Elliptical Arguments: a Problem in relating Meaning to Use

Patrick Hanks
Charles University in Prague

1. Introduction: dictionaries and phraseology

Electronic dictionaries of the future will be much in demand – for computational, pedagogical, and other applications – if they can be used as resources for mapping word meaning systematically onto word use. Research in computational linguistics has shown that algorithms using electronic versions of current dictionaries designed for human users cannot achieve this goal (see, for example, Ide and Wilks: 2006, Hanks: 2008a). Nor are results using hierarchical ontologies such as WordNet any better (see Nirenburg: 2007). Such resources are plausible enough for human users, but they fail to meet the challenges of mapping meaning systematically onto words in use in free text for computation. One reason for this is that research questions have often been formulated on false assumptions. Fillmore (1975) warns against ‘checklist’ theories of meaning. The notion that a word represents a list of senses that can be disambiguated by some procedure or other is a dangerously crude generalization, encouraged by superficial inspection of traditional dictionaries and WordNet synsets. Fillmore was one of the very first linguists to draw attention to an alternative theory, namely that meanings, like certain other linguistic phenomena, are best interpreted probabilistically, in terms of best match to a prototype, rather than by satisfaction of sets of necessary and sufficient conditions.

Meanings are associated with patterns (Hunston and Francis: 2000), constructions (Goldberg: 1995, 2006), or ‘phrasemes’ (Mel’čuk: 1988), as well as with words. Corpus analysis, using tools such as the Sketch Engine (Kilgarriff et al.: 2004), shows that usage is both variable and highly patterned. The collocational preferences of lexical items within a phraseme must be analysed statistically (Sinclair: 1966, 1987, 1991; Church and Hanks: 1990; Kilgarriff: 2004), if the meaning potential of the lexical item is to be understood. In the theory of norms and exploitations, ‘TNE’ (Hanks: 1994 and In Press), I propose that some variations are themselves norms, known as ‘alternations’. Others are rule-governed exploitations of norms.

---

1 Institute of Formal and Applied Linguistics (UFAL), Charles University in Prague, patrick.w.hanks@gmail.com
In this paper, I explore the idea that a meaning may be associated, not only with particular patterns and pattern elements (valencies and collocations), but also, in certain circumstances, with the absence of a particular pattern element.

2. What is a norm? What is a pattern?

Normally, each content word used by a speaker of a language to make a meaning is used in conformity to one or other of the patterned norms in the language for using that word. However, occasionally speakers and writers exploit norms.

A norm, in the sense denoted here, is a use of a word that conforms to any one of several semantically motivated syntagmatic patterns with which that word is associated – or, to borrow Michael Hoey’s term, ‘primed’. These syntagmatic patterns can be discovered by corpus analysis, but not by introspection or the invention of evidence. Invented evidence distorts².

For verbs, a pattern consists of the verb itself together with its arguments, the latter being populated by lexical sets. A lexical set is a group of semantically related content words – synonyms, antonyms, hyponyms, etc. – that are found in the same valency relation to a collocate – the verb – in a sentence: the words of a lexical set activate the same meaning of the collocate. The words in a lexical set share some semantic feature in common: in most cases, this is their semantic type.

A lexical sets may consist of just a single word: for example, the meaning of the idiomatic expression grasp the nettle, ‘to deal resolutely with a difficult issue’, depends for successful realization on the presence of the particular lexical item nettle in colligation with a verb of seizing. No other word will do: you cannot, for example, realize the same meaning by talking about ‘grasping the poison ivy’ or ‘grasping the scorpion’. At the other extreme, a lexical set may be huge and indeed open-ended. Thus, the semantic type [[Human]] comprises an immense and indeed in principle infinite number of lexical items. This is a lexical set that is found as the subject of most sentences and very often in the object and adverbial slots, too – for much if not most human discourse is about who did what to whom. As a general rule, the smaller the lexical set, the more precise its effect on the meaning of the pattern. Again, it must be emphasized that lexical sets are part of the system of the language, to be discovered by empirical corpus analysis. A person cannot just decide to invent a new lexical set at will.

Some lexical sets alternate in given contexts with other, more salient lexical sets: for example, in the subject slot for verbs denoting cognitive procedures,

² The role of intuitions is a subject that has excited much controversy in both lexicography and linguistics. The view taken here is that of course intuitions are absolutely necessary for interpreting data, but that it is neither necessary nor desirable to invent examples. An exception to this stricture is the invention of contrastive examples for explanatory purposes, as in examples 9a–9c below.
the semantic type [[Human Institution]] regularly alternates with the prototypical type [[Human]]. In actual fact, it is humans who think and say things, but it is also very normal to find sentences in which a government or other human institution is *said* to say or think something.

### 3. Exploitations of norms

A few utterances may be described as exploitations of norms. These are the truly creative utterances in a language. There is no firm boundary between the category of exploitations and the category of alternations. The two categories shade imperceptibly into each other. A sentence that, for the utterer, is merely an alternation or a domain-specific norm may strike some hearers or readers as a particularly creative piece of phraseology.

In doing corpus analysis of a word, most corpus lines can be classified as realizations of a particular pattern; others are alternations; a few are exploitations. As a rule of thumb, a corpus analysis in which more than about 10% of the uses of the word being analysed are classed as exploitations is worth re-examining to see whether some secondary norm or alternation has been missed.

An example may help to clarify what has just been said. The English verb *hazard* has two patterns:

A. [[Human]] hazard {guess}

B. [[Human]] hazard [[Entity = Valued]]

Sentence 1 below illustrates the most normal use of the verb *hazard* (in the more common of the two patterns); sentence 2 illustrates a simple alternation of the norm, in which other terms denoting speech acts or propositions (description, definition) are used in place of the prototypical direct object, *guess*, and sentence 3 illustrates an exploitation, which will be discussed in more detail towards the end of this paper.

1. I can only hazard a guess at what it must have been like to sail in a typical convoy.  
2. Could you hazard a description or definition of the id?  
3. I hazarded various Stuartesque destinations like Florida, Bali, Crete and Western Turkey.

All this implies that use of the words of a natural language is rule-governed, but not by a single rule system; rather, there is a ‘double helix’ of two interacting rule systems: rules for using words normally, and rules for...

---

3 In this paper, examples are taken from the British National Corpus (BNC), unless otherwise stated. Authentic uses of words (taken from corpora and other texts) are printed in roman, while invented examples (used mainly for contrastive purposes) are in italics.
exploiting norms. It is necessary to move away from ‘Lego-set’ theories of meaning in language, in which words are thought to be put together like children's toy bricks in order to make meaningful propositions. Such theories are simplistic and lack descriptive adequacy. If we adopt a more sophisticated approach, in which meanings are associated with patterns or constructions, as well as with words in isolation, the semantic interaction between conventional phraseological norms and creative exploitations of those norms will be seen to play a crucial role.

A problem for linguists attempting to break away from Lego-set theories of language is, what to replace it by? It is now clear from over two decades of work in corpus linguistics that natural languages are probabilistic systems in which patterns are clearly present but highly variable. In order to describe a pattern, some degree of idealization is inevitable and difficult choices must be made. For example, should the direct object of hazard be represented as the single lexical item {guess}, as in A above? This particular lexical item is highly prototypical, being found as the direct object in more than 50% of all uses of this verb. Alternatively, should it be represented more generally, as the semantic type [[Speech Act]]? The latter would admit not only guesses, conjectures, definitions, and descriptions, but also all sorts of other speech acts, some of which are highly unlikely: for example a command is a speech act, but you do not normally hazard a command. The traditional lexicographical solution, ‘something’, is not actually wrong, but it is of course severely underspecified.

4. Valency and semantic types

If meanings are to be associated with patterns, rather than merely with words in isolation, then detailed corpus analysis is needed to discover the patterns with which each word is associated and the strength of the association.

Each content word of a language is used in one or more valency structures, as has been described for English in considerable detail by (Herbst et al.: 2005). In many cases, different valencies are associated with different senses. For example, consider the verb shower. If you shower (intransitive), the meaning is that you wash your body – and, usually, your hair – by standing under a device that emits a spray of water, thus getting wet all over. On the other hand, if you shower someone with something, then the default assumption is of a completely different type of action, and there is no implication that anyone gets wet.

If the verb shower is intransitive, water may assumed by default – it is quite unnecessary to state that you shower with water. Showering with water is vanishingly rare phraseologically. There are no examples of this expression in BNC, and I was able to find only a couple of examples by surfing Google, for example, has 4 – a caption to a photograph, where the point is that the water is
not doing what water in a shower normally does, *i.e.* coming out of a showerhead in a bathroom.

4. Carlos Rodriguez, 28, enjoys a shower with water coming from a public stream.

What about transitive uses of this verb? Normally, as soon as you introduce a direct object – *showering someone* – you commit yourself to an adverbial as well: you shower someone *with something*, such as gifts or abuse. A transitive use without an adverbial, for example *Janet showered her children*, is possible in English, and it is perfectly grammatical but it is not normal. In fact it is exceedingly rare—so rare that I have been reduced to inventing an example, because I could not find one in the corpora I am studying. The implicature, of course, is that Janet washed the children, not that she gave them a lot of gifts, praise, or abuse.

To give a fully adequate account of the semantically distinct patterns in which *shower*, as a verb, participates, together with their meanings, it is necessary to go beyond the valency structure and specify the semantic type of at least some of the arguments.

5. Boris showered the woman with presents.

6. Lauren Bacall, Bianca Jagger, Claire Bloom, Linda Thorson and Lionel Blair were among the stars who showered him with praise.

7. 300 yobs showered police with broken bottles and bricks.

8. Mount Pinatubo erupted …, showering Manila … with quantities of ash and grit.

The verb *shower* has identical valency structures in 5–8, and in 5, 6, and 7 the semantic type of both subject and object is [[Human]]. However, in 5, the semantic type of the prepositional object is [[Gift]], with the result that the verb must be interpreted as a Giving event, whereas in 6 it is a Speech-Act event and in 7 it is a Throwing event. Finally, if the semantic type of the subject is [[Volcano]] or [[Explosion]], as in 8, rather than [[Human]], the event type of *shower* is likewise Throwing.

Many verbs are like *shower*: the meaning is strongly influenced by the collocates. Other verbs, like *organize*, are more terminological. The meaning of this verb is something like ‘to put into good order’, and the event type denote is much less dependent on the collocates than in the case of verbs like *shower*. Typically, a [[Human]] organizes almost anything, ranging from an [[Event]] such as a birthday party to a mass of [[Physical Object]]s such as a pile of papers on a desk top. And then there are machines and procedures that organize events or groups of entities, still with much the same meaning – *i.e.* much the same event type.
5. Focusing on ellipsis

We can now turn to one particular problem in corpus pattern analysis, namely ellipsis or omission—i.e. patterns and exploitations in which an expected argument is not explicitly realized. Consider the verb fire. Over a dozen different patterns of normal use of this verb can be distinguished. They are nearly all transitive, but one of them has an intransitive alternation. Some of these patterns activate similar meanings; others activate quite different meanings. In the most basic pattern, illustrated here by sentence 9, the meaning is ‘cause a firearm to discharge a projectile’. This contrasts with other patterns of the same verb, activating other meanings, namely in 10 ‘to stimulate or excite’, in 11 ‘to expose to heat in a kiln’, and in 12 ‘to dismiss from employment’.

9. I was in a place once when a man fired a gun at me and I did not like it at all.

10. Active citizenship has already fired the imagination of many people.

11. Fashioning and firing a pot does not affect the clay composition.

12. General Avril fired four lieutenant-colonels.

In these examples, the semantic types of the arguments activate different senses of the verb. In 9 the direct object is [[Firearm]], in 10 it is [[Mental Activity]], in 11 it is [[Ceramic]] and in 12 it is another [[Human]]. Each of these direct objects correlates with certain dependencies and the semantic types of other arguments; for example, in 9 and 12 there is a correlation with the subject, [[Human]], but 9, unlike 12, also correlates with an adverbial of direction – ‘at me’. The direct object in 10 typically governs a dependent possessive – here, ‘of many people’ – and correlates with a subject of semantic type [[Abstract Entity]].

It would be very convenient if natural language always behaved in the way suggested by these carefully selected contrastive examples. However, it does not. In ordinary language use, there are some circumstances in which an argument can be omitted, while in other cases it cannot. These omissions rarely bother human readers and hearers, because the speaker or writer correctly judges the omitted item to be ‘obvious’. Only obvious argument can be elided. The elided argument is taken to be common knowledge and therefore does not need to be stated. Electronic dictionaries of the future, however, must account for the circumstances under which ellipsis (optional omission) is possible.

With 9, both the direct object and the adverbial of direction are optional. One can say:

9a. I was in a place once when a man fired at me and I did not like it at all

or:
9b. I was in a place once when a man fired a gun and I did not like it at all.

In 9a the [[Firearm]] is omitted and in 9b the [[Target]] is omitted. In an appropriate context, one can even omit both arguments, saying:

9c. He fired.

Here, the meaning must be that he fired a gun. 9c is quite unambiguous, even though the verb is polysemous and there appears to be no disambiguating context. If a verb is polysemous, ellipsis is an alternation found only with one or more of the most literal pattern(s). Any computational linguistic procedure seeking to assign a meaning or a translation to fire by analysis of context must look for a direct object and, not finding one, can conclude that there is a very high degree of probability that the meaning is ‘discharge a projectile from a firearm towards a target’.

True to the Gricean maxim of quantity, speakers and writers generally do not say more than is necessary. Omission of words—ellipsis—is a very common phenomenon in ordinary language use. This can lead to violations of strict principles of syntactic well-formedness, although it is consistent with the principle of textual well-formedness (Sinclair: 1984). As a result, a sentence taken in isolation from the context in which it is embedded may seem to be very ambiguous. Consider 13, a sentence that has been artificially isolated by being taken out of context.

13. Later that morning he changed.

The interpretation of changed in this sentence is dramatically affected, not by the complementation, but by the wider context. To see this, imagine that 13 has preceding context as in 13a, then imagine 13b, and then imagine 13c.

13a. At breakfast he was still wearing a black tie and crumpled dinner jacket from the night before. Later that morning he changed.

13b. At breakfast he greeted us with a cheerful grin and seemed not to have a care in the world. Later that morning he changed.

13c. He got on at Köln thinking that it was a through train to Berlin, but the ticket inspector told him that it would terminate at Hannover. Later that morning he changed.

The meaning of change is completely different in each of these three cases. Whatever the interpretation, which depends on the context established in the text leading up to the clause containing the verb changed, sentence 13 exemplifies the very common ‘null-object alternation’, also called the ‘object-drop alternation’ or ‘unexpressed object alternation’. A writer can reasonably expect that a reader will proceed sequentially through a text and therefore that the reader can predict what the expected direct object is, which in turns means that the writer does not need to state it explicitly.
Other examples of object ellipsis from BNC are 14–16.

14. This suggests that many small farmers, unable to cultivate successfully, turned to the sale or renting of land. —(BNC) Tessa Cubitt, 1988. *Latin American Society*.

*Cultivate* is normally a transitive verb, but in 13 the direct object is left unstated, presumably because the writer considers it obvious that what farmers cultivate is the land.

A similar example is 15, from a description of the effect that W. P. Nicholson, a Northern Irish fundamentalist Protestant preacher, had in the University of Oxford when he was invited there as a missionary in the 1920s.

15. In Holy Trinity Church Nicholson abounded in anecdotes, vulgarity, rudeness, emotional appeals, a dogmatism so dogmatic as to frighten. More and more people went to hear this phenomenon in a university of the crudest fundamentalism, which horrified some of the dons as a caricature of Christianity. People who could not bear it walked out. —(BNC) Owen Chadwick, 1991. *Michael Ramsey: a Life*.

*Frighten* is normally a transitive verb: it requires a direct object. When the direct object is omitted, the reader or hearer is left to ‘understand’ a default direct object, namely anything with the semantic type [[Animate]], but in this context restricted to a subset of animates—human beings who happened to be Christians in Oxford in 1925 and who heard Nicholson’s sermons.

In 16, there are two elliptical alternations in a single sentence.

16. We punish too much—and in particular, we imprison too much. —(BNC) J. Dignan, 1992. *The Penal System*.

*Punish* and *imprison* are normally transitive verbs, taking both a subject and a direct object with the semantic type [[Human]]. The usual focus is on the person being punished. There is generally also a prepositional *for*-phrase saying what he or she had done that was punishment-worthy – and if it is not actually present, it is certainly implicit. Sometimes, there is also a *to*-phrase saying what penalty or retribution was meted out. But in 15, there is no direct object, no prepositional phrase saying what anyone is punished for, and no mention of a penalty. This alternation, with the absence of the expected direct object and adverbial, has the effect of generalizing the sense of the verb. In this context, who is being punished and for what is deliberately left unstated, and the focus instead is on the general act of punishing.

Another example is the verb *decline* in 17. What did the Englishman decline? The sentence does not tell us explicitly, but we can be sure that the answer is
somewhere in the preceding context. In 17, it is the antecedent of the pronoun *one* – a cigarette, as it happens.

17. He offered one to Estabrook, who declined.

Sinclair (1991) comments on this verb:

> Whatever is reported as having been declined has already been named, mentioned, or indicated with sufficient clarity; so that the reader, arriving at the word *declined*, need be in no doubt about what would be a suitable object or infinitive clause.

### 6. Ellipsis of adverbials

It is not only the direct objects of verbs that can undergo omission as an elliptical alternation.

In the case of many verbs that take a completive-intensive particle, *e.g.* *calm (down)*, the particle is optional. This type of alternation is found with many verbs denoting processes. Omission of the particle can be regarded as an elliptical alternation; alternatively, its inclusion may be regarded as a pleonastic alternation.

Another kind of ellipsis involves dropping an adverbial under certain conditions, which seem to be verb-specific. This is not to be confused with cases where an adverbial adjunct is entirely optional.

The adverbial valency of verbs in English is the subject of much confusion. This is not surprising, because the facts of the language themselves in particular are confused and confusing. Some adverbials are obligatory; others are optional; and to make matters worse, some obligatory adverbials can be elided! The confusion is made even worse by differences of terminology in competing grammatical traditions. Here, I will attempt to describe the salient facts briefly, with examples – but only insofar as is necessary for effective corpus analysis of the lexicon – using terminology taken eclectically from at least three major traditions. I shall not attempt a full summary of the role of adverbials in these traditions.

First, let us look at a case where an adverbial argument is obligatory. The verb *put* is such a verb. Consider 18 and 19.

18. He put the painting on the floor.

19. Put the light here.
*Put* is one of many verbs in English which, for grammatical and semantic well-formedness, require a valency of three clause roles around it – the person doing the putting, the thing that is put, and the place in which it is put. Standard American dictionaries, which subcategorize *put* merely as a transitive verb, with no mention of the adverbial, fail to tell the full story. Using such a dictionary for NLP or language learning must be like trying to run with only one leg, for with this verb ellipsis of the adverbial is impossible. You cannot say, *Put the light* or *Put the painting*. Such an utterance would be both syntactically and textually ill-formed in all imaginable circumstances, lying well beyond the grey area of permissible alternations and exploitations.

Now consider, by way of contrast, the verb *abstain*. Here, there is considerable variation as regards the presence or absence of an adverbial argument. It is an intransitive verb which, in its canonical form, takes a *from* phrase as an adverbial argument, in which the governed noun phrase denotes an [[Activity]], as in 20.

> 20. I will abstain from discussing these aspects here.

If, as in the case of the first two direct objects of *abstain* in 21, the adverbial argument contains a governed noun phrase denoting a [[Physical Object]], the [[Physical Object]] is coerced to having the value of an [[Activity]] most typically

> 21. I have kept myself fit all my life, avoiding infections, abstaining from drink, tobacco and hazardous pursuits.

*Drink* here means ‘ingesting alcoholic beverage’ and *tobacco* means ‘smoking’. The mechanisms of such semantic coercions are described in more detail in (Pustejovsky: 1995).

The most common use of this verb is not, however, to do with discussions, drinking, smoking, or hazardous pursuits, but rather in political contexts with reference to a vote – if you are entitled to vote, you can abstain from voting. This sense is so common that a second normal pattern of use has developed without an adverbial. If there is no adverbial, the default meaning is ‘to deliberately not vote’, as in 22.

> 22. The National People’s Congress voted 1,767 to 177 in favour of building the dam, but 664 abstained.

Thus, there are two patterns of normal usage for this verb, associated with different meanings:

A. [[Human]] abstain {from [[Activity]]} = [[Human]] deliberately does not do [[Activity]]
B. \[ ([\text{Human}]) \text{ abstain \ [NO OBJ]} \]
\[ = ([\text{Human}]) \text{ deliberately does not vote} \]

Unfortunately for linguistic analysis, however, absence of an adverbial does not necessarily activate sense B. This is the default meaning if there is no adverbial, but pattern A can also participate in a null-adverbial alternation, as in 23, where both the default implicature and the wider context – not quoted here – make it clear that the speaker is talking about abstaining from drinking alcohol, not abstaining from a vote.

23. The longest period I’ve **abstained** was two-and-a-half months.

Many other verbs commonly govern prepositional phrases, but these are optional, not obligatory. Typical is **die**, which is often cited in the linguistics literature as an example of a verb that has only one argument – the subject or ‘external argument’\(^4\). This is correct, even though **die** almost always governs one or more prepositional phrases – as in 24, where there are three of them, expressing cause, date, and location. The point is that even though **die** rarely occurs without one or more adverbials, all of the adverbials are structurally optional in respect of the meaning of the verb.


With this verb we encounter a minor theoretical paradox. As a general rule, the whole point of using the verb **die** is to mention the date on which someone died, the place where they died, the cause of death, and/or the social, physical, or financial circumstances affecting them when they died—not merely to state that the event took place. All such information is expressed in adverbials. But, as already noted, even though one or more adverbials are almost always found with this verb, it is not obligatory to have one. ‘**He died**’ is not an ill-formed sentence of English in the same way as ‘**He put**’, and it is not a case of contextually licensed ellipsis, like **abstain** in 23, because there is no implicit understanding about what the missing adverbial might be.

7. **Clausal ellipsis**

Another kind of regular ellipsis is the dropping of a subordinate clause that is normally required by a verb – a ‘sentential complement’, in the terminology of generative linguistics. We saw in example 17 that the direct object of the verb **decline** may be dropped in contexts where the meaning is clear. Another

---

\(^4\) ‘external’ because it is not governed by the verb.
normal pattern of this verb is that it takes a to-infinitive instead of a direct object and this, too, can be dropped in appropriate circumstances, as in 25.

25. ‘Take your clothes off whenever you want to,’ suggests the doorman. ‘You’ll feel more comfortable that way.’ Sarah declines, and we head downstairs.

The meaning, of course, is that Sarah declined (= refused) to take her clothes off. The to-infinitive has been elided, no doubt on grounds of obviousness.

Another example of clausal ellipsis is 26, where the self-evident clausal complement ‘to steal the thing displayed’ is not explicitly realized.

26. Never display anything that may tempt a thief.

8. Ellipsis as exploitation of a norm

In ordinary discourse, writers and speakers often omit a word when it is obvious what word or semantic type is intended (an alternation). So far in this paper, I have adduced examples illustrating the conditions under which this alternation is possible, and I have shown that it is not always possible. However, it is too early to propose a generalized account of the exploitation rule that governs the phenomenon. More corpus-driven research into the phenomenon is needed.

In other cases, 27 for example, the omission can affect the focus or the meaning of the whole sentence or, indeed, the whole discourse.

27. Stirling divided them up into eight patrols of three jeeps each, with orders to keep up the pressure. He then returned to Eighth Army Headquarters, accompanied by Mike Sadler. A-Squadron certainly did keep up the pressure and achieved the desired result, mining and ambushing merrily.


Normal use of the verb ambush requires a direct object. The effect of omitting it here is to suggest that it does not matter who or what was ambushed—obviously, it was the enemy. By omitting the direct object, Kemp focuses on the act of ambushing, not on the victims of the action. Who was ambushed? It does not matter. Maybe it was enemy infantry, columns of enemy tanks—or anyone or anything that happened to come along. Whoever and whatever they were, A-Squadron ambushed them. This interpretation is reinforced by the adverb merrily, which would normally be regarded as inappropriate in the context of warfare. Ambushes in wartime are very far from ‘merry’ events: they involve fighting, destruction, and death. The effect of merrily is to suggest heroic nonchalance on the part of this particular group of soldiers, as they went
about their business of dealing out death and destruction and risking death themselves.

The reason for classifying 27 as an exploitation rather than as an alternation is based on relative frequency and (lack of) conformity to a basic syntagmatic norm. Even in a comparatively small corpus of 100 million tokens (the BNC), several examples each of *cultivate, frighten*, and *punish* dropping their direct objects can be found. On the other hand, I found no other examples of *ambush* dropping its direct object. Insofar as an exploitation is rare but successful, the rhetorical effect is stronger. It is not yet clear what the conditions are that permit some abnormal uses to be rhetorically effective, while others are simply mistakes or ungrammatical. It seems that the details need to be worked out word by word: an immense and daunting task.

The distinction between alternation and exploitation is mainly one of frequency. If omission of a particular argument is a regular occurrence with a given verb, it is an alternation, especially if there is little or no discernible effect on the meaning of the clause as a whole. On the other hand, if, as in 27, the omission is unusual and has a discernible effect on the interpretation, it is an exploitation of the norm.

### 9. Non-obvious ellipsis

Now, let us return to example sentence 3, on which I promised further comment. For convenience, it is repeated here as 28.

28. I hazarded various Stuartesque destinations like Florida, Bali, Crete and Western Turkey.

It is not immediately obvious that 28 is a case of ellipsis – but it is. Some readers – especially computational linguists and other people with a logical orientation – coming to this sentence out of context judge it to be crazy, meaningless, unidiomatic, ill-formed, or uninterpretable. But this fact merely underlines the unnatural nature of what linguists and logicians do in general and what corpus linguists do in particular. No normal reader takes a sentence from the middle of a text and pores over it, without reference to what has gone before. Texts have a beginning, a middle, and an end. Example 27 comes from Julian Barnes’ 1991 novel *Talking it over*. Barnes is a writer admired for his stylistic elegance—*The Complete Review*, for example, in a review of this novel called him “a very fine stylist”—so any problems with interpreting this sentence are unlikely to be due to infelicity or ignorance of the language on the part of the writer. In fact, when the sentence is put back into context, it makes unremarkable good sense, in a way that can only be explained in terms of exploitations of norms. The extended context is given in 28a.
28a. Stuart needlessly scraped a fetid plastic comb over his cranium. ‘Where are you going? You know, just in case I need to get in touch.’ ‘State secret. Even Gillie doesn’t know. Just told her to take light clothes.’ He was still smirking, so I presumed that some juvenile guessing game was required of me. I hazarded various Stuartesque destinations like Florida, Bali, Crete and Western Turkey, each of which was greeted by a smug nod of negativity. I essayed all the Disneylands of the world and a selection of tarmacked spice islands; I patronised him with Marbella, applauded him with Zanzibar, tried aiming straight with Santorini. I got nowhere.

Various kinds of linguistic exploitation are present here. The one we are interested in is ellipsis. “I hazarded various Stuartesque destinations” is elliptical for “I hazarded a guess at various Stuartesque destinations.” Having just mentioned “some juvenile guessing game”, the writer does not need to repeat the word guess. A similar exploitation occurs in five subsequent clauses, in each of which a noun denoting a location or type of location (Disneylands, spice islands, Marbella, Zanzibar, Santorini) is – in its particular context – elliptical for a speech act referring to a location. Finally, there is an exploitation of considerable complexity: you aim a gun straight at something, you aim – or fire – a question at someone; you don’t aim at a destination. It is noteworthy, however, that, once the scenario has been set up, these stylistic complexities do not distract from the comprehensibility of the text. No ordinary human reader puzzles over what was being hazarded, essayed, or aimed at. You either get it or you don’t, but in either case an ordinary reader moves swiftly on.

10. Conclusion: Norms and Exploitations

The interpretation of data offered here is in line with the work of continental European dependency grammarians of the 1970s, for example Wilhelm Bondzio (1977, 1978), who proposed the notion of ‘logical valency’ to cover, among other things, what I am here calling elliptical arguments. It is also, I believe, compatible with frame semantics, in particular the famous paper by Fillmore and Atkins (1992), which demonstrates that, for a proper understanding of the concept risk, it is necessary to take account of at least five frame elements – the agent, the action, the valued object that is put at risk, a possible bad outcome of the action, and the goal of a desired benefit. No single sentence is ever uttered containing all five elements

This paper has attempted to show that one of the many problems confronting tasks such as phraseological analysis and mapping word meaning systematically onto word use is the implied presence of arguments that are not explicitly realized in text. If all these implied arguments of a verb were always made explicit, texts would become hopelessly overloaded and indeed unreadable. However, one contribution that a pattern dictionary can make to
the interpretation of words in text is to go at least some way towards realizing explicitly the implicit arguments in patterns of word use.

Ellipsis is only one of several kinds of rule-governed linguistic exploitations of normal phraseology in natural language. The details remain to be more fully researched through detailed analysis of corpus data.

**Acknowledgement**

This work was supported by grant number MSM 0021620838 of the Ministry of Education of the Czech Republic.

**References**


