

*Article title:* Negation in Chinese: A corpus-based study

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# Negation in Chinese: A corpus-based study

This article explores negation in Chinese on the basis of written and spoken corpora of Mandarin Chinese. The use of corpus data not only reveals central tendencies in language based on quantitative data, it also provides typical examples attested in authentic contexts. In this study we will first discuss negation variants in general terms, on the basis of which the focus will be shifted to the semantic and genre distinctions between two major negators, *bu* and *mei* (including *meiyou*). Following this is an exploration of the interaction between negation and aspect marking. We will then move on to discuss scope and focus of negation, transferred negation, and finally double negation and redundant negation.

## 1. INTRODUCTION

While negation in Chinese has been subject to intensive study for decades, many issues remain unresolved. For example, many competing and even conflicting characterisations have been proposed of the distinctions between *bu* and *mei/meiyou* (hereafter referred to as *mei* unless otherwise stated, notably in section 2); there is also little concensus over such issues as whether the progressive can be negated by *bu* or *mei*; many generalisations about negation found in the literature cannot account for attested language data; the more fine-grained distinctions in the distribution of negators across genres are

largely unexplored. A common failure of those studies is that they have not taken account of attested data, being based instead on a handful of examples which are invented for linguistic analysis on the basis of the intuitions of individual authors. Intuitions, however, can be biased and vary from person to person (cf. cf. Seuren (1998, 260-262)). They are not always reliable, thus accounting for the many conflicting characterisations common in the literature (see section 3).

In this study we take a corpus-based approach to negation in Chinese. The use of corpus data can not only reveal central tendencies in language, it can also provide typical examples attested in authentic contexts. This is because a corpus pulls together the intuitions of a large number of language users and the corpus-based approach focuses on what is quantitatively central and typical in attested language data. With that said, we do not claim that the intuitions of individual researchers should be disregarded in linguistic analysis. On the contrary, we seek to achieve a marriage between the corpus-based and intuition-based approaches, as have been advocated in Xiao and McEnery (2004) and McEnery, Xiao and Tono (2005).

The major corpus resources used in this study include the Lancaster Corpus of Mandarin Chinese (LCMC) and the Callhome Mandarin Chinese Transcript. LCMC is a balanced corpus which was designed as a Chinese match for FLOB (see Hundt, Sand and Siemund (1998)), representing written Chinese published in China in the early 1990s (see McEnery, Xiao and Mo (2003)). It consists of five hundred 2,000-word samples taken proportionally

from 15 genres ranging from news reportage to academic writing, totalling one million words (see Table 1). The Callhome corpus, which was released by the Linguistic Data Consortium (LDC) in 1996, comprises a contiguous 5 or 10 minute segment taken from 120 unscripted telephone conversations between native speakers of Mandarin Chinese, totalling approximately 300,000 words. In addition to these two corpora, we will occasionally consult two much larger corpora, the PDC2000 and Mandarin News Text corpora, for very infrequent features or to confirm what is observed in the LCMC and Callhome corpora. The PDC2000 corpus covers one year's newspaper texts published by the People's Daily in 2000, totalling approximately fifteen million words.<sup>1</sup> The Mandarin News Text Corpus, which was also released by the LDC, contains over 200 million words of newspaper texts from the People's Daily (1991-1996), newswire texts from the Xinhua News Agency (1994-1996) and transcripts from China Radio International (1995-1996). While these are specialised corpora, they can nevertheless provide some supporting evidence for our observations based on LCMC and Callhome.

[TABLE 1 NEAR HERE]

In the remainder of this article, we will first discuss negation variants in general terms (section 2), on the basis of which the focus will be shifted to the semantic and genre distinctions between two major negators, *bu* and *mei* (section 3). Following this is an exploration of the interaction between negation and aspect marking (section 4). We will then move on to discuss the scope and focus of negation (section 5), transferred negation (section 6), and

finally double negation and redundant negation (section 7). Section 8 concludes the article by summarising the findings of this study.

## 2. NEGATION VARIANTS IN CHINESE

There are about a dozen negative adverbs in Chinese including, for example, *bie* ‘don’t’, *beng* ‘don’t; needn’t’, *bu* ‘not’, *fei* ‘non-; not’, *mei* ‘no, not’, *mo* ‘no, not’, *wei* ‘not yet’, *wu<sub>1</sub>* ‘no, not’, *wu<sub>2</sub>* ‘do not’, *wu<sub>3</sub>* ‘do not’, *xiu* ‘do not’ as well as some compound words consisting of them: *bubi* ‘need not’, *buceng* ‘not ever’, *buyao* ‘do not’, *buyong* ‘need not’, *meiyou* ‘no, not’, *shangwei* ‘not yet’, *weibi* ‘not necessarily’, *weiceng* ‘not ever’, *weichang* ‘not ever; not necessarily’, *wuxu* ‘need not’, and *wuyong* ‘need not’. These negative forms have different functions. For example, *beng*, *bie*, *buyao*, *mo*, *wu<sub>2</sub>*, *wu<sub>3</sub>* and *xiu* are typically used in imperatives; *fei* occurs most frequently as a prefix or in double negation structures (see section 7); *bubi*, *buyong*, *wuxu*, and *wuyong* negate the necessity of doing something while *buceng*, *shangwei*, *wei*, *weiceng*, and *weichang* (its first meaning above) are aspectually related, negating the realisation of a situation. The most important negators in Chinese are *bu* and *mei*, which will be discussed in detail in the following sections.

Of the six negative adverbs used in imperatives, *buyao* is most frequent (21 and 92 per 100,000 words in LCMC and CallHome), followed by *bie* (16 and 51 instances per 100,000 words in the two corpora). The other adverbs are very infrequent in both corpora. *Beng* was only found in the spoken corpus (five instances per 100,000 words) whereas *wu<sub>3</sub>* (one instance per 100,000 words) was only found in the written corpus; *mo*, *wu<sub>2</sub>* and *xiu* are extremely

rare in both written and spoken Chinese. It is clear that negative adverbs are significantly more common in spoken data, which is hardly surprising given that imperatives typically occur in spoken discourse and dialogues in literary works.

There are 409 instances of *fei* in LCMC, of which 321 instances (over three quarters) appear as a prefix in technical terms (e.g. *fei-lixing* ‘non-rational’, *fei-zhengfu* ‘non-government’). The remaining 88 instances typically occur in the double negation structure *fei...(bu/mo)* ‘must, have to’ (see section 7) or in formulaic expressions such as *fei...fei* ‘neither...nor’ and *fei...ji* ‘either...or’. In contrast, while *fei* is infrequent in the CallHome spoken corpus, the examples present differ from the LCMC findings. Only three out of the 13 instances of *fei* in Callhome occurred as a prefix, with all others found in double negation structures. Given that speech is relatively less technical than writing (cf. Biber (1988)), it is quite unsurprising that the prefix use of *fei* is significantly more frequent in written Chinese.

Of the adverbs negating necessity, *buyong* is most frequent (five and 51 instances per 100,000 words in LCMC and CallHome respectively). This also counts as the only form used frequently in spoken Chinese if we disregard the two occurrences of *bubi*. In contrast, more forms are used in written Chinese. In addition to *buyong* and *bubi* (seven instances per 100,000 words), *wuxu* and *wuyong* are found in written genres, though they are as infrequent, occurring with a frequency of less than one instance per 100,000 words. The relative frequencies across genres show that while all of these adverbs can negate

necessity, *buyong* is more colloquial, and *bubi* is more formal while both *wuxu* and *wuyong* occur only in formal written genres.

*Buceng*, *shangwei*, *wei*, *weiceng*, and *weichang* negate the realisation of a situation. They typically occur in written Chinese. The most common of these is *wei* (28 instances per 100,000 words in LCMC), followed by *shangwei* (seven instances per 100,000 words) while the other three are rare even in written genres. The adverb that is used much more frequently to negate realisation in both written and spoken Chinese is *mei*, which occurs nearly 200 times in 100,000 words, excluding its verb usage.

*Mei* and *meiyou* can be used either as adverbs or as verbs. When used as verbs, they are the negative forms of *you* ‘have; there be’, which is a special verb in Chinese that can only be negated by *mei*. As *mei* and *meiyou* are interchangeable in most contexts in modern Chinese, the more subtle distinctions between the two forms have rarely been noted in previous studies. Historically *mei* appeared earlier than *meiyou*, with the adverbial use of *meiyou* derived from its verb usage, i.e. the negative form of *you* ‘have; there be’ (cf. Qu (2002, 2)). As such, *mei* tends to appear as an adverb (66% of the time) while *meiyou* is more likely to be used as a verb (57%) in written Chinese. Interestingly, an opposite trend is observed in spoken Chinese, where *mei* is slightly more likely to be used as a verb (53%) than as an adverb (47%) while *meiyou* tends to appear as an adverb (62%) rather than as a verb (38%). The contrast between written and spoken Chinese can be accounted for by two important facts. On the one hand, the verb usage of *mei* is much more frequent

than that of *meiyou* in ‘economical’ expressions such as *mei banfa* ‘can do nothing about it; can’t help it’ (with a *mei/meiyou* ratio of 3.7), *mei guanxi* ‘it doesn’t matter, never mind’ (a ratio of 2.1), *mei shi* ‘it doesn’t matter; that’s all right’ (a ratio of 4.1), and *mei shi’r* ‘it doesn’t matter; that’s all right’ (a ratio of 12.5) while these expressions are much more common in speech than writing (with a speech/writing ratio of 3.3). On the other hand, the adverbial usage of *meiyou* is significantly more frequent than that of *mei* as a question tag or an independent reply (over nine times as frequent in our data).<sup>2</sup> These two uses of *mei* and *meiyou* commonly occur in dialogues and are typical of spoken Chinese. In fact, our data suggests that they are over eight times as frequent in speech as in writing. In the written genres covered in LCMC, these two uses were only found in five types of fiction type plus humour, which resemble speech in many respects. A further difference between *mei* and *meiyou* as an adverb is that *mei* is much more frequent (over ten times more frequent in our data) in the V-*mei/meiyou*-V structure, which typically occurs in a question or as the object clause of a verb phrase equivalent to ‘do not know’, ‘be not sure’ and ‘find out’. While we acknowledge the differences between *mei* and *meiyou*, we will use *mei* also to refer to *meiyou* for the sake of conciseness.

*Mei* and *bu* are the most frequent and most important negators because they generally reflect the features of the grammatical category of negation in Chinese.<sup>3</sup> Most negative adverbs discussed earlier can be replaced by *bu* and *mei* (or their compounds), though the replacement may result in a stylistic

change. As *bu* is an adverb, we will only consider the adverbial usage of *mei* in the remainder of this article so as to make the analysis more comparable.

### 3. DISTINCTIONS BETWEEN BU AND MEI

Both *bu* and *mei* typically negate verbs and adjectives.<sup>4</sup> While the two adverbs have been studied for decades, little has been agreed upon except that *shi* ‘be’ can only be negated by *bu* while *you* ‘have; there be’ can only be negated by *mei*. In fact, many competing and even conflicting generalisations have been proposed regarding the distinctions between *bu* and *mei*. For example, according to Lü (1982), *mei* is used in objective narration with a past or present reference time whereas *bu* negates subjective desire; Bai (2000) argues that the major distinction does not lie in temporal references but between objective narration and subjective evaluation instead; Li and Thompson (1981) claim that *bu* is a neutral negative marker that denies the existence of a state whereas *mei* denies the completion of an event/action; Hsieh (2001) and Lin (2003) also argue that *bu* selects stative situations whereas *mei* selects dynamic situations; according to Li (1999), *bu* is marked with [-telic] while *mei* is marked with [+telic]; Shen (1995) views the distinction between *bu* and *mei* as parallel to that between bounded and unbounded situations; and finally, Liu (1997) argues that the two negative markers differ in mood, i.e. *mei* is realis while *bu* is irrealis. Table 2 summarises the major distinctions which have been proposed for *bu* and *mei* in the literature.

[TABLE 2 NEAR HERE]

While it might be possible to say that *mei* negates a situation objectively, it is hard to see why the negation marked by *bu* should be viewed as subjective. It is true that when *bu* modifies volitional verbs such as *xiang* ‘want to’ and *xiwang* ‘hope’, what is negated is the subjective desire of the speaker; but such a reading is impossible with non-volitional verbs such as *cunzai* ‘exist’ as shown in (1a).<sup>5</sup> Neither is it appropriate to say that *mei* cannot negate a future situation. As can be seen from (1b), in relation to *danxin* ‘worry’, it is surely a future situation to be able to reach a disarmament agreement, yet it is negated by *mei*. *Neng* ‘can’ in this example is a modal verb, which is stative and has nothing to do with aspectual features such as completion, telicity or boundedness. Yet *neng* can be negated by *mei*. It might be argued that *neng* ‘can’ is a special verb, but is not uncommon to find counter examples for the proposed distinctions in attested data. For example, *duoshan* ‘dodge’ is a dynamic verb negated by *bu* in (1c); *zhao lüguan* ‘look for a hotel’ is an atelic and unbounded situation which is irrelevant to completion. However, it is equally plausible to say *wo meiyou zhaodao lüguan* ‘I did not find a hotel’. In this modified example, *zhaodao* ‘find’ denotes a telic situation that can be completed. It is clear that both *zhao* ‘look for’ and *zhaodao* ‘find’ can be modified by *mei*. With an atelic situation, *mei* negates its realisation; with a telic situation, *mei* negates the attainment of its final endpoint instead of its realisation.

- (1) a. shijie shang genben bu cunzai guiguai (LCMC: E)  
world on at:all not exist ghost  
'No ghost exists in the world at all.'
- b. renmen danxin, ruguo dao 5-yue 22-ri zhiqian hai mei neng  
people worry, if by May 22 before still not can  
jiu jiechu wuzhuang dacheng yizhi, Bei'ai heping  
on remove arms reach agreement N.:Ireland peace  
jincheng jiang zaodao zhiming de daji (PD 25/05/2000)  
progress will suffer fatal DE blow  
'There are worries that if no agreement can be reached on  
disarmment by May 22<sup>nd</sup>, the peace progress in Northern  
Ireland will suffer from a fatal blow.'
- c. ta benneng de ba yanjing yi bi, que ying-zhe  
she instinct DE BA eye one close but toughen-Asp  
*toupi bu duoshan* (LCMC: P)  
scalp not dodge  
'She closed her eyes by instinct, but forced herself not to  
dodge.'
- d. wo meiyou zhao lüguan (LCMC: K)  
I not look:for hotel  
'I did not look for a hotel.'

Nor is the difference between *bu* and *mei* parallel to the realis vs. irrealis distinction. Liu (1997) argues that in the realis mood the declarative form takes the verb-final *-le* or sentence-final *le* and the negative form is marked by *mei*, while in the irrealis mood the declarative form takes *hui* ‘will’ and the negative form is marked by *bu(hui)* ‘(will) not’, assuming that *hui* ‘will’ can always be inserted after *bu* (as in *buhui* ‘will not’). This argument, nonetheless, is untenable, because on the one hand, *hui* ‘will’ cannot be inserted, if at all, after *bu* without a change in meaning, while on the other hand, the relationship between *-le* and *mei* is asymmetrical. Indeed, all situations that can take *-le* can be negated by *mei*, but the reverse is not true. A further weakness of this theory is that it cannot account for the felicitous co-occurrence of *bu* and the sentence-final *le* as in *wo bu zou le* ‘I will not go’ (LCMC: K), because a situation cannot be both realis and irrealis simultaneously.

It can be seen even from this brief review that negation in Chinese is closely associated with tense and aspect. Some of the explanations forwarded for the phenomena observed so far can indeed account for some phenomena observed in attested data, e.g. most situations negated by *mei* are dynamic and have a past or present reference time. Nevertheless, the purely intuition-based approach taken in these studies (e.g. Lü (1982); Li (1999); Hsieh (2001)) also defines their limitations. None of the claims we have reviewed so far is adequate in the light of our corpus evidence. A common failure of non-corpus-based studies is that they tend to overlook what is obvious and typical in attested language data selecting instead marginal examples, with such

examples being common in intuition based studies “because each of us has only a partial knowledge of the language, we have prejudices and preferences, our memory is weak, our imagination is powerful (so we can conceive of possible contexts for the most implausible utterances), and we tend to notice unusual words or structures but often overlook ordinary ones” (Krishnamurthy (2000, 32-33)).

While previous studies have focused on aspectual features such as dynamicity, telicity and boundedness which are associated with situation aspect (see Xiao and McEnery (2004) for a discussion), a close inspection of the concordances from the LCMC (6,733 instances of *bu* and 1,061 instances of *mei* as an adverb) and Callhome (4,805 instances of *bu* and 2,180 instances of *mei* as an adverb) corpora shows that *mei* negates the realisation of a situation whereas *bu* is used in a much wider range of contexts to negate, for example, possibility, necessity, property, status, volition, or simply the truthfulness of judgment (i.e. the relationship between the subject and the predicate), thus explaining why *bu* is much more frequent than *mei*.

The contrast between *mei* and *bu* in this respect is particularly marked in cases where both negative adverbs are possible. As many authors have observed, stative verbs like *zhidao* ‘know’, *baohan* ‘include’ and *mingbai* ‘understand’ are typically negated by *bu*. Indeed, as shown in example (2), speakers may make a self correction from *mei* to *bu* in conversations. Nevertheless, in some contexts these verbs can only be negated properly by *mei*, contrary to the claim often found in the literature that they can never be

modified by *mei*. Consider, for example, the contrast between the (a) and (b) sentences in (3-5). In (3a) and (4a) *bu* cannot be replaced with *mei* whereas in (3b) and (4b) *meiyou* cannot be replaced with *bu*, even though the same verb is used in the same pair of sentences. This is because the situations in (3a) and (4a) have nothing to do with realisation whereas in (3b) and (4b) there is a contrast between realisation (*zhidao-le* and *baohan-le*) and non-realisation (*meiyou zhidao* and *meiyou baohan*). However, this contrast is not always obvious. In (5a), for example, *bu* can possibly be replaced by *mei*, but the replacement will result in a change in meaning: *wo bu mingbai* means that the statement that I understood was not true, while *wo mei mingbai* means that the situation *wo mingbai* did not occur. For this reason, *meiyou* is more appropriate than *bu* in (5b). As (5b) expresses a series of events (*mingbai* ‘understand’, *gen* ‘follow’ and *zou* ‘walk’), a simple negation of prediction in the first clause would be out of place. This contrast is also apparent in dynamic verbs and adjectives. For example, in *wo ji bu hejiu, ye bu chouyan* ‘I neither drink nor smoke’ (LCMC: R), what is negated is the speaker’s habit. But if *bu* is replaced with *mei*, as in *wo ji mei hejiu, ye mei chouyan* ‘I neither drank nor smoked’, then what is negated is the realisation of the events of drinking and smoking on a particular occasion. Similarly, to answer the question *ni shi shou le haishi pang le?* ‘Have you got fatter or slimmer?’ (Callhome), only *mei* is appropriate if a negative answer is given (compare *mei pang mei shou* and *bu pang bu shou*).<sup>6</sup> It is clear that in cases where both

*bu* and *mei* are possible, the choice of either generally entails a difference in meaning (cf. also Nie (2001)).

(2) e, ta hai you ge jiali dianhua, wo haoxiang... jiali  
uh, he also have Cl home telephone I seem home

haoxiang mei bu zhidao (Callhome)

seem not not know

‘Uh, he also has a home phone number, I seem... don’t seem to know his home number.’

(3) a. shui ye bu zhidao ta de mingzi (LCMC: G)  
who also not know she DE name

‘No one knows her name.’

b. ni zhidao-le wo de mingzi, wo ke hai meiyou zhidao  
you know-Asp I DE name I but yet not know  
ni de mingzi ne (LCMC: N)

you DE name Prt

‘You have known my name, but I haven’t known yours.’

(4) a. shishishang, guowai chengshu de, guifanhua de  
in:fact abroad mature DE standardise DE  
zhengquan shichang juegui bu baohan you ruci da  
stock market definitely not include have so large  
bizhong de guoyou gufen (LCMC: F)  
proportion DE state-owned stock

'In fact, the mature and standardised stock markets in foreign countries definitely do not include such large proportions of state-owned stocks.'

- b. Beiyue de jianyi baohan-le Huayue de suoyou  
NATO DE proposal include-Asp WTO DE all  
junshi jidi, dan meiyou baohan Beiyue tebie shi Meiguo  
military base but not include NATO especially be US  
zai hawai <...> de junshi jidi (LCMC: B)  
in overseas DE military base

'NATO's proposal included all military bases of WTO (the Warsaw Treaty Organization), but not those of NATO, especially the overseas military bases of the United States.'

- (5) a. dangshi wo bu mingbai ta weishenme zheyang jijiao,  
at:that:time I not understand she why so haggle  
jiu yansu de shuo <...> (LCMC: P)  
then seriously DE say

'At that time, I did not understand why she was so calculating, so I said seriously...'

- b. wo mei mingbai Hou de yishi, gen zai ta  
I not understand Hou DE meaning follow in she  
shenhou, xiang youlang jintou de yi shan men zou  
body:behind toward veranda end DE one Cl door walk  
qu (LCMC: P)

toward

'I did not understand what Hou meant, so I followed her and walked toward a door at the end of the veranda.'

Hsieh (2001, 26-27) produces two pieces of evidence to argue that the difference between *bu* and *mei* cannot be the realised vs. unrealised distinction. First, a clause negated by *bu*, just like one that takes *mei*, "can describe a realised situation" because both can function as the complement of perception verbs such as *kanjian* 'see', as shown in her examples *wo kanjian ta yi dong ye bu dong* 'I saw him not budge' and *wo kanjian ta mei(you) dong* 'I saw him not move'. Hsieh assumes that the situations expressed by the complement clauses of perception verbs must be realised since these verbs "denote direct perception"; second, clauses negated by *bu* can function as the complement of factive verbs such as *yayi* 'surprised' and *yihan* 'regret' as in her example *wo hen yayi ta bu hui youyong* 'I was surprised that he could not swim'. Hsieh assumes that "[s]ince complements of factive verbs denote 'realised' situations, the situation denoted by the *bu* complement should be considered as 'realised'."

This argument, nevertheless, is flawed in a number of ways. First, as noted earlier, while *mei* negates the realisation of a situation, *bu* does not appear to be related to realisation in any way; it does not negate an "unrealised" situation as suggested. Second, neither *bu* nor *mei* can mark the realisation of a situation. Perfective aspects are typically used to present a situation as it has been realised or experienced, though covert aspect marking is also an

important strategy in Chinese discourse (cf. McEnery and Xiao (2002)). *Mei*, in contrast, is used to negate realisation and experientiality (see section 4). Finally, the two assumptions underlying this argument, i.e. the situations expressed by the complement clauses of perception verbs and those denoted by factive verbs are always realised, are totally ungrounded. Let us first consider the following examples.

- (6) a. zai lou wai de renmen **kanjian** yi chang  
          in building outside DE people see one Cl  
          sirenxinfei de beijü jiuyao fasheng le (LCMC: A)  
          piercing DE tragedy be:about:to happen COS  
          ‘People outside the building saw that a piercing tragedy was  
          impending.’
- b. di'er tian, qizi you **jian** zhangfu zai jiyan (LCMC: R)  
          second day wife again see husband Asp smoke  
          ‘The next day, the wife saw her husband smoking again.’
- c. wo hen **qiyi** shenme ren zai jiao wo ne (LCMC: G)  
          I very surprised what person Asp call I Prt  
          ‘I was very surprised that someone should be calling me.’

Sentences like these are very common in Chinese. They contain either a perception verb (e.g. *kanjian* ‘see’, *jian* ‘see’) or a factive verb (e.g. *qiyi* ‘be surprised’). In (6a) the tragedy had not happened, but there were signs that it

was about to happen. That was what those people saw. In (6b) and (6c) the progressive aspect marker *zai* was used. As the progressive is an imperfective viewpoint, the situations were presented as ongoing, or in progress, which means that these situations were also not realised. Given that complement clauses denoting unrealised situations go perfectly well with perception verbs, it is hard to see why the complement clauses taking *bu* or *mei* should be considered as realised as Hsieh suggests. With a factive verb such as *know*, *believe*, *be sorry* or *be surprised*, the speaker presupposes the truth of the proposition expressed in the complement clause. But truth must not be conflated with realisation. In (6c), for example, the proposition *shenme ren zai jiao wo* ‘someone is calling me’ was true, but this does not entail that the situation was realised, as indicated by the progressive aspect marker *zai*.

The different targets of negation for *bu* and *mei* account for why *bu* modifies adjectives, stative verbs and modal verbs more frequently whereas *mei* modifies dynamic verbs more frequently, as illustrated in Figures 1-2. The figures show the proportions of *bu* and *mei* used to modify adjectives, adverbials, dynamic verbs, stative verbs, and modal verbs, and of those occurring in imperatives, as a negative potential infix (as in *zhao-bu-dao* ‘cannot find’, as opposed to the positive potential infix *de* as in *zhao-de-dao* ‘can be found’), and as an independent reply or a question tag. As can be seen, in both LCMC and Callhome, *bu* modifies adjectives, stative verbs, and modal verbs much more frequently whereas *mei* modifies dynamic verbs more frequently. This is because situations that can be realised are mostly dynamic

while property, volition, relationship, possibility and necessity etc are all stative. The distribution patterns of *bu* and *mei* are confirmed by their top ten collocations, defined in this article as words immediately following *bu* and *mei* which show a *z*-score greater than 3.0 and a minimum frequency of 3.

[FIGURE 1 NEAR HERE]

[FIGURE 2 NEAR HERE]

- *Bu*: *gan* ‘dare’, *yuan* ‘willing’, *shi* ‘be’, *zhidao* ‘know’, *pingheng* ‘balanced’, *keneng* ‘possible’, *dong* ‘understand’, *qing* ‘clear’, *dong* ‘moved’, *dengyu* ‘equal’
- *Mei*: *xiangdao* ‘think of’, *laideji* ‘be able to make it in time’, *shuohua* ‘speak’, *jian* ‘see; meet’, *zhaodao* ‘find’, *tingjian* ‘hear’, *wangji* ‘forget’, *dedao* ‘get’, *kanjian* ‘see’, *faxian* ‘discover; find’

As situations are typically realised or experienced in relation to speech time when the reference time is unspecified it is the speech time by default (cf. Xiao and McEnery (2004)). The distinction between *bu* and *mei* as proposed in this article, i.e. *bu* negates property, volition, relationship, possibility and necessity etc while *mei* only negates realisation, can also readily account for why *mei* frequently negates situations with a past or present reference time, as widely observed in the literature.

As the notion of realisation is incompatible with imperatives, *mei* is not used in imperative sentences. Neither can *mei* be used as a potential infix. A

potential infix such as *de* (*kan-de-qing* ‘can see clearly’) or *bu* (*kan-bu-qing* ‘cannot see clearly’) essentially expresses a stative meaning by indicating possibility. When a verb phrase with a potential infix expresses a realisation meaning, a perfective viewpoint is taken (e.g. *kan-qing-le* ‘saw clearly’), and in a negative case, *mei* is used (e.g. *mei kan-qing* ‘did not see clearly’). It is also of interest to note that *bu* and *mei*, especially the latter, are used as a question tag or an independent reply more frequently in speech than writing. This is because questions and answers are an important feature of conversations and Callhome is composed of conversations. *Bu* also occurs more frequently in imperatives in the spoken corpus, which is hardly surprising given that Callhome is a corpus of telephone conversations between Chinese nationals living overseas and their families in China.

[FIGURE 3 NEAR HERE]

We have already noted some important differences between written and spoken Chinese regarding negation. Now we will consider some more fine-grained genre distinctions between *bu* and *mei*. Figure 3 shows the distribution of *bu* and the adverbial uses of *mei* across the 16 genres (15 genres in LCMC and the spoken genre in Callhome). For ease of comparison, the frequencies are normalised to a common base of occurrences per 100,000 words. As can be seen, *bu* is much more common than *mei* in all genres. This is because, as noted earlier, *mei* is aspectually oriented and only negates realisation while *bu* has a much wider scope of uses. Both *bu* and *mei* are generally more frequent in the five types of fiction (K-P), humour (R), and especially speech (S),

which shows very high frequencies of both negative forms. This is unsurprising given the interactive nature of conversation (cf. Biber (1988)), which is common in these genres.<sup>7</sup> In contrast, official documents (H) show the lowest frequencies of both *bu* and *mei* while *mei* is also rare in academic prose (J), trades/skills/hobbies (E), news reviews (B), news editorials (C), religious texts (D) and popular lore (F). A common feature of these genres is that they are essentially expository, lacking a narrative focus which is closely associated with *mei*. Biographies (G) and news reportage (A) appear to be transitory genres between narrative and expository writings. This finding is line with the distribution pattern for aspect markers as observed in McEnery, Xiao and Mo (2003).

#### 4. NEGATION AND ASPECT MARKING

We noted in the earlier section that negation in Chinese is closely allied with aspect. In addition to aspectual features such as dynamicity and telicity, the interaction between negation and aspect marking has been a focus of previous research. Xu (1997), for example, observes that *bu* is semantically incompatible with aspect markers denoting realisation. We would like to extend this observation and claim that *mei* is not compatible with the actual aspect marker *-le*, though this negation marker can co-occur felicitously with the experiential aspect marker *-guo* (see Xiao and McEnery (2004) for a discussion of these viewpoint aspects). Our data shows that all situations that can take the actual aspect marker *-le* or the experiential aspect marker *-guo* in

positive sentences can be negated by *mei*. In contrast, *bu* is never used to negate a perfective viewpoint. Sentences in (7-9) are some corpus examples with *-le* and *-guo* and their negative forms. As can be seen, when a sentence taking *-le* is negated, *-le* is removed because both *-le* and *mei* mark realisation, with the former for the positive form and the latter for the negative form.<sup>8</sup> When a sentence with *-guo* is negated, there is no such redundancy because *-guo* has an experiential viewpoint focus while *mei* only negates realisation – an experienced situation is surely realised. Note that while both *mei* and *bu* can be used to negate sentences like (8a), the two negative forms have different meanings – *mei* negates realisation while *bu* negates volition.

- (7) a. zhe ci gongshen dadao-le yuqi de  
           this Cl public:trial achieve-Asp expected DE  
           xiaoguo (LCMC: F)  
           result  
           ‘This public trial achieved the expected results.’
- b. zhe ci gongshen meiyou/\*bu dadao yuqi de xiaoguo  
           this Cl public:trial not               achieve expected DE result  
           ‘This public trial did not achieve the expected results.’
- (8) a. wo xiang ni che-le yi ge huang (LCMC: R)  
           I to you tell-Asp one Cl lie  
           ‘I told a lie to you.’
- b. wo meiyou/bu xiang ni chehuang

- I not to you tell:lie  
 ‘I did/will not lie to you.’
- (9) a. ta qizi wo jian-guo (LCMC: P)  
 he wife I see-ASP  
 ‘I have seen his wife.’
- b. ta qizi wo mei/\*bu jian-guo  
 he wife I not see-ASP  
 ‘I have not seen his wife.’

While the interaction between negation and the actual *-le* and the experiential *-guo* appears to be relatively straightforward, there is much controversy surrounding the interaction between negation and the progressive and durative aspects. For the progressive aspect marked by *zai*, Hsieh (2001), Wan (2001) and Lin (2003) argue that it can only be negated by *mei* while Li (1999) observes that it can be negated by either *bu* or *mei*; for the durative aspect marked by *-zhe*, Li (1999), Wan (2001) and Lin (2003) argue that it can only be negated by *mei* while Hsieh (2001) notes that it can be negated by either *bu* or *mei*. In the meanwhile, Hsieh (2001) also notes that *bu* can be used to negate the progressive in Taiwanese Mandarin, contrary to the claim made by Lin (2003, 454) that nobody he knows from Taiwan accepts examples such as *Hongmei bu zai shuohua* ‘Hongmei isn’t speaking’. Lin (2003, 431) admits that some verbs (e.g. *cunzai* ‘exist’ and *yiwei* ‘mean’) taking *-zhe* can be negated by *bu*. While both authors are native speakers of

Taiwanese Mandarin, it appears that they have totally different intuitions on this point. The responses to our elicitation test from informants from mainland China, Taiwan and Hong Kong also show that different people have different intuitions. In this article, however, we will not get involved in this debate but base our observations instead on corpora consisting of written and spoken data produced by mainland Chinese speakers.

A number of interesting observations can be made on the basis of this dataset. First, in relation to perfective aspects, the negative forms of imperfective aspects are very uncommon. While there are variations in written and spoken Chinese, our dataset as a whole indicates that the positive forms of the actual aspect are roughly 11 times as frequent as its negative forms while the positive forms of the experiential aspect are five times as frequent as its negative forms.<sup>9</sup> The positive and negative forms of imperfective aspects display much more marked contrasts. For the progressive aspect, the positive/negative ratio is 134 while for the durative aspect the ratio is 202.<sup>10</sup> This means that the progressive *zai* and the durative *-zhe* rarely occur in negative sentences. Of the 946 instances of progressive *zai* in LCMC and Callhome, only seven co-occur with *bu*. These seven co-occurrences themselves present an interesting phenomenon – five of them occur in double negation sentences (e.g. 10a-b) and one appears in a rhetorical question (10c), both of which are actually positive by nature. Only one co-occurrence was found in a truly negative sentence (10d).

- (10) a. <...> *wushiwuke bu zai sinian-zhe jiaxiang* (LCMC: G)  
                  at:no:moment not Asp miss-Asp hometown  
                  ‘(These soldiers) were missing their hometowns the whole time.’
- b. Tian'anmen Guangchang zhouwei de jianyi  
                  Tian'anmen Square         around   DE simply:equipped  
                  shuiguan *wu shi*        *bu zai gongshui* (LCMC: B)  
                  tap         no moment not Asp supply:water  
                  ‘The simply equipped taps around the Tian'anmen Square were supplying water at all the time.’
- c. Jin Ying *bu shi*, xianzai *bu zai nianshu ma?* (Callhome)  
                  Jin Ying not be now   not Asp study   Prt  
                  ‘Isn't Jin Ying studying now?’
- d. <...> *ye bu zai zhao fangzi ye bu shi sha* (Callhome)  
                  also not Asp look:for house also not be what  
                  ‘(She) is not looking for a house or something like that.’

As the LCMC and Callhome corpora only contain approximately 1.3 million words, we consulted the Mandarin News Text Corpus to find additional examples. This much larger corpus provides a total of 50 co-occurrences of the progressive *zai* with *bu* and two co-occurrences with *mei*. As in LCMC and Callhome, the majority (over 90%) of co-occurrences with *bu* appear in double negation sentences and rhetoric questions. Of the

remaining four instances, two were found in the data from China Radio International and two in the same sentence in the People's Daily (1993).<sup>11</sup>

While co-occurrences of the progressive *zai* with and *bu* and *mei* are rare, our data also shows that both adverbs can negate the progressive as shown in (11), though they have different focuses, as noted earlier. Clearly, the negation in (11a) by *meiyou* is motivated temporally and aspectually whereas the negation in (11b) by *bu* is atemporal – it simply negates the fact that the river is still flowing. The low frequency of the progressive co-occurring with *bu* and *mei* can be accounted for by the fact that the progressive aspect marker *zai* (especially *zhengzai*), is inherently assertive and does not normally take a negative adverb (cf. Hao (2003, 13)). The low co-occurring frequencies, however, do not mean that the progressive in Chinese is negated as infrequently. A more common way to negate the progressive is a viewpoint shift that avoids the assertive progressive aspect marker in a negative sentence. This can be achieved in a number of ways, as shown in (12-14). In (12) the viewpoint is shifted to the perfective which is then negated by *mei*; in (13), the combination of *bu* and the change-of-state (COS) *le* is used to negate the current relevance (as indicated by *hai* 'still'); in (14) the focus of negation is transferred to the subject. It is also possible to negate truthfulness using *bu shi* 'not be' (e.g. 15a). A likely reply to the question in (15b) can be *wo zai kanshu* 'I am reading' or *wo mei zuo shenme* 'I did nothing'.

- (11) a. tamen queshi meiyou zai wei ziji kaituo (Xinhua 02/07/94)

they indeed not Asp for self absolve

'Indeed, they have not been absolving themselves.'

- b. Kushui he yi bu zai liütang, qi shangyou jin  
Kushui River already not Asp flow its upper:reaches only  
zai chu shan shu gongli hou bian  
after out mountain several km after then  
xiaoshi (China Radio 20/07/95)

disappear

'The Kushui River is no longer flowing, as its upper reaches dry out only several km after they flow out of the mountain.'

- (12) a. bingtong zai jianqing (LCMC: A)

ailment Asp ease

'(His) ailment is easing.'

- b. bingtong meiyou jianqing

ailment not ease

'(His) ailment is not eased.'

- (13) a. xue hai zai xia-zhe (LCMC: A)

snow still Asp fall-Asp

'It is still snowing.'

- b. xue bu xia le

snow not fall COS

'It is no longer snowing.'

- (14) a. you ren zai deng wo (LCMC: F)

- there:be person Asp wait I  
 ‘Someone is waiting for me.’
- b. meiyou ren zai deng wo  
 there:not:be person Asp wait I  
 ‘No one is waiting for me.’
- (15) a. women juegui bu shi zai chaojia (LCMC: K)  
 we absolutely not be Asp quarrel  
 ‘It’s absolutely not true that we are quarrelling.’
- b. ni zai zuo shenme? (LCMC: N)  
 you Asp do what  
 ‘What are you doing?’

We have already noted that the durative aspect marker *-zhe* also co-occurs with negative adverbs rarely. Our data shows that such co-occurrences are typically found in formulaic expressions (16a) and V1-*zhe* V2 structures, where V1-*zhe* acts as an adverbial modifier (e.g. 16b). If the focus of negation falls upon current relevance, the combination of *bu* and COS *le* can be used (17b). Like the progressive *zai*, *-zhe* is frequently omitted in negative sentences, as shown in (18) and (19). In fact, for verbs that can occur in negative forms either with or without *-zhe* (e.g. *cunzai* ‘exist’ and *dai* ‘bring’), the those without *-zhe* are more frequent in our corpora. Both *bu* and *mei* can be used to negate the durative aspect, but the temporal and aspectual differences as noted earlier also apply in this case. For example, *mei* negates

the realisation of the events *pan* ‘expect’ in (20a) and *zuan* ‘hold’ in (20b) whereas *bu* negates an atemporal condition which has nothing to do with realisation in (20c).

- (16) a. zhe bing bu yiwei-zhe women jiang jujue xiang renheren  
this actually not mean-Asp we will refuse to anyone  
chushou renhe dongxi (LCMC: C)  
sell any thing

‘This does not mean that we will refuse to sell anything to anyone.’

- b. guaibude ni bu ji-zhe ba an diao qu (LCMC: P)  
no:wonder you not anxious-Asp BA I transfer go  
‘So that’s why you are not anxious to get me transferred.’

- (17) a. ke xianzai tianshang hai piao-zhe xue (LCMC: G)  
but now sky still float-Asp snow  
‘But it is snowing now.’

- b. xianzai tianshang bu piao xue le  
now sky not float snow COS  
‘It is no longer snowing.’

- (18) a. renmen guanzhu-zhe ta de jinzhan (LCMC: A)  
people follow:with:interest-Asp it DE progress  
‘People are following its progress with interest.’  
b. renmen meiyou guanzhu ta de jinzhan

people not follow:with:interest it DE progress

'People did not follow its progress with interest.'

(19) a. qiang shang gua-zhe zihua (LCMC: P)

wall on hang-Asp calligraphy:and:painting

'Some calligraphies and paintings are hung on the wall.'

b. qiang shang mei gua(-zhe) zihua

wall on not hang(-Asp) calligraphy:and:painting

'No calligraphies and paintings were hung on the wall.'

(20) a. wo ke mei pan-zhe ni huilai (Callhome)

I actually not expect-Asp you return

'I have not been expecting you to come back.'

b. shouhuoyuan jian ta shouli mei shixian zuan-zhe qian,

salesperson see he hand:in not beforehand hold-Asp money

sihu youdian qiguai (LCMC: G)

seem a:bit surprised

'The saleswoman seemed a bit surprised when she saw that he

did not hold money in hand beforehand.'

c. ni bu kan-zhe ta dehua, hai buxing (Callhome)

you not look-Asp she Prt still won't:do

'It won't do if you don't keep an eye on her.'

## 5. THE SCOPE AND FOCUS OF NEGATION

A positive sentence has a definite scope of assertion, i.e. every sentential constituent contained therein is assertive; for a negative sentence, in contrast, its scope of negation is indefinite, because the focus of negation can fall upon nearly any sentential constituent (cf. Dai (2000, 48)). As such, a negative sentence, when taken in isolation, is inherently ambiguous.<sup>12</sup> Nevertheless, negative sentences situated in context are rarely ambiguous because the context, including background knowledge shared by the addresser and the addressee, must provide some clue as to which sentential constituent should be taken into the focus of negation if the communication is to be successful. In (21a), for example, the scope of negation is the whole sentence while the focus of negation can fall upon, *zhe* ‘this’, *Meiguo he duoguo budui* ‘US and multinational forces’, or *zhengshi* ‘confirm’, though the last of these is the most likely reading of the sentence as it stands because the end of a sentence is normally the semantic focus of a sentence. But when situated in context, as in (21b), there is no alternative reading other than taking *zhengshi* ‘confirm’ as the focus of negation because of the contrast present in the context, namely *fouren* ‘deny’.

- (21) a. zhe yi xiaoxi meiyou bei Meiguo he duoguo budui  
this one news not PSV US and multinational forces  
suo zhengshi  
Prt confirm

‘This piece of news was not confirmed by US and multinational forces.’

- b. zhe yi xiaoxi ji meiyou bei Meiguo he duoguo  
this one news both not PSV US and multinational  
budui suo zhengshi, dan ye meiyou fouren (LCMC: A)  
forces Prt confirm but also not deny

‘This piece of news was neither confirmed nor denied by the US and multinational forces.’

- (22) a. Jenny keneng bu shi xiongshou (LCMC: L)

Jenny possible not be murderer

‘Probably Jenny is not the murderer.’

- b. ni bu zhidao! nanren bu keneng zhidao! (LCMC: K)

you not understand man bu possible understand

‘You don’t understand! A man cannot possibly understand that!’

- (23) a. Hanzi yu Lading zimu wei jichu de

Chinese:character and Latin character as base DE

xiwen bu tong, baohan yi ge hen da

west:language not same include one Cl very large

de zifuji (LCMC: J)

DE character:set

- 1) ‘Chinese is different from Western languages based on Latin characters in that it has a very large character set.’

2) ‘Chinese is different from Western languages based on Latin characters in that they have a very large character set.’

b. ta bu xiang yixie ren xinmu zhong de yingxiong,

he not like some person mind middle DE hero

xihuan zuijiao diao yi ke xiangyan (LCMC: L)

like mouth:corner hold one Cl cigarette

1) ‘Unlike a hero in some people’s eyes, he enjoys holding a cigarette dangling from a corner of his mouth.’

2) ‘He is not like a hero in some people’s eyes, who enjoys holding a cigarette dangling from a corner of his/her [the hero’s] mouth.’

In Chinese, the scope of negation normally starts from the word immediately following the negator and stretches to the end of the clause. Such cases account for over 90% of our data. Meaning is changed depending upon whether a sentential constituent is within the scope of negation or not, as shown by the contrast in (22). Unfortunately, it is not always easy to determine the the scope of negation. In (23a-b), for example, the scope of negation can be taken to stop at the end of the first clause, i.e. the comma, or to cover the second clause as well, thus resulting in multiple readings. In such cases, the ‘correct’ reading often depends upon world knowledge and/or presupposition absent from textual context, or even one’s expertise and preference. In (23a), for example, as it is known that Chinese has a very large

character set with over 7,000 commonly used characters, only the first reading is “correct”, i.e. in line with the fact; in (23b), as different readers can have different ideas of what a hero should look like, both readings are possible for this example. A common feature of sentences of this type is that they make a comparison in the first clause and there is no subject in the second clause. The empty slot for this omitted subject can be taken by either of the entities being compared, thus causing ambiguity. Our corpora suggest that in cases like these, the first reading is more likely to be more appropriate, as shown in (23).

For negative sentences with *bu*, the commonly used patterns include *bu* + adjective (19%), *bu* + verb (16%), *bu* + verb + unmodified object (12%), the potential structure of verb + *bu* + complement (8%), *bu* + verb of the *shi* ‘be’ class (e.g. *shi*, ‘be’, *shuyu* ‘belong’, *dengyu* ‘equal’) + predicate (8%), adverbial + verb (5%), modal verb + verb + object (5%) and modal verb + verb (4%). These patterns account for over three quarters of the total occurrences in LCMC. For negative sentences with *mei*, the commonly used patterns include *mei* + verb (29%), *mei* + verb + complement (20%), *mei* + verb + unmodified object (15%), *mei* + adverbial + verb (7%), *mei* + verb + modified object (6%). These patterns also account for over three quarters of all instances in LCMC. An examination of these frequent patterns shows that a single element such as a verb or adjective following the negator is the focus of negation (as marked in bold in 24a); the focus of negation for the pattern of a verb followed by an unmodified object typically includes the whole predicate, i.e. the VO structure (24b);<sup>13</sup> when there is an attributive or adverbial modifier

(25c), a nominal or verbal quantifier (24d),<sup>14</sup> or a complementary element such as a resultative verb complement (24e), such elements become the focus of negation most frequently; the potential structure (24f) and the *shi* structure (24g) are normally the focus of negation; the focus of negation in the structure of a modal verb followed by a verb (and then an unmodified object) falls upon the verb (and also the object) (24h).<sup>15</sup>

- (24) a. women haojiu meiyou **jianmian** le (LCMC: R)  
we long not meet COS  
'We have met for a long time.'
- b. cong na yihou, ta zaiye mei **tan-guo duixiang** (LCMC: F)  
since that after he ever not talk-Asp partner  
'He has never looked for a partner for marriage since then.'
- c. qishi ta meiyou zuo **duibuqi** **wo de** shiqing (LCMC: K)  
in:fact he not do let:sb:down I DE thing  
'In fact, he did not do anything that let me down.'
- d. guoduqi ying bu chaoguo **7 nian** (LCMC: B)  
transition:period should not exceed 7 year  
'The transition period must not exceed 7 years.'
- e. women cai-lai-cai-qu, dou meiyou **cai-zhao** (LCMC: P)  
we guess:over:and:over all not guess-right  
'We guessed over and over again but did not get it right.'
- f. ta zuo zai di shang **pa-bu-qilai** (LCMC: K)

she sit on ground on climb-not-up

‘She sat on the ground, unable to get up.’

g. shangpin jingji bu **shi ziji**

commodity economy not be self-supporting

**jingji** (LCMC: J)

economy

‘Commodity economy is not self-supporting economy.’

h. Qin Fang bu gan **chusheng** (LCMC: P)

Qin Fang not dare make:a:sound

‘Qin Fang did not dare to make a sound.’

In addition to the commonly used patterns described above, our corpora also reveal some infrequent, yet important, negation patterns in Chinese, which include intensifying structures marked by (*lian...*) *ye/dou* ‘even’, pivotal structures, serial verb constructions, and imperatives with *buyao* ‘do not’. For example, in (25) the intensifiers in italics make the parts marked in bold the informational focuses of these sentences, which naturally also become the focuses for negation. In Chinese a pivotal structure consists of two verb phrases with the object of the first verb functioning at the same time as the subject of the second verb while serial verb constructions is also called ‘V-V series’ (Chao (1968, 327)). When constructions of these two types occur in a negative sentence, the focus of negation normally falls upon the whole construction, as shown in (26-27). *Buyao* often appears in imperative

sentences. As with modal verbs, we do not include *yao* as the focus of negation, because imperatives have a class meaning, namely, prohibition. What is prohibited is more important than this class meaning (e.g. 28a). Furthermore, there are usually modifying elements in imperatives, which must be taken into the focus of negation (e.g. 28b).

- (25) a. ta *lian yi yan ye mei kan wo* (LCMC: P)  
she even one Cl even not look I  
'She did not even take a look at me.'
- b. *lian zhongwufan dou meiyou chi* (LCMC: N)  
even lunch even not eat  
'(He) did not eat have lunch.'
- c. tamen **shui** *ye meiyou shuohua* (LCMC: G)  
they who even not speak  
'Neither of them spoke.'
- d. zhe shi women *jia shui dou bu zhidao* (LCMC: P)  
this matter we home who even not know  
'No one in our family knows about it.'
- (26) a. nüsheng sushe bu **xiongxu nansheng**  
girl:student dormitory not allow boy:student  
**ru nei** (LCMC: F)  
enter inside

‘Boy students are not allowed to go into girl students’ dormitories.’

- b. ta mei **rang** wo **shuo-xiaqu** (LCMC: G)

he not let I say-Asp

‘He did not let me go on.’

- (27) a. meiyou **zhuazhu shiji** **jinxing jianshexing**

not grasp opportunity do constructive

**duihua** (LCMC: B)

dialogue

‘<...> did not grasp the opportunity to have a constructive dialogue.’

- b. zenme shutong’er ye mei **jnlai bingbao**

why boy:attendant ever not enter report

**yi sheng?** (LCMC: N)

one Cl

‘Why didn’t the boy attendant come in to report it?’

- (28) a. ni buyao **shengqi** (LCMC: G)

you don’t get:angry

‘Don’t get angry.’

- b. buyao **guofen** **jinzhang** (LCMC: N)

don’t excessively nervous

‘Don’t be too nervous.’

There are, however, exceptions to the patterns described above which occur as a result of the contrast present in context<sup>16</sup> as shown in examples in (29) where the focus of negation is marked in bold and the contrastive element is italicised. In (29a) the focus of negation is shifted from the normal position *xing* ‘OK’ to the subject *wo* ‘I’ because of the contrast between *wo* ‘I’ and *nimen* ‘you’; the contrast in (29b) shifts the focus to *pian* ‘cheat, lie’ from the normal position of VO or O; similarly, the focus in (29c) is on *jiao* ‘teach’ as opposed to *xue* ‘learn’ while in (29d) *benzhi* ‘essence’ contrasts with *xianxiang* ‘appearance’; finally, the contrast between *cishi* ‘this moment’ and *gangcai* ‘a moment ago’ results in a focus shift to the adverbial *gangcai* ‘a moment ago’.

- (29) a. *nimen xing, ke wo bu xing a* (LCMC: G)  
           you OK but I not OK Prt  
           ‘You can do that, but I can’t.’
- b. *wo mei **pian** nimen, ju ju dou shi shihua* (LCMC: L)  
           I not cheat you, CL CL all be truth  
           ‘I did not lie to you, all that I told you was true.’
- c. *wo bushi lai dang laoshi de, bushi lai **jiao**,*  
           I not:be come be teacher Prt not come teach  
           *ershi lai xue* (LCMC: G)  
           but:be come learn  
           ‘I am not here as a teacher; I come not to teach but to learn.’

- d.      bu neng guang kan *xianxiang*    bu    kan **benzhi** (LCMC: K)  
not can only    look appearance not look essence  
‘(You) cannot look merely at the appearance but not at the  
essence.’
- e.      *cishi*                ta zheng piao zai li        feiyiting    bu yuan de  
this:moment he just    float on from flying:boat not far    DE  
  
                haimian        shang. **gangcai** zenme meiyou faxian  
                sea:surface on        just:now how    not        find  
                ta ne? (LCMC: N)  
                he Prt  
‘At this moment he is floating on the sea not far away from the  
flying boat. How didn’t we find him just a moment ago?’

## 6. TRANSFERRED NEGATION

Transferred negation is an issue which is closely associated with the scope and focus of negation. It has been observed that negation in subordinate clauses following some verbs expressing opinion (e.g. *think*, *believe*) and perception (e.g. *appear*, *seem*) in English is conventionally transferred to main clauses (cf. Quirk et al (1985); Biber et al (1999)). In Chinese, however, transferred negation is considerably rarer than in English. It is uncommon even for verbs expressing opinion and perception (e.g. *renwen* ‘think’, *juede* ‘feel; think’,

*xiande* ‘appear, seem’).<sup>17</sup> There is usually a difference between transferred and non-transferred negation. Consider the following examples:

- (30) a. huilai yihou, wo juede shenme dou bu haochi (Callhome)

return after I feel what all not delicious

‘When I come back, I think no food is delicious.’

- b. huilai yihou, wo bu juede shenme dou haochi

return after I not think what all delicious

‘When I come back, I don’t think all food is delicious.’

- (31) a. wo zhidao ni dui bieren de mimi mei

I know you in other DE secret not:have

xingqu (LCMC: P)

interest

‘I know you do not have interests in others’ secrets.’

- b. wo bu zhidao ni dui bieren de mimi you xingqu

I not know you in other DE secret have interest

‘I don’t know you have interests in other people’s secrets.’

- (32) a. Chang Zhibin juede *bu name kepa* le (LCMC: M)

Chang Zhibin feel not so frightful COS

‘Chang Zhibin no longer felt so frightful.’

- b. Chang Zhibin *bu juede name kepa* le

Chang Zhibin not feel so frightful COS

‘Chang Zhibin no longer felt so frightful.’

(33) a. wo juede zhe ge bu shi hen hao de banfa (Callhome)

I think this Cl not be very good DE method

'I think this isn't a very good method.'

b. wo bu juede zhe ge shi hen hao de banfa

I not think this Cl be very good DE method

'I don't think this is a very good method.'

As shown in the translations, (30a) is an example of full negation whereas when the negator is transferred to the main clause (30b), the rewritten sentence becomes an instance of partial negation. Similarly, the examples in (31) also have quite opposite presuppositions and express totally different meanings. This is so because the position of the negator is directly relevant to the meaning expressed, which is different from English (compare *All food is not delicious* vs. *Not all food is delicious*). There are cases where transferred negation does not result in such a marked contrast, as in (32-33). But in these cases, transferred and non-transferred negations have different focuses. For example, the focus of negation in (32a) is *name kepai* 'so frightful' whereas in (32b) the focus is *juede name kepai* 'feel so frightful'. This difference in negation focuses produces different aspectual meanings when these sentences take the change-of-state *le*, which indicates the current relevance of a situation. Consequently, the current relevance in (32a) is *bu name kepa* 'not so frightful' whereas it is *bu juede name kepa* 'no longer felt so frightful' in (32b), as indicated by the parts marked in italic in the two examples.

Transferred negation is essentially a type of indirect negation, which indicates a reduced ‘strength scale’ of negation (Horn 1972). As Shen (1989, 4) observes, the degree of negation becomes lower when the negator is further away from what is negated. As such, (33a) expresses a stronger attitude than (33b). The former indicates that the method is not very good while the latter implies that the method is not very bad – if there is no alternative, it can be used. The indirectness and reduced degree of negation also accounts for why transferred negation typically co-occurs with verbs of opinion and perception, which is appropriate as a politeness strategy but not effective in argumentation.

## 7. DOUBLE NEGATION AND REDUNDANT NEGATION

Double negation is common in Chinese. Frequently used structures of this kind include, for example, *budebu* ‘cannot but have to’, *bunengbu* ‘cannot but have to’, *wu/meiyou (...) bu* ‘all (...) without exception’ and *fei... (bu/mo)* ‘have got to, simply must’. While it is true that double negation expresses a positive meaning, the negation of negation often does not merely mean the same thing as what is left when the two negators are removed (cf. Lü (1986)). For example, the parts italicised in the (a) sentences carry a different meaning from those in the (b) sentences in (e.g. 34-35). Similarly, *bu hui/keneng bu* ‘definitely’ and *bunengbu* ‘cannot but, simply must’ are not the same as *hui/keneng* ‘probably’ and *neng* ‘can’ respectively. There are cases where two negators cancel each other (e.g. 36), though double negation carries a more emphatic force, as shown in (e.g. 37). Similar examples include *bu shi meiyou*

*daoli* (*keneng*, *zhengyi*, etc) *de* ‘it is not without a reason (possibility, debate, etc)’, which mean almost the same when both negators (*bu* and *mei*) are removed.

- (34) a. Shixiong bu xiang mingtian zou, keshi diedie  
Shixiong not want tomorrow leave but dad  
shuo-chulai-le, *jiu bu gan bu ying* (LCMC: N)  
say-out-Asp then not dare not agree  
'Shixiong did not want to leave the next day, but now that his  
dad had said so, he had to agree.'
- b. <...> *jiu gan ying*  
then dare agree  
'(...) he dared to agree.'
- (35) a. liuxuesheng yuqi wei gui *bu dengyu bu*  
overseas:students overdue not return not equal not  
*aiguo* (LCMC: F)  
patriotic  
'Overseas students not returning within time limits does not  
mean that they are not patriotic.'
- b. <...> *dengyu aiguo*  
equal patriotic  
'(...) means that they are patriotic.'
- (36) a. ta meiyou liyou *bu xiangxin* (LCMC: M)

- he not:have reason not believe  
                  ‘He had no reason not to believe.’
- b.       ta you liyou xiangxin  
           he have reason believe  
           ‘He had reason to believe.’
- (37)   a.     meiyou yi ge Zhongguoren bu zhidao na zhi kangkai  
           no:have one Cl Chinese      not know that Cl fervent  
           de ge (LCMC: G)  
           DE song  
           ‘No Chinese who does not know that fervent song.’
- b.     zhongguoren dou zhidao na zhi kangkai de ge  
       Chinese    all know that Cl fervent DE song  
       ‘All Chinese know that fervent song.’

In the structure *fei...bu/mo*, either a noun or verb phrase can follow *fei* as shown in (38). There are two instances of the *fei* structure in this example, with the first followed by a noun (*dangbingde* ‘soldier’) and the second by a verb phrase (*deng ta fuyuan hou* ‘wait until he is demobilised’). It is of interest to note that in the double negation structures with *fei* and *bu*, the second negator *bu* can be omitted, without affecting its meaning, when a verb phrase follows *fei*. For example, *buke* can be removed in (39a) while it is also possible to insert *buke* at the end in (39b).

- (38)            wo fei dangbingde bu jia,     erqie fei deng ta fuyuan  
               I not soldier not marry and not wait he demobilise  
               hou cai jia (LCMC: R)  
               after until marry  
               'I will only marry a soldier but not get married until he is  
               demobilised.'
- (39) a.        wo fei yao ni gen Chen xiong bishi buke (LCMC: N)  
               I not want you with Chen brother compete not:can  
               'I insist that you have a competition with Chen.'  
       b.        ni bu yiding fei gaosu wo zhe jian shi (LCMC: P)  
               you not certainly not tell I this Cl matter  
               'You don't have to tell me about it.'

While double negation typically requires two negators that cancel each other to produce a positive meaning, the possible omission of the second negator in the *fei...bu* structure is not the only instance of redundant negation in Chinese. Redundant negation means that a negator is not essential in interpreting a sentence, i.e. it does not affect the meaning of the sentence. It typically occurs in structures with some semantically negative elements. Sentences in (40) exemplify the major structures of redundant negation in Chinese. In all of these sentences, the negators as marked up in bold can be removed without causing a change in meaning.

- (40) a. nimen **mei** lai zhiqian, wo zhenshi xiahuai-le (LCMC: L)  
you not come before I really frighten-Asp  
'Before you came, I was terribly frightened.'
- b. haizi men juede haob**bu** xiqi (LCMC: F)  
child Pl feel very curious  
'Children feel very curious.'
- c. xiaoxin **bie** tang-le haizi (PD 19/05/2000)  
careful don't scald-RVC child  
'Take care not to scald the child.'
- d. laobaixing chadianr **mei** ba tian ku ta (LCMC: G)  
common:people nearly not BA sky cry fall:down  
'People cried so much that the sky nearly fell down.'
- e. jinhou de fazhan jincheng nanmian **bu** shoudao  
future DE develop progress can:not:avoid not suffer  
<...> deng duozhong yinsu yingxiang (PD 04/11/2000)  
etc many factor influence  
'The progress of future development cannot avoid being influenced by many factors, such as ...'
- f. liang ren tan-le **mei** yihuir, guliang bian qishen  
two person talk-Asp not a:while girl then rise  
gaochi (LCMC: R)  
take:leave

‘The two of them talked for a while before the girl stood up to take leave.’

Example (40a) shows that *mei* in the structure *mei VP qian/yiqian/zhiqian* ‘before not VP’ is redundant. The semantic property of *mei* (i.e. negating realisation, see section 3) is compatible with the non-realisation of the situation denoted by VP *qian/yiqian/zhiqian* (cf. Dai (2000, 48)), which accounts for the felicitous co-occurrence of *mei* and *qian/yiqian/zhiqian* in this structure as well as for the redundancy of *mei*. In relation to redundant negation of this type, the alternative positive form (i.e. without *mei*) is nine times as frequent. In addition, our data suggests that when the VP is a compound verb starting with *lin* ‘just before’ (e.g. *linshui* ‘just before going to bed’, *linsi* ‘just before one dies’, *linxing<sub>1</sub>* ‘just before execution’, *linxing<sub>2</sub>* ‘just before leaving’, *linzhong* ‘just before one dies’), the redundant *mei* cannot be used; when the structure VP *qian/yiqian/zhiqian* functions as an attributive rather than an adverbial modifier, *mei* also appears dubious (e.g. *?mei qiuzhi qian de chaoqian zhunbei* ‘beforehand preparations before seeking employment’).

In Chinese, the sequence *hao + bu + adjective* is an ambiguous structure which can be analysed as *haobu + adjective* (e.g. *haobu shufu* ‘very comfortable’) or *hao + bu + adjective* (e.g. *hao bu shufu* ‘very uncomfortable’).<sup>18</sup> In the first analysis, *haobu* is an intensifying adverb similar to *hen* ‘very’ while in the second *bu* modifies the ensuing adjective, which as a

whole is in turn modified by *hao* ‘very’. As such, the first is a positive use whereas the second is a negative one. Example (40b) shows the first usage, in which *bu* is redundant. It has been noted that *bu* in such cases is not a negator. Rather, it is more akin to a meaningless syllable that makes up a word, as in *bu-gan-bu-ga* (i.e. *ganga*) ‘awkward, embarrassing’ and *heibuliuqiu* ‘swarthy’ (cf. Fang (1996, 67)). While the structure potentially allows two quite opposite meanings, which can only be disambiguated in context, our data shows that the positive use is predominantly more frequent than the negative use in attested data. It is important to note, however, that *rongyi* ‘easy’ as appears in *hao bu rongyi*, when used as an adverbial, only allows the negative reading (i.e. not easy). In fact, the positive form of the adverbial use of *hao rongyi* also expresses a negative meaning. This is because *hao* ‘very’, unlike *hen* ‘very’, is often used in an ironic expression. For example, *ni hao congming* can mean ‘you are not clever’ whereas *ni hen congming* simply means ‘you are very clever’. This ironic use of *hao* actually negates what is uttered literally.

In imperatives with *xiaoxin/dangxin* ‘be careful, take care’ which give warning, the negator *bie/buyao* ‘do not’ is redundant if what is warned against is out of the control of the addressee.<sup>19</sup> As such, *bie* ‘do not’ in (40c) can be removed (i.e. *xiaoxin tang le haizi*) without a change in meaning. Positive forms are roughly twice as frequent as negative forms. One difference between the two forms lies in that the latter can be systematically interpreted as two clauses separated by a pause in speech or a comma in writing (e.g. *xiaoxin, bie tang le haizi*) whereas the latter cannot (\**xiaoxin, tang le haizi*).

Example (40d) shows that the negator *mei* following *chadian/chadianr* ‘nearly, on the verge of’ can be redundant. *Chadian/chadianr* carries a typically negative semantic prosody, though it can also occur in sentences denoting neutral or positive situations. The negator is only redundant in negative and neutral situations. In such cases, the variants without a redundant negator are overwhelmingly more frequent, accounting for approximately 95% of the total occurrences. When a favourable situation is expected to occur by the speaker, however, the negator is not redundant; rather, the positive and negative forms express opposite meanings (cf. Zhu (1982); Shen (1999)). For example, *chadianr deshou* ‘nearly succeeded’ means failing to succeed whereas *chadianr mei deshou* ‘nearly did not succeed’ means a narrow success.

Like *chadian/chadianr* ‘nearly, on the verge of’, *nanmian* ‘hard to avoid; cannot help’ is typically used in a semantically negative context as what one tries to avoid is rarely beneficial. The negator *bu* ‘not’ following *nanmian* ‘hard to avoid; cannot help’ can be removed or replaced with the positive form *yao/hui* ‘will’ without affecting meaning (e.g. 40e). Our corpora show that positive forms are dominant in such structures (approximately 99% of the time). Furthermore, it is important to note that in rare cases where *nanmian* is followed by words of favourable meanings, e.g. *jianquan* ‘healthy, perfect’ in *zhidu nanmian bu jianquan* ‘The system cannot but be imperfect’, the negator *bu* cannot be omitted, because one needs not to avoid something favourable.

The final example of redundant negation we will examine is (40f), which shows that redundant negation can occur when a negator co-occurs with an adverbial quantifier indicating a small quantity. *Yihui/yihuir* can mean ‘a while’ (e.g. *zuo yihui* ‘sit for a while’), ‘the moment’ (e.g. *na yihuier* ‘at that moment’) and ‘now...now’ (e.g. *yihuier ku yihuier xiao* ‘cry this moment and laugh the next’). But of these, only the first meaning is relevant to redundant negation. Temporal duration is a flexible concept (cf. Xiao and McEnery (2004)). As such, *yihui/yihuir* ‘a while’ can be conceived of as long (e.g. *hao yihuir/laoda yihuir* ‘a long while’) or short (e.g. *bu yihui, bu da yihuir, bu duo yihuir, mei yihuir* ‘a short while’), depending upon one’s psychological expectation (cf. Shen (1999, 116)). When *yihui/yihuir* co-occurs with *bu* or *mei*, the short duration reading is selected automatically. In this reading, *yihui/yihuir* denotes a minimum quantity which is qualitatively not different from negation, thus rendering *bu* or *mei* redundant.

## 8. CONCLUSIONS

This article explored negation in Chinese on the basis of corpora of written and spoken Chinese. It has been found that in addition to negating functions, negative adverbs in Chinese also display differences in distribution across genres. The best characterisation of *mei* is that it negates the realisation of a situation, which distinguishes it from the general purpose negator *bu*. Regarding the interaction between negation and aspect marking, the actual aspect marked by *-le* and the experiential aspect marked by *-guo* are negated

by *mei* while the durative aspect marked by *-zhe* and the progressive aspect marked by *zai* rarely occur in negative sentences. Imperfective aspects of the latter two types usually undergo a viewpoint aspect shift when they are negated. While sentences taking *zai* can be negated by either *bu* or *mei*, co-occurrences of *bu* and *zai* are typically in double negation structures or rhetoric questions, which are essentially positive in meaning. Sentences taking *-zhe* are negated more frequently by *mei* than *bu*, and *-zhe* is often omitted in negative sentences unless it appears in the V-*zhe* V structure where V-*zhe* acts as an adverbial. The scope of negation typically extends from the word immediately following the negator to the end of a clause unless the context provides clues that suggest otherwise. Word order is important in determining the focus of negation, which typically falls on some modifying element which usually follows the negator immediately or the end of a clause unless a contrast present in context suggests otherwise. Transferred negation is uncommon in Chinese. When it occurs, the transferred focus of negation suggests a reduced degree of negation. Double negation is common in Chinese, but the negation of negation often means more than two negators cancelling each other, not only in terms of emphatic force, but in meaning as well. Finally, redundant negation typically occurs in sentences with some element which is inherently negative semantically. Methodologically, this study demonstrates that a corpus-based approach can achieve a more realistic and accurate account of linguistic phenomena than the approach that relies solely upon one's intuitions alone.

#### ACKNOWLEDGEMENTS

We are grateful to the UK ESRC for supporting our project ‘Contrasting English and Chinese’ (RES-000-23-0553), on which the work presented in this article is undertaken. We also thank all informants who took part in our elicitation test.

#### NOTES

<sup>1</sup> See <http://www.ling.lancs.ac.uk/corplang/pdc2000/default.htm> for a description of the PDC2000 corpus.

<sup>2</sup> *Mei* and *meiyou* used as a question tag does not have the negating function and can be replaced by modal particle *me*.

<sup>3</sup> Following Lü (1982), we consider *mei/meiyou* in comparative sentences as a verb, as in *Cheng Jiahe suiran meiyou Lu Xiaoman nayang boxue...* ‘Although Cheng Jiahe is not as learned as Lu Xiaoman...’ (LCMC: P).

<sup>4</sup> Note that only adjectives denoting property can be negated. Descriptive adjectives do not have negative forms. When *mei/meiyou* negate a noun (as in *meiyou ren* ‘nobody’), it is used as a verb. *Bu* can negate a noun in special structures like *nan bu nan, nü bu nü* ‘(look) neither like a man nor like a woman’.

<sup>5</sup> Examples are given in Chinese Pinyin. The sources of examples are indicated in the brackets, where PD represents the People’s Daily. The truncated parts in examples are marked by <...>. In grammatical glosses, Asp

stands for *aspectual marker*, BA for the marker for preposed object *ba*, Cl for *classifier*, COS for change-of-state *le*, DE for structural particle *de* of various forms, Pl for the plural suffix *men*, Prt for *particle*, PSV for *passive*, and finally RVC for *resultative verb complement*.

<sup>6</sup> According to Shi (2001), when they negate an adjective, *bu* differs from *mei* in that the former negates the extent of the property denoted by the adjective whereas *mei* negates the existence of the property. For example, *tian hai bu liang* means that the sky is light, but the extent is not high (i.e. not light enough to be considered as daytime), while *tian hai mei liang* means that the sky is not light at all, because the realisation of the situation *tian liang* is negated.

<sup>7</sup> The relative low frequency of *mei* in martial arts fiction (N) is compensated for by its highest frequency of *wei*, a more archaic negative adverb with a similar function (see section 2).

<sup>8</sup> One might argue that *mei* can co-occur with *-le* as in *meiyou huang le xinshen, luan le shoujiao* ‘did not get flustered or thrown into confusion’ (LCMC: A) and *mei wang le dai xinxian cuyu* ‘did not forget to bring freshly pickled fish’ (LCMC: G). In examples like these, however, *le* is a resultative verb complement which is equivalent to *liaojia* ‘finished’ or *diao* ‘detached’.

<sup>9</sup> As *mei* does not co-occur with *-le*, the positive/negative ratio for the actual aspect was computed on the basis of the frequencies of *-le* and *mei* as an adverb modifying stative, dynamic and modal verbs in Figures 1-2.

<sup>10</sup> The count for -*zhe* does not include V1-*zhe* V2 structures as V1-*zhe* functions as an adverbial modifier.

<sup>11</sup> Some of our informants suggest that the two instances in the broadcast script from China Radio International are very likely to be transcription errors. The two examples are (11b) and *dan zhe jiujing shi “yiju” haishi “yiwu”, renmen de yilun bu zai (or buzai) jixu* ‘But whether this is ‘a magnificent act undertaken for the public good’ or an ‘obligation’, people are no longer commenting (or people’s comments no longer continue)’.

<sup>12</sup> A positive sentence is also likely to allow multiple readings arising from different semantic and/or informational focuses in different contexts.

<sup>13</sup> Note that the VO structures also include object clauses (e.g. *conglai mei tingshuo-guo jiashi feiji de ren shi zhan-zhe de* ‘It is unheard of that someone stands when piloting a plane’, LCMC: E) and preposed objects (e.g. *shenme xiansuo dou meiyou faxian* ‘No clue was found’, LCMC: M).

<sup>14</sup> When quantifiers such as *yi* ‘one’ and *ban* ‘half’ take *bu* or *mei*, what is negated is in effect the situation *per se* (e.g. *mei wo de anpai, dongxi ban ge bu neng dong, qian yi fen bu neng hua* ‘Without my arrangement, nothing should be moved, nor a penny should be spent’, LCMC: L). Pronouns like *shenme* ‘what’ and *renhe* ‘any’ have a similar effect. In contrast, when a quantifier referring to a quantity greater than one takes a negative adverb, what is negated is the extent specified by the quantifier.

<sup>15</sup> It has been argued in the literature that the modal verb should be included in the focus of negation. They should not, in our view, because while modal

verbs have some class meaning (e.g. possibility, volition, etc) on their own, the focus of negation usually occurs in what follows the modal verb, as shown in *renmen bu gan zai zhe zhong shu xia xiuxi* ‘People do not dare to rest under trees of this kind’ (LCMC: D).

<sup>16</sup> The contrast can be indicated by the tone and stress in speech. But we will not discuss such spoken features in this article as our corpora are not prosodically annotated.

<sup>17</sup> What is expressed by verbs of perceptions in English can also be achieved by adverbs such as *sihu* ‘appear, seem’, *haoxiang* ‘look like’, and *keneng* ‘likely’. *Sihu* and *haoxiang* do not take a negator (compare *sihu/haoxiang bu hui xiayu* ‘It doesn’t look like it’s going to rain’ vs. *\*bu sihu/haoxiang hui xiayu*) while *bu keneng* ‘impossible’ and *keneng bu* ‘probably not’ mean differently.

<sup>18</sup> The slot taken by *adjective* in the formula can be replaced by an adjectival verb such as *aonao* ‘fret’, *houhui* ‘regret’, *shengshi* ‘get angry’, *xianmu* ‘admire, envy’ and *zhendong* ‘shock’.

<sup>19</sup> Note that when an imperative does not give warning, or when the addressee has control over what is warned against, the positive and negative forms mean differently (compare *xiaoxin bie guo malu* ‘Be careful not to cross the road’ vs. *xiaoxin guo malu* ‘Cross the road carefully’, Dai (2004)).

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## TABLES AND FIGURES

Table 1 Genres covered in LCMC

Code	Genre	No. of samples	Proportion
A	Press reportage	44	8.8%
B	Press editorials	27	5.4%
C	Press reviews	17	3.4%
D	Religion	17	3.4%
E	Skills, trades and hobbies	38	7.6%
F	Popular lore	44	8.8%
G	Biographies and essays	77	15.4%
H	Miscellaneous (reports, official documents)	30	6%
J	Science (academic prose)	80	16%
K	General fiction	29	5.8%
L	Adventure fiction	24	4.8%
M	Science fiction	6	1.2%
N	Adventure fiction	29	5.8%
P	Romantic fiction	29	5.8%
R	Humour	9	1.8%
Total		500	100%

Table 2 Proposals of major distinctions between *bu* and *mei*

Criteria	<i>Bu</i>	<i>Mei</i>
Subjective vs. objective	Subjective	Objective
Reference time	Past, present, future	Past and present
Stative vs. dynamic	Stative	Dynamic
Completion vs. non-completion	Non-completion	Completion
Telic vs. atelic	Atelic	Telic
Bounded vs. unbounded	Unbounded	Bounded
Realis vs. irrealis	Irrealis	Realis

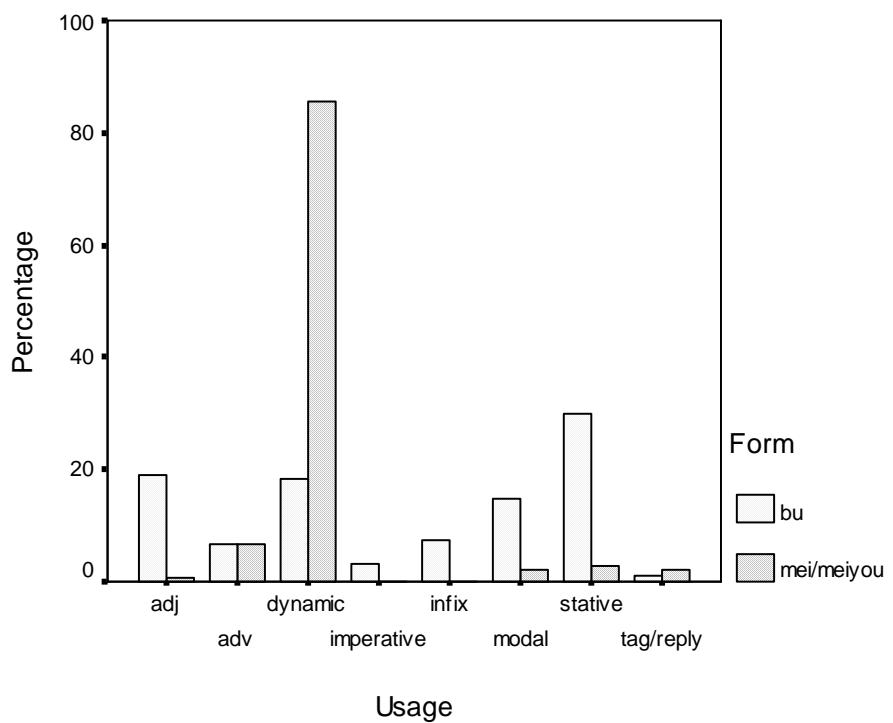


Figure 1 *Bu* and *mei/meiyou* in LCMC

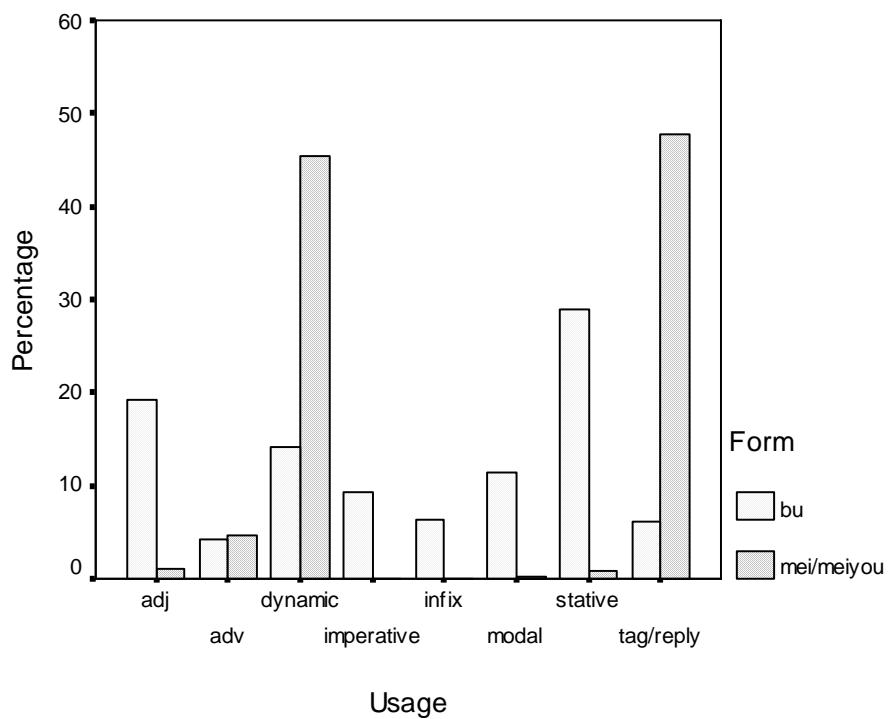


Figure 2 *Bu* and *mei/meiyou* in Callhome

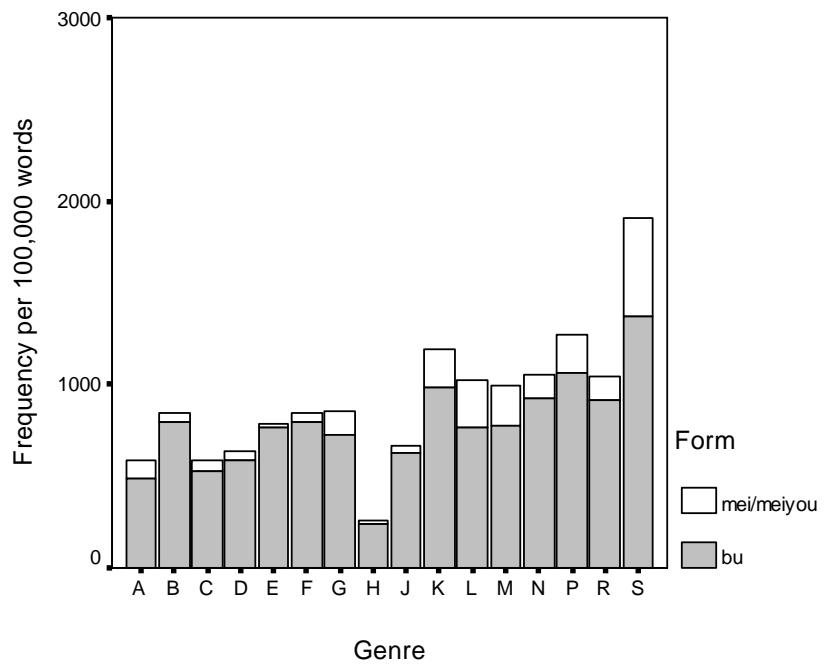


Figure 3 Distribution of negative adverbs across 16 genres