Towards a Typology of Situations and Verbs Involving Motion

Abstract

The paper argues for an experientially founded situation typology that can be used as a frame of reference for defining and specifying how languages express motion and related semantic information. It is based on first-order perception, on the one hand, and cognitive generalizations of perceptual stimuli, on the other. Human beings experience situations primarily by receiving pictures with various figure-ground constellations. States and activities are simple situations, because they are captured in one single picture, be it stable (state) or unstable (activity). Processes and events are complex situations composed of simple ones: an activity and a state related to one another by the relational concepts *purpose* and *causation*, respectively. In opposition to situation typology, verb typology must include two representational levels: 1) a level with experiential structures, i.e. an image level where it is possible to differentiate stable vs. unstable pictures and simple vs. complex situations; and 2) a level with conceptual structures, i.e. a propositional level where various pictures and their figure-ground constellations are interpreted. The proposed framework makes it possible to distinguish motion events from motion in a wider sense and to give a precise and coherent interpretation of Talmy's variables *Figure*, *Ground*, *Manner* and *Path*. The final result provides a basis for describing and explaining not only already observed differences between languages, but also differences that have been left unnoticed.

1. Background, aims, and scope

Motion event research has grown into a well-established and highly productive discipline. Its theoretical cornerstone is the classic study of Talmy (1985; for further refinements, see 2000: 25ff.) supplemented by works of primarily Slobin (e.g. 1996a/b; 2004a/b), but also by others (for an overview, see Mora Gutiérrez 2001). The basic assumption is the following. Whereas people's conceptualisation of the present semantic domain is likely to be universal, the ways of lexicalizing and verbalizing particular cognitive structures are different across languages, but they can be systematized. It is assumed that most languages fit into one of the two following typological categories:

- **Manner languages** / **satellite-framed languages**, e.g., Danish, Swedish, English, German, Russian, Chinese, where the Manner of motion is obligatorily lexicalized in the verb roots, while the direction or Path of motion can be explicated when required through the addition of a *satellite* in the shape of a particle (preposition/adverb) or a prefix, thus forming a complex (as for particles: a phrasal) lexeme, e.g., Eng. *roll, fly, walk* + *down*, *off*, etc.

- **Path languages** / **verb-framed languages**, e.g., French, Italian, Spanish, Modern Greek, Turkish, Japanese, where the verb roots lexicalize *either* Manner *or* Path, e.g., Fr. *courir* 'run' vs. *entrer* 'enter', but only Path verbs conflate motion with change of location in terms of "going from L1 to L2", leaving Manner to be explicated elsewhere in the sentence structure, e.g., Fr. *à pied*, *en avion*, *en courant*, if at all.

A number of sub-issues have been subject to more detailed investigation, including (a) the exact place of particular languages in the dichotomous typology, the validity of which is questioned by some authors (e.g., Zlatev & Yangklang 2004; Zlatev & David 2004; Berthele

2004; Ibarretxe Antuñano 2004; Fong & Poulin 1998; Smith 2006, 2003; Ozol 2004); (b) the possible impact of cross-linguistic typological differences on non-linguistic thinking and problem solving (e.g., Pourcel 2005; Papafragou et al. 2002; Gennari et al. 2002; Herslund & Baron 2003; Slobin 1996b); (c) the impact of communicative settings, rhetorical norms, etc. on the speaker's actual choice among the options offered by any given language (e.g., Strömquist & Verhoeven 2004; Berman & Slobin 1994; Korzen 2005); and (d) the actual consequences of the typological differences for cross-linguistic communication and translation (e.g., Rojo & Valenzuela 2001; Slobin 2004b and 1996a, Willemoes 2008, and Vovk 2008).

Despite the overwhelming amount of specific works within motion event research and despite the seemingly growing awareness of the need for a more diverse and less schematic approach to the Talmy-Slobin framework, the core assumptions and variables of the framework itself still stand. We will argue that

- We need a **typology of situations** that is founded on experiential structures and not on time notions (for some examples, see Vendler 1967, Langacker 1991 and Lyons 1977) which do not seem to play any substantial role in motion event semantics. The typology should be able to differentiate moving, e.g., waving with one's hand, from simple motion, e.g., moving in a certain direction or in various directions within the limits of one location, on the one hand, and these two from complex motion, e.g,, going from one location to another, on the other. The latter form of motion is often referred to as "motion events", "translocation", "directed motion" or translational motion", and the corresponding verbs are called "directed motion verbs", "change-of-location verbs", etc. There seems to be a sort of terminological confusion which not only blocks understanding, but also mutual understanding.

- We need a **classification of verbs** that explicitly involves two distinct, but interrelated levels, i.e. an experiential level consisting of images that is paired to a conceptual level consisting of propositions. At the experiential level we have various images where perceptual notions such as Figure, Ground, Manner and Path would immediately seem to be located – all intuitively attractive, but perhaps to vaguely defined and too broadly understood, because it is so obvious that things can "move in different ways" and/or "go in different directions". At the conceptual level we have various propositional structures that describe different types of images/situations, e.g., simple motions and complex motions. The conceptual level allows us to detect and describe differences between languages that refer to the same simple or complex situation, but have interpreted them differently, including figure-ground constellations and Manner and Path of different motions. The result is that languages may name the same components, but may specify them in different ways, e.g., Eng. *Walk into a room*, Fr. *Entrer dans la chamber*, Rus. *Vojti/vxodit' v komnatu*.

- We need a **typology of verbs** that runs across the established classes of verbs – it is obvious that eng. *have*, *administer* and *give* represent different verb classes, but all three verbs do also have something in common, i.e. they all involve "possession". In that way they are possession-based verbs. In the same way it is obvious that Rus. *stojat'* 'stand', *idti/xodit'* 'walk' and *ujti/uxodi'* 'leave by walking' are manifestations of different verb classes, but it is also evident that they all involve the position [+vertical]. In that way they are position-based verbs. This kind of typology is needed, because it turns out that if a language focuses on the concrete notion of position or on

the abstract notion of existence, it will do it at every possible place with the consequence that all verb classes are affected.

- We need a sharp distinction between lexicon and grammar, on the one hand, where situations that are named in the same way may be presented in various ways, e.g., *walking into the room* vs. *walked into the room*, and between grammar and what is often referred to as text grammar, on the other hand, where larger pieces of reality are cut into pieces, and often into different pieces by different languages. What appears to be treated as one single action in one language, may be treated as a multiple actions in another.

As a basis for further analysis we will make the following assumptions where at least the first two are also an integral part of Talmy's approach. It is assumed (a) that the semantic modelling required here must incorporate insights gained on pre-linguistic visual cognition, (b) that figure/ground segmentation is a key variable in humans' perception and conceptualisation of the real-world situations of interest, and (c) that all motion detection relies on some form of delay-and-compare processing, i.e. the comparison of contradictive visual information over time (see e.g., Rasche 2005; Borst 2000; Zacks & Tversky 2001).

Much seems to suggest that the delay-and-compare processing can be performed on two distinct cognitive levels and that "motion" is hence two very different things from a cognitive viewpoint. In a study by Blaser & Sperling (2008), the term Perceptual (or Visual) Motion is suggested for motion detected through first-order processing of immediate visual stimuli partly based on "build in" neural hardware, whereas the term Conceptual Motion is suggested for motion detected through higher-order processing relying on general-purpose cognitive systems which does not necessarily involve any immediate visual stimuli at all (a "simulation" if you will of the first-order visual motion computations). Thus, seeing Mary waving her hand, thereby producing altering visual stimuli on your retina, is one kind of motion detection. Seeing (or being told) that Mary is sitting in your office which was empty when you left 2 minutes ago is a completely different kind of motion detection. If you conclude that she must have walked into your office while you were away it has nothing to do with you seeing her walking (or running, or crawling, etc.) at all. As we will soon see, Perceptual Motion will correspond to what we call activities with Manner of motion as the salient feature, whereas Conceptual Motion will correspond to what we call actions. Further arguments for identifying two distinct levels of processing, which are most probably performed in different functional systems of the human brain, are offered by Dodge & Lakoff (2005).

2. Situation typology
2.0 Simple and complex situations
In the situation and verb typology to be presented below we take our starting point in the notion of picture being the perceptual equivalent to the notion of situation. Vision is fundamental to human language, but, in principle, all senses perform the same function, viz. to act as a mediating link between reality and mind. Situations in reality are received by human beings in the shape of pictures, and thoughts (mental propositions) are derived from the received pictures. The visual sense plays a crucial role, because our eyes put a structured form upon a substance by framing reality into different wholes and by foregrounding and backgrounding elements. Various pictures correspond to various situations and differently structured pictures correspond to differently structured situations.

Situations are classified into **simple situations** and **complex situations**. Simple situations are **states** and **activities** − both are identified and kept apart from one another by

human beings by means of perception: states evoke **stable pictures** while activities evoke **unstable pictures** on the perceptual screen. Complex situations or actions are fundamentally different from simple situations, although they can be said to consist of an activity as well as a state, i.e. simple situations. We find state situations (e.g., a person who is sitting on a chair) and activity situations (e.g., a person who is jumping) in reality, but we find no genuine action in reality, i.e., there is no practically possible world where the activity situation involved in the action of going from L1 to L2, for instance, obtains at the same time as the state situation of that action: either the activity situation obtains (where X is moving from L1 in order to obtain L2 at a later moment) or the state situation obtains (where X is at L2 because of X's past activity). Hence it follows that **an action is a construct**, i.e. the concept has no single original in reality − unlike the concepts of states and activities, which do. An action, however, manifests itself either as a state situation caused by a prior activity, i.e. as an **event** in our terminology, or as an activity situation conceived to be intended to cause a future state, i.e. as a **process** in our terminology. When one identifies an event, one does it against the background of a stable picture, but when one identifies a process, one does it against the background of an unstable picture. In that way one can argue that from a perceptual point of view there are only simple situations, i.e. states and activities. Events and processes become only part of our reality, when we have applied the corresponding mental models. The concept of action is a collective concept of events and processes − just as the concept of human being is a collective concept of men/boys and women/girls. You will never find a human being in reality, only manifestations, namely a man or a woman, or a boy or a girl (for further discussion, see Durst-Andersen 1992, 2000 and 2002; Smith 2005).

2.1 When people look at stable and unstable pictures

Although the structure of a picture itself is determined by physiological facts about the sense of vision − something will be in focus corresponding to what has attracted one's attention, while something else will be in the periphery – new research from eye-track studies demonstrate that different people start looking at one and the same stable picture at different places and do that in a systematic and predictable way (cf. Nisbett et al. 2001 and Nisbett 2003). American students start looking at the figure, whereas Chinese students start looking at the ground. If this is true, it could also mean that people speaking American English and Chinese may describe what they see in different ways. Due to the fact that the cultural differences found in perception are shown to have a dramatic, but foreseen effect on American and Chinese students' processing of absolute and relative tasks (cf. Hedden et al. 2008), we shall hypothesize that they have different perception strategies and − as a consequence of that − also different lexicalization patterns and different gestures for motion events (for experimental data, see Zheng and Goldin-Meadow 2002).

It appears that if one looks at an unstable picture portraying an activity where somebody, X, is carrying a bag, Y, there are two figures and two grounds. From one perspective, we see the Actor, X, as figure and L as ground; from another perspective we see the bag, Y, as figure and the Actor, X, as ground. We shall call the Actor, X, the **primary figure** and the bag, Y, the **secondary figure**, and in the same way L the primary ground and X the secondary ground. There is an important choice to be made: either a language has to take its starting point in the primary figure or in the secondary figure and relate them to their respective grounds. It is impossible to have two starting points and they exclude one another – when you have chosen a starting point, the alternative one automatically disappears (cf. Durst-Andersen 2006). All this points to the conclusion that different languages may "view" situations in different ways, although at first sight they seem to be named by semantically identical items – this concerns, for instance, English, French and Russian. We shall return to this below.

2.2 Three important distinctions

Languages may also relate differently to the three distinctions implied by the proposed ontology of situations:

- **the activity vs. state distinction** within simple situations (non-actions) corresponding to a distinction between unstable and stable pictures; and
- **the event vs. process distinction** within complex situations (actions) corresponding to a distinction between a mental model events involving **causation** (a state caused by an activity) a mental model of processes involving **purpose** (an activity intending to cause a state).
- **the simple vs. complex distinction** corresponding to a distinction between one picture, i.e. one situation (a non-action), on the one hand, and two pictures, i.e. two situations (an action), on the other.

The three distinctions play a role in natural languages, but not the same in all languages. Moreover, they need not operate at one level, but may operate at various linguistic levels at the same time. Let us give some concrete example. The activity vs. state distinction as well as the event vs. process distinction are responsible for different syntactic types of languages – active languages are founded on the activity vs. state distinction and therefore distinguish active and stative constructions; ergative languages are grounded on the event vs. process distinction and therefore distinguish event and process constructions (for further details, see Durst-Andersen 1992 and 2002), but they are also responsible for different aspectual systems – the English progressive vs. non-progressive distinction is based on the activity vs. state distinction which appears very clearly from first language acquisition; the Russian perfective vs. imperfective distinction goes back to the event vs. process distinction (for further details, see Durst-Andersen 2000). The distinction pups up at these two places, because syntactic structures represent structures of reality and aspect is used to refer to situations of reality. The simple vs. complex distinction is even more important. First, at the syntactic level it equals the distinction between intransitive and transitive verbs – a simplex-verb and intransitive verb like Da. *arbejde* 'work' will automatically become a complex-verb, if a prefix is added, e.g., *udarbejde* 'develop, create', but simultaneously a transitive verb. Secondly, what is called purely aspectual pairs in Russian and other Slavic languages are restricted to complex-verbs, whereas so-called procedurals or Aktionsart verbs are solely found in simplex-verbs (cf. Durst-Andersen 1992). Thirdly, the same distinction is also responsible for the meaning split in the French *passé simple* between "an action viewed in its totality" (i.e. two situations viewed as one) and what is called *inchoative meaning* (see Durst-Andersen 2008). In other words, it would be strange, if verbs involving motion in different languages were not influenced by these distinctions.

3. Verb classification

It appears that Russian has names for all four types in the lexicon, e.g. *stojat'* 'stand' (state); *idti/xodit'* 'walk' (activity); *uxodit'* (ipf) 'to be leaving by walking' (process); and *ujti* (pf) 'to have left by walking' (event), while other languages such as English and Danish distinguish sharply between states (*stand, stå*) and activities (*walk, gå*) within simple situations, but use activity verbs, e.g. *walk* and *gå*, to derive (phrasal) complex verbs, i.e. verbs that name complex situations, e.g. Eng. *walk to the station* and Da. *gå til stationen*. Due to the fact that *uxodit'* 'to be leaving by walking' (process); and *ujti* 'to have left by walking' (event) are two grammatical forms of the same lexeme and thus constitute a pair that cannot be separated in a dictionary, we should not treat them as belonging to different verb classes, but to one and the same class: they both name an action, i.e. a complex situation, but present the action as an event (the perfective aspect) and as a process (the imperfective aspect), respectively. In short, the verbal lexicon of languages seems to reduce the four situation types, viz. states, activities,

events and processes, to three verb classes, viz. state verbs, activity verbs and action verbs, leaving the event vs. process distinction to grammar, i.e. to the category of aspect (as in Russian, Chinese, English, Hindi, Turkish, etc.) or to various syntactic structures having the same effect (as in Danish or in Swedish). This is crucial, because when a verbal lexeme has to name an action, i.e. an activity related to a state by telicity, which is the collective concept of processes and events, there are a lot of possible starting points, viz. the state itself with its figure-ground constellation and the activity with its two different figure-ground-constellations. Chinese and similar languages have decided to name the activity as well as the state by having so-called serial verb constructions, but not all languages are so clear in their semiotic treatment.

3.1 State verbs
3.1.0 Defining and limiting them
All state verbs (e.g., *be, have, sit, lie, hang, stand, relate, correspond,* etc.) are used to name a single situation which involves no activity, i.e. a state corresponding to a stable picture. All state verbs name a state by creating a **ground-proposition** based on a state description, which is paired to a **ground-situation** based on a stable image. The image-idea combination comprises a verb model of states. We shall use types for different kinds of state relations (i.e. location, possession, experience, and qualification). These classifiers constitute types of the class of state verbs. The verb *lie* is a location-based state verb, but actually a subtype because it describes a position, in casu the horizontal position. A verb like *stand* will belong to the same subtype, but will involve a vertical position, whereas a verb like *have* will be a possession-based state verb, *see* an experience-based state verb and *fear* a qualification-based verb.

3.1.1 Three possible foci
It appears that many languages dispose of the same verbs, for instance, Russian, Danish and English, which means, for instance, that the verb model of a position verb in one language is identical to that of another language. This yields a big problem, for how can we explain that Russians say *Magazin stoit v uglu* '(lit.) The shop stands at the corner', Danes says *Forretningen ligger på hjørnet* '(lit.) The shop lies at the corner' and Englishmen say *The shop is at the corner* – it seems to be a mystery. The four position verbs of the three languages are defined in the same way, but, nevertheless, they are used quite differently. The point is that Russian-speaking people, Danish-speaking people and English-speaking people have different **perception strategies**, i.e. they look differently at one and the same picture. This difference is closely related to different **naming strategies**. If all this is transformed into propositional-semantic terms, we get the following:

<div align="center">

X's   MODE OF   EXISTENCE   ON A LOCATION

RUSSIAN   ENGLISH   DANISH

</div>

Viewed from this point of view, it appears that Russian focuses on what we call *mode of existence* (be it vertical, horizontal or a mixture of them both), that English focuses on the notion of existence as such, and that Danish focuses on the notion of location. We deliberately use the term "to focus", because all three languages create a ground-proposition, where X has a certain mode of existence on a certain location, but they, each in its own way, focus on a specific part of the ground-propositional structure leaving the other parts as presupposed entities. Notice that there are only three possible foci. It turns out that English is a language with focus on Existence, whereas Russian and Danish have focus on position. This means that English prefers an existence verb to a position verb, while Russian and Danish prefer a position verb to an existence verb, but – as already

indicated above – their first choice is different: Russian people choose 'stand', while Danish people choose 'lie' in unmarked cases. All this is explained by the fact that when naming a stable situation Russian takes its starting point in the figure, Danish takes its starting point in the ground, and English seems to take its starting point the interrelationship between figure and ground which is always existential (for further examples and discussion, see Durst-Andersen 2006 and 2008). While the three perception strategies are image-oriented, the three naming strategies are idea-oriented. We shall argue that three different perception strategies have resulted in three different naming strategies, but we realize that the possibility exists for exactly the opposite conclusion. Only experimental studies with Russians and Danes can give us an answer to that.

However, one thing is clear: a Russian child, a Danish child or an American/English speaking child all learn the same four position verbs in their respective language, but when learning to speak their mother tongue in a way that is shared by all members of their respective speech community they have to identify and assimilate how others belonging to the same community describe situations. If there is a mismatch between the child's and the adults' description, the child has to accommodate to the norm of that society. But in order to do so he has to find out what caused the mismatch. Only one explanation is possible: he did not look at the picture being received from a situation in reality in the right way. Therefore the child has to accommodate to the perception strategy agreed upon in the given community. He may speak ungrammatically, but society will force him or her to speak in an acceptable way for the community. This does not only require the right way to describe it, but certainly also that perception strategy that gives the right description.

3.1.2 Two important subgroups of location-based state verbs

We shall distinguish between two subgroups of state verbs based on location, viz. *location verbs* proper that involve an entity's mere existence on a specific ground and *position verbs* that involve an entity's specific position in relation to a certain ground, be it a vertical, horizontal or a combination of them. These two subgroups are important, because – so it seems – a language has to make a choice between them: either a language has focus on existence, e.g., English, French, Spanish, Italian, etc. or on position, e.g., Russian, Chinese, Danish, Dutch, etc. (for descriptions of various languages, see Newman 2002). And this choice will not – so it seems – be restricted to state verbs alone: it will be a choice that determines how a language looks upon activities and actions, too, because a state forms an essential part in activities as well as in actions (for further details, see below).

3.2 Activity verbs
3.2.0 Defining and limiting them

All activity verbs (e.g., *carry, drive, walk, swim, beat, creep, crawl, cry, play, work*, etc.) are used to name a single situation which involves activity corresponding to an unstable picture. Activity verbs name activities by creating a ground-proposition based on an activity description, which is paired to a ground-situation based on an unstable image. The image-idea combination comprises a verb model of activities. It appears, however, that all activity verbs involve an underlying state description – in the case of *creep* a description which says that a certain person or animal is in a lying or flat position. We realize that all activity verbs **logically entail** a certain state description, be it a description of location, possession, experience, or qualification. This is the main reason why it does not make sense to call activity verbs "nonstatives"– as a matter of fact, they are stative in the sense that an activity verb is a made up of certain state verb component plus a specific activity description. The entailment of such a description explains the fact that a person or an animal could not be creeping without being in a lying or flat position. The lying position thus constitutes the necessary, although not the sufficient condition for *creeping* to be true. We shall call this important state description the **entailment structure** of activity verbs (and action verbs, for that matter, because they also involve an activity description)**.** The activity

verb *creep* involves a single ground-situation, which is unstable, and a ground-proposition which describes the unstable element, i.e. that a certain person is doing something at a certain Location (i.e. producing an activity) while being in a horizontal position (corresponding to the entailment structure). The verb *creep* is thus a position-based activity verb or the activity equivalent to the position verb *lie*. It is crucial to note that if one attach a preposition to an activity verb in English, e.g., *creep into*, or a particle, e.g., *carry out*, they will go from being a simplex verb to a complex verb, i.e. they will automatically name an action, where the preposition/phrasal part will be an index of the existence of an autonomous state, e.g., "creeping activity" + "existence on a specific Location" and "carrying activity" + "existence on world-location". In other words, *He carried a plan* will involve an activity description and the non-progressive aspect will present the activity referred to as a characterization of the Actor, whereas *He carried out a plan* will involve an action description consisting of an activity description as well as a state description and the simple past form will present the event referred to as a flash-back, i.e. as a motion picture where the activity and the state are melted together.

3.2.1 Two types of figure − two types of manner
The distinction between what we call the ground-situational level, the image level of a verbal lexeme, and the ground-propositional level, i.e. the conceptual level of the same lexeme, allows us to operate far more specifically. It gives us the possibility to detect unnoticed, but crucial differences between languages that are usually described as belonging to the same type, for instance, English and Russian. Let us take a concrete example. The Eng. utterance, *X is carrying Y, a bag*, denotes an activity and involves therefore – so it seems – an activity descriptions alone. The utterance should, however, be understood as 1) a simple experiential structure where we have one single unstable picture involving two different types of figures, viz. The **primary figure**, X, and the **secondary figure**, Y, and as 2) a complex conceptual structure, where we have an activity description, "X is producing an activity while being at a certain Location", as well as a state description, "Y is sitting or hanging with X". Both descriptions must be there, because Y's position on X is a necessary condition for X's producing a carrying-motion. If this state description is not true, the activity description cannot be true. In short, the activity entails a certain state corresponding to Y's, i.e. the Undergoer's position on X, i.e. the Actor. This enables to describe and explain important differences between languages that specify X's activities, such as English, and languages that specify Y's position, such as Russian. In other words, what we saw when examining state verbs repeats itself here: Russian is interested in Y's, i.e. the secondary figure's position in relation to X, i.e. the secondary ground, whereas English is focused on the activity produced by X. In other words, viewed from this perspective English and Russian belong to two different worlds and should not be classified in the same way, i.e. as Manner languages. The notion *Manner* turns out to be ambiguous – either it refers to the secondary figure's or Undergoer's position in relation to the secondary ground, i.e. to Y's manner of existence, or it refers to the primary figure's or Actor's specific way of performing an activity, i.e. to X's manner of producing the activity. It is extremely important to differentiate between these two understandings that at the level of images look alike, but at the level of ideas are different: 1) **Manner of existence** is equivalent to position which is part of something static, i.e. the position of the secondary figure remains the same during the activity; 2) **Manner of activity** is equivalent to the way or ways the primary figure is moving or producing the activity including the required means to produce it – in short, it is something dynamic that changes during the Actor's performing his activity. We conclude that Talmy's notion of manner should be split up in these two distinct understandings that correspond to two different types of figures. In the same way, we conclude that so-called *manner languages* cover two very distinct groups that ought to be separated.

3.2.2 Automotives and locomotives

In order to be able to differentiate location-based activity verbs, e.g., *work, iron, wave, clap, hop,* etc. and position-based activity verbs, e.g., *carry, drive, walk, swim, creep, crawl, fly, roll, pull, etc.*, we shall call them **movement verbs** and **simple motion verbs**, respectively. Only the last mentioned of the two subgroups of activity verbs seem to be of special interest to motion event research. Simple motion verbs may be further divided into **automotives** and **locomotives**. Automotives, e.g., *walk, run, swim, fly, creep, crawl* and *climb*, are characterized as a motion, where Actor, i.e. the primary figure, is identical to Undergoer, i.e. the secondary figure who has a certain position in relation to the ground, be it vertical, horizontal or a combination of them. Locomotives, e.g., *lead, chase, carry, bring, roll, push, pull* and *drag*, are characterized as a motion, where Actor, i.e. the primary figure, is not identical to Undergoer, i.e. the secondary figure who has a certain position in relation to the ground, be it vertical, horizontal or a combination of them. In the overwhelming majority of languages the semantic distinction made here corresponds syntactically to intransitive and transitive verbs. This also applies to Russian, where position-based activity verbs form a closed group of 13 imperfective verbs with a sub-aspectual distinction corresponding to the progressive vs. non-progressive aspect in English (cf. Durst-Andersen 1997):

Intransitive motion verbs – Automotives
- While X is standing, X produces a [±intense] activity: *idti/xodit'* 'walk'; *bežat'/begat'* 'run'.
- While X is lying, X produces a [±intense] activity: *polzti/polzat'* 'creep, crawl' (on the ground); *plyt'/plavat'* 'swim' (in the water); *letet'/letat'* 'fly' (in the air).
- While X is hanging/sitting, X produces a [±intense] activity: *lezt'/lazit'* 'climb, crawl'; *exat'/ezdit'* 'go, drive'.

Transitive motion verbs – Locomotives
- While Y is standing/walking/running, X produces a [±intense] activity: *vesti/vodit'* 'lead, take'; *gnat'/gonjat'* 'chase, hunt (forward)'.
- While Y is lying, X produces a [±intense] activity: *katit'/katat'* 'rowl, wheel'; *taščit'/taskat'* 'pull, drag'.
- While Y is sitting/hanging, X produces a [±intense] activity: *nesti/nosit'* 'carry'; *vezti/vozit'* 'cart, convey, take'.

From this we conclude that the description of the secondary figure's position takes a fundamental part in the lexicalization patterns of Russian motion verbs, whereas the description of the primary figure only takes a small part in it by marking the activity either [+intensive] or [-intensive]. If we do that, we are at the same time capable of explaining what nobody has succeeded in doing so far, namely why Russian has only 13 verbs at its disposal and not 8 or 25 verbs. It could not be otherwise, if one combines the position possibilities, i.e. standing, lying and sitting/hanging, the various types of grounds, i.e. soil, water and air, and the intensiveness of the activity.

The vertical position is once again the natural choice. *Idti/xodit'* 'walk, go' is the far most frequent of all automotives and is the default choice, e.g., *Avtobus idet* 'The bus is coming', *Xorošo idet* 'It is selling well', *Dožd' idet* 'It is raining', *Segodnja idet "Revizor"* 'The Government Inspector is on tonight', etc. The same applies to locomotives. Here *vesti/vodit'* 'lead, take' is the default choice (and can substitute for the others if you do not know the undergoer's exact position), e.g., *vesti ogon'* 'fire on', *vesti peregovory* 'carry on negotiations', *vesti vojnu* 'wage a war', *vesti samolet* 'pilot an aircraft', *vesti delo* 'run a business', etc. The grammatical distinction between what is called the determinate and the indeterminate verb in the

Russian tradition can be boiled down to the distinction between **situation description** (*On idet v školu* 'He is walking to the school') and **characterization** (*On xodit v školu* 'He goes to school'). This corresponds roughly to the distinction between the progressive and the non-progressive in English, but – as already indicated − in Russian it is limited to 13 verbs that are all imperfective.

3.3 Action verbs
3.3.0 Defining and limiting them
All action verbs (e.g., *kill, give, sell, buy, lose, win, leave, stop, find, sit down, stand, lay, put set, hang up, carry out, bring to, drive to, walk to, beat up, bring up,* etc.) are used to name not one, but two situations. They name at the same time one situation involving activity and another situation involving no activity, i.e. a state. This means that action verbs (or complex verbs as they are called when opposed to simplex verbs) create two ground-propositions, one describing an activity and another describing a state, which are paired, respectively, to a ground-situation that is unstable and a ground-situation which is stable (see fig. 1).

Figure 1. The Verb Model of the Action 'Smb (X) gives smb (Z) flowers (Y)'
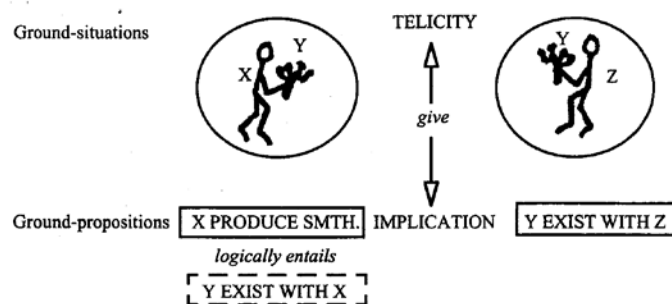
Give is a possession-based action verb – it describes (in this case, not an entailed, but an autonomous) state based on possession; the mode involved here is once again the feature [ownership], with respect to which *give* is unmarked in contrast to verbs like *lend* or *donate*. However, the verb also entails a certain state description, because in order for X to be able to give Y to Z it should be the case that Y exists with X – but whether it exists vertically, horizontally or a combination of them is completely irrelevant. So the right way to represent the complex ground-propositional structure would be "While Y exists with X, X produces an activity" (= the entailment structure + the activity description) and "Y exists with Z" (= the autonomous state description which might turn out to be true or false depending on the actual manifestation of the action, i.e. as an ongoing process or as an event).

3.3.1 From simple motion to complex motion – Russian vs. English and Danish
English (cf. 1) and Danish (cf. 2) have no autonomous single lexical units to distinguish between a location-based activity verb (see 1a and 2a) and a location-based action verb (often called, respectively, unergatives and unaccusatives when speaking of them as intransitives), but show the difference by so-called satellites:

(1) a.   He ran quickly.
    b.   He ran quickly to the station.

(2) a.   Han løb hurtigt.

b.   Han løb hurtigt hen til stationen.

In principle, English and Danish intransitive stems of motion are neutral with respect to the important distinction between an activity which names a simple situation and an action which names a complex situation. The same lexeme appears now as an activity verb (cf. 1a and 2a), now as an action verb (cf. 1b and 2b) – only the syntactic environment can determine the final reading. In the English case, it is solely the absence or presence of a directional phrase that makes you read the clause as naming either an activity or as an action. The ING-form will not change this. *He was running quickly* will still name an activity, but it will be a situation description, while *He ran quickly* will be a characterization of the person in question. Likewise, *He was running quickly to the station* will still name a complex situation consisting of an activity as well as a state, but it will present the action referred as an unstable picture with three participants (the activity is thus read as an ongoing process), while *He ran quickly to the station* will be a film where the Actor's running-activity and his being at the station cannot be separated from one another (it is a flash-back). In Danish, the reading is not solely restricted to the absence or presence of a directional phrases. If, for instance, we change the simple past to the present perfect we get the following:

(3) a.   Han **har** løbet hurtigt.
    b.   Han **er** løbet hurtigt hen til stationen.

It appears from (3a) and (3b) that the auxiliary *have* is used when a motion verb names an activity, whereas the auxiliary *være* 'be' is used when the motion verb names an action. In other words, the change of auxiliary from *har* 'has' in (3a) to *er* 'is' in (3b) can be taken as a signal to the reader that the state is location-based (The same is true in German, e.g., *Er hat gefahren* 'He has been driving (the car)' vs. *Er is gefahren* 'He has left (by car)'). In short, in Danish the two readings are pointed to by syntactic and morphological means. If we include transitive motion verbs, the picture will be the same:

(4) a.   She carried the child (**for** nine months).
    b.   She carried the child to the nearest neighbour (**in** five minutes).

(5) a.   Hun bar barnet (**i** ni måneder).
    b.   Han bar barnet hen til nærmeste nabo (**på** fem minutter).

All the a-examples name an activity at the lexical-grammatical level, whereas all b-examples name an action. At the propositional-semantic level, the a-examples are a characterization of the persons involved, whereas the b-examples are flash-backs of past actions successfully carried out. As indicated in the parentheses, the difference is also showed in the temporal expression units.
    Russian – and French, for that matter (see below) – sharply distinguishes location-based activity verbs that name simple motion (cf. 6a and 7a) and location-based action verbs that name complex motion (cf. 6b and 7b):

(6) a.   On bystro begal (ipf)/bežal (ipf). 'He ran/was running quickly.'
    b.   On bystro **do**bežal (pf) do stancii. 'He ran quickly to the station.'

(7) a.   Ona nosila rebenka (devjat' mesjacev). 'She carried the child for nine months.'
    b.   Ona otnesla rebenka k sosedke po domu (**za** pjat' minut). 'She carried the child to the nearest neighbour in five minutes.'

The verbs in the a-examples were examined above. The verbs of the b-examples form a large group which is traditionally called prefixed motion verbs. They all constitute purely aspectual pairs of the type *dobežat'* (pf)/*dobegat'* (ipf) 'run to a certain place'. In that way it can be argued that Russian not only marks the difference between "While on L X do smth." (i.e. unergatives) and "X do smth." and "X exist on L" (i.e. unaccusatives), but also the difference between the transitive and intransitive variants of the distinction.

The conclusion is that we have to distinguish sharply between location-based activity verbs (all a-examples) and location-based action verbs (all b-examples). We have already called the former group "simple motion verbs" and divided them into automotives and locomotives. The latter group will correspondingly be called **complex motion verbs**, because they name complex situations, i.e. an activity as well as a state – an action. It appears, however, that the two important subgroups of state verbs, i.e. location verbs and position verbs, repeat themselves within action verbs. We shall distinguish **relocation verbs** (*walk into, run into, swim into,* etc. and *carry to, bring to, take to,* etc.) and **reposition verbs** (*sit down, lie down, lay down, put, etc.*) – another possible term is "placement verbs" as suggested by Tesniére (1976). Both may be further divided into automotives, e.g., *walk into, run into, swim into, fly into, creep into, crawl into*, etc. and *sit down, lie down,* etc., and locomotives, e.g., *carry to, bring to, take to, roll to, chase to, etc.* and *lay down, put,* etc. The two last mentioned groups have important syntactic parallels, automotives are all intransitive and locomotives are all transitive.

3.3.2 Path and Manner revisited

Let us now return to the typological distinction between Manner (and/or satellite-framed) languages and Path (and/or verb-framed) languages presented in section 1 and see what the present framework can contribute to pinpointing the difference between a (proto)typical Path language, French, and a (proto)typical Manner language, Danish (cf. Herslund 1998: 8-9; Smith 2003 and 2006).

In French we find a group of verbs which specify the Path of motion without saying anything about Manner, be it manner of existence or manner of activity: the objects in question may be walking, crawling, flying, etc. These verbs are action verbs, and hence relocation verbs, by their very nature. The verbs *aller* 'go', *entrer* 'enter', *venir* 'come', *sortir* 'exit', etc. denote a direction by themselves, because the prepositions that are used are the same used for states. In other words, one says *Il est à Paris* 'He is in Paris' and *Il est allé à Paris* 'He has gone to Paris', because French points to the state description involving location by using the stative preposition *à*; the preposition does not point to the direction and need not point, because this has already been taken care of by the verb itself. And this is true of all other prepositions, i.e. *chez* 'with', *dans* 'in', *sur* 'on'. They are borne as complex motion verbs and can only be used as such. To put it differently, their semantics is concerned with Conceptual Motion only.

Manner of existence and Manner of activity are specified by a completely different group of verbs in French represented by verbs such as *marcher* 'walk', *courir* 'run', *ramper* 'crawl', *flâner* 'stroll', etc. which have nothing to say about Path. The function of these verbs is to characterise a motion in its own capacity without relating it to change of location that may or may not result from it. In other words, they are borne as simple motion verbs and remain simple motion verbs – they cannot normally be transformed into complex verbs by adding a preposition or similar things. They all lexicalize Perceptual Motion and their function is restricted to naming an activity that may be presented as a situation description or as a characterization.

Danish has a very large and diversified group of verbs that specify Manner of existence or Manner of activity, e.g., *gå* 'walk', *løbe* 'run', *spadsere* 'stroll', *kravle* 'crawl', etc. Just as

their French equivalents, they are all borne as activity verbs, but they may all be used to name actions, i.e. complex motions. Danish has only a few "genuine" Path verbs. The standard procedure to name a complex motion is to take a suitable Manner verb, i.e. a simple motion verb, and extend it with a Path-specifying *satellite* (most commonly in the shape of a preposition/adverb) which merges with the initial verb into a phrasal verb. Let us illustrate this by the simple motion verb *løbe* 'run'. If we put *ud* 'out' to the verb, it automatically turns into a complex motion verb, i.e. an action verb – *løbe ud* 'run out' is a so-called relocation verb that will always name an action, but it may be presented as an ongoing process or as an event. The important difference between Danish and French is that Manner of existence or Manner of activity in Danish cannot be isolated from what is called Path by Talmy, whereas speakers of French can skip the Manner-related information if it is not needed. If needed, they can insert *en courant* 'running' or *en avion* 'by plane'. To put it differently (cf. Smith 2000), the *how*-aspect of lexicalization also comes to affect the *what*-aspect in Danish, while this is not so in French.

In Danish and English several satellites are often combined with a simple motion verb in the same clause, and they can hardly all be seen as part of a phrasal lexeme, e.g., *She ran **out** of the kitchen **up to** the bedroom*. The "satellite number one" is different (see also Talmy 2000: 106f who reserves the term satellite for that entity only). A viable explanation seems to be that it plays the decisive role in the shift from a simple motion verb, i.e. an activity verb, to a complex motion verb, i.e. an action verb, and merges semantically with the original verb in a way that the rest do not, or perhaps do not have to. This line of reasoning finds support in other satellite-framed languages. In German the corresponding satellite would be a prefix, at least in the infinitive, in casu <u>hinaus</u>*laufen*, i.e. part of an independent word, and in Russian this would be the case in all forms, in casu <u>vybežat'</u>. While the borderland between lexicon and free syntax may display certain fuzziness as to means of expression across languages (cf. the idea of *distributed semantics* proposed by Sinha & Kuteva 1995), it is still possible to maintain it on semantic grounds.

3.3.3 Reposition verbs in detail

Since a state verb content (e.g., *Live in L*) is part of an action verb content (e.g., *Move to L*), a position verb content (e.g., *lie down,* etc.) must necessarily be part of a placement verb content (e.g., *lay down*). Although Russian, Danish and English all have four position verbs (in English, for instance, *stand, lie, sit* and *hang*) and the corresponding four placement verbs (in English, *stand (a table in the corner), lay (a carpet on the floor), set (a hen on the eggs)* and *hang (a picture on the wall*), the intimate relationship between these two groups of verbs have been more or less blurred in English and Danish, but not in Russian. Here we observe an almost 100 percent symmetry in the sense that if as a subject, X, a noun requires *stojat'* 'X exists vertically on L', it will as a direct object, Y, require *stavit'/postavit'* 'X do smth. and Y exits vertically on L'.

The total lack of symmetry in English is due to the successful introduction of abstract verbs for placing something in a position, viz. *put* and *place* that within placement verbs, in fact, repeats the so-called existence focus from English position verbs. Instead English has developed a group of action verbs where the activity itself is specified and not the position, for instance, *install* and *bandage,* and a group where the location itself is included in the meaning, for instance, *cage* and *imprison.* The original placement verbs have undergone the same development as the original motion verbs such as *carry* and *lead*: they have all created so-called *phrasal verbs* such as *set on, set back, set in, set up* and *set out*, where the particles seem to specify either the direction of the activity as in *set out* or the position/its new quality of the direct

object as in *set up* (see, however, below). In that way it turns out that *set* that originally included a *sitting-position* in its state description can be used to specify an upright position as well as a certain quality as in *He set up the machine*, but without loosing its activity orientation.

What has been said about English can to a certain extend be claimed to hold good of Danish as well. There are, however, some important differences between English and Danish. First of all, the post-verbal particle of a phrasal verb in English is normally placed immediately after the verb disregarded light elements such as pronouns, e.g., *set **up** the machine* – in Danish it is always placed immediately after the direct object, e.g., *sætte en maskine **op***. The Danish particle always appears in exactly the same position as the so-called predicative determiner, e.g., *skrive brevet **rent*** '(lit.) write the letter clean (free from imperfections)' = 'make a fair copy of the letter'. What is the signalling function of all this? Just as the utterance *Han skrev brevet rent* should be read as "He produced a writing-activity" and "The letter is clean", the utterance *Han satte maskinen op* should be read as "He produced a setting-up-activity" and "The machine is in an upright position". Although Danish here uses the dynamic particles *op* 'up', *ned* 'down', *af* 'off', etc., it should be stressed that when Danes pose questions concerning the state itself in a situation where the activity itself is presupposed, they use automatically the corresponding static particles, for instance, *Er den oppe?* '(lit.) Is it up?' = 'Has it been set up?'; *Er den nede?* '(lit.) Is it down?' = 'Has it been put down?'; *Er du af (*pronounced with double length)*?* '(lit.) Are you off?' = 'Have you been set down?', etc. Moreover, it should be taken into consideration that there exists a systematic alternation between the phrasal verb construction, i.e. the verb having a postverbal particle, and the corresponding prefixed verb construction (from which it is derived originally). Let me give some illustrative examples of this quite general pattern, which is a characteristic feature of Danish (for further examples, see Durst-Andersen and Herslund 1996):

(8) a.   Partiet har **op**stillet kandidaterne. 'The party has nominated its candidates.'
     b.   Han har stillet keglerne **op**. 'He set up the skittles.'
     c.   *Han har opstillet keglerne. **'***He has nominated the skittles.'
     d.   Han stillede vasen **op** på bordet. 'He put the vase (**up**) on the table.'

(8a) involves an *institutionalized* meaning, i.e. *opstille*, can only take an Agent who has the authority or the permission to nominate candidates, while (8b) involves a concrete *locative* meaning, i.e. *stille op* is concrete and asserts that the skittles are in an upright position. It should be strongly emphasized that only when a Danish utterance has a name for the location itself (see 8d), the particle gets the additional meaning of a direction. In other words, in (8d) it is asserted that the vase is standing on the table, but it is also asserted by the preceding particle *op* 'up' that the vase was standing on the floor before the activity took place. The fact that Danish has a systematic alternation between a subject-oriented construction having an institutionalized meaning and an object-oriented construction having a locative meaning makes us say that Danish, on the one hand, resembles English, but, on the other, reminds of itself in the sense that the focus of the latter construction reminds of the position focus within state verbs. In connection with position verbs in Danish, we concluded from the unmarked status of *ligge* 'lay' that Danish has a naming strategy that focuses on Location – in the case of placement verbs as well as all other verbs having a post-verbal particle we observe manifestations of the same interest: One cannot place a figure in the shape of a person or a thing without having a ground in the shape of a concrete location and, it is only after having established this relationship between a figure and a ground that it is possible to give name to a direction.

4. Summing up

The proposed typology of situations is made up of four situations, i.e. states, activities, events and processes. They were subsumed under simple situations, i.e. states and activities, and complex situations, i.e. events and processes. Based on this typology, we developed a classification of verbs, i.e. the lexical items the function of which is to name situations. It turned out that languages do not name events and processes, but leave their diffentiation to grammar. Languages prefer to name their collective concept, i.e. an action, that has no single original in reality. This left us with three verb classes, i.e. state verbs, activity verbs and action verbs. At the same time, we developed at typology of verbs that runs across all three verb classes. The simultaneous application of verb classes and types of verbs enabled us to paraphrase specific sentences, which was used to show where concrete languages operate and where they do not. If we stick to our topic, viz. motion events and related issues, we ended up by proposing the following division:

- State verbs
    - Location verbs: *be,* i.e. X exists on L
    - Position verbs: *stand*, i.e. X exists vertically on L
- Activity verbs
    - Movement verbs: *wave*
    - Simple motion verbs
        - Automotives – intransitives: *walk*, i.e. while vertically on L, X produces an activity
        - Locomotives – transitives: *carry*, i.e. while Y is sitting/hanging on X, X produces an activity
- Action verbs
    - Complex motion verbs
        - Relocation verbs
            - Automotives – intransitives: *walk to L2*, i.e. while vertically on L1, X produces an activity and X exist on L2
            - Locomotives – transitives: *carry to L2*, i.e. while Y is sitting/hanging on X on L1, X produces an activity and Y exists on L2
        - Reposition verbs
            - Automotives – intransitives: *lie down on L*, i.e. X produces an activity and X exists horizontally on L
            - Locomotives – transitives: *lay down on L*, i.e. X produces an activity and Y exists horizontally on L

We took Russian, English and Danish as our primary sources, because they are normally put together in so-called manner-languages. We tried to show that, as a matter of fact, they differ fundamentally from one another and always in the same way. We argued that the differences can be traced back to different perception and naming strategies which originate from stable pictures, i.e. from non-motion. Our analysis of situations and verbs made us capable of distinguishing between a primary and a secondary figure with a corresponding distinction between a primary and a secondary ground linked to the important notions of stability and instability, respectively. In the same way, we tried to demonstrate that Talmy's notion of manner should also be divided in a similar way, i.e. into manner of existence and manner of activity. And last, but not least, it was argued that what has been called "path" corresponds to an autonomous state situation. This state is not transparent in all languages, but in languages

having aspect as in Russian and in English or having serial verbs as in Chinese or Thai it reveals itself. Grammar may put light on lexical items that are borne as pure symbols, but may turn into icons or indexes on the grammatical level.

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