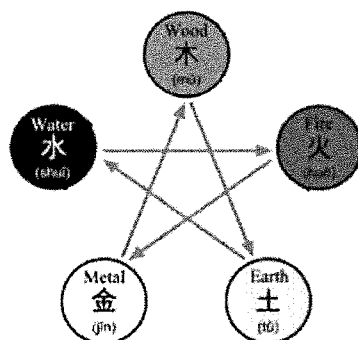


Image 3<sup>11</sup>

The Controlling Cycle shows how the five elements are mutually destructive as well. Water extinguishes fire, fire melts metal, metal chops down wood, wood drains nutrients from the earth and earth absorbs water.

## The Insulting Cycle

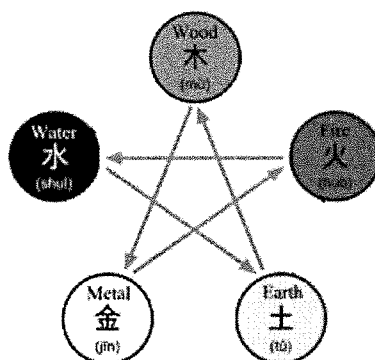


Image 4<sup>12</sup>

The Insulting Cycle is similar to the Controlling Cycle, but with arrows on the opposite direction. This is done to show that if any element is extremely strong, it can turn around and dominate the element that usually dominates it. Too much fire evaporates water, too much water washes away soil (earth), too much soil creates rocks which prevents trees from growing (wood), excess of wood dulls metal and excess of metal shields against fire.

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<sup>11</sup> "TCM Student: Five Element Theory." *TCM Student: Five Element Theory*. N.p., n.d. Web. 2015. <<http://www.tcmstudent.com/theory/Five%20Element%20Theory.html>>

<sup>12</sup> "TCM Student: Five Element Theory." *TCM Student: Five Element Theory*. N.p., n.d. Web. 2015. <<http://www.tcmstudent.com/theory/Five%20Element%20Theory.html>>



As time passed, Taoists started noticing that these relationships applied not only for the five elements, but also for other categories in nature. Soon after the creation of the *wuxing*, other categories, such as season, emotion, color, flavor ... started to be added to each of the five groups (Water, Fire, Earth, Metal, and Wood). This created a complex comprehensive template, which shows how everything in the cosmos is connected.

TCM practitioners created the developed complex *wuxing* template in order to have a better understanding of how living organisms connect to different categories of the template. Apart from using other Seasons, Color, Flavor and Time in the template, the *Neijing* added four other categories: Sense Organs, Emotion, solid organs and hollow organs.

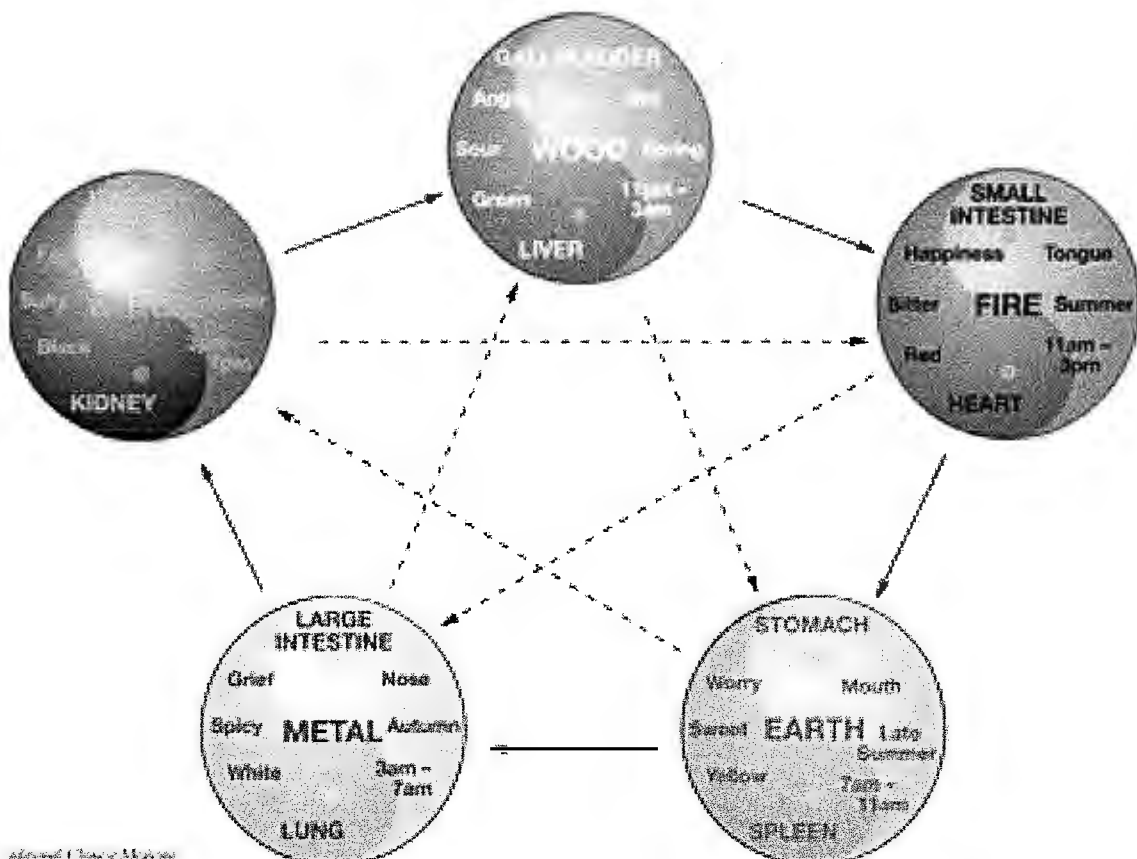


Image 5<sup>13</sup>

<sup>13</sup> "Five Elements, TCM, Heart, Spleen, Lung, Kidney, Liver | TCM World Foundation." *TCM World Foundation*. N.p., n.d. Web. 08 Feb. 2015. <<http://www.tcmworld.org/what-is-tcm/the-five-elements/>>

With this template and the application of the three different cycles, a further analysis of the patient (in comparison with the *Yin Yang*) may be done. By inspecting the symptoms of the patient, the TCM practitioner makes compound connections to diagnose the problem. For example, a common pathology is the Liver Qi Stagnation. One of the symptoms of this stagnation are digestive problems. While a western doctor would probably associate the disease directly to the stomach, a TCM practitioner would take into consideration other symptoms to cure the patient. In Liver Qi Stagnation, the patient also has anger management problems and feels a slur taste in the mouth. This indicates there is a problem with the liver and, according to the controlling cycle, the liver controls the stomach so the digestive system is damaged. To cure the disease, the TCM practitioner would treat the large intestine points acupoints, since it controls the liver.

### **Science or Religion?**

The teachings of the *Neijing*, which are today regarded as TCM, bring up controversial discussions regarding its recognition as a medicine. Since the definition of medicine is “the science of healing”<sup>14</sup>, some Western societies disregard TCM due to its dependence on religious beliefs. However, a closer look at belief systems should first be made in order not to judge TCM hastily.

### **Belief Systems**

A simple definition for belief is that it is an assumed truth. In order to survive, it is necessary observe our surroundings and draw conclusions from it. These conclusions are nothing more than something believed to be true, but anchors our understanding of the world around us. However, belief systems are not this simple. As philosopher Aaron Davidson explains, “Belief systems can be classified into two basic flavors: science and religion.”<sup>15</sup> It is widely assumed that science is a belief system where conclusions are drawn from objective

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<sup>14</sup> “A History Of Medicine.” *Medical News Today*. MediLexicon International, n.d. Web. 2015. <<http://www.medicalnewstoday.com/info/medicine/>>

<sup>15</sup> “Science as a Belief System.” *Science as a Belief System*. N.p., n.d. Web. 2015. <<http://spaz.ca/aaron/school/science.html>>

approaches and religion is a belief system where conclusions are drawn from subjective approaches, however all conclusions drawn from someone practicing science are drawn from subjective experiences. Davidson later clarifies "No matter how objective science appears to be, there are generally two assumptions which must be taken entirely on faith.

1. There exists an external objective reality
2. There exists some sort of uniformity through time
  - a. The universe has structure
  - b. Predictions and generalizations are possible."<sup>16</sup>

What actually differentiates the two systems is the vulnerability to belief revision and explanatory power of each. New beliefs are constructed on top of previous base beliefs assumed to be true. If, in a science, this assumed truth is proved wrong, scientists will look for another theory to replace this old one. This "emergency exit" is a great feature of science belief system that religion belief systems do not have. Religion is usually closed to belief revision, and has difficulty changing when its dogma is pressured.

Furthermore, scientific beliefs also have a greater explanatory power than religious beliefs do. Davidson explains that this is because "Religions typically explain things by inventing a supernatural entity as the cause, which explains nothing since the supernatural entities require an even more complicated explanation of their own existence. Science, on the other hand often breaks problems up into sub problems, which are easier to explain (a process known as reduction) and explanations are only accepted when there is evidence to support them, and that the explanations are explainable themselves."<sup>17</sup> Even though science still "makes-up" entities to explain things, their entities are usually more powerful due to its simplicity, its broad explanatory power and its evidence.

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<sup>16</sup> "Science as a Belief System." *Science as a Belief System*. N.p., n.d. Web. 2015.<<http://spaz.ca/aaron/school/science.html>>

<sup>17</sup> "Science as a Belief System." *Science as a Belief System*. N.p., n.d. Web. 2015.<<http://spaz.ca/aaron/school/science.html>>

## **Conclusion**

Traditional Chinese Medicine has gained worldwide recognition during the twenty-first century due to its beneficial results through uncommon, Eastern, methods. However, this type of medicine, which has its roots from the *Huang-di Neijing Su Wen* has encountered its obstacles to be considered a science on western society, which brings back the question “To what extent can teachings of the *Huang Di Neijing Su Wen* be considered a science?”

The first obstacle was with its assumed truths, which builds the basis for any science. While *Neijing's* assumed truths were the *qi*, *Yin Yang* and *Wuxing* theories, western science has as assumed truths, for example, protons, neutrons and electrons. If atoms were proved not to exist, most of the science would have to be re-structured. In a similar manner, if the *qi*, *Yin yang* and *Wuxing* were proved wrong, most of the *Neijing's* teachings would have to be re-structured. Even though the *Neijing's* basis may seem vulnerable to counter-arguments, it has lasted for over 2000 years, more than twenty times longer than the atom existence theory. This proves how, just like in western science, the assumed truths of the *Neijing* are not as subjective as they appear.

Furthermore, the teachings of the *Neijing* also have strong explanatory power, just like any science does. Even though it is based on the beliefs of a religion, the problems are broken up into smaller problems which are simpler to explain, as it may be noticed on some examples throughout this text. Therefore, the argument that it is based on supernatural entities is invalid; the explanations are as reasonable as any other scientific explanation. Therefore, due to its strong explanatory power and low vulnerability to counter-theories, the teachings of the *Huang Di Neijing Su Wen* should be considered a science.



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