

MOTION VERBS AND THE EXPRESSION OF DIRECTED MOTION IN ENGLISH

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Abstract: Two commonly-held assumptions in the literature on the Goal of Motion construction in English are, on the one hand, that there is a clear-cut distinction between verbs of inherently directed motion and manner-of-motion verbs regarding their semantics, in that the former include Path and the latter, Manner in their semantic make-up, and that affects the way in which they express motion to/towards a Goal (by combining with an obligatory/optional directional PP), and, on the other hand, that manner-of-motion verbs freely participate in the Goal of Motion construction. The present article challenges these assumptions and proposes that motion verbs in English form a continuum (a Directionality Squish) along which they range from those that always express directed motion to those that never do so.

Keywords: directed motion, verbs of inherently directed motion, manner-of-motion verbs, directional phrases.

1. Introduction

The expression of directed motion in any language depends on the lexical, morphological and syntactic resources available to the language in question. As documented in the literature (Talmy 1985, Levin 1993, Levin and Rappaport Hovav 1995, Rappaport Hovav and Levin 1998, Talmy 2000, Mateu 2002, Ramchand 2003, Folli and Ramchand 2005, Zubizarreta and Oh 2007, Ramchand 2008, Beavers et al. 2010, den Dikken 2010, among others), in English, this is generally achieved by means of verbs of inherently directed motion with or without directional phrases, see (1a) below, or by combining manner-of-motion verbs with directional PPs in what is known in the literature as the “Goal of Motion” construction, see (1b) below. That is to say, among the lexical resources available to English, motion verbs play a central role in the encoding of the two semantic components relevant to the expression of directed motion (Path and Manner), given that the verb is the only obligatory lexical category in a clause which can express either of the two.

- (1) a. The vase *fell* (to the floor) and shattered.
b. She watched her son *limp* into the cottage.

While (1a) is built on a verb of inherently directed motion (*fall*) whose meaning encodes Path, and which, as a result, only optionally combines with a directional phrase, (1b) is built on a motion verb which expresses Manner (*limp*), and, consequently, *must* combine with a directional phrase (*into the cottage*) to express directed motion.

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Two pervasive assumptions regarding the expression of directed motion in English are, on the one hand, that verbs of inherently directed motion and manner-of-motion verbs form two clear-cut classes distinguished by the manner in which they express motion to/towards a Goal – as illustrated in (1) above (see Levin 1993, Mateu 2002, Zubizarreta and Oh 2007, Beavers et al. 2010, den Dikken 2010, among others), and, on the other hand, that manner-of-motion verbs **freely** participate in the Goal of Motion construction, which is analyzed as a subvariety of directed motion, whereby motion to/towards a Goal proceeds in a particular manner denoted by the verb (see Talmy 1985, Levin 1993, Levin and Rappaport Hovav 1995, Rappaport Hovav and Levin 1998, Talmy 2000, Mateu 2002, Ramchand 2003, Folli and Ramchand 2005, Zubizarreta and Oh 2007, Ramchand 2008, Beavers et al. 2010, den Dikken 2010, among others).

The present article challenges these assumptions and brings evidence which indicates that motion verbs in English do not classify into two unambiguous classes distinguished by the presence of a Path/Manner component in their semantic make-up, which affects the manner in which they express directed motion (by combining with an optional/obligatory directional phrase), and that, in their turn, manner-of-motion verbs do not all (freely) participate in the expression of Goal of Motion. Instead, I propose that motion verbs in English form a continuum (a **Directionality Squish**) alongside which some motion verbs always express directed motion (verbs of inherently directed motion: *arrive, ascend, descend, enter, exit*, etc., some manner-of-motion verbs: *creep, sneak, step, pad, sashay*, etc.), some (almost) never express motion to/towards a Goal (manner-of-motion verbs indicating random movement: *wander, prowl, roam, rove, mill*, etc.), while others (i.e. most manner-of-motion verbs) may do so under particular circumstances (i.e. in the presence of a directional phrase, resulting in Goal of Motion).

Throughout the paper, I will use “directed motion” to refer to the motion of an entity to/towards a Goal with or without a specification of the manner of motion, while I take “Goal of Motion” to express the motion of an entity to/towards a Goal in a specific manner (denoted by the verb). At the same time, to semantically distinguish among the various subclasses of motion verbs, I will employ three sets of features derived from the work of Cummins (1996): [+/-translative], [+/-directional] and [+/-oriented]. “Translative motion” refers to the displacement of a whole entity through space (*go, come, ascend, descend, run, sneak, creep, wander, gallivant*, etc.). “Non-translative” motion refers to body-internal movement, periodic or random movement, or movement through space of a part of the entity in motion (*hop, wriggle, stagger, twirl, whirl*, etc.). Directional motion denotes motion to/towards a particular Goal (*go, come, ascend, descend, fall, forge, plummet, plunge, careen, career, creep, dart, file, hasten*, etc.). Non-directional motion entails no specification of the direction of motion (*run, swim, walk, jump, stumble, float, stride*, etc.). Finally, oriented motion describes “movement along a single path, without necessarily specifying direction” (Cummins 1996: 35), i.e. fluid, unitary motion (*glide, slide*), while non-oriented motion refers to random motion at a given location/within a given area (moving around playfully, aimlessly or for pleasure) (*cavort, drift ≈ wander, flit, frolic, gallivant, gambol, perambulate, prowl, ramble, roam, rove, romp, stroll, traipse, wander*, etc.).

The paper is structured as follows: section 2 focuses on the semantic and syntactic properties of verbs of inherently directed motion; I show that, while the presence of Path in the semantic make-up of all inherently directed motion verbs generally allows them to only optionally combine with a directional PP, some of them always select a directional phrase. Also, the meaning of some of these verbs includes a Manner component as well, though this component is backgrounded, i.e. it does not interfere with their inherent ability to express directed motion. Section 3 provides a brief account of the syntactic and semantic properties of manner-of-motion verbs, as well as their classification in terms of their ability to participate in the Goal of Motion construction. In section 4, I put forth a Directionality Squish as a solution to the variation I encountered among motion verbs with respect to the expression of directed motion. In particular, I make use of some of the semantic and syntactic properties of both classes of motion verbs identified in the previous sections to establish a hierarchy with pure inherently directed motion verbs at one end of the spectrum and pure manner-of-motion verbs at the other. Between these two poles, I place the rest of the motion verbs that evince mixed properties of the two prototypical classes. Section 5 deals with the syntactic expression of directed motion. Following the lines of analysis suggested by Zubizarreta and Oh (2007), I propose that the intransitive variant of the directed motion structure is an unaccusative configuration built on a V-PP complex and that motion verbs either instantiate or modify this structure, depending on their semantics.

2. Verbs of inherently directed motion

English verbs of inherently directed motion include *advance, arrive, ascend, collapse, come, cross, depart, descend, emerge, enter, escape, exit, fall, flee, go, leave, plunge, plummet, recede, retreat, return, rise, sink, tumble*, etc. Although some of them have transitive variants (*leave (the city), descend (the stairs)*), or occur only transitively (*reach *(the building)*), they classify as mainly intransitive unaccusative verbs since they display properties characteristic of unaccusatives.

Thus, they can modify nouns as adjectival past participles (*fallen oak, collapsed building, departed companions, an escaped prisoner*), in some cases in combination with an obligatory modifying Adverbial (*the recently arrived students* vs. **the arrived students, a recently returned traveler* vs. **a returned traveler*) by virtue of the fact that they express telic situations. They do not take part in resultative constructions because they express change of location and as such their meaning already includes a Goal, i.e. a delimiter. Since events can only be delimited once (see Tenny 1987), it follows that such verbs are incompatible with an extra delimiter, i.e. the Result Phrase. For instance, *The thief fled (from) the room frightened* is acceptable only if *frightened* is interpreted as a depictive phrase, and not with the reading ‘the thief’s fleeing from the room caused him to become frightened’. Also, verbs of inherently directed motion allow for *there*-insertion, displaying an existence or appearance sense (*There rose a balloon in the sky. / There arrived several gentlemen at the ball. / There came the faintest noise, the tiny grinding of a boot sole against the rock...*).

Aspectually, they describe telic events, i.e. events that have a natural endpoint, which in their case translates into an inherently specified achieved location¹ or an overtly specified Goal. The achieved location is inherently specified when they occur in isolation (*He arrived early. / They will return soon.*), or when they are accompanied by a PP/DP interpreted as Source (*They returned from London. / The actress exited the stage.*). The overtly specified Goal is realized by a directional PP (*He went to the door.*), or a Direct Object interpreted as bounded Path (*He ascended the stairs.*). Consequently, they function either as accomplishments, if durative (*ascend, descend, recede*, etc.), or as achievements, if instantaneous (*fall, collapse, enter, exit*, etc.), as suggested by their compatibility with *in* phrases and incompatibility with *for* phrases (*He descended the stairs in two minutes/*for two minutes. / He crossed the bridge in ten minutes/*for ten minutes.*).

Irrespective of the patterns in which they occur, verbs of inherently directed motion project an abstract or overtly realized directional phrase, by virtue of expressing the movement of an entity (the Theme argument) with respect to a final location. This idea is captured in Levin's definition of verbs of inherently directed motion as verbs whose meaning "includes a specification of the direction of motion, even in the absence of an overt directional complement" (Levin 1993: 264). Her definition touches upon two distinct aspects: it states that semantically, these verbs always describe an entity's movement in relation to an endpoint (i.e. they are [+translative] and [+directional] in Cummins's terms), and that syntactically, they may either occur on their own or c-select one of the several types of PATH phrases.

In this respect, verbs of inherently directed motion are intrinsically associated with the concept of PATH, defined as a segment delimited by two points (a starting point interpreted as Source and an endpoint interpreted as Goal, with the length of the Path between them). In the most complex change-of-location structure, an entity moves from/out of a place (Source) along a Path to/towards a place (Goal). The Direction of movement along a path can be either forward or backward on a horizontal axis, or upward or downward on a vertical axis. Also, movement can be defined deictically with respect to a point of reference (movement towards/to or away from a reference point, i.e. the speaker in real life contexts, or the narrator in fictional contexts). In addition, an entity moving along a trajectory towards a Goal may reach that endpoint, in which case it has followed a bounded Path (*He came to me.*), or it does not reach the endpoint, in which case it follows an unbounded Path (*He came towards me.*).

Verbs of directed motion inherently relate to these spatial dimensions (Source, Path, Goal, Direction) in the sense that they instantiate (i.e. lexicalize and/or c-select) one or more of these components. Thus, I classify inherently directed motion verbs into two large classes: Source verbs (which focus on the starting point of motion), and Goal verbs (which focus on the endpoint of motion). Furthermore, I split the latter into two subclasses depending on whether they also entail a particular direction of motion along a

¹ Some verbs of inherently directed motion, such as *head, forge, advance, proceed, lunge*, etc., may also allow combination with unbounded Path phrases, in which case the event is atelic as the Goal is not reached: *He advanced/headed/forged/proceeded towards the woods*. Nevertheless, I take them to represent a subclass of inherently directed motion verbs since, despite their potential atelicity, they always entail movement with respect to a particular Goal (the directional PP is obligatory).

given path (forward/backward on a horizontal axis, as is the case for *advance/retreat*), upward/downward on a vertical axis, for *ascend/descend*), or no direction at all (*arrive, reach*):

- (2) Verbs of inherently directed motion
 Source verbs: *depart, emanate, emerge, erupt, escape, exit, flee, leave*;
 Goal verbs [+direction]
 forward: *advance, cross, forge, head, lunge, pass, penetrate, proceed, plunge, surge, transit, traverse*;
 backward: *rear, recede, retreat, return*;
 upward: *arise, ascend, climb, lift, mount, rise, scale, shinny, surface*;
 downward: *alight, collapse, crash, crumple, descend, dismount, dive, drop, fall, flop, pitch, plunge, plummet, sink, slump, submerge, swoop, topple, tumble*;
 Goal verbs [-direction]: *arrive, come* (deictic), *enter, get to, go* (deictic), *reach*.

As indicated in (2) above, my list of inherently directed motion verbs also includes several verbs that combine Goal with Manner, i.e. they classify as [+directional]: *forge, lunge, climb, plummet, slump, swoop*, etc. Thus, *forge* is defined as ‘move forward steadily or gradually’, *lunge* ‘move suddenly forward, threateningly’, *plummet* ‘drop downward fast’, *slump* ‘to sink or fall suddenly and heavily’, *swoop* ‘descend quickly and suddenly with a sweeping movement, usually from the air’, *climb* ‘go up or over (sth) by effort, esp using one’s hands and feet’ (see *The Oxford Advanced Learner’s Dictionary* 1989). Despite the Manner component present in their lexical specification, they are verbs of inherently directed motion and not manner-of-motion verbs since the directional component appears to take precedence, i.e. movement is always towards/to a Goal, as suggested by the inability of most of them to occur in isolation or in the presence of a mere Locative phrase:

- (3) a. *He forged. / *He forged in the park.
 b. *The bird swooped. / *The bird swooped in the air.
 c. *He slumped. / *He slumped in the room.

In contrast, typical manner-of-motion verbs do not require the presence of a directional phrase, though they may combine with directional PPs to express Goal of Motion, and are felicitously employed with Locative phrases (*John ran toward/to/in the park*).

Source verbs (*depart, emerge, escape, flee*, etc.) lexicalize and/or c-select Source (*He fled (from the room)/(the room)*.) and also entail Goal, even in the absence of an overtly realized Goal phrase, given that the entity in motion necessarily moves from point A to point B. In this respect, there is an asymmetry between Source verbs and Goal verbs, in that the former always entail Goal, while the latter do not require Source. The c-selected Source phrase may be a PP (*depart from, emerge from, emanate from*) or a Direct Object NP (*leave/exit the room*) or may alternate between the two (*escape/flee (from) the room*).

Goal verbs that are [-direction] (*arrive, get, enter, reach*) are semantically the poorest since they lexicalize and/or c-select only Goal as either a PP or a Direct Object NP (*He arrived (at the castle). / He entered (the room).*). Exceptions would be deictic *come* and *go*, which I have included in this class not because they do not lexicalize Direction, but because they do not specify a particular direction like all [+direction] Goal verbs (compare *go into/out of the room, down/up the stairs, back into the house* and *ascend (up), fall (down), advance (forward)*, etc.).

Goal verbs that are [+direction] (*advance, cross, head, return, ascend/descend, mount/dismount, fall, collapse*, etc.) lexicalize and/or c-select Direction, Goal and, in many cases, Path (if they are [+durative] like *advance, cross, ascend, descend*, etc.). They are semantically the most complex and the richest subclass of inherently directed motion verbs, and display a variety of patterns depending on which spatial components they lexicalize and which they c-select as either PPs or Direct Object NPs. Consider, for instance, the variety of patterns in which the [+durative] verb *to ascend* occurs in (4a-e) below:

- (4)
- a. The climber let down a rope so the others could ascend.
 - b. Ascending [the next flight of steps]_{BOUNDED PATH}, she untied her bonnet...
 - c. The tension in her chest ascended [to her throat]_{GOAL}.
 - d. They ascended [the grand staircase]_{PATH} [to the ballroom.]_{GOAL}.
 - e. The climbers ascended [the mountain]_{UNBOUNDED PATH} for ten minutes.

Ascend in (4a) is used in isolation and semantically incorporates all three spatial components: Direction, Path and Goal. Presumably, “the others” climb up (Direction) the length of the rope (Path) to some point (Goal) where the rope ends. In (4b) the verb incorporates Direction and c-selects a Direct Object NP (*the next flight of steps*) interpreted as bounded Path, that is, a Path which incorporates Goal. In this case, the flight of steps represents the length of the Path with the last step as the endpoint of that Path (Goal). In Tenny’s (1995) terms, the function of the Direct Object is to measure out the motion event. Notice also that the verb imposes semantic restrictions on the selected Direct Object. The latter necessarily describes a trajectory defined along the vertical axis; one can ascend a flight of steps, but could not ascend a field. *Ascend* in (4c) incorporates Direction and Path and overtly realizes Goal (*to her throat*), while in (4d) it incorporates Direction and c-selects both a Direct Object NP interpreted as Path (*the grand staircase*) and a Goal PP (*to the ballroom*) that marks the end of Path. In (4e) the verb incorporates Direction and c-selects an unbounded Path Direct Object, which is to say that the climbers move up the mountain without reaching its top, as suggested by the compatibility with the *for*-phrase.

Other [+durative] Goal verbs with similar variable behaviour are *advance, descend, fall, forge, head, lunge, proceed, plummet, plunge, tumble*, etc. *Advance, forge, head, proceed*, which incorporate Direction and require obligatory directional phrases (bounded/unbounded Path, Goal), typically select atelic PPs, though they are not incompatible with telic phrases: **He headed. / He headed [down the road]_{UNBOUNDED PATH [toward the station]_{GOAL}}*. (Goal is not reached) / *Heading [into the dressing room]_{GOAL}, he went straight to the washstand*. (Goal is reached).

On the other hand, Goal verbs that are [+instantaneous] never c-select a Path phrase, which is not to say that when one *falls/crumples/slumps/sinks* to the ground, they do not follow a trajectory from point A to point B. It simply means that, since such verbs describe instantaneous, single stage events resulting in a change of location, they background Path and focus on the endpoint of motion, i.e. they c-select Goal phrases (*Then he toppled [to the floor]_{GOAL} and lay still. / Tired from her walk she slumped [(down)_{DIRECTION}] [onto the sofa]_{GOAL}*).

To conclude this section, verbs of inherently directed motion are mostly intransitive verbs with unaccusative properties that semantically encode one or several PATH components, which they lexicalize and/or c-select as directional PPs/NPs. On the other hand, while for some of these verbs the directional phrase is obligatory (*head, forge, proceed, advance*, etc.), some of them also denote the Manner of motion (*forge, plummet, swoop*, etc.), two aspects that bring them closer to the class of manner-of-motion verbs.

3. Verbs of manner of motion

Following Levin (1993), I define manner-of-motion verbs (*amble, bounce, crawl, creep, dash, float, fly, glide, gallop, hop, hobble, jump, leap, march, pad, roll, slide*, etc.) as verbs whose meanings express the particular manner or means of motion of an entity which usually, though not always, undergoes displacement. Unlike verbs of inherently directed motion, which I have shown to select or entail a Goal of motion, manner-of-motion verbs do not include any inherent direction in their lexical specification and, generally speaking, may freely combine with the entire array of directional phrases (Source, Direction, bounded/unbounded Path, Goal), as well as with Locative phrases:

- (5) a. He turned and hastened [through the maze of alleys]_{PATH} [to the nearest sewer entrance]_{REACHED GOAL}.
- b. Catherine hastened [along the stony path]_{UNBOUNDED PATH}.
- c. Humphrey hastened [toward the back of the house]_{UNREACHED GOAL}.
- d. Picking up her skirts, she hastened [over the arched bridge]_{BOUNDED PATH}.
- e. Burke scrambled out of bed and Roderick hastened [from the door]_{SOURCE}.
- f. The queue shuffled [forward]_{DIRECTION} slowly.
- g. The prisoners shuffled [along the corridor]_{PATH} and [into their cells]_{Goal}.
- h. They watched the kids skipping [in the playing ground]_{LOCATIVE}.

What the examples in (5a-h) indicate is that manner-of-motion verbs do not lexicalize or c-select specific spatial dimensions (Source, Direction, Path, Goal, etc.) the way inherently directed motion verbs do, hence their ability to freely combine with a variety of directional phrases. The most we can say is that those manner-of-motion verbs entailing that the entity in motion moves through space inherently include the general concept of PATH as defined in the previous section. As a result, manner-of-motion verbs have the potential to combine with one or more than one phrase out of the entire array of PATH phrases.

Following Levin (1993: 264-266), I distinguish between two classes of manner-of-motion verbs depending on their semantic and syntactic selectional properties (type of Subject (animate vs. inanimate entity), combination with Resultative phrases, ability to function as adjectival passive participle):

(6) Manner-of-motion verbs

Roll verbs: bounce, drift, float, glide, move, roll, slide, swing

Motion around an axis: coil, revolve, rotate, spin, turn, twirl, twist, whirl, wind

Run verbs: amble, backpack, bolt, bounce, bound, bowl, canter, carom, cavort, charge, clamber, climb, clump, coast, crawl, creep, dart, dash, dodder, drift, file, flit, float, fly, frolic, gallop, gambol, glide, goosetep, hasten, hike, hobble, hop, hurry, hurtle, inch, jog, journey, jump, leap, limp, lollop, lope, lumber, lurch, march, meander, mince, mosey, nip, pad, parade, perambulate, plod, promenade, prowl, race, ramble, roam, roll, romp, rove, run, rush, sashay, saunter, scamper, scoot, scam, scramble, scud, scurry, scutter, scuttle, shamble, shuffle, sidle, skedaddle, skip, skitter, skulk, sleepwalk, slide, slink, slither, slog, slouch, sneak, somersault, speed, stagger, stomp, stray, stride, stroll, strut, stumble, stump, swagger, sweep, swim, tack, tear, tiptoe, toddle, totter, traipse, tramp, travel, trek, troop, trot, trudge, trundle, vault, waddle, wade, walk, wander, whiz, zigzag, zoom.

Syntactically, most manner-of-motion verbs in the *run* class are unergative (*amble, bolt, bound, canter, cavort, clamber, climb, clump, crawl, dash, dodder, fly, frolic, gallop, gambol, hike, hobble, hop, hurry, jog, jump, leap, limp, lollop, lope, etc.*), since they resist the diagnostics for unaccusativity. Their unique argument starts out as an external argument (an Agent), as indicated by the ability of some of them to assign Accusative case to cognate objects (*dance, hop, jump, leap, march, pace, stomp, stride, walk, etc. - He walked the walk and talked the talk of a boss.² / They danced a wonderful dance together.*). They do not participate in *there*-sentences because they lack an internal argument (**There ran a kid into the room.*), they do not allow their past participles to function as nominal modifiers (**walked woman, *leapt frog, *swum child*), and they require the presence of a non-subcategorized/fake reflexive Direct Object in resultative constructions to satisfy the Direct Object Restriction (*He ran his feet sore. /He walked himself tired.*) – see Rappaport Hovav and Levin (1995).

On the other hand, most verbs in the *roll* class (*drift, float, glide, move, roll, slide, swing, turn, etc.*) and some from the *run* class (*loiter, lurk, teeter, totter, stumble, etc.*) evince properties typical of unaccusatives. Their one argument is internal – a Theme/Patient and, as a result, according to Burzio's Generalization, they cannot assign accusative case to cognate objects (**The ball rolled a swift roll to the left.*). They feature in *there*-sentences (*There floated a boat on the lake. / There lurked some enemies in the shadows.*) and resultative constructions in unmediated combination with an RP predicated of the Subject, which is an underlying internal argument, as required by the Direct Object Restriction (*The door slid/swung/rolled open.*). However, they do not allow their past

² From Avram (2003: 321).

participles to modify nouns either, since they are aspectually atelic, whereas adjectival past participles require a perfective reading, i.e. to denote a final state achieved by the entity they are predicated of.

Semantically, the majority of manner-of-motion verbs (*walk, crawl, slide, roll, amble, bowl, fly, hobble, hurry, march, pace, parade, plod, run, rush, trek*, etc.) are [+translative] since they always entail displacement of the entity in motion from a random point A to/towards a random point B, while only a limited subclass (*hop, wriggle, stagger, lurch, bounce, totter, pivot, stagger, stumble, twist, whirl*, etc.) are [–translative], given that in the absence of a directional PP they simply describe movement in place (compare *She staggered and fell*. vs. *He staggered across the room*.).

Also, manner-of-motion verbs (*dance, stumble, swim, float, run, stride*, etc.) are generally [–directional] because they do not inherently specify any direction of motion, that is, they do not entail or select a directional phrase. On the other hand, there is a distinct group of manner-of-motion verbs that always select directional phrases (*bound, bowl, careen, career, clump, creep, dart, file, flounce, hasten, hurtle, inch, journey, lumber, mosey, nip, pad, sashay, saunter, sneak, step, stump, swing*, etc.), classifying as [+directional]. They nevertheless differ from inherently directed motion verbs (which are also [+directional]) in that, although they select a directional PP, their meanings do not entail a particular type of Path – for instance, one can saunter out of a room, down the stairs, across a yard, into a classroom, along the trail, etc.

Last but not least, while some manner-of-motion verbs (*slide, glide*) inherently describe oriented motion, i.e. “movement along a single path, without necessarily specifying direction” (Cummins 1996: 35) by virtue of their meaning (*glide* ‘move along smoothly and continuously’, *slide* ‘move smoothly along an even, polished or slippery surface’ (see *The Oxford Advanced Learner’s Dictionary* 1989), and most manner-of-motion verbs are underspecified for this feature, having the potential to describe oriented movement in combination with a directional phrase, there are two subclasses that classify as [–oriented]. One is the group of translative manner-of-motion verbs which describe some manner of moving around playfully, aimlessly or for pleasure (*cavort, drift* ≈ *wander, flit, frolic, gallivant, gambol, perambulate, prowl, ramble, roam, rove, romp, stroll, traipse, wander*, etc.). They usually associate with dynamic Locative PPs headed by *around, about, over*, etc., as in (7a-c), and resist combination with directional phrases, with a few exceptions, as in (8a-c):

- (7) a. A yellow butterfly flitted over the bushes of heather.
 b. We traipsed around every store in town, trying to find the right color paint.
 c. Great herds of wild deer roamed freely over the hills.
- (8) a. As they strolled out of the library and into the corridor...
 b. The horse romped toward the finishing line.
 c. She wandered out into the sunshine.

When *stroll, romp* and *wander* occur with directional phrases, their semantic content is slightly altered in the sense that some aspect of their meaning is subtracted from or added to their basic semantic make-up under the influence of the directional PP. In other words, some of their semantic features are foregrounded, while others are

backgrounded. *Stroll* in (8a) loses the ‘enjoyment’ dimension and describes merely casual walking, in this case toward a Goal, *romp* (8b), whose basic meaning is ‘play about in a lively way, running, jumping’, changes ‘play’ for ‘run/jump’, while *wander* (8c) gets reinterpreted as ‘slow/aimless walking in the specified direction’.

The other set of verbs that qualify as basically [–oriented] is represented by verbs that are non-translative (*hop, wriggle, stagger, lurch, bounce, totter, pivot, twist, whirl, wobble*, etc.), which cannot be [+oriented] since they do not describe movement along any path. They generally appear with locative phrases (*The child bounced on the bed. / Lorena pivoted on the stool. / She had to jump back to avoid a man who tottered beneath a crate loaded with books.*). However, unlike the previous set of [–oriented] manner-of-motion verbs, these can freely occur with directional PPs as well, acquiring the [+translative] and [+oriented] features from the Path semantics of the prepositions they co-occur with (*He chinned himself up, his toes finding the space in the brickwork that allowed him to push himself upward until he could wriggle onto the tile roof. / She wobbled along the pavement in high-heeled boots.*).

Overall, the three pairs of semantic features derived from Cummins’ work (1996) provide a way in which the subclasses of manner-of-motion verbs can be grouped together from a semantic point of view that correlates with their syntactic behaviour, i.e. their co-occurrence with directional phrases in Goal of Motion structures.

Thus, most translative, non-directional *run* and *roll* verbs that are [+oriented] or underspecified for this feature can freely participate in the Goal of Motion construction, combining with a wide range of directional PPs as a result of the fact that their meanings do not entail any particular direction of motion:

- (9)
- a. The wounded man **crawled** to the phone.
 - b. The cat **scampered** to the kitchen garden...
 - c. ...the bandy-legged man **loped** up the front steps and opened the massive door.
 - d. Several does **ambled** out from the treeline on the far side to drink as well.
 - e. Reaching the bottom of the stairs, Helena **glided** to a side table near the door.

Roll and *run* verbs that are [–translative] and [–oriented] (*wriggle, wobble, stumble, teeter*, etc.) can become [+translative] and [+oriented] if accompanied by a directional PP:

- (10)
- a. The eel **wriggled** out of my fingers.
 - b. Charles **teetered** into a potted fern on a pedestal.
 - c. Michael [...] sent the older man **stumbling** into the unlit fireplace.
 - d. The phaeton **swayed** around a corner.

Run verbs that are [+translative], but [–oriented] (*cavort, frolic, gallivant, gambol, perambulate, prowl, ramble, roam, rove, romp, stroll, traipse, wander*, etc.) will generally resist participation in the Goal of Motion construction, and will typically combine with dynamic Locatives:

- (11) a. Several wolves **prowled** round /*to the camp, but were kept at bay by the fire.
 b. Grant rose to his feet and **roamed** around /*into the parlor.
 c. ...young ladies did not **cavort** around /*across the estate with male friends, no matter how trustworthy they might be...

Finally, *run* verbs that are [+directional] and [+translative] (*bound, bowl, careen, career, clump, creep, dart, file, flounce, hasten, hurtle, inch, journey, lumber, mosey, nip, pad, sashay, saunter, sneak, step, stump*, etc.) will always require directional PPs, as in (12a-c), be they telic or atelic, and will neither occur in isolation – see (12d, e) nor combine with Locatives – see (12f, g):

- (12) a. He **bowled** [down the highway]_{UNBOUNDED PATH} on his motorcycle.
 b. Catherine **hastened** [along the stony path]_{UNBOUNDED PATH-}
 c. They **inched** [toward the light]_{UNREACHED GOAL_s} and saw a door set in the stone wall.
 d. She [...] **sashayed** *[out of the library], closing the door behind her.
 e. She **flounced** *[out of the room], swearing loudly.
 f. *She **hastened** [in the park]_{LOCATIVE}
 g. *They **inched** [in the room]_{LOCATIVE-}

The obligatory presence of the directional PP brings these verbs closer to the verbs of inherently directed motion, which I have shown to presuppose or require such phrases. In particular, they resemble the small class of inherently directed motion verbs whose meanings also contain a Manner component (*forge, plummet, slump, swoop, plunge*, etc.), though they differ from the latter in that they do not express a particular direction of motion (i.e. forward/downward). This means that, unlike verbs of inherently directed motion, which I have shown to select a particular type of Path phrase, these manner-of-motion verbs are not picky in their choice of directional PPs.

In conclusion, manner-of-motion verbs do not all freely participate in the Goal of Motion construction. While most do so, there are subclasses that either require the presence of a directional phrase, and, as a result, always express directed motion, or (generally) resist participation in the Goal of Motion construction, hence they do not express directed motion.

4. Motion verbs in English and the Directionality Squish

So far I have shown that, while verbs of inherently directed motion always entails a direction of motion and, as a result, select a directional phrase overtly/covertly, manner-of-motion verbs vary in their ability to express directed motion. While most of them freely participate in the Goal of Motion construction (*run, walk, swim, dance, fly*, etc.), some obligatorily select a directional phrase (*barge, bound, careen, career, inch, sashay, step, pad*, etc.), and others generally resist combination with directional PPs (*cavort, gambol, galloway, roam, rove, wander, prowl*, etc.). In addition, not all verbs of

inherently directed motion are “pure” in the sense that their meaning includes only a Path component. I have shown that verbs like *forge*, *plunge*, *plummet*, *swoop*, etc. also contain a Manner component, which is nevertheless backgrounded, i.e. it is the Path component that dominates the syntactic behaviour of these verbs, which select directional, not locative phrases.

Overall, what the data investigated in the previous sections indicates is that some motion verbs in English display mixed properties of both inherently directed motion verbs and manner-of-motion verbs: some verbs include both Path and Manner in their semantic make-up, some may occur with both locative and directional phrases, while others occur only with directional or locative phrases.

To accommodate the fact that motion verbs in English do not group into discrete classes, but rather into fuzzy sets with respect to their potential for the expression of directed motion, in Table 1 below I put forth a hierarchy of these verbs, which I call the **Directionality Squish**. The criteria I employ in order to distinguish among the various classes of motion verbs is both semantic and syntactic in nature: the presence of a Path and/or Manner component in the meaning of these verbs, the type of argument that functions as Subject (Agent/Theme), and their ability to occur with directional and/or locative phrases.

Table 1. The Directionality Squish

	Path component	Directional PP	Subject – Theme	Manner component	Locative PP	Subject - Agent
A. <i>arrive, depart, fall, return, proceed, advance, head</i>	Yes	Yes	Yes	No	No	No
B. <i>forge, plummet, climb, swoop, lunge, slump</i>	Yes	Yes	Yes	Yes	No	No
C. <i>creep, sneak, dart, inch, sashay, saunter, stump</i>	?No	Yes	Yes	Yes	No	No
D. <i>walk, run, swim, fly, march, jump, dance</i>	No	Yes	Yes	Yes	Yes	Yes
E. <i>cavort, prowl, roam, ramble, mill, gambol, traipse</i>	No	No	No	Yes	Yes	Yes

A few remarks are in order here. The verbs in Group A (*arrive, depart, return, proceed, advance, head*) and those in Group E (*cavort, drift, wander, prowl, roam, ramble, mill*) represent the two poles of my hierarchy, illustrating pure/prototypical inherently directed motion verbs and pure/prototypical manner-of-motion verbs, respectively. Pure inherently directed motion verbs have only Path in their meaning, combine only with directional phrases³ and take a Theme Subject (*Kettricken threaded them* [i.e. the fish] *onto a willow stick and we returned to/ *at the camp.*). In contrast, pure manner-of-motion verbs denote only Manner, combine only with dynamic locative expressions by virtue of their meaning (they denote random motion of an entity over a particular area/at a particular location) and their Subject is interpreted as Agent (*Several wolves prowled round / *to the camp, but were kept at bay by the fire.*).

Unlike *arrive, depart, fall, return*, which may express PATH overtly or covertly (*He arrived (at the office) late in the afternoon.*), *proceed, advance, head* must combine with an overtly expressed directional PP (*He lifted the torch and headed *(down the tunnel) again...*). Irrespective of the overt/covert PP difference, in the framework I adopt here (Zubizarreta and Oh 2007) all the verbs in Group A cluster together by virtue of the fact that they each project a dynamic unaccusative I-syntactic structure – [VP DP [V [P [P [DP]]]]] – in which the Theme argument in the Specifier of V is forced by the unsaturated nature of the PP complement of the verbal head⁴ (see also section 5).

The verbs in Group B (*forge, plummet, climb, swoop, lunge, slump*) have all the properties of pure inherently directed motion verbs ([+Path component], [+directional PP], [+Theme Subject]), but their meanings also include a Manner dimension. Nevertheless, they classify as verbs of inherently directed motion because Path is the dominating component: these verbs always express movement to/towards a Goal, hence they select directional PPs and cannot occur with locative phrases (**He forged in the park. / *The bird swooped in the air.*).

Creep, sneak, dart, inch, sashay, saunter, stump in Group C are similar to the verbs in the previous set in so far as they describe the manner of motion, obligatorily select a directional PP, and never combine with locative phrases. However, while they require a directional phrase, they differ from the latter set in that they do not denote a particular direction of motion, hence the question mark in the “Path component” slot. While *forge, lunge, swoop, slump* are unidirectional, i.e. they incorporate a Path component (*forge* and *lunge* express forward motion and *swoop* and *slump* – downward motion), the verbs in Group C combine with all manner of Path phrases. For instance, a thief can creep out of a house, into the cellar, along a fence, across a yard, down into the basement, up the stairs, back into the building, etc. From this point of view, Group C resembles the verbs in the following set (*run, walk, swim, jump*, etc.), which also occur with a wide range of directional PPs given that their meanings do not entail a particular direction of motion. On the other hand, unlike the verbs in the next set, *creep, sneak, dart*, etc. do not combine with Locative PPs (**He crept/sneaked/darted in the room.*).

³ When verbs of inherently directed motion combine with what appears to be a Locative PP (*He arrived at the office late in the afternoon.*), in fact, the complex Path PP typical of change-of-location verbs, which consists of a Path-denoting P that takes a locative P as its complement, overtly expresses only the embedded P.

⁴ Prepositions express interrelations and as such, they are unsaturated predicates which need to be predicated of some entity – the Theme argument.

The items in Group D (*walk, run, swim, fly, march, jump, dance*) are the manner-of-motion verbs with variable behaviour typically discussed in connection with the Goal of Motion construction. They are mainly unergative verbs with a Manner component and an Agent as Subject, which may occur with locative phrases (*He walked in the park for two hours. / He swam in the lake for a while.*), or may freely participate in the expression of Goal of Motion, in which case they combine with directional phrases (*He walked to the park in ten minutes. / He swam back to the boat in a hurry.*), and “acquire” unaccusative properties (their Subject is interpreted as Theme). As mentioned above, when they occur in Goal of Motion contexts, they impose no restrictions on the type of directional PP they combine with precisely because their meanings do not include a Path component.

To conclude, the Directionality Squish in Table 1 represents an attempt to sort out the variation encountered while investigating English motion verbs and their ability to express directed motion. I have developed the Directionality Squish around the notion of “directed motion”, and not that of “Goal of Motion”, which I take to be a sub-variety of the former, in so far as it also specifies the manner in which motion occurs to/towards a Goal. The picture that has emerged is one in which motion verbs in English express either directed motion (both verbs of inherently directed motion and manner-of-motion verbs) or located motion (verbs of manner of motion). Concerning strictly the expression of directed motion, the present squish captures the difference between verbs that require the presence of a PATH-denoting PP and verbs that freely combine with such directional phrases. As we will see in the final section, in the framework I adopt (Zubizarreta and Oh 2007) verbs (of inherently directed motion and manner of motion) that require the presence of a directional phrase will **instantiate** directed motion, whereas verbs (of manner of motion) that optionally combine with directional phrases will **modify** the directed motion construction.

5. Remarks on the syntactic expression of directed motion in English

In the final section of this paper I will briefly comment on a possible syntactic analysis of the directed motion/Goal of Motion structures discussed so far, which can accommodate the data in a uniform manner. In particular, I will adopt the lines of analysis put forth by Zubizarreta and Oh (2007), who draw on Hale and Keyser's theory of lexical-syntactic decomposition (see Hale and Keyser 1993 and 2002).

In a nutshell, Zubizarreta and Oh (2007) define “directed motion” as a syntactic configuration built on closed-class syntactic categories (light verbs and prepositions). Specifically, directed motion in its intransitive variant is derived by the composition of the light verb *go/come* and a complex dynamic PP, which results in an unaccusative syntactic structure of the type $[_{VP} DP [V [P [P [DP]]]]]$. In this structure, the null V projects a specifier functioning as the Subject of the structure and hosting a nominal interpreted as Theme, and selects a complex directional PP in which a PathP takes a PlaceP as its complement.

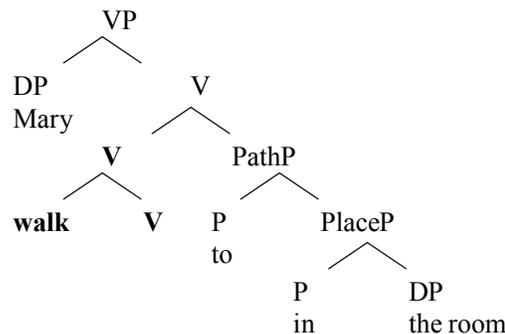
The directed motion structure can be **instantiated** by lexical verbs by virtue of their semantics, in which case there is a one-to-one correspondence between the arguments of the lexical verb and those of the directed motion structure. These verbs are

assigned lexical entries in the lexicon, which include all the relevant information: phonological and semantic features, formal features, and the unaccusative I-structure they project. They 'instantiate' the directed motion construction in so far as their I-structure is identical to the syntactic structure of the directed motion structure. This category of verbs includes all the verbs of inherently directed motion (*depart, emanate, emerge, escape, exit, flee, advance, arise, arrive, ascend, climb, collapse, descend, fall, forge, head, etc.*), as well as the manner-of-motion verbs that occur with obligatory directional phrases (*bound, bowl, careen, career, clump, creep, dart, file, flounce, flit, hasten, hurtle, inch, journey, lumber, mosey, nip, pad, sashay, saunter, etc.*).

On the other hand, the directed motion configuration can be **modified** by a lexical verb (a manner-of-motion verb or a verb of sound emission, among others), in which case it qualifies as a Goal of Motion construction. In such cases, the verb only “modifies” the structure, and some of the arguments (i.e. the directional PPs) are solely arguments of the structure, not of the lexical verb. Modification of the directed motion structure is achieved by means of a Compound Rule of the type “merge two lexical categories of the same categorial type” (Zubizarreta and Oh 2007: 45), which operates in English and other Germanic languages by virtue of the fact that these languages have productive and lexically unrestricted N-N root compounding. While in English overt V-V compounding is practically nonexistent⁵, V-V compounding occurs if one of the verbs in the combination is not a lexical item, in the sense that it lacks phonological features and has no descriptive content, and if we assume that Tense unambiguously associates with the verb that is specified with phonological features. As a result, T will have only one phonologically realized verb to attract.

This is the case in Goal of Motion constructions – see (13) below, where one V is the atelic unergative manner-of-motion verb (endowed with phonological and semantic features) and the other is the null V *go/come*, which is not a lexical item listed in the lexicon and as such lacks phonological features. Consequently, Tense will attract the manner-of-motion verb.

(13) Mary walked into the room.



⁵ This is because in simple tenses, verbs in English and other Germanic languages associate with the functional category T in the absence of the auxiliary *do* and consequently, a V-V compound would create an ambiguity with respect to attraction by T, given that both verbs are equidistant from Tense.

Thus, the Goal of Motion construction in (13) above is generated via the syntactic Compound Rule according to which the manner-of-motion verb *walk* is allowed to merge with the phonologically empty verb of the directed motion structure, creating a verbal compound [*walk* V]. After *walk* merges with the null V, the newly formed compound can function as the head of the directed motion construction.

The two main classes of verbs that freely form Goal of Motion are the manner-of-motion verbs (specifically, the class of unergative *run* verbs (*amble, bolt, bustle, canter, charge, clamber, climb, crawl, dance, dodder, dodge, flow, fly, gallop, hike, hobble, hop, hurry, jog, jump, leap, limp, loiter, lollop, lope, march, mince, paddle, plod, race, run, rush, scud, scurry, scuttle, etc.*), and the verbs of sound emission, which I have not discussed here for lack of space (*clash, clatter, click, clunk, creak, rattle, roar, rumble, swish, thud, thunder, wheeze, whistle, whoosh, etc.*). Roll verbs (*roll, bounce, float, swing, spin, etc.*) alternate between an unergative use (when they express non-translative movement, i.e. movement in place) and an unaccusative use (when they express translative movement), in which case they actually select a directional PP. This means that they themselves project an unaccusative directed motion structure, hence they get to **instantiate** directed motion.

6. Conclusions

Based on a close investigation of the syntactic and semantic properties of the various subclasses of motion verbs in English and their ability to express directed motion/Goal of Motion, I have shown that verbs of inherently directed motion and manner-of-motion verbs do not classify into two semantically discrete classes, and that manner-of-motion verbs do not all freely participate in the Goal of Motion construction. Instead, I have suggested that motion verbs in English can be integrated into a Directionality Squish in as far as they form a continuum alongside which some verbs always/never express directed motion, while others may do so under specific circumstances (when they participate in Goal of Motion constructions). I have also suggested that the variation in the data can be syntactically captured by assuming the existence of a syntactically derived directed motion configuration (as put forth by Zubizarreta and Oh 2007) which can be either instantiated by verbs that lexicalize Path and/or c-select directional phrases or modified by atelic unergative manner-of-motion verbs, resulting in the Goal of Motion construction.

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