Collocation, Semantic Prosody, and Near Synonymy: A Cross-Linguistic Perspective

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This paper explores the collocational behaviour and semantic prosody of near synonyms from a cross-linguistic perspective. The importance of these concepts to language learning is well recognized. Yet while collocation and semantic prosody have recently attracted much interest from researchers studying the English language, there has been little work done on collocation and semantic prosody on languages other than English. Still less work has been undertaken contrasting the collocational behaviour and semantic prosody of near synonyms in different languages. In this paper, we undertake a cross-linguistic analysis of collocation, semantic prosody, and near synonymy, drawing upon data from English and Chinese (pu3tong1hua4). The implications of the findings for language learning are also discussed.

INTRODUCTION

This paper explores the collocational behaviour and semantic prosody of near synonyms from a cross-linguistic perspective. The importance of these concepts to language learning is well recognized. Yet while collocation and semantic prosody have recently attracted much interest from researchers studying the English language, there has been little work done on collocation and semantic prosody on languages other than English. Still less work has been undertaken contrasting the collocational behaviour and semantic prosody of near synonyms in different languages. The exceptions to this include Sardinha (2000) and Tognini-Bonelli (2001: 131–56), who contrast semantic prosodies in European languages such as English vs. Portuguese and English vs. Italian. In this paper, we will use the same methodology to undertake a cross-linguistic analysis of collocation and semantic prosody of near synonyms, drawing upon data from two distinctly different languages, English and standard Chinese (pu3tong1hua4).

In working with English and Chinese, we decided that we needed to carefully select corpus data to minimize the role that corpus choice had to play in determining our research findings. We knew that our approach should be corpus-based as previous studies have shown that a speaker’s intuition is usually an unreliable guide to patterns of collocation and that intuition is an even poorer guide to semantic prosody. Yet, in choosing corpora for our study, we also wanted to use data that formed a good basis for a contrastive study, as we wished to control for features such as genre...
when undertaking our cross-linguistic comparison. Consequently, the principal corpora we use in this paper are the Freiburg-LOB Corpus of British English (i.e. FLOB, see Hundt et al. 1998), the Freiburg-Brown Corpus of American English (i.e. Frown, see Hundt et al. 1999), and the Lancaster Corpus of Mandarin Chinese (i.e. LCMC; see McEnery et al. 2003). Each of these corpora contains approximately one million words of samples collected from fifteen written text categories published around 1991. The FLOB/Frown and LCMC corpora are, as far as is practically possible, comparable corpora suitable for contrastive language research. However, there were points in our research where these corpora were not large enough to provide a reliable basis for quantification. On such occasions a supplementary group of data was also used, which includes two comparable corpora, namely the Lancaster-Oslo/Bergen Corpus of British English (i.e. LOB, see Johansson et al. 1978) and the Brown University Corpus of American English (i.e. Brown, see Francis and Kučera 1964), and the People’s Daily (2000) Corpus for Chinese (PDC2000).\textsuperscript{2} The LOB and Brown corpora are 1-million-word corpora sampled from the same fifteen text categories used in FLOB, Frown, and LCMC, but the texts were produced in 1961. The PDC2000 corpus covers one year’s newspaper texts published by the People’s Daily in 2000, totalling approximately fifteen million words. For very rare items in English, we also used the British National Corpus (i.e. BNC, World Edition) to extract significant collocates. As the supplementary corpora are not comparable either in sampling period or coverage, we clearly indicate where they are used in this paper. These corpora were only used to add further weight to observations made in small comparable corpora.

In this paper, collocation, semantic prosody, and near synonymy are explored contrastively with the aim of addressing two important questions: (i) does Chinese exhibit semantic prosody and semantic preference as English does? (ii) how different (or similar) are the collocational behaviour and semantic prosody of lexical items with similar denotational meanings (i.e. near synonyms) in unrelated languages such as English and Chinese? In addition, in the conclusion of this paper, we will also consider the implications of this contrastive analysis for language learning.

To make the analysis comparable, the exploration will be undertaken through three case studies of near synonyms in English and their close translation equivalents in Chinese. These translation equivalents were identified using a bilingual dictionary, independently of the observed collocational behaviour or semantic prosody in our corpus data. When used, such dictionary-based translation equivalents were checked by us in context to exclude irrelevant data. For example, the dictionary shows the Chinese equivalent of result is jie2guo3 (结果), which can also be used as a verb meaning ‘to yield fruits’ literally, or ‘to produce a result’ and, metaphorically, ‘to kill or finish off somebody’. These uses were excluded from our analysis, as they fell outside the scope of our study. Before proceeding to undertake
the contrastive analysis, however, we will first review previous research on collocation, semantic prosody, and near synonymy.

COLLOCATION, SEMANTIC PROSODY, AND NEAR SYNONYM: A REVIEW

Collocation has been studied for at least five decades. The word *collocation* was first used as a technical term by Firth (1957) when he said ‘I propose to bring forward as a technical term, meaning by *collocation*, and apply the test of *collocability*’ (Firth 1957: 194). According to Firth (1968: 181), ‘collocations of a given word are statements of the habitual or customary places of that word’. Firth’s notion of collocation is essentially quantitative (cf. Krishnamurthy 2000: 32). The statistical approach to collocation is accepted by many corpus linguists including, for example, Halliday (1966: 159), Greenbaum (1974: 82), Sinclair (1991), Hoey (1991), Stubbs (1995), Partington (1998), McEnery and Wilson (2001), and Hunston (2002). All of these linguists follow Firth in that they argue that collocation refers to the characteristic co-occurrence of patterns of words. One assumes that Greenbaum’s (1974: 82) definition of collocation—‘a frequent co-occurrence of two lexical items in the language’—only refers to statistically significant collocation. While Greenbaum’s definition does not tell us how frequent the co-occurrence of two lexical items should be to be considered as a collocation, Hoey (1991: 6–7) uses the term *collocation* only if a lexical item appears with other items ‘with greater than random probability in its (textual) context’.

There are a number of statistical tests used to measure collocational strength, for example the MI (mutual information), $z$, $t$, log-likelihood, log-log, and MI3 scores. While it is well-known that the MI scores may unduly overvalue infrequent words, we chose to use the MI measure in this paper because it is built into the corpus tools we used, WordSmith (for English data) and Xaira (for Chinese data). Both tools allow users to set the minimum co-occurrence frequency of an item to be considered as a collocate of a given node word so that the drawback of the MI measure, as noted above, can be partly offset. Given the size of the comparable corpora used, we set the minimum co-occurrence frequency to 3. Within a 4–4 window span, items which have a minimum co-occurrence frequency of 3 as a collocate of a given node word and a minimum MI score of 3 are considered to be collocates of a node word. When using additional data from the BNC and PDC2000 corpora, the minimum co-occurrence frequency was set at 20. As we will see from the collocates extracted in the section that follows, these adjustments have allowed us to use the MI score safely.

Shifting from form to meaning, Stubbs (2002: 225) observes that ‘there are always semantic relations between node and collocates, and among the collocates themselves’. The collocational meaning arising from the interaction between a given node and its typical collocates might be referred to as
Table 1: Examples of semantic prosodies

<table>
<thead>
<tr>
<th>Author</th>
<th>Negative prosody</th>
<th>Positive prosody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinclair (1991)</td>
<td>BREAK out</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HAPPEN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SET in</td>
<td></td>
</tr>
<tr>
<td>Louw (1993, 2000)</td>
<td>bent on</td>
<td>BUILD up a</td>
</tr>
<tr>
<td></td>
<td>build up of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>END up verb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GET oneself verbed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a recipe for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAUSE</td>
<td>career</td>
</tr>
<tr>
<td></td>
<td>FAN the flame</td>
<td></td>
</tr>
<tr>
<td></td>
<td>signs of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>underage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>teenager(s)</td>
<td></td>
</tr>
<tr>
<td>Partington (1998)</td>
<td>COMMIT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PEDDLE/peddler dealings</td>
<td></td>
</tr>
<tr>
<td>Hunston (2002)</td>
<td>sit through</td>
<td></td>
</tr>
<tr>
<td>Schmitt and Carter (2004)</td>
<td>bordering on</td>
<td></td>
</tr>
</tbody>
</table>

**semantic prosody**, ‘a form of meaning which is established through the proximity of a consistent series of collocates’ (Louw 2000: 57). Both individual words and phrases can have semantic prosodies (cf. Schmitt and Carter 2004: 7). The primary function of semantic prosody is to express speaker/writer attitude or evaluation (Louw 2000: 58). Semantic prosodies are typically negative, with relatively few of them bearing an affectively positive meaning. However, a speaker/writer can also violate a semantic prosody condition to achieve some effect in the hearer—for example irony, insincerity, or humour can be explained by identifying violations of semantic prosody (Louw 1993: 173).

It would appear, from the literature published on semantic prosody, that it is at least as inaccessible to a speaker’s conscious introspection as collocation is (cf. Louw 1993: 173; Partington 1998: 68; Hunston 2002: 142). Yet as the size of corpora has grown, and tools for extracting semantic prosodies have been developed, semantic prosodies have been addressed much more frequently by linguists, as exemplified in Table 1.³
item and its typical collocates. On the one hand, the item does not appear to have an affective meaning until it is in the context of its typical collocates. On the other hand, if a word has typical collocates with an affective meaning, it may take on that affective meaning even when used with atypical collocates. As the Chinese saying goes, ‘he who stays near vermilion gets stained red, and he who stays near ink gets stained black’—one takes on the colour of one’s company—the consequence of a word frequently keeping ‘bad company’ is that the use of the word alone may become enough to indicate something unfavourable (cf. Partington 1998: 67).

In Stubbs’ (2002: 225) comment cited above, the meaning arising from the common semantic features of the collocates of a given node word can be referred to semantic preference, which is defined ‘by a lexical set of frequently occurring collocates [sharing] some semantic feature’ (Stubbs 2002: 449). For example, Stubbs (2001b: 65) observes that large typically collocates with items from the same semantic set indicating ‘quantities and sizes’ (e.g. number(s), scale, part, quantities, amount(s)) while Partington (2004: 148) notes that ‘absence/change of state’ is a common feature of the collocates of maximizers such as utterly, totally, completely, and entirely.

Semantic preference and semantic prosody are two distinct yet interdependent collocational meanings. According to Sinclair (1996, 1998) and Stubbs (2001b), semantic prosody is a further level of abstraction of the relationship between lexical units: collocation (the relationship between a node and individual words), colligation (the relationship between a node and grammatical categories), semantic preference (semantic sets of collocates), and semantic prosody (affective meanings of a given node with its typical collocates). Partington (2004: 151) notes that semantic preference and semantic prosody have different operating scopes: the former relates the node item to another item from a particular semantic set whereas the latter can affect wider stretches of text. Semantic preference can be viewed as a feature of the collocates while semantic prosody is a feature of the node word. On the other hand, the two also interact. While semantic prosody ‘dictates the general environment which constrains the preferential choices of the node item’, semantic preference ‘contributes powerfully’ to building semantic prosody (Partington 2004: 151).

There are different opinions regarding whether or not semantic prosody is a type of connotative meaning. Partington (1998: 68), Stubbs (2001a: 449) and Hunston (2002: 142) appear to take it for granted that semantic prosody is connotational, while Louw (2000: 49–50) explicitly argues that ‘semantic prosodies are not merely connotational’ as ‘the force behind SPs [semantic prosodies] is more strongly collocational than the schematic aspects of connotation’. In our view, connotation can be collocational or non-collocational whereas semantic prosody can only be collocational.

In this paper, the positive, neutral, and negative semantic prosodies correspond to Partington’s (2004) favourable, neutral, and
unfavourable prosodies. We evaluated each case in context. A pleasant or favourable affective meaning was labelled as positive while an unpleasant or unfavourable affective meaning was judged as negative. When what was happening was completely neutral, or the context provided no evidence of any semantic prosody, the instance was labelled as neutral. Note that in the collocate lists presented in the section that follows, items with an unfavourable affective meaning are underlined and those with a favourable affective meaning are in bold.

In this paper, by near synonyms we mean lexical pairs that have very similar cognitive or denotational meanings, but which may differ in collocational or prosodic behaviour (cf. also Partington 1998: 77). As such, synonymous words are not collocationally interchangeable (cf. Conzett 1997: 70–87; Tognini-Bonelli 2001: 34). For example, Greenbaum (1974: 81) noted that synonyms may ‘be separated collocationally because of restrictions to a language variety or style’, as shown in his examples to cashier an army officer vs. to expel a school child. Halliday (1976: 73) observed that tea is typically described as strong rather than powerful whereas a car is more likely to be described as powerful than strong, even though the two modifiers share similar denotational meanings. Similarly, while weak and feeble have similar cognitive meanings, native speakers of English prefer to say weak tea rather than feeble tea (cf. Mackin 1978: 150). In addition to different collocational behaviour, near synonyms can also differ in semantic prosodies, e.g. fickle is negative whereas flexible is positive (see Tognini-Bonelli 2001: 18–24). Finally, while it is important to note that, in addition to the lexical level, near synonyms at the morphological level also demonstrate different collocational behaviour (cf. Greenbaum 1974: 81–2), in this paper, we will only consider synonyms at the word/phrase level.

COLLOCATION, SEMANTIC PROSODY, AND NEAR SYNONYMY IN ENGLISH AND CHINESE

Previous research on collocation and semantic prosody has focused on English. Other languages and contrastive studies have largely been overlooked. In order to begin to address this oversight, in this section, we will contrast the collocational behaviour of near synonyms and their semantic prosodies in English and Chinese. Specifically, the following groups of near synonyms in English and Chinese will be examined: the consequence group, the cause group, and the price/cost group. These words are selected because they have been studied in English and we want to move from the established patterns of English to investigate the patterns occurring in Chinese by examining the collocational behaviour and semantic prosody of the close equivalents of the words in question in Chinese. For each group, collocation and semantic prosody in English are discussed first, followed by a contrastive analysis of the Chinese data.
The consequence group

In English, there are a number of words that mean ‘anything that is due to something already done’, e.g. result, outcome, consequence, and aftermath. While aftermath is sometimes labelled as ‘unpleasant’, most dictionaries simply ignore the different semantic prosodies of these near synonyms with no further distinction (see discussion below). Nevertheless, such definitions are arguably inadequate and misleading. In fact, the affective meanings of near synonyms are closely associated with word forms, contexts, and genres. Table 2 shows the distribution of consequence across meaning categories in the FLOB/Frown corpora. It is clear from the table that while fixed expressions such as as a consequence and in consequence (of) can be negative, neutral or positive, depending upon their contexts, consequence and consequences show a strong tendency towards a negative semantic prosody. The plural form consequences is even more likely to be used negatively. When it is used neutrally, consequence(s) often means ‘importance’, or is typically used in contrast with antecedent/precedence or conditional.

As with the neutral use of consequence(s), consequent(ly) occurs most frequently in academic prose as a formal substitute of as a result. In FLOB and Frown, significant collocates of consequences include (ranked by co-occurring frequency):

- Nature: important, adverse
- Affected target: social, financial, economic, ethical, moral, individual, public
- Action: HAVE, (there) BE, ACCEPT

Of the collocates indicating the nature of consequences, important is positive while adverse is negative. Interestingly, all instances of important consequences follow HAVE or there BE. In FLOB/Frown we observed that important consequences tend to collocate with HAVE/there BE to denote a positive pattern meaning. It appears that the two patterns are associated with the different meanings of consequence: ‘importance’ and ‘result’. This observation is confirmed in a larger corpus. Of the 67 instances of important consequences in the BNC, 54 occurrences follow HAVE and one instance follows there BE.

Table 2: Distribution of consequence across meaning categories in FLOB/Frown

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Negative</th>
<th>Neutral</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>as a consequence</td>
<td>6</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>in consequence (of)</td>
<td>8</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>consequence</td>
<td>27</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>consequences</td>
<td>85</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>consequent(ly)</td>
<td>15</td>
<td>73</td>
<td>5</td>
</tr>
</tbody>
</table>
All 54 examples are positive. The other 12 cases may be either positive or neutral. When consequences means ‘results’, its typical collocates refer to something unpleasant. In the BNC, for example, collocates indicating the nature of consequences (with a co-occurrence frequency of 20 or above) include, in the order of their co-occurring frequencies, serious, important, disastrous, adverse, dire, far-reaching, damaging, negative, profound, unintended, major, unfortunate, tragic, fatal, new, severe and significant. All of the underlined items express an unfavourable affective meaning.

When they are modified by collocates indicating an affected target, consequences are typically negative. As such, actions associated with them normally include accept, alleviate, avoid, face, meet, minimise, offset, (be) responsible, (take) responsibility, suffer, and sustain. Consequences sometimes collocates with verbs such as REAP, as in (1):  

(1) These officials generally attributed their problems to:... Some critics charged, though, that states were reaping the consequences of profligate spending during the growth years of 1984–1989. (Frown: H)

REAP typically collocates in its literal meaning with names of crops and harvest, or metaphorically with words with a positive meaning such as benefit(s) and rewards (the three significant collocates are from the BNC). It seems that the apparently paradoxical combination of REAP and consequences in this example carries the implication that ‘you reap as you sow’: the officials were suffering as a result of their own profligate spending.

In comparison with consequence(s), aftermath displays an even more pronounced tendency towards the negative pole of the semantic continuum. In FLOB and Frown, 14 occurrences of aftermath were found, mostly in the expression in the aftermath of. There is only one significant collocate indicating what causes the state of affairs referred to by aftermath. It is war. As the low frequency may result in unreliable quantification, we consulted the BNC, which provides 687 instances of aftermath. Significant collocates in the BNC typically include (with a co-occurrence frequency of 20 or above) war(s), world (as in World War I), and Gulf (as in the Gulf War). If we move down the list to include collocates with a co-occurrence frequency of 10 or above, we will find first (as in the First World War), death, coup, second (as in the Second World War), election, events, and revolution. It is clear that most of these words are negative in their contexts.

Further away from the negative pole of the semantic continuum are result and outcome. Result is significantly more common than outcome (with 677 and 86 occurrences respectively in FLOB/Frown). It appears that both words are associated with a favourable affective meaning, e.g. a good result, a great result, an excellent result, a brilliant result, a successful outcome (cf. Hoey 2003),
as reflected by their significant collocates which indicate the nature of a result or outcome (ranked by co-occurring frequency):

- **Result:** better, different, early, end, final, similar, direct, empirical, likely, experimental, good, negative, desired
- **Outcome:** likely, positive, successful

It is of interest to note that negative appears on the collocation list of result. A close examination of the concordances shows that in all of the three instances negative should be interpreted in a mathematical or medical sense, which has no impact upon affective meaning.6

While the discussion above shows that the four near synonyms can be arranged, from positive to negative, on a semantic continuum as follows: outcome/result, consequence, and aftermath, dictionaries and thesauri (both learners’ and non-learners’) are not terribly helpful in distinguishing the different semantic prosodies of near synonyms (cf. Partington 1998: 69–72; Tognini-Bonelli 2001: 25), because they emphasize the denotational meaning of these synonymous words, not their usage. For example, the *Longman Synonym Dictionary* (Urdang 1986: 33, 217) simply lists result, effect, event, outcome, issue, upshot, and aftermath, etc. as the synonyms of consequence while giving result, consequences, end result, and outcome etc. as the synonyms of aftermath. The new edition of the *Longman Dictionary of English Language and Culture* is much better in this respect. While it also defines consequence neutrally as ‘something that follows from an action or set of conditions; result’, all of the examples it provides are the negative use of the word (Summers 1999: 272). The *Merriam-Webster Thesaurus* (1991) and the *Oxford Thesaurus* (Urdang 1991) also overlook the different semantic prosodies of result and consequence and, in Tognini-Bonelli’s (2000: 224) words, ‘end up showing a certain circularity’. Only two of the dictionaries that we examined provide an adequate account of the use of consequence. The Cassell Guide to Related Words (Hayakawa 1994: 451–2) gives a clear explanation of the subtle distinction between result, consequence, outcome, and denouement, according to which ‘consequence may refer to simple causation in a neutral way… More often, however, consequence suggests a negative result or at least the negative concomitant of an otherwise desirable effect’. *Collins English Dictionary* (5th edition, 2000: 340) draws a distinction between the neutral (‘a result or effect of some previous occurrence’) and negative (‘an unpleasant result’) use of consequence and gives an example of its negative use (*take the consequences*).

Shifting to consider these words in contrast, the Chinese equivalent of result/outcome is jie2guo3 (结果) while the equivalent for consequence/aftermath is hou4guo3 (后果). In addition, there are a number of obviously positive synonyms such as cheng2guo3 (成果) ‘achievement’ and shuo4guo3 (硕果) ‘great achievement’, and negative synonyms including ku3guo3 (苦果) ‘a bitter pill to swallow’ and e4guo3 (恶果) ‘evil consequence’. There are 240 instances of jie2guo3 (结果) in the LCMC corpus, which are distributed
across different meaning categories as follows: positive 33, neutral 129, and negative 78. Significant collocates of jie2guo3 (结果) include:

- **Modifiers:** da4xuan3 ‘general election’, bi4ran2 ‘inevitable’, shi4yan4 ‘experiment’, diao4cha2 ‘investigation’, ke3neng2 ‘possible’, jing1ji4 ‘economic’, hao3 ‘good’
- **Actions:** biao3ming2 ‘show’, zao4cheng2 ‘cause’, zeng1jia1 ‘increase’, chan3sheng1 ‘give rise to; arise’, you3 ‘have’

There are both similarities and differences in the distribution of result and its Chinese equivalent jie2guo3 (结果) across meaning categories. On the one hand, like its English equivalents result and outcome, jie2guo3 (结果) typically does not express a negative affective meaning. The semantic prosody of jie2guo3 (结果) is dependent upon its collocates. For example, when it collocates with zao4cheng2 (造成), it indicates an unfavourable result; conversely, when it collocates with chan3sheng1 (产生), the result is evaluated favourably (see the next section for further discussion of zao4cheng2 (造成) and chan3sheng1 (产生)). The neutral use of jie2guo3 (结果) was mainly found in academic prose. As there are inherently positive synonyms in Chinese (e.g. shuo4guo3 (硕果) and cheng2guo3 (成果)), as noted above, jie2guo3 (结果) is less frequently used than result to indicate a positive semantic prosody.

In relation to jie2guo3 (结果), hou4guo3 (后果) is typically negative, although it can be used neutrally, because in some instances there is no evidence of semantic prosody in its context. Of the 22 occurrences of hou4guo3 (后果) in the LCMC corpus, 19 are used negatively, with the remaining three being neutral. The only significant collocate of hou4guo3 (后果) in LCMC is yan2zhong4 ‘serious, grave’. When the consequences are specified, they typically refer to undesirable situations such as increasingly intensifying contradictions, goods piling up in stock, and inflation. When the consequences are not made clear, there are usually modifiers expressing value judgements or indicating the nature of the consequences. These modifiers normally share a negative preference, including, for example, yan2zhong4 ‘serious, grave’, bu4kan1she4xiang3 ‘too ghastly to contemplate’, bu4ke3wan3hui2 ‘irretrievable’, bu4liang2 ‘adverse’, xiao1ji2 ‘negative’, nan2ce4 ‘dubious’, and bu4yan2zi4yu4 ‘self-evident’. In fact, hou4guo3 (后果) keeps bad company so frequently that simply using this word alone is usually sufficient to indicate some unfavourable result, as in (2):

(2) (a) ni3 xiang3xiang na4 hui4 you3 zen3yang4 de hou4guo3 (LCMC: G) you think-think that will have what GEN consequence ‘Just imagine what consequences will result.’

(b) hng-hng, na4 hou4guo3, qing3 xian1sheng1 zj4ji3 hao3sheng1 Humph then consequence please mister self carefully xiang3xiang3 ba (LCMC: N) think-think PRT ‘Humph! Then you must think carefully of the consequences.’
A more marked contrast was observed in the supplementary Chinese newspaper corpus PDC2000, where 472 instances of hou4guo3 (后果) were found. Of these 470 instances show a negative affective meaning, with the other two being neutral. The PDC2000 corpus shows two collocates with a minimum co-occurring frequency of 20, yan2zhong4 ‘serious, grave’ and zao4cheng2 (造成) ‘cause’.

Like English consequences, all of the neutral occurrences of hou4guo3 (后果) in LCMC were found in academic prose (e.g. 3a). Hou4guo3 (后果) was also found to occur in contexts where an option between a desirable effect (e.g. ‘peace’) and an unpleasant consequence (e.g. ‘disaster’) is available, as shown in (3b). Note, however, that whilst hou4guo3 (后果) can be used neutrally, the pattern meaning is quite unambiguous—a negative evaluation—when it collocates with verbs like zao4cheng2 (造成)/dao3zhi4 (导致)/zhi4shi3 (致使) ‘cause’ (see the next section).

(3) (a) shen1 ceng2ci4 ren4shi de hou4guo3 biao1zhi4-zhe
depth level knowledge GEN consequence mark-ASP
gi4ti3 ying4fu ying4ji1 de neng2li4 (LCMC: J)
individual cope-with emergence GEN ability
‘Deep level knowledge allows an individual to cope with emergencies.’
(b) qi2 yin3qi3 de hou4guo3 jiang1 bu4 shi4 he2ping2,
they cause GEN consequence will not be peace
er2 shi4 zai1nan4 (PDC2000)
but be disaster
‘The consequences caused by any of such words and deeds will not be peace but a disaster.’

In contrast to the typically positive jie2guo3 (结果) and the typically negative hou4guo3 (后果), shuo4guo3 (硕果) and cheng2guo3 (硕果) are inherently positive, whereas ku3guo3 (苦果) and e4guo3 (恶果) are inherently negative, regardless of genre.7 There are 4,572 instances of cheng2guo3 (硕果) in the LCMC and PDC2000 corpora. The typical collocates of cheng2guo3 (硕果) include feng1shuo4 ‘rich and great’, jiang3 ‘award’, zhu4shi4 ‘transform, turn into’, ke1ji4 ‘science and technology’, yan2ji1 ‘research’, qu3de2 ‘gain’, you1xiu4 ‘excellent’, gong4xian4 ‘contribution’, and sheng1chan3li4 ‘productivity’. The significant collocates of shuo4guo3 (硕果) include lei3lei3 ‘many times; countless’ and jie2chu1 ‘yield’. Cheng2guo3 (硕果) is significantly more frequent than shuo4guo3 (硕果), reflecting the fact that in the real world, results that can be labelled as shuo4guo3 (硕果) are considerably fewer than those labelled as cheng2guo3 (硕果). Ku3guo3 (苦果) occurs 32 times and e4guo3 (恶果) 42 times in the two Chinese corpora. All of these are negative, but no significant collocate was found for the two items.

Like the synonyms of result in English, the six near synonyms of jie2guo3 (结果) in Chinese can be arranged on a semantic continuum, from positive
to negative, as follows: shuo4guo3 (硕果), cheng2guo3 (成果), jie2guo3 (结果), hou4guo3 (后果), and ku3guo3 (苦果)/e4guo3 (恶果). In relation to English, it appears that Chinese is more sharply divided between the clearly negative and positive ends of the continuum. It is also important to note that unlike English, in which different forms of a lemma may have different collocates and semantic prosodies (e.g. consequence vs. consequences as noted earlier), Chinese does not have a rich morphology which can affect collocation and semantic prosody in this way.

The cause group

The negative semantic prosody of CAUSE has been widely observed (most notably by Stubbs 1995). In the FLOB and Frown corpora, there are 287 instances of CAUSE used as a verb. Of these, 223 occurrences have an unfavourable prosody, 56 are neutral while 8 cases are positive. The nominal collocates of CAUSE are quite revealing of what is typically associated with CAUSE: damage, problems, pain, disease, distress, trouble, blood, concern, degradation, events, harm, land, number, people, pollution, suffering, anxiety, condition, death, decision, fear, heart, human, stress, surprise, symptoms, time, water, women, and years. The underlined items are all unpleasant. These examples of ‘bad company’ collocate with CAUSE so frequently that the central and typical use of this word shows a negative affective meaning.

When CAUSE is used neutrally, there is usually a contrast between something good and something bad, for example between ‘pleasure’ and ‘pain’ in (4). Also, considering the distribution of consequences across text categories, it is hardly surprising that the neutral use of CAUSE typically occurs in academic prose, which provides 28 out of 56 neutral occurrences, as shown in (5). Unfortunately, while it has been observed that collocation is associated with text types (e.g. Firth 1957: 195; Sinclair 1966: 429; Greenbaum 1974: 81; Partington 1998: 17; Hoey 2003), the link between semantic prosody and text type has largely been overlooked in previous research (though see Tribble 1999: 206 and Hoey 2003 for exceptions).

(4) Utilitarianism asks the individual to aggregate the consequences of his or her actions for the promotion of pleasure and avoidance of pain, and demands that she or he should morally only follow that course which causes more pleasure than it does pain. (FLOB: J)

(5) (a) These echoes are caused by reflection of the speaker’s voice back from the distant receiving end... (FLOB: J)

(b) A portion of the increase in phosphate was caused by an increase in phosphotyrosine. (Frown: J)

The apparently neutral or even positive occurrences of CAUSE are often offset by their longer co-texts, as shown in (6).
(6) (a) His dress and the manner in which he carried himself caused her to think of a strutting peacock, a very vicious, very deadly one. (Frown: P)

(b) That idea caused a brief, groundless burst of hope which brought her a little closer to real waking. (Frown: L)

In (6a), think of a strutting peacock appears quite neutral. Nevertheless, the neutrality is immediately traded off by vicious and deadly. Similarly, whilst hope in (6b) is quite positive, the hope is turned into a fantasy or daydream when groundless is used.

The central and typical negative prosody, however, does not prevent CAUSE from co-occurring with words indicating positive results (e.g. such pleasure, some easing of the confusion, some tumors to shrink or disappear), although such cases are extremely rare (see the discussion of zao4cheng2 (造成) ‘cause’). Sometimes, a word with a strongly negative semantic prosody such as CAUSE is used to achieve an ironic effect.

(7) Two million children could be dying of hunger in the Sudan, and that wouldn’t cause a bump in consciousness. But Richard Johnson’s wife seen with a long-haired stranger—now that was news! (Frown: K)

In (7), for example, the situation of two million children dying of hunger certainly should be the cause of ‘a bump in consciousness’. In this sense, a ‘bump in consciousness’ is undoubtedly a desirable result. The conflict between this desirable result and the strongly negative word CAUSE triggers a sharply ironic effect: whilst trivial news like someone’s wife having an affair spreads rapidly and is of general interest, truly important news such as two million starving children may pass unnoticed.

Whilst CAUSE and BRING about have a very similar denotational meaning, their collocational behaviour and semantic prosodies differ markedly. In contrast to the strongly negative prosody of CAUSE, the objects of BRING about more frequently refer to desirable, or at least non-negative situations (cf. Johns 1997). In the FLOB and Frown corpora, there are 37 occurrences of BRING about, of which 17 are positive and 14 are negative, with the remaining six being neutral. As the overall frequency is low in the two corpora, no significant collocate was found that indicated the nature of what was brought about. However, the pattern found in FLOB/Frown generally conforms with the pattern in the BNC, where 2,150 instances of BRING about were found. In the BNC, the most significant nominal collocates are change and changes (the MI scores for changes and change are 5.48 and 5.17 respectively, occurring 378 times as a collocate of BRING about), which can be either good or bad. It is also of interest to note that while BRING about and CAUSE are both significant collocates of change(s), the former occurs significantly more frequently (436 times as a collocate, of which 378 times appearing as BRING about) than CAUSE (251 times) in the BNC. Change(s) collocating with BRING about typically shows a favourable evaluation whereas
its combination with \textit{cause} typically shows an unfavourable evaluation. Other significant nominal collocates include \textit{improvements, revolution, order, increase, death, downfall, war, government, situation, action, improvement, policy, reduction, result, and state}. Of these, with the exception of the three underlined items which are obviously negative, the other collocates are either positive or neutral. Adjectival collocates are also positive (e.g. \textit{new, major, significant}) or neutral (e.g. \textit{social, economic}). It is clear from the frequency data in FLOB/Frown and significant collocates in the BNC that \textit{bring about} typically does not express a negative affective meaning. As such, those who support euthanasia prefer to use \textit{bring about death} over \textit{cause death} (see Louw 2000: 58).

In addition to \textit{cause} and \textit{bring about}, there are a number of phrasal verbs that share similar meanings but vary in semantic prosodies. They include e.g. \textit{result in/from, lead to, arouse and give rise to}. \textit{result in} and \textit{result from} are quite similar in affective meanings irrespective of some differences in frequency (the former is significantly more frequent than the latter) and syntax (event A results in event B whereas event B results from event A). On the semantic level, they are used less frequently than \textit{cause} to show a negative affective meaning and less frequently than \textit{bring about} to show a positive evaluation. Their significant collocates include \textit{change(s)}, as well as items of both positive (e.g. \textit{growth} and \textit{development}) and negative (e.g. \textit{loss, injury, damage, and death}) meanings. \textit{lead to} is strikingly similar to \textit{result in/from} in affective meanings. The positive collocates include \textit{understanding} and \textit{development} while the negative collocates include \textit{accident, loss, problems, and disease}. Most collocates of \textit{lead to} are neutral (e.g. \textit{competition, increase, action, activity, conditions, courses, and decision}). The neutral occurrences of \textit{result in/from} (33 out of 47) and \textit{lead to} (45 out of 85) were typically found in academic prose. \textit{arouse} and \textit{give rise to} are relatively infrequent. In FLOB/Frown, there are 29 instances of \textit{give rise to} (45 per cent negative, 52 per cent neutral and 3 per cent positive; no significant collocate) and 17 occurrences of \textit{arouse} (76 per cent negative and 24 per cent neutral, the only collocate being \textit{suspicion}).

As such low frequencies may produce misleading results, we used four corpora of the Brown family (LOB, FLOB, Brown, and Frown) to examine the distribution of \textit{give rise to} and \textit{arouse} across meaning categories. As can be seen from Table 3, the increase in frequencies makes the distribution of the two phrasal verbs more balanced across the three meaning categories, but it does not lead to a drastic change in ordering. In these four corpora, no significant collocate was found which indicates the result referred to by \textit{give rise to}; only one such collocate, \textit{suspicion}, was found for \textit{arouse}.

The \textit{cause}-words in Chinese include \textit{chan3sheng1} (产生, 361 instances in the LCMC corpus), \textit{xing2cheng2} (形成, 334), \textit{zao4cheng2} (造成, 208), \textit{yin3qi3} (引起, 192), \textit{dai4lai2} (带来, 131), \textit{dao3zhi4} (导致, 79), \textit{cu4shi3} (促使, 44), \textit{zhi4shi3} (致使, 23), \textit{yin3fa1} (引发, 11), \textit{cu4cheng2} (促成, 11), and \textit{niang4cheng2} (酿成, 4). These near synonyms differ in semantic prosodies. As with the
CAUSE-words in English, we use supplementary data from PDC2000 when the overall frequency is very low (below 30). Table 4 shows the distribution of these near synonyms across meaning categories. Note that the frequencies of zhi4shi3 (致使), yin3fa1 (引发), cu4cheng2 (促成), and niang4cheng2 (酿成), as shown in the table, were extracted from the PDC2000 corpus. It can be seen from the table that zhi4shi3 (致使), niang4cheng2 (酿成), and zao4cheng2 (造成) are overwhelmingly negative; yin3fa1 (引发) and dao3zhi4 (导致) are very frequently used with a negative semantic prosody. In contrast, cu4cheng2 (促成) and cu4shi3 (促使) typically show a positive affective meaning. The collocates indicating what was referred to by these near synonyms are listed below (in descending order of frequency of co-occurrences).

Table 3: Distribution of CAUSE-words across meaning categories in English

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Negative</th>
<th>Positive</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUSE</td>
<td>223 (78%)</td>
<td>8 (3%)</td>
<td>56 (19%)</td>
</tr>
<tr>
<td>AROUSE</td>
<td>45 (65%)</td>
<td>10 (15%)</td>
<td>14 (20%)</td>
</tr>
<tr>
<td>LEAD to</td>
<td>141 (49%)</td>
<td>65 (22%)</td>
<td>85 (29%)</td>
</tr>
<tr>
<td>RESULT in/from</td>
<td>84 (47%)</td>
<td>49 (27%)</td>
<td>47 (26%)</td>
</tr>
<tr>
<td>GIVE rise to</td>
<td>27 (46%)</td>
<td>8 (13%)</td>
<td>24 (41%)</td>
</tr>
<tr>
<td>BRING about</td>
<td>14 (38%)</td>
<td>17 (46%)</td>
<td>6 (16%)</td>
</tr>
</tbody>
</table>

Note: Frequencies for GIVE rise to and AROUSE include occurrences in FLOB, Frown, LOB and Brown.

Table 4: Distribution of CAUSE-words across meaning categories in Chinese

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Negative</th>
<th>Positive</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>zhi4shi3 (致使)</td>
<td>569 (99%)</td>
<td>0</td>
<td>3 (1%)</td>
</tr>
<tr>
<td>niang4cheng2 (酿成)</td>
<td>92 (98%)</td>
<td>2 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>zao4cheng2 (造成)</td>
<td>190 (91%)</td>
<td>3 (2%)</td>
<td>15 (7%)</td>
</tr>
<tr>
<td>yin3fa1 (引发)</td>
<td>523 (77%)</td>
<td>31 (5%)</td>
<td>123 (18%)</td>
</tr>
<tr>
<td>dao3zhi4 (导致)</td>
<td>60 (76%)</td>
<td>2 (3%)</td>
<td>17 (21%)</td>
</tr>
<tr>
<td>dai4lai2 (带来)</td>
<td>64 (49%)</td>
<td>36 (27%)</td>
<td>31 (24%)</td>
</tr>
<tr>
<td>yin3qi3 (引起)</td>
<td>83 (43%)</td>
<td>28 (15%)</td>
<td>81 (42%)</td>
</tr>
<tr>
<td>chan3sheng1 (产生)</td>
<td>111 (31%)</td>
<td>88 (24%)</td>
<td>162 (45%)</td>
</tr>
<tr>
<td>xing2cheng2 (形成)</td>
<td>34 (10%)</td>
<td>85 (26%)</td>
<td>215 (64%)</td>
</tr>
<tr>
<td>cu4shi3 (促使)</td>
<td>2 (5%)</td>
<td>26 (59%)</td>
<td>16 (36%)</td>
</tr>
<tr>
<td>cu4cheng2 (促成)</td>
<td>2 (1%)</td>
<td>171 (98%)</td>
<td>2 (1%)</td>
</tr>
</tbody>
</table>
These collocates and the proportions for the negative/positive meaning categories are in conformance with each other. Both the proportional data and the collocates indicate that *zhi4shi3* (致使) and *niang4cheng2* (酿成) are essentially negative. Typical examples of the two items are given in (8).

(8) (a)  
ren2men ke3yi3 zhao3chu1 xu3duo1 zhi4shi3 ta1 duo4luo4 de people can find many cause he degenerate GEN yuan2yin1 (LCMC: C) reason
‘We can find many causes for his degeneration.’

(b) ruìguò yuēshāng zhòngdá qíngkuàng, zhèyáng cāoshuai
xingshì nánmiàn niàngchéng dàhuò (LCMC: J)
act unavoidably cause great-disaster

‘In critical situations, taking hasty action like this would inevitably lead to a great disaster.’

Zàochéng (造成) is also overwhelmingly negative, as exemplified in (9a). It shows such a strongly negative prosody that even an apparently neutral result may become negative, as in (9b). In political writing, however, such a strongly negative word can be equally positive, as in zàochéng (cause) yīl (one) gé (CL) <…> liàngzhǎohào (good) dé (GEN) shéihuì (social) huánjìng (environment) ‘create a favourable social environment, in which <…>’. 

Our explanation for this is that while the more frequently neutral synonym xíngchéng (形成) collocates perfectly well with such a positive result, zàochéng (造成) involves more human effort (xíngchéng (形成) refers to a result coming as a natural course) and is thus more powerful in achieving the desired effect.10

9 (a) ni3 bìxu1 déi ni3 zàochéng dé yánzhòng hóuguó
you must for you cause GEN serious consequence
fùzé (LCMC: K)
responsible
‘You must be responsible for the serious consequences you have caused.’

(b) wòshì de chuānghuì méiyǒu guān, bāo bāo de
bedroom GEN window not close, thin GEN
chuānghuì zài yèfēng lǐ piāo piāo, zàochéng
curtain in night-wind in flutter-flutter, cause
yīl zhòngjǐ ji2 yuānglángmàn qíngdiào dé, fēilǐng dé
duì-CL very have romantic appeal GEN, flying GEN
yǐnxīxiǎng, zhēngqì xiǎng nǐíZHÚ huǐren2 xi3nu4wù2chuǎng2,
impression, just like hostess changing-moods,
zàođōng bù níng de xínggé (LCMC: P)
restless not calm GEN disposition
‘The window of the bedroom was open. The thin curtain was fluttering gently in the night wind, giving an impression of romantic appeal and flying, just like the restlessly changing moods of its hostess.’

The collocates and the proportions show that dàozhì (导致) and yǐnfā (引发) more often than not indicate an unfavourable evaluation and most of their collocates are negative while dàilái (带来), yǐnqǐ (引起), and chǎnshēng (产生) are less frequently used in a negative context.
As such, chan3sheng1 (生产) cheng2guo3 (成果) evaluates a result as positive, and chan3sheng1 (生产) hou4guo3 (后果) evaluates a result as negative, while chan3sheng1 (生产) jie2guo3 (结果) can be good or bad. Xing2cheng2 (形成) is typically used in a neutral context while cu4cheng2 (促成) and cu4shi3 (促使) most frequently show a positive semantic prosody, as reflected by the nature of their collocates.

The discussion of the consequence and cause-groups of synonyms in English and their close translation equivalents in Chinese suggests that both languages exhibit features of semantic prosody, and that near synonyms are normally not collocationally interchangeable in either language as they show different semantic prosodies (consider cause a change vs. bring about a change, and zao4cheng2 (造成) jie2guo3 (结果) vs. chan3sheng1 (生产) jie2guo3 (结果)). The comparative analysis also shows that close translation equivalents display very similar collocational behaviour and semantic prosodies in both English and Chinese (consider the collocates of consequences vs. hou4guo3 (后果), and cause vs. zhi4shi3 (致使) / zao4cheng2 (造成)).

Price vs. dai4jia4 (代价)

In this section, we will examine a group of synonyms related to price and cost. In English, they include, for example at (the) price(s)/cost(s)/expense (of), at (a) price/cost, pay a price/cost, and pay the price/cost of. Recently, Barclays Bank in the UK used the slogan ‘The personal loan with the personal price’ to promote their personal financial services. The slogan, however, provoked a heated discussion among corpus linguists. Some of them asserted that personal price carries a strongly negative semantic prosody and was inappropriate given the purpose of the advert. Others saw nothing wrong with this advertisement.11

It was suggested in the discussion that the potentially negative prosody of personal price in the advertisement might have been caused by a wider phraseology, that is, its co-occurrence with pay or at. Some linguists speculated that lexical choice would also affect semantic prosodies, for example personal cost would be more negative than personal price. Co-occurrences of pay/at/with with price(s)/cost(s) can denote either literal (i.e. in monetary terms) or metaphorical (i.e. related to a loss, damage or sacrifice) meanings. The former use is neutral whereas the latter shows a negative semantic prosody. Is it true, then, that the co-occurrence of pay with price(s)/cost(s) is more likely to denote a neutral literal meaning than the co-occurrence of at with the two words? Or is it true that the co-occurrence of cost(s) with pay/at/with is more likely to denote a negative metaphorical meaning than the co-occurrence of price(s) with pay/at/with? In the four corpora of the Brown family, a total of 198 such instances were found, as shown in Table 5. Log-likelihood tests show that the differences in the
frequencies of literal and metaphorical uses of PAY vs. at, and of cost(s) and price(s) are not statistically significant at all. This means that PAY and at on one hand, and cost(s) and price(s) on the other hand, are equally likely to denote a neutral literal meaning or a negative metaphorical meaning.

A breakdown of the combinations in Table 5 tells us more about their pattern meanings. In Table 6, the symbol @ represents a pre- or post-modifier, with or without a preceding article (excluding the pattern at any/all/a price/cost, which was counted separately). It can be seen from the table that patterns 6–9 are typically used to denote a negative metaphorical meaning (e.g. 10), whereas patterns 1–5 can be used either literally or metaphorically. The word ‘typically’ is important here. Because of the low overall frequencies of patterns 5–9 in the four corpora, the literal

Table 5: PAY/at and price(s)/cost(s) in FLOB/Frown/LOB/Brown

<table>
<thead>
<tr>
<th>Word</th>
<th>Type of use</th>
<th>Neutral literal meaning</th>
<th>Negative metaphorical meaning</th>
<th>LL score</th>
<th>Sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAY + price(s)/cost(s)</td>
<td>25</td>
<td>14</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>at + price(s)/cost(s)</td>
<td>100</td>
<td>56</td>
<td>0.459</td>
<td>0.498</td>
<td></td>
</tr>
<tr>
<td>PAY/at/with + cost(s)</td>
<td>67</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAY/at/with + price(s)</td>
<td>60</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Typical patterns of price/cost

<table>
<thead>
<tr>
<th>No.</th>
<th>Pattern</th>
<th>Neutral literal meaning</th>
<th>Negative metaphorical meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td>Frequency</td>
</tr>
<tr>
<td>1</td>
<td>at @ price(s) (of)</td>
<td>46</td>
<td>84%</td>
</tr>
<tr>
<td>2</td>
<td>at @ cost(s) (of)</td>
<td>52</td>
<td>72%</td>
</tr>
<tr>
<td>3</td>
<td>PAY @ price(s) (of)</td>
<td>12</td>
<td>50%</td>
</tr>
<tr>
<td>4</td>
<td>PAY @ cost(s) (of)</td>
<td>13</td>
<td>87%</td>
</tr>
<tr>
<td>5</td>
<td>with @ cost(s)</td>
<td>2</td>
<td>67%</td>
</tr>
<tr>
<td>6</td>
<td>at any price</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>7</td>
<td>at any cost/at all costs</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>8</td>
<td>at a price</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>9</td>
<td>at a cost</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
use of these patterns is rare in our data. The BNC does provide a number of instances of the literal use. For example, 20 out of the 61 occurrences of at any price in the BNC denote a literal meaning. The patterns at a price and at a cost also typically denote a literal meaning when there is a post-modifier (e.g. at a price specified as ten years’ rental, at a price of $12.50 a share, at a cost of £8m, at a cost that is affordable by the taxpayer). When co-occurring with at, price(s) and cost(s) are equally likely to convey a semantically neutral literal meaning (the difference is not statistically significant, with a log-likelihood score of 2.364 and a p value of 0.124), while in collocation with PAY, the literal use of cost(s) is significantly more frequent than price(s) (LL = 5.869 and \( p = 0.015 \)). It is also interesting to note that when followed by of, pattern 2 typically selects the singular form cost, and at a cost of is most frequently followed by an amount of money (e.g. at a cost of £1.5 million) while at the cost of is normally followed by an adverse effect (e.g. at the cost of his own life and at the cost of pollution). When used metaphorically, the adjectival collocates of price/cost demonstrate a semantic preference for items indicating unpleasantness (e.g. unpleasant, terrible, and fearful) or enormous size (e.g. any, all, obvious, heavy, too great, too high, whatever, and what a). The prices and costs are also quite revealing of their nature, covering matters as diverse as some efficiency, her honor, pollution, self-destruction, his own life, and bringing endless disasters on ourselves.

(10) (a) The politicians—all of them—are out for votes and power at any price. (FLOB: F)
   (b) This the Air Ministry was determined to avoid at all costs as an inquiry would have revealed the true reasons behind the acquisition of the land. (FLOB: G)
   (c) He would bring the Somers safely into New York harbor but at a price. Dear God, at what a price. (Frown: P)
   (d) So he seems to have overcome dualism of Happiness and Duty but at a cost. (FLOB: D)

Co-occurrences of with with price(s) and cost(s) are infrequent in FLOB/Frown, where only three instances of cost(s) and no instance of price(s) were found.12 Data from the BNC shows that the co-occurrences of with and cost(s) and price(s) are typically literal and neutral, as shown in (11). The BNC also shows that the significant collocates of the phraseology with @ price are typically neutral technical terms (e.g. list/premium/suggested/guaranteed/exercise price).

(11) (a) <...> Topaz 2 would be used in a program with an overall cost of $100 million. (Frown: B)
   (b) But be assured, I had no intention of trying to buy your favours with the price of a meal. (BNC)

The Chinese equivalent of price(cost when used in this sense is dai4jia4 (代价), which can be used either neutrally to denote a literal meaning
(i.e. in monetary terms) or negatively to express a metaphorical meaning. In modern Chinese, the use of dai4jia4 (代价) is typically metaphorical and negative, because its literal use is replaced by a number of near synonyms, which are technical terms: jia4ge2 (价格)/jia4kuan3 (价款)/jia4qian2 (价钱) ‘price’ and cheng2ben3 (成本) ‘cost’. Note, however, that in martial arts fiction, which is usually written in a form of vernacular Chinese, that is modern Chinese styled to appear like classical Chinese, dai4jia4 (代价) is typically neutral. In the LCMC corpus, five out of 32 instances of dai4jia4 (代价) are neutral (e.g. 12), with four of them from category N (martial arts fiction) and one from category R (humour). Clearly, the largest proportion of the neutral use of dai4jia4 (代价) in LCMC is attributable to the martial arts fiction category, where all of the four instances of dai4jia4 (代价) were neutral.

(12) (a) wei4shen2me ni3 de dai4jia4 zhi3you3
why you GEN price only-have
wu3shi2-liang3? (LCMC: N)
fifty-tael13
‘Why do you only charge 50 tael?’
(b) qi1zi: ni3 bu4bi4 dao4 yue4tai2 shang4 song4xing2 le,
wife: you need-not go platform on send-off PRT,
yao4 hua1 yi1-kuai4 qian2 mai3 yue4tai2piao4 de (LCMC: R)
will cost one-dollar money buy platform-ticket PRT
‘Wife: You don’t have to go the platform to send me off, it costs one dollar to buy a platform ticket.’
zhang4fu: mei2you3-guan1xi4, zhi3 hua1 zhe4me xiao3 de dai4jia4
Husband: never-mind, only cost so small GEN price
jiu4 neng2 ba3 ni3 song4-zou3, shi2zai4 tai4 zhi2de le
then can BA you send-off, indeed really worth PRT
‘Husband: ‘It’s all right. It’s worth such a small price to be able to send you off.’’

In LCMC only two significant collocates were found for dai4jia4 (代价), namely fu4chu1 ‘pay’ and tai4gao1 ‘too big’. The essentially negative semantic prosody of dai4jia4 (代价) observed in the LCMC corpus was confirmed by PDC2000, where 423 instances of dai4jia4 (代价) were found. Of these 98 per cent are used negatively, with only 10 instances being neutral (9 instances used as the titles of a TV series and one instance in dai4jia4quan4 ‘voucher’). The modifying collocates extracted from PDC2000 include chen2zhong4 ‘heavy’, da4 ‘big’, yi1qie4 ‘all’, gao1lang2 ‘exorbitant’, can3zhong4 ‘grievous’, ju4da4 ‘enormous’, bu4xia3 ‘not small’, ang2gui4 ‘expensive’, gao1 ‘high’, can3tong4 ‘painful’, sheng1ming4 ‘life’ and xue3 ‘blood’. It appears, then, that like its close equivalents (metaphorical use of price/cost), dai4jia4 (代价) in Chinese is typically negative and its collocates exhibit a semantic preference for items showing unpleasantness and enormous size. One obvious exception to such
semantic preference is (12b), where the husband uses it to achieve a humorous effect.

While our corpus data shows that dai4jia4 (代价) is typically described as high, Xian4dai4 Han4yu3 Ci2dian3 ‘The Dictionary of Modern Chinese’ (The Chinese Academy of Social Sciences 1983), the most authoritative Chinese dictionary in China, gives a surprising example: yong4 (use) zui4xiao3 (smallest) de (GEN) dai4jia4 (price) ban4 (do) geng4duo1 (more) de (GEN) shi4qing2 (thing) ‘to accomplish more at least cost’. There is nothing wrong with the example itself. Nevertheless, it does not reflect the central and typical use of dai4jia4 (代价) in attested language data. As this is the only example the dictionary gives for dai4jia4 (代价), the dictionary fails to reflect the typical use of the word and is therefore somewhat misleading.

In contrast with the negative dai4jia4 (代价), all of the occurrences of jia4ge2 (价格, 165), jia4qian2 (价钱, 19), jia4kuan3 (价款, 1), and cheng2ben3 (成本, 129) in LCMC are used in a neutral literal sense. The neutrality of infrequent items (i.e. jia4qian2 (价钱) and jia4kuan3 (价款)) was also confirmed by PDC2000, where all of the 111 instances of jia4qian2 (价钱) and 46 instances of jia4kuan3 (价款) were neutral. The collocates of these near synonyms include:

- Cheng2ben3 (成本): jiang4di1 ‘reduce’, cai2wu4 ‘financial’, guan3li3 ‘management’

Unlike the collocates of dai4jia4 (代价), these items do not display preferences for items indicating unpleasantness and enormous size. It is clear that these near synonyms are collocationally different from dai4jia4 (代价). Rather, they are used in the same way as the literal use of English price/cost.

CONCLUDING DISCUSSION: SOME IMPLICATIONS FOR LANGUAGE PEDAGOGY

This paper has explored the collocational behaviour and semantic prosody of near synonyms from a cross-linguistic perspective. Our contrastive analysis shows that semantic prosody and semantic preference are as observable in Chinese as they are in English. As the semantic prosodies of near synonyms and the semantic preferences of their collocates are different, near synonyms
are normally not interchangeable in either language. It can also be seen from the case studies that the semantic prosodies observed in general domains may not apply to technical texts (consider, e.g., *consequences* and *hou4guo3* (后果) in academic prose). While English and Chinese are distinctly unrelated, the collocational behaviour and semantic prosodies of near synonyms are quite similar in the two languages (consider, e.g., *CAUSE* and *zao4cheng2* (造成)). This observation echoes the findings which have so far been reported for related language pairs, for example English vs. Portuguese (Sardinha 2000), English vs. Italian (Tognini-Bonelli 2001: 131–56), and English vs. German (Dodd 2000). While the corpus-based approach can only reveal, but not explain, such cross-linguistic similarity, at least part of the explanation, in our view, can be found in the common basis of natural language semantics—‘the conceptual system that emerges from everyday human experience’ (Sweetser 1990: 1). However, as different languages can have different ranges of near synonyms (consider, e.g., *result/outcome* vs. *jie2guo3* (结果)/*cheng2guo3* (成果)/*shuo4guo3* (硕果), and *price(s)* vs. *jia4ge2* (价格)/*jia4qian2* (价钱)/*jia4kuan3* (价款)/*dai4jia4* (代价), near synonyms and their close translation equivalents in different languages may also demonstrate, to some extent, different collocational behaviour and semantic prosody. A more general difference between English and Chinese is that collocation and semantic prosody may be affected by morphological variations in English but not in Chinese, which lacks such variation.

In addition to having implications for the contrastive study of language, our study also has at least three implications for language pedagogy. The first two relate to vocabulary teaching, particularly the teaching of near synonyms while the last relates to teaching language for specific purposes. We will discuss each in turn.

First, the importance of collocation and semantic prosody is well recognized in language learning (e.g. Partington 1998: 23–25; Hoey 2000, 2003; Hunston 2002: 142; Altenberg and Granger 2001; Nesselhauf 2003). Yet the emphasis of this work has been monolingual. Our study shows that a contrastive analysis of collocation and semantic prosody would be useful to L2 learners. To illustrate this point, let us consider (13a), which was produced by a Chinese-speaking postgraduate of tourism. Because of the negative semantic prosody of *CAUSE*, Johns (1997) suggested revising the sentence as (13b):

(13) (a) Although economic improvement may be caused by tourism, the investment and operational costs of tourism must also be considered.

(b) Although tourism may lead to economic improvement, the investment and operational costs of tourism must also be considered.

In fact, inappropriate word choice arising from an ignorance of semantic prosody is not uncommon in Chinese learners of English, as shown in the
examples in (14), from the Chinese component (upper intermediate proficiency level) of the Longman Learners’ Corpus.

(14) (a) The city caused him great interest, caused all citizens to grasp time and chances, to work for a better life.
(b) <…> there are a lot of advantages are caused by them.
(c) During the past fifty years, the political, economic, and social changes in China have caused dramatic changes in people’s lives.14

In Chinese, it is highly likely that the student who produced (13a) would express the idea in the first part of the sentence as sui1ran2 (although) lu¨ 3you2 (tourism) ke3yi3 (may) cu4shi3 (lead to; bring about) jing1ji4 (economic) hao3zhuan3 (improvement). In this context native speakers will naturally use cu4shi3 (促使) rather than zao4cheng2 (造成), because even though semantic prosody can only be reliably observed in a large number of keyword-in-centre (KWIC) concordances, native speaker intuition certainly can detect the usage of a word at odds with its semantic prosody. Learners’ L2 intuition, nevertheless, is inevitably less reliable than their L1 intuition.

If teachers compare the collocational behaviour and semantic prosody/preference of near synonyms in L1 and their close translation equivalents in L2, and make learners aware of L1–L2 differences, this should considerably reduce the number of errors from L1–L2 semantic prosody differences. While even distinctly unrelated languages such as English and Chinese may demonstrate similarity in the collocational behaviour and semantic prosody/preference of near synonyms, it is the teacher’s responsibility to show learners which synonymous item in an L1 most closely matches which in an L2.

Second, as near synonyms usually differ in their collocational behaviour and semantic prosodies, the traditional practice of explaining meanings to learners by offering synonyms should be used with caution. Tognini-Bonelli (2001: 34) views using synonyms in this way to be a potential trap for learners because it emphasizes the denotational meaning of words rather than their usage. In practice, as can be seen in our case studies, near synonyms like consequence vs. result and CAUSE vs. BRING about typically operate in different contexts. We maintain that vocabulary, including synonymy, should be taught in a context that provides cues from which the learner can recall meaning and usage (cf. Harley 1996). As Weigand (1998) comments, to learn a language is to know how words are used and what utterances are used in specific situations. The learning tool best suited for this purpose is properly sorted KWIC (keyword-in-centre) concordances, as these allow the learner to observe repeated patterns and meanings, and thus help them to become aware of collocation and semantic prosody.

Third, learners must be made aware of the fact that collocation patterns and semantic prosodies can vary across text categories. The difference is more distinct between texts in general domains and technical or specialized texts.
This observation is particularly relevant to the teaching and learning of domain-specific language—English for Specific Purpose (ESP), for example. In conclusion, given the importance of contrastive analysis of collocation and semantic prosody to language learning and the present lack of this kind of research, our view is that there is a pressing need for the cross-linguistic study of collocation and semantic prosody to be pursued by researchers.

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NOTES

1 In this paper Chinese characters are shown for synonyms under consideration. All other Chinese characters are converted into Romanized Pinyin symbols (with the numerals indicating tones).
3 A word in small capitals refers to the lemma of the word, including its morphological variations. For example, *CAUSE* refers to *cause*, *causes*, *caused*, and *causing*.
4 In this list, only *accept* is a significant collocate as defined in this paper. In the BNC significant collocates (with a co-occurrence frequency of 20 or above) indicating actions include *AVOID*, *ACCEPT*, *BE*, *CAUSE*, *CONSIDER*, *FACE*, *FOLLOW*, *HAVE*, and *SUFFER*.
5 The sources of examples are given in the brackets following individual citations. In the grammatical glosses of Chinese examples, ASP stands for *aspect marker*, BA for the *ba*-construction with a preposed object, CL for *classifier*, GEN for *genitive*, and PRT for *particle*.
6 Like *result*, *outcome* can also co-occur with *positive* and *negative*. In FLOB/Frown, one out of the three co-occurrences of *outcome(s)* with *positive* and one co-occurrence with *negative* are interpreted in a medical sense. One instance of *consequences* co-occurring with *negative*, but no co-occurrence with *positive* was found in FLOB/Frown. The BNC shows that *result(s)* and *outcome(s)* co-occur with *positive* (with a frequency of 161 and 41 respectively) more frequently than *negative* (74 and 11) whereas *consequence(s)* co-occurs with *negative* (36) more frequently than *positive* (10). The evidence from the BNC also reveals that *outcome(s)* and *consequence(s)*, when collocating with *positive* or *negative*, are not normally interpreted in a technical sense; when *result(s)* collocates with *negative*, it is more likely to refer to test results in a technical sense.
7 As the inherent affective meanings (connotations) are not affected by collocates, we will not discuss these words in detail.
To take into account instances such as \textsc{bring it/this about}, occurrences with \textsc{bring} and \textsc{about} separated by one word were also included.

The instances of \textsc{lead to} indicating physical locations (e.g. \textit{the narrow hall that led to the kitchen}) are irrelevant here. Similarly, the occurrences of \textsc{arouse somebody} (from sleep or sexually, etc.) are discarded.

Greenbaum (1974: 89) observes that \textit{entirely} collocates predominantly with verbs of agreeing (at least in British English) and disagreeing, while the dominant feature common to most verbs collocating with \textit{utterly} is their negative implication. Nevertheless, ‘if we say \textit{I utterly agree} with you, the usual negative implication makes what we say more emphatic than if we say \textit{I entirely agree} with you (compare terribly bright).’

See Corpora Mail List Archive between 17 and 22 October 2003 for details.

Occurrences such as \textit{compared with an H-registration price of £12,900}, where \textit{with} collocates with \textit{compared}, were not counted here.

In former times \textit{tael} was a monetary unit for silver in weight.

While \textit{dramatic changes} in (14c) can be good or bad, all of the examples given showed that the changes were evaluated as desirable.

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