Reference to Space in Chinese and English Poster Descriptions*

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The present study compares reference to space in Chinese and English oral discourses elicited on the basis of a poster description task. In the last two decades, reference to space has received a lot of attention from linguists and acquisitionists alike. The typology for the expression of space in languages as proposed by L. Talmy instigated a lot of these studies cross-linguistically. Whereas reference to space is very much linked with our perceptual and cognitive systems (and may therefore be considered to be guided by universal factors), recent studies also show that languages have very different ways of expressing spatial information. For example, English is proposed to be satellite-framed, expressing manner of motion in the verb and path in the satellite; Chinese, on the other hand, seems to be an equipollent language (Slobin) that expresses path in both main verbs and satellites. These raise questions in the acquisitional context regarding the factors guiding acquisition: whether they are of a universal cognitive or of a language-specific nature. The comparison of discourses by English and Chinese natives will allow us to address this question in more detail. In addition, the present task requires, on the part of speakers, not only spatial knowledge (introducing a spatial setting, keeping track of the hierarchical ordering of spatial information, etc.), but also knowledge about discourse coherence and cohesion overall. Results of the present study show that Chinese resembles English with respect to frequency of the expression of explicit spatial relations and this is largely task-specific. The two differ in aspects such as the place of the location with respect to the rest of the information in the utterance, and types of spatial relations expressed in the poster description; and this is mainly of a language-specific nature.

1 INTRODUCTION

Generally speaking, reference to space is concerned with ‘the way in which entities are located or move in a particular place in a physical world…providing spatial information may consist of presenting the locations of some objects as landmarks for establishing the locations of other objects’ (Hendriks 1993:15). According to Talmy (1975, 1983), a ‘complete motion scene’ includes four elements: a Figure, which is moving or located with respect to another entity; a Ground, which is the reference object itself; a Motion, the movement or the state of location per se; and a Path, which is the course of displacement or the position occupied by the Figure in relation to the Ground. Apart from these, a ‘motion event’ may also involve external events such as Manner and Cause. The spatial relations between the Figure and the Ground can be positional or static (i.e. a general location), or directional and dynamic (i.e. change of location). Based on his analysis of spatial information encoded in the verb proper, Talmy makes a typological classification of languages into three main groups, combining information about Motion and Manner/Cause; Motion and Path (e.g., French); and Motion and Figure (e.g., Atsugewi) respectively. Both Chinese and English, the two languages compared in the present study, fall into the first group.

In the light of Talmy’s overview of spatial situations, the present study aims to examine reference to space in English and Chinese oral discourses resulting from a particular task of poster description. The spatial events involved in this task, as can be seen in what

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follows, mainly belong to the type of ‘general locations’, and particular attention will be directed to language-specific characteristics (especially the distribution of spatial information in locative prepositional phrases given that the verbs in these two languages encode similar spatial information) and/or communicative demand set by the task.

1.1 A brief review of related previous studies

It should be noted, in the first instance, that the task of static spatial description of a poster has been conducted before (e.g. Carroll et al. 2000). However, it has mainly been conducted in the field of second language acquisition and focuses on how principles of information organization are perspective-driven and associated with patterns of grammar. In contrast, the present research is more specifically concerned with the way in which spatial concepts are organized and expressed in oral discourse by subjects with different native languages. The same ‘poster description’ task, which includes native adult subjects, is also conducted by Hendriks and Watorek (2005), but the languages contrasted are French and English, the former of which tends to express Path in the verb root, whereas the latter encodes Manner/Cause instead. Thus more differences are likely to be ascribed to the typological variations rather than language-specific characteristics. Other similar description tasks conducted employ different elicitation materials (usually three-dimensional space) such as a miniature village or a miniature living room, and are mainly concerned with the linearization strategy (‘grouping’ vs. ‘sequential’) adopted by subjects in relation to organized vs. dysfunctional space (Carroll & Stutterheim 1993; Ehrich & Koster 1983, amongst others).

It should be mentioned that in a number of cross-linguistic studies of reference to space, English remains one of the most frequently studied languages while research in Chinese is scarce. Available empirical researches in Chinese usually focus on the spatial perspectives adopted by children in oral discourse or on the comparison between Chinese and some non-Germanic or Romance language such as Japanese (see, for example, Fang 1987). Therefore, a systematic investigation with this particular type of poster description task between English and Chinese is greatly needed.

1.2 Research questions and research method

The present study aims to examine two main questions: first, how does Chinese differ from English (if at all) in reference to space with respect to the following three aspects: the expression of explicit spatial relations in the poster descriptions; place of the location with respect to the rest of the information in the utterance; and types of spatial relations expressed? Second, to what extent can these differences (if at all) be ascribed to language-specific characteristics, and to what degree are they due to the requirement inherent in the poster description task?

The subjects in the present study consist of 10 native speakers of Chinese and 10 native speakers of English with an average age of 20 years. The poster used as the elicitation material in this task is taken from the series: *Hier fällt ein Haus, dort steht ein Kran, und ewig droht der Baggerzahn, oder, die Veränderung der Stadt*, ‘Here collapses a city’ by Jorg Muller, 1976. It is the central picture from a triptych depicting the scene of a historical town square. The task is designed in such a way that the subject should produce a reasonable oral discourse that enables the naïve interlocutor, who has no visual access to the poster, to draw a picture of the town square exclusively based on the description heard. Subjects are assessed

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1 The elicitation material used and the data from native English speakers in the present study partly came from a two-year project exploring into the role of conceptual complexity in the acquisition of the spatial domain by speakers of different languages. The project was financed by the CNRS (Project APN 2JE 454), and was directed by M. Watorek.
individually. When the information provided by the subject is not sufficient, he may be asked questions like ‘could you be a bit more precise?’, but not questions requiring exact spatial information like ‘Where is X?’.

2 Results

In what follows, the results of reference to space in Chinese and English poster descriptions will be discussed in three sub-sections. Section 2.1 will analyse the data concerning the frequency of explicit spatial relations in oral discourse with focus on the varying degrees of explicitness of the Ground in reference maintenance in Chinese. Section 2.2 deals with the place of the Ground in relation to other elements in the utterance, with particular attention paid to some distinctive pattern that might be found in Chinese. Finally, the data will also be analysed in terms of types of spatial relations expressed, namely, what topological and projective (i.e., sagittal, lateral and vertical) relations are expressed by different speakers.

2.1 The expression of explicit spatial relations in the poster descriptions

Concerning the expression of explicit spatial relations in this study, we find that both English and Chinese subjects provide explicit spatial information in their descriptions (72% in English; 91% in Chinese). Furthermore, the data shows that speakers of both languages frequently provide more than one locative prepositional phrases in their utterances. We attribute this feature to the data elicitation material used, since the best way to describe the poster is to specify explicitly the relative locations between entities, or with respect to the poster as a whole.

It should be noted that Chinese speakers provide a particularly high proportion of spatial information in the utterance (91%). That is, the percentage of the Ground omission resulting from Chinese RVC constructions is unusually low. We thus believe it is meaningful to compare the different forms of the Ground in reference maintenance in Chinese normal narrative and this particular poster description. Table 1 below represents a spatial scale in Chinese ranging from the most explicit form of ‘full lexical NP’ to the least explicit one (i.e., ‘omission of the Ground’).

<table>
<thead>
<tr>
<th>FORMS OF GROUND</th>
<th>NORMAL NARRATIVE</th>
<th>POSTER DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full lexical NP</td>
<td>19%</td>
<td>72%</td>
</tr>
<tr>
<td>Lean forms</td>
<td>11%</td>
<td>26%</td>
</tr>
<tr>
<td>Omission of Ground</td>
<td>70%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Table 1

Concerning omission of the Ground, it was found that there was a huge difference between the frequency of use in the poster description (2%), and that used in normal narrative (70%). We propose that this is, in the first instance, due to the fact that the predominant majority of events in this task belongs to a subtype of ‘general location’, namely, ‘absolutely static

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2 Resultative Verb Compound (RVC) refers to the phenomenon that the verbal predicate in Chinese usually takes the form of two non-identical verbs immediately following each other, i.e. Verb1-Verb2. The second verb is a verb complement mainly expressing the result of an action (for more details, see Li & Thompson 1981: 54). Ground is usually omitted in such cases.

3 Lean forms here include pronominal NP, composite locative and nominalized place word.

4 The data in the column of ‘Normal Narrative’ in this table is quoted from Hendriks 1993: 151.
location’, which is set in stark contrast with the ‘change of location’, where the verb complement which encodes the spatial information of Path in Chinese RVC constructions often leads to omission of the Ground. In fact, in events of absolute static locations, the presence of a preposition necessarily triggers the Ground, as is illustrated in example (1) below.

(1) Malu bianshang ting zhe ji liang che
    Road on the side stop zhe-DUR several -CL vehicle
    ‘Several vehicles are stopping on the roadside.’

It should be noticed that a small number of locational events in the poster description fall into another category of ‘general location’, that is, the ‘relatively static location’. In normal narrative, the Ground is also frequently omitted under this circumstance, because it resembles the events of ‘change of location’ in that both usually contain a verb complement which has encoded the Path and thus do not necessarily trigger the Ground, as can be seen in example (2) below. Since the verb complement lai ‘coming’ here has already encoded the Path of displacement within the boundary of a general location (e.g., the road), the Ground is implied, rather than specified explicitly.

(2) You yi liang che zhengzai chilai
    there is one -CL car -DUR driving-coming
    ‘There is a car driving-coming.’

Contrary to this general trend in normal narrative, we find in the poster description a number of utterances where the Ground in relatively static events is unusually made explicit via locative phrases. Example (3) below illustrates a case in point.

(3) Yi liang dianche zhengzai xiang tuhua de zhongjian shilai
    One -CL tramcar -DUR towards poster -ASSOC middle driving-coming
    ‘A tramcar is driving-coming towards the middle of the poster.’

Given the nature of this poster description task, we suggest that locative phrases are employed here as ‘spatial devices’ to identify a particular entity, or to distinguish some entity from all others co-present in one space. Viewed in this light, in the above examples, the addition of spatial information ‘towards the middle of the poster’ successfully distinguishes the car in question from another one going in the opposite direction on the adjoining road. Note that this finding also corresponds to those presented in the study by Hendriks and Watorek, where it is reported that the supply of locative phrases in such situations ‘has an explicitly informing function, telling the listener about the location of the entity and its actions, in principle making this description sufficiently extensive to not only discriminate this entity from all other entities on the square but also locate it properly’ (2005: 8; emphasis mine). Therefore, the particularly low proportion of omission of the Ground in Chinese poster description (2%), as compared to that in normal narrative (70%), can be taken not only as a function automatically requires the Ground; but also as a function of the distinctive use of locative phrases in relatively static locational events as an effective means to distinguish among various entities in the poster. That is, the low percentage of omission of the Ground is in principle task-specific.

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5 Abbreviations used are: DUR = durative aspect; CL = classifier; ASSOC = associative
2.2 Place of the location with respect to the rest of information in the utterance

Previous studies on linearization at the utterance level reveal that various factors such as the relative newness of spatial information in an utterance and the languages concerned might all interact with each other and thus exert an influence on linearization at the utterance level (Hendriks and Watorek: 2005, Ehrich and Koster: 1983, amongst others). One important feature of the poster description task in the present study is that once an entity is mentioned in setting the spatial framework it very often functions as the Ground in reference maintenance and is used in locating another new entity (i.e., the Figure). In English, two syntactic constructions are available to introduce the New in relation to the Given: the V-NP-PP construction using existential verb ‘there is’; and the PP-V-NP structure using the locative ‘be’. In a similar way, there exist in Chinese two constructions which can be roughly regarded as the functional equivalents to the above English structures. One involves the Chinese existential verb you ‘there is’, and the other identifying verb shi ‘to be’. See examples in (4a) and (4b).

(4) (a) You yi zuo diaoxiang zai guangchang zhongjian
    there is one -CL statue be/at square middle
    ‘There is a statue in the middle of the square.’
(b) Zai guangchang zhongjian shi yi zuo diaoxiang
    be/at square middle to be one -CL statue
    ‘In the middle of the square is a statue.’

The question under discussion is whether this similarity in syntactic structures will lead to a balanced distribution of the location between the preverbal position and the postverbal position in both languages. Our data shows that English subjects produce utterances with spatial information in the preverbal position in 33% of the cases, and postverbal position in 44% of the cases respectively, which can be considered as a relatively even distribution of the location on the utterance level. In contrast, Chinese subjects prefer to place the location in the initial position of an utterance (76%); and in only 15% of the cases do Chinese speakers put the spatial location in postverbal position, though the latter is equally allowed as the former in terms of syntactic structure.

Previous studies on the placing of the locative phrase in Chinese reveal that PP-V-NP construction comprises the majority of utterances (58%), while V-NP-PP structure occupies 42% in normal narratives (Cui 2002: 4). As can be seen from the above, this tendency becomes more pronounced in our data due to the task-specific requirement. Given this result, functional linguists who are concerned with the topic-focus information structure may argue that since the poster description task per se involves elaborate specification of locations among various entities, the prepositional phrase (PP) encoding the Ground (which is apparently the topic of the utterance, and which usually has been mentioned in setting the spatial framework) will naturally appear in the initial position of an utterance as the Given information. The noun phrase (NP), which denotes the Figure to be located with respect to the Ground, on the other hand, will then occur in the ‘end focus’ position as the New information. It should be noted here that this Given–New information distribution theory alone can not provide an adequate explanation for the phenomenon observed (i.e., the predominating PP-V-NP information with respect to the verb (postverbal position in favour), rather than to what is Given. As can be seen from the examples (4a) and (4b), both syntactic constructions available in Chinese are unmarked and guarantee the location of the New information postverbally.

A further analysis of Chinese data shows that most discourses employing a large number of V-NP-PP constructions tend to be less coherent and cohesive than those in which PP-V-NP structures are frequently used. This is because the sequential use of V-NP-PP construction results in a constant shift of topics which suggests the occurrence of a topic
rupture. In stark contrast, the consistent adoption of PP-V-NP structure brings out topic connectivity, that is, the segment of discourse is organized centring around a conspicuous entity. One striking example is given below in (5).

(5) … you yi ge laoren. Laoren de zuoyou liangbian you there is one -CL old man. Old man -ASSOC left-right both sides there are liang ke shu. Laoren de mianqian you ji zhi gezi. two -CL tree. Old man -ASSOC front there are several -CL pigeon. Laoren de youce yi ge ren na zhe baozhi. Ranhou Old man -ASSOC right side one -CL man hold -DUR newspaper. Then laoren de qianfang kao shu de defang you yi ge old man -ASSOC front side near tree –ASSOC place there is one -CL zixingche bicycle
‘There is an old man. On both the left and the right sides of the old man are two trees. In front-area of the old man are also several pigeons. To the right hand side of the old man is a person reading the newspaper. Then to the front of the old man, that is, near the tree, is a bicycle.’

As is well known, Chinese is in principle a discourse-oriented language, where maintaining topic connectivity is an inherent requirement, as can be demonstrated by the observation that topic NP drops in Chinese are typically recoverable from the preceding utterance, or from the context involved (see also Huang 1987). In our poster description where topic NPs are usually present due to the task-specific requirement, maintaining their connectivity (i.e., avoiding constant shift to a new topic) on the discourse level becomes particularly important as it is responsible for constructing a coherent and cohesive discourse. Therefore, we argue that it is the language-specific discourse principle of topic connectivity in Chinese that plays a greater role in place of the location with respect to other information in the utterance. Note, furthermore, that this topic connectivity also corresponds to the spatial cohesion in the discourse. As demonstrated in (5) above, centring around the place where the old man stands, the surrounding space in all directions is talked about, and it is within this that more new entities are being accurately located. This suggests the formation of a sub-space with ‘the old man’ as its central entity. Note that this discourse principle of topic connectivity, functioning in conjunction with a distinctive space-indicating bound morpheme in Chinese locative phrase (i.e., mian/bian ‘side/area’), leads finally to the adoption of overall ‘grouping’ linearization strategy by Chinese subjects on the discourse level, even in the presence of a dysfunctional space.

2.3 Types of spatial relations expressed

Spatial relations fall into two categories: the projective and the topological relations, respectively. The former involves using the coordinate system of three axes, namely, with respect to the Ground; whilst the latter are based on the conceptualisation of space as defined by geometric shapes such as points, lines, planes and volumes, that is, irrespective of dimensions or axes. Previous studies have shown that language influences the choice of spatial relations expressed (see, Hendriks & Watorek 2005, amongst others).

Out data shows that in both languages, the proportion of use of topological relations is around 50%. A finer analysis demonstrates that among the topological relations expressed, the types of ‘in the region of’ and ‘near’ spatial relations consist of the majority (65% in English; 61% in Chinese). This can actually be ascribed to the task-specific requirement. In the poster description, it is basically impossible to accurately locate the relative positions of all entities in one general space, that is, space delimiting is needed in various degrees. Insofar as the
projective relations are concerned, Chinese subjects use less projective relations in the spatial description (37%), as compared to the figure in English data (54%). On some occasions where the same scene is described, English speakers tend to use sagittal and vertical relations, whereas Chinese subjects show a preference for the topological way of expression. We would like to argue that this is largely due to pragmatic factors (e.g., state of motion, direction, shape of the referent, etc.) which have been demonstrated to put more constraints on the use of projective relations in spatial description in Chinese (Li 1986). In short, our data support the view that both language factors (pragmatic principles) and the communicative demand of the task have a resultant impact on the spatial relations expressed.

3 DISCUSSION

Results of the present study show that Chinese resembles English with respect to frequency of the expression of explicit spatial relations and that this is largely task-specific. The two differ in aspects such as the place of the location with respect to the rest of the information in the utterance, and types of concrete spatial relations expressed in the poster description; and this is mainly of a language-specific nature. It is worth mentioning that conclusions drawn in this study are in essence tentative, and subject to verification from larger samples. Note that our analysis also indicates that Chinese seems to show some resemblance to German in that both are space-sensitive. Corresponding to the distinctive space-indicating morpheme in Chinese, the anaphoric ‘-da’ (i.e., ‘there’) always forms a part of the locative phrase in German, thus entities are typically maintained on the basis of the regions of space that they share (e.g., upper section-there-at or there-under; see Carroll et al. 2000: 455-456 for details). Therefore, one dimension for further research would be to compare Chinese and German to see if this shared tendency of space-sensitivity would lead to more similarities between two languages with respect to the frequency and the position, as well as the type of spatial relations expressed in an utterance. On the other hand, our poster description involves mainly events of ‘general locations’ rather than ‘change of locations’, in which omission of the Ground can be predicted to be generally low. Thus another orientation for further research might be to change the data elicitation material into the one involving more events of ‘change of locations’ (i.e., more dynamic events), and then compare English and Chinese again to see whether change of the data elicitation material will have an impact on the two languages with respect to the three dimensions discussed above.

REFERENCES


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