A Quantitative and Comparative Research on Chinese and English Numerical Phrases

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Abstract

Numerical phases have rich cultural connotations and connect closely with culture. Along with the extension of China's reform and opening up policy, cross-cultural communication tends to be wider. The comparative research on cross-cultural languages is very important. Because of different cultural backgrounds, the cultural connotations of Chinese and English numerical phases are quite different. This paper tries to make a comparative research on the cultural connotations of numerical phases (include numbers from one to ten), in order to reveal the importance of cultural connotation characteristics in cross-cultural communication.

Keywords: Numerical phrases, Cultural connotation, Cross-cultural communication

1. Introduction

Numbers are the crystallization of human civilization, shining with the light of human wisdom. As a symbol, the number is a counting symbol, and also a cultural symbol. Numerical phases have rich cultural connotations. Its cultural connotation is the social cultural meaning implied by the numerical phase, including symbolic meaning, extended meaning, metaphors, imaginative meaning, and metonymy meaning. Numerical phases associate with culture closely. On one hand, different nations' ways of thinking, cultural traditions and customs affect the production and evolution of numerical phases' cultural connotations. On the other hand, numerical phases reflect the rich national and cultural connotations. Along with the extension of China's reform and opening up policy, cross-cultural communication tends to be wider. The comparative research on cross-cultural languages is very important. Because of different cultural backgrounds, the cultural connotations of Chinese and English numerical phases are quite different. This paper tries to make a comparative research on the cultural connotations of numerical phases (include numbers from one to ten), in order to reveal the importance of cultural connotation characteristics in cross-cultural communication.

2. Basic data for analysis

Investigate the 100 English words with top frequency in use, there are three numerals: one, two, and first. Investigate the 100 Chinese words with top frequency in use, there are seven numerals: one, ten, double, three, two, four, and five. These words are less then ten basic numbers. Because of the times, regions, and imbalance of the expression of cultural phenomenon, this paper mainly references to two dictionaries: *A New Contemporary Chinese-English* (Jian Zhang, 2002, see Table 1) and *English- Chinese Dictionary* (Tongyi Wang, 1998, see Table 2), constituting a closed quantitative statistics on 1-10 numerical phases, and making a comparative research based on related materials and data from *Number Words Ocean*, *The Dictionary of Symbols in China's Culture*, and *Chinese Dictionary*. This paper mainly makes a comparative analysis of cultural connotations of Chinese and English numerical phases from these aspects as follow.

(1) The amount and the percentage (including the sum of 1-10 numerical phases; the sum of numerical phases related with philosophy and religion, with cultural marker, and the percentage).

(2) Analyze and compare the differences and explain why.

(3) Identify common characteristics and explain the significance of comparative research.

3. Main differences of Chinese and English numerical phases' cultural connotations

Data show that Chinese numerical phases are more than English (including phases, terms, and fixed words). By comparing their implicit cultural connotations, we can find these main differences as follow.

3.1 Chinese numerical phases have rich connotations with wide application; English numerical phases have rigorous connotations with relatively limited application.

First of all, compared with Table 2, Chinese numerical phases have richer cultural connotations and the application is wider. According to Table 1, the sum of Chinese numerical phases composed of one to ten is 1038, and 741 with

cultural markers, accounting for 71.39% of the total. The cultural connotations are extensive and colorful, covering the mythology, history, religion, architecture, literature, art, language, geography, customs, and many other fields, such as Yichenburan (without one dust), Yikongzhijian (a peephole view), Yiqiaobutong (ignorant), Yipinhong (poinsettia (plant)), Yitilun (one unity theory), Erlongxizhu (two dragons play with a pearl), Sancongside (the three obedience and the four virtues), Sangangwuchang (the three cardinal guides and the five constant virtues), Sidajiekong (All the four elements (earth, water, fire and air of which the world is made) are void), Sishuwujing (the four books and the five classics), Sidafaming (four great inventions), Sidamingdan (the four most famous Dan actors), Wujiangsimei (five stresses and four points of beauty), Wuzang (five internal organs), Wudai (five generations), Wuyue (five famous mountains), Liuchao (six dynasties), Liufu (six hollow organs), Liugen (six roots), Liushen (six gods), Liuyu (six desires), Qiqingliuyu (the seven emotions and six sensory pleasures), Badacaixi (eight cousins), Bazihu (mustache), Baguwen (eight- legged essay), Jiuzhou (Kyushu), Jiuxiaoyunwai (out of cloud nine), Shidashengren (ten saints), Shiquanshimei (be perfect in every respect), and so on.

Secondly, Chinese numerical phases have rich and complex cultural connotations. We can explore on this point by equivalents (words and phases are not required for cultural interpretation in English- Chinese translation). In Table 1, numerical phases, composed of Chinese "one", are 508, with 96 equivalents, accounting for 18% of the total. Phases, composed of Chinese "four", are 82, with 29 equivalents, accounting for 35% of the total. The top percentage is 66%, for the Chinese "two". In the 1038 Chinese numerical phases in research, equivalents are 330, accounting for 30.4% of the total. It indicates that nearly 70% Chinese numerical phases need cultural interpretation in translation. Literal translation can not convey the meanings clearly, such asYiguoduan (totally exterminate; give one's all), Errenzhuan (song-and-dance), Erlangtui (cross-legged), Sangechoupijiang, Dinggezhugeliang (the wisdom of masses exceeds that of the wisest individual), Sizuo (all present), Sifenwulie (fall apart; all split up; disintegrate), Liuishenwuzhu (be out of one's wits), Liuqinburen (disown one's relatives), Qishoubajiao (with everybody lending a hand), Qishangbaxia (be perturbed), Babeizi (a long time), Bajiubulishi (about right pretty close), Shiquanshimei (reaching the acme of perfection).

Thirdly, Chinese "three" has been given rich cultural connotations, such as three communities, three parties, three-dimensional, three-pile, three-ring circus, and so on. In Table 1, the numerical phases, composed of Chinese "three", are 153, and 94 with cultural markers, accounting for 61.4% of the total. In Table 2, the numerical phases, composed of English "three", are 175, and 97 with cultural markers, accounting for 55.4% of the total, being six percentage lower then Chinese similar phases. In *Number Words Ocean*, phases, composed of "three", are 3658, such as three generations (Xia, Shang, and Zhou dynasty), Three Wise Kings (Fuxi, Shennong, and Yellow Emperor), three excellences (Taishi, Taibao, and Taizai), three religions (Confucianism, Buddhism, and Taoism), three sacrificed animals (cattle, sheep, and pig), three festivals (Dragon Boat Festival, Mid-Autumn Festival, and New Year), and so on. More idioms, such as luck for three incarnations, books written in remote antiquity, the three religions and the nine schools of thought, double-minded, look before you leap, and so on. Finally, even for the same numerical phase, its cultural connotation is various.

In Table 2, there are 848 English numerical phases, 190 less than Chinese numerical phases. 276 English numerical phases have cultural markers, accounting for 32.5% of the total, less 40 percentage than that in Table 1. The equivalents in English numerical phases account for 62.4% of the total, higher 32 percentage than that in Table 1. In special, many numerical phases, without cultural connotations, are used in mathematics, chemistry, and physics. These phases mean to describe certain thing or theory, displaying the preciseness of science.

For example, one-egg (a biological term), one arm (one kind of chair), one step (certain dance), two-snacker (a sports term), two-level model (certain model), two-fluid cell (certain battery), three-mile belt (geological term), three-square (mathematical term), four-cycle (certain circle), four-bar chain (certain chain), four-horned antelope (certain ring), five-level code (certain code), six shooter (certain shooter), six-wheeler (certain truck), seven-year itch (psychological worry), eight-spotted forester (certain forester), etc. Even for phases with cultural markers, English numerical phases concern a narrower field than Chinese ones. These phases mainly focus on religion, amusement, customs, and sports. For example, four horsemen (four human plague: wars, hungry, diseases, and death), four noble (religious principals), two old cat (baseball game), six-bid solo (certain card play), eightfold path (right ways), one and all (together), one dimensional (surface), one-horse (dirtiest and worst), one-ideaed (illiberal), one-trach (narrow), two-time (dirty), two-dimensional (inflexible), two-spot (anybody or anything), two-fisted (energetic), three-ring circus (mad, crazy), three-pile (super), nine day's wonder (short-lived wonder), etc.

Main reasons for the difference are:

(1) The difference is mainly determined by the history and culture environment in which Chinese and English are. For Chinese-speaking people, they have live in a society since the ancient time, where agriculture economy is

dominating, impacts of ethics and morals are profound, and ways of thinking are based on matters. Especially, the humanism science was developed in ancient society. Besides, due to the characteristics of Chinese words, Chinese numerical phases have been given various cultural connotations. Therefore, anything, such as mountains and scenery, astronomical calendar, literature and art, morality and religion, and basic necessities, connects with numbers. Compared with Chinese, English-speaking people have live in a society with developed natural science and prosperous commerce and economy. Numerical phases are widely used in these fields. In addition, English basic words are classified clearly. As a result, the cultural connotations of English numerical phases are not as richer as Chinese ones. So does in practical use.

(2) Language is the carrier of culture, and also a reflection of people's life experience. Chinese numerical phase "Sanxiawuchuer" means to do things quickly and properly. This phase is associated with abacus. Abacus is an effective tool for calculation in ancient China. Its function is equal to today's calculator. "Sanxiawuchuer" is one of basic fundamental pitchy formulas in abacus. With simple pitchy formulas, ancient people can perform a series of calculation with abacus. Therefore, the pitchy formula "Sanxiawuchuer" conveys the meanings of fast and quick. Similarly, many English numerical phases reflect English nation's cultural life. The English nation loves sports. Physical activities are important parts in their life. Many numerical phases associate with sports. For example, "one-two" means two fast strikes in boxing. "Three-quarter" means halfback in rugby. "Four-some" means doubles in golf. "Fives" means a ball game played by hands or clubs. "The Eights" means a boating game between Cambridge University and Oxford University. "Nine-pins" and "ten-pins" respectively refers to the skittle and ten columns in bowling. "Go over like nine pins" metaphors rickety to collapse.

(3) In English or Chinese, different number may express same meanings, what associates with national psychology. For example, in English "Five and Dime" refers to shops especially selling cheap goods. In China, the "eight-Yuan" shop, appeared in many cities, also focuses on cheap goods. Similar shops are named with different numbers, which reflects different attitudes of two nations. Chinese seek for happiness in naming something. The "eight-Yuan" shop can convey the information that the business man will win money and consumers will get luck by buying nice goods at lower prices. Moreover, Chinese do not like what others say about their own petty. Five or Dime seems to be too shabby. Therefore, although there are Five and Dime in Chinese currency system, businesses will not name their stores with "Five and Dime". On the contrary, English nation is more practical. Five and Dime tells that this store can offer real benefits for customers. Although the Five and Dime also sells goods at higher prices than Five or Dime, this expression is preserved in English and still in use today.

(4) The two nations have different ways of thinking. Chinese advocate moderation and reconciliation, and avoid extremes. Even for exaggeration, they prefer to be moderate. The English nation pursues for differences. In expression, they prefer to large numbers in exaggeration. Sometimes, different numbers in English or Chinese can express similar or same meanings. For example, the Chinese idiom "Bailitiaoyi" (one in a hundred) means somebody or something is special and outstanding. Similarly, the English numerical phase "one in a thousand" also means be different. In the two phases, the Chinese word "Bai" (hundred) or the English word "thousand" is used for exaggeration. The number used by English is ten times than that used by Chinese. Similarly, Chinese use "Shifenganxie" (ten thanks) or "Baifenganxie" (a hundred thanks) to expression "very grateful". In contrast, English use "a thousand thanks" or "thanks a million" to express the same meaning. So, English exaggerate greater than Chinese.

3.2 Chinese numerical phases focus on reflecting philosophy, while English numerical phases religion.

From Table 1, among 1038 Chinese numerical phases, 590 phases associate with ancient philosophy. In Table 2, the percentage is only 3.2%, far lower than the percentage of Chinese. Similarly, according to *The Dictionary of Symbols in China's Culture*, written by Wolfram Eberhard, in a Chinese dictionary, it lists twelve meanings of "five" and 1148 kinds of usage, and about more than 1000 kinds directly connect with Wuxing (five elements). Check the *Chinese Dictionary*, 504 entries are guided by "three", and about 60% originate from the Sanweiyiti (three-in-one) philosophy idea (see Table 3). From these data, to reflect philosophy ideas or be affected philosophy ideas is an important content of Chinese numerical phases' cultural connotations.

From Table 2, many English numerical phases have religious color. In the 848 numerical phases, 50 of them relate with religion, accounting for 5.9% of the total, and 32.5% of numerical phases with cultural markers. In contrast, the percentage in Table 1 is only about 2% or so. For example, eightfold path (Buddhism term), four horsemen (four human plagues: wars, hungry, diseases, and death), four noble, six-prineiple Baptist, seven en, etc.

Reasons for these differences are:

Associate with the cultural origins of Chinese and English. Many Chinese numerical phases have the cultural connotations derived from ancient philosophy, reflecting the idea of integrating the sky and human being together. It

has been described in an ancient work: anything, such as men, animals, and matters, has their origins. Sky is the first, land second, and men third. Three multiply three. Get nine. Nine multiply nine. Get eighty-one. One controls sun. Sun controls ten. Then, men were born in Oct. Eight multiply nine. Get seventy-two. Odd number follows even. Even controls morning. Morning controls month. Month controls horse. Then horses were born in Dec. Seven multiply nine. Get sixty- three. Three controls Dou. Dou controls dog. Then dogs were born in Mar. Six multiply nine. Get fifty-four. Four controls time. Time controls pigs. Then pigs were born in Apr. Five multiply nine. Get forty-five. Five controls tone. Tone controls Yuan. Then Yuan were born in May. Four multiply nine. Get thirty-six. Six controls laws. Laws control deer. Then deer were born in June. Three multiply nine. Get twenty-seven. Seven controls stars. Starts control tigers. Then tigers were born in July. Two multiply nine. Get eighteen. Eight controls wind. Wind controls bugs. Then bugs were born in Aug. So do others.

The west experiences one-thousand-year religious dominance. Christianity turns into the origin of contemporary western culture, holding the dominant position in cultural and thinking fields. Therefore, many English numerical phases' cultural connotations are directly from The Bible or under its great influences. Take "seven" for example: the seven heavens, the seven deadly or capital sins, the seven virtues, the seven sleepers, the seven senses, etc.

4. The common for the cultural connotations of Chinese and English numerical phases

By researching on the linguistic meanings of English and Chinese numerical phases, scholars agree that numbers in phases are usually virtual but not real. And in practical uses, numbers are usually for metaphor, exaggeration, and euphemistic (it does not prove its equivalence. The same number may have different meanings in different contexts). For example, "three" have many different meanings in Chinese. In "three or two words", "three" means few. In "three orders and five emphases", "three" means much. In "three inches foot", "three" means short. In "three-long two-short", "three" means once. Why the same number indicates different meanings? Or even the contrary meanings? We can explain this phenomenon from mathematic field and culture. In natural numbers, "three" is only bigger than "one" and "two". So "three" is a small number. In Chinese, comparing "three or two words" and "one thousand or ten thousand words", "three" is few. Comparing "three minds and two ideas" and "one mine and one idea", "three" is more. In English, "three" also has many meanings. "Three-ring circus" means a mess condition. "Three sheets in the wind" shows a drunken state. "Three handkerchiefs" refer to a sad play. Therefore, in English "three" means "mess" and "real". The "real" meaning of "three" is from the three-dimension concept. Because a three-dimensional movie can give people a sense of real life, "three" is given a "real" meaning. Besides, Christianity has a theory of "three in one". Maybe just due to the "three in one" theory, "three" gets the meaning of "mess".

Surely, there are some common aspects for Chinese and English numerical phases' cultural connotations.

They can express virtual meanings by real facts. For example, Chinese ones: five lakes and four oceans, one hair from nine cattle, survival from nine times deaths, perfect; English ones: one and all, nine day's wonder, ten to one, three sheets in the wind.

Affected by ancient culture and tradition, both Chinese and English numerical phases prefer to use numerical phases represent people or thing. For example, Chinese ones: errenzhuan (song-and-dance), three stages (trilogy), fourth tone, four diagnoses, three principles, three religions and nine schools of thought, four lakes, five mountains, six directions; English ones: eight fold way, seven-thirds rule, two old cat, seven seas.

Both Chinese and English numerical phases embody nations' numerical worship awareness. For example, in Chinese, numerical phases with "seven" or "nine" are deific. "Saving a life is better than building a seven-win Buddha." "Ten" indicates perfect.

5. Conclusion

Although there are some common elements in Chinese and English numerical phases, studies show that the differences are more prominent. Therefore, as we learn to use these numerical phases, we should give full attention to their different cultural connotations, ensuring the successful cultural communication between English and Chinese, reducing and avoiding misunderstanding in cross- communication, and improving the communication quality.

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Table 1.

Chinese Numerical Phases					
Phases	Sum	Cultural markers		Philosophy ideas	Equivalents
			Religious color		
One	508	386	297	122	96
Two	59	20	16	39	22
Three	153	94	79	59	72
Four	82	67	59	15	29
Five	86	65	52	21	34
Six	20	11	9	9	9
Seven	26	20	12	6	13
Eight	44	33	28	11	21
Nine	15	10	8	5	4
Ten	45	35	30	10	30
Total	1038	741	590	297	330
Percentage (%)		71.39	57.2	28.61	30.4

Table 2.

English Numerical Phases					
Phases	Sum	Cultural markers		Philosophy ideas	Equivalents
			Religious color		
One	161	30	4	131	132
two	249	71	5	178	140
three	175	97	6	78	99
four	71	14	3	57	51
five	55	12	7	43	31
six	38	16	4	22	22
seven	44	20	8	24	24
eight	33	6	6	27	19
nine	21	9	7	12	11
ten	1	1	0	0	0
Total	848	276	50	572	529
Percentage (%)		32.5	5.9	67.5	62.4

Table 3.

Sancai	Sky	Land	Man
Sanli	Sky	Land	Ancestor
Sanxi	Wild goose	Duck	Pheasant
Sansheng	Cattle	Sheep	Pig
Sangong	Taishi	Taibao	Taifu
Sanqing	Situ	Sima	Sikong
Sanjun	Foot army	Car army	Horse army
Sanxing	Filial piety	Friendly	Obedience