Kudrnáčová, Naděžda

Impulsivity and suppressed quantization in body part motion verbs

NADĚŽDA KUDRNÁČOVÁ

IMPULSIVITY AND SUPPRESSED QUANTIZATION IN BODY PART MOTION VERBS

The present paper is the continuation of an analysis of impulsive verbs denoting body part movements (Kudrnáčová 1999). Its aim is to show that this class of verbs (*throw*, *fling*, *shoot*, *dart*, *toss* and *jerk*) represents a semantically cohesive group, with internally differentiated, syntactically relevant semantic structures.

* * *

All these verbs, when denoting body (part) movements, are resorted to in sentences implying impulsivity. When they denote movements carried out by entities other than the body (parts), they are all verbs of throwing. It is perhaps not without interest to note that various authors mention in their lists of verbs of throwing only some out of the discussed set of verbs. For example, Levin (1993.146) enumerates only *throw*, *fling*, *shoot* (*projectile*) and *toss*, Snell-Hornby (1983.151) the verbs *throw*, *fling* and *toss* and Dixon (1991.101) the verbs *throw*, *fling* and *jerk*. The verb *dart* does not appear in any of the lists, and *shoot* is adduced only in the meaning "to shoot a projectile". As to the verb *dart*, native speakers regard its use as a verb of throwing as non-existent (**I darted him the ball / *I darted the ball to him / *I darted the ball at him*). The New Shorter Oxford English Dictionary (1993.594) and the Longman Dictionary of the English Language (1984.371) define its meaning as "throw or shoot (a dart or similar missile)" and "throw with a sudden movement", respectively. Both the dictionaries, however, do not adduce any example. Velký anglicko-český slovník (1984.478) gives the example "to dart a javelin at him". As to the verb *shoot*, the New Shorter Oxford English Dictionary and Velký anglicko-český slovník define the verb also as a verb of throwing. The New Shorter Oxford English Dictionary uses the wording "throw suddenly or violently" (1993.2835), but, again, both the dictionaries do not give any example. Nevertheless, according to native speakers, the sentences *I shot him the towel / I shot the towel to him / I shot the towel at him* are all plausible.

It is not a mere coincidence that, in order to express impulsive movements, language resorts to precisely this set of verbs. 'Throwing' means "instantaneously causing ballistic motion" (Levin 1993.147) and as such implies

(a) imparting of force to an object;
(b) an unaccompanied movement of the object;
(c) a relatively high speed of the movement of the object.

It will have been noticed that owing to this configuration of semantic features the verbs of throwing are predisposed to render body part movements that imply impulsivity since impulsivity is conceptually related to a low degree of mental processing of the impulse underlying the motion.[1] It is thus not surprising that the above features occur, in a more or less re-shaped form, in the semantic content of impulsive body part motion verbs:

(a) imparting of force in the verbs of throwing correlates, in impulsive verbs, with the release of a considerable amount of energy, especially in the first phase of the movement (this fact correlates, again, with terminated exertion of force in throwing);
(b) an unaccompanied movement of the object in throwing implies that the manipulator of the object has lost control over the movement—this correlates with a low degree of control over the impulsive movement (that is, the semantic component 'an unaccompanied movement of the object' is re-evaluated into the meaning component 'a low degree of control over the impulsive movement');
(c) a high speed of the movement of the object correlates with a high speed of impulsive movement.

From a cognitive point of view, an act of throwing as well as impulsive body part motion naturally involve many other aspects than those enumerated above. But they do not seem to be linguistically relevant. As Pinker points out, "the semantic structure associated with a verb constrains certain aspects of the events or states the verb can refer to and is mute about others" (Pinker 1989.107).

Non-additive status of the semantic feature 'impulsivity'

Dixon (1971) divides verbs into two groups: nuclear and non-nuclear. (Snell-Hornby 1983 classifies verbs along similar lines, her descriptive verbs correspond to Dixon's non-nuclear verbs.) Non-nuclear verbs are such as consist of an act-nucleus and a modificant. For example, *look* is a nuclear verb, whereas *stare* is a non-nuclear verb that can semantically be defined as *look hard* (Dixon 1971.441). Or, *strut* is divisible into a verb-core (*walk*) and the modificant, which in this case is "a semantic complex further analyzable into visible physi-

---

[1]   On the concept of the degree of mental processing of the impulse see Kudrnáčová 1998.

cal characteristics (*stiff, erect*) and value-judgements passed on the character of the agent and his manner of walking (*self-satisfied, proud, pompous, with af-fected dignity*)" (Snell-Hornby 1983.25).

In the light of this classification, impulsive verbs represent a set of non-nuclear verbs, described in dictionaries by means of a verb-plus-adverb(s) construction employing the adverb *suddenly* and other modificants (most commonly *quickly, sharply, with a lot of force*). Since 'suddenness' points at the impulsive genesis of the movement (the other modificants refer to the physical parameters of the movement), we may label this semantic feature as 'impulsivity'.

This "inner", non-visible semantic attribute is ascribed to the movement by the onlooker (perceiver) on the basis of his interpretation of the physical, visible parameters of the movement (and, naturally, also on the basis of his interpretation of the status of the movement within a broader contextual frame in which the movement is set). This is not to say, however, that impulsivity is a semantic feature merely added to the physical, directly observable attributes of the movement. If this were the case, the following sentence,

(1) Suddenly he quickly raised his head.

explicitly rendering 'suddenness' and 'high speed', might be regarded as a paraphrase of the sentence

(2) He shot up his head.

However, native speakers regard sentence (2) as "more intense". The reason lies not only in the lexico-semantic content of the verb (*shoot*, apart from expressing 'suddenness' and 'high speed', expresses one more feature that is missing in sentence 1, namely a great energy input), but, first and foremost, in the operation of the semantic feature 'impulsivity'. This component points at a specific (impulsive) genesis of the movement and, in doing so, not only determines the visible, physical attributes of the movement (on the part of the manipulator), but also molds their perception (on the part of the onlooker). Therefore, the movement expressed in, for example, *raise* (*He raised his head*) may, in reality, have the same physical characteristics as the movement expressed in *shoot* (*He shot up his hand*). That is, the perception of the physical parameters of the movement, i.e. the mental processing of the physical data the onlooker obtains, is substantially influenced by the impulsive genesis of the movement. This fact is only natural since impulsivity, as an "inner", non-visible phenomenon, manifests itself in the outer, directly observable phenomena.

It is also important to realize that this semantic attribute, through referring to the impulsive genesis of the movement, at the same time points at the actor's state of mind. Impulsive verbs thus serve as a means of characterization of the actor. At the same time, they provide information about the onlooker himself since the way he interprets and, consequently, linguistically encodes the extra-

linguistic reality offers the picture of his inner self.

We may thus conclude that these observations testify to the **evaluative** character of impulsive verbs. In addition to this, they attest to the interdependence of semantic and perceptual phenomena. These two facts explain the non-additive status of the semantic feature 'impulsivity': the semantic content of impulsive verbs is not a mere combination 'the verb nucleus + specifying modificants' ('suddenly', 'quickly', and other semantic features, depending on the respective verb).

The non-additive, superordinate status of the semantic feature 'impulsivity' asserts itself also in the questionability of the use of impulsive verbs (a) in commands, (b) in questions of the *can / able to* type and (c) in combination with the conative *try*:

(a)   ?Shoot your hands up! ?Toss your head back! ?Throw your head back! ?Jerk your hand toward him! ?Fling out your arms!
(b)   ?Can you dart your hands up? ?Are you able to throw your head back?
(c)   ?He tried to jerk his finger toward the table. ?He tried to fling out his arms.

These sentences are void of impulsivity and native speakers regard them as odd (especially with the verb *dart*). Some native speakers admit the plausibility of these constructions in the sense of "to try and imitate the movement as it is done impulsively (very quickly and energetically)".

Two meanings of 'suddenness'

Another reason for the fact that sentences (1) and (2) cannot be regarded as rendering the same motion situation lies in the semantic character of the feature 'suddenness'. This point requires further explanation.

It might seem that the adverb *suddenly* in sentences with impulsive verbs will result in an unnecessary repetition (or, at best, intensification) of the feature that is already built in their lexico-semantic content. However, a closer look at the following sentence reveals that the use of *suddenly* is not redundant:

(3) Suddenly she tossed her head.

The adverb *suddenly* in sentence (3) denotes an unexpected occurrence of the impulsive movement. We see, then, that the semantic feature 'suddenness' refers to the impulsive genesis of the action ('acting on impulse') or, as is the case in sentences (1) and (3), it expresses an unexpected occurrence of an action (which may or may not be impulsive). That is, even impulsive movements may be "unexpected" in that they may be evaluated by the onlooker as deviating from the standard pattern of kinetic behaviour that might be expected to occur in the given situation. 'Suddenness' in its impulsive reading is directly incorpo-

rated in the lexico-semantic content of the discussed set of verbs, whereas in the other meaning it has a truly additive character, both from a formal (it is given the status of a separate word) and from a semantic (it does not shape the attributes of the lexico-semantic content of the verbs, but functions independently of them) point of view.[2]

At this point it is worth mentioning that Faber and Usón (1999.152) regard the adverb *suddenly* as related to events of short duration. This brings us to the question of the duration of the movements as expressed by impulsive verbs.

Duration of impulsive movements

The compatibility of *suddenly* with impulsive verbs may indeed follow from a short duration of the movements, basically for two reasons. Firstly, impulsive verbs typically denote quick movements. According to basic logic, the higher the speed and the shorter the course of the movement (in body part movements the functional range of the body parts is conceptually limited), the shorter span of time is covered (native speakers regard the combination *'quickly* + impulsive verb' as redundant, though possible). Secondly, short duration is not only an attribute of certain actions, but also of "very strong feelings such as intense joy, fear and surprise" (Faber and Usón 1999.150). The high speed of movements denoted by impulsive verbs is an outcome of the forcible operation of a certain set of mental states as causes of the movement. In other words, short (intense) movements correlate with short (intense) mental states underlying the movement.

In spite of the above facts, one must resist the temptation to put an equation mark between the high speed and short duration of impulsive movements. A closer look at the sentences with *suddenly* reveals that duration of the movement does not play a crucial role in determining the (un)acceptability of this adverb (consider, for example, the sentence *Suddenly she slowly raised her head*). *Suddenly* is a punctual adverbial and as such has the capacity to construe the interval from inception to completion as "a point in time" (Croft 1998.78). To illustrate this observation, Croft adduces the following examples: *She suddenly shut the door* versus *She was shutting the door*.

Therefore, the compatibility of impulsive verbs with *suddenly* is not an indicator of short duration of the movement, but of the fact that the movement is rendered as a compact unit. I regard the term "compact" as felicitous because it is in compliance with the suppressed quantization of the movement as expressed in these verbs.

We also have to realize that the very notions 'short' versus 'long', being of relative character, naturally cannot be defined in absolute terms. That is, you can quickly cross the ocean and you can slowly open your eyes. The decision on the length of time covered by the movement can be arrived at on the basis of intralinguistic comparison and extralinguistic considerations.

[2]   On 'suddenness' in the sense 'unexpectedness' see Kudrnáčová 1999.

We may thus conclude that high speed of impulsive movements cannot be equated with their short duration. The only thing we can say is that impulsive verbs denote movements that

(a) are quick (in comparison with other body part movements);
(b) can be construed as a point in time (that is, they represent a semantically compact unit, hence the compatibility with *suddenly*).

Duration of the movement is a secondary feature, following from the nature of the actions denoted by the verbs and from their intralinguistic comparison.

Impulsivity as a sub-class of affectivity

In the light of the above observations, it may come as a surprise to learn that certain verbs out of the discussed set (namely *toss* and *throw*) do not necessarily have to express quick movements:

(4) She slowly tossed her head back.
(5) She slowly threw her hands around his neck.

Some native speakers consider the above sentences as very unusual, but still conceivable. A comparison with their counterparts employing the non-evaluative, neutral verbs *tilt* and *put* (*She slowly tilted her head back, She slowly put her hands around his neck*) shows that sentences (4) and (5) have preserved their evaluative character. That is, they have not lost their ability to refer to affective circumstances accompanying the genesis of the movements. It will have been noticed that 'affectivity' has been used here as a broader term covering also impulsivity.

Does this mean that impulsivity is not, after all, intrinsically related to high speed? The answer is in the negative. The possibility of employing *slowly* with *throw* and *toss* only shows that the verbs, apart from denoting impulsive (i.e. quick) movements, can denote affective movements that are not accompanied by high speed. In both cases, however, the verbs maintain their evaluative status. This again testifies to the above mentioned fact, namely that impulsivity (and a corresponding broader concept, affectivity), as a modificant referring to the specific inner circumstances underlying the movement, is not merely added to the modificants denoting the physical parameters of the motion. On the contrary, the modificants display a hierarchical structure, with affectivity occupying a superior position. This is in corroboration with the decisive role affectivity plays in determining the evaluative status of the verb.

At this point let us adduce an interesting (though very exceptional) example in which the evaluative verb *fling*, commonly defined by means of the modificant *forcefully* (e.g. The New Oxford Dictionary of English 1998.703), combines with the adverb *weakly*:

(6) She weakly flung out her hands in a gesture of welcome.

* * *

We have seen that the linguistic presentation of the movement as impulsive is based upon cognitive phenomena and their subjective interpretation. The impulsive interpretation of the movements not only casts its shadow upon the perception of the physical parameters themselves, but also points at the inner self of the manipulator of the body part(s). (In addition to this, through his interpretation of the facts of reality, the perceiver offers a picture of his self.) Impulsive verbs thus display an interconnection between cognition and evaluation (needless to say, "evaluation" as used here is not meant on the negative-positive axis). This testifies to Daneš's conviction concerning the ubiquity of emotion in language, based on his assumption that "any stimulus has both factually informative and emotional values" (Daneš 1994.257).[3]

* * *

Let us now concentrate on the internal semantic structure of impulsive verbs as it asserts itself at the level of syntax.

Motion

In his description of motion situations, Talmy (1985) distinguishes the following components: the object (the Figure) moving or located with respect to another object (the reference-object or Ground), the course followed or site occupied by the Figure (the Path), and Motion (which refers to the presence *per se* in the event of motion or location). In addition to these components, a Motion event can have a Manner or Cause.

According to Lakoff (1987.275), the source-path-goal schema, pertaining to the domain of movement, includes the following structural elements: source, destination, path and direction.

For the purpose of the present discussion I will take movement as a sequence of kinetic quanta. I define "quantum" in its most minimum sense, namely as the distance between the points A,B,C ... X on the route along which the body parts move, i.e. as the distance between contiguous locations along the path. As will be seen later, this **quantization** of motion helps to shed light upon the internal semantic structure of impulsive verbs and upon their syntactic behaviour.

---

[3]   In this connection we might also mention Lyons's "locutionary subjectivism", i.e. the locutionary agent's expression of himself in his utterance (Lyons 1982 and Lyons 1996.337-40).

Deviation from the norm

Impulsivity, as a semantic feature implying intense mental states underlying the movement, manifests itself in the "semantic intensity" of the discussed verbs.

The physical parameters that most naturally lend themselves to intensification are:

(a) speed;
(b) force.

Speed and force are of course conceptually related.

As to (a), impulsive verbs typically denote quick movements. As to (b), a considerable input of energy is implied, especially in the first kinetic quanta, since 'acting on impulse' carries with itself an energetic accentuation of the onset of the movement.

The said intensification represents, at least within the domain of body part movements, a deviation from the kinetic norm.

However, also the path along which the body part moves may deviate from the norm. In *jerk*, the character of the individual kinetic quanta are heterogeneous. The body part does not follow a linear course, the first and the last kinetic quanta, in comparison with the intermediate phase of the motion, display a distinctly diverse character (in defining the meaning of the verb, dictionaries generally resort to the expressions *abrupt, suddenly arrested, sharp, rough, graceless*).

At this point it is perhaps worth noting that the character of the path as expressed in *jerk* displays a certain degree of iconicity, since we may see a correlation between specific types of mental states (typically negative states, for example anger, annoyance, impatience), as the impetus underlying the movement, and a non-linear ("rugged") character of the path. (In passing, this correlation provides another evidence of the evaluative character of the verb.)

Deviation from the norm may also be seen in the fact that in impulsive movements a definite ending point does not have to be pre-programmed in the motor plan of the movement (sentences of the type *She threw her hands round his neck*, expressing a definite final localization of the body parts, are of course possible). The backgrounding of the final localization of the body parts is a consequence of the fact that the aim of the movement is not to get the body parts to a certain position—the motion itself represents the aim *per se.*

Backgrounding of quantization

Due to the operation of the impulsivity of the movements, the quantization of the movement is suppressed, i.e. the segmentation of the movement into separate kinetic quanta is backgrounded. The movement is linguistically rendered as a motion continuum.

The overt signals of the suppressed quantization are the following:

(A) The incompatibility of the verbs with *gradually* (this adverb explicitly denotes distinct boundaries between quanta):

(7) *He gradually tossed his head / jerked his finger / threw his arms around / flung out his arms / shot his head up / darted out his hand.

The only exception is the verb *jerk*:

(8) He gradually jerked his hand towards the table trying to throttle the monster.

This example does not, however, run counter to our above observation because the combination '*gradually + jerk* ' does not denote a gradual progression from one quantum to another, but a sequence of accomplished motion units, i.e. a sequence of several jerks.

The adverb *slowly* with *jerk* has a similar function—it marks a slow transition from one completed motion unit to another:

(9) He slowly jerked his finger toward the table.

(B) The incompatibility of the discussed verbs with

(a) the verb *begin* (*He began to throw his arms around*);
(b) the progressive form (*He was shooting his hand out*).

The incompatibility of impulsive verbs with *begin* can easily be accounted for by the inchoative meaning of this verb (it expresses the onset of the first kinetic quanta), and the incompatibility with the progressive by the capacity of this construction to profile the progression from one quantum to another. Impulsive verbs enter into these constructions only if they express repeated movements.

However, it may come as a surprise to learn that, under certain conditions, some impulsive verbs may occur in both the constructions even in their non-iterative reading. A closer inspection shows that the possibility of both the constructions serves, perhaps paradoxically, as further evidence of the suppressed quantization of the movement, i.e. of its compact character.

(aa) Let us first concentrate on the constructions with *begin*.

Consider the following examples with the verbs *fling* and *throw*:

(10) He began to fling out his arms in a gesture of welcome until he suddenly realized that I was not his son.
(11) He began to throw his arms around when I gave him poison.

Begin renders the movement as interrupted. However, this fact does not mean that the movement is not viewed as completed: the movement is "completed" in the sense 'accomplished to a such a degree as enables the onlooker to label it as flinging out one's arms or throwing one's arms around'. This enables *begin* to cover the whole motion unit, not just its first quanta. This observation is corroborated by yet another factor: the movement is not carried out in order to get the body parts to a certain position. The reaching of this position is thus irrelevant—the aim of the movement is its presence *per se*.

A question may now be posed: why is the inchoative *begin* resorted to, in spite of the fact that its function is re-evaluated, that is, in spite of the fact that it covers, owing to the compact character of the discussed set of verbs, the whole movement? The answer lies in the primary, truly inchoative function of the verb: by denoting the first kinetic quanta, *begin* accentuates the very onset of the movement. This accentuation puts the movement into contrast with the contiguous events, which results in highlighting the whole movement. In other words, *begin* strengthens the tension between the movement and the event that follows. Therefore the sentence

(12) He began to throw his arms around in indignation until he realized that I was talking about something else.

may be re-worded in the form

(13) He threw his arms around in indignation but then he realized that I was talking about something else.

In both the examples, the length of the path along which the body parts move may be the same, which means that in sentence (12) the movement may be accomplished to the same degree as in sentence (13). In passing, this again testifies to the above observation, namely that *begin* with impulsive verbs covers the whole movement.

We must not, however, overlook the fact that the compatibility with *begin* is most plausible with the verbs *throw* and *fling*, whereas with the other verbs out of the discussed group it is highly questionable or, at best, conceivable only in exceptional contexts. Consider:

(14) He began to shoot his hand up / to dart his hands out / to toss his head with impatience / to jerk his head up.

According to native speakers, such sentences may perhaps be imaginable in a situation in which the onlooker watches the movement on a slow motion video and comments on what he sees. The reason for the fact that these verbs do not, at least not under standard conditions, combine with *begin*, lies in their lexico-

semantic content: as opposed to *fling* and *throw*, the verbs *toss* and *jerk* imply a (relatively) very short route along which the body part moves, and the verbs *shoot* and *dart* imply a (relatively) very high speed of the movement.

We may conclude that the construction '*begin* + impulsive verb', in spite of its peripheral status, testifies to the compact character of impulsive verbs.

(bb) As has been mentioned earlier, impulsive verbs can combine with the progressive only in the iterative reading. Otherwise these constructions, expressing the progression from one quantum to another, are ruled out.

(15) *He was flinging out his arms / throwing his arms about / shooting his hands up / darting out his hand / tossing his head back / jerking his head up.

However, as mentioned earlier, some impulsive verbs can, under very specific circumstances, occur with the progressive. Consider:

(16) He was flinging out his arms appealing for mercy when they shot him.
(17) She was flinging out her hand to stop the boy but it was too late.

Some native speakers regard these sentences as highly unusual, but still conceivable. An analysis shows that the progressive form with impulsive verbs does not denote the progression of contiguous kinetic quanta, but covers the whole movement. This is an outcome of the fact that, although interrupted, the movement is presented as "completed" (the progressive might thus be replaced by the simple form). The progressive form, as opposed to the simple form, may be seen as marked because it throws considerable emphasis upon the fact of movement itself. The movement is thus highlighted and as such contrasted with the other event presented in the sentence (this is apparent especially in sentence 17).

We have seen, then, that the construction with the progressive form is parallel to the construction with the verb *begin* in its capacity to render the movement as a completed motion unit, highlighted against the background of accompanying events. The two constructions are also parallel in the repertory of verbs that can enter into them. Owing to their lexico-semantic content, the progressive form is most naturally open to the verbs *throw* and *toss*. The verbs *shoot* and *dart*, expressing a (relatively) very high speed of the movement, and the verbs *toss* and *jerk*, implying a (relatively) very short path of the movement, may occur in this construction only in very marginal, exceptional situations (e.g. when the onlooker comments on a slow motion video):[4]

(18) He was shooting his hands up when the bullet struck him.
(19) He was darting his hand up when she came in.
(20) He was tossing his head back as the psychopath struck with his knife.

---

4   Some native speakers reject the possibility of these verbs to combine with the progressive altogether.

The progressive with *jerk* is quite plausible because it expresses the progression of one completed motion unit to another, i.e. a sequence of several jerks:

(21) He was jerking his hand toward the table.

Nevertheless, all the verbs out of the discussed set can occur in ing–participle clauses. Consider, for example:

(22) Shooting his hand up, the teacher caught a piece of paper.
(23) Darting his hand up, he exclaimed...
(24) Tossing her head back, she replied...
(25) Jerking her hand away, she said...

Due to the suppressed quantization of the movement as denoted by these verbs, the *ing*-participle clause does not denote the progression from one quantum to another, that is, it does not present the movement as an ongoing process taking place against the background of other actions, but renders the movement as an accomplished motion unit. In other words, the compact character of the semantic structure of the verbs enables them to easily enter into this construction.

The previous discussion, then, is intended to indicate that the above mentioned subtle differences among the members of this class result in differences in their syntactic behaviour. As to the distinctive behaviour of *jerk*, it may be accounted for by the previously mentioned heterogeneousness of the kinetic quanta. Consequently, for the verb to be what it should be, the movement has to go through all the phases. In other words, the movement has always to be accomplished (hence the compatibility of *jerk* with the adverbs *gradually* and *slowly* and the ease with which the verb occurs in the progressive form and in combination with *begin*).

* * *

To sum up, we have attempted to show that the lexico-semantic content of the discussed set of verbs displays an interconnection between both cognitive and evaluative aspects. In the internal semantic structure of the verbs, the suppressed quantization is an outcome of the operation of the semantic feature 'impulsivity'.

WORKS CITED

Croft, W. (1998). "The structure of events and the structure of language", in Tomasello, M., ed., *The new psychology of language: cognitive and functional approaches to language structure* , 67-92 (Mahwah, New Jersey: Lawrence Erlbaum Associates).

Daneš, F. (1994). "Involvement with language and in language", *Journal of Pragmatics* 22.251-64.

Dixon, R. M. W. (1971). "A method of semantic description", in Steinberg, D. D., Jakobovits, L. A., eds., *Semantics*, 436-71 (London and New York: Ca mbridge University Press).

Dixon, R. M. W. (1991). *A new approach to English grammar, on semantic principles* (Oxford: Clarendon Press).

Faber, P. B., Usón, R. M. (1999). *Constructing a lexicon of English verbs* (Berlin and New York: Mouton de Gruyter).

Kudrnáčová, N. (1998). "Intentionality of action in body part movements", *Brno studies in English* 24.79-86.

Kudrnáčová, N. (1999). "On impulsive verbs in body part movements", *Brno studies in English* 25.19-25.

Lakoff, G. (1987). *Women, fire, and dangerous things: what categories reveal about the mind* (Chicago: University of Chicago Press).

Levin, B. (1993). *English verb classes and alternations: a preliminary investigation* (Chicago and London: University of Chicago Press).

Longman Dictionary of the English Language (1984). (London: Longman).

Lyons, J. (1982). "Deixis and subjectivity: *Loquor, ergo sum?*", in Jarvella, R. J., Klein, W., eds., *Speech, place and action: studies in deixis and related topics* , 101-23 (Chichester: John Wiley and Sons Ltd.).

Lyons, J. (1996). *Linguistic semantics* (Cambridge: Cambridge University Press).

The New Oxford Dictionary of English (1998). (Oxford: Clarendon Press).

The New Shorter Oxford English Dictionary (1993). (Oxford: Clarendon Press).

Pinker, S. (1989). *Learnability and cognition: the acquisition of argument structure* (Cambridge, Massachusetts: MIT Press).

Snell-Hornby, M. (1983). *Verb-descriptivity in German and English: a contrastive study in s e-mantic fields* (Heidelberg: Carl Winter Universitätsverlag).

Talmy, L. (1985). "Lexicalization patterns: a semantic structure in lexical forms", in Shopen, T., ed., *Language typology and syntactic description, 2: grammatical categories and the lexicon* , 57-149 (Cambridge: Cambridge University Press).

Velký anglicko-český slovník [Comprehensive English-Czech Dictionary] (1984). (Praha: Acad e-mia).