

Lexical Choice Transfer in Chinese - English Bilinguals' Descriptions of Motion Events

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Abstract:

Motion in space is a basic human experience with two key components: manner that specifies how one moves and path that specifies in which direction one moves. The current study aims to examine lexical choice (amount and diversity of manner and path verbs) for motion expression in monolingual speakers of Chinese or English and advanced Chinese (L1)–English (L2) bilinguals in a narrative elicitation task. The predicted results are that bilinguals are successful in attaining many English-like patterns of expression in their L2 English but also show some lexical choices that are intermediate between English and Chinese monolinguals—thus providing evidence of an L1-to-L2 cross-linguistic effect. Subtle effects of L2 on L1 are also found in bilinguals' lexical choice for the expression of motion in their L1 Chinese. In a nutshell, the results demonstrate bi-directional transfer effects of learning a typologically distinct language in advanced Chinese–English bilinguals. By examining bilinguals' productions in both Chinese (L1) and English (L2), not only L1-to-L2 cross-linguistic transfer, but also L2-to-L1 transfer can be examined in this study.

Keywords:

Lexical Choice Transfer, Motion Events, Bilingualism, Monolingualism

1. Introduction

Motion in space is a basic human experience with two key components: manner that specifies how one moves (e.g., running, jumping, crawling, swimming) and path that specifies in which direction one moves (e.g., enter, exit, up, down) [9]. Motion events typically involve an entity moving along a path in a certain manner. Manner is an optional component for many languages, while path is considered to be obligatory for a motion expression to occur in any language [22].

Research on language typology has identified three types of languages based on the characteristic expression of manner and path information. In satellite-framed languages (e.g., English), the main verb expresses information about manner of movement and a subordinate satellite element (e.g., a verb particle) to the verb

conveys the path of movement. In verb-framed languages (e.g., Turkish), the main verb expresses the core information of the path of movement, and the manner information is expressed in a subordinate structure (e.g., a gerundive). Both manner and path, however, are expressed by equivalent grammatical forms in equipollently-framed languages (e.g., Chinese) [6]. Specifically, in satellite-framed languages (e.g., English), path is typically expressed outside the verb in a particle or preposition allowing the verb to express manner. In equipollently-framed languages [6], a serial-verb construction frequently used in which both path and manner information are encoded in separate elements but within the bounds of a clause [6].

This study aims to examine lexical choices (amount and diversity of manner and path verbs) for motion expression in monolingual speakers of Chinese or English and advanced Chinese (L1)–English (L2) bilinguals in a narrative elicitation task. Manner verbs refer to the way in which a figure carries out a motion. Slobin [21] refers to them as “an ill-defined set of dimensions that modulate motion, including motor pattern, rate, rhythm, posture, affect, and evaluative factors”. Path verbs refer to the trajectory over which a figure moves, typically with respect to another reference object (i.e., the ground) [6].

2. Literature Review

2.1. L1-to-L2 cross-linguistic transfer

L1-to-L2 cross-linguistic transfer, a phenomenon known as the failure to switch to native-sounding patterns of expression in one’s L2 [11]. As shown in previous work, L2 speakers of verb-framed languages with a satellite-framed language as L1 produce greater token and type frequencies of manner verbs than path verbs in their L2 as well as a greater number of manner verbs than native speakers of the verb-framed language [7]. At the same time, other studies have shown that some native satellite-framed language speakers are able to learn and effectively use verb-framed language-like patterns of expression by producing path verbs more frequently than manner verbs even among beginner or intermediate L2 learners [12].

Research on lexical production has revealed that L2 learners of verb-framed languages frequently use fewer path satellite tokens [13], fewer manner verb tokens [2] [19], and greater path verb tokens [10] compared to native speakers of the verb-framed language, although native-like levels of token production have been seen in bilinguals with greater levels of proficiency [10]. Unfortunately, none of these studies examined the overall number of manner and path verb types produced by the L2 learners compared to monolinguals [9].

Cross-linguistic transfer for motion verb types is arguably more difficult for L2 learners of satellite-framed languages than of verb-framed languages, particularly for manner verb types, because learners going from a verb-framed to a satellite-framed language face the ‘few-to-many’ challenge of translating a low number of manner words in their native language to a greater number of different manner words in their L2 [12]. As such, the acquisition of motion verb vocabulary in learners of an L2 satellite-framed language remains an important, yet open, question [9]. In summary, the above review suggests that L2 learners face challenges when learning the patterns of expression for motion events when that L2 is from a typologically distinct category.

2.2. L2-to-L1 Cross-linguistic transfer

Rather, prolonged immersion in an L2 is also likely to have an impact on a speaker's L1, resulting in L2-to-L1 cross-linguistic transfer in patterns of motion expression [2] [3] [4]. Cross-linguistic transfer can also occur from L2-to-L1 though relatively few studies have examined this type of transfer for the expression of motion [9]. Hohenstein and colleagues [10] examined native Spanish speakers (verb-framed language) learning English (satellite-framed language) as an L2 and found that while speaking in Spanish the bilinguals produced a greater number of manner verbs than Spanish monolinguals.

A second line of studies examining native speakers of Japanese (verb-framed language) who were intermediate learners of English [2] [3] [4] found that while speaking in their L1, the bilinguals produced a greater amount of path satellites per clause—a feature typical of English—than monolingual Japanese speakers [3] [4] showing an L2-to-L1 transfer. Thus, there is tentative evidence that suggests that learning an L2 can influence speakers' expression of motion in their L1 at least with native speakers of Spanish or Japanese (both verb-framed languages) who have learned English (satellite-framed language) as their L2 [9].

2.3. Achievements and research gaps

There are two main levels at which cross-linguistic transfer may occur [10]. First, transfer can occur at the clausal level in the packaging of components of a motion event (e.g., greater use of conflated sentence-units or lower use of separated sentence-units when speaking a verb-framed language; [17]). Second, transfer can occur at the lexical level in the token and type diversity of lexical items expressing manner or path of motion (e.g., greater use of path verbs or lower use of manner verbs when speaking a satellite-framed language; [18] [19]).

Transfer at the lexical level refers to shifts in choices about what type of information to express and the form that the information takes [11]. Most of the studies have taken the approach of looking at whether L2 users from particular L1 backgrounds tend to prefer certain types of words over others in contexts where two or more types of words are possible. A study by Hohenstein, Eisenberg, and Naigles [10], for example, has shown that Spanish-English bilinguals are more likely to choose L2 English verbs that carry path information (e.g., go, come, enter, cross) than are monolingual English speakers, who strongly favor verbs that carry manner information (e.g., run, walk, skip, leap) in the same contexts. The research on word choice transfer clearly shows that word choice preferences can and often do transfer from one language to another. They affect the types of words that language users tend to choose (e.g., phrasal verbs versus one-part verbs) as well as the specific words that they tend to choose in specific contexts (e.g., be happy versus rejoice, in versus on) [11]. Additionally, and at a more fundamental level, word choice transfer affects how often language users create the contexts in which those words are relevant to begin with [11].

Because manner can be expressed with relative ease in the verb in satellite-framed languages, English of satellite-framed languages are accustomed to expressing motion with a manner verb and consequently use a greater number and variety of manner verbs than path verbs [16] [18] [21]. In previous studies, Chen [5] have tested Slobin's [20] proposals with elicited spoken narratives. When asked to tell a "frog story" from the wordless picture book *Frog, where are you?* [14], Chinese speakers' descriptions of motion events differ from the descriptions of both Spanish and English

speakers. Chinese speakers pattern with English speakers in their tendency to use a great variety of manner verbs.

While much research has been devoted to understanding motion expression in monolingual speakers of typologically different languages (e.g., [18] [21] [22] [24]), cross-linguistic influences in bilinguals' expression of motion are less extensively studied. Expression of motion has been studied extensively in first language production contexts, but relatively less is known about the expression of motion in second language production contexts. The existing research has also focused almost exclusively on L1-to-L2 transfer, with relatively few studies examining L2-to-L1 transfer. Furthermore, fewer studies have examined verb token and type use in native equipollently-framed language speakers learning a satellite-framed language as their L2.

3. Theoretical Framework

Research on typology of language has revealed that languages differ with respect to their characteristic expression of motion events. Traditionally, linguists have distinguished between two types of languages in this area [23]. Satellite-framed languages, such as English, Dutch, German, and Russian, have verbs that typically express the manner of motion (e.g., walk, creep, slip, sneak, barge) and indicate its path in a satellite of the verb (e.g., in or out). In turn, verb-framed languages, such as Spanish, French, Turkish, Japanese, and Hebrew, focus on the path encoded in the main verb (e.g., entrar [= come in]). Expressing manner in these languages requires an optional addition to a clause that is already complete. Slobin [21] has modified this typology, incorporating a third category of equipollently-framed languages, such as Mandarin and Thai, where path and manner are expressed by equivalent grammatical forms [11].

Satellite-framed languages (e.g., English) typically encode manner of movement as part of the main verb and encode the path of movement in a satellite element such as a particle (e.g., in, out, across) subordinate to the main verb of a clause and so contain a rich lexicon of manner verbs [6]. Verb-framed languages (e.g., Spanish) characteristically encode the path in the main verb and contain fewer manner verbs, and the manner information may be expressed in a separate lexical item from the main verb [6]. Equipollently-framed languages (e.g., Chinese) has a pervasive serial verb construction that allows for at least two verb slots in a single clause: one for the manner verb, and the other for the path verb [6]. The availability of the combined slot for motion and manner is grammatically optional, rather than obligatory.

In terms of the diversity of the lexicon of manner verbs, Chen and Guo [6] found that Chinese is richer than a verb-framed language such as Turkish, but not as rich as a satellite-framed language such as English. In addition, English shows a predominant use of manner verbs, while Turkish shows a predominant use of path verbs. In Chinese, by contrast, manner and path verbs are both very frequent, though path verbs are slightly more frequent. Furthermore, the Chinese manner verb token frequency is not as high as that of satellite-framed languages. Chinese use path verbs almost significantly more frequently than English, a satellite-framed language.

4. Methodology

4.1. Research questions

This study addresses the following three research questions:

- a. Do monolingual speakers of English and Chinese differ in their expression of motion?
- b. Do Chinese (L1)–English (L2) bilinguals would show English-like patterns of expression when speaking their L2 English?
- c. Do Chinese (L1)–English (L2) bilinguals would show Chinese-like patterns of expression when speaking their L1 Chinese?

4.2. Participants

Participants for the study include 10 monolingual English speakers, 10 monolingual Chinese speakers, and 10 bilinguals. Their ages range from 20 to 24. Data from monolingual English and monolingual Chinese speakers are collected in America and China, respectively; and data from bilingual speakers are collected in Nanjing University of Science and Technology. None of the monolinguals speak another language. Bilinguals are all native Chinese speakers who are advanced learners of English.

4.3. Data collection and coding

Participants are given a wordless picture book known as ‘Frog, Where Are You?’ [14] and asked to view the story. After finishing the book, participants asked to retell the story in as much detail as they could remember while being video recorded. Half of the bilinguals tell the story first in Chinese and then in English while the other half tell the story in the reverse order to control for possible language order effects. Bilinguals retell the story twice in the same session with a 15-minute break between each production.

All videos are transcribed by native speakers of each language and segmented into sentence-units. Each sentence-unit contains at least one manner or path verb. Neutral motion verbs (e.g., move, go) are not included in analyses because they do not clearly express an explicit path or manner. Each sentence-unit at the lexical level for verbs are coded. The main verb of each sentence unit as expressing path or manner are coded following earlier work [18].

4.4. Data analysis

This study examines the between-language differences in frequency of occurrence for a given motion expression with linear mixed model (LMM) using the lmer() function. For the LMM, the outcome variable is the frequency of occurrence for a given motion expression. The fixed factors for the LMM include the verb type, verb token and group. The LMMs include a random by-subjects intercept to account for baseline differences in the amount of motion expressions each participant produced. Significant interactions are probed with simple main effects analyses with the emmeans() function.

5. Results and Discussion

5.1. Expression of motion in monolinguals

The predicted results are that monolingual speakers of English would produce patterns of motion event descriptions similar to speakers of other satellite-framed

languages while Chinese speakers would produce patterns similar to those of other equipollently-framed language speakers. English monolinguals would produce a greater amount (tokens) and diversity (types) of manner verb tokens and types, and motion verb tokens and types would be more likely to encode manner (as opposed to path) of motion information within English monolinguals. Chinese monolinguals would express path more frequently than manner in the verb.

5.2. L1-to-L2 cross-linguistic transfer

The predicted results show that English use both a greater number and variety of manner verbs. In contrast, Chinese use a greater number and variety of path verbs. The bilingual speakers are largely successful in gaining target L2-like patterns of expression in English. Bilinguals' motion verb tokens in English are more likely to describe manner of motion and motion verb types in L2 English are more likely to describe manner of motion. However, they also exhibit moderate effects of L1-to-L2 cross-linguistic transfer with respect to their productions of the manner verb tokens, and manner and path verb types. One possible explanation for the L1-to-L2 transfer seen here is that the bilinguals in this study began to acquire English after the 'sensitive period'—a stage of development ending around age four in which the ability to fully acquire second language patterns is negatively related to age [15]. Late bilinguals may be more susceptible to lexical and grammatical transfer in their L2 because their L2 exposure does not begin until after their L1 linguistic patterns have become habitual, making it difficult to fully acquire L2 patterns that are dissimilar from their L1 [1].

5.3. L2-to-L1 cross-linguistic transfer

L2 English had subtle effects on the bilinguals' descriptions of motion. The bilinguals do show moderate increases in their manner verb tokens and a moderate decrease in their token and type diversity of path verbs. Some factors may have worked to lessen any potential L2-to-L1 cross-linguistic transfer from occurring in verb tokens and type. The factor could be that the added semantic density may place an additional burden on the speakers when both types of motion information are not expected [8]. Learning L2 patterns of motion expression in a typologically distinct language poses the individual with the task of learning a new set while suppressing an old set of expression patterns—ones that are often grammatical in L2 but unnatural sounding to native ears [9]. The distinct typology language increases their use of a relatively more complex construction type and learn additional verbs for manner—a semantic element that is rarely expressed in any form in their L1.

6. Conclusions

The predicted results show moderate L1-to-L2 cross-linguistic transfer as well as L2-to-L1 transfer, suggesting a bi-directional effect on the patterns of motion expression used by advanced bilingual speakers of the two typologically distinct languages. Bilinguals show multiple successes in reaching native-like patterns of expression for motion events. However, they also exhibit moderate effects of L1-to-L2 cross-linguistic transfer with respect to their productions of the manner verb tokens, and manner and path verb types. Bilinguals also show subtle effects of L2-to-L1 cross-linguistic transfer in their L1 Chinese for their production of manner and path tokens and path verb types. The results demonstrate the predicted cross-linguistic patterns between monolingual speakers of Chinese and English: Bilinguals are

successful in attaining many English-like patterns of expression in their L2 English but also showed some lexical choices that are intermediate between English and Chinese monolinguals—thus providing evidence of an L1-to-L2 cross-linguistic effect. Subtle effects of L2 on L1 are also found in bilinguals' lexical choices for the expression of motion in their L1 Chinese. Altogether, the results demonstrate bi-directional transfer effects on the patterns of motion expression of learning a typologically distinct language in advanced Chinese–English bilinguals.

Two limitations for the study can be concluded. First, speakers in the context of spontaneous oral narration may be constrained by pressure of speaking as well as by the pictorial events depicted in the wordless storybook itself. Second, a large number participants could not be included owing to the labor-intensive nature of coding.

Future research can focus on differences in L1-to-L2 cross linguistic transfer between early and late bilinguals. Furthermore, special attention needs to be paid to motion verbs in L2 that have low frequency correlates in L1 and speakers of similarly structured languages.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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References

- [1] Birdsong, D.; Molis, M. On the evidence for maturational constraints in second-language acquisition. *J. Mem. Lang.*, 2001, 44, 235-249, DOI: 10.1006/jmla.2000.2750.
- [2] Brown, A.; Gullberg, M. Bidirectional cross-linguistic influence in L1–L2 encoding of manner in speech and gesture: a study of Japanese speakers of English. *Stud. Sec. Lang. Acquisit.*, 2008, 30, 225-251, DOI: <https://doi.org/10.1017/S0272263108080327>.
- [3] Brown, A.; Gullberg, M. Changes in encoding path of motion in a first language during acquisition of a second language. *Cogn. Linguisit.*, 2010, 2, 263-286, DOI: 10.1515/cogl.2010.010.
- [4] Brown, A.; Gullberg, M. Bidirectional crosslinguistic influence in event conceptualization? Expressions of path among Japanese learners of English. *Bilingualism: Lang. Cogn.*, 2011, 14, 79-94, DOI: <https://doi.org/10.1017/S1366728910000064>.
- [5] Chen, L. (2005). The acquisition and use of motion event expressions in Chinese. Ph.D. Dissertation. University of Louisiana at Lafayette.
- [6] Chen, L.; Guo, J. Motion events in Chinese novels: evidence for an equipollently-framed language. *Journal of Pragmatics*, 2009, 41, 1749-1766, DOI: 10.1016/j.pragma.2008.10.015.

- [7] Choi, S.; Lantolf, J.P. Representations and embodiment of meaning in L2 communication: motion events in the speech and gesture of advanced L2 Korean and L2 English speakers. *Stud. Sec. Lang. Acquis*, 2008, 30, 191-224, DOI: <https://doi.org/10.1017/S0272263108080315>.
- [8] Emerson, S.N.; Conway, C.M.; Özçaliskan, S. Semantic P600—but not N400—effects index crosslinguistic variability in speakers' expectancies for expression of motion. *Neuropsychologia*, 2020, 149, 1-21, DOI:10.1016/j.neuropsychologia.2020.
- [9] Emerson, S. N.; Limia, V. D.; Özçaliskan, S. Cross-linguistic transfer in Turkish–English bilinguals' descriptions of motion events. *Lingua*, 2021, 264, 1-19, DOI: 10.1016/j.lingua.2021.103153.
- [10] Hohenstein, J.; Eisenberg, A.; Naigles, L. Is he floating across or crossing afloat? Cross-influence of L1 and L2 in Spanish-English bilingual adults. *Bilingualism: Lang. Cogn*, 2006, 9, 249-261, DOI: <https://doi.org/10.1017/S1366728906002616>.
- [11] Jarvis, S., & Pavlenko, A. (2008). *Crosslinguistic Influence in Language and Cognition*. New York: Routledge.
- [12] Lewandowski, W.; Özçaliskan, S. How language type influences patterns of motion expression in bilingual speakers. *Sec. Lang. Res*, 2021, 37, 27-49, DOI: 10.1177/0267658319877214 .
- [13] Li, P.; Eskildsen, S.W.; Cadierno, T. Tracing an L2 learner's motion constructions over time: A usage-based classroom investigation. *Modern Lang. J.* 2014, 98, 612-628, DOI: 10.1111/modl.12091.
- [14] Meyer, M. (1963). *Frog, Where are You?* New York: Dial Press.
- [15] Meisel, J. M. (2011). *First and Second Language Acquisition: Parallels and Differences*. Cambridge, England: Cambridge University Press.
- [16] Özçaliskan, S. Metaphor meets typology: Ways of moving metaphorically in English and Turkish. *Cognitive Linguistics*, 2005, 16, 207-246, DOI: 10.1515/cogl.2005.16.1.207.
- [17] Özçaliskan, S. Do gestures follow speech in bilinguals' description of motion? *Bilingualism: Language and Cognition*, 2016, 19, 644-653, DOI: 10.1017/s1366728915000796.
- [18] Özçaliskan, S., & Slobin, D.I., (1999). Learning how to search for the frog: Expression of manner of motion in English, Spanish, and Turkish, 2. Cascadia Press, Somerville, MA, pp. 541-552.
- [19] Özçaliskan, S., & Slobin, D.I., (2000). Expression of manner of movement in monolingual and bilingual adult narratives: Turkish vs. English. In: Göksel, A., Kerslake, C. (Eds.), *Studies on Turkish and Turkic languages: Proceedings of the Ninth International Conference on Turkish Linguistics*. Harrassowitz Verlag, Oxford, United Kingdom, pp. 253-262.
- [20] Slobin, D.I. (1997). Mind, code and text. In: Bybee, J., Haiman, J., Thompson, S.A. (Eds.), *Essays on Language Function and Language Type: Dedicated to T. Givón*. John Benjamins, Amsterdam/Philadelphia, pp. 437-467.
- [21] Slobin, D.I., (2004). The many ways to search for a frog: Linguistic typology and the expression of motion events. In: Strömquist, S., Verhoeven, L. (Eds.),

Relating Events in Narrative: Volume 2 Typological and Contextual Perspectives.
Mahwah, NJ: Lawrence Erlbaum Associates pp. 219-257.

[22] Talmy, L. (1985). *Lexicalization patterns: semantic structure in lexical forms*. In: Shopen, T. (Ed.), *Language Typology and Lexical Description: Vol. 3. Grammatical Categories and the Lexicon*. Cambridge: Cambridge University Press.

[23] Talmy, L. Path to realization: a typology of event conflation. In: *Proceedings of the Berkeley Linguistics Society*, 1991, 17, 480-519.

[24] Talmy, L. (2000). *Toward a Cognitive Semantics: Vol. II: Typology and Process in Concept Structuring*. Cambridge: MIT Press.



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