

Phrasal verbs or words?

Towards the analysis of gesture and prosody as indexes of lexicalisation

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Abstract. The classification of languages according to the strategy adopted for the expression of *Motion Events* (Talmy, 1985, 2001) is to be considered as most interesting where it concerns gesture studies. This classification was adopted in a number of gesture studies which revealed that the *iconics* tend to synchronize with the satellite in *satellite-framed* languages, and with the verb in *verb-framed* languages (McNeill, 1992). Also, a further study showed that L2 learners, whose mother language is *verb-framed*, tend to synchronize their gestures with the verb when speaking English, which is *satellite-framed* (Stam, 1999). Nevertheless, a recent research on Dutch speakers learning English as an L2 (Kellerman & Hoof, 2003) provides evidence that even in the case of a *satellite-framed* mother language, speakers tend to synchronize the gesture with the verb when speaking a *satellite-framed* second language. A possible solution to this apparent discrepancy may perhaps be found if one hypothesizes different levels of lexicalisation for phrasal verbs in different satellite-framed languages. I propose a three-level model for the prediction of lexicalisation. Such a model has been applied to Italian, which, although a Romance language, may show several satellite-framed constructions in colloquial use.

Key Words: *Phrasal Verbs, Motion Events, Gesture, Prosody, Gesture-Speech Synchronization*

1. Introduction

The classification of languages according to the strategy adopted for the expression of *Motion Events* (Talmy, 1985, 2001) is most interesting where it concerns gesture studies. According to this classification:

“[The basic motion event] is analyzed as having four components: besides **Figure** and **Ground**, there are **Path** and **Motion**. The **Path** [...] is the path followed or site occupied by the Figure object with respect to the Ground object. The component of **Motion** [...] refers to the presence per se of motion or locatedness in the event.” (p. 25)

Generally speaking, languages can be classified into *verb-framed*, and *satellite-framed*. *Verb-framed* languages conflate Motion and Path into the same lexical morpheme, while *satellite-framed* languages express Motion by means of lexical morphemes and Path by means of “satellites” such as prepositions, postpositions, or adverbs. This classification was adopted by gesture scholars in a number of studies which revealed that the *iconics* tend to synchronize with the satellite in *satellite-framed* languages, and with the verb in *verb-framed* languages (McNeill, 1992). A further study also showed that L2 learners, whose mother language is *verb-framed*, tend to synchronize their gestures with the verb when speaking English, which is *satellite-framed* (Stam, 1999).

Strikingly, a recent study of Dutch speakers learning English as L2 (Kellerman & Hoof, 2003) provides evidence that even in the case of a *satellite-framed* mother language, speakers

tend to synchronize their iconics with the verb when speaking a *satellite-framed* second language. Although no explanation of the phenomenon was attempted, this finding, which seems to contrast with the hypothesis of gesture-speech synchronization, may be due to a different sensitivity of the native speaker (not all satellite-framed languages are necessarily characterised by the same degree of analysis). Even more striking, a different interpretation of the co-verbal gestures performed by Viv., an English mother language speaker who partook in the data collection conducted at the Center for Gesture and Speech (see McNeill, 2005) reveals a comparable pattern of synchronization. In particular, if one analyses Viv.’s iconics “globally” (i.e., with a different interpretation of the concept of stroke of gesture taken into account), one will notice that they are synchronized at times with the lexical item, and at times with the satellite, as shown in Example 1¹:

Example 1: An instance of the different synchronisation strategies shown by Viv.

S1: he<e> tri<i>es going [(up **the inside of the drainpipe**)] and Tweety bird runs and gets a

I: LH points upward with several superimposed beats

bowling b[(all and drops **it do<o>wn** the drain)]pipe//[/ a<a>nd// (as he is **coming** up) (and

I: BH mime the act of throwing a ball

I: RH moves upwards LH acts as a landmark

In fact, Viv.’s gestures seem to synchronise once with a whole phrase (with a superimposed beat), once with the satellite “down”, which is the proper strategy, and once with the verb “coming”.

2. Main hypothesis

A possible solution to this apparent discrepancy may perhaps be found if one hypothesizes different levels of lexicalisation for phrasal verbs in different satellite-framed languages. If this is so, the analysis of synchronization patterns – together with the analysis of prosodic phenomena² - may be regarded as an index of lexicalisation.

In particular, I propose 3 levels of lexicalisation:

- first level: verb and satellite are clearly separated – the speaker perceives them as distinct words forming a phrasal verb; in this case, some hesitations between verb and satellite will be possible and the iconic will be synchronised with the satellite;
- second level: the boundary between verb and satellite is less clear cut – in this case, the incidence of hesitation pauses between verb and satellite will diminish, while the gesture will synchronise alternatively with verb and satellite;

¹ The transcriptions follow Susan Duncan’s coding manual (quoted in McNeill, 2005), with few modifications concerning the annotation of gestures: square brackets individuate the segments of speech synchronized with a kinetic unit (Birdwhistell, 1952), round brackets indicate the segment of speech synchronized with a gesture phrase (Kendon, 1986), while the stroke of each gesture phrase is indicated in boldface.

² Pauses, which are classically defined as *paralinguistic* (see for instance Abercrombie, 1968) phenomena are here interpreted as prosodic, following the assumption that any phenomenon which shows to have a relevant role in language should be considered integral to the linguistic system.

- third level: complete lexicalisation – the gesture will plausibly synchronise with the lexical item; when the lexicalisation process is consolidated, the absence of co-occurring gesture may be observed.

This model has been applied to Italian, which, although a Romance language, may adopt both a satellite-framed and a verb-framed strategy for the expression of Motion Events. In particular, satellite-framed strategies are recorded in expressions of colloquial use. The only instance of standard satellite-framed construction in Italian is the verb in Example 2, which is different from that expressed in Spanish, that is, a verb-framed construction (see Example 3, taken from McNeill, 1992). Other instances of the phenomenon are recorded in colloquial use.

Example 2

<i>Volare</i>	<i>via</i>
VERB INF.: ACT OF FLYING (MANNER)	SAT: AWAY (PATH)

Example 3

<i>Salir</i>	<i>volando</i>
VERB INF.: ACT OF GOING OUT(PATH)	VERB GER.: ACT OF FLYING (MANNER)

3. The experiment

In order to record this double strategy, an experiment was conducted with 10 graduate students, who were asked to watch the “Canary Row” episode of the Tweety and Silvester Cartoon and retell the story to an interviewer (the author of this paper). The results show the coexistence of the two strategies in all the subjects who partook in the experiment. None of the subjects were told the real intent of the experiment (the experiment was presented as a memory test).

The experiment was conducted at the Laboratory of Computational Linguistics and Text Understanding (Li.Co.T.T.), Università del Piemonte Orientale, Vercelli.

4. Results

The results seem to be consistent with the hypothesis of a double strategy, which is not constrained to Directed Motion Events. The double strategy, on the other hand, seems to undergo the levels of lexicalisation already mentioned above. In particular, Figure 1 shows the subject S1 expressing the act of going up inside a drainpipe by the selection of the verb *infilarsi* (“to slip”: non agentive, Move + Manner), which is the instantiation of the verb-framed strategy. In this case the co-occurring gesture is synchronised with the tonic syllable of the verb. Subsequently, when describing the action of throwing a ball, the same subject selects the verb *buttare* (“to throw”: agentive, Move + Cause), which is, again, a verb-framed strategy. In this case, the co-verbal gesture (shown in Figure 1, ff. 4-5) is synchronised with the whole Verb Phrase. Moreover, a stroke hold is recorded in correspondence with a hesitation expressed by means of a prolonged vowel and a silent hesitation pause. Figure 2, on the other hand, shows the same subject selecting a phrasal verb to express the act of throwing out a bag. In fact, S1 selects the colloquial verb “*butta via*” ([he] throws *away) instead of the simple form “*butta*”, which expresses the same meaning. In this case, the absence of hesitation between verb and satellite indicates a lexicalisation in progress, while the presence of an iconic gesture synchronised with the lexical item signals that the lexicalisation is not yet complete (second level).

Figure 1: verb-framed construction in S1 (*infilarsi/buttare*)
00:54:01

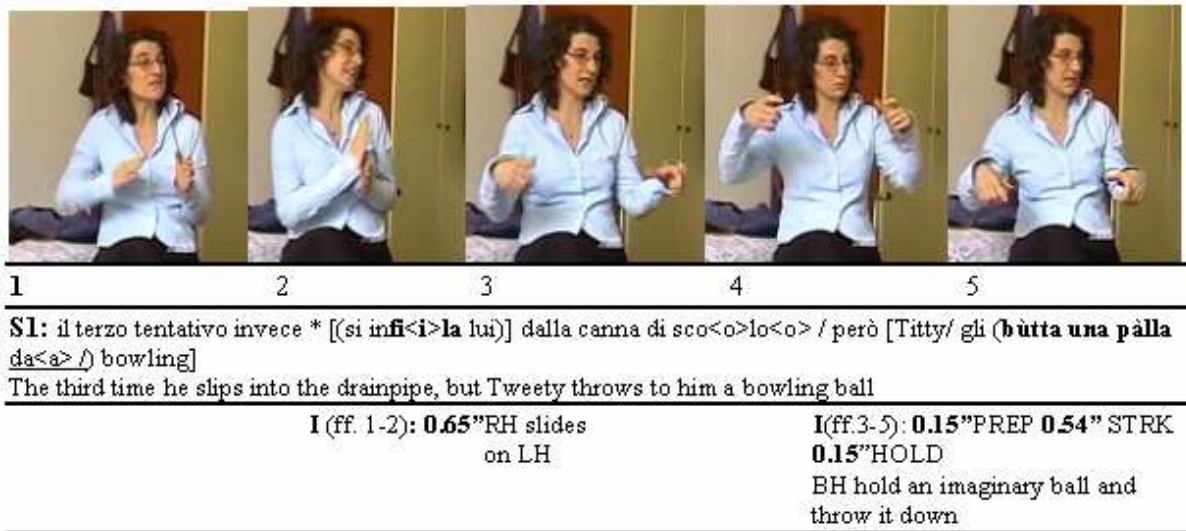


Figure 2: satellite-framed construction in S1 (*buttare via*)
00:01:57

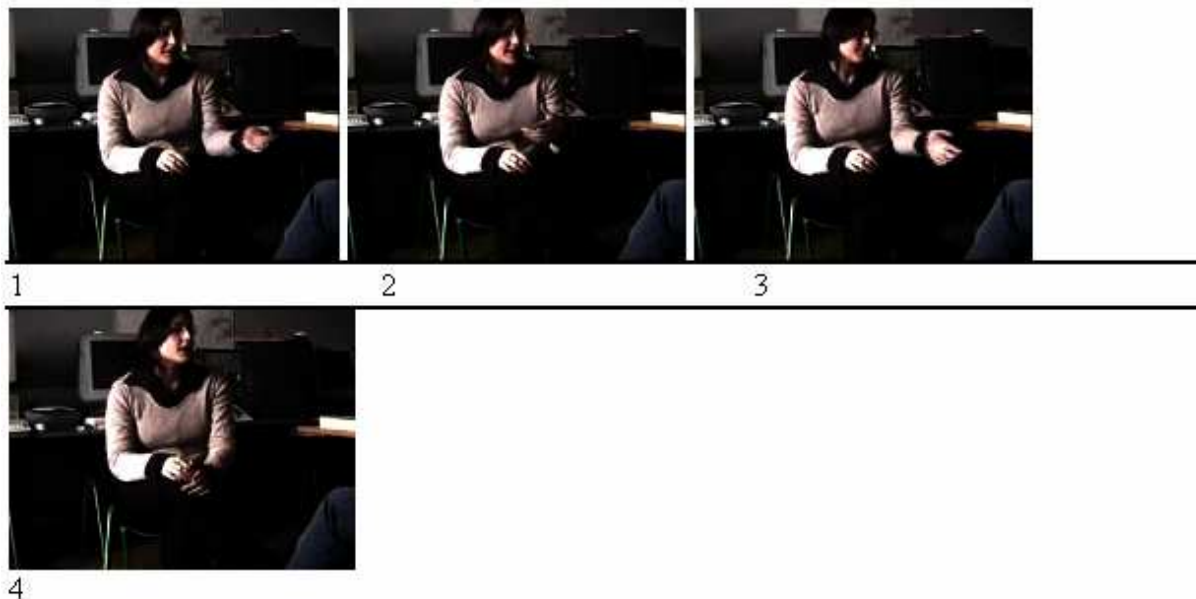


Another strategy adopted by S2 is *buttare fuori* (to throw away), with a silent hesitation pause before the phrasal verb.

In this case the gesture is synchronized with the auxiliary verb, the silent pause, and the syllable “ta” of the verb *buttato fuori*.

The same subject shows an interesting phenomenon of synchronisation between, again, a satellite-framed construction, preceded by a hesitation pause. The kinetic unit is here complete: the hand leaves the rest position and returns back to place together with the satellite-framed construction (“va su”: [he] goes up. Figure 4).

Figure 3: satellite-framed construction in S2 (buttare fuori)
00:00:52



S2: [(Ma viene // buttato fuori)]
I (ff.1-5): 4 osc/ 0.68": LH moves from left to right

Figure 4: satellite-framed construction in S2 (andare su)

00:01:57



S2: e<ee> [(va su<uu>)]
I(ff.1-3): 0.13" STRK + 0.7"STRK RH moves from right to left

Another observed construction is with *porta via* (to take away). In Figure 5, S3 performs an iconic gesture which is not only synchronised with the verb but, again, with the whole Verb Phrase.

Another example of satellite-framed construction preceded and followed by a pause is visible in Figure 6, where S2 says "sale su" ([he] goes up) with the stroke of the gesture evidently synchronised with the satellite and with part of the silent pause. The other gesture performed during the silent pause is an emblem meaning "nothing".

Figure 5: satellite-framed construction in S3 (*portare via*)
00:03:14



1

S3: / [(porta via i bagagli //)]...

I (f.1) 0.5" PREP + 0.13" STRK + 0.78" HOLD. BH mime the act of grabbing something heavy.

Figure 6: satellite-framed construction in S3 (*salire su*)
00:01:20



1

2

3

S3: {[[Sale su /)]/]}.

[He] goes up

I (f.1): 0.20" PREP + 0.88" STRK. LH points up E (NOTHING. ff.2-3): 0.10" PREP + 0.88" STRK

The same phenomenon can be observed in S4, who says “E arriva su” (and he gets up there) while performing the stroke of the concurrent iconic gesture with the satellite (see Figure 7). The same subject subsequently shows the same satellite-framed strategy with a hesitation pause between the pronoun and the verb as shown in Figure 8.

Another curious phrasal verb used by S4 is a particularly complex construction, that is, “rotola giù dentro al bowling” ([he] rolls down inside the bowling alley), which outstandingly resembles the capacity of connecting several satellites expressing Path to the same verb, which is typical of verb-framed languages such as English. In this case a silent pause is recorded between the words “dentro” (inside) and “bowling”, while the co-expressive gesture is synchronized with the non-accented part of the verb, and the rest of the sentence, as shown in Figure 9.

Figure 7: satellite-framed construction in S4 (*arrivare su*)
00:00:55



1

S4 : { [E arri(va su<u>) //] ... }
and he gets up there

I (f.: 1) 0.11" PREP + 0.8" STRK. Spread RH points forward/up

Figure 8
00:01:01



1



2

S4 : { [(Lo) /] [lo (sbatte giù dalla) finestra]}
[she] slaps him down out of the window

I (ff.1-2): 0.6" STRK + 0.9" HOLD (concurrent with HES) I (ff.3-4): 0.5" STRK + 0.5" HOLD + 0.9"STRK + 0.2" HOLD



3



4

Figure 9: satellite-framed construction in S4 (*rotolare giù dentro*)

00:01:19



1

S4: [rot(ola giù dentro // al bowling)]

[he] rolls down inside the bowling alley

I (ff.1): 0.3" PREP + 1.7" STRK. RH points right/down

+ 1.7" STRK. RH points right/down

The only example with a hesitation between the verb and the satellite was observed in S9, who also showed the intrusion of an adverbial form after the hesitation. Moreover, the only gesture performed was synchronized with the verb (see Figure 10).

Figure 10: satellite-framed construction in S9 (*essere sbattuto fuori*)

00:00:35



1

S9: {[viene (sbattuto)]} // immediatamente fuori

[he] is immediately thrown out

But the most interesting case is shown in the same subject, who uses again a satellite-framed strategy with no concurrent hesitation and no gesture (a case of complete lexicalisation). The verb in question is, again, *andare su* (to go up), which is preferred to the standard form *salire* (to ascend). The concurrent gesture is an emblem (i.e., a head “no” sign) which is synchronized with a reformulation. See Figure 11.

Figure 11: satellite-framed construction in S9 (*andare su*)

00:01:50



S9: Titti va su [(no **scusi**)] il gatto Silvestro va su
Tweety goes up, no sorry Sylvester goes up

E (NO almost imperceptible with closed eyes ff. 1-2): 2 head osc/0.9”

5. Conclusions

The analysis of the data so far collected is consistent with the hypothesis put forward in the introduction. In particular, all the subjects showed a double strategy (either verb-framed and satellite-framed) for the expression of Motion Events. In particular, Italian in its colloquial use shows several satellite-framed constructions which can be used instead of the verb-framed counterpart, usually more formal. Some instances of such constructions may be summarized as follows:

<i>Andare</i>	<i>su/giù</i>
VERB INF.: ACT OF GOING (MOVE)	SAT.: UP/DOWN (PATH)
<i>Salire</i>	<i>(su)</i>
VERB INF.: ACT OF GOING UP (MOVE + PATH)	SAT.: UP (PATH)
<i>Rotolare</i>	<i>giù</i>
VERB INF.: ACT OF ROLLING (MOVE + MANNER)	SAT.: DOWN (PATH)
<i>Arrivare</i>	<i>su</i>
VERB INF.: ACT OF GETTING (MOVE + ASPECT)	SAT.: UP (PATH)
<i>Buttare</i>	<i>via/fuori</i>
VERB INF.: ACT OF THROWING (MOVE + CAUSE + PATH, AGENTIVE)	SAT.: AWAY/OUT (PATH)
<i>Portare</i>	<i>via</i>
VERB INF.: ACT OF TAKING/BRINGING (MOVE + CAUSE, AGENTIVE)	SAT.: AWAY (PATH)

All the phrasal verbs recorded showed some degree of lexicalisation, since only one case of intrusion of a pause between the verb and the satellite was recorded. Moreover, the only instance of pause between verb and satellite was recorded together with the intrusion of an adverbial form. In this case, the co-expressive gesture synchronised with the lexical part of the verb. On the other hand, a case of lexicalisation complete (with no hesitation between verb and satellite and no co-expressive gesture) – although isolated – was also recorded in a female subject.

The remaining instances of phrasal verbs recorded in all the 10 subjects showed a recurrent pattern of combination between pauses and gesture-speech synchronization. In particular, 31 verb-framed constructions (42%) were recorded. Among them, 13 (42% out of 31) occurred with a co-expressive gesture, while 2 verb-framed attestations (6.5% out of 31) were recorded with no concurrent gesture. On the other hand, satellite-framed constructions showed to be particularly recurrent (43 attestations, 58%). In these cases, the co-expressive gesture tended to synchronize either with the lexical item, or with both the verb and the satellite. Instances of gesture synchronization with the whole Verb Phrase were also recorded. Interestingly enough, 3 instances of co-expressive gesture synchronized with the lexical part of a satellite-framed construction were recorded. Pauses (either hesitation or silent pauses), if present, were recorded soon before or after the phrasal compound. The observed pattern, which shows to be constant in all the subjects, suggests a good degree of lexicalisation (second level), which is further confirmed by a relatively constant and fixed word order: for agentive verbs conflating motion and cause, for instance, the object is never inserted between verb and satellite, despite the acceptability of such an insertion as merely a syntactic point of view.

An interesting phenomenon which has been recorded during the analysis of the data is the use of a double strategy for the same verb. An instance of such a trend is the double construction observed for verbs such as *salire* (to ascend) and *buttare* (to throw/trash), whose semantics are already characterized by a conflation of movement and Path. The phenomenon in question may perhaps be explained by semantic redistribution, or focus shifting, although further research on the use of the verbs in question in everyday interaction is needed in order to provide a reliable interpretation of their distribution.

Another interesting phenomenon observed during the analysis of the data is a case of an arc-trajectory gesture synchronized with a verb-framed construction (*si lancia*: [he] dashes) which does not express SWING Manner in the lexical item (see Figure 12). This finding, although displaying a Character Viewpoint (McNeill, 1992) more than an arc trajectory itself, seems to be inconsistent with the “thinking for speaking” theory put forward by Slobin (1987), and McNeill (2005) among others, and confirmed by the results of a study by Özyürek & Kita (quoted in Mora Gutiérrez, 2001) on the expression of Manner in Turkish and Japanese. In particular, Özyürek & Kita outlined a tendency – also recorded in experimental sessions – where subjects speaking a verb-framed language (such as Turkish or Japanese) with no devoted lexical item for the expression of the SWING Manner do not express the act of swinging in their co-verbal gestures while describing the scene in question. In other words, subjects speaking a verb-framed language would have a poorer representation of Manner both in speech and in gesture. Italian, on the other hand, though being a verb-framed language, seems to show some capability to conflate Manner in the lexical item. The example shown in Figure 12 is a verb-framed construction (the verb *lanciarsi* expresses motion + agentivity but not Manner) synchronized with a particularly emphatic gesture expressing the Manner of motion which is not conveyed in the concurrent speech segment. Of course, further research is essential in order to assess whether the case described is an isolated one or may have a significant role in the assessment of the “thinking for speaking” theory.

Figure 12: C-VPT arc trajectory in an Italian subject
00:07:05



S3: [dal palazzo // (si lan)cia] con la fune
[He] dashes from the building with the rope

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