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Manual accents*

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Abstract

Most people are unaware of the gestures they make while talking. It has been claimed that speech and gesture derive from a common source, and the information about thought processes that gestures convey complements or reinforces the simultaneous information provided by speech. For instance, if we compare French “il traverse le fleuve en nageant” with English “he is swimming across the river”, gestures indicating the swimmer’s path tend to fall on the verb in French and other Romance languages (plus Japanese), while they fall on the adverbial in English and other non-Romance Indo-European languages (plus Chinese). What then happens when people subsequently learn a language unlike their own in this respect? Non-native gestures assume considerable importance in investigating this question, since they act as windows onto the speaker’s ‘thinking for speaking’ in their L2. To investigate this question ourselves, we examined the use of ‘path’ gestures in descriptions of motion events. Native speakers of English, Dutch and Spanish participated in the study, with the latter two groups also performing in English. The results show that there are language-specific gestural patterns, and that they are often transferred to L2. These ‘manual accents’ suggest that the importance of gesture in the study of second language acquisition should not be underestimated, because gestures may reveal L1-based thinking patterns not detectable in otherwise fluent and correct L2 speech. Consequently, we should reflect carefully on what it means to ‘become bilingual’.

1. Motion events crosslinguistically

If you observe people conversing, you will see more than a mouth move. Eyes, eyebrows, hands, head, body, all seem to be involved in some synchronized expressive dance. But the question is, does the dance vary according to the language being spoken?

One of our colleagues has three daily languages, Dutch, French and English. He is fluent in all of them. These three languages form a convenient set, as they fall into two neat typological piles, with English and Dutch in one, and French in the other. According to Talmy (e.g., Talmy 1985), the Romance languages (and Japanese, for instance) are *verb-framed*, while English, Dutch, the other non-Romance Indo-European languages (and Chinese, for instance) are *satellite-framed*. What this means is this: When people talk about motion events involving figures, grounds and paths, they tend to follow patterns consistent with the type of framing their language adheres to.

Let us take examples from English, Dutch and Chinese (all satellite-framed languages), and French, Spanish and Japanese (verb-framed languages). In examples (1), (2) and (3), the verb blends both motion and *manner* of motion. Typically in motion events, the verbs of satellite-framed languages express the manner of motion. However, the direction of the motion, or *path*, is indicated by prepositions or adverbial particles¹ – *across*, *over* and *guò* in our example. These path words constitute satellites (SAT) in Talmy's terms. In verb-framed languages, however, it is the verb that typically indicates path, while manner, if mentioned at all, is relegated to the adverbial periphery, as in (4), (5) and (6).

- (1) *She is swimming across the river.*
 V SAT
- (2) *Zij zwemt de rivier over*
 SAT
 She swims the river across
- (3) *Tā yóu guò hé*
 SAT
 She swim across river
- (4) *Elle traverse le fleuve (en nageant).*
 V
 She crosses the river (by swimming)
- (5) *Cruza el río (nadando)*
 (She) crosses the river (swimming)
- (6) *Kawa o (oyoide) watatte imasu*
 River ACC (swimming) (she) crosses

Slobin (in press) prefers to distinguish languages along a manner continuum, so that Dutch and English are *high-manner* languages and French is a *low-manner* language.



Figure 1. Synchronisation of speech and gesture: "... and the dog *RUNS AWAY*". (Capitals indicate stretch of speech coinciding with gesture)

2. Gestures accompanying speech

But it is not only the spoken or written language which purveys information about path and manner in motion events; our gestures do so too, in particular those involuntary movements of the hands (or head) which typically accompany speech, sometimes labelled 'gesticulations' so as to distinguish them from the signs made by members of the deaf community, or the conventionalized hand configurations known as 'emblems' ('thumbs up', 'loco', 'up yours', etc.).² In fact, given the ubiquitousness of gesticulations (which we will from now on call gestures *tout court*), it is surprising that they have been very little studied till relatively recently. Some psycholinguists (e.g., McNeill 1992) now see the production of language and gesture as two sides of the same coin, with both deriving from a common conceptual base. Gestures serve a parallel expressive function, providing the researcher with a complementary source of inference about the nature of thought and imagery. For the purposes of this note, however, we will not pursue this fascinating issue further here.

The gestures that accompany speech have a number of interesting properties. They tend to be more or less synchronized with the bits of speech they mirror, they may provide more information about the individual's conceptualization of a motion event than is evident from speech alone, and they are generally performed unconsciously (though one may rapidly become aware of having made them).

Consider Figure 1. Here a narrator describes a scene in which a dog flees from a swarm of bees. She says "... and the dog runs away". Her gesture indicating the dog's path is synchronized with the uttering of the words "runs

away”, but it also tells us that the dog ran across the scene from the narrator’s left to right. This orientation is indeed the one originally depicted in the series of pictures the narrator bases her telling on, and illustrates a remarkable unanimity between real-world and gestured paths (a correlation largely unencumbered by issues of handedness).

In Figures 2, 3 and 4, this Spanish speaker of English is talking about a little boy climbing a tree. What he says is “The boy go [sic] up inside a tree”. The speaker indicates the manner of movement (climbing) by wiggling his fingers as he raises his hand to indicate the vertical path taken by a boy. Again, the act of climbing is not referred to in speech, but is clearly in the speaker’s thoughts. It is worth noting that his hand returns to his lap (the so-called *retraction phase*) as he utters “inside a tree”.

3. Path depiction in L1 gesture

The series of video stills in Figures 2–4 serves as a convenient springboard from which to launch the main theme of this chapter, the manual and verbal depiction of paths in narrative by speakers of verb-framed and satellite-framed languages. The research questions to be posed concern the gestural correlates of the verb-framing/satellite-framing distinction (‘Do path gestures owe their placement to this typological dichotomy?’), and what happens when speakers speak in a language with a different framing preference to their native tongue (‘Do path gesture placement preferences get transferred to the second language?’).

In our study, we asked 29 adult native speakers of Dutch, Spanish and English enjoying a university education (or equivalent) to tell us the *Frog Story*, a wordless series of pictures about a boy and his dog who go out in search of their missing pet frog (Mayer 1969). As 9 of the 29 participants failed to gesture while telling the story, we excluded them from further analysis. Ultimately we were left with 7 native speakers of Dutch, 7 native speakers of Spanish, and six American and British speakers of English. The Dutch and Spanish speakers also told the story in English, their second language.

A narrative with plenty of action, the *Frog Story* includes several key moments where motion events take place. These variously affect the boy, his dog, the frog, an owl, a gopher, a hostile swarm of bees, and a deer. In order to facilitate their task, participants had ten or so minutes in which to familiarize themselves with the story and to plan their narrations, which were subsequently videotaped. An enthusiastic listener (usually the second author) was present during the narration. Narrators were usually seated in chairs without arms, as experience had shown that such supports may impede gesturing by offering resting places for ‘lazy’ arms or grips for ‘nervous’ fingers. No mention was made of the true purpose of the task.



Figure 2. "The boy GO ..."



Figure 3. "... UP ..."



Figure 4. "... inside a tree"



Figure 5. “Luego, lo TI- ...”



Figure 6. “... -RA por el precipicio”. (An underlined stretch of speech indicates that the preceding gesture is held for its duration.)

While gestures of many kinds³ were made, only 169 were of direct relevance to us. These were those path-related gestures which, after meticulous analysis of the digitized tapes in slow-motion and slowed sound, yielded clean beginnings and endings, permitting study of their relation to speech.

As other researchers have noted before us, Spanish speakers tend to place their path gestures on motion verbs (e.g., Stam 1999). The same is true in our sample, where about 65 % of the path gestures were associated exclusively with the verb.

In Figures 5 and 6 the speaker says “Luego, lo tira por el precipicio” [Then he throws him over the precipice]. Here we see the classic verb-framed path gesture pattern: the stroke (the main phase of the gesture after the hands have



Figure 7. “Las abejas SA- ...”

Figure 8. “... -LIERON del panal”

moved into position) begins on the first syllable of *tira* ‘throw’ and is completed by the end of the second, where it is held till *precipicio* ‘precipice’ is uttered, after which the hands retract.

In Figures 7 and 8 we see the same speaker uttering “Las abejas salieron del panal” [the bees came out of the hive]. Again, the path gesture begins and ends on *salieron* ‘came out’ and is then held till the end of the utterance.

Our Dutch speakers, on the other hand, placed <55 % of their path gestures on the satellite (adverbial particle, preposition) or satellite phrase (prepositional phrase). This is illustrated in Figures 9 and 10, where the speaker says “Eerst zie je dus dat de kikker ’s nachts stiekem uit die pot klimt” [So first you see the frog secretly climbing out of that jar at night]. The stroke phase begins on *uit* ‘out of’ and ends on *die* ‘that’. What makes this gesture interesting is that in



Figure 9. “Eerst zie je dus dat de kikker ’s nachts stiekem UIT ...”



Figure 10. “... DIE pot klimt”

addition to path, it also signals manner: the speaker’s hands perform a giratory climbing action as they describe an upward path.

The same story is repeated in Figures 11 and 12. Here the speaker says “En dat nestje is naar beneden gevallen” [and that nest has fallen down]. The speaker brings both hands sharply down on the words *naar beneden* (literally) ‘towards down’.

4. Path depiction in L2 gesture

So far, then, we have shown that the expected patterns of path gesture placement can be found in our data: Spanish speakers tend to place the path gesture on the verb denoting motion, and Dutch speakers place their path gestures

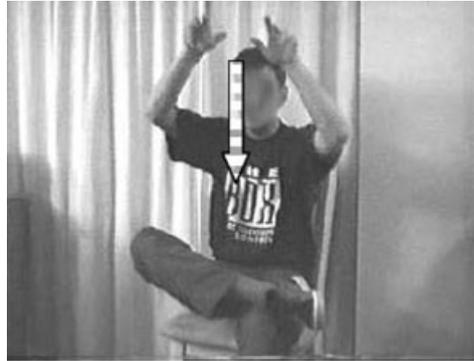


Figure 11. “*En dat nestje is NAAR ...*”



Figure 12. “*... beneden gevallen*”

on the satellite (phrase) denoting path. What happens when they speak English, though? Two possible scenarios present themselves. The first is that Dutch speakers will continue to tend to place their path gestures on the satellite (phrase), as English is also a satellite-framed language. Dutch speakers of English will therefore gesture appropriately in their second language. The second scenario is perhaps more interesting, as Spanish speakers will have to swap typologies if they want to speak English. They have to learn that English verbs frequently denote manner, not path, and that adverbial particles and prepositions are not neutral as to path and location. This is not to say, however, they cannot continue to speak English as if it was verb-framed, putting path gestures on verbs.⁴ And this is very largely what they do do, as the following figures reveal.

In Figures 13, 14, and 15, a Spanish woman describes the same scene in Spanish and English: “El perro se cae al suelo”, “the dog fell into the floor



Figure 13. “*El perro SE CAE al suelo*”



Figure 14. “*The dog FELL ...*”



Figure 15. “*... into the FLOOR*”



Figure 16. “And the bees WE- ...”



Figure 17. “... -NT on his back”

[sic]”. In both cases, the verb (*se cae* and *fell*) is the locus of the path gesture, verb-framing writ large. Note how in Figure 13, a ground gesture is additionally produced to coincide with *floor*.

In Figures 16 and 17 (“And the bees went on his back”), the path gesture coincides with *went*, and is held for the rest of the utterance:

Figure 18 shows a further example from a Spanish speaker, where the gesture begins and ends on the verb *went*, and is subsequently held (Figure 19). Note how similar it is to the gesture accompanying *salieron* in Figures 7 and 8.

As was the case with the Spanish narratives, some 65 % of the Spanish-English gestures accompanied the verb, a very strong argument for transfer, and clear evidence that Spanish speakers have not generally been able to make the typological shift, even if their verbalizations are couched in (nearly) acceptable English.



Figure 18. “The bees WE- ...”



Figure 19. “... -NT *outside*”

When we consider the Dutch speakers, we find that while a relatively small number of their path gestures do fall on the satellite (phrase) in English (27%), the majority do not, contrary to predictions. First let us consider gestures that do fall on the satellite. In Figures 20 and 21 (“the dog falls out of the window”), the speaker uses a tumbling gesture that conflates manner and path coinciding with *out of the window* (cf. Figures 9 and 10).

Amazingly enough, however, the majority of Dutch-English gestures follow the *Spanish* pattern by accompanying the verb (47%). This unexpected (and to this day, mysterious) behaviour is illustrated in Figures 22 and 23 (“And Timmy was thrown over his head”), where the speaker flicks her hand from left to right as she utters *thrown*.



Figure 20. “The dog falls *OUT OF* ...”



Figure 21. “... *THE WINDOW*”

In Figure 24 (“He came after Tom”), we see same the same story – utterance of *came* and production of the appropriate path gesture go hand in hand.

5. A reconsideration of English path gestures

But these Spanish-style path gestures in Dutch-English are not the only unexpected features of our data. We have been rather quiet so far about what native speakers of English do, because the typical path gesture turns out not to be placed exclusively on the satellite, but on a *combination* of verb and satellite (50%). In Figure 25 (“He threw him off a small cliff”) and Figure 26 (“The dog comes back”), we see this clearly illustrated. The speakers encompass verb and satellite phrase within one smooth path gesture.



Figure 22. “And Timmy was THR- ...”



Figure 23. “...-OWN over his head”

The speaker in Figure 26 is the only native speaker of English who also told the *Frog Story* in Dutch, and she repeats the pattern in that language at exactly the same point in the narrative (Figure 27). This is an unusual pattern among the native speakers of Dutch in our sample (17 %, a negligible proportion).

6. Discussion and conclusions

Let us now summarize our findings. Firstly, Spanish speakers place the majority of their path gestures on verbs, irrespective of whether they are speaking Spanish or English, in accordance with the verb-framed structuring of motion events in Spanish. Secondly, Dutch speakers place more than 55 % of their

Figure 24. “He *CAME* after Tom”Figure 25. “He *THREW HIM OFF* a small cliff”

path gestures on the satellite (phrase) in Dutch, again in accordance with the satellite-framed structuring of motion events in that language. However, only about a quarter of their gestures are similarly placed when they perform in English. The majority preference in Dutch-English is for the verb, as if English was verb-framed like Spanish. Native speakers of English add another twist to the story by showing a clear preference for gesture placement on verb *and* satellite. What this means is that Hispanophones behave like Hispanophones irrespective of the language they are gesturing in, Dutch speakers behave like Hispanophones when *they* are speaking English, and English



Figure 26. “The dog COMES BACK”



Figure 27. “De hond KOMT TERUG”

speakers do not behave like native speakers of Dutch, despite their common typological link.

How can we explain these various findings? The Spanish data are the most straightforward. When they speak English, Spanish speakers have not shifted to a satellite-framed mode of “thinking for gesturing”, to adapt Slobin’s notion of “thinking for speaking” (Slobin 1996). However fluent and error-free their spoken language may be, they still transfer their Spanish *manual accent* to English. In a sense, their hands have betrayed them. They cannot pass for native speakers.

As for the patterns of gesture noted for Dutch and English native speakers, we can perhaps point to the differences between word order flexibility in the two languages. Since Dutch is an SXV language, it is quite normal for the lexical verb to be well and truly separated from the satellite, as examples (7) to (9) show:

- (7) Hij *springt tegen* de boom.
'He *jumps at* the tree.'
- (8) Het gaat fout als-ie *tegen* de boom *springt*.
'It goes wrong when he *jumps at* the tree.'
- (9) Op een gegeven moment gaat 't hondje *tegen* die groene boom die daar groeit staan *springen*.
'And at a certain point the dog starts *jumping at* the green tree growing there.'

English is generally much less flexible in this respect; there is consequently more cohesion between verb and satellite. The frequent disjunction of verb and satellite in Dutch would make an overarching gesture a virtual impossibility.

The most intractable data are those gestures placed by Dutch speakers on the verb in English. Since these form the majority, they most urgently beg explanation. Alas, we are not yet in a position to provide a convincing one. However, the fact of their existence is reminiscent of the early days of second language acquisition research, when scholars like Dulay, Burt, Krashen and others (e.g., Dulay, Burt, and Krashen 1982) maintained that learning a second language was in many respects a recapitulation of learning one's first, with the latter not substantially influencing the course of the former. Perhaps, too, in the spirit of later research which adopted a principles and parameters framework, we might think of the verb-framed gesture option as the unmarked case, adopted by learners till they receive the critical mass of gestural input from native speakers, forcing them to reset their parameter. Frankly, we think neither explanation particularly likely for the moment. We will need to take a much closer look at many other factors before we can pronounce on this matter with any authority.

What we can say is that observation shows that at least some learners can acquire the appropriate gestural patterns. How this is done is as yet unknown. Gestures certainly form no part of any foreign language teaching syllabus that we are aware of, and as we noted before, most people are completely unaware of the fact that they are gesturing at all. Furthermore, our findings suggest that we need to take the acquisition of appropriate gestural patterns into account when we talk about people becoming bilingual (cf. von Raffler-Engel 1980).⁵

Finally, we should post a note of caution – our database is small and a great deal more has yet to be done. Out of the hundreds of gestures in our video

material, only a particular subset have been of interest to us, namely those relating to path in the depiction of motion events. Collecting and analyzing gestures is arduous work, and our 169 clear cases represent many many hours of finicky labour.

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Notes

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1. Of course, there are exceptions. In English one may also say 'he crossed/traversed the river' without specifying manner. But if manner is specified it will typically be in the verb.
2. Sign languages and emblems do not involve speech, although speech may accompany their use. They are also conventional in the sense that they have well-formedness rules and dictionaries. Gesticulations, on the other hand, are not conventionalized and do not obey well-formedness constraints. Furthermore, they are very largely parasitic on speech.
3. Gestures (in the sense of this paper) can be divided into iconics, metaphors, deictics and beats. For these and related taxonomies, see McNeill (1992).
4. The first author, who learnt French to an advanced level in his youth, only became aware of this typological distinction once he started doing research.
5. "If we are to be bilingual we also need to be 'bi-kinetic', for a target language spoken without the body motions of the source language manifests a foreign accent in more ways than simply in its inadequate gesticulation." (van Raffler-Engel 1980: 227).

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