ABSTRACT: Motion events may encode Path and Manner in verbs (as in Spanish, Hindi and Tamil) or in satellites (as in English). First language (L1) acquisition studies show that children learning typologically different languages acquire language-specific encoding for Path and Manner early on. This paper is concerned with the L1 acquisition of Path and Manner in Indian languages, which have been claimed to be verb-framed; and the second language (L2) acquisition of Path and Manner in English by learners whose L1 is verb-framed. The L1 acquisition of Tamil is shown to initially attest motion verbs rather than satellites, as in other verb-framed languages. However, second language learners of English with the Dravidian languages or Hindi as L1 acquire satellites first, just as in L1 English acquisition; moreover, they exhibit the overextension of satellites, as also the problems with complex Paths, that are typical of L1 learners of English. They do not transfer verb-framed encoding patterns from their L1 into English.

KEYWORDS: motion events, verb-framed, satellite-framed, language-specific encoding, Tamil, second language acquisition, L1 transfer

0. EXPRESSING MOTION EVENTS IN LANGUAGE

Children begin to talk about motion events from very early on. English-speaking infants as young as 1;2-1;4 years old are observed to say down when going downstairs (Choi & Bowerman 1991:101). The prepositions in and on are some of the earliest acquired grammatical morphemes in English (Brown 1973). How do children learn these words? Are the processes and stages similar across languages? How do children learn to express motion events in a second language context? Do crosslinguistic differences influence second language acquisition? These are some of the issues that concern us in this paper.

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0.1 Path and Manner in motion events

Path in motion events refers to the route or trajectory followed by a Figure in relation to the Ground. In other words, in motion events the Figure changes its location with respect to the Ground and the Path specifies the direction of this movement. Let us look at an example:

(1) John crawled into the house.

Here ‘John’ is the Figure that changes its location with respect to the Ground ‘house’. The preposition ‘into’, as a satellite to the VP, encodes the trajectory of this movement, i.e., the Path. Along with the inevitable elements of Figure, Ground, Motion, and Path, motion events also optionally specify the Manner of the Figure’s motion, Deixis and Cause. In (1) the verb crawl encodes the optional element Manner (in contrast to a simple motion verb like go).

When we look at the linguistic encoding of these semantically universal components of motion events, we find that there is no one-to-one correspondence across languages between the semantic elements and the syntactic categories they are mapped onto. Path in some languages – like Spanish – is encoded in the main verb and hence such languages are known as ‘verb-framed languages’ (Talmy 2000b, 2007 among others). Path in other languages – such as English – is encoded in a satellite, i.e. preposition, and therefore such languages are referred to as ‘satellite-framed languages’ (Talmy 2000b, 2007 among others). As for Manner, in verb-framed languages, it is encoded as an adjunct since Path is encoded in the main verb. In contrast, in satellite-framed languages Manner is encoded in the main verb as Path is encoded in a satellite. The Spanish sentence (2a) and its English equivalent (2b) illustrate this difference:

(2) a. La botella entró la cueva (flotando)  
   the.fem bottle go in.pst the.fem cave (float.pres.ptpl)  
   ‘The bottle entered the cave (floating).’

   b. The bottle floated into the cave.
In the Spanish example, Path is encoded in the verb *entró* (‘go in’), and Manner is encoded as an adjunct (*flotando* ‘by floating’). In its English equivalent (2b), Path is encoded in the satellite *into* and Manner is encoded in the main verb *float.*

1. ACQUISITION OF MOTION EVENT ENCODING PATTERNS

Studies in first language acquisition have shown that children learning typologically different languages are sensitive right from the beginning to language-specific encoding patterns for motion events (see Choi & Bowerman 1991; Slobin et al 2011; Stringer 2005, 2006 among others). Choi & Bowerman (1991), in their analysis of spontaneous production data of English- and Korean-speaking children, found that satellites like *down, up, on, off* and *out* are produced by English-speaking children as early as at 1;2-1;5. The children extend satellites to all kinds of motion. For instance, a child was observed to utter *down* at 1;4 to refer to spontaneous motion (e.g. climbing down from the chair); caused-motion (e.g., wanting to take a chair down from on the table); and posture changes (e.g., asking the mother to sit down). By 1;8, English speaking children use particles productively with verbs specifying Manner, Deixis or Cause. For instance, *carry up* (picking up and righting a fallen-over stool, 1;9); *catch in* (asking the mother to capture her between two boxes, 2;0).

In contrast, children speaking Korean, a verb-framed language, initially learn motion verbs (e.g. *kkita* ‘fit’, 1;4; *kata* ‘go’, 1;5; *anca* ‘sit down’, 1;6). They are slower in acquiring manner-of-motion verbs than English-speaking children; and the Korean speaking children that Choi & Bowerman (1991) studied did not combine manner-of-motion verbs with satellites even at the age of 2;0 years.

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1 Some English verbs do encode Path; cf. *enter, exit, ascend, descend, advance, arrive,* and *depart,* among others. However, Talmy (2000b:53) claims that the Path-encoding verb is “not the most characteristic type in English.” Many such verbs are borrowed from Romance languages.

2 The child’s age is indicated, conventionally, as *years; months,* and *days.*
In view of such findings, I was interested to investigate if children learn language-specific encoding patterns from early-on in second language contexts too. There are two points of interest here. (i) Many Indian languages are claimed to be verb-framed (see Talmy 2000b: 222, 277-278, 2007:89 for Tamil; and Slobin et. al. 2011:138 for Hindi). Thus, children learning these languages as a first language (L1) should initially acquire motion verbs rather than satellites, in line with acquirers of other verb-framed languages. (ii) When speakers of these Indian languages learn English as a second language (L2), they come across satellite-framed patterns for motion events. The question arises whether these learners of English acquire satellites first, exhibiting trends similar to L1 English acquisition; or whether they transfer verb-framed encoding patterns from their L1 into English.

In order to investigate the first issue, I chose Tamil as a representative verb-framed language and analyzed transcripts of the spontaneous speech of a Tamil-speaking child. With regard to the second issue, I examined speech samples of two sets of young second language learners of English, with Dravidian languages and Hindi as L1. In the L1 study, we observe that the child learning Tamil as L1, initially learns motion verbs and is slower in acquiring satellites than English-speaking children. In the L2 study, we find that young second language learners of English initially acquire satellites rather than motion verbs. The learners overextend satellites and have problems in encoding components of motion events, just as in L1 English acquisition.

In Section 2 of this paper, I report on acquisition of motion event encoding patterns in Tamil as L1. In Section 3, I present evidence for the acquisition of motion event encoding patterns in English as an L2. In Section 4, I summarize the results of both the studies.

2. ENCODING MOTION EVENTS IN TAMIL AS A FIRST LANGUAGE

2.1 Tamil as a verb-framed language

Tamil has been claimed to be a verb-framed language (cf. Talmy 2000b:222, 277-278, 2007:89), i.e., Path is encoded in the Tamil verb.
However, it also has satellites encoding Path. These satellites may be case markers (e.g. dative ‘-kki’ and ablative ‘-irindi’), spatial nominals that function as postpositions (e.g. uLLa ‘inside’, kiizha ‘under’), or case inflected spatial nominals (e.g. uLLa-irindi ‘from inside’, kiizha-irindi ‘from under’). However, we may still consider Tamil a verb-framed language, just as English is primarily considered a satellite-framed language in spite of the existence of some Path-encoding verbs (cf. note 1). Thus, satellite-framed constructions are more restricted in Tamil than in English: only translational motion (e.g. parand ‘fly’, ooDi ‘run’) can appear with a Path satellite (e.g. ‘fly to the nest’, with ‘nest’ case-marked dative). Self-contained motion (e.g. aaDi ‘dance’, nonDi ‘limp’/’hop’) cannot appear with a Path satellite (e.g. *viiTkki aaDi-/nonDi- *‘dance / limp/ hop to the house’, with ‘house’ case marked dative is ungrammatical). In the case of self-contained motion, the manner of motion verb must appear as an adjunct along with a verb of simple motion, if Path is to appear as a satellite (e.g. viiTkkii aaDinDi/ nonDinDi poo ‘go to the house dancing/ limping/hopping’).

2.2 Corpus
I analyzed the Vanitha corpus (Narasimhan 2004) comprising transcripts of the speech of a Tamil child from age 0;9.10 to 2;9.04 for the expression of motion events. These data were collected approximately once a month over 24 months in unstructured situations with the child's parents in the home. The length of the transcripts varies from 126 utterances to 1126 utterances.

The corpus was hand-searched and 301 child utterances pertaining to three kinds of motion viz., spontaneous motion, caused motion and posture changes were identified for analysis. I present here only a qualitative analysis of the corpus.

2.3 Early occurrence of motion verbs in the Vanitha corpus
In Section 1, we noted that English-speaking children first acquire satellites for motion events at age 1;2-1;5; verbs appear at around 1;8. We find that in the corresponding age ranges in the Vanitha corpus, motion events are encoded in verbs rather than satellites, i.e. case markers and
postpositions. In (3a-d), I present Vanitha’s utterances with the spontaneous motion verb poo ‘go’; in (4a-c), utterances with three caused-motion verbs; and in (5), an utterance with the posture-change verb taacci ‘sleep’. The gloss in the text, as also the transliterations and comments on the utterances by Vanitha cited here are taken from the Vanitha corpus.

(3) a. pooc ‘gone’ (1;2.25)  
   (when a sparrow flies away from a window nearby).

   b. paTTi TaaTaa pooreen. ‘grandmother is going TaTa’ (1;3.22)  
      (on seeing her grandmother going out).

   c. kiyan peyTaa ‘Kiran went away’ (1;9.16)  
      (when a friend who has been playing with her goes home).

   d. arti tuul peyrkkaa ‘Aarti has gone to school’ (1;9.16)  
      (talking about her friend).

(4) a. aar ettaa? ‘who took it?’ (1;6.01)  
   (asking who picked her pencil up).

   b. tuukki enj ‘throw away’ (1;7.26)  
      (brings her old shoe and throws it down).

   c. dan talliTaa ‘(she) pushed down’ (1;8.08)  
      (on asking who pushed her down).

(5) taacci ‘sleep’ (1;4.06)  
   (keeping a pillow under her head and lying down).

Thus motion verbs appear very early in the Vanitha corpus, as expected.

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3 Though Vanitha begins to use verbs from 1:2 on, initially they lack temporal and agreement morphology. Verbal inflections begin to appear at 1:8 and by 2:1, Vanitha’s knowledge of inflections is ‘adult-like’ (see Thomas and Vainikka 1994 and Sarma 1995, cited in Lakshmanam 2006;186, for detailed analysis of verbal inflections in Vanitha’s speech).

4 The verb ‘taacci’ is more accurately ‘lie-down’ (in order to sleep), as a reviewer points out.
2.4 Delayed acquisition of satellites
Conversely, satellites, i.e., case inflections and postpositions, are slow to appear in Vanitha’s speech. The first occurrences of locative (‘-la’) and dative case (‘-kk’) are given in (6a-b) respectively.

(6) a. kaal-la ‘in the leg’ (1;7.26)  
      (showing some wound in her leg)

   b. naa anga uurikki pooneen ‘I went to the place there’ (2;1.15)  
      (talking about her recent visit to some relatives)

In Vanitha’s speech, the locative case appears at 1;7 (as shown in 6a above), at around the same age when the preposition in appears in English-speaking children’s speech. But the dative (as shown in 6b) appears only at 2;1.15.

Recall here that satellites down and up appear as early as at 1;2-1;5 in English-speaking children. Their translational equivalents kiizha ‘down’ and meela ‘up’ appear only after 2;1 years in Vanitha’s speech as shown in (7a-b):

(7) a. mazha kiizha viinduDuttu ‘rain has fallen down.’ (2;1.18)  
      (on asking what she saw downstairs)

   b. anga meela okkaaccukaTTuma? ‘shall I sit there on top?’  
      (2;4.05)  
      (asking if she could sit on a sofa nearby)

2.5 Absence of over-extension of satellites
As mentioned in Section 1, English speaking children as early as at 1;2-1;5 begin to use satellites to refer to different types of motion events. In the Vanitha corpus, we find that Vanitha does not use postpositions to refer to different kinds of motion events. In fact, as mentioned in the previous section, postpositions are slow to appear in Vanitha’s speech. Vanitha, instead, uses distinct motion verbs from the very beginning to talk about different types of motion events. However, these well-differentiated lexical items occur only as late as 2;1 onwards.
To illustrate this point of comparison, we select the English preposition *off*. As studies in L1 English acquisition (e.g. Choi & Bowerman 1991, Clark 2009) have shown, the preposition *off* appears at 1;2-1;5 in English-speaking children and is overextended to refer to taking off clothes, drying hands, cleaning hands, tearing paper, among others. Vanitha uses distinct motion verbs to refer to similar events: *awtru* ‘remove (clothes)’ in (8a), *kayaTTidu* ‘remove (jewellery)’ in (8b), *toDaccu viTu* ‘wipe dry’ in (8c), *ambi viDī* ‘wash clean’ in (8d) and *kizhi* ‘tear’ in (8e). Note here all these differentiated motion verbs are attested at the same age i.e. 2;2.28.

(8) a. *awtru* ‘take off’ (2;2.28)  
    (asking the father to remove her wet frock)

    b. *nī kayaTTidu* ‘you take it off’ (2;2.28)  
        (asking the father to remove an anklet)

    c. *indaa toDaccu viTu* ‘Here, wipe me’ (2;2.28)  
       (asking the father to dry her hands after washing)

    d. *kayya ambi viDī* ‘wash my hand’ (2;2.28)  
       (asking the father to wash her hands after eating)

    e. *kiikaada* ‘don’t tear it’ (2;2.28)  
       (asking the father to be careful with her book)

Thus, Vanitha seems to be sensitive to verb-framed encoding patterns for motion events in Tamil from the very beginning. Since other Dravidian languages – like Kannada, Telugu and Malayalam – have similar encoding patterns, the same may be true of speakers of these languages. It has been shown that Hindi-speaking children prefer to encode motion events in verbs (Slobin et. al. 2011). This suggests that children speaking Indian languages are sensitive to verb-framed patterns in their L1 from early-on. The question arises what happens when such children come across satellite-framed patterns for motion events in English while learning it as an L2.
3. ENCODING MOTION EVENTS IN ENGLISH AS A SECOND LANGUAGE

We examined transcripts of the speech of young second language learners of English from two studies: Jangid (2004) and Vijaya (2007) for the encoding of motion events. Both studies use wordless picture stories to elicit speech in a classroom setting.

3.1 Corpus

Jangid (2004) is an 8-month longitudinal study of the development of English in 16 children. The learners, who were speakers of one of the Dravidian languages Telugu, Tamil, or Kannada, were around 5 years of age at the beginning of the study and were in Class 1 of an English medium school located in Hyderabad. Speech samples were elicited 6 times in the study – in a pretest, a post test and at four intervals in between. We excluded the pretest transcripts and analyzed the remaining 80 transcripts. The length of each transcript varied from 6 to 29 utterances according to the level of the learners. 369 utterances pertaining to motion events were identified for analysis through manual search.

Vijaya (2007) is a cross-sectional study of 32 Hindi-speaking children of 9-11 years of age narrating stories in English. The learners were in Class 5 in a bilingual Kendriya Vidyalaya (KV) in Unnao, Uttar Pradesh. The pilot study was set in Class 1 in a KV in Hyderabad, the sixth most populous city in India. When the story-telling task was attempted in the KV in Unnao, it had to be progressively administered through Classes 1-5 to identify a level at which learners could produce independent and meaningful utterances. Thus, the learners in Vijaya’s (2007) study may be taken to be at a comparable stage of second language acquisition to those in Jangid (2004). The length of the 32 narratives in Vijaya’s corpus varied from 16 to 109 utterances. Out of these narratives, 105 utterances pertaining to motion events were identified for analysis through manual search.

Jangid (2004) categorized her learners into four ability groups while Vijaya (2007) categorized her learners into five ability groups. We cite data only from the two lowest ability groups in both these studies.
3.2 Early and over-extended use of satellites

Our analysis of the second language learner corpora indicates that satellites begin to appear in learners’ speech before verbs appear. Learners use satellites instead of verbs, just as L1 acquirers of English do. Some such instances are underlined in (9a-c); notice the absence of verbs.

(9) a. Mango egg me down.
    (Looking at a mango falling from a crow’s beak)
    (Vijaya 2007:188)

    b. squirrel mango, mango mouth down.
    (Looking at a mango falling from a squirrel’s mouth)
    (Vijaya 2007:188)

    c. Out.
    (Looking at Goldilocks running out of the room)
    (Jangid 2004:167)

In (10a), we find a satellite used instead of a motion verb in an utterance which includes a verb of speaking (say). In (10b), a verb and satellite sequence was down conveys the idea of falling down. These utterances argue for the satellite-framing of motion events in early L2 English. In (10 c-e), we find verbs and satellites co-occurring; i.e. verb plus satellite combinations also appear in the early stages of the second language acquisition of English.

(10) a. The woman said to the children not out your finger.
    (Looking at two children looking out of a window on a train)
    (Vijaya 2007:207)

    b. mango was down a basket.
    (Looking at a mango falling down into a basket)
    (Vijaya 2007:196)

    c. ma’am girl fly it down.
    (Looking at a girl flying down to the land with her magic shoes)
    (Vijaya 2007:192)

    d. Teddy-bear house chair fell down.
    (Looking at Goldilocks falling off from a chair)
    (Jangid 2004:167)
3.3 Multiple sub-events

Stringer (2006) in a first language study found that young children 3-4 years old split the complex Paths THROUGH and ACROSS as shown in (13a-b) respectively:

(13) a. He goes in it … he comes out.
    b. He splashes into it and then gets out.
    (Stringer 2006:139)

In an earlier study (Sudharshana 2007) I found young second language learners, 8-9 years of age, adopting a similar multiple-predicate strategy to encode these complex Paths: cf. (14a-b).
Recall that the English verb encodes many optional components like Manner, Deixis, and Cause apart from the inevitable element Motion (see Section 0 above and also Talmy 2000a and 2007 for more discussion). Our analysis showed that learners in Jangid (2004) and Vijaya (2007) decomposed other components like Motion, and Manner in addition to splitting complex Paths as shown in (15a-c) below:

(15) a. He is jumping and running after the cat.
   (Looking at a dog chasing a cat over a tent)
   (Jangid 2004:146)

b. She jumped and gone into the water.
   (Looking at a little girl sailing on a tulip petal in a bowl of water)
   (Jangid 2004: Appendix, p.46)

c. The crow go up in the sky and flying.
   (Looking at a little girl flying in the sky holding the legs of a butterfly)
   (Jangid 2004: Appendix, p.47)

As we can see in (15a), the verb jump encodes Manner while the verb+satellite combination run after encodes Motion and Path. Similarly in (15b), the verb jump encodes Manner while the verb+satellite combination go into encodes Motion and Path. In (15c), the verb+satellite combination go up in encodes Motion and Path while the adjunct flying encodes Manner.

Thus, speakers of Indian languages while learning English as a second language are sensitive to motion event patterns in English from the very beginning.
4. CONCLUSION

Though languages differ in how they encode motion event components in linguistic morphemes, speakers of Indian languages learning English as a second language do not transfer verb-framed motion event encoding patterns from their L1 into L2. Instead, they are sensitive to target language – here English as a second language – patterns from early on and exhibit trends similar to those observed in L1 English acquisition: young second language learners initially encode Path in satellites and overextend satellites instead of verbs. In addition, learners use a multiple-predicate strategy to encode complex Paths just as English-speaking children do.

There are some obvious limitations to this study. A large scale study with several groups of second language learners is needed to investigate the issue in detail.

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