

## The licensing of paths

**The goal** It has been noted (Thomas, 2003; Tungseth, 2006) that there is a variation in English between the use of *in* and *into* with directional meaning (1).

- (1) a. Mary danced #in / into the room. (# under the directional reading)
- b. Mary jumped in / into the pool.

The directional reading with *in* is only available with verbs that more explicitly express some direction of motion (e.g. *jump, kick, put*); with manner of motion verbs (e.g. *swim, dance, crawl*), the reading is only a locative one. In this paper, we will show that this variation corresponds to a cross-linguistic variation in the use of adpositional elements (Ps): (i) the use of prepositional and postpositional phrases to refer to Paths in Dutch; (ii) the acceptability of directional readings with certain Russian locative Ps; and (iii) the use of directional particles in Hungarian. We give a unified analysis for these seemingly different phenomena in terms of structural and semantic licensing of directional complements.

**The data** Dutch *in* ‘in’ as a preposition can be directional with the same group of verbs that allow English ‘in’ to have a directional interpretation; with manner of motion verbs, on the other hand, Dutch ‘in’ has to be postpositional in order to express directionality (2).

- (2) a. Marije dansde in de kamer. (Dutch prepositional phrase)  
Mary danced in the room  
‘Mary danced in the room.’ (locative only)
- b. Marije dansde de kamer in. (Dutch postpositional phrase)  
Mary danced the room in  
‘Mary danced into the room.’ (directional only)
- c. Marije sprong in het bassin.  
Mary jumped in the pool  
‘Mary jumped in(to) the pool.’ (ambiguous between locative and directional)

In Russian, the difference between locative and directional readings with some Ps is expressed by case on the P complement: a directional reading correlates with accusative case, a locative reading with an oblique case. This case alternation is not available with all locative Ps. In particular, Ps like *meždu* ‘between’ and *pered* ‘in front of’ combine with instrumental case only. As a consequence, they cannot combine with simple manner of motion verbs to refer to a Path. However, the directional reading becomes available again with inherently directional verbs (3).

- (3) a. #Maša plyla meždu lodkami. (# under the directional reading)  
Mary swam between boats.INSTR
- b. Maša položila knigu meždu stulami. (amb. between locative and directional)  
Mary put book between chairs.INSTR

Finally, in Hungarian, a directional particle is obligatory with manner of motion verbs if there is a directional PP in the clause, but it is optional with directional verbs (4).

- (4) a. Mari a medencé-be ugrott.  
Mary the pool-into jumped
- b. Mari bele-ugrott a medencé-be.  
Mary into-jumped the pool-into
- c. \*Mari a szobá-ba táncolt.  
Mary the room-into danced
- d. Mari be-táncolt a szobá-ba.  
Mary into-danced the room-into

**The analysis** For the difference between motion verbs as to whether or not they can license

a directional reading, we propose to extend Rothstein's (2004) event structure account to the structure of motion events. We claim that all motion verbs have an argument expressing a path, which is associated with a process subevent in a decomposed event structure. However, only the directed motion verbs specify a path which is necessarily incremental. Only with these verbs, locative PPs headed by *in* or *on* get a directional reading when they specify the upper bound of the path, which in turn is associated with the result state (in this case the final location) of the complex event. We take this semantic analysis as a basis for the syntactic account.

Taking Hungarian as a starting point, we argue that in those cases in which the verb expresses directed motion, it takes a small clause (SC) complement with a directional PP as predicate (5).

(5)  $[_{VP} V [_{SC} DP PP]]$

The predication expressed by the SC is to be interpreted as follows: the DP undergoes an incremental change of location along a path specified by the PP. Other verbs, however, cannot license this structure directly, but need a particle to be able to combine with directional arguments. We assume that this is so because Hungarian behaves like a verb-framed language (in the sense of Talmy, 1985, and subsequent work), which has to express the meaning of path on the verb (similar to Russian, but unlike satellite-framed languages like English). The particle is a small clause head that takes a directional complement (6).

(6)  $[_{VP} V [_{SC} DP [particle PP]]]$

Moving the particle to the preverbal position creates a complex predicate, with the directional PP as argument. (4-a) shows that in Hungarian there is always movement of any predicative PP to the preverbal position even when there is no particle. So complex predicate formation does not only happen with particles. The point we are arguing for here is that it cannot happen with the particle-less PP in case an incremental path reading is not licensed by a directional verb.

We take the semantic similarity as evidence that this analysis can be carried over to English, Dutch and Russian, even when there is no lexical item heading the SC. The use of Hungarian particles is similar to Slavic prefixation in that both the Hungarian particles and the Slavic prefixes appear preverbally. We propose that both cases involve syntactic complex predicate formation that is needed in order for the verbs in these languages to combine with path expressions in the first place. In cases, in which Russian, English or Dutch locative PPs are interpreted as the final location of an event, we assume that this is due to the fact that locative PPs in these languages can attach to different positions: they can either modify the entire event, attaching high, or they can modify the result state subevent where it is available. However, it is available just in case the verb itself licenses an incremental path, and the locative PP is in a local enough relationship (embedded under the SC) to be able to refer to the final location of this incremental path. Support for this analysis comes from examples like the Dutch ones in (7).

- (7) a. ... dat Jan in een zwembroek in het water sprong.  
           that John in a swim-suit in the water jumped  
           '... that John jumped inside / into the water in a swim-suit.'  
       b. ... dat Jan in het water in een zwembroek sprong.  
           that John in the water in a swim-suit jumped  
           '... that John jumped inside / \*into the water in a swim-suit.'

These examples show that a locative PP has to be in a local enough relationship with the verb to obtain a directional reading, and this is what is predicted by our proposal. More generally, predicative PPs cannot be further away from the verb than directly preverbal (see also Hoekstra, 1999). Adjunct PPs, on the other hand, can be in other positions in the clause.

The analysis thus combines Hoekstra's (1992) small clause analysis of change-of-state predicates with den Dikken's (2006) small clause analysis of verb-particle combinations, showing that there is a division of labor in licensing the SC between verbs and particles / prefixes.