

Making sense of prepositions in Computer English

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Abstract

This paper analyses some common phrasal verbs in Computer English by applying some recent insights in Cognitive Linguistics. The schematic meaning of English particles is always a spatial scene from which other abstract, non-spatial senses derive. Therefore, far from being an arbitrary cluster of unrelated senses, the various uses of a particle constitute a unitary meaning. Also, by confining the study of phrasal verbs to a specific field, namely Computer English, the range of possible meanings are considerably reduced. The results of such a simplified analysis can be subsequently extended to other fields or to more general uses.

Prepositions are highly polysemous words. The traditional view considered that all the senses of a preposition were highly arbitrary and were not related to one another. Consequently, both dictionaries and grammars used to provide long lists of unrelated senses for each preposition and its possible uses in different contexts. The problem grew even worse when it came to the study of verb-particle constructions, where the contribution of the particle to the meaning of the whole is crucial, to the point that we can find compounds where the weight of the meaning lies in the particle whereas the verb provides a mere perspective of the event (*go/come down, put/take out*, etc.). In these constructions, the combinations of verbs and particles seemed to happen absolutely at random. In addition, prepositions and phrasal verbs do not translate well to other languages, which apparently supported the idea that their range of senses was arbitrary. This position was also manifest in teaching grammars and textbooks and consequently, students of English strived to find any logic that helped them to understand and learn English prepositions and phrasal verbs.

Much work has been done in the last 25 years to find a relationship between the different senses of English prepositions. Cognitive Linguistics has paid great attention to polysemy, and specifically to the meaning of prepositions (Lindner, 1982; Radden, 1989; Vandeloise, 1994; Pütz & Dirven, 1996; Cuyckens & Radden, 2002; Tyler & Evans, 2003...). Cognitive linguists explain polysemy in terms of radial categories (Lakoff, 1987) and therefore consider that the meaning of a polysemous word can be seen as a big semantic network of related senses. Furthermore, it now seems evident that there is a highly schematic common core to all the related senses of a preposition, which all derive from a primary spatial schema or *proto-scene* (Tyler & Evans, 2003) to other non-spatial, abstract senses “by means of generalization or specialization of meaning or by metonymic or metaphoric transfer” (Cuyckens & Radden, 2002: xiii)

Naturally, the study of phrasal verbs can also benefit from these findings. Considering the heavy role of the particle in the meaning of the compound, it is quite straightforward that a better knowledge of the particle will provide a better interpretation of these verb-particle constructions. However, it is also true that phrasal verb meanings have a strong

pragmatic aspect,¹ and so the very same construction can mean differently depending on the context of use. This is particularly noticeable when considering English for different specific purposes. For example, consider *put out* in the following sentences:

- (1) You have *put* your shoulder *out*.
- (2) The doctor decided to *put* her *out* during the birth.
- (3) It took them a long time to *put* the fire *out*.
- (4) They are *putting out* a special issue this week.
- (5) The yacht *put out* in the morning.
- (6) The tree has *put out* new leaves.
- (7) This printer offers excellent *output* quality.

By confining the study of phrasal verbs to a specific field, the range of possible senses can be considerably reduced, and so the schematic core that is common to all of them can be identified more easily. Afterwards, the conclusions drawn from such an analysis would be extended to other fields, adding new senses to the global meaning without altering the concept of the meaning of the particle as a unity.

The present paper analyses some common phrasal verbs in Computer English. Following the claims stated in the lines above, I will argue that there is a primary spatial sense for every particle from which the other non-spatial senses derive. For obvious reasons of time and space, the only particles considered are *in*, *out*, *up* and *down*, which have an evident spatial meaning originally but with interesting extensions towards non-spatial, abstract, metaphorical senses. Besides, I have studied the particles in opposite pairs *in/out* and *up/down*, since each pair usually accounts for the same spatial scene, even if from a different perspective. This way, the variety of possible uses of every compound, reduced to the field of English for computers, can be perceived as a unitary meaning and so can the various senses of the particle. This simplification can eventually serve as a sound basis to extend the results to other fields or to more general uses of the particles.

1. *in* and *out*: the container metaphor

The mental image for the spatial meaning of *in* and *out* is quite a basic one: a container with something either inside or outside it. When it comes to English for computers, it is easy to project this image of a container onto the computer itself, both in a physical and in a metaphorical way. Physically, the computer actually has the shape of a box (the CPU, the monitor...) with chips and circuits inside to make it work. In a more abstract conceptualization, the whole system can be seen as a unitary set, so that we can refer to the computer as a container in spite of the fact that it is composed of several parts: monitor, keyboard, mouse... This accounts for expressions like *built-in modem* or *built-in speakers*. Also, the spatial senses can then be projected towards non-physical concepts as evidenced by the two possible uses of *plug in* in these sentences:

- (1) Digital cameras can be *plugged into* a computer to download and edit the photos.

¹ It must be noted that Cognitive Linguistics does not distinguish between semantics and pragmatics since the meaning is considered extensively and everything that affects to the meaning construction is part of it.

- (2) A *plug-in* application like Acrobat Reader is recognized automatically by the browser.

By extending the image of the container beyond the mere picture of a box, *out* can also develop a sense of “separation” as in *branch out*:

- (3) The cables *branch out* from a root place forming a tree.

And, again, we can find examples of a separation that is not so physical:

- (4) The system *sorts out* the computer’s memory into blocks.

As for the software, we often conceptualize it as physical objects and the computer system as a box to keep them. Under the metaphor THE COMPUTER IS A CONTAINER, we *store* data and programs, *move* them to different folders or we can find out that there is not enough *space* for the file we wanted to introduce in it. This is why the particles *in* and *out* are often part of phrasal verbs that refer to the actions of introducing or deleting data in the computer, as well as getting the results from it after the processing of the information:

- (5) Instructions and data must be *fed into* the computer.
(6) I *scanned in* my photo.
(7) Two people can *key in* information to a data base without interfering each other.
(8) You should *rub out* all the unwanted files to get some free space in your disk.
(9) Spammers *send out* hundreds of thousands of messages for each spam “pitch”.
(10) The computer will show the *output* on the monitor or in printed form.
(11) A lightpen is an *input* device similar to a pen.
(12) The computer *crunched out* all those computations in a fraction of a second.
(13) Several computers were needed to *work out* the right answer.

The sense of “getting the results” in the meaning of the particle *out* in the compounds *work out* or *output* can be perceived as equivalent to the idea of completion (Tyler & Evans, 2003). For this reason, *out* has also developed a sense of “completion”:

- (14) Each instruction causes the computer to *carry out* a specific action.

The mental picture we construct of the computer as a close container where we keep data is also responsible for expressions like *break into* and *hack into* for the action of accessing the information stored in a computer without permission:

- (15) If a hacker *breaks into* one of these sites, he can steal some sensitive information.

Besides, in the field of Computer English, there are other concepts usually perceived as containers, one of the most frequent ones being that of the *boxes* found in graphical interfaces, as well as webpages and online forms, where you must *type in* or *fill in* your name, password etc.

- (16) *Type in* your password to access the system.
(17) *Fill in* the coloured fields of the form.

Finally, it is impossible to speak about Computer English without considering the Internet, which is often conceptualized as a container, a big box that you can search for anything you may need. As such, particles *in* and *out* are also frequently used to refer to the actions of accessing or stopping working on the Internet, as in the compounds *log in* and *log out*.

It is quite obvious that there are many common uses in these phrasal verbs outside the scope of Computer English. For instance, the constructions *fill in* and *work out* can be found for more general uses in sentences like the following:

- (18) *Fill in* the blanks in the following sentences.
(19) I *worked it out* in my head.

In (17) the blanks, even if they are not framed and box-shaped, are still perceived as containers to be filled, whereas in (18), the metaphor THE MIND IS A COMPUTER can account for the meaning of the sentence. This explanation does not involve that the general uses derive from those in Computer English, but, as stated above, the analysis of the particles in a constrained domain is only methodological, since it provides a unitary picture of the meaning of the particles so that it can be easily extended for other purposes.

2. *up* and *down*: orientational metaphors

The spatial meaning of *up* and *down* is one of vertical orientation. However, from our embodied experience as humans, we know that the upright position means we feel well, whereas a lying body is associated with death, sickness or at least an unconscious state. As a result, GOOD IS UP/BAD IS DOWN are common metaphors in our conceptual system. Also, from our experience with the environment, we have learned that MORE IS UP/LESS IS DOWN (Lakoff & Johnson, 1980). Consequently, everything that is *up* has a positive value, whereas everything that is *down* is associated with a negative one.

When analysing these particles in Computer English, we can also find the spatial as much as the metaphorical senses in it. The spatial meaning is evident in expressions like the following:

- (20) *Hold down* the shift key.
(21) Select an option from the *drop-down* menu on the left.
(22) Click on the right mouse button and choose “copy” from the *pop-up* menu.

As a matter of fact, the spatial sense in (22) is not so physical, but rather conveys the image of the monitor as a container where things *come up* to the surface. The container metaphor appears again in the compounds *upload* and *download*, where the software and data are conceptualized as physical entities that can be moved from a big container, namely a computer or the Internet, to a smaller one:

- (23) You can easily work without the need to *load down* the files to floppy disks or print them.
- (24) I often *download* music and films from the Internet.

The Internet is then perceived as being *up*, and so, for instance, you have to *dial up* the number to contact the server and gain access to it.

As for the sense of “readiness” derived from the experience that standing up is being ready to do something, it can be found in constructions like *set up* and *boot up*:

- (25) The OS of a computer is what *sets* the computer hardware *up* for the user to interact with it.
- (26) When I turned it on, it took ages to *boot up*.

And quite the opposite, if the computer stops working, either because it is switched off or because there is a technical failure, then it is *down*:

- (27) I had to wait ages for my computer to *close down*.
- (28) *Shut down* your computer before switching it off.
- (29) If your computer *breaks down*, do not open it and call a technician.
- (30) The presence of multiple CPUs means that if one *goes down*, the other may take over its work.

Since, as explained above, *up* also means “more” and “better”, when we enlarge the computer memory and so improve its performance, we *upgrade* or *update* it. And because *down* means “less” and is associated with negative values, we can construct sentences like:

- (31) This process *slows down* the computer.

Finally, a typical construction of computer English, *back up*, can be explained in metaphorical terms, by projecting the image of a physical support to help something or someone to stand up onto the metaphorical support of having a copy of your files in case the original ones get damaged.

3. Conclusions and suggestions for further research

The meaning of verb-particle constructions is not arbitrary. On the contrary, it lies heavily on the particle, which has an original spatial meaning that can be traced back even for some highly metaphorical senses. As a result, the various senses associated with a single particle constitute a big organized network, where it is possible to establish links among their distinct uses. To prove this, the number of possible uses has been reduced in the present work to those characteristic of Computer English.

This paper is but just a small contribution to the study of phrasal verbs that would benefit from a deeper study of other common particles that are very frequent in Computer English, such as *on*, *off*, *over*, *through*... to prove how the primary spatial scene is still part of the meaning even in the most abstract uses of the particle. Furthermore, similar studies of particles in other fields, e.g. Medical, Legal or Business

English, etc., would provide a much better understanding of English prepositions in order to eventually extend those findings to the far more complex uses of prepositions and phrasal verbs in common speech.

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