

8

The Birth of Classical Chinese and its Development — A Classical Case of 5E Imagination

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From the viewpoint of Classical Chinese linguistics, spoken and written language are two variations of one language. Chinese language development, Classical Chinese 文言 (CC) can be traced to documenting of pre-Qin spoken language (around 2200 years ago). After the Two Han dynasties, spoken language began transforming as social life style changed in that period of China. CC continued to develop in written language and formed as a relatively stable language system, whilst separating itself into an independent language form.

Observing the phenomena, Ames pointed out “Classical Chinese Text 文言文 (CCT) is a written language of its own kind, it differs from other languages, as well as ancient spoken Chinese language and contemporary spoken Chinese language” (pp.35-36). Therefore ancient Chinese written language and spoken language are different linguistic mediations, symbolized by CCT.

Abiding to this postulate, how did CC as a language form, with wide differences from spoken Chinese, transform from its original activity — recording of events in spoken language, to a written form, to its established form of CCT? What does such a process look like considering the history of China? How can tracing of the birth of CCT, recounting its micro and historical development and variations, shed light on Artificial Intelligence (AI)? By illustrating narrative-oriented historical texts and their co-occurring events, we hope to show CC shares the similar characteristics,

behavior and movements with 5E cognition and Distributed Language, and offer a historical and refreshing perspective to AI conceptualization.

1. The Birth of “Classical Chinese”

According to Wang Li (1981), “Classical Chinese refers to the ancient Chinese written language formed on the basis of the pre-Qin spoken language and the language in the imitation works of later writers using CCT” (pp.1). Then, how did this “ancient written Chinese language” come into being?

In view of the pre-Qin language facts that can be investigated today, all are represented in the “written language” of “classical language”, so the pre-Qin literature has become our empirical data for understanding Classical Chinese. But this does not mean that the collection of these “written languages of ancient Chinese” is simply equivalent to Classical Chinese. Because they are only loosely written language facts, they only reflect some speech phenomena at the time. Behind these facts and phenomena, there should be a core mechanism. It is precisely under the establishment and advancement of this mechanism that Classical Chinese is possible as a relatively stable language system that is not only different from the ever-changing daily spoken language, but also goes hand in hand with it, from the pre-Qin Dynasty to the present. What kind of language system is this? What kind of internal mechanism does it have? Under what circumstances did it come into being?

The earliest documents we can access now are the Shang oracle inscriptions of the Shang Dynasty, more than 3,000 years ago. Most of them were formed in the late Shang Dynasty (14th to 11th centuries ago), and more than 150,000 pieces have been unearthed so far, and most of them have maintained their original appearance. Undoubtedly, this batch of ancient texts can be roughly regarded as forming the “classical” of the initial period.

During the Yin and Shang dynasties, emperors often used divination to ask spirits to predict good or bad luck. The things they asked, the results of the inquiries, and the effects were often engraved on tortoise shells or animal bones. A complete set of oracle bone inscriptions is roughly composed of *the preceding wordings* 前辞 (also called narratives, recording the date of divination, expressed in *stems and branches* 天干), the name of the fortuneteller (usually the emperor of Shang or his historians), *the inquiry of one's destiny* 问辞 (also called fate, the matters being inquired), *forecasting* 占辞 (judgments made by the emperor of Shang or fortune-tellers after observing the divination), and *evaluation of forecasting* 验辞 (recording whether the divination conclusion and facts are consistent).

It is worth noting the following characteristics in the Yin and Shang oracle bones:

1. Oracle bone inscriptions are a product of forecasting activities. They are a documentation of dialogues between humans and spirits, having strong religious connotations.
2. Forecasting activities took place in the imperial families of Yin and Shang dynasties, featuring will, wishes, and feelings of the aristocracy.
3. Participants in the divination activities mainly included Emperor of Shang, Divination Reader (*zhenren* 贞人), and Diviner who asked about matters, as well as the fortune-teller who specialized in interpreting signs, and the historian of writing and engraving the result. The writing of the inscriptions was sometimes done by the emperor of Shang himself, but more often it was done by *zhenren* who specialized in divination.

Based on the above factors, it can be seen that this earliest “written language” evidence did not happen by accident, nor did it occur as a pure “language phenomenon”. It was an amalgamation of activities promoted by religion, governance, and culture of the early Chinese society, and gradually accumulated over a long historical

period. At the same time, the content of the oracle bone inscriptions covers politics, economy, military, culture, religion, and an almanac, etc., and is often associated with some major national affairs, including sacrifices, expeditions, hunting, excursions, meteorology, agriculture, architecture, disease and death, pregnancy and childbirth, disasters night or day, and illusory dreams. It can be said that they collectively reflect the overall outlook of Yin-Shang society.

In summary, the forming of oracle bone inscriptions is not so much a linguistic phenomenon as a cultural event interdependently developed. It embodies the complex integration of a number of cultural elements, such as knowledge, technology, religion, power, etc. in the process of dialogue between man and nature. The language of oracle bone inscriptions is the material carrier of this integration. The process speaks to the multi-scalar characteristics of language in the Distributed Language perspective (Cowley 2017). The multi-scalar events occurring around the oracle bone inscriptions do not define each other or are in categorical relationships, rather they are in change with each other, connecting people, history and nature.

The occurrence of this phenomenon is neither accidental nor random. Sun Yirang said in “Zhou Li Zhengyi”: “Every tortoise must have elegant wordings.” The oracle bone inscriptions were formed in the sacred scene where people and spirits meet, usually around some important inquiries, and most of them took place in the Yin and Shang imperial families. Their seriousness and prudence are different from the natural casualness of daily spoken language, so that the content of dialogues between these people and spirits had to be carefully pre-written (such as the narrative of inquiries, inquiry remarks), or carefully recorded in real time (such as, forecasting, and the resulting remarks of divination), and must be equally carefully recorded afterwards (such as evaluation of the result and the adaptation of dictions). This can be fully proved in the existing 150,000 pieces of oracle bones.

In the “Historical Records · Guice Biography”, several divination speeches are recorded. The two general prayers of supplication are as follows, which were usually said before the events of firing the tortoise shells.

With your help, Master Yuling, the very effective supernatural power, I will bake you so that the crack marks shown can predict the future. You can go up in the sky and down in the abyss. All kinds of spiritual strategies are not as spiritual and credible as you. Today is an auspicious day, I hope I can ask for a good omen. I want to ask something, and if I can get it I am happy, otherwise I will regret it. If I can get it as I wished, please present a long and large zigzag pattern with the head and foot converging and the zigzag pattern rising in pairs. If I can't get what I asked for, please show me the center and the edge of the zigzag pattern do not correspond to each other, and the head and legs do not appear.¹

Compared with the magical power of the tortoise, the five witches and five spirits are not as efficacious as your supernatural tortoise. You can predict the death and life of people. I want to get a positive divination result, I desire something. If I can obtain my wish, let the head and feet of the sign (the crack that appears after the tortoise shell burns) stretch out, the marks of the sign inside and outside correspond. If I cannot obtain my wish, let the head be in chin-up position, feet folded, and the inside and outside hang down. If you display it like this, I will get the result of divination.²

1 假之玉灵夫子。夫子玉灵，荆灼而心，令而先知。而上行於天，下行於渊，诸灵数筮，莫如汝信。今日良日，行一良贞。某欲卜某，即得而喜，不得而悔。即得，发乡我身长大，首足收人皆上偶。不得，发乡我身挫折，中外不相应，首足灭去。

2 假之灵龟。五巫五灵，不如神龟之灵，知人死，知人生。某身良贞，某欲求某物。即得也，头见足发，内外相应；即不得也，头仰足跚，内外自垂。可得占。

There are also two prayers of supplication for the prognosis of the sick.

The divination request from the sick goes: “This is a certain sickness. If dying, the head of the turtle opens upward, the internal and the external are interconnected, the body will be retracted one bone segment at a time; if not to die from this disease, the cracks will show the turtle’s head look upward and feet are closed together.”

If the sick person’s request is based on *yin* objects, the inquiries are as follows: “If the disease is caused by the *yin* malicious objects or things (such that cold and dampness got into the body) no manifestations are shown. If not caused by *yin*, there are manifestations. If the *yin* objects are in the house, the symptoms will show internally; if the *yin* objects are outside of the house, the symptoms will show externally.”³

The “Historical Records” contained in these prayer supplications has its own profound meaning. Although this tradition may have been broken repeatedly, and these inquiry remarks are different from the Yin and Shang oracle bone inscriptions, the content of the divination and the pre-written words to call on the spirits did not fundamentally change. In this context, a system with a large quantity of oracle bone inscriptions texts came into being, along with the writing, engraving, interpreting and preserving activities. This is a series of written language corpora, some were written, some were transcribed from spoken activities, styled with sacredness and solemnness, with rich connotation and great significance.

3 卜占病者祝曰：“今某病困。死，首上开，内外交骸，身节折；不死，首仰足跚。”
卜病者祟曰：“今病有祟无呈，无祟有呈。兆有中祟有内，外祟有外。”

In the above process, what factors determine the engendering and construction of this “classical written language” system? There is no doubt that the presence of several linguistic elements is the prerequisite for the formation of this linguistic phenomenon: pronunciation, vocabulary, grammar and writing are indispensable. But this is not necessarily the decisive factor. As shown in the examples and analysis, we can see that non-linguistic first-order activities such as governance, religion, and culture holistically give rise to the birth of Classical Chinese. Signs wished and resulted on the tortoise shells are “radically indeterminate and incomplete” (Cowley 2017, pp.48). Verbal patterns gain significance from the mapping of symbols (the imagined signs from the requesters) onto other symbols (the cracked patterns after the firing). The birth of the first Chinese characters comes from the living relationship between people, things and events. This process embodies materialization of people’s will, wishes, and feelings to understand themselves in situ corresponding with the spirits who are external, and in the meantime, reflects their being and becoming.

From some unearthed sites of oracle bone inscriptions, it can be found that the Yin and Shang people handle these oracle bone texts with meticulous care. They are arranged, sorted, collected, and kept accordingly in the titles and volumes, which forms a distinct landscape at the excavation site. Obviously, this care underlies the awareness and level of cultural construction in the late Yin and Shang Dynasty. If the original intention of sorting, arrangement, and preservation is to maintain a solemn attitude, and the correlative behavior or habit formed thereby, it unintentionally, maintains and solidifies a special form of language or expression of its script, and tradition as a result of it. From a Distributed Language perspective, the macro scalar meaning of the arrangement of evacuated texts co-evolve and co-vary with text formation processes (Baldry and Thibault 2016) and the sociohistorical event-based values-realizing activities (Hodges 2009).

Such a tradition exhibits these most basic elements: sacredness, power, sincerity, exquisiteness, and elegance. The oracle bone inscriptions are mostly used for communication between people and spirits, so they have sacred and solemn spiritual qualities; most of the oracle inscriptions come from the hands of aristocracies such as emperors and diviners. The implementation of scripts was limited to those who had an absolute power over culture; inscriptions must complete the communication between humans and spirits, and “rhetorical loyalty” has become the psychological basis for its occurrence; the dialogue style between humans and spirits prefers clarity to avoid abuse of power. This original writing system cannot bear the writing of long narratives, and the concise and clean expression have become the inevitable style of writing. Once the language and writing expression mode, shaped by the above factors, was established, it continued to be imitated and used, and unexpectedly, the so-called classic elegance was formed.

But strictly speaking, oracle bone inscriptions may not be regarded as “classical” in the conventional sense. Due to the change of dynasties and other reasons, these huge numbers of documents were buried underground and did not reappear until more than three thousand years later. Therefore, the oracle bone inscriptions have not been effectively continued after the pre-Qin period, and will not exert much influence on the subsequent evolution of Chinese language. Even from the perspective of linguistic form, they are quite different from the pre-Qin documents (between 1046 BC when the Shang dynasty perished and 221 BC in the Qin Dynasty) formed after the Zhou Dynasty. The latter are the main body of Classical Chinese.

After the Zhou Dynasty, under roughly the same background, China fully unfolded and completed the cultural construction of its own axial age, and successively formed a series of texts such as the Six Classics, *Zhuzi* and *Historical Biography*. And this batch of new documents was also completed by the major power elements

of religion, politics, culture, etc., and con-constitutively reflected the social outlook at that time.

From the perspective of linguistics, the written language expression in the pre-Qin era is flourishing, and the basic forms of early Classical Chinese have been expanded, enriched and are continuously growing. As the pre-Qin period classics system became complete, a relatively stable written language form — Classical Chinese was basically formed. And its basic characteristics, as Han Yu said in “Farewell to Meng Dong Preface”: “人声之精者为言，文辞之于言，又其精也。The essence of the human voice is the speech, the essential elements of speech are inscriptions of wordings and written text (*Wenci* 文辞).” Obviously, the main difference between Classical Chinese and the spoken form lies in the refinement and vulgarness in the spiritual terms, as well as the fineness and roughness of the text form. These differences are the main reasons for Classical Chinese and the spoken language growing apart in historical evolution.

However, for a long period of time, the written form of Classical Chinese has maintained considerable consistency with daily spoken Chinese. But by necessity, in the pre-Qin period when only a few people mastered text and writing, it was extremely inconvenient and the content that could be expressed and recorded in written language was definitely different from the daily spoken language. This difference is obvious even in modern society. If we consider the difference between “Elegant language 雅言” and “Dialect 鄙（方）言” that have appeared since the pre-Qin period, the difference between written language and spoken language is even more evident. Elegant language equals the modern concept of Mandarin Chinese used by people in political centers. Dialect was spoken by people in remote areas.

In the history of thousands of years after the pre-Qin and Han dynasties, the

distinction between Classical Chinese as written language and vernacular as spoken language has become greater. For example, in the Tang Dynasty, there was a significant difference between the novels written by scholars in Classical Chinese and the colloquial works in *Dunhuang Bianwen* (敦煌变文); in the Song Dynasty, the quotations of Zhu Xi and other philosophers were directly written in spoken language, while other works were written in Classical Chinese. As a result, completely different language styles were formed; the difference between Classical Chinese and vernacular in the opera plays from the Song and Yuan to the Ming and Qing Dynasties was even more distinct.

The day-to-day difference between written language and spoken language is not only reflected in the differences in language form and style, but also inevitably causes difficulties in language use and understanding. Such a story is recorded in “Xuanqulu” by Lü Benzhong of the Song Dynasty:

The illiterate aunt, in the Clan Chen lived in Yanzhou, but the sons were all in official positions far from home. Da Cong, a nephew of the clan, had traveled to Yanzhou, and Aunt Chen ordered a letter to send to his son. She asked the nephew to write her words “The child, naughty and noisy, buy a small pair of scissors to cut the dead skin off my feet.” Da Cong hesitated to write. Aunt laughed and said to herself: “Neither is this guy, literate!”⁴

It is evident to see the gap between Classical Chinese and vernacular spoken language. This phenomenon continued into modern times. In the “New Culture

4 宋代吕本中《轩渠录》：族婢陈氏顷寓岩州，诸子宦游（这是说陈家的年轻人都在外做官）未归。偶族侄大琮过岩州，陈婢令作代书寄其子。因口授云：“孩儿要劣姊子（孩子跟母亲淘气），以阅阅霍霍地（叽叽喳喳地）。且买一把小剪子来，要剪脚上骨出几脓胝儿也（老茧）。”大琮迟疑不能下笔。婢笑云：“元来这厮儿也不识字！”

Movement” at the end of the Qing Dynasty and the beginning of the Republic of China, Classical Chinese was not only regarded as an exact language form by Hu Shi and others, but also as a carrier of feudal governance, conservative culture, and aristocratic literature, forming an extreme opposition to vernacular. These revolutionaries eliminated the Chinese people’s daily language life, and thus ended the parallel historical pattern of Classical Chinese and vernacular for thousands of years.

2. Development of Classical Chinese

Guo Xiliang pointed out: “The facts tell us that the written form of a language is different from the oral form of the system, which is caused by certain historical and social conditions. For example, Latin was used as a written language by many European countries in the Middle Ages. Chinese was used as an ancient written language by Japan, Korea, and Vietnam. From the Eastern Han Dynasty, Classical Chinese, which was increasingly separated from the spoken language, was used as a written language until the May Fourth Movement” (pp.607).

No matter how the difference between Classical Chinese and Vernacular expands, in the history of more than two thousand years, Chinese people have always been able to master and use Classical Chinese with ease, and “Classic Chinese without being spoken” has been used as the Chinese written language. This is certainly the result of the natural continuation of social culture in the pre-Qin and Han dynasties, but it must first be attributed to the political and educational system established since the Han Dynasty.

Since the literature presented in written language was produced, the inheritance, teaching and acceptance of culture has been mainly through the study of the content mediated in written language. According to the pre-Qin literature, as early as in the social education system of the Zhou Dynasty, a special written course was set up:

Six Books. “Zhou Li·Di Guan· Bao Shi” said: “The Bao clan officials reprimand the emperor against his wrong doings, and raise the son of the nation by *tao* (道). Teaching him the Six Arts: the teaching of five kinds of rituals, six kinds of music, five ways of shooting, five ways of driving the wagon, the teaching of Six Books, and nine ways of calculation.” Among the Six Books, Ban Gu in his “Han Shu·Yi Wen Annals” explained: “The ancients went to elementary school at the age of eight, so in “Zhou Guan”, the Bao official took charge of the students. The teaching of six kinds characters encompasses pictograms, signing of things (象事), signing of imagery (象意), signing of sound (象声), annotation (转注), and borrowings (假借), which forms the basis of Chinese characters formation.”

The purpose of learning characters is to master the written language. It can be seen from the above materials that as early as the Zhou Dynasty, the language learning of school-age children had become an important educational content in the canonical educational system and rural schools. Even in homeschooling, “after the child turns six years of age, he will be taught numbers and names of directions” and “after 10 years, learning books and numbers will be in places outside of home” (“Book of Rites·Nei Ze”). In the Han Dynasty, the study of characters was further connected with the memorization of traditional classics. According to “Hanshu·Art and Wenzhi”:

At the peak of the Han Dynasty, Xiao He formulated laws and stipulated the country’s methods for training students: “Taishi, who is in charge of education, selects school children through examinations. Those who can recite ancient books of more than 9,000 words can engage in clerical work. It also examined whether they could recognize or write six types of scripts, and selected the best performers as the civilian staff of Shangshu, Yushi, and Shishuling. If there are officials and citizens writing documents to the government, if the font does not meet the regulations, they

will be reported and impeached. The so-called six styles refer to the six fonts: ancient Chinese characters (古文), rare characters (奇字), seal script (篆书), official script (隶书), Miao seal (缪篆), and insect script (虫书). Mastering them, one can understand ancient and modern characters, and then use them to imprint seals and write various proclamations or letters.”

It can be seen that after entering the Han Dynasty, literacy, writing, and reciting classics have not only become the content of learning, but also developed as the channel for the selection of social talents: scholars who “can recite books with more than 9,000 characters (能讽书九千字以上)” can enter the post as historians; and those who master the ancient and modern “six styles 六体” of characters can also be hired. Not only that, if the official documents cannot be used in a standardized manner, they will be subject to social monitoring and reporting. This series of rules and regulations that revolve around words guaranteed the inheritance and continuation of Classical Chinese.

What is particularly noteworthy here is the examination and selection method of “Recitation of Nine Thousand Words”. This may be intended to test the participants’ remembering ability or the number of classics they have memorized, but there is no doubt that students who can “satisfy a book of more than nine thousand words” will surely be able to memorize the language expressions. And this way of expression, no matter at that time or in later generations, can only be Classical Chinese. Besides pedagogy, there is more to be gained from content of education to further understand the reasons for the continuation of Classical Chinese.

In the early Han Dynasty, after the end of the war in the late Qin Dynasty, the rulers began to restore the traditional political system. During Emperor Wu of the Han Dynasty, Confucianism became the political ruling thought of the Han dynasty,

“Promoting the Confucian family, suppressing hundreds of schools, establishing the officials of the schools, and judging the magnificent talents in the prefectures and counties” (“Hanshu·Dong Zhongshu Biography”). In the fifth year of Yuanshuo, Taixue was established, with “Book of Songs”, “Shangshu”, “Book of Change”, “Book of Rites” and “Chunqiu” as the Five Classics of Taixue, each with a number of teaching officials, specializing in teaching and providing apprenticeship. They are known as doctors of the Five Classics, and their students are called apprentices. Since then, this system continued to expand, forming the basic course system of Han Dynasty official *fa* School and other schools, such as *dao* and *mo* schools. This system extended to the private schools. This objectively establishes the absolute central position of pre-Qin ancient Chinese Classics represented by the Five Classics and Zhuzi in social education.

Due to the cultural rupture caused by the change of dynasties, pre-Qin documents such as the Five Classics and Zhuzi, on the verge of extinction, were gradually restored and maintained by way of recitation. Around the teaching of these classes, the continued discovery, sorting and interpretation of pre-Qin documents became an important content in the cultural life of the Han Dynasty.

In order to unify the textbooks, the Shiquge Conference and the Baihuguan Conference were held successively in the Western Han Dynasty to compare and examine the similarities and differences of the Five Classics, examine the meaning of the classics, and establish the final version of the official textbooks. By the time of the Ling Emperor in the last years of the Eastern Han Dynasty, Cai Yong proposed to formally stabilize the Six Scriptures [...] engraved the work on carved stones, which stood outside the gate of Taixue. The post-Confucian scholars’ learning was based on the standardized text on these carved stones. After the monuments were installed, the observers and copyists “are more than a thousand wagon a day, filling the streets.”

(“The Book of the Later Han·Cai Yong Biography”). This series of measures not only further strengthened the authority of the Five Classics, but also established the standard of written language in Classical Chinese.

After the textbooks were established, the corresponding examination system was also established. According to Yu Shulin’s “History of Chinese Education”, the examination methods of Taixue in the Han Dynasty were:

- (1) Speaking test (口试). It is subject to recitation in accordance with verified methods.
- (2) Written interviews (对策). The examiner sets the questions and asks candidates to answer on site. The written answers on the spot attached great importance to the composition of the text and the neatness of the font.
- (3) Random selection of questions (射策). According to “Han Shu · Rulin Biography” Yan Shi Gu Annotation, the examiner sets up questions and writes them on the examination papers. They are sealed and filed according to the levels of difficulty and subject areas. The candidate opens the questions he drew and answers the questions, to which evaluation is carried out. The questions are randomly drawn and are meant to test the ability of written expressions.” (pp.303)

Looking at the above examination methods, they are nothing more than memorizing, recitation, cross-referencing between sentences and chapters, and general analysis of the contents of the textbook. This requires readers and test-takers to start with the linguistic form of reading and memorizing textbooks, and gradually understand their literal meanings, and then delve into and master the sage thoughts that expressed deep meanings using simple language forms (*weiyán dà yì* 微言大义). In this process, the central position of Classical Chinese as a “language medium” is not

only irreplaceable, but also deeply rooted.

The implementation of a series of political and educational systems made the main profession of Han Confucian scholars and students to teach and explain the Five Classics, which directly led to the emergence of the Han Confucian Classics. From this period onwards, Confucian scholars devoted themselves to the study and interpretation of Confucian Classics, and formed two schools of Guwen Jingxue and Jinwen Jingxue. Through debate, mutual assimilation, and integration, the two school gradually became unified. The Confucian Classics dominated the academic mainstream for more than two thousand years.

In the mutual debate of Classical Chinese classics, the difference between the texts of the Five Classics may not be the focus of controversy, but it is definitely the basis of issues and controversies. The scriptures taught by doctors of the Five Classics of the Western Han Dynasty are all official scripts commonly used in the Han Dynasty, so they are called the *Contemporary Confucian Classics* (*jiwen jing* 今文经) copied using characters after the Han Dynasty); the scriptures on which the ancient literature is based are mostly ancient books unearthed after the middle of the Western Han Dynasty, called the *Ancient Confucian Classics* (*guwen jing* 古文经), and were written in ancient script from the Warring States or earlier. With this as the beginning, the two schools of Confucian classics formed two interpretation systems and academic traditions of Confucian classics, which in turn produced an increasingly large interpretation text system. Although many of these texts have been lost, the amount of scripts accumulated from generation to generation are huge in quantity. There are as many as 1,773 books and 20,427 volumes of classics in the “Si Ku Quan Shu” alone. While these newly generated texts continue to expand the Classical Written Chinese language system, they also gain more powerful regeneration capabilities.

Of course, the Confucian classics are only a small part of the Classical Written Chinese language system, but they are important and representative. Due to space limitations, this chapter will not introduce other Classical Chinese writings one by one. However, we are interested in the kind of person this education system cultivates. Who are those people learning, applying and passing on Classical Chinese? What kind of relationship do they have with Classical Chinese?

First of all, according to the “Shang Shu·Shun Dian” records, Emperor Shun made Qi a *situ* (司徒, a rank order), promoted the Five Religions, and made Boyi the rank sect, in charge of court ceremonies, and Kui in charge of music and dance. This can be regarded as the beginning of formal education in China. From then on, it continued as schools of Xia, Yin, and Zhou dynasties. At the level of Chinese Canonical Studies, the students were mainly the children of emperors, bureaucrats, doctors and scholars of the Yuan Dynasty. The goals of education are based on self-cultivation and governance of people and society. The study of the Five Classics (Book of Songs 诗经, Shangshu 尚书, Book of Rites 礼记, Zhouyi 周易, Chunqiu 春秋), and six arts (rituals 礼, music 乐, shooting 射, driving 御, writing 书, and calculations 数) are intended to cultivate specialized talented people in various undertakings and heirs to the rulers at all levels. Such a system has been imitated by schools at all levels of the township and parties, and is generally continued by later generations, forming a long-standing educational tradition.

Secondly, looking at traditional education through the ages, people who learn and use Classical Chinese are basically those who were literate in reading. Among them, there were students and teachers, intellectuals who intended to pass examinations at all levels to change their identities and even enter official civil careers. There were also officials and other management personnel at all levels, and of course there were also children of higher-ranking emperors and nobles. In short, this was a social

group that desired for or actually controlled knowledge, culture, and political power. They were clearly different from ordinary people. In addition to their daily use of spoken language, they had to learn Classical Chinese. The study of Classical Chinese could not only help master a more advanced and more technical way of expression, but also provide learners with a way and channel to a higher level of society.

Once again, just as traditional education was never a single phenomenon isolated from politics and other social cultures, the learning of Classical Chinese in ancient China never simply focused on its language attributes. What ancient Chinese people valued was the knowledge, culture and traditional wisdom system carried by this language form. Mastering this whole language — knowledge system was a necessary entry condition for them to better improve themselves and enter the higher level of society. Therefore, their learning of this system has never been an isolated language learning.

In the past two thousand years, the Chinese never had a special course for Classical Chinese, because they did not consider it as a separate knowledge system. They always used a method called “language art”, through recognizing characters, reading, memorizing, reciting, and understanding, until a student can thoroughly learn Classical Chinese and the knowledge and thoughts it carries, and is then able to write down their understanding, feelings and new creations in Classical Chinese, infiltrating new connotations into this language-knowledge system.

In summary, the construction, inheritance, development and continuation of classical Chinese as a form of written language are closely related to the historical changes of Chinese society. It has never been separated from the social culture of the past dynasties and formed a “language system” with clear boundaries and strict standards, which is convenient for precise analysis and scientific operationalization.

Therefore, it is difficult to sort out its internal mechanism by using modern scientific methods. This is certainly not satisfactory, but for thousands of years, it has been produced, survived, and developed in this way until it was ended by modern civilization.

Classical Chinese can be thought of as a chaotic system. In its thousands of years of formation and history, it has continuously gathered and contained a body of essence of social knowledge, culture and wisdom, and it has continuously released, transformed and created new knowledge, culture and wisdom, maintaining the survival of an ancient civilization and development. On the one hand, the written language system of Classical Chinese records and accommodates these essences; on the other hand, Classical Chinese also releases, restores and activates them. On this point, it is not difficult to understand the role of the series of texts called “Six Classics 六经” in Chinese history. So, what conditions are needed to enable the information in CCT to be activated, reproduced and restored?

3. Inheritance of “Classical Chinese”

If social mechanisms such as politics and education are the external conditions for the continuation of Classical Chinese, then memory and imagination are the internal mechanisms through which this ancient written language can be passed on. “In Chinese education, the traditional method of language learning is to memorize designated model essays by rote, familiar with the normative language features” (pp.19). This view of Mr. Luo Siwen accurately pointed out the main methods used by the Chinese in Classical Chinese learning.

Zhang Xuecheng, a scholar of the Qing Dynasty, said in his “Tongyi of Literature and History: The First of Words”: “The ancients were first taught by mouth and ear, and then learned to read classical text written on bamboo and silk.” In other

words, early Chinese cultural education always emphasized both oral and written. And formed the “*chun xian xia song* 春弦夏诵”, which literally means sing along when playing a musical instrument in the spring and recite in the summer, emphasizing the traditional method of embodied remembering throughout the year. In the early years of the Western Han Dynasty, because a large number of pre-Qin classics were burned, people had to ask the older scholars of the Qin dynasty to recite the ancient books from memory and use oral transcripts to restore them. Since then, under the vigorous advocacy of imperial courts, many people have been appointed because of “reciting books”, and reciting scriptures has become a temporary trend, and even a popular saying among the people: “The deceased left a son full of gold, but it is not as good as a scripture (遗子黄金满籝, 不如一经, Ban Gu “Han Shu · Wei Xian Biography).” Because of this tradition, reciting by memory has become one of the most important means for people to learn classical scriptures, and it has also become the first choice for classical Chinese in learning.

But recitation and memorization mainly focus on the textual level of traditional classics, and the understanding of the meaning behind this form of written language is accomplished through embodied, embedded, extended, enactive and ecological (5E) imagination. 5E Imagination is an indispensable means in Classical Chinese cognition. First of all, the content of traditional documents itself contains much imagination extending to nature, spirits, and ancient life styles, such as the vivid perceptual remarks of supplication in the Book of Changes, the recollection of the words and deeds of the predecessors in Shang Shu, the construction of the etiquette system of the Zhou Dynasty in the “Three Rites 三礼”, the records of some private conversations in the Spring and Autumn Period, and the romantic and rich features in the Book of Songs literary creation, not to mention the fables in the Zhuzi texts, the ghosts and spirits in Chu Ci, and the fantasy world in the Shan Hai Jing, etc. These ancient imaginations are sealed in Classical Chinese Texts, and imagination is the

only way to open it correctly. Only with the imagination of future generations can it be released from the sealed text form, restored to its original appearance, and then be understood by future generations.

Secondly, due to the disparity of the times and the differences in social conditions, readers of later generations have to enact their ecological imagination to bridge the understanding gap caused by history in order to understand what is said in the classics of the sages. For example, if we cannot contextualize the era and social characteristics of the Spring and Autumn Period and the Warring States Period, we cannot know why Confucius wanted to revitalize the destroyed kingdoms, exalt the people, and restore the almost extinct family clans and traditions, nor could we understand the meaning and value of Mencius's theory of "efficacy of human nature" (*xingshan* 性善). It is through embedded imagination that the various records, descriptions, and inferences in Classical Chinese classics can be put back into a concrete and vivid background of the times, so that the rich information contained in the words between the lines can be activated, restored and embodied, and readers of later generations will be able to experience full, vivid and true reading comprehension.

Third, in the history of the formation and continuation of Classical Chinese Texts, there has always been a tradition of extending the imagination to understand the meaning of scripture. For example, Dong Zhongshu, the main advocate of Confucian classics in the Han Dynasty, used the *yin-yang* theory in the Book of Change and the *yin-yang* Five Elements theory passed along since the Warring States Period. On the basis of the extremely simple and obscure text of "Spring and Autumn" (*Chun Qiu* 春秋), his imagination was extended and far reaching from the original text, using the so-called process of *Wei Yan Da Yi*, using easy-to-understand language to express deep meanings of the text. He strengthened the legitimacy of the great unification and the change of dynasties by recourse to "the resonance of nature and hu-

mans” (*tianren ganying*, 天人感应) and the dialectical relationship among the five elements (*wuxing shengke* 五行生克), which in essence is ecological.

He interpreted scriptures by recourse to natural disasters, discussed the government, and even quoted the “Chun Qiu” scriptures to interpret and judge difficult cases of law and order, thus forming his own “Chun Qiu Gong Yang School” and laid the academic foundation of *Contemporary Chinese Classics School* (*Jinwen Jingxue* 今文经学). Although this practice has been partially overcome by the integration of modern and *Ancient Chinese Classics School* (*Guwen Jingxue* 古文经学), its influence has not ceased; for example, the *Yi* (Book of Change) study works of the *Xiangshu School* (象数派 focusing on the interpretation of signs and calculations of the *Yi*) and the *Yili School* (义理派 focusing on the interpretation of mechanical logics of the *Yi*) of the past dynasties, and the interpretation of “The Book of Songs” by Senior and Junior Mao Gong, utilize ecological imagination to a great degree. This not only affects traditional Chinese people’s thinking and concepts, but also profoundly affects the acquisition and inheritance of Classical Chinese.

Another example is the imperial examination articles of the Ming and Qing dynasties. The titles were all from the original texts in the Four Books and the Five Classics. They could only be explained in accordance with the meaning of the title. The content had to be in the voice of the ancients, and free expression was absolutely not allowed. The length of the sentences, the complexity of the words, tones, etc. must be relatively written, and the number of words was also limited within a range. The content of the discussion should be based on Zhu Xi’s “Four Books Collected Notes” and other books in the Song Dynasty, in order to satisfy the requirement of the writing being “on behalf of the sage 代圣人立说”. In other words, in the imperial examinations at that time, candidates could only further elaborate on the thoughts and doctrines of the sages by quoting scriptures. When the scholars embodied themselves as sages like Zhou Gong and Confucius, writing articles was to “make words

on behalf of the sage”. From thoughts, policies, behaviors, and written language forms to tones, intonation and other expression styles, answers to the questions must embody these ancient sages. Classical Chinese is also deeply immersed in the lives of scholars from characters to wordings, from thoughts to spiritual realms, from writing to daily words and deeds. The lives of scholars have also been infiltrated into the history of Chinese society.

No wonder Teacher Luo Siwen said, “In the world of Chinese language, it is best to understand the natural cosmic order as a science in which the interrelationship of persons and events is co-contextual” (pp.10). Chinese people often summarize and generalize the laws of the cosmos from their observation, experience, and understanding of nature, and use them as a reference to reflect human behavior; at the same time, they often project their feelings about human life into the cosmos to recognize and get to know the natural laws, thus forming a specific relationship between persons and their worlds, interpenetrating, and referencing each other. In other words, to understand Chinese culture, a unified and interpenetrating relationship must be established that connects Chinese cosmic order, daily activities, thought patterns, and language structure at the same time. 5E imagination is not only the cognitive bond of this interconnection, but also the spiritual guide through these interconnections.

4. Implications for Artificial Intelligence

It can be said that many emotions, thoughts, and desires of ancient society are recorded in ancient documents and classics in Classical Chinese. Scholars of later generations also used the study of this Classical Chinese system to interpret and read all kinds of rich information from the classics, and then through various acts of imagination being triggered at any time, to activate, restore and reproduce the original information as realistically as possible in order to gain a true understanding

of traditional culture. In this process, traditional culture can be imagined as *cognitive ecosystems* (Hutchins 2014). The activity around the emergence of Classical Chinese accelerated the transformation of the relationship between people and spirits to a second-order stabilized culture and many times, norms and conventions. In the meantime, Classical Chinese documented the ecology of human life in the aspects of religion, agriculture, military, government, and medicine, which can be seen as a powerful narrative that delineates from whence it comes (Cowley 2017). It demonstrates “language is something that we do and yet, what people experience as they language (sic), alone or together, is *sui generis*” (pp.44).

The ultimate knowledge that learners of Classical Chinese obtained is the ability to take skilled linguistic action (Zheng, Cowley, Nuesser, in review). While learners are able to not just recite and practice classics, they are more importantly able to embody the voices of the sage to actualize what is new for themselves within changing environments. Using imagination, extension and embodiment, learners connect to way of life by sages, cognition and “what is human” rather than learn about CCT reduced to linguistic “objects” (Cowley 2017, pp.44). CCT is still alive and continues to affect Chinese people’s lives, science, education, agriculture, etc., as well as the world in philosophical texts. Learning of the CCT process is different from “what you see is what you get” of modern Chinese reading and comprehension. Such a reduction contributes to the dualistic differentiation of difficult and easy, direct and indirect learning methods. It is not an overstatement that the collective loss of the Chinese people’s understanding of traditional culture after unified modern China can be drawn to the oversimplification of CCT to be a linguistic (meaning and form) domain. Distributed language and 5E provide a multi-scalar lens for us to see that CCT is the result of human activity that uses “seeming tautologies, act to correct them (or be corrected), change ourselves (or act to change them) and, thus, incorporate change into becoming” (Cowley 2017, pp.54).

This ancient civilization has been passed down from generation to generation through an equally ancient language symbol system. And 5E imagination is one of the keys to open this civilization treasure chest. What can we learn from such a resilient system, as we try to understand and harness the Artificial Intelligence revolution? The challenge of machine learning is AI's deep learning ability. In comparison, the "intelligent" CCT's infinite and deep learning "ability" has developed over 2000 years, and its a multi-scalar, co-evolving, and symbiotic system, which may shed light on the AI revolution. Besides the compassion and care wrapping around AI in Kai-Fu Lee's proposal (2018), perhaps we can make an analogy of CCT being a type of AI. It seems the most valuable takeaway message from our recounting of CCT is that it is a live and dynamic system, born out of the relationship between human affairs, efficacious materials (e.g., tortoise shells) and cosmic order. In such systems, humans and things are equal and are in harmonious relationship (*tianren heyi*, 天人合一) in which the continuity between the religious, natural, and cultural context are inseparable, and the responsibility of the human being is to be a generative co-creator (Ames 2012). We propose AI should be developed to be parallel and harmonious in sensitivity to human intelligence. If that is accepted, AI's deep learning is human's deep learning, whether it is concerned with error correction or calculation. When humans' measure of learning in AI is calculated on the basis of "aspiring to become con-summate in our roles and relations" (*ren* 仁), 'optimizing appropriateness in our roles and relations' (*yi* 義), and 'resolution and commitment in what we do in our roles and relations' (*cheng* 誠)" (Ames 2020, pp.21). We will be able to embody our thoughts onto either tortoise shells or AI, as well as be able to speak like a modern sage. Human cultivation can co-evolve with AI symbiotically when human intelligence and language are based on 5E rather than anthropocentric attitudes and behaviors towards non-human sentient beings and cognition. The way to make AI more efficient and in harmonious relationships with human thought and learning may occur if both systems (5E and AI) share common goals and attitudes.

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