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ON PRAGMATIC AND COGNITIVE PROCESSES IN MEANING VARIATION

This paper first looks into mechanisms that license the formation of transitive causative constructions with the motion verbs *run* and *walk*. As a further step, it takes into consideration intransitive constructions with these verbs and, in doing so, it contrasts the meaning of *run* with *walk* as its most natural counterpart. The paper provides evidence in favour of positing one of the verb's senses as core, representing a kind of starting point against which some of the other motion senses are established. In this way, arguments are offered in favour of the lexical network model of polysemy. At the same time, it is shown that the extensive usability of *run* (and, by the same token, the restricted usability of *walk*) is closely related to the degree of the verb's context-sensitivity, which, in its turn, points to the conception of the verb's meaning as representing a dynamic potential.

1. Principled Mechanisms in Meaning Variation

Deriving from the basic assumption that the various senses of a polysemous word are interrelated in some way (on the evidence verifying the interrelations cf. Apresjan 1973, Panman 1982 and Williams 1992, among others), two notorious questions arise: (a) What are the mechanisms that underlie the variation? (b) If the senses are related in principled ways, can we posit one of the senses as core? Needless to say, the relatedness of meaning is, by virtue of its nature, a scalar concept and, as such, is open to subjective evaluation (Lyons 1977: 552). Related to this is also the notorious question of whether the different senses of a word represent distinct units or whether they are realizations of a core concept.

This paper attempts to demonstrate that the connections between the various meanings of the verbs *run* and *walk* are underlain by an interplay of perceptual and cognitive operations and that, in this respect, an inquiry into the relatedness of meanings provides important information about the nature of cognitive processing (on this see, e.g., Deane 1988 and Langacker 1990).

The analysis presented here is based on the British National Corpus. In order to further support the argumentation, one attested example obtained via the Google web search machine has been included.

2. Caused Motion Situations

2.1. Non-Coercive Scenarios

These situations include causation of a movement by an external causer who does not exert force (pressure) to induce the movement carried out by the causee.¹ These types of caused motion situation thus do not involve a marked imbalance in their force-dynamic schema (on force dynamics see Talmy, e.g. 1988). Typical examples are:

- (1) He walked her to the station.
- (2) The trainer ran the athletes to the other end of the track.

The verbs *run* and *walk* can be used in these types of motion situation if the context provides explicit information about the absence of marked imbalance in the force-dynamic schema of the situation. This type of force-dynamic schema ensures that the causee identifies himself with the causer's intention (needless to say, the causer acts as the bearer of primary responsibility for the action, hence they assume a controlling position). This stipulation is important because it ensures that the verbs *run* and *walk* encode the type of motion carried out by the causee: the verb *run* is used in the sense which may be worded as 'to carry out a (relatively quick) bipedal motion in which both feet are above the ground at a certain point of time' and the verb *walk* is used in the sense 'to carry out a bipedal motion in which both feet are on the ground at a certain point of time'.

Admittedly, the type of scenario as given in (2) is very infrequent (symptomatically, the British National Corpus does not contain any example of this kind).

Owing to the absence of conscious reasoning in animal agentivity, induced action constructions with animal causees represent a special sub-type:

- (3) The scientists ran the mice through the maze. (meaning 'the scientists caused the mice to run through the maze')
- (4) John ran the horse to the stable. (meaning 'John caused the horse to run to the stable')

The verb *run* may be used with horses also in the sense 'to enter a horse for the race':

¹ In passing, these types of caused motion constructions belong to the category of induced action constructions (Levin (1993)).

- (5) Seb was riding Grye beside the light wagon, discussing with Carrie the next race in which he intended running the horse. (BNC)

The scenario in (5) may be evaluated as a sub-type of induced caused motion situation even though it deviates from the classic non-coercive scenario in one respect. More specifically, *run* as used here gains in the vagueness of its reference (the horse may gallop, too). In either case, however, the verb represents a distinct kinetic pattern, namely, to “go with quick steps on alternate feet, never having both or all feet on the ground at the same time” (*The New Shorter Oxford English Dictionary* 1993: 2649).

2.2. Coercive Scenarios

These situations involve a marked imbalance in their force-dynamic schema. The external causation of the motion carried out by the causee is underlain by the causer’s exertion of force. These types of situation include the following two basic scenarios:²

- (a) ‘The causer urges the causee to move somewhere’:

In this motion situation there is a transmission of coercive force between the causer and the causee; the causee carries out a self-agentive movement, but its nature is not clearly specified. Consider ex. (6) with a human causee and ex. (7) with an animate causee:

- (6) “Come quick,” he cried, and tugging at Meredith’s arm he toppled him from his stool and ran him out of the door. They cancelled the rest of the performance. (BNC)
- (7) It’s a nuisance really. If you run the dog down the field, you look over your shoulder all the time, waiting for one to hit you. (BNC)

- (b) ‘Move the patientive causee somewhere secretly and illegally’:

In this situation, the force-dynamic schema does not display the same degree of imbalance as in (a). The causee moves under the pressure of circumstances but the presence of coercive force is, to a certain extent, pushed into the background. Consider:

- (8) In the 1950s he joined the Shin Bet internal security service and by the early 1960s was operating secretly in Europe, running agents into Arab countries for Mossad. (BNC)

² As is well known, the transitive *run* may be used in a variety of senses. For example, *run somebody somewhere* may mean ‘take somebody somewhere in a car’. In this situation, the causee is a fully-fledged patient (i.e. he does not actively participate in the motion). In actual fact, the transitive *run* with animate patients does not have to encode motion at all, cf.:

The Rowans plans to run the mares on 112 acres they have bought in Perthshire. Milkings three times a day would necessitate living nearby and they have applied for permission to build a farmhouse and steadings. (BNC)

It will have been observed that, on account of its semantics, the verb *run* lends itself easily to be used in caused motion situations involving an exertion of force on the part of the causer. To give another example, the sentence *John ran her to the bathroom* encodes, as its ‘most natural’ (in the sense ‘most salient’) meaning, a situation in which the causee is subject to the causer’s exertion of force (that is, ‘John forced her to go to the bathroom’). What is of crucial importance here is that the nature of the causee’s movement is not explicitly specified – it may be running, quick walking or even, say, limping. This type of situation involves a marked imbalance in its physical force-dynamic schema, which is (needless to say) a direct reflection of the imbalance in the psychic (and/or social) relationship between the two participants.

An overt signal of the force-dynamic imbalance is born by the meaning of the verb: the verb *run* gains in vagueness, i.e. it loses its capacity to encode a fairly clearly specified type of motion. In other words, the verb *run* need not encode the meaning ‘to carry out a self-agentive bipedal locomotion in which both feet are above the ground at a certain point of time’. At the same time, *run* in coercive caused motion scenarios includes reference to a relatively high speed, which is the reason why ‘running somebody somewhere’ (meaning ‘using pressure – whether mental and/or physical – with the aim to force a patientive causee to carry out a self-agentive locomotion in a certain direction’) cannot be modified by *slowly* (**John slowly ran Harry to the bathroom*).

2.3. *Components of Meaning which License the Coercive “Run”*

A logical question arises, namely, what licenses the use of the verb *run* in coercive caused motion situations (i.e. situations marked by a marked imbalance in their force-dynamic schema). Closer scrutiny reveals that the reason should be sought in the type of self-agentive movement as encoded in the verb’s basic, self-agentive bipedal meaning. In concrete terms, the factors that license the coercive use of *run* are ‘a relatively high speed’ and ‘a relatively high energy output’. Let me now offer an explanation.

Speed and force in running are interdependent. In order to get both feet above the ground in a certain phase of the movement, a certain speed has to be attained, which requires a relatively high energy output (force) on the part of the mover. Speed in the coercive use of *run* functions as a signal of pressure, i.e. as a signal of a marked imbalance in the force-dynamic schema. In other words, the conceptual link between speed and force (mental and/or physical pressure) is underlain by a purely physical link between a relatively high speed of motion and force (in the sense of ‘physical effort’) – recall that in the motion situation encoded in *run* a considerable degree of effort (force) must be attained in order to get both feet above the ground in a certain phase of the movement. In yet other words, the non-coercive meaning of *run* involves a very specific and concrete physical pattern (‘to carry out a quick self-agentive bipedal locomotion in which both feet are above the ground at a certain point of time’) that serves as a basis from which the coercive meaning of the verb is derived.

From the discussion of the interdependence of speed and force it does not, however, follow that these two distinct components of meaning have the same status. Although speed is directly encoded in the verb itself, force (i.e. that which is signalled

by speed as a strictly physical phenomenon) is ascribed to the causer, not to the causee as the actual executor of the motion lexicalized in the verb. In other words, force, here, pertains to the mental sphere and realizes itself in the physical sphere in the inducement of the causee's motion.

The exertion of force on the part of the causer is, characteristically, accompanied by what is sometimes referred to as 'semantic bleaching'. As has already been mentioned, *run* in coercive caused motion situations loosens, to a certain degree, its ties with its basic, very specific type of meaning. That is, the concrete type of the movement in the coercive *run* is not explicitly stated and only follows from a given context. The increase in the verb's vagueness (as to its reference to the character of the movement carried out by the causee) serves a specific purpose, namely, it functions as a signal of an increase in the degree of force (pressure, coercion) exerted on the part of the causer. Hence when *John runs Harry to the kitchen*, John needs not run, i.e. he may "merely" walk (albeit quickly).

Let us recall that, in spite of the vagueness of its meaning, the coercive *run* includes reference to a relatively high speed of the motion. This brings us to the question whether this element of meaning represents the focal feature of *run* used in non-caused motion situations which are prototypically encoded in intransitive constructions and which encode self-agentive locomotion (*John ran*, *John walked*).

3. Non-caused Motion Situations

At first sight, the answer to the question posed above seems to be quite obvious: speed is the most salient feature of *run* because it is the first feature that "comes to mind" (Williams 1992: 212). Symptomatically, then, linguists commonly describe *run* as encoding a fast movement (see, e.g., Fellbaum (1990), Levin and Rappaport Hovav (1992), Matsumoto (1996), Nida (1997), Taylor (1996) and Tuggy (1988)). Indeed, speed does seem to be the focal component of meaning which, in the language users' minds, differentiates between the non-caused self-agentive *run* and *walk*. Let me first adduce arguments in favour of the centrality of speed.

3.1. *The Role of the Scalarity of Speed in Establishing the Contrast between "Run" and "Walk"*

Obviously, the centrality of the position of speed is underlain by the fact that the contrast between the verbs *run* and *walk* is not strictly bipolar and that this mirrors the scalarity of the velocity dimension. That is, from a strictly perceptual point of view, speakers use the two verbs as involving varying degrees of the 'intensity of motion'. This licenses the formation of sentences like *He did not walk, he almost ran*, in which walking is presented as verging on running. Running is perceived by language users as a kind of motion whose physical, outwardly observable properties are, in comparison with walking, 'more intense', i.e. whose properties exceed the norm valid for walking.

Walking thus represents the norm, i.e. the background against which running receives its value. It is thus possible to say *He did not run, he (merely) walked fast or He ran, and then slowed down to a walk*. Note, however, that although it is possible to say *He almost ran*, it is not possible to say *He almost walked* (meaning ‘he carried out a bipedal self-agentive locomotion which was on the verge of walking’). That is, *almost* does not express the degree to which walking deviates from the norm. When used with *walk*, the adverb expresses the portion of the path traversed. Consider the following two examples:

- (9) “Hello my babe,” he chirped, as he almost walked into Yanto. “Quiet in there tonight,” and jerked his bald head in the direction of the bar. (BNC)
- (10) And the clouds came down, and we lost the path, and we almost walked over the top of a thousand-metre cliff, and (...). (BNC)

It is evident that the reason for the restriction imposed on the combinability of *almost* with *walk* also lies in the position that *walk* occupies in the class of self-agentive locomotory movements. In concrete terms, *walk* not only represents one of the basic types of self-agentive locomotion, but, and more importantly in this respect, it lacks a verbal counterpart encoding a movement whose kinetic properties may be described as ‘verging on the physical pattern of motion as involved in walking’. Actually, the starting position on this abstract scale is taken up by *walk* itself, which is in line with the fact that *walk* represents the kinetic norm against which the norm valid for running is established. One can thus walk so quickly that one *almost runs* and one can run so quickly that one *almost flies* (we thus have the scalar triad *walk, run* and *fly*). In sum, *almost* presupposes scalarity of an expression with which it combines and this requirement is not met because *walk* lacks a kin expression that would, theoretically, occupy a lower position on the abstract scale marking the velocity of the motion.

The markedly contrastive status of *run* and *walk* (Fellbaum (1990: 288–9) observes that *run* and *walk* represent “direct antonyms”) may also be a reflection of the fact that the two verbs are, most probably, stored in the lexicon as concrete realizations of a motion which may be described as ‘a basic, namely bipedal, type of human self-agentive locomotion’. That is, the verbs *run* and *walk* may be seen as representing a basic type of self-agentive motion, which simply involves the scalarity of its execution (it should be realized at the same time that this fact does not run counter to the position of *walk* as a verb that represents the velocity norm). This tentative observation apparently needs psycholinguistic verification. At this point of research, it may be posited as justified by appealing to the fact that *run* may be used to encode a quick type of self-agentive movement carried out by animals that do not have feet, e.g. by snakes (as in *The snake ran under a rock*).

3.2. *Speed as a Factor in Licensing the Evaluative Use of “Run”*

A further factor that speaks in favour of the decisive role of speed in the extensive semantic applicability of *run* is the character of the lexico-semantic structure of the

verb in its more generalized use when the verb undergoes the process commonly referred to as ‘semantic bleaching’. In concrete terms, the verb gains in vagueness, which means that it loses, at least to a certain degree, reference to the specific position of feet and profiles two physical aspects, namely, a relatively high speed and a relatively high energy output. This makes it possible to utilize the verb for the expression of self-agentive locomotion in evaluative contexts such as in *Why don't you run downtown and buy a new pair of shoes?* or *She ran to the neighbours for help* – note that *walk* in these motion situations would not have this expressive force (cf. Kudrnáčová (2008: 17)).

3.3. *The Derived Status of Speed*

To repeat, when used in their basic, self-agentive locomotion senses, the verbs *run* and *walk* encode information about the speed of the motion (symptomatically, in a network for *run* elaborated by Langacker (1988: 135) and by Tuggy (1988: 588), *run* is described as a rapid movement).³

In this connection it should be pointed out that the central position of speed in self-agentive locomotion situations does not run counter to its secondary (derived) status. By this it is meant that speed follows from the concrete kinetic modality of the motion and as such it has, at least in this respect, a secondary status (cf. Kudrnáčová (2008: 56–57)). This fact clearly manifests itself in the possibility of combining these verbs both with *quickly* and with *slowly* (cf. also Miller and Johnson-Laird (1976: 551–2)).

A further piece of evidence in favour of the derived status of speed in *run* and *walk* is provided by a distinct verbal group which includes the verbs *dash*, *dart*, *shoot*, *hurtle*, *shoot*, *tear*, *whisk* and *zoom*. These verbs encode high speed but are, at the same time, mute about the concrete manner of the motion. The movement is presented as the mover's bare change of location, not bound to the concrete manner of its execution. That is, speed in these verbs is presented as a non-derived component of meaning, pertaining to the very nature of motion as ‘progression in space over time’ (cf. Kudrnáčová (2008: 54–7)).

To repeat, the derived status of speed does not run counter to its central position in the linguistic presentation of the motion situations in question. It is the focal component of meaning differentiating between the basic (self-agentive locomotion) meanings of the verbs *run* and *walk*. It should be stressed in this connection that the centrality of speed attests to the decisive role of perception in the linguistic construal of bodily motion.

³ For arguments against the lexical network analysis of polysemy see esp. Gibbs and Matlock (2001).

4. Kinetic Quantization as the Key Factor Differentiating between *Run* and *Walk*

Nevertheless, the vast variety of different uses of both the caused and the non-caused *run* raises the question of what enables us to use *run* to encode movements that crucially deviate from the basic kinetic pattern. It is evident that the extensive applicability of *run* (and the restricted applicability of *walk*) cannot be explained by appealing to the central role of speed. For example, when used with *fish*, the verb *run* designates very specialized meanings (cf. also Nida (1997: 272)). In concrete terms, it may refer to ‘egg-laying’ or to ‘swimming in schools and/or in large numbers’. Consider, e.g.:

- (11) It is down these channels that the salmon run, making for the sea whilst trying to avoid becoming stranded. (BNC)

The verb *run* may also be used to encode movements of body parts (note that in these situations the movements can only be carried over a surface). Consider:

- (12) She got down on the floor and ran her arm under the bookcase. Again, nothing. (BNC)
 (13) Absent-mindedly, Jackie licked his own fingers and ran them round the plate by the bed, picking up the crumbs which he transferred to his tongue. (BNC)
 (14) Her eyes ran down the black jacket to where the man’s watch was half hidden by a white cuff. Then her eyes closed again. (BNC)

Moreover, *run* may be used to designate movements carried out by inanimate entities, for example by prams, ships, doors or skis (skis may, for example, *run parallel*). In these cases, the movement is carried out on some surface, too. Consider, e.g.:

- (15) Before Christine or Ann or any of the other girls playing realised what was happening, the pram began to run down the steep bank, gathering speed at every turn of its wheels. (BNC)
 (16) (...) the keel projected from the stern, apparently to make the ship run straighter, although this feature was dispensed with later. (BNC)
 (17) Together they pulled back the high door, which despite its rustic appearance, ran smoothly on well-greased and balanced rollers. (BNC)

In view of the examples given above, one becomes increasingly persuaded that the profiling of a (relatively high) speed in *run* is, indeed, not the factor licensing the verb’s extensive usability. Symptomatically, then, it fails to explain why *walk*, as the most natural counterpart of *run*, is not used to represent ‘slower’ variants of the movements adduced above. In concrete terms, it is not possible to say

- (18) * He walked her to the kitchen. (meaning ‘he forced her to walk to the kitchen’)
 (19) * The snake walked into the hole.
 (20) * The tuna are walking.

- (21) * He walked his arm under the bookcase.
 (22) * Her eyes walked over the walls.
 (23) * The pram walked down the bank.
 (24) * The ship walked straight towards the shore.

Closer inspection reveals that the key factor underlying the marked difference in the semantic applicability of *run* and *walk* should be sought in the difference in their basic meanings – more specifically, in the character of the segmentation of the movements into individual kinetic quanta.

The verb *walk* presents the movement as broken down into a succession of individual kinetic quanta. This profiled segmentation of the movement is an outcome of the fact that each quantum of walking is bounded on both sides, so to say. In concrete terms, each quantum of walking represents a discrete unit because its ‘amount’ is given by the physical contact of one of the feet with the ground. To put it simply, in walking the physical contact with the ground is profiled owing to the fact that one of the feet is always on the ground. In *walk*, then, the movement is construed as a succession of physical contacts with the ground. Therefore, one can say *He walked two steps* but one cannot say *He ran two steps*. That is, each quantum of walking is identifiable and can be given its linguistic expression. Cyclicity is thus a mere potential, not an obligatory feature of the verb (it is perhaps not without interest to mention in this connection that Tuggy’s network model for *run* also incorporates cyclicity of the movement (cf. Tuggy (1988: 588)). Consider, e.g.:

- (25) He floated out of his car as easily as if he were an astronaut walking in space.
 (BNC)
 (26) If I put a cup of water on the drill press table with the machine turned on, you could easily see standing vibration waves on the surface of the liquid, at least until the cup “walked” off the edge of the table, it was that bad. Vibration to this degree is common in inexpensive machines. (<http://www.metalwebnews.com/howto/drill-press/drill-press.html>)

In both of these examples, the movement is segmented into individual quanta, i.e. the transition from one quantum into another is profiled, even though in ex. (25) there is no real ground on which the movement takes place. As can be seen, then, the factor that decides on the use of *walk* is the intermittence of a given movement, not its speed.

This line of reasoning receives support from the meaning of *walk* used to encode movements of one’s body part(s). Consider the difference between

- (27) He walked his fingers over his head.
 (28) He ran his finger over his lips.

As opposed to (28), in which *run* is used, the example in (27) includes intermittent movements. That is, in contrast to *walk*, the boundaries between individual quanta in *run* are backgrounded.

The homogeneous character of the movement represented in *run* seems to be the result of two factors. First, both feet are above the ground at the same time. This (albeit temporary) loss of the physical contact with the ground functions, at a more abstract level, as a factor that backgrounds the intermittence of the physical contact with the ground. Let me stress at this point that from this fact it does not follow that the contact with the ground is lost, as evidenced by the following example:

- (29) McMahon and Greene found that on the pole-vaulter's pillows, the runner was in contact with the surface far longer than on concrete, and that he deflected the pillows noticeably. (BNC)

To repeat, by the backgrounding of the intermittence of the physical contact with the ground it is meant that the movement is presented as a homogeneous sequence of quanta, irrespective of whether the movement takes place on the ground (on some surface) or not (e.g., water may *run*).

The profiled homogeneousness of the movement does not, however, imply that the exertion of force is suppressed. Let us recall in this connection that *run*, as opposed to *walk*, involves a higher energy output and that this feature gains in relevance in caused motion constructions expressing the external causation of self-agentive locomotion (cf. the difference between *John ran her to the kitchen* and *John walked her to the kitchen*). In concrete terms, the transmission of energy from the causer onto the causee may involve coercion (i.e. the exertion of force) if the motion verb bears reference to a relatively high energy output which is needed for the execution of the motion. It should be stressed, too, that the profiled homogeneousness of the movement in the construal of the motion situation does not necessarily have to be accompanied by the smoothness or easiness of the motion (one may *run with difficulty*, for example).

Apart from the backgrounding of the intermittence of the physical contact with the ground, the second factor underlying the homogeneousness of the movement as encoded in *run* is represented by the cyclicity of this type of movement. As opposed to, e.g., jumping, which also includes a temporary loss of contact with the ground, running must necessarily be cyclic. By this it is meant that in running a certain path must be traversed.⁴

The suppressed segmentation of the quantization of the movement and its profiled cyclicity make it impossible to identify 'the minimum amount' of running. If the traversal of a limited (though not precisely specifiable) stretch of space is to be expressed, the expression *step* may be resorted to:

- (30) "God speed," he cried, and ran a few steps alongside the departing train to show it wasn't just a question of out of sight out of mind. (BNC)

⁴ In passing, jumping is, like walking and unlike running, segmentable into individual quanta because each quantum is bounded by the physical contact of the feet with the ground. Therefore, one can say *He made several jumps* but one cannot say *He made (executed/took) several runs*.

The homogeneousness and cyclicity of movement as borne by *run* seem to be the reasons why the verb is used to represent movements in which animals (that do not have feet) and objects moving are in constant contact with the ground or some surface (*one's eyes may run along the walls, one's fingers may run along the plate, the door may run on rollers, the pram may run down the slope, the skis may run parallel, etc.*). Typically, if an object like a ball runs somewhere, "it moves smoothly and quickly over the ground" (*Collins Cobuild English Language Dictionary* (1988: 1271)).

The non-intermittent contact with the medium in which the movement takes place is also the feature of movements carried out in water (e.g., fish may *run* or ships may *run towards the shore*).

It will have been observed that the construal of the motion as a more or less even, homogeneous succession of kinetic quanta fosters the implication of smoothness, which, in its turn, may foster the reference to speed. At this point, an interesting piece of evidence in support of this observation can be adduced. The verb *amble* lexicalizes a movement executed "at a smooth or easy pace", "in a leisurely fashion" (*The New Shorter Oxford English Dictionary* (1993: 64)). In line with this, Cruse (1986: 108) regards the use of *quickly* in the sentence *Arthur ambled quickly across the lawn* as incongruous or paradoxical because the meaning of this adverb is not encapsulated in the meaning of the verb. Nevertheless, when smoothness of the movement becomes the focal semantic element (that is, when it is given highest prominence in the presentation of a given motion situation), *amble* may represent (even if quite exceptionally) a quick motion. Consider:

- (31) (...) any modern GTi hatchback will comfortably outpace it in a sprint from rest to 60mph. What the Stag has which most modern cars do not is the endearing ability to amble quickly, to lope effortlessly, reeling in the miles without really trying. (BNC)

Also, this example aptly illustrates the fact that, generally speaking, the meaning of a lexeme represents a dynamic potential that is activated depending on the type of context.

From the discussion of both caused and non-caused motion situations offered above it clearly follows that the degree of context-sensitivity of the verbs *run* and *walk* and their mutability are interconnected (see also Evans 2005). In comparison with *walk* as its most natural counterpart, *run* is much more prone to changes in its meaning depending on the type of syntactic construction and the types of participants involved in the respective motion situations (on this see esp. Ritter and Rosen 1996 and 1998). Since *run* is burdened with a heavy lexical load, it is only logical that it is the context that plays a decisive role in determining the verb's meaning (cf. Nida (1997)).

Needless to say, the differences in the applicability of *run* and *walk* in motion situations require further investigation. Nevertheless, it may be stated that, in the sets of senses discussed above, it is the homogeneousness of the movement (fostering the implication of its speed) and the heterogeneousness of the movement (the intermittence of its progression) that discriminate between *run* and *walk*, respectively (on the

possibility of establishing distinct components of meaning in *run* see esp. Gries 2006.) These distinct aspects of meaning have been posited as deriving from both perceptual and cognitive processes, which are based on conceptualizations at a higher degree of abstraction.

5. Conclusion

The discussion has attempted to show that, when used to describe physical motion, the various senses of *run* and *walk* may be posited against the verbs' basic meanings, which may, then, be seen as starting points from which other senses are derived (this standpoint is taken by Pustejovsky 1995, among others). Another implication following from the discussion is that the features differentiating between the various senses of *run* (and, by the same token, the features differentiating between *run* and *walk*) need not be based on 'simple' perception but may be underlain by more complicated mechanisms, involving conceptualizations at a higher level of abstraction (cf. the homogeneity and cyclicity – and, potentially, the smoothness – of the movement as implied in *run* and the foregrounded segmentation of the movement into individual kinetic quanta as implied in *walk*).

We have seen, too, that the perception of speed asserts itself with the greatest force in the basic, i.e. 'bipedal self-agentive locomotion' meanings of the two verbs. In line with this, the central component of meaning differentiating between the basic *run* and the basic *walk* is the speed of the movement. In actual fact, this pronounced link between perception and semantic representation may be taken as a further argument in favour of positing these two basic types of bipedal self-agentive locomotion as representing the verbs' core meanings. Inspired by Jackendoff (2002: 358–9), we may say that the basicness of their status is corroborated by a certain degree of their primacy, which is a result of both their bodily anchorage and their strong linkage to perception.

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