A Corpus-based Contrastive Study on English and Chinese Semantic Prime *happen* and *fasheng* in Natural Semantic Metalanguage

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Abstract

This paper reports a corpus-based study on English and Chinese semantic prime *happen* and *fasheng* in Natural Semantic Metalanguage. With the aids of computer software Wordsmith 5.0 and SPSS19.0, we conducted a contrastive study on *happen* and *fasheng* based on a small English and Chinese comparable corpus constructed by ourselves. By extracting evidence from the corpus, the distribution of *happen* and *fasheng*, their syntactic patterns, their colligation types as well as their semantic prosody are identified and analyzed. We found that there is no significant difference between English semantic prime *happen* and its Chinese counterpart *fasheng* with respect to their distribution, their syntactic patterns, their colligations, and their semantic prosody. The results reveal that semantic prime *happen* is identical with its Chinese counterpart *fasheng*. Thus it provides an evidence to justify the premise of the Natural Semantic Metalanguage Theory.

Key words: *Corpus, NSM, Semantic primes, Semantic prosody, happen, fasheng*

1. Introduction

As language is an important tool for human communication as well as a carrier of culture, its appropriate use in cross-cultural communication has always been considered important. Natural Semantic Metalanguage (NSM) is a good approach when it comes to lexical semantic analysis. The theory began as a method of lexical semantic analysis based on reductive paraphrase; that is, on the idea that the meaning of any semantically complex word can be explicated by means of an exact paraphrase composed of simpler, more intelligible words than the original (Wierzbicka, 1972), thus it voids the circularity and terminological obscurity in most dictionaries. It follows that every language has an irreducible "semantic core" which would be used in dealing with all the complex expressions. This semantic core must have a language-like structure, with a lexicon of indefinable expressions (semantic primes) and a grammar, which is the principle governing how the lexical elements can be combined. The semantic primes and their principles of combination constitute a kind of "mini-language" with the same expressive power as a full natural language.

By an extensive program of trial and error attempts to explicate meanings of diverse types, Anna Wierzbicka with other scholars have done over a period of thirty years to find the set of 60 or so semantic primes, i.e. indefinable meanings. Some of the primes are: I, YOU, SOMEONE, SOMETHING, THIS, HAPPEN, MOVE, KNOW, THINK, WANT, SAY, WHERE, WHEN (see Table 1). The claim is that the meanings of these words are essential for explicating the meanings of numerous other words and grammatical constructions, and that they cannot themselves be explicated in a non-circular fashion (Goddard, C., Wierzbicka, A., 1994, 2002, 2014）. These elements are held to designate meanings which are impervious to (non-circular) definition and are universal in the sense of having equivalents in all languages. By relying on a specified, minimal metalanguage, the approach aims to maximize explicitness, clarity, and translatability. The NSM explications can, however, readily accommodate vagueness and reflect elements of subjectivity (Goddard, 1998a). A considerable number of cross-linguistic researches indicate that the same set of semantic primes can be found, expressed via words or word-like elements, in a diverse range of languages.

Table 1: Proposed universal semantic primes (Goddard and Wierzbicka, 2014).

Substantives:	**SOMETHING~THING** shénme~yǒu shì, **BODY** shēntǐ, **I~ME** wǒ, **YOU** nǐ, **SOMEONE** shéi~yǒu rén, **PEOPLE** rénmen~rén
Relational substantives:	**KIND** zhǒng~ lèi, **PART** bù fèn
Determiners:	**THIS** zhè(ge), **THE SAME** tóngyàng~tóngyī~yīyàng, **OTHER~ELSE** bié(de)
Quantifiers:	**ONE** yī(ge), **TWO** liǎng, **SOME** yǒu de~yīxīe, **ALL** dōu, **MANY/MUCH** (hên) duō, **LITTLE~FEW** (hěn) shǎo
Evaluators:	**GOOD** hǎo, **BAD** huài~bùhǎo
Descriptors:	**BIG** dà, **SMALL** xiǎo
Mental predicates:	**THINK** xiǎng, **KNOW** zhīdao, **WANT** yào, **DON'T WANT** bú (xiǎng) yào, **FEEL** gǎnjué, **SEE** kàndào, **HEAR** tīngdào
Speech:	**SAY** shuō, **WORDS** zì~huà, **TRUE** zhēn
Actions, events, movement, contact:	**DO** zuò, **HAPPEN** fāshēng, **MOVE** dòng, **TOUCH** chù mō
Location, existence, specification, possession:	**BE (SOMEWHERE)** zài(nǎr), **THERE IS** yǒu, **BE (SOMEONE/SOMETHING)** shì (shéi/shénme), **BE(SOMEONE'S)** shì(shuí de)
Life and death:	**LIVE** shēnghuó~huó, **DIE** sǐ
Time:	**WHEN~TIME** shíhou~ shí jiān, **NOW** xiànzài, **BEFORE** yǐqián, **AFTER** yǐhòu, **A LONG TIME** hěnjiǔ, **A SHORT TIME** duǎnqi, **FOR SOME TIME** yǒuyīduàn shíjiān, **MOMENT** shùn jiān~ yī huì er
Space:	**WHERE~PLACE** shénme/dìfāng~nǎr/nàr, **HERE** zhèr, **ABOVE** shàngmian~-shang, **BELOW** xiàmian~-xia, **FAR** yuǎn, **NEAR** jìn~(de)shēnbian, **SIDE** -bian, **INSIDE** lǐmian
Logical concepts:	**NOT** bù, **MAYBE** kěnéng, **CAN** néng, **BECAUSE** yīnwèi, **IF** rúguǒ
Augmentor, intensifier :	**VERY** hěn, **MORE** duō
Similarity:	**LIKE** xiàng

"The semantic metalanguage has not been fully described until its syntax (i.e. combinatorial properties) has been fully specified. Nor, until this has been done, can we know whether the goal of a universal semantic metalanguage is realizable at all." (Goddard, 2002: 32) The existence of some shared or matching combinatorial patterns across all languages is just as important to the project as the existence of shared semantic primes. A corpus-based study takes advantage of the very best sources—examples from a large body of naturally occurring texts which pool together the intuitions of a great number of speakers and make linguistic analysis more objective. Until now, no research has been conducted based on corpus in this respect. So the current study tries to achieve a marriage between theory-driven and corpus-based approaches to linguistics through a contrastive study on English and Chinese semantic prime *happen* and *fasheng*. The use of corpus data as an

input to the analysis of semantic primes represents something new. The marriage of the corpus-based approach and traditional NSM analysis has enabled this thesis to produce a more realistic account in a way that has not been attempted previously.

2. Methodology

2.1. Construction of the Corpus

In planning the collection of texts to be included in our corpora, two considerations were made beforehand. One is that a variety of different genres of writing would be gathered for inclusion in the corpus. The other is that each genre would be divided into text samples, and each sample would not exceed a certain amount of words in length.

After comparing the resources and the amount of time available to create our own comparable corpus, we determined that the English corpus should contain 500000 words. According to Hu (2006), 10 English words equal to 16 Chinese characters, so the Chinese corpus should contain 800000 characters. The list of main categories and their subdivisions was drawn up according to the layout of Brown Corpus. A few changes were later made on the basis of experience gained in making the selections.

2.2. Data collection

In our comparable corpus, the texts in each corpus are divided into two main categories: informative prose and imaginative prose. The category of informative prose includes academic writing, non-academic writing and press reportage. Academic writing is represented by journal articles and textbooks, and covers a wide variety of topics, including natural sciences, medicine, mathematics, social and behavioral sciences, political science, law, education, humanities, technology and engineering. In contrast with that, non-academic writing has a wider and more varied readership, although the subject areas may still be quite specialized. This category includes press reportage, press editorials, press reviews, skills and hobbies, popular lore, miscellaneous and bells letters, biography, memoirs, etc. Press reportage includes political, sports, society, financial and cultural reports. All the reports were written by staff reporters and journalists. Each corpus contains a total of 22 individual press reports, taken from national, regional, and local newspapers. Press editorials and press reviews are distinguished from general news reports in the grounds that their main intention is to persuade rather than to inform. They are less directly tied to current events, and they offer the writer the opportunity to be discursive in a way that news journalism does not. Miscellaneous is corporate in origin. It is written on behalf of government departments or other administrative bodies and its chief aim is to convey information to the general public. Texts in the skill and hobbies category also offer instruction, but these are directed towards a smaller and more specialized readership. They include car maintenance manuals, cookery books, gardening manuals etc.

The imaginative prose in the corpus is creative writing: novels and short stories. It includes a variety of fiction types, including general fiction, mystery and detective fiction, science fiction, adventure fiction, romance and love story and humor.

Once the basic outlines of the corpus are determined, it is time to begin the actual creation of the corpus: collection, computerization, sampling, and segmentation of the Chinese characters.

The samples represent a wide range of styles and varieties of prose. Samples were chosen for their representative quality rather than for any subjectively determined excellence. Most of the samples were written in recent years. Since new words come into the language every day, we decided that for magazines and newspapers, the time-frame was one year, and for books, the time frame was five to ten years.

After the collection of the data, each text was assigned a unique textcode, corresponding to its position in the hierachy of text categories in the corpus in which the sample might be included. As for the sampling, the number of texts in each category varies. For the English corpus, each sample is of 2000+ words. According to Hu (2006), its Chinese counterpart is of 3200+ characters. Each sample begins at the beginning of a sentence but not necessarily of a paragraph or other larger division, and each ends at the first sentence ending after 2000 words or 3200 characters.

The detailed information about the corpus is shown in table 2.

Table 2: Detailed information about the corpus

	English	Chinese
Running words in texts (Tokens)	505848	461912
Distinct words (Types)	30955	30683
Type/Token ratio (TTR)	6.12	6.64
Standardized TTR	45.16	48.67
Standardized TTR std. dev.	53.56	50.60

3. Data Analysis and Discussion

"The ability to examine large text corpora in a systematic manner allows access to a quality of evidence that has not been available before." (Sinclair, 1991:27) The present study is a corpus-based study and tries to make a combination of quantitative measurements and qualitative analysis of the English and Chinese semantic prime *happen* and *fasheng*. By extracting evidence from corpora, the distribution of *happen* and *fasheng*, their syntactic patterns, colligation types, collocations as well as their semantic prosody are presented and analyzed.

3.1. Dictionary Explanation of happen and fasheng

In the Collins CoBuild Advanced Learner's English Dictionary (2006), *happen* is defined as follows:

1. Something that **happens** occurs or is done without being planned.

2. If something **happens**, it occurs as a result of a situation or course of action.

3. When something, especially something unpleasant, **happens to** you, it takes place and affects you.

4. If you **happen to** do something, you do it by chance. If **it happens that** something is the case, it occurs by chance.

5. You use **as it happens** in order to introduce a statement, especially one that is rather surprising.

1. In the Oxford Advanced Learner's English-Chinese Dictionary (2004), the explanation is as follows:

1. to take place, especially without being planned. (尤指偶然）发生，出现.

2. to take place as the result of sth.（作为结果）出现，发生

3. to do or be sth. by chance. 碰巧做，恰好是

4. used to tell sb. sth., especially when you are disagreeing with them or annoyed by what they have said. 向对方表示异议或不悦等

In 《现代汉语辞海》(Xian Dai Han Yu Ci Hai) (Dictionary of Contemporary Chinese) (1994), the word *fasheng* is defined as "yuanlai meiyou de shiwu chuxian-le; chansheng" "原来没有的事物出现了：产生" (new things appear; take place). While in《现代汉语词典》(Xian Dai Han Yu Ci Dian) (Modern Chinese Dictionary) (2005), the word *fasheng* is explained as follows:

1. yuanlai meiyou de shi chuxian-le; chansheng 原来没有的事出现了；产生

    New things appear; take place

2. luanzi shoujing hou zhujian shengzhang 卵子受精后逐渐生长

Gradual development of an embryo

According to the NSM Theory, only the "take place" sense of the word *happen* is proposed as the semantic prime. In like manner, only the "yuanlai meiyou de shi chuxian-le; chansheng" (new things appear; take place) sense of *fasheng* is proposed as the semantic prime.

3.2. Distribution of happen and fasheng

In this section, the overall frequencies of *happen* and *fasheng* as well as the respective frequencies of *happen* and *fasheng* with different meanings are presented and analyzed.

3.2.1. Overall distribution of happen and fasheng

To investigate the usage of *happen* and *fasheng* in the comparable corpus, the raw frequencies were calculated and the results are listed in Table 3.

Table 3: Overall frequency of *happen* and *fasheng*

	Raw frequency	Number of words	Percentage
happen	120	505848	0.02372%
fasheng	194	461912	0.04199%

As shown in Table 3, the total frequency of *happen* is 120, while that of *fasheng* is 194. The proportion of *happen* in English corpus is 0.02372% which is lower than that of *fasheng* 0.04199%. To test whether the difference is due to the different sizes of the corpora used for comparison, we resort to a statistical tool. "The aim of statistical tests of significance is to show whether or not the observed differences between sets of data could reasonably have been expected to occur 'by chance' or whether; on the contrary, they are most probably due to the alternation in the variable whose effect is being investigated." (Bulter, 1985: 8) Chi-square tests were performed with SPSS 10.0 in order to find out whether the difference in frequencies is significant at five percent significance level. The result is shown in Table 4.

Table 4: Chi-square tests on total frequency of *happen* and *fasheng*

	χ^2	*df*	*p*
Overall frequency	24.87	1	.000

As shown in Table 4, degree of freedom is 1. The calculated Chi-square value is 24.87, much greater than the critical value 3.38 at five percent level. The calculated significance is .000 much smaller than .05. Thus we may

conclude that the overall distribution of *happen* and *fasheng* in the comparable corpus is significantly different.

The reason for this is that the vocabulary entry of *happen* and *fasheng* are not entirely equal. Both *happen* and *fasheng* are polysemous words. Of the several meanings of *happen*, only the first sense "to take place" is proposed as a semantic prime. In like manner, only the first sense of *fasheng*: "yuanlai meiyou de shi chuxian-le; chansheng" (new things appear; take place) is proposed as a semantic prime. The following are several examples of the sense of *happen* and *fasheng* proposed as the semantic primes.

[1]

  a. What **happened** to those cells when people lost weight, he wondered.

  b. But what **happens** if Canada and Brazil wine and crop prices later drop sharply?

  c. The day came when it did **happen** and when they wished themselves elsewhere.

  d. Then everything **happened**, and with inconceivable rapidity.

  e. 一定会**发生**感染。

yidinghui fasheng ganran

certainly happen infection

  The infection would certainly take place.

  f. **发生**翻车事故。

fasheng   fanche   shigu

happen overturned car   accident

The overturned vehicle accident happened.

  g. **发生**通货膨胀。

fasheng tonghuopengzhang

happen inflation

The inflation happened.

  h. 谁也不敢问，会有什么事**发生**。

shui ye   bugan wen, hui   you shenmeshi fasheng

Who also daren't ask should have   what   happen

Nobody dares to ask what will happen.

Example [1a] can be interpreted as "He wondered what would take place to those cells when people lost weight." Example [1b] means that "What would occur as a result of the sharply reduction of the price of wine and crop in Canada and Brazil." In the above examples *happen* means "take place, occur". In example [1e], it means that new thing *infection* would appear. In example [1g], there is no doubt that the inflation is the consequence of something.

Several examples of the uses that cannot be proposed as the semantic primes are illustrated as follows:

[2]

a. Has something **happened** to alter him, or is that his natural state?

b. How did you **happen** to be shod with gold?

c. One morning I **happened** to turn over the salt-cellar at breakfast.

d. As it **happens**, I have my notebook with me.

Here, *happen* means "to do or be something by chance". In Chinese, it means *pengqiao, qiaqiao*. Example [2d] can be interpreted as "It is by chance that I have my notebook with me." In Chinese, it is "qiaqiao wo dai le bi". "Happen to do something" means "to do something by chance". Such as example [2c], it means that "One morning I turned over the salt-cellar at breakfast by chance."

[3]

a. The two friends **happened** on each other in a town.

b. I **happened** on the pen I'd been looking for.

In the above two examples, *happen* also means "occur by chance". The Chinese equivalences are *ouran yudao, ouran faxian*. Example [3a] can be interpreted as "The two friends met each other in a town by chance." In Chinese, it is "liang wei pengyou zai yige chengzhen ouran yudao le". While example [3b] means "By chance I found the pen I'd been looking for."

[4]

a. 预防腐败现象的**发生**。

yufang   fubai   xianxiang de fasheng

prevent corruption phenomena   happen

To prevent the happening of the corruption.

b. 避免火灾的**发生**。

bimian huozai de fasheng

avoid   fire   happen

To avoid the happening of the fire.

In the above two examples, *fasheng* means "something that happens". Here *fasheng* is a noun, and its English counterpart is *happening*. "huozai de fasheng"means "the happening of the fire", which is different from "huozai fasheng" and "fasheng huozai", which means "the fire happened".

[5]

a. 他们对**发生**的事件总感到突兀。

tamen dui   fasheng de shijian zong gandao tuwu

they towards   happen   thing always feel   abrupt

They always feel abrupt to the things that happened.

b. 这是小时候所**发生**的事情。

zhe shi xiaoshihou suo fasheng de shiqing

This is childhood   happen   thing

This is the thing that happened during childhood.

Here *fasheng* is an attribute, modifying *shi* (thing), which means "that happened". "fasheng de shiqing" means "the thing that happened", which is different from "shiqing fasheng" (the thing happened).

Since the present study is to analyze the semantic prime *happen* and *fasheng*, we only focus on the sense proposed as the semantic prime.

3.2.2. Frequencies of happen and fasheng with different meanings

To investigate the usages of semantic prime *happen* and *fasheng* in the comparable corpus, the distribution of *happen* and *fasheng* with different meanings were calculated and the results are shown in Table 5.

Table 5: Frequencies of *happen* and *fasheng* with different meanings

	happen		*fasheng*	
	Frequency	Percentage	Frequency	Percentage
Semantic prime meaning	98	81.67%	146	75.26%
Other meanings	22	18.33%	48	24.74%
Total	120	100%	194	100%

As shown in Table 5, there is still a discrepancy in the different meanings of *happen* and *fasheng*: semantic prime meaning of *happen* accounts for 81.67% while that of *fasheng* is 75.26%. Based on the raw data in Table 5, Chi-square tests were performed to find out whether the distribution of *happen* with semantic prime meaning differs significantly to that of *fasheng* at five percent significant level. Table 6 shows the result of Chi-square test of the comparison of semantic prime meaning of *happen* and *fasheng* after running SPSS programs.

Table 6: Chi-square tests on semantic prime meaning of *happen* and *fasheng*

	χ^2	*df*	*p*
Selected frequency	1.76	1	.185

For Table 6, degree of freedom is 1. The calculated value is 1.76, which is smaller than the critical value 3.38 at five percent level. The calculated significance is .185 much greater than .05. Thus we can tell that there is no significant difference of the distribution of semantic prime *happen* and *fasheng*.

3.3. Syntactic Patterns of happen and fasheng

Based on the concordance lines of *happen* and *fasheng*, we have identified three syntactic patterns for *happen* and *fasheng*.

I. SOMETHING HAPPEN

   EVENT-NOUN fasheng

fasheng EVENT-NOUN

II. SOMETHING HAPPEN TO X [Undergoer]

EVENT-NOUN fasheng zai X [Undergoer] (de) shenshang

X [Undergoer] fasheng EVENT-NOUN

III. SOMETHING HAPPEN IN PLACE/TIME

EVENT-NOUN fasheng zai NP$_{TIME/PLACE}$

NP$_{TIME/PLACE}$ fasheng EVENT-NOUN

Let us first examine the syntactic frame for *happen* and *fasheng* with event nouns. Pattern I in Chinese contains a single "eventive" argument which may occur preverbally or postverbally. Generally speaking, the difference in position depends on information status. New information is postverbal, while given information tends to be preverbal. While in English, *happen* is an intransitive verb, so the "eventive" argument only occurs preverbally. Several examples are given below:

[6]

a. Letting everyone know exactly what did **happen**.

b. I can't believe this is **happening**!

c.必将会**发生**一场浩劫。

bijiang   hui   fasheng yichang haojie

certainly should happen   a   catastrophe

There will certainly be a catastrophe.

d.意外**发生**了。

 yiwai   fasheng-le

 accident happened

The accident happened.

For pattern II, "X" is the undergoer, i.e. the role borne by "X". In Chinese, the noun in preverbal position is interpreted as the undergoer, while the second slot is always the event noun. In order to code the undergoer as opposed to locus, a different structure is used with a postverbal locative phrase *zai X (de) shenshang* which collocates the undergoer with *shenshang*. Here the bound lexeme *shen* refers to what happens to one's body as a literal embodiment of "person, self, life" (Goddard, 2002). This is the only frame with *happen* and *fasheng* that allows both undergoer and event to be introduced. Several examples are given below:

[7]

a. But what **happens** to you, my orphan?

b. Obi Wan never told you what **happened** to your father.

c. 身体就会**发生**故障。

shenti jiuhui fasheng guzhang

body will happen trouble

There will be something wrong with the body.

    d. 当死亡**发生**在自己亲人身上。

dang siwang fasheng zai   ziji   qinren shengshang

when death   happen to   self   relatives body

When death happens to our relatives...

For pattern III, in English, the preposition indicates a locus/time position which equals to the lexeme *zai* in Chinese. The locus/time noun phrase is also allowable in preverbal position. Examples are given below:

[8]

    a. There is something **happening** in America.

    b. It tells you about what had **happened** in the past.

    c. 以前曾**发生**过事故。

yiqian ceng fashengguo shigu

before once happened accident

The accident happened before.

    d. 事故**发生**在韶山路。

shigu   fasheng zai shaoshan lu

accident happen in shaoshan road

The accident happened in Shaoshan road.

To investigate the usage in terms of different syntactic patterns, the frequencies of each syntactic pattern was calculated and analyzed. The results are listed below.

Table 7: Frequencies of *happen* and *fasheng* within different syntactic patterns

Syntactic pattern	*happen*		*fasheng*	
	Frequency	Percentage	Frequency	Percentage
Pattern I	59	60.20%	71	48.63%
Pattern II	16	16.33%	36	24.66%
Pattern III	23	23.47%	39	26.71%
Total	98	100%	146	100%

As shown in Table 7, there is a discrepancy in different syntactic patterns of *happen* and *fasheng*: syntactic pattern I of *happen* accounts for 60.20%, while that of *fasheng* is 48.63%; syntactic pattern II of *happen* accounts for 16.33%, while that of *fasheng* is 24.66%; the third syntactic pattern of *happen* accounts for 23.47%, while that of *fasheng* is 26. 71%. Based on the raw data in Table 7, Chi-square tests were performed to find out whether the distributions of different syntactic patterns differ significantly. Table 8 shows the results of Chi-square tests of the comparison of different syntactic patterns of *happen* and *fasheng* after running SPSS program.

Table 8: Chi-square tests on syntactic patterns of *happen* and *fasheng*

	χ^2	*df*	*p*
Syntactic pattern I	3.16	1	.076
Syntactic pattern II	2.43	1	.119
Syntactic pattern III	0.33	1	.568

For Table 8, degree of freedom is 1, the calculated Chi-square value is 3.16, 2.43, and 0.33 respectively, all smaller than the critical value 3.84 at five percent level. The calculated significance value is .076, .119, and .568 respectively, all bigger than the critical value .05. Thus we may conclude that there is no significant difference between the distributions of the three syntactic patterns of *happen* and *fasheng*.

3.4. Colligations of happen and fasheng

In order to have a deeper understanding of the different syntactic patterns, we resort to observe the detailed colligations for each pattern. And the results are listed as below. The detailed colligations for syntactic pattern I are shown as follows:

Table 9: Colligation types within syntactic pattern I

Colligation type	*happen*		*fasheng*	
	Frequency	Percentage	Frequency	Percentage
n./ pron. + V. V. + n.	42	71.19%	60	84.50%
n./ pron. + V. + adv. n./ pron. + adv. + V.	17	28.81%	11	15.50%
Total	59	100%	71	100%

From table 9, we can see that there are two colligation types within syntactic pattern I. *happen* can only be used as intransitive verb, while *fasheng* can be used as either transitive or intransitive verb. In syntactic pattern I, we further divide the colligation type according to whether there occurs an adverb or not. Colligation type "n./ pron. + V. or V. + n" within syntactic pattern I of *happen* accounts for 71.19%, while that of *fasheng* is 84.50%; Colligation type "n./ pron. + V. + adv. or n./ pron. + adv. + V." within syntactic pattern I of *happen* accounts for 28.81%, while that of *fasheng* is 15.50%. Typical examples are listed as follows:

[9]

     a. That did not **happen**.

     b. Or it could **happen** again.

     c. 惨案**发生**了,我们得到报案。

     can'an fasheng le, women dedao baoan

     accident happened, we   got report

The accident happened, and we got the report.

d. 你能不能告诉我，**发生**了什么事情？

ni nengbuneng gaosu wo, fasheng le shenme shiqing?

you could   tell me happened what thing

Will you please tell me what happened?

e. 但最糟的并不总是**发生**。

dan zuizaode   bingbu zongshi fasheng

but the worst   not   always happen

The worst things do not always happen.

Example [9a], [9c], and [9d] belong to colligation type "n./ pron. + V. or V. + n." In example [9c], "can'an fasheng le" (the accident happened), the event noun *can'an* (the accident) occurs preverbally. In example [9d], "fasheng le shenme shiqing" (what happened), the event noun *shenme shiqing* (what) occurs postverbally. In English, the event noun can only occur preverbally as in example [9a]. Example [9b] and [9e] belong to colligation type "n./ pron. + V. + adv. or n./ pron. + adv. + V." The word *again*, *zongshi* (always) are adverbs modifying *happen* and *fasheng*.

The detailed colligations for syntactic pattern II are shown as follows:

Table 10: Colligation types within syntactic pattern II

Colligation type	*happen*		*fasheng*	
	Frequency	Percentage	Frequency	Percentage
n. + V. + n.	00	0	34	94.44%
n./ pron.+ prep. + V. n./ pron. + V. + prep.	16	100%	2	5.56%
Total	16	100%	36	100%

As to the second syntactic pattern: SOMETHING HAPPEN TO X [Undergoer]. The colligation type for *happen* in this syntactic pattern is exclusively "n. / pron. + V. + prep." Its Chinese counterpart is "EVENT-NOUN fasheng zai X [Undergoer] (de) shenshang / X [Undergoer] fasheng EVENT-NOUN". The undergoers in Chinese usually are subjects of the sentence, so colligation type "n. + V. + n." within syntactic pattern II of *fasheng* is the mainstream, which accounts for 94.44% of the total, while colligation type "n. / pron. + prep. + V. or n. / pron. + V. + prep." only accounts for 5.56%. Typical examples are given below:

[10]

a. I have to understand what **happened** to me.

b. But what **happens** to you, my orphan?

c. 当死亡**发生**在自己亲人身上。

dang siwang fasheng zai   ziji   qinren shengshang

when death   happen to   self   relatives body

When death happens to our relatives,

d. 情况发生变化。

qingkuang fasheng bianhua

situation   happen change

The situation has changed.

e. 身体就会**发生**故障

shenti jiuhui fasheng guzhang

body will happen trouble

There will be something wrong with the body.

In example [10a] and [10b], the preposition *to* is to introduce the undergoer *me* and *you*. Example [10c] belongs to colligation type "n. / pron. + V. + prep.", the phrase *zai* X *shenshang* introduces the undergoer *ziji qinren* (our relatives), and the preverbal noun *siwang* is the event noun. Example [10d] and [10e] belong to colligation type "n. + V. + n.", the preverbal nouns *qingkuang* (situation) and *shenti* (body) are the undergoers, while the postverbal nouns *bianhua* (change) and *guzhang* (trouble) are the event nouns.

The detailed colligations for syntactic pattern III are shown as follows:

Table 11: Colligation types within syntactic pattern III

Colligation type	*happen*		*fasheng*	
	Frequency	Percentage	Frequency	Percentage
V. + locus	10	43.48%	29	74.36%
V. + Time	13	56.52%	10	25.64%
Total	23	100%	39	100%

In syntactic pattern III, the colligation type can be further divided into "V. + locus" and "V. + Time". Within this syntactic pattern, colligation type "V. + locus" of *happen* accounts for 43.48%, while that of *fasheng* is 74.36%; colligation type "V. + Time" of *happen* accounts for 56.52%, while that of *fasheng* is 25.64%. Typical examples are given below:

[11]

a. There was also a Nascar promotion **happening** around Midtown.

b. It tells you about what **had happened** in the past.

c. 事故**发生**在韶山路。

shigu   fasheng zai shaoshan lu

accident   happen   in shaoshan road

The accident happened in shaoshan road.

d. 事故多**发生**于三、四月份。

shigu   duo   fasheng yu san,   si yuefen

accident much happen at three four month

The accident usually happened in March and April.

Example [11a] and [11c] belong to colligation type "V. + locus", the preposition *around* and *zai* introduce the locus *Midtown* and *shaoshan road*. Example [11b] and [11d] belong to colligation type "V. + Time", the preposition phrase *in the past* and *yu san, si yuefen* (in March and April) indicate the time frame.

3.5. Semantic Prosody and Collocation of happen and fasheng

Since semantic prosody studies the collocational behavior of lexical items, and it lays its emphasis on the semantic meaning which imposes on collocational structure, we analyze the collocation and semantic prosody of *happen* and *fasheng* together.

3.5.1. Overall semantic prosody of happen and fasheng

In the current study, we evaluated each case in context. A pleasant or favorable affective meaning is labeled as positive while an unpleasant or unfavorable affective meaning is judged as negative. When what was happening was completely neutral, or the context provides no evidence of any semantic prosody, the instance is labeled as neutral. It has to be admitted that, since there is no agreed criterion to the classification of these three categories, discrepancies do exist for some vague words. However, we will not take this factor into consideration because they only account for a small rate in the words being examined.

Table 12: Overall semantic prosody of *happen* and *fasheng*

Semantic prosody	*happen*		*fasheng*	
	Frequency	Percentage	Frequency	Percentage
Positive	16	16.33%	21	14.38%
Negative	50	41.02%	87	59.59%
Neutral	32	32.65%	38	26.03%
Total	98	100%	146	100%

From the above table, we see that the 50 collocations of *happen* with negative semantic prosody is the mainstream, accounting for 41.02% of the total. There are 32 collocations of *happen* with neutral semantic prosody, accounting for 32.65% of the total, while the 16 collocations of *happen* with positive semantic prosody accounts for 16.33% of the total. Typical examples include:

[12]

    a. Letting everyone know exactly what did **happen**.

    b. Or it could **happen** again.

    c. Several things **happened** in very quick succession.

    d. An accident **happens** to his passengers.

f. I'll send you a message if anything important **happens**.

g. The famous festival in Spain was about to **happen**.

In Chinese, 87 collocations of *fasheng* with negative semantic prosody is the mainstream, accounting for 59.59% of the total. There are 38 collocations of *fasheng* with neutral semantic prosody, accounting for 26.03% of the total. The 21 collocations of *fasheng* with positive semantic prosody account for 14.38% of the total. Typical examples include:

[13]

a. 事故屡次**发生**。

shigu   lüci   fasheng

accident always happen

The accident always happen.

b. 空难**发生**了。

kongnan fasheng le

aircrash   happened

The air crash happened.

c. 但谁也没有料到会**发生**越狱事件。

dan shui ye meiyou liaodao hui   fasheng   yueyu shijian

but who   not   expect would happen   jailbreak event

But no one expect that jailbreak would happen.

d. 在这以前谁也没有对它**发生**过兴趣。

zai zhe   yiqian shui ye meiyou   dui   ta fashengguo xingqu

  at   this before who   not   towards it happened   interests

Nobody showed any interest in it before this.

f.见面后不知**发生**了什么事情。

jianmian hou   buzhi   fasheng le shenm shiqing

  meet   after don't know happened   what   thing

Nobody knows what happened when they met each other.

Based on the raw data above, Chi-square tests were performed to find out whether the distribution of different semantic prosodies differs significantly. Table 13 shows the results of Chi-square tests of the comparison after running SPSS program.

Table 13: Chi-square tests on semantic prosody of *happen* and *fasheng*

	χ^2	*df*	*p*
Positive	.172	1	.678
Negative	1.749	1	.186
Neutral	1.258	1	.262

For Table 13, degree of freedom is 1, the calculated Chi-square value is .172, 1.749 and 1.258 respectively, much smaller than the critical value 3.84 at five percent level. The calculated significance value is .678, .186, and .262 respectively, all greater than .05. Thus we may conclude that there is no significant difference between the semantic prosody of *happen* and *fasheng*.

3.5.2. Positive semantic prosody of happen and fasheng

Of the 16 examples of collocations of *happen* with positive semantic prosody, 11 instances belong to syntactic pattern I "SOMETHING HAPPEN". The collocations of *happen* with positive semantic prosody are *anything important, festival, good things, promotion* and several pronouns such as *it, this, that, what*. We can easily distinguish the positive semantic prosody from those nominal collocations. As for those pronoun collocations, we can still tell from the specific contexts that *happen* in those contexts are associated with good things. Several examples are given as follows:

[14]

a. I'll, ah, send you a message if anything important **happens.**

b. The famous La Tomatino Festival in Spain was about to **happen.**

c. Some good things are **happening** along this line.

d. Unfortunately, this has not **happened** and we have seen continued erosion in the Banks lending margins.

The adjective *important* and *good* in example [14a] and [14c], the event noun *festival* in example [14b] indicate the positive semantic prosody of *happen*. In example [14d], double negations *unfortunately* and *not* also indicate that what would happen should be good thing.

Of the 21 examples of collocations of *fasheng* with positive semantic prosody, 18 instances belong to syntactic pattern I "EVENT-NOUN fasheng & fasheng EVENT-NOUN". The positive collocations are: *bianhua* 变化 (change), *biange* 变革(transform), *xiaoli* 效力(effect), *xingqu* 兴趣(interest), *fuwu de tigong* 服务的提供(service provision), *shijian* 事件(event), *wusi yundong* 五四运动(May Fourth Movement), *shenme* 什么(what). *Bianhua* 变化(change), and *shenme* 什么(what) may seem neutral, carrying no affective meaning. However, we can tell from the referents in the specific contexts that those collocations are associated with good changes. Some examples of the collocations with positive semantic prosody are given as follows:

[15]

a.更重要的是使原料发生"质"的变化，最后构成菜肴的完美属性。

geng zhongyao de shi shi yuanliao   fasheng zhidebianhua, zuihou goucheng caiyao de wanmei shuxing.

More important   is make raw material happen qualitative change at last form

dish   perfect   property

Most of all, the raw material should have qualitative changes so as to make the menu perfect.

b.公公婆婆对她的态度**发生**了历史性的变化，空前的呵护和体贴。

gonggongpopo, dui   ta de taidu fasheng-le lishixing de bianhua, kongqian de hehu he titie.

Parents-in-law   towards her attitude happened historical change unprecedented

caring and considerate

Historic changes have occurred in parents-in-law's attitudes towards her, they became unprecedented caring and considerate.

In example [15a], *zhi de bianhua* (qualitative changes) may be good or bad, but we can infer from *goucheng caiyao de wanmei shuxing* (make the menu perfect) that good things happened to the material. In example [15b], *taidu de bianhua* (the change of attitudes) may be good or bad, however, we can infer from *kongqian de hehu he titie* (unprecedented caring and considerate) that the parents-in-law's attitudes to her changed from bad to good.

The collocations of both *happen* and *fasheng* with positive semantic prosody constitutes a low proportion. Examples of the collocations of *happen* with positive semantic prosody occur 16 times, accounting for 16.33% of the total occurrences, and that of *fasheng* 21 times, accounting for 14.38% of the total occurrences. According to the Chi-square tests, there is no significant difference of the positive semantic prosody between *happen* and *fasheng*.

3.5.3. Negative semantic prosody of happen and fasheng

Collocations of *happen* and *fasheng* with negative semantic prosody constitutes a high proportion. Examples of collocations of happen with negative semantic prosody occur 50 times, accounting for 41.02% of the total. The 87 examples of collocations of *fasheng* with negative semantic prosody account for 59.59% of the total. Of the 50 collocations of *happen* with negative semantic prosody, only 7 are nominal collocations. The rest are pronouns, which refers to the above or following contexts. Of the 87 examples of collocations of *fasheng* with negative semantic prosody, 74 examples are nominal collocations. We can tell from this that in Chinese, the things that happened is specifically identified in most of the cases; While in English, we have to infer from the context what happened in most of the cases. According to the Chi-square tests, there is no significant difference of the negative semantic prosody between *happen* and *fasheng*.

The nominal collocations of *happen* with negative semantic prosody are: *misfortune, bad weather, accident, horror, bad weather, the worst,* and *the tragedy.* It is easy to tell that all those seven collocations contain a negative connotation.

[16]

a. The tragedy did not **happen**.

b. An accident **happens** to his passengers.

c. Bad weather **happened** on this first setting out.

d. A misfortune **happened**.

e. She and Winifred were sitting together on the bridge, he told her that things had **happened** while he was studying abroad that he was sorry for.

f. He just felt bad about what had **happened**.

  In the example [16a], [16b], [16c], and [16d], the event nouns *tragedy, accident, bad weather,* and *misfortune* clearly indicate that what happened or is happening is bad. In example [16e], we can infer from *sorry for* that the things that had happened are not good. In like manner we can infer from *felt bad* in example [16f] that what had happened is bad.

The nominal collocations of *fasheng* with negative semantic prosody cover a wide range of unpleasant things. A semantic preference of "calamities, diseases and hurts, criminals and bad events, and bad changes" can be drawn form the nominal collocations of *fasheng* with negative semantic prosody. Nominal collocations express semantic preference of "calamities" are: *dahuo* 大火(fire), *huozai* 火灾(fire), *dizheng* 地震(earthquake), *fengbao* 风暴(storm), *kongnan* 空难(air crash), *qihuo* 起火(on fire), *baozha* 爆炸(explosion), *kuangnan* 矿难(mining accident), *yiwai* 意外(accident), *zaihai* 灾害(scourge). Nominal collocations express semantic preference of "diseases and hurts" are: *binghai* 病害(disease), *ganran* 感染(infection), *jibing* 疾病(disease), *gongshang* 工伤(accident at work), *siwang* 死亡(death). Nominal collocations express semantic preference of "criminals and bad events" are: *anjian* 案件(case), *can'an* 惨案(catastrophe), *chongtu* 冲突(conflict), *dashi* 大事(great invent), *dongdan* 动荡(turbulence), *guzhang* 故障(breakdown), *haojie* 浩劫(great calamity), *huoshi* 祸事(disaster), *jiuge* 纠葛(dispute), *duoluo* 堕落 (degeneration), *qiangjie'an* 抢劫案(case of robbery), *zhengyi* 争议(dispute), *zuizaodeshi* 最糟的（事）(the worst thing), *zheyimu* 这一幕(this occasion), *saoluan* 骚乱(riot), *shigu* 事故(accident), *shijian* 事件(event), *shiqing* 事情 (thing), *sunhuai* 损坏(damage), *taotuo* 逃脱(eacape), *ganshe* 干涉(intervene). Nominal collocations express semantic preference of "bad changes" are: *bianhua* 变化(change), *bianxing* 变形(distortion), *bianyi* 变异 (aberrance), *houguo* 后果(consequences), *huhua* 糊化(pasting), *kunnan* 困难(difficulty), *toujixingpaomo* 投机性泡沫(speculative froth), *tonghuopengzhang* 通货膨胀(inflation), *weiji* 危机(crisis), *wenti* 问题(problem).

Some examples are given below:

[17]

a.地貌不稳定，以前曾**发生**过山坡垮塌伤人事故。

dimao bu wending, yiqian ceng fasheng guo shanpotanta shangren shigu.

Landform not stable   once   happened   landfall   hurt people accident

The landform structure is unstable, there were accidents caused by landfall.

b.喜灵洲惩教所 446 名囚犯在夜间**发生**骚乱。

Xilingzhou   chengjiaosuo 446 ming qiufan zai yejian fasheng saoluan

Hei Lei Chau Inmate Centre 446 prisoners   at   night happen riot

Riot was held at night in Hei Lei Chau Inmate Centre by 446 prisoners.

c.空难**发生**后，心急如焚的乘客亲属先是赶往伊斯坦布尔。

kongnan fasheng hou, xinjirufen de chenke qinshu xianshi ganwang Istanbul

air crash happen after demented   passenger relatives first go to   Istanbul

When the air crash happened, the demented relatives of the passengers went to Istanbul at once.

d.魏家坪**发生**了一场惨烈异常的矿难。

Weijiaping fasheng le yichang yichang canlie de kuangnan

Weijiaping happened   a   unusual deadly   mining accident

A most deadly mining accident happened in Weijiaping.

e.但最糟的不总是**发生**; 我们都有失败的时候。

dan zuizao de bu zongshi fasheng; women dou you shibai de shihou

but the worst not always happen   we   all have   fail   time

But the worst things do not always happen, we all had failed once.

In example [17a], *shanpotanta* (landfall), *shigu* (accident) make clear that what happened is bad. S*aoluan* (riot) in example [17b], *kongnan* (air crash) in example [17c], and *zuizao de* (the worst things) in example [17e] indicate that bad things happened. In example [17d], *kuangnan* (mining accident), *yichang canlie* (most deadly) indicate that what happened is extremely bad.

3.5.4. Neutral semantic prosody of happen and fasheng

According to the Chi-square tests, there is no significant difference between *happen* and *fasheng* with respect to the neutral semantic prosody: both constitute a relatively low proportion. We closely examined those examples and had them analyzed below.

Examples of collocations of *happen* with neutral semantic prosody occur 32 times, accounting for 32.65% of the total. Most of them are collocated with pronouns. In these examples, *happen* has a strong tendency to indicate the semantic preference of uncertainty and fortuity. *What*, the commonest collocation with *happen*, occurs 26 times. In these occasions, the answer is genuinely unknown and to be sought. If things happen by chance, it is a short step for this item to appear in environments where an event is uncertain, not yet known or impossible to be known, or where it is awaiting an explanation. It appears very frequently with all sorts of modals of possibility, expressing a lack of certainty or non-factuality. In example [18a] and [18b], the semi-modals *might* and *would* clearly imply the uncertainty of the things. It also appears in varieties of conditional or hypothetical constructions, again reflecting absence of factuality, as illustrated in example [18c]: *if* implies the absence of factuality. There are still more cases which express that an event is indeterminate or that its explanation is not known, such as in example [18d], and [18e].

[18]

a. You see, all kinds of things might **happen**.

b. Nobody knew what would **happen** to human beings in weightlessness.

c. What **happens** if you complain to the police of my having kidnapped and raped you?

d. She went down to look about her and to wonder what was going to **happen** next.

e. The public need to be given realistic expectations about what will **happen** after the process concludes.

There are 38 examples of collocations of *fasheng* with neutral semantic prosody, accounting for 26.03% of the total. Most of the nominal collocations are related to changes that may be good or bad. The uncertainty of the changes also indicates that *fasheng* with a neutral semantic prosody has a strong semantic preference of uncertainty. The collocations are: *bianhua* 变化(change), *bianqian* 变迁(variance), *fanying* 反应(response), *gaibian* 改变(transform), *guanxi* 关系(relation), *jiaocha* 交叉(intersect), *lianxi* 联系(contact), *qingkuang* 情况 (situation), *duihua* 对话(dialogue), *guanlian* 关联(relationship), *ganqing* 感情(sentiment), *gushi* 故事(story), *geju* 格局(structure). The other nominal collocations are *shenme* 什么(what), *shenmeshi* 什么事(what thing), *shi* 事

(thing), *shijian* 事件(event), *shiqing* 事情(thing), *shishi* 事实(fact), *zheyangdeshi* 这样的事(this thing), *zheyimu* 这一幕(this sence), *yiqie* 一切(all the things), *yundong* 运动(movement). Several examples are:

[19]

　　a.人类学的基本原则也没有**发生**根本的改变。

　　renleixue de jiben yuanze ye meiyou fasheng genben de gaibian

　　anthropology basic principle   not   happen ultimate   change

　　There is no ultimate change in the basic principle of anthropology.

　　b.见面后不知**发生**了什么事情，刘露再不理他。

　　jianmian hou buzhi   fasheng le shenme shiqing, Liu Lu zai bu li ta

　　meet   after don't know happened   what thing   Liu Lu ever not respond him

　　We don't know what happened when they met, Liu Lu does not speak to him anymore.

　　c.我们不知道究竟哪一种情况会**发生**。

　　women buzhidao   jiujing nayizhong qingkuang hui   fasheng

　　we   don't know indeed which one   situation would happen

　　We don't know what will actually happen.

In example [19a], there is no clear indication of whether the changes that take place should be good or bad. In example [19b] and [19c], the predicate *buzhi* and *buzhidao (don't know)* indicate uncertainty and fortuity of the things that have happened or will happen.

From those data analysis we observe that both *happen* and *fasheng* co-occur more often with negative words than positive words. It can be inferred that both *happen* and *fasheng* are more towards the negative side on the positive-negative continuum since it is primed to occur with "bad things". In addition to its negative semantic prosody, *happen* and *fasheng* have a strong tendency to indicate uncertainty and fortuity, to appear in environments where things are not fully known or determined and to co-occur with items which express this general semantic area.

4. Conclusions

This paper has sought to examine the Natural Semantic Metalanguage Theory by conducting a contrastive study on English and Chinese semantic prime *happen* and *fasheng*. As it was developed and tested by using corpus data, the work presented here has been able to overcome the inaccuracies and biases inherent in the previous intuition-based research, thus provide a more accurate and comprehensive understanding of semantic primes in both English and Chinese. From both quantitative and qualitative analysis, this thesis holds the view that semantic prime *happen* is identical with its Chinese counterpart *fasheng*.

4.1. Major Findings of the Research

In order to test the NSM Theory, we conducted a corpus-based contrastive study on English and Chinese semantic prime *happen* and *fasheng*. By analyzing different meanings of *happen* and *fasheng*, we found that though there is a significant difference between the overall distribution of *happen* and *fasheng*, there is no significant difference between the distribution of the semantic meaning of *happen* and *fasheng* in the comparable corpus. Then, based on the concordance lines, we identified three syntactic patterns for *happen*

and *fasheng*:

I. SOMETHING HAPPEN

EVENT-NOUN fasheng

fasheng EVENT-NOUN

II. SOMETHING HAPPEN TO X [Undergoer]

EVENT-NOUN fasheng zai X [Undergoer] (de) shenshang

X [Undergoer] fasheng EVENT-NOUN

III. SOMETHING HAPPEN IN PLACE/TIME

EVENT-NOUN fasheng zai NP$_{TIME/PLACE}$

NP$_{TIME/PLACE}$ fasheng EVENT-NOUN

To investigate the usage in terms of different syntactic patterns, we calculated the frequency of each syntactic pattern, and found that there was no significant difference between the distribution of the three syntactic patterns of *happen* and *fasheng*. After that, we went on with the exploration of different colligation types within each syntactic pattern. We separated syntactic pattern I into two colligation types, namely: "n./ pron. + V. or V. + n." and "n./ pron. + V. + adv. or n./ pron. + adv. + V." In syntactic pattern II, we identified two colligation types "n. + V. + n." and "n./ pron.+ prep. + V. or n./ pron. + V. + prep." In syntactic pattern III, we identified two colligation types "V. + locus" and "V. + Time".

Finally, we analyzed the semantic prosody, semantic preference and collocation of *happen* and *fasheng*, from which we observed that except for those collocations associated with uncertainty and fortuity, both *happen* and *fasheng* co-occur more often with negative words than positive words. It can be inferred that both *happen* and *fasheng* are more towards the negative side on the positive-negative continuum since it is primed to occur with "bad things" and that there is no significant difference of the semantic prosody of *happen* and *fasheng*.

4.2. Limitations

It should be admitted that although strenuous efforts have been made, the present study is far from perfect. This study is exploratory in nature, and some difficult issues have not yet been tackled adequately.

First, due to the focus and the space of the thesis, we had to restrict the investigation to a single semantic prime *happen* in English and its Chinese counterpart *fasheng*. The selected word is the subject choice of the author and it is just a tip of the iceberg of the total more than 60 semantic primes.

Second, the size of the comparable corpus is relatively small in light of contrastive study. Therefore, the results of the current study may be modified by other larger corpora's evidence.

4.3. Suggestions for Further Research

It is clear that much work remains to be done to shed further light on the corpus-based Natural Semantic Metalanguage Theory study. First, it is suggested that further studies should be carried out among larger corpora. If the size of the corpus is expanded, the reliability of the research results will be increased. Secondly, more extensive investigations should be carried out by examining all the other semantic primes.

All in all, the Natural Semantic Metalanguage Theory offers a new and promising perspective for semantics and, especially, lexical semantics. More inter-lingual and cross-lingual researches could be done concerning the 60

or more semantic primes. The application of the principles also deserves exploration.

Conflict of interest

None to declare.

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