

WHAT IS INTERESTING ABOUT *ABOUT*?  
– CHAOS IN SPACETIME

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**1. Introduction**

In the present paper we take up the challenge of how to represent the conceptual meaning of *about* (used either as a preposition or a particle) by making a direct reference to a set of assumptions developed by the author and laid out in a number of papers, which are deeply rooted in the theory of cognitive grammar as well as some concepts stemming from extra-linguistic postulates (philosophy of physics, mathematics in particular, cf. Bączkowska). Let us start with presenting the fundamental postulates.

First and foremost, at the heart of much of the present work lies the contention that time and space are constituents of one entity – spacetime. This claim has serious consequences for any linguistic analysis. Namely, whilst determining the conceptual meaning of a language item it is necessary that the two parameters be treated on a par, i.e. as two facets of one entity, whereby the spatial and temporal domains are believed to interact and operate in parallel (rather than in a linear and sequential fashion) in meaning emergence.

Second, it is assumed that the conceptual meaning should be examined against the following parameters: three Cartesian coordinates used of space ( $x$ ,  $y$ ,  $z$ ), time ( $t$ ), as well as vectors of cones of future/past ( $v$ ). Cones of future and past are concepts borrowed from physics (cf. for example Hawking 1988), which presents time and space in the form of two cones of which tops are w tangent. In the diagram, the upper cone stands for the future, the lower cone represents the past, and the tangent point symbolises 'now'. The cones can be of varied size: the radii of cones (i.e. vectors  $v$ ) are long or short, depending on the velocity of

movement we wish to illustrate. A long radius (i.e. a cone of greater angle at which a cone inclines) designates a fast movement ( $v_{max}$ ), while a short radius shows a slow movement ( $v < v_{max} = v_l$ ). This claim is based on the observation that the borderlines of cones with maximally long radius (termed in Hawking worldliness, and in this paper scenelines, as they designate the limits of a scene observed/construed by a conceptualiser) designate the region in space through which light travels. As we know, nothing can travel faster than light, therefore the maximal angle at which cones are inclined illustrates the fastest possible movement, and a lack of movement (i.e. inertia) must be symbolized by a line which maps onto the vertical timeline.

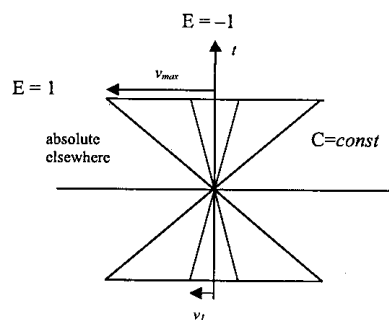


Figure 1. Adapted Minkowski's cones of past and future in spacetime

The symbol 'E' designates energy which can be substantiated by two competing forces: negative and positive. Negative force (-1) indicates an inward movement which leads to energy concentration (gravitation) in an entity, whereas positive value of 'E' characterizes an outward movement (expansion) of energy relative to an entity described. The region which belongs to '- E' (i.e. 'E - 1') is represented by the partition which I term attraction, to which a number of prepositions are ascribed (e.g. *on, for, in, with*, etc.). The partition which hosts prepositions of repulsion, on the other hand, is designated by '+ E'. The negative/positive mathematical values, therefore, do not correspond to their axiological counterparts: '- E' (which has a negative value) stands for the concept of attraction (which is positive) while '+ E' implicates a negative axiological charge. The symbol 'C' (which stands for a constant movement), ensures invariable expansion of the energy portrayed graphically in the form of cones, i.e. it assumes that the scenelines constitute the outer surface of ideally modelled cones (a variant of a variable C will be presented in the course of the paper).

Third, the space beyond scene lines (i.e. 'absolute elsewhere', which, in fact, is not absolute but relative) is unavailable for perception, and, hence, the probability for an event to occur in this region is impossible. From this observation it transpires that the region adjacent to the timeline ( $t$ ) hosts events of high probability (in the cone of the future) or facts (in the cone of the past)<sup>1</sup>. In line with the results of thorough analysis of English prepositions/particles conducted by the author, it has been assumed in this paper that the order in which the items at issue marshal and map onto the cones of the past/future (the cone of English prepositions, or COEP for short) is as follows: *at, against, about/around, off, over, from, in, of/on* (Figure 2).

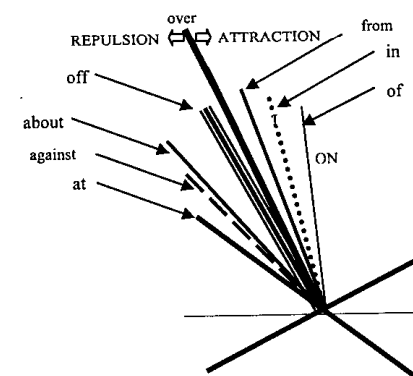


Figure 2. Prepositions of attraction and repulsion inscribed in adapted cones of past and future

The prepositions can be divided into two main groups: prepositions designating attraction or repulsion. As mentioned above, whilst the former group is implicative of a high degree of probability, the latter is characteristic of gradual decrease in probability and can be further divided into possibility, potentiality, and impossibility. As the last region falls beyond the cones, i.e. it is outside our scope of perception, it will be ignored in our discussion. If fact, for our immediate purposes only several prepositions will be important, and they are presented below:

<sup>1</sup> Probability analysed in connection with modal verbs using cones of the past/future was presented by Inchaurreal (1996).

prepositions of repulsion		
repetitive or single action	repetitive action	
at	against	about
		off

Modality: impossibility      potentiality      possibility      probability

Table 1. Prepositions of repulsion

## 2. About

In the present study over one hundred examples of word combinations containing *about* have been analysed, and, as a result, it has been noticed that the meaning which most frequently occurs in connection with *about* is implicative of 'dispersion' of energy, often entailing chaos, disorganization and incoherence. The following examples support this observation:

**dispersion (loss) of energy, incoherence, disorganization and chaos:** *agonizing, angry, anguish, annoyed, anxiety/anxious, bark, be about to do sth, bitter (=showing strong unrelenting hostility or resentment), blunder, boast, boss, bother, come (LDCE: 1. a ship changes direction; 2. appear unexpectedly), complain, confused, debate, delighted, distress, faff, fears, fool, enthusiasm, gossip, grope, grumble, furious, happy, inquiries, lark, mess, muck, nervous, nose, objection, optimistic nightmares, pry, question, quibble, rave, scatter, swim, speak, splash, spread, gossip, stagger, talk, think, toss, whisper, worry.*

An undesirable, yet possible, consequence of energy dispersion is exhaustion and/or a lack of any energy resources, which is illustrated by a smaller number of items:

**lack of energy, inactivity:** *lounge, sit, fiddle, laze, slop, lie, litter, mope, muck, stand, hang, loaf, kick (=lying sth unwanted; a bike ~in the bush), loiter, loll, wait, beat about the bush.*

Dispersion of energy can also be realized by its extension conveying, in addition to dispersion, the concepts of aimlessness or playfulness, as indicated by the following examples:

**lack of/numerous directions/aims/playfulness:** *ambivalent, dream, dubious, generalizations, insecure, tinker (=play with sth and make small alternations and adjustments to it, play, uncertain.*

An interesting case of reverse dispersion is illustrated by such verbs as, for example, *learn, know, and hear*, whereby the energy, instead of traversing away from the *tr* outwards, travels towards *tr* and amasses in the center. This configuration is poorly substantiated as compared to canonical 'dispersion', and therefore will be marginalized in this paper. The contexts in which *about* is typically used can be illustrated by the following diagrams:

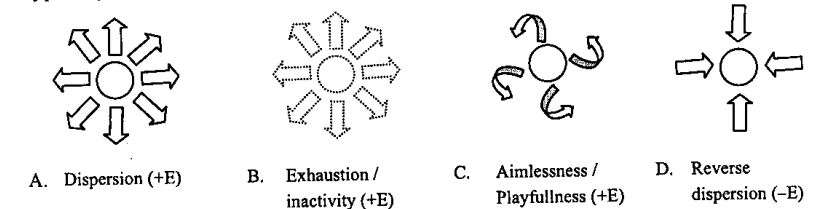


Figure 3. Subschemas encoded by *about*

By way of summary, the above subschemas can be presented as a network of associations stemming from the canonical meaning identified as 'dispersion'.

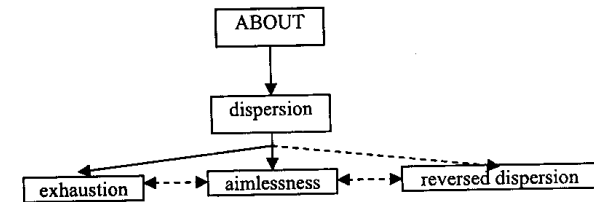


Figure 4. Subschemas of *about*

Returning to our main analysis, constituting the border case, a small set of examples shares properties with *against* and *at* in terms of modality, namely they are indicative of 'potentiality', which, however, when encoded by *about*, triggers associations with prevention, purposeful delay or hesitation:

**prevention and/or delay:** *cautious, skeptical, hesitant, prowl (=move slowly and quietly esp. because involved in a criminal activity).*

While prevention manifested by *about* is a consequence of uncertainty and/or caution and is thus expressed indirectly, when encoded by *against* it describes stronger, more forceful and aggressive (or even destructive) measures taken to avoid an undesirable situation. Moreover, contrary to *about*, where the mentally sketched trajectory resembles the movement of a pendulum and suggests a

recurrent process, a straight line focusing on the target and indicating the completion of an action (i.e. preventive measures) is guaranteed by *against*. Successful prevention is illustrated by the following expressions which go with *against* (ordered in a gradually increasing power):

**prevention and/or destruction against:** *safeguard, protect, warn, vigilant, guard, hedge (=do sth to try to prevent from affecting you), side (=join together in order to defeat in a quarrel), set (=make two people enemies or rivals), kick (=show dislike/impatience by reacting), rage, inveigh, proceed, plot.*

Let us now set the above observations in a wider contexts. Marshalled in Table 1, the particles of repulsion are believed to be arranged in the following sequence: *at, against, about, off*. Whilst the first two are claimed to encode potentiality, the remaining two signal possibility. In addition, in line with the cone of English prepositions/particles discussed in the introduction, *at* should trigger associations of faster and more abrupt movement than one instigated by *about*. Finally, *against* is believed to designate a series of repetitive (reflexive) actions, while *off*, for example, is suggestive of single (non-reflexive) action. All these claims are now to be evidenced and warranted in the remainder of this section.

#### Repetitive action versus single action

Repetitive action is manifested by the following examples:

*at: jab at, nibble at, dab at, at (regular) intervals, pick at, paw at, pluck at, tug at, jump at; against: bounce against (drums), hit against, (rain) pattern against (windowsill).*

Single action encoded by *at* as well as *off* can be illustrated by the following examples:

*at: at once, at a/one stroke, at one go, at a single blo, etc.*  
*off: go off (bomb), let off (fireworks), trim off, cut off, trigger off, split off, etc.*

Contrast between two extreme contexts – iterative and single events – can be illustrated by Figure 3. In (3b) two contexts are encoded: 1. signalling an abrupt and quick movement into indefinite space; 2. outward as well as downward movement.

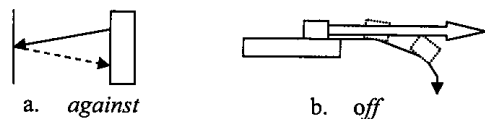


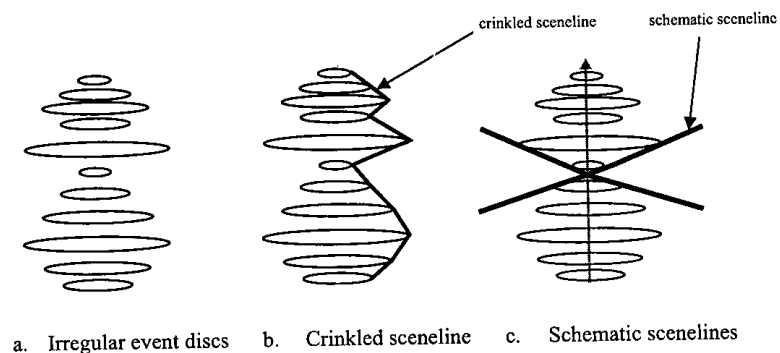
Figure 5. Graphic illustration of *against* and *off*

Considering the two configurations, the interesting thing that must be noted is the existence of a barrier which limits the degree of expansion of the kinetic energy and turns it back to its source in the case of *against* (Figure 5a). Its trajectory is confined in space (e.g. *the windowsill in a rain patters against the windowsill*) as well as in time (it will stop raining at some point). In other words, *against* is framed. Contrary to *against*, the conceptual scene invoked by *off* disallows the existence of any barrier, as the kinetic energy travels outwards into unspecified spacetime along a trajectory which, by trespassing the scene line, enters a terrain inaccessible for current perception. In consequence, for an observer, the terminus of a trajectory remains undiscovered in the case of abstract concepts (steady line in Figure 5b) or, alternatively, is known yet unimportant for the construal of a current scene (dotted line in Figure 5b).

Returning to *about*, it must be noted that there is a group of verbs which pattern with *about* or, alternatively, with *around*:

*about/(a)round: sit round, stand round, hang round, bumble around, lie around, mope around, stand around, fiddle around, loaf around, muck around, stick around, fool around, loll around, play around, tinker around, hang around, lounge around, putter around, wait around, kick around, mess around, sit around.*

The possibility of such substitution stresses the facet of *about* responsible for an outward and partially circular movement, although while *around* marks out a helix, *about* is suggestive of a spiral, agitated movement whose trajectory is seriously distorted, which is manifested by a wavy or crinkled scene line. The preposition *about* thus portrays asymmetry in time (Price 1996: 16).



a. Irregular event discs b. Crinkled sceneline c. Schematic scenelines

Figure 6. Irregular scenelines encoded by *about* and schematic scenelines

Allowing for circularity permitted as an extension of the canonical meaning of *about*, the position of *about* in the COEP before *against* seems to be justifiable on the grounds that, although *about* invokes outward and multiple movement (as *against*), it embraces cases when the outward force returns to its source (e.g. *learn*, Figure 3d) or follows a trajectory which does not lead to any target. In contrast, *against* manifests more 'aggressive' and 'violent' behaviour: the terminal point of the trajectory being an aim towards which the force is channelled. The force thus travels with greater speed and hits the Im with great kinetic energy (which allows iterative action). Observe, that similar aimlessness of energy trajectory is displayed by *off*, yet here the movement is single rather than repetitive (as in the case of *about* and *against*).

Considering four dimensions, the prototypical meaning of *against*, *about*, and *off* can be represented as follows:

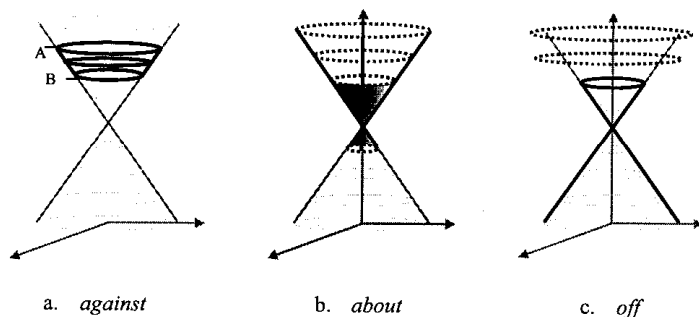


Figure 7. Graphic illustration of *against*, *about*, and *off*

Single, repetitive actions of great speed are designated by unshaded profiled discs while the spatial restriction, which is the source of reflexive force, is stressed by intervals (A,B) mapped onto thus profiled scene lines spanning the region being determined by time occupied by the action described (Figure 7a). Portrayed in this way, *against* differs considerably from *about*. The latter is marked by a shaded area in the cone of past as well as future, and the sceneline, similarly to *against*, is profiled yet the border cases (located on the horizon of events) remain imprecise (dotted lines and dotted discs which stand for varying scenelines, cf. Figure 6) and, in addition, unlike in the case of *against*, the timeline is given prominence. This configuration entails the following: the action described is largely unceasing (shaded area, no ellipses in the shaded area), the terminus and, in particular, the onset of the action/state are highly imprecise

(dotted lines and dotted discs), the action/state, confined by scenelines, occurs in a defined space (which maximally extends in accessible spacetime). Finally, the aspect of time (in fact a prolonged action) prevails over the parameter of space (hence profiled timeline). The last configuration, which portrays *off*, resembles the diagram representing *about*: both foreground the scenelines (the kinetic force remains within the boundaries of the accessible spacetime), and both are expressed by a profiled disc (including dotted disc) which expands into a blurred future. However, there are two facets which are typical only of *off*: the action (rarely a state) is largely single, rather than repetitive (contrary to *against*), and abrupt (unlike *about*); the action is thus portrayed that it trespasses the sceneline and disappears in 'absolute elsewhere' (i.e. in an undefined and currently inaccessible spacetime) where the kinetic energy further expands, i.e. it flies off to infinity (cf. Figure 7c).

The conceptual meaning of *about* is thus characterizable by making reference to its position in a sequence emerging from the arrangement implied by the cone of English prepositions, called COEP (briefly summarized in the introductory part of this paper) and by highlighting some aspects of modality inherent in conic description. COEP thus functions as an unchanging (i.e. constant) point of reference ( $C = \text{constant}$ ). By drawing on an analysis based on unvarying parameters, however, we fail to account for some dynamic aspects encoded by *about* identified as chaotic movement, i.e. one with alternating direction, speed and frequency of kinetic energy (portrayed by an irregular trajectory and a crinkled sceneline), as these parameters disallow portraying the scene invoked by *about* in a form of cones. In such circumstances, the symbol  $C$  requires redefinition: Whilst in the configurations with unvarying  $C$ , it is assumed that the energy plotted on the template cones expands with unvarying speed and direction, the introduction of some varying parameter cancels constancy in the sense described above and substitutes it with the assumption of changes which occur with predictable regularity (modified  $C - C_M$ ). A good illustration of what is meant by  $C$  and  $C_M$  is a straight line and a sine curve: both indicate stability and permanence (i.e. constancy) yet, while the former implies a complete lack of alternations, the latter presupposes frequent yet fully predictable changes which, due to their regularity, also embody stability ( $C_M$ ). Such an understanding of constancy is exemplified by the preposition (*a*)round (circular movement is fully predictable and unvarying) or by some expressions with *at* (e.g. in the phrase *do sth at regular intervals*). That the preposition *about* is not a good example of  $C_M$  has already been proved (chaotic movement excludes it from this option). It is thus necessary that *about* be analysed with the assumption that the configuration lacks stability and permanence ( $C \neq \text{const.}$  and  $C \neq C_M$ ) which is a consequence of

asymmetry in time (as oppose to asymmetry *of* time, cf. Price 1996, chap. 1). The varying pathway of trajectory, which typically is represented by cones, is thus encoded by the cone itself, i.e. by the fifth dimension (5D).<sup>2</sup> The fifth dimension can have three formats: a straight line (when  $C=const.$ , standard configuration), a spiral and circulating line (when  $C=const.$ , the cone rotates), and a chaotic sceneline which disallows tracing out a cone ( $C \neq const.$ ). These arrangements will be symbolized by *s* (for straight line), *c* (for circular (spiral, to be more precise) movement), and *h* (for chaotic movement). By way of summary, the above discussion can be succinctly adduced as follows:

if  $C = cont.$   $\therefore s$

if  $C = const.$   $\therefore c$  (*about* = (*a*)round)

if  $C \neq const.$   $\therefore h$  (*about* = 'chaotic movement')

and:

if *h*  $\therefore +E$

if *c*  $\therefore \pm E$

hence:

parametres	at	against	about	off
C	const.	const.	const./M	const.
E	+	+	±	+
5D	<i>s</i>	<i>s</i>	<i>h</i>	<i>s</i>

**Table 2.** Basic properties of *at*, *against*, *about*, and *off*

Comparing to other adjacent prepositions, the preposition *about* displays interesting parameters which can be easily identified as characterizable by a lack of stability on three planes: (i) ir/regularity in the expansion force of a cone ('C'); (ii) two competing forces of repulsion and attraction ('E'); and (iii) rotary cone or a distorted conic shape ('5D').

### 3. Conclusion

Our primary goal has been to uncover prototypical meanings of the preposition/particle *about* in line with the fundamental assumptions presented at the outset of this paper, namely that time and space are closely connected and they constitute a unified space-time manifold, and that these assumptions allow

one to portray conceptual meanings in a conic shape, which constitutes a template notion used in a methodology developed by the author. The particle/preposition at issue was compared and contrasted with other particles which occupy adjacent positions in the sequence of prepositions (naturally emerging from the concept of cones), i.e. *at*, *off*, and *against*. As a result, it has been concluded that the preposition *about* represents temporal asymmetry (asymmetry in time) and is used of: verbs denoting repulsion as well as (in rare cases) attraction, verbs encoding chaotic (occasionally spiral) movement, and concepts which indicate temporal protraction and/or incessancy as well as incoherence and irregularity.

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<sup>2</sup> The other dimensions are the following: *x*, *y*, *z* (Cartesian coordinates) and time *t*.