ABSTRACT
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data are parallel translations made by examination candidates, all in the
British educational system. A brief justification of the use of the data is
given. This is followed by an overview of approaches to the theory of meaning
and the mental lexicon. The data consist of a range of interpretations of
moni (to imitate) and zawen (literary essay). Evidence from the data and
support from the literature lead to the conclusion that the comprehension of
the meaning of lexical items is influenced to a great extent not only by the
recovery of meaning from the text but also by personal experience. Able
readers are more likely to provide a majority or near dictionary equivalent,
which may be regarded as central on a continuum, while less able readers veer
towards either end of the continuum. This paper is based on data from an
investigation of the cognitive process of reading Chinese text. Data consist
of parallel intuitive translations. It is concluded that given the
overwhelmingly wide range of interpretations for these two lexical items in a
group of bilingual readers, it seems likely that any theory of objective,
neutral, or core meaning does not apply universally to every language user.
Even a fairly explicit text may yield different interpretations and meaning
for the young or inexperienced reader, who will access the lexical meaning
according to his or her own experience. (Contains 10 references.)
(Author/KFT)

FEATURES, COBWEBS OR CLINES: TOWARDS A POSSIBLE MODEL OF LEXICAL RETRIEVAL IN BILINGUAL READERS

Valerie Waggot (TAAL)

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Abstract

This is an investigation of how 120 teenage bilingual Chinese/English readers comprehended a verb and a noun in a Chinese text. The data are parallel translations made by examination candidates, all in the British educational system. A brief justification of the use of the data is given. This is followed by an overview of approaches to the theory of meaning and the mental lexicon. The data consist of a range of interpretations of <u>moni</u> ('to imitate') and <u>zawen</u> ('literary essay').

Evidence from the data and support from the literature lead me to conclude that the comprehension of the meaning of lexical items is influenced to a great extent not only by recovery of meaning from the text but also by personal experience . Able readers are more likely to provide a 'majority' or near dictionary equivalent, which may be regarded as central on a continuum, while less able readers veer towards either end of the continuum.

This paper is based on data I have been using to investigate the cognitive processes of reading Chinese text. My data consist of parallel intuitive translations. In this paper I concentrate on how the readers, as a group, interpreted two lexical items, one a verb and one a noun.

1. About the data

1.1 Making use of translation data

Translation provides a write-it-down protocol for reading. Intuitive[1] translators are not necessarily thinking about style and polish – they are simply getting the message across. In my data, taken from examination answers, the reader/translators know that it is their comprehension of Chinese which is being tested and they are working within a strict time limit, without the aid of dictionaries. They do not know who is marking their papers, so their 'target audience' is unlikely to affect them in the way that it would in a usual translation or interpretation situation i.e. encouraging the translator to say what he or she thinks the target audience wants to hear. These examination candidates simply know that they must demonstrate their optimal understanding of the text. I feel that in this situation there is no risk of 'halo effect' or priming as there would be in an experimental situation. These circumstances combine to provide a body of translations which constitute a kind of 'comprehension corpus' – an on-line record of how these untrained bilingual readers understood the text.

1.2 The subjects and their target texts

The target texts are translations of a short text of 166 characters set as one of the questions in the June 1998 series of the Edexcel London Examinations 'A' Level Chinese examination. The source text was of course in Chinese script (hanzi), but relevant parts are quoted below, for convenience, in Roman transliteration (pinyin). I have analysed 120 translations of this text by examination candidates, mostly Chinese/English bilinguals. The candidates are all in the British (English) education system. They are likely to be aged between 17 and 19, though a very few are adults taking the examination from a further education college. It is impossible to do this examination without a good knowledge of both English and Chinese. (The rubric is in English and there are translations from English to Chinese

as well as Chinese to English.) However, standards are not uniform. Some candidates are obviously stronger in English, some stronger in Chinese. Many are Cantonese speakers, a factor which sometimes shows in their reading and writing of standard Chinese. Candidates are unlikely to have been trained in translation, though they may often interpret informally for family and friends. Given their background, only a few of these readers will be making sophisticated choices relating to style or discourse.

In cases where it was evident that the candidate had either very weak English or very weak Chinese the subject was omitted from the study. The subjects comprise one examiner's allocation, selected randomly by computer by the examination board. The text is an authentic Chinese text about the writing style of the author Lu Xun.

2. Some models of meaning retrieval

2.1 Majority, dictionary equivalent and erroneous interpretations

My aim in this paper is to see how the bilingual readers in the study interpreted the source text, particularly the way in which they accessed lexical items. I am not interested in how they *should* translate – not in what is considered right or wrong by experienced and trained translators – but in how they they these young people *do* translate the text. Their unpolished translations are likely to show what is motivating or affecting their understanding of the text. While some readers produce the dictionary equivalent or something very near, which may be regarded as a norm, or 'majority'[2] translation, others differ widely in their interpretation and provide solutions which could be regarded as errors. These erroneous translations may at first glance appear to be incorrect, but on closer inspection of the target texts in their entirety, one can often see that access to the lexical item is affected by many different factors, and may not be as erroneous as first thought. The translation solutions of the group reveal a pattern which suggests that readers do not necessarily access a core meaning, but may access from a range of meanings which form a cline or continuum. My findings suggest a majority interpretation, which may not be the dictionary equivalent, but is a 'core' meaning or very near synonym at the centre of the continuum, through a range of idiosyncratic interpretations and finally miscues which are completely erroneous.

2.2 Core senses

There is never one absolutely correct answer in translation or reading– no direct equivalent. The problems of ambiguity, polysemy and lexical innovation have shown that people activate many of the different senses of a polysemous word even when the meanings are inappropriate. (Gibbs,1994: 41, citing Williams, 1992)

2.3 Radial linking

Many cognitive linguists believe that people have intuitions about the meanings of words which are motivated by their figurative understanding of various concepts and these are interdependent and radially linked, rather than having a core, or literal meaning. Aitchison uses the 'cobweb' metaphor to illustrate this type of network. (Aitchison 1994: 73) The 'competition model' and parallel distribution models exemplify an approach which does not assume core senses, (e.g. Rumelhardt and McClelland, 1986) and is based on the idea of mental processing as a continuous decision-making process, in which possible candidates compete.

2.4 Individual differences

Barsalou (cited by Gibbs, 1994: 50-55) found that there was not only great variety in features between individuals, but also within individual speakers at different times; not only do different people conceptualise categories differently, but individuals' conceptualisation varies over time, and

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according to context or situation. Given this variation, Gibbs maintains that long term memory of information for categories is fairly stable and that it is not the knowledge that is stored that is different, but the way in which that knowledge is retrieved from long term memory. Barsalou suggests that different aspects of knowledge are retrieved on different occasions, a notion which I will return to when I discuss my data, and suggest that there may be implications of age and culture involved.

2.5   Idealised cognitive models

Some cognitive scientists now hold the view that ou. organisation of concepts is based on our knowledge of and theories about the world. So the word, or lexical item in question must have the right 'explanatory relationship' to the theory organising the concept. So, for example, when talking about clouds, grey and black are considered to be more similar than grey and white, while when talking about hair, white and grey are considered to be more similar than grey and black. That is to say, a theory of wet weather applies to clouds, while a theory of ageing applies to hair. According to Lakoff, an ICM (idealised cognitive model) is a prototypical cultural model that people create to organise their knowledge in this way. (Lakoff, 1987)

2.6   A cline between fixity and stability

As Carter points out, 'what may be core in the internal structure of the language is not automatically perceived as core by users of the language.' (Carter, 1998: 46) Carter notes the usefulness of clines of lexical relations (op.cit: 68) but also that many lexical items are either themselves patterns or form part of patterns which are quite fixed and stable and are used routinely in relatively predictable situations. He points out that it may be difficult to distinguish between lexical items of a more fixed, stable nature and those which may be used more creatively. Accordingly, he recommends talking in terms of clines of fixity. (op.cit: 76.)

3.   Reading and meaning

3.1   The reader's responsibility

If we assume Carter's theory of clines of fixity, lexical items which apparently have fixed values may, in a text, be negotiated by the reader. This is a well documented phenomenon, and texts are described by writers such as Connor as 'reader responsible' or 'writer responsible.' The 'responsibility' of a text is often seen in terms of its implicitness or explicitness, or the amount of shared knowledge therein, but I would suggest that every lexical item in a text is to a greater or lesser extent open to negotiation by the reader.

Carter among others talks about the dynamic nature of a text, and of meaning being not immanent but textual, and Young similarly describes the reading of Chinese text as 'mutual meaning making.'(Young, 1994: 163). She describes Chinese rhetoric as having a 'one-tiered world view in which things are not discrete entities, but rather, related to and defined by other things' (op.cit: 50), a view which echoes theories of radial linking in the mental lexicon.

4. <u>Evidence in the data</u>

4.1 Introduction to the data

4.1.1 The pilot study

In 1997 I conducted a pilot study, using answers to examination translation questions from the London Examinations. I started out not quite knowing what I would find, and made no statistical analysis. I was amazed at the wide variation in interpretation. The lexical item *yu* (jade), for example, was variously interpreted as 'crystal,' 'marble,' 'sapphire,' 'precious stones,' 'stone,' 'crysoprase,' 'diamonds,' 'gold' and many others, and was also mis-parsed as 'king', probably owing to a visual miscue. My feeling then was that this fitted in with a theory of componential analysis in that inexperienced readers who did not know a direct equivalent in English appeared to access by means of features [+precious], [+hard], [+mineral] and in some cases, [+pretty colour]. A similar pattern emerged with the terms 'horizontal' and 'vertical.'

4.1.2 The main study

In the main study in 1998 I looked at all interpretations of lexical items, not just the 'mistakes.' Here I will discuss readers' interpretations of two lexical items which occurred in the text.

4.2 The data

4.2.1 The context

The whole text is a criticism of writers who blindly imitate the literary style of Lu Xun and a warning to other writers not to. The lexical items which I discuss below are taken from the first sentence:

yi xie <u>mo ni</u> Lu Xun xian sheng <u>za wen</u> de ren wang wang

some   imitate Lu Xun Mr.   essay   people always

wang que le zhei xie za wen chan sheng de shi jian he kong

forget   these   essay   produced   time   and place

jian, mu di he dui xiang.

     aim   and   target

Some people who imitate the essays of Lu Xun always forget the time and place when these essays were produced, their aim and for whom they were written.

4.2.2 Interpretations of *moni* (dictionary definition: to imitate or simulate)

Majority/dictionary	instances	Erroneous	instances
imitate/simulate	14	learn/study	8
copy	36	admire/like	8
use as model/copy the style	9		
follow	8	**Probably miscues**	
write similar/like	8	collect	1
rewrite	2	don't understand	1
forge	1	suspect	1
mock	1	discuss the bad things	1
pretend to be	1	investigating & exploring	1
modify	1	doubt	1
live on copying	1	talk about	1

Summary

Neutral or core interpretations (imitate, simulate, copy):	50
Positive interpretations (use as model, copy the style, follow, write similar):	25
Negative interpretations:	8
Erroneous interpretations (learn, study, admire)	16
Miscues:	7

(99 categorised responses – remainder of 120 were untranslated or incomprehensible)

4.2.2.1 Discussions of interpretations of moni

4.2.2.1.1 Access in terms of features, cobweb and competition models

These results confirm tendencies observed in the pilot study, suggesting that lexical access might be based on componential analysis.

The majority/dictionary interpretations in the left hand column show features of being like, or doing as i.e., some kind of reproduction. ([+ do similar], [+ do same])

In addition, some of them could be said to have the feature [+positive] e.g. use as a model, while some have the feature [+negative], e.g. mimic, forge.

Some of the interpretations are explicitly concerned with writing or writing style, in other words the reader is aware that this is not simply reproduction, but the more abstract notion of imitating a style ([+stylistic]). It is important to note that not all the readers realised that this text referred to writing – some interpretations involved martial arts, magazine production etc.

The erroneous interpretations (right hand column) show two distinct features – learning and studying on the one hand, and admiration on the other.

The miscues are almost all visual or phonological, at the decoding level.

Apart from the 14 able, probably more experienced readers who achieved a more or less dictionary equivalent, the interpretations of sizeable minorities of readers in this study vary considerably, but show distinct trends. The interpretations could be analysed on a feature basis as I have shown, but they also show a cline, with 'copy' being central, and perhaps neutral, with positive interpretations at one end and negative interpretations at the other.

I would like to suggest that the readers have accessed the Chinese lexical item *moni* partly from the context of the text – about literary style, but mostly from their own experience. Some of these teenagers have grown up within a Chinese cultural milieu where for thousands of years to copy or imitate has been a mark of respect to both copied and copier – hence the positive interpretations such as 'admire and copy.' Those readers who interpret *moni* as 'learn or study' reflect cultural values in that traditional Chinese education relies heavily on top-down rote learning of received knowledge, faithfully reproduced in examinations. However, those brought up in a Western cultural milieu are more likely to regard copying as a negative activity – hence 'forge' and 'mimic.'

Among the idiosyncratic versions, 'discussing the bad things' seems to suggest that the reader is leaning hard on the literary subject matter of the context to produce the nearest s/he knows to 'criticise.'

It can also be seen that these results are not incompatible with the 'cobweb' or competition models of lexical access; 'copy', 'imitate,' 'forge,' 'rewrite,' 'live on copying,' etc., may all be seen as inter-related members of a family, or may also be seen as competitors, from which the reader selects the best suited to the context.

4.2.2.1.2 Access in terms of a cline

However, I would like to suggest that these readers are using an idealised cognitive model based on their knowledge of language conventions, their own experience and the schema triggered by their understanding of the text as a whole. The majority went for the word they are probably most familiar with in school circumstances. The dictionary equivalent was accessed by the largest minority, while small minorities accessed erroneous meanings affected by cultural or perhaps personal experiences. Some readers, perhaps because of visual or phonological miscues, provide a solution which can only be regarded as wrong. I would like to suggest a four point scale on a cline of fixity: homosemes (a dictionary equivalent); proxsemes (nearly right - perhaps a superordinate or a hyponym); telesemes (the reader's idiosyncratic interpretation); and pseudosemes (completely wrong miscues).

4.2.3 Interpretations of *zawen* (dictionary definition: literary essay)

Majority/dictionary	instances	Erroneous	instances
essays (including modifier)	28	text	1
articles (inc. mod.)	12	extract	1
*writings (inc. mod.)	18	*masterpieces	1
*stories/short stories	12	*fractions (fiction?)	1
*works	6	*anthologies	1
passages	5	sentence	1
compositions	4	writer	1
*novels/short novels	3	papers	1
comprehension	2	journals	1
*books	2	rough drafts	1
*poems	2	magazine	1
*literature	2		

Summary

Neutral or core interpretations (essay)	28
*Literary interpretations(excluding essay)	48
Journalism interpretations(excluding essay)	15
Pedagogic interpretations(excluding essay)	14
('writer ' is probably due to misparsing)	

106 categorised responses – remainder of 120 were untranslated or incomprehensible.

4.2.3.1 Discussion of interpretations of *zawen*.

This appeared to have been a much easier lexical item to access. There were more 'majority' or dictionary interpretations, and all interpretations related to writing. However, there was still a very wide range of interpretation, again tending to reflect cultural background or experience. As might be expected those solutions which were near majority tended to be general and neutral: for example 'writings' was the most commonly accessed interpretation after 'essay' ([+writing]). Almost half the solutions were literary ([+literary]), and some readers showed a further feature of style in solutions such as 'writing skills', 'masterpieces.' 'Masterpieces' could be regarded as having the feature [+ positive], as discussed in previous sections.

Among those readers who did not reach a majority solution there is a clear tendency to access a meaning which reflects pedagogic types of writing, clearly reflecting teenage readers' school experience, and a similar tendency towards journalistic types of writing, probably reflecting their extra-curricular reading.

4.2.3.1.1. Access in terms of cobweb, competition models and clines

The range of meanings accessed for *zawen* ('essay') produced the pattern: a majority solution, then a dictionary equivalent solution, then minority solutions with more idiosyncratic meanings. In addition to being analysed in terms of features, these results may be analysed in terms of networks of interdependent meanings or competing meanings or clines of fixity. The points on the cline may be seen as homosemes, ('essay') proxsemes, ('writings' etc.) telesemes, ('poems,' 'anthologies' etc.) and pseudosemes ('writer', 'magazine' etc.). I should add the caveat that my analysis is of course only as objective as that of any individual can be and a thorough study would need to include cline rating by Chinese and English readers.

5.   Conclusion

Given the overwhelmingly wide range of interpretations for these two lexical items in a group of bilingual readers, it seems likely that any theory of objective, neutral or core meaning does not apply universally to every language user. Carter's suggestion of a cline of fixity seems to be appropriate to these data. With the word ' imitate', some readers comprehend it as some form of reproduction, either positive or negative, while some comprehend it quite differently, as 'learn,' or 'admire.' With the word 'essay', some readers veer right away from 'essay' to 'anthologies' etc., while other readers veer away to 'comprehension passages.' In both cases cited here the majority solution was not the dictionary equivalent, though the majority in the case of *moni* was a superordinate, and the majority of solutions in the case of *zawen* were hyponymous.

This leads us back to two notions mentioned earlier: first, Barsalou's suggestion that different people conceptualise categories differently and that an individual's conceptualisation varies over time and that different aspects of knowledge are retrieved on different occasions; second, the idea of the ICM, or idealised cognitive model. In other words, it seems that those readers who do not hit on the 'core' meaning are applying a negative or positive theory to *moni* ('imitate'), in line with their individual conceptualisations. When it comes to *zawen* ('essays'), the readers who do not hit on a core meaning are applying theories of pedagogic, journalistic or literary writing, again in line with their individual conceptualisations.

The experience and background of the reader or language user shape conceptualisation and provide strong schemata. The reader creates a coherent whole, linking items in the text with each other and with his or her knowledge of the world and examples of use. Even a fairly explicit text may become highly reader responsible for a young or inexperienced reader, who will access lexical meaning according to his or her own experience.

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Notes

1.   I use the term 'intuitive' to describe young, bilingual speakers who translate and interpret without the benefit of training.

2.   I use the term 'majority' as a label for the most popular solution arrived at by the readers/translators.

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