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The Father Of Chinese Modern Semiotics "Yuenren Chao" And His Symbology Thoughts

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Abstract: Yuenren Chao is the father of Chinese linguistics and the pioneer in the field of Chinese semiotics in modern time. His early exploration in a science of symbology, which shows his unique semiotic ideas integrated with Eastern and Western thinking modes, has not attracted much attention of the Chinese semiotics researchers until in the new century, and his later studies on language symbolic system, which reflects his linguistic, philosophical, artistic and scientific talents, has not been completely understood by the world semiotics circles. This paper intends to do a text analysis of Chao's representative literatures on symbology, in order to make semiotics scholars know more about the essence of Chao's macro symbolic thoughts and micro interpretations of symbols, so as to facilitate the innovation and development of Chinese modern semiotics in the new era.

Key words: symbology; symbolic thoughts; Yuenren Chao; text analysis

1. Introduction

Yuenren Chao (1892-1982) is a gifted man, whose original hometown was in Wujin, which is now named Changzhou, Jiangsu, China. However, Chao's birthplace was not in Changzhou but in Tianjin, a big city near Beijing. In fact, Chao's experiences were very rich. At the age of eight, he went back to Changzhou to attend the local family school. When he was 14 years old, he went to study at Xishan Middle School. For his excellent grades, he was admitted to Nanjing Jiangnan College for high education in 1907. In 1910, when the Art Office of the Qing Dynasty was recruiting some hardworking students from Beijing to study in the United States, Chao was lucky enough to be selected as the second top candidate. And then, he entered Cornell University where he majored in mathematics, music and physics, and four years later, he acquired his bachelor of science degree there. In 1915, he continued to study music and philosophy at Harvard University, and by 1918 he had received his Ph.D. there. In 1919, he became an assistant professor in the Department of Physics at Cornell

University.

In 1920, Chao came back to China to teach physics, psychology and mathematics at Tsinghua University. In 1921, he returned to teach at Harvard University, where he continued his study in linguistics. Four years later, he came back the second time to China and worked as director of the Department of Linguistics at Tsinghua University. As a language researcher in the university, Chao did a lot of investigations in Chinese local dialects (esp. Changzhou dialect) and collected the first-hand linguistic materials for his research. Finally, he settled down in the United States and began his teaching career at Hawaii University, Yale University, California University, and Berkeley University. While teaching, he was engaged in linguistics and symbology researches, and received good reputation for his linguistics studies in the world academic circle.

Chao is well-known as the father of Chinese linguistics, but also as a naturally-gifted polyglot in some other research fields, due to his interdisciplinary talents. He studied the phonology of Chinese dialects, and especially he published some papers focusing on Wu dialect. He could speak 33 Chinese dialects in his life, and his Mandarin Primer was one of the most widely used Mandarin Chinese textbooks in the 20th century in China.

In terms of his position in the history of Chinese linguistics, Chao is universally acknowledged as a researcher of immeasurable academic contributions. After having acquired the abundant knowledge of the western structuralist linguistics and semiotics, he began to introduce Morris's semiotics thought, interpreted the different terms of semiotics, explain the definition, essence, attribute, referential relationship, boundary, and elements of semiotics, and also expound the overall framework of general semiotics. In 1926, he published his paper "A Sketch of a Science of Symbology", in which he advocated the idea of establishing general symbology, and elaborated the related terms, concepts and systems of symbolic theory. His exploration in symbology was recognized in the same period with Peirce's contributions to semiotics. In 1968, he further extended his symbolic thought into "signals for communication" and "symbols in Chinese language and culture" in his book Language and Symbolic System. In 1973, he published another paper "Chinese as a Symbolic System", in which he discussed the application of symbolic theory into the Chinese language. All Chao's academic pursuits and explorations in language and symbolic system have exerted great influence on the research of Chinese linguistics as well as on the development of Chinese modern semiotics.

2. Chao's "A Sketch of a Science of Symbology" (1926)

In his article "A Sketch of a Science of Symbology", Chao has proposed the establishment of general symbology discipline and the construction of symbology research framework, which was his earliest and most prominent achievement in the field of Chinese semiotics. He has divided general symbology into two categories: "theoretical symbology" and "applied symbology". Theoretical symbology studies the nature of symbols, investigates and analyzes some symbolic systems used in various academic fields; Applied symbology studies the principles of good and bad symbols, and improves bad symbols, and creates missing symbols.

In the first section of "A Sketch of a Science of Symbology", Chao has discussed what is "symbol" and what is "symbology". In nearly half of the article, he has given an account of the definition of the notion of "symbol" by making an induction from a great number of collected data. In order to let the readers understand the definition of symbol, he has further elaborated it from the basic elements of symbol, i.e., the basic elements can be divided into space, time, sound, color, number and intensity, the set of which is "symbol". And then he has illustrated this viewpoint with a number of examples. One example is "Arabic number 5": that "5" printed in the book may reflect different fonts, but these fonts still belong to the same symbol; A more complicated example is "the pronunciation of a person's name": that a person's name is pronounced by the voices of different people (such as the voices of Beijingers, Cantonese, men, women, adults and children, etc.), but all the different pronunciations refer to the same person's name given from the voice, sound quality and audio frequency, or a person's name is written on paper in different fonts (such as seal script, cursive script, etc.), but these different written fonts of the same name are marked with the same symbol; A further example is "table": whether a table is square, long or hard to touch, it is called a table which is the set of these properties; apart from the elements of these surface feelings, there is no natural connection between the elements in this set, and the only medium of the connection is a series of the associations that happen to arise together" (2002, p.183). All these examples have clearly demonstrated the elements of symbols and provided the anatomic description of "what is a symbol", which could help readers easily understand what he means.

Chao also says that it is not easy to define the boundary of symbol, and so he has set the vivid military command for example: "The commander shouted to a line of soldiers 'Start - go', and then he stopped shouting (a pause), but the soldiers kept on going ahead until the commander called them to stand up straight, and then the soldiers stood for attention". Is that period of "pause" a sign or a symbol of the soldier's continuing to go? Here, the "pause" mentioned by Chao would be regarded as the rudiment of the "empty symbol" mentioned by the subsequent semioticians in the West. An empty symbol (also known as an empty signifier or a floating signifier) is a signifier without a referent in semiotics and discourse analysis, such as a word that points to no actual object and has no agreed upon meaning, and Roland Barthes (1977, p.39) preferred to call this word "non-linguistic sign". Because its interpretation is more open, it forms a "floating chain of signified". An "empty symbol" is more like a non-material form, similar to "blank" in Chinese painting or "pause" in music. However, Chao's opinion is more inclined to the example cited by Umberto Eco in his book A Theory of Semiotics (1979, p.55), that is, "The car does not light, saying 'I will go straight', and the flagship does not raise the commander's flag, saying 'the commander is not on the ship'."

Chao affirms that everything can be regarded as a symbol, but it is not surely a symbol. The reason why a symbol turns into a symbol does not depend on the symbol itself, but on whether the object is representative or not. In this line of thought, a pair of the concepts of "symbol and object" are presented, and the two are adhered

through “associations” with each other. The more deep-going the association is, the more effective the symbol gets. The converse is equally true. The more effectively a symbol is used, the more profound the association becomes. Symbol and object, as their boundary is fuzzy, are in a dynamic, but not an absolute relation. They can transform with each other as well as with other things, so as to form a complex hierarchy and structural relationship between them. The relationship between symbol and object can be divided into four categories as follows: 1) “1 to 1” matching relation: in the International Phonetic Alphabet (IPA) system, a sound corresponds to a letter, and a letter represents only one sound; 2) “1 to n” matching relation: a sound in French can be written in many ways, such as sent, sens, sans, sang, cent, and cents, but gets one pronunciation; 3) “n to 1” matching relation: which is the opposite of that in 2); 4) “n to n” matching relation: there are different spellings of the same sound in some English words, such as no[əʊ], oh[əʊ], tow[əʊ], whoa[əʊ], beau[əʊ], though[əʊ], and there are many ways to pronounce the same letter combination in other English words, such as though[əʊ], bough[aʊ], through[u:], enough[ʌ], cough[ɔ:], hiccough[ʌp]”. Of course, Chao also considers the relationship between symbol and object matching, and he thinks that some of them strictly conform to “1 to 1” matching.

Chao (1926) believes that the greatest value of symbology lies in applied symbology, and the original intention of constructing applied symbology is to bring convenience to the users of symbols for the purpose of being “practical”, because the objects of semiotics research are “symbols” as well as the use of symbols. Therefore, the tasks of constructing symbology discipline are to describe the phenomenon of symbols in a scientific way as well as to solve the problems in the application of symbols. Of course, Chao has also amply discussed the definition and application of symbols and the principles of distinguishing good and bad symbols. In his opinion, symbols have four kinds of uses: 1) To evoke the association of things; 2) To arouse emotions; 3) To convey orders; 4) To catch the central point of association. Furthermore, he has detailly discussed the conditions of “good symbols” and he thinks that the quality of symbols is not absolute but depends on the purpose of using symbols. There are two principles about symbols: 1) The nature of symbols should be suitable for the purpose of using symbols; 2) When the purpose of using symbols is complex, the weight of each part of the purpose should be taken into consideration (pp. 195-196). According to Chao, “good symbols” should confirm to the following 16 conditions: 1) To be simple; 2) To be beautiful; 3) To be easy to make; 4) To be easy to spread and receive; 5) To be easy to conceive; 6) To be small; 7) To use abstract elements; 8) To be easy to arouse its object; 9) To be adaptable to the limitations of the situation; 10) To be economical; 11) To be conservative and moderate; 12) To look clear in the relationship between symbols and objects; 13) To be related with the object; 14) To meet the condition that symbol system and object system are related; 15) To meet the condition that the total number of symbols is not too large nor too small; 16) To meet the condition that the object can only be differentiated to a certain degree, and the fineness of the symbol need not go beyond this degree. Under these 16 conditions, Chao has given specific examples with

clear illustrations.

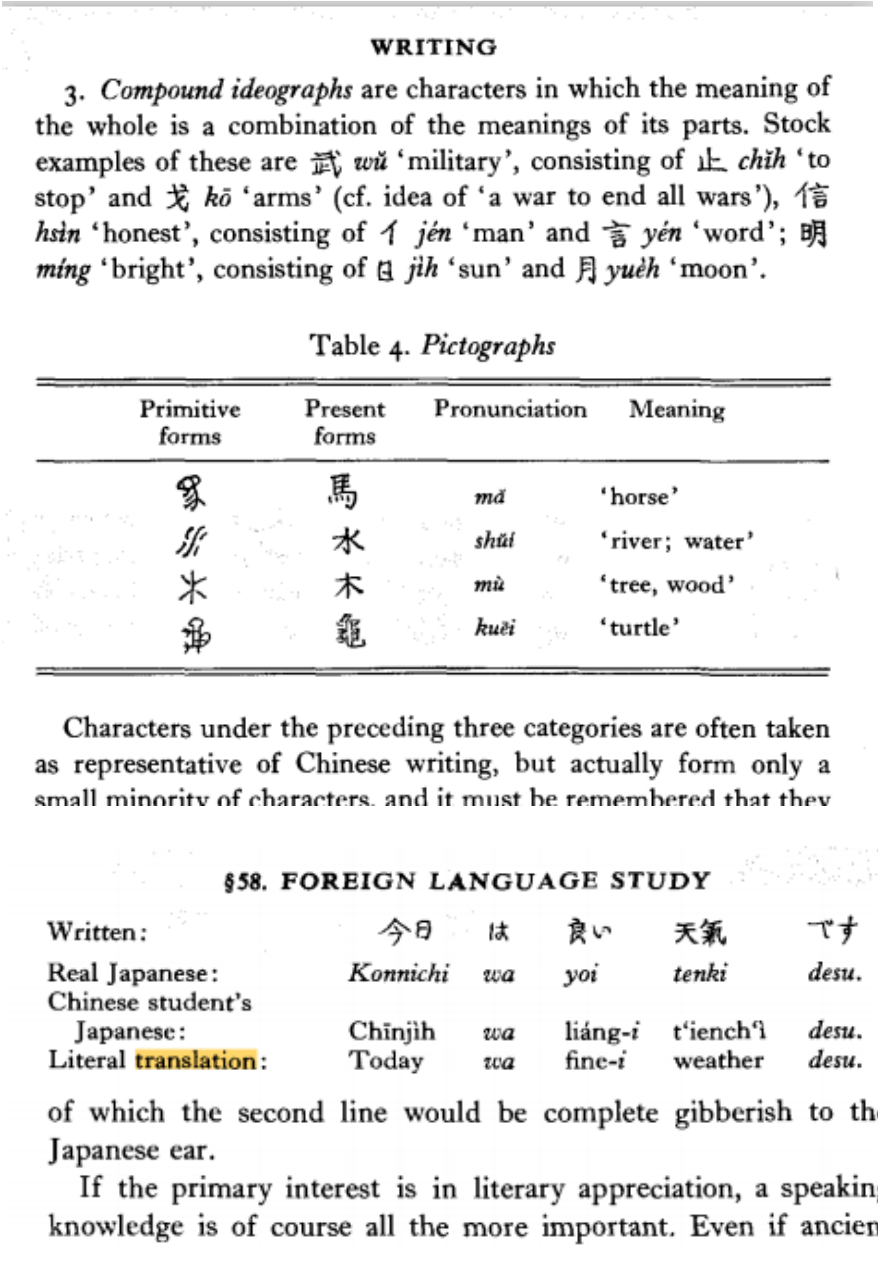
In the whole text of "A Sketch of a Science of Symbology", Chao has built a disciplinary framework for general symbology, which looks like a macro theoretical tree with micro branches. Especially in exploring the nature and conditions of symbols, he has introduced and applied a large number of academic terms such as "symbol", "element", "object", "association", "symbol boundary", "silent symbol", "relationship between symbol and object", "object system", etc. Nowadays, the Chinese academic circles are keen to using these semiotic terms as fashionable and abstruse decorations for their studies, which is really against the purpose of semiotics research tools and methodology (Zhao J. X., 2006, p.93). The essence of Chao's research in "A Sketch of a Science of Symbology" lies in that it provides not only the abundant well-grounded examples, but also the rich academic resources and academic possibilities for Chinese semiotics research, and it is a valuable disciplinary survey on the basis of semiotic theories and semiotics application. Therefore, it is of great significance in promoting the discipline construction and academic development in China. It opens a new chapter for the study of the spread and development of Chinese modern semiotics.

3. Chao's Language and Symbolic Systems (1968)

Chao's Language and Symbolic System (1968) is another great work on symbology, which covers his unique interdisciplinary perspectives of linguistic research and proves his dual academic background of both natural science and social science. In this book, Chao has discussed such language technology topics as "speech synthesis" and "machine translation", and he has also probed into linguistics through the popular methodology adopted in the West at that time. The study of mathematics and physics in his youth enables him to learn from the theories and methods of Western natural science and treat linguistic problems from a new vision, so that he could be able to explain some concepts or phenomena in language from the scientific point of view. Chao has applied the concepts and terms of Pierce's and Morris' semiotics in his linguistic discussions, and has given due attention to the important categories of iconic symbols (p. 198). Following Morris's semiotic view, he looks upon the study of sign itself as "syntactics", which has a broader meaning than "syntax" in linguistics (p. 196), and which demonstrates the structure of all symbol, as Morris says, that the study of the relationship between symbols and the things they represent is called "semantics", i.e., the relationship between symbol and meaning (what symbol stands for what meaning), and the study of the relationship between symbols and the users of symbols is called "pragmatics", i.e., the relationship between the users of symbols, the method of using symbols and the situation in which symbols are used (who uses symbols with what methods and in what situations) (Morris, 1938).

Language and Symbolic System is a book "written for general readers" (Chao 1968, p. v). However, such a small volume contains a host of subjects covered by present-day linguistic research, and presents it to readers in a lucid, readable and fascinating manner. The book consists of twelve chapters, including Language and the Study of Language, Phonetics, Phonemics, Vocabulary and Grammar, Meaning, Change in Language, Languages

of the World, Writing, Language and Life, Languages in Contact, Language Technology, and Symbolic Systems. Although abunant language knowledge is involved in the book, the word "linguistics" is rarely mentioned, as Chao says that he has paid more attention to "the peripheral aspects of language" (p. v) rather than linguistics itself. Therefore, he has provided many vivid and ingenious examples in life. There are some novel features of the book: the insertion of modern and classical Chinese illustrations (see figure below) in the book, and there are two appendixes at the end of the book: "A recommended bibliography for further study" and "A comprehensive index".



WRITING

3. *Compound ideographs* are characters in which the meaning of the whole is a combination of the meanings of its parts. Stock examples of these are 武 *wŭ* 'military', consisting of 止 *chĭh* 'to stop' and 戈 *kō* 'arms' (cf. idea of 'a war to end all wars'), 信 *hsìn* 'honest', consisting of 亻 *jén* 'man' and 言 *yén* 'word'; 明 *míng* 'bright', consisting of 日 *jìh* 'sun' and 月 *yuèh* 'moon'.

Table 4. *Pictographs*

Primitive forms	Present forms	Pronunciation	Meaning
馬	馬	*mă*	'horse'
水	水	*shŭi*	'river; water'
木	木	*mù*	'tree, wood'
龜	龜	*kuēi*	'turtle'

Characters under the preceding three categories are often taken as representative of Chinese writing, but actually form only a small minority of characters, and it must be remembered that they

§58. FOREIGN LANGUAGE STUDY

Written:	今日	は	良い	天氣	です
Real Japanese:	*Konnichi*	*wa*	*yoi*	*tenki*	*desu.*
Chinese student's Japanese:	Chīnjìh	*wa*	liáng-*i*	t'iench'i	*desu.*
Literal translation:	Today	*wa*	fine-*i*	weather	*desu.*

of which the second line would be complete gibberish to the Japanese ear.

If the primary interest is in literary appreciation, a speaking knowledge is of course all the more important. Even if ancient

Besides, Language and Symbolic System involves some philosophical issues which prove to be significant in the study of symbology. From Chao's description of phonemes, morphemes and other language units, it can be clearly seen that the differentiation of meaning must be presumed as the distinguishing standard, i.e., different phonemes make a difference in constituting a larger unit — the morpheme, and so different morphemes are the smallest units with different meanings in relative frames. Therefore, the formal basis of linguistic research cannot be separated from the consideration of meaning, and meaning does not need to be linguistic in essence, nor does it need to be uniformly determined in all languages. This means that the definitions of phoneme and morpheme can be made with regard to a specific language. The same is true with the concept of word. The definition of the notion of word must be produced with reference to a given language, and the distribution of the meanings of word must be considered as the variation from language to language.

Chao believes that modern Chinese does not exist mainly in the form of visual symbol system, although its visual nature allows more use of homonyms (p.120). It has a listening and speaking system just like any other dialect, and its users learn it through the usual listening and speaking methods, just as they learn any other language. Chao emphasizes that translation is not a simple two-way relation between two languages or two texts, but a three-way relation involving, besides two languages or two texts, the situation of use (p. 148). Therefore, translation depends not only on the purpose of translation, but also on the type of translation materials. As translation requires the establishment of equivalence standards, it must be realized that there are many kinds of equivalence standards, and there are many ways to establish equivalence standards. Because of that, Chao points out that there are literalness vs. idiomaticity in translation, just like coarse-ground grain vs. fine-ground grain in rice, and function works as an important part of meaning, unless there is also a high degree of functional fidelity. "Fine-ground translation" does not need to be highly faithful to the original version (p. 153). Since the dimensions of meaning are more than one, translation needs to deal with more than one semantic dimension (faithfulness). People usually distinguish semantic translation from functional translation, and therefore, the best semantic fit in translation would have to be the most functionally suitable to use (p. 153). Up to now, Chao's views on translation have been quite advanced in the academic world.

In Chapter 12: Symbolic System, which is certainly the most enlightening chapter of the book, Chao has discussed such language technology terms as "cybernetics" and "information theory" as well as "ten requirements for good symbols", involving numerous concepts that still need to be brought into contemporary culture theory as a symbolic process. The chapter compares the symbols of natural language with many symbols used in mathematics and natural science, and he has given an explanation of the basic facts of communication mathematics, communication, and cybernetics (including the concepts such as redundancy, noise, coding, record, feedback). As a Book Review remarks, "some mathematicians

benefit a lot from 'Ten Requirements for Good Symbols' in Section 72 of Chapter 12" (Brainerd, 1969, P. 850). From reading the last chapter, we can see that Chao has already changed his mindset and paid more attention to the pragmatic aspect of signal communication and the transformation of Chinese language symbol system. In Chapter 12, Chao has observed the double issues of symbol system, with identification or differentiation on the one hand, and individuation or segmentation on the other hand. Following Peirce and Morris, Chao has conceived a symbol as something which can be conveniently produced, i.e., there is a conventional, usually arbitrary relationship between symbols and the symbolized things. And he has distinguished symbols from icons, recognized that it is possible to have the level of language, i. e. symbols of symbols, and emphasized the importance of distinguishing ambiguous, vague and general symbols in the case of "1-to-n relations" or "n-to-n relation".

Chao considers that a symbolic system is constructed in which the terms and relations have no concern for anything concrete and are defined vaguely by the set of their behaviour in the system (p. 202). He believes that even if the abstract approach does not directly concern for the actual concrete interpretations, it is still of the nature of matching symbol system with object system. Everyone thinks about the possible procedure when they are looking at abstract systems. The difference lies only in a matter of the procedure and division of labor. The general trend of abstract thinking, whether in mathematics, theoretical physics or other disciplines, is mainly related to symbolizing things.

In addition, he has listed ten requirements for good symbols: 1) Simplicity; 2) Elegance; 3) Ease of production, reproduction, etc.; 4) Suitability of size; 5) Balance between number of symbols and size of symbol combinations; 6) Clearness of relation between symbols and objects; 7) Relevance of the structure of symbol combinations to the structure of objects; 8) Discrimination between symbols; 9) Suitability of operational synonyms (i.e., the operational synonym of symbol is the counterpart of technical code for physical transmission or recording); 10) Universality (p. 212). He realizes that these requirements are often conflicting (though they may dig out the truth), the relative weight is difficult to determinehttps://fanyi.baidu.com/ -zh/en/javascript:void(0);. In this context, they are only the generalizations based on different languages and different uses. Every concept, such as "simplicity", must be comparatively described or specifically explained in the language system, and cannot be set apart independently from the language system. Therefore, pragmatism must be given much attention when formulating a good symbolic system.

The above "10 requirements" of good symbols described in Chao's Language and Symbolic System (1968) are based on the 16 requirements of good symbols described in his "A Sketch of a Science of Symbology" (1926), and so they are more concise and accurate, by keeping the balance between the number of symbols and the size of complex symbol system, and by refining the relationship between symbols and symbolic system. Language and Symbolic System also adds the opinions that good symbols should have "appropriate operational synonyms" and that good symbols should have "the principle of universality". "Synonym", as it has been

mentioned in Chapter 5: Meaning, is a matter of degree, like many other aspects of meaning (p. 71). Although Chao has not given a complete reason to explain it, but we can know from the hints that different individual synonyms have different background sentences and generative structures as the decisive factors of their meaning. As for "universality", the last requirement of good symbols, Chao insists that good symbols should be universal. This is the reason why he advocated the use of Latin to write Chinese characters in the middle of last century in China, and he designed General Chinese (once-influential phonetic scheme) which is a set of Chinese characters and Pinyin scheme, owing to the fact that the complex writing system of Chinese characters is not conducive to the overall national education and international exchanges. In his opinion, it is safe to advocate writing Chinese with letters (p. 226), i.e., to adopt the latin alphabet for writing the Chinese language, which can be used as a parallel writing form. However, this promotion does not mean abandoning the Chinese characters. Chao considers that Chinese pronunciation and Chinese characters are relatively independent from each other, and only through the perfect combination of the two can Chinese characters be best used. (Chao himself is an opponent of the Latinization movement of Chinese characters).

In the late 1960s, Chao's Language and Symbolic System aroused a heated discussion and received a mixed review in western academic circles. Some scholars criticized that "the complex levels of morphology and syntax in the book have not been fully clarified, and even morphology and morpheme have not been distinguished" (Friedrich 1969, p. 141); Some thought that "Chao's understanding of semantic features and meaning as an independent and main language organization is not sufficient"; Some estimated that "Chao's theory in the aspect of semantics is a little bit simple". Others said that "the book seldom talks about the latest research in the field of connective linguistics (psycholinguistics, etc.), as for linguistic anthropology, the field study procedure is rarely mentioned, and the contemporary cultural theory is ignored, and the structuralism popular in the European continent, whether the Prague, or the Paris Copenhagen Hagen School, is hardly given attention in the book" (Friedrich 1969, pp. 142-143). Some scholars criticized that "Chao is short of understanding of 'language union' presented in Chapter 7: Languages of the World, and 'language family' is established more on typological basis than strictly genetic grounds (p. 89), and that Chao has ignored Trubetskoy, the Russian linguist who first put forward the concept of 'language alliance' in the early 1930s, and Roman Jakobson and Bohuslav Havráne (Vachek 1969, p.196), the structural linguists of the Prague School, etc."

Although Western academic circles pointed out various deficiencies in Chao's book, some of the criticisms came from the academic tendency of different camps, or ignored what Chao wrote in the Foreword: "This is a book suitable for professional or non-professional readers". Chao did not make full use of professional termilogical words, "though some of them are necessary" (Chao, 1968, p. v). However, most scholars have a high opinion of the book. While criticizing him, more scholars admit that the book is "the work of one of the very few contributions to the mainstream of American linguistics" (Brainard & Chao, 1969, p. 850), and that "the book is a classic

interpretation of linguistics and a wonderful introduction to the typical aspects of the subject, as well as to the scientific outlook of linguists. It is beneficial to both the linguists and non-linguists" (Cheng, 1969, p. 457).

On the whole, Chao, in Language and Symbolic System, has built up a bridge between natural science, humanities, and social sciences, and absorbed the theoretical essence of Chomsky, Joos, Lamb, Sebeok, Jakobson, Shannon and Weaver, especially the ingenious insight into cybernetics. As we all know, Chao is famous for his creation of modern Chinese linguistics, and this book reflects his thoughts on cybernetics, a less familiar part of his academic career. In 1947, when he taught in Berkeley he was influenced by Norbert Wiener who was one of the key originators of cybernetics, with many implications for engineering, systems control, computer science, biology, philosophy, and the organization of society. Therefore, Chao was deeply attracted by cybernetics. In 1953, he was invited to the Macy's Conference, and the conference speeches were compiled in the collection of conference papers entitled "Meaning in Language and How It Is Acquired", in which there is a very important point: there is a gradual line between form and meaning. In the extreme, form is meaning. Researching form is inseparable from the discussion of meaning; researching meaning is inseparable from the support of form. When we really uncover the mystery of natural language understanding, we must thoroughly understand the "gradual change" between form and meaning (Li & Wang, 2001, p. 74). Chao believes that language is a part of life, or a special case of symbolizing in general (pp. v-vi). He has applied the concepts of feedback and information to understand general language, especially the Chinese language, regarded it as a symbolic system of information and explored its effectiveness, which is credited to his persistent interest in symbology. His exploration of cybernetics had been influenced not only by the rise of Information Science in the United States, but also by the Chinese Language Modernization Movement more than 20 years ago (Yeang, 2017, p. 553). When he worked in China in the 1920s and 1930s, his phonetic research for dialect investigations, his participation in drafting "Preliminary Design for a System of General Chinese and Language Reform", and his understanding of structuralism all helped him to give his cybernetic interpretation of language in the 1950s and 1960s. After the publication of Language and Symbolic System, his cybernetic thought has been widely spread in North America, and even translated into other languages. Another highlight of the book is the frequent use of Asian languages, especially Chao's native Chinese. Such reference examples have broadened the horizons of Western readers, who are very impressed with the strong feelings that Chinese culture is suitable for semiotics research (see Chao's enlightening comments on the operation efficiency of Chinese writing system in this book, p. 226), echoing his previous and subsequent academic researches on semiotics.

However, as the father of modern Chinese linguistics, Yuenren Chao has paid more attention to his achievements and influence in phonetics, dialects and translation, while his thoughts in the field of symbology have always been neglected in the academic circles home and abroad. In recent years, only a few articles have mentioned Chao's "A Sketch of a Science

of Symbology" written in 1926, which is the first academic paper in China to discuss semiotics in a real sense (Wang, M. Y. & Song, R., 2003; Zhao, J. X., 2006; Zhao, Y. H., 2012; 2016; Jia, H. W., 2016). However, in the early days of Chinese modern semiotics, few people talked about its advanced ideas of general semiotics and applied semiotics, and his early unique symbolic ideas was not appreciated and spread. Otherwise, the development of semiotics in today's China will have another scene (Jia, H. W., 2016). Most importantly, the significance of studying Chao's symbolic theory is to find the discourse source of modern Chinese semiotics and lay the foundation for the establishment of a complete and effective Chinese semiotics theoretical system in the future.

Chao's rich knowledge in mathematics, physics, philosophy, and linguistics ----- the dual background of arts and sciences has helped him tp gradually formulate his own research methodology and academic thoughts in the process of linguistics exploration, that is, to combine the descriptive methods of western structural linguistics with the research methods of Chinese literature, integrate the comprehensive analysis method with the specific analysis method, combine the induction with the deduction, and joint qualitative analysis with quantitative analysis. This comprehensive scientific research methodology has provided a paradigm for the Chinese academic generations to engage in successive linguistics studies, and at the same time, made great contribution to semiotics research both in China and in the whole world (Zhao, 2018:16).

Notes:

1.The idea of linguistic unions was suggested by Russian linguist Trubetskoy, who wrote an article in 1923 named "The Tower of Babylon". Trubetskoy was the first to introduce the very term and the first to distinguish a difference between a language family and a language union. According to Trubetskoy's definition, a language union first influences the syntax and morphology of languages which have to communicate closely, develops a similar phonetic structure, the true similarity of which is actually only in appearance. A long period of mutual contacts and influence on each other also make cultural background of languages similar. However, by Trubetskoy, languages of such a union are not connected by common sound correspondences and elementary original lexicon. Trubetzkoy, Nikolai S. (1923), "Vavilonskaja bašnja i smešenie jazykov" [The tower of Babel and the confusion of languages], Evrazijskij Vremennik, 3: 107–124. (https://tied.verbix.com/archive/article20.html, Feb.2, 2021)

2. "Macy Conference" in Cybernetics: Circular Causal and Feedback Mechanisms in Biological and Social Systems: Transactions of the Tenth Conference, April 22, 23, and 24, 1953. The Macy Conferences were a set of meetings of scholars from various disciplines held in New York under the direction of Frank Fremont-Smith at the Josiah Macy Jr. Foundation starting in 1941 and ending in 1960. The explicit aim of the conferences was to promote meaningful communication across scientific disciplines,and restore unity to science. There were different sets of conferences designed to cover specific topics, for a total of 160 conferences over the 19 years this program was active; the phrase "Macy conference" does not apply

only to those on Cybernetics, although it is sometimes used that way informally by those familiar only with that set of events. (https://en.wikipedia.org/wiki/Macy_conferences 8:02am Feb.2 2021)

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