

Textual functions of extended lexical units: A case study of phrasal constructions built around *by way of**

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Abstract

A model of meaning that has had considerable influence on corpus semantics is Sinclair's (1996, 1998) model of extended lexical units. Sinclair proposes that the primary units of meaning are not individual words, but larger, more abstract phrasal units. According to his model, a unit of meaning encompasses not only lexical, but also semantic, syntactic, and pragmatic relations. The present paper examines these claims in a corpus-based case study of the complex preposition by way of. While the findings corroborate the general model, they also suggest that a parameter relating to the textual functions of extended lexical units should be incorporated into the model.

1 Introduction

One of the most important findings to emerge from corpus studies is that most words tend to occur in particular formal patterns and that these phrasal units tend to be used to perform particular functions. Accordingly, individual words cannot be claimed to inherently have one or the other meaning. Rather, meaning is usually distributed over larger phrasal units. A powerful formalisation of this insight is Sinclair's (1996, 1998) model of extended lexical units. Sinclair relates the formal and functional relationships between words by proposing that the structure of a lexical item consists of a more or less invariable core plus specific collocational and colligational patterns, a semantic preference, and a semantic prosody. That is, lexical items include not only lexical, but also semantic, syntactic, and pragmatic relations (cf. Stubbs 2009: 22–23). It is the purpose of this paper to test these claims in a corpus-based case study of the complex preposition *by way of*. Additionally, the case study will be used to demonstrate that extended lexical units can frequently perform discourse-structuring func-

tions. It will therefore be argued that a parameter relating to such functions should be systematically integrated into Sinclair's model.

The reason why *by way of* lends itself well to this kind of analysis is the fact that the construction can be used to express various meanings, some of which appear to be semantically quite distinct from each other. As a case in point, consider examples (1) to (5):

- (1) My father travelled to Nairobi *by way of* Mega, Moyale, Marsabit, Laisamis and Nyeri, all places with which I was to be familiar some fifty-five years later. (BNC: H0A 434)
- (2) Science progresses *by way of* competition between research programmes. (BNC: FBE 1710)
- (3) To facilitate democratic tourism it is essential for governments and regional authorities to collaborate with local people in ensuring that the services and infrastructure, *by way of* roads, electrification, water supply and especially promotional assistance are provided. (BNC: ALF 359)
- (4) *By way of* illustration, the two cluster groupings, and their percentage of the adult populations are set out in Table 7.1 (BNC: F9D 487)
- (5) I'm *by way of* being a bit of an expert on the moor, you know. (BNC: FU2 1497)

These examples should serve to illustrate that any attempt to arrive at a single, determinate meaning of *by way of* is futile. An analysis of large amounts of language data further reveals that *by way of* (itself composed of three orthographic words, but effectively representing an invariable, indivisible unit) does not carry any of the meanings illustrated in (1) to (5) in isolation. In my study, I will investigate whether *by way of* can be claimed to be the core item of a number of separate phrasal units of meaning. If this were the case, it should be possible to show that the different senses of the construction are associated with different formal and functional patterns. Consequently, the study comprises two parts: first, I will describe how I classified the different senses of *by way of* on the basis of semantic criteria and allocated all instances of *by way of* in the British National Corpus (BNC) to one of the sense groups; second, I will demonstrate how these data can be used to investigate whether the sense groups are associated with distinct formal and functional patterns.

2 Semantic prosodies

The pragmatic parameter in Sinclair's (1996, 1998) model is the semantic prosody of the extended lexical unit. This refers to the communicative function of the whole unit, i.e. the speaker/writer's motivation for actually choosing that particular phrasal construction. In his own analyses of semantic prosodies, Sinclair primarily draws attention to communicative purposes related to the expression of attitudinal meanings. For instance, in his well-known analysis of the phrasal unit built around *naked eye*, Sinclair (1996: 83–89) demonstrates that the core item tends to co-occur with words belonging to a semantic field of 'visibility' as well as with formulations which indicate an evaluation of the situation under description as difficult. Consider the illustrative example given in (6):

- (6) Because they are so faint, not a single one is visible to the naked eye.
(BNC: ANX 2515)

In Sinclair's terminology, the lexical unit thus has a semantic preference of 'visibility' and a semantic prosody of 'difficulty'. Although it should be clear from this example that semantic preferences and semantic prosodies are not entirely distinct phenomena (cf. Stubbs 2002: 66), semantic prosodies can still be regarded as the overall communicative function of the unit of meaning. As the analysis of the phraseological unit around *naked eye* illustrates, extended phrasal units may therefore be regarded as conventional means of expressing evaluative meanings or emotional states in situations that are familiar to members of a speech community (Francis 1993: 155; Stubbs 2009: 28).

Nevertheless, the expression of attitudes towards situations in the world is clearly not the only communicative purpose for which a lexical unit might be chosen. As Stubbs (forthcoming) points out, extended lexical units also fulfil text management functions: they organise texts, for instance by giving information about text structure and by contributing to textual cohesion. In my study, I will show that one of the lexical units built around *by way of* is defined almost purely by such text-internal roles. Moreover, I will demonstrate that similar text management functions are performed by some of the other lexical units of which *by way of* is the core item.

3 Data and method

The data for my study were retrieved from the British National Corpus (BNC) using the BNCweb interface (cf. Burnard 2007 and Hoffmann *et al.* 2008 for a description of the BNC and BNCweb respectively). The BNC is a large reference corpus that comprises approximately 100 million words of contemporary

British English. The corpus is well-suited as a source for the following analysis, primarily for the reason that it covers a wide range of different genres and registers of written (90 per cent) and spoken (10 per cent) English.

The BNC contains a total of 1,417 instances of *by way of*. Taking the meanings that are assigned to this complex preposition in the OED, Hoffmann's (2005: 67–71) diachronic analysis, and a number of contemporary dictionaries as a starting point, I established a set of sense categories into which all instances found in the corpus could be classified (this was done manually). As expected, this was not a straightforward process, as the close analysis of some instances called for further distinctions within and between the various sense categories. The final set of categories is exemplified by prototypical examples in Table 1.

On the basis of these data, I then investigated the formal and functional patterns associated with each sense group (cf. Section 4). Whereas the collocational patterns could be retrieved automatically, the analysis of colligational patterns, semantic preferences, and communicative functions naturally relied on the analysis and interpretation of concordance lines (cf. Stubbs 2009: 21).¹

A note on the non-exhaustive nature of the categories and their fuzzy boundaries:

It is crucial to note that the different categories identified in Table 1 are not claimed to represent the definitive inventory of all senses of *by way of*. Neither are they claimed to represent mutually exclusive classes with clear-cut boundaries. On the contrary, the use and hence the meaning of *by way of* is more variable than could be captured by a fixed number of categories. Still, the division of what is essentially a continuum of uses into a set of categories is valuable insofar as the examples used to exemplify each sense do make it unmistakably clear that *by way of* can be used in very different ways. That is, although the boundaries between the categories are fuzzy, prototypical examples of different senses are identifiable; and they are identifiable for the reason that they represent recurrent uses of *by way of*. Generally speaking, the aim of Sinclair's (1996, 1998) model of extended lexical units is to use quantitative data to extract the prototypical realisation of a unit of meaning (its 'canonical form'), while at the same time drawing attention to the many potential variations in the actual formal realisation of the unit.

Table 1: A possible set of senses of *by way of*

Category	N	Example	Comments	
1	'via (literal), by passing through'	163 (11.5% of all instances)	Many entered Rome <i>by way of</i> Bologna. (BNC: HPW 1403)	Most concrete, spatial sense: semantically compositional use with a literal sense of <i>way</i> as a 'path, road, route, journey' ²
2	'by means of, by the method of, through, by'	600 (42.3%)	Where assets are to be acquired, Newco has the opportunity to finance these <i>by way of</i> rental payments under finance leases rather than by direct acquisition. (BNC: J6S 876)	Semantically transparent use with a metaphorical sense of <i>way</i> as a 'road/ process that leads to a specified goal', i.e. 'a method of doing something'
3	'in the form of':			
3.1	'in the form/shape of'	62 (4.4%)	The report warns that the pollution "may cause disastrous environmental consequences <i>by way of</i> death to forests, poisoning by soil and water, microclimatic changes and outbreak of disease and epidemics". (BNC: J2X 519)	
3.2	'in the form/sense of, when it comes to, as concerns'	75 (5.3%)	IN THE popular Western imagination, India continues to be a country steeped in backwardness and poverty with very little to show <i>by way of</i> scientific innovation or technological achievement. (BNC: A8R 267)	
4	'as':			
4.1	'as, as a type/kind of, for the purpose of'	89 (6.3%)	Against the woman's express wishes, he lit a piece of paper and went into her bedroom anyway, and reported a 'bedstead of wood with heath [heather] upon it <i>by way of</i> a bed; (BNC: G1Y 872)	
4.2	'as, with the function/intention of, for the purpose of'	371 (26.5%)	<i>By way of</i> introduction, this chapter outlines three views about the proper role and status of the media: the Mobilizing Ideal, the Libertarian Ideal, and the Public Service Ideal. (BNC: A62 816)	Text management: uses that make explicit the function/intention of something that is being said (or done) by the speaker/was said (or done) by someone else
5	'in the habit of, having a reputation for' (cf. OED: <i>way</i> n.1, sense 32–33)	10 (0.7%)	His family was <i>by way of</i> being a bit notorious locally. (BNC: CEB 1587)	<i>by way of</i> + gerund constituting a predicative phrase in combination with a form of the verb BE

4 Formal and functional patterns associated with the different senses of *by way of*

4.1 Category 1: *by way of* 'via' (literal)

The category *by way of* 'via' (literal) comprises 163 instances (or 11.5 per cent of all occurrences). The collocational profile of *by way of* in this category clearly signals the concrete spatial meaning of the item in this group of uses. The top collocates of *by way of* 'via' within a window of four words to the left and right of the node are given in Table 2 (the results are ordered by log-likelihood value):³

Table 2: The ten strongest collocates of *by way of* 'via' (literal) in the BNC (span: 4:4)

No.	collocate	collocate frequency	log-likelihood
1	<i>reached</i>	11	76.037
2	<i>arrived</i>	7	46.7401
3	<i>route</i>	6	42.2054
4	<i>from</i>	17	19.1914
5	<i>road</i>	5	18.9305
6	<i>back</i>	8	18.316
7	,	87	15.9959
8	<i>to</i>	51	14.3976
9	<i>the</i>	96	11.8382
10	(12	9.136

The spatial meaning is signalled by the top collocates *reached*, *arrived*, *route*, the directional prepositions *from* and *to*, and the adverb particle *back*. This collocational pattern becomes even more apparent as soon as one abstracts away from individual lexical realisations and considers semantic sets of words: *by way of* 'via' has a strong tendency to co-occur with place names (e.g. *Constantinople*, *Israel*, *canton Schwyz*) or other words and phrases that fall into a semantic field of 'travelling/transport' or 'topography/places' (e.g. *a trench passageway*, *a long drive*, *a dilapidated wooden bridge over a stream*, *the backstairs*, *the backyard*). In Sinclair's (1996) terminology, this is the semantic preference of the phraseological unit. As concerns verb collocates, *by way of* 'via' tends to be co-selected with verbs of motion; attested examples are different forms of the verbs APPROACH, ARRIVE, ASCEND, CLIMB, COME, CROSS,

DESCEND, ENTER, GO, LEAVE, MOVE, PASS, PROGRESS, REACH, RETURN, SAIL, SET OFF, TRAVEL, RIDE, WALK. Accordingly, the typical uses of *by way of* ‘via’ can be presented in the form of an abstract frame, as shown in Figure 1 together with typical realisations. For typical examples of this pattern see Concordance 1. In the BNC, some of the individual lexical realisations are found to co-occur with *by way of* only once, but the more abstract pattern is clearly of relevance. This kind of co-selection exemplifies the blend of colligation and collocation described by G. Francis (1993: 140–141).

motion verb (+ preposition)	+	NP with concrete noun	+	<i>by way of</i>	+	NP with concrete noun
REACH		semantic field of				semantic field of
CROSS		‘travelling’/‘transport’				‘travelling’/‘transport’
COME		‘topography’/‘places’				‘topography’/‘places’
ARRIVE						
		especially place names				especially place names

Figure 1: Model of an extended phrasal unit with by way of ‘via’ (literal) as the core item

Concordance 1: Ten illustrative examples of by way of ‘via’ (literal)

- 1 and his son Andrew sailed for Persia by way of Constantinople in 1847. In J
- 2 So I decided to travel to Salamanca – by way of Valladolid and Jordi of cour
- 3 the Danube basin and arrived in Crete by way of the Cyclades, where stone py
- 4 that much of it came from Mesopotamia by way of Syria. Sir Arthur Evans long
- 5 ned and walloped back towards Berlin, by way of Magdeburg, with just the one
- 6 ch passengers could reach the stadium by way of Roseburn Street) to accommod
- 7 jects. We eventually left the outback by way of some tiny townships, widely
- 8 k where orchids still grow, led to it by way of a dilapidated wooden bridge
- 9 they reached the continent at Antwerp by way of a diversion, later returning
- 10 order, the GC crossed over Locko Lane by way of a small viaduct. A work stai

As concerns pragmatic meanings conveyed by these uses of *by way of*, it should be mentioned that *by way of* ‘via’ co-occurs with words or phrases expressing an element of ‘diversion’, ‘trouble’, or ‘nuisance’ in quite a number of cases, e.g. in Concordance 1: *walloped back* in line 5, *some tiny townships* in 7, *a dilapidated wooden bridge* in 8, *a diversion* in 9, *a small viaduct* in 10; other examples from the BNC are: *a protracted series of diversions and deviations; stark, barren landscapes; steep hills; that danger path; the long way round*. Thus, it could be

argued that these phrases around *by way of* ‘via’ prototypically perform the attitudinal function of expressing ‘trouble’. This could be regarded as the communicative purpose for using the phrasal construction in the first place and therefore as a semantic prosody in the classic attitudinal sense. However, it needs to be pointed out that in other cases, the item simply appears to be used to describe a certain route with no such evaluative meanings attached (e.g. in line 4 of Concordance 1).

4.2 Category 2: by way of ‘by means of, by the method of, through, by’

With 42.3 per cent of all instances of *by way of* in the BNC, the ‘by means of’ category is by far the largest. As is immediately obvious, the collocational profile of *by way of* in this group provides a stark contrast to the profile of *by way of* in its concrete spatial sense. The top collocates of *by way of* ‘by means of’ are shown in Table 3:

Table 3: The ten strongest collocates of *by way of* ‘by means of, by the method of, through, by’ in the BNC (span: 4:4)

No.	collocate	collocate frequency	log-likelihood
1	<i>judicial</i>	38	375.8903
2	<i>review</i>	32	271.8321
3	<i>or</i>	91	175.0204
4	<i>sum</i>	15	102.9096
5	<i>proceedings</i>	14	95.1614
6	<i>proceed</i>	12	94.4302
7	<i>loan</i>	13	89.0158
8	<i>either</i>	21	83.2583
9	<i>representation</i>	12	81.4204
10	<i>injunction</i>	8	71.868

As indicated by these collocates, *by way of* ‘by means of’ has a strong tendency to co-occur with legal terms, especially *judicial*, *review*, *proceedings*, *proceed*, *loan*, *injunction*. The legal terms in the immediate surroundings of *by way of* give evidence of the semantic preference of the larger unit. For uses in context consider Concordance 2:

Concordance 2: Ten illustrative examples of by way of 'by means of' co-occurring with legal terms

1 registered her right of occupation by way of a Class F Land Charge or (if re
2 homas, applied for judicial review by way of an order of mandamus to compel
3 46. Secondly, the proceedings were by way of bankruptcy petition. It by no m
4 e husband by order of the court or by way of final agreement between them. I
5 racting moneys from the plaintiffs by way of inflated valuations and percent
6 allenges to governmental decisions by way of judicial review are unlikely to
7 A legacy is what is left in a will by way of law (lex), that is imperativel
8 that the assignee of a legal lease by way of mortgage was just as liable as
9 appeals to the Court of Appeal are by way of rehearing and, to put it shortl
10 e ambit of the scheme, 'assistance by way of representation' (ABWOR) at cert

In fact, some of these combinations can be regarded as semi-fixed phrases, i.e. phrases that essentially represent a single choice (cf. Sinclair 1991: 110). In particular, this appears to apply to *by way of judicial review* or the related phrases *by way of proceedings for judicial review* and *by way of an application for judicial review* (= *an AJR*, the acronym itself being an indicator of the status as a single technical term).

In addition to the uses in legal contexts, there is a tendency for *by way of* 'by means of' to co-occur with a set of words or phrases from the domain of finance, economics, or commerce. A number of examples are listed in Concordance 3:

Concordance 3: Ten illustrative examples of by way of 'by means of' co-occurring with financial terms

1 ceive 5 per cent of their balances by way of a cash distribution. Mr Grant v
2 ck from Henderson Administration – by way of a cash payment and a short-term
3 t 1988). This extraction should be by way of a dividend, not a buy-in of any
4 ea of obtaining additional capital by way of a franchise payment is very app
5 ten at the buyer's expense (either by way of a lump sum payment, or an amort
6 will wish to extract value from it by way of a pre-acquisition dividend paid
7 d covers. A purchase on the market by way of a "put through" from a Class 4
8 ge, except where the employee pays by way of deduction from gross salary. If
9 Fdebt finance receive their return by way of fixed interest payments, while
10 as far as possible, be capitalised by way of new shares or securities which

More generally speaking, it can be observed that *by way of* ‘by means of’ tends to colligate with noun phrases that are more abstract and syntactically complex than those which are co-selected with *by way of* in its literal sense. Compare *Constantinople, Roseburn Street, or the backstairs* to such noun phrases as *a deduction from gross salary, a pre-acquisition dividend, or complete repayment of a loan*.

The structural frames in which *by way of* ‘by means of’ can occur are rather varied and hence no prototypical frame can be formulated. On the basis of the frequent co-occurrence of *by way of* ‘by means of’ with formal and technical words and phrases, it could nevertheless be argued that the pragmatic function of these phrases is to mark formality (cf. Section 5 for an investigation of the distribution of *by way of* ‘by means of’ over the text types of the BNC).

4.3 Categories 3.1 and 3.2

4.3.1 Category 3.1: *by way of* ‘in the form of, in the shape of’

The category *by way of* ‘in the form/shape of’ only comprises 62 instances (4.4 per cent). As Table 4 shows, no clear collocational pattern can be discerned:

Table 4: The ten strongest collocates of *by way of* ‘in the form/shape of’ in the BNC (span: 4:4)

No.	collocate	collocate frequency	log-likelihood
1	<i>written</i>	5	34.7372
2	<i>or</i>	9	16.5508
3	<i>a</i>	22	12.7059
4	,	34	6.3256
5	<i>be</i>	7	4.4446
6	<i>and</i>	15	1.1281
7	<i>for</i>	5	0.3513
8	<i>in</i>	10	0.3056
9	<i>to</i>	10	-0.136
10	<i>of</i>	11	-0.3772

One generalisation that can nevertheless be made is that *by way of* in this group almost always serves the function of contributing to some concretisation or specification of the preceding element. The structural pattern that is used most frequently to realise these uses is ‘noun phrase 1 + *by way of* + noun phrase 2’.

where the second nominal group concretises or specifies the first. Typical instances are shown in Concordance 4:

Concordance 4: Ten illustrative examples of *by way of* ‘in the form/shape of’

- 1 hysical signs of stimulation by way of pupil enlargement, nostril dilation and
- 2 ug and offer no further care by way of food or drugs or surgery, provided cert
- 3 upled with an ‘extravaganza’ by way of a grandstand show and horse-racing. The
- 4 s environmental consequences by way of death to forests, poisoning by soil and
- 5 services and infrastructure, by way of roads, electrification, water supply an
- 6 ed and has some nice touches by way of opening graphics. It provides comprehen
- 7 for creative self-plundering by way of rhetorical and dialectical self-parody
- 8 ribute £1.5 million per year by way of scholarships to new entrants. The CLE s
- 9 see if there is confirmation by way of stretches of road following the line, r
- 10 ow incomes or little cushion by way of assets. Defaults on both unsecured cons

As this range of examples shows, the pattern including *by way of* may be regarded as a conventional frame that is used to first introduce a new piece of information and then specify the information. It might therefore be argued that the communicative purpose for using this pattern is to structure information; this text-structuring function seems to be more or less independent of the content of the information that is being presented. Note that this type of communicative function appears to have nothing to do with the expression of attitudinal meanings.

4.3.2 Category 3.2: by way of ‘in the form of, in the sense of, when it comes to, as concerns’

The top collocates of the 75 instances (5.3 per cent) representing the ‘in the form/sense of, when it comes to, as concerns’ group reveal both collocational and colligational patterns associated with this category of usage. The ten strongest collocates are displayed in Table 5:

Table 5: The ten strongest collocates of *by way of* ‘in the form/sense of, when it comes to, as concerns’ in the BNC (span: 4:4)

No.	collocate	collocate frequency	log-likelihood
1	<i>little</i>	16	94.8261
2	<i>much</i>	11	49.3356
3	<i>offer</i>	5	31.7217
4	<i>or</i>	10	17.6008
5	<i>what</i>	5	6.6407
6	<i>an</i>	5	4.229
7	<i>which</i>	5	3.7014
8	<i>to</i>	20	3.2665
9	<i>had</i>	5	2.8506
10	<i>was</i>	7	1.2714

As can be seen, *by way of* in this group prototypically co-occurs with the grammatical class of quantifiers (a colligational pattern), most characteristically with *little* and *much* (a collocational pattern). The relevant uses are arranged in Concordance 5 below. Another observation that can be made with the help of these concordance data is that, in the vast majority of cases, the constructions under investigation signal low quantities. The main variants are *little* or *not much*, *without much*, etc. In Concordance 5, only the instances displayed in lines 26–30 signal high quantities. Accordingly, it could be argued that, in most cases, the communicative purpose of using this phraseological unit is to evaluate some state of lack. Prototypically, the evaluation appears to be negative, as what is lacking tends to be something commonly held to be desirable (e.g. in Concordance 5: *intimacy or romantic love* in line 1, *increased security* in 13, *amusement* in 17, *agreement* in 24). This observation can be taken as a statement about the semantic prosody of the unit in Sinclair’s attitudinal sense. However, the presence of contrastive conjunctions like *but*, *yet*, *though* in the immediate or wider co-text of the core item *by way of* appears to suggest that the unit is typically used to introduce a contrast between a more or less positive and a negative idea (see lines 1, 2, 3 and 10 of Concordance 5). Therefore, the phrasal unit can be taken to serve additional textual functions of structuring and evaluating information, in the sense described by Stubbs (forthcoming).

Concordance 5: Thirty illustrative examples of by way of 'in the form/sense of' colligating with the class of quantifiers

1 nt (on the part of the wife), but little by way of intimacy or romantic lov
2 receives criticism of these, yet little by way of praise when it nips a fr
3 in dynasty in England) but supply little by way of biographical information
4 ee' with the Chancellor: there is little by way of logical leverage that I
5 idets and toilets, which lent him little by way of mystique. So, when he'd
6 contains little boilerplate, and little by way of exclusion clauses. Obvio
7 They complain that they receive little by way of treatment. Many won't ta
8 funds. Consequently, parties have little by way of financial sanctions to b
9 nt' exporting; they have little to offer by way of an entry ticket to the t
10 l solidarity, though little was achieved by way of addition to intellectual
11 of the opinion that little had been done by way of systematic work on the p
12 thermonukes would leave precious little by way of city or population to co
13 charge which brought relatively little by way of increased security in re
14 the product market provides very little by way of constraint in this case
15 ess and poverty with very little to show by way of scientific innovation or
16 tial questions which produce zero (sic) by way of an interesting response.
17 ort worlds, it has a few things to offer by way of amusement. Even better,
18 rough the training is not creating a lot by way of Billable hours. Accordin
19 pany has not offered its staff very much by way of incentives and perquisit
20 posed forms – peat – cannot contain much by way of those nutrients that are
21 n a time series and not much can be done by way of analysis other than elem
22 rporate crime, that nothing much happens by way of public scandal and socia
23 xpanse of foreshore without much to show by way of finds apart from a few p
24 have tackled it, without achieving much by way of agreement. That is partl
25 Without being possessed [...] of very much by way of brain. Bees do much the
26 specific uses it has much to contribute by way of correction to generalizi
27 ated for Soviet purposes, demanding much by way of supporting technologies
28 that their childhood contained much more by way of threat of abandonment an
29 edule D income tax is able to claim more by way of expenses and allowances
30 we do indeed have a great deal to offer, by way of expertise and consulting

4.4 Categories 4.1 and 4.2

4.4.1 Category 4.1: by way of ‘as, as a type/kind/sort of, for the purpose of’

The first subgroup in the category ‘as’, the ‘as a type/kind of, for the purpose of’ group, comprises 89 instances (6.3 per cent). As Table 6 shows, the strongest collocates of *by way of* in this category suggest a co-selection of *by way of* and financial terms:

Table 6: The ten strongest collocates of *by way of* ‘as, as a type/kind of, for the purpose of’ in the BNC (span: 4:4)

No.	collocate	collocate frequency	log-likelihood
1	<i>costs</i>	42	443.0583
2	<i>ordered</i>	33	404.8824
3	<i>pay</i>	39	377.6219
4	£250	16	246.2147
5	£500	12	163.0169
6	<i>compensation</i>	13	147.0723
7	<i>security</i>	8	59.1645
8	£1,000	5	58.3013
9	<i>to</i>	49	54.5315
10	.	53	23.7306

However, the list of top collocates is, to a very large extent, an artifact of certain texts sampled in the BNC. The collocate frequencies of *costs*, *ordered*, *pay*, *to*, and certain amounts of money are strongly influenced by the repeated use of the formulation ‘person X is/was ordered to pay £Y by way of costs’. Yet since the occurrence of this formulation is restricted to four texts, all on the topic of accountancy, the list of top collocates would most likely not be replicable using other corpora. The formulation is therefore of little general relevance.

4.4.2 Category 4.2: by way of ‘as, with the function/intention of, for the purpose of’

More striking patterns are evident in the second subgroup of ‘as’, which comprises uses of *by way of* that make the function or purpose of some verbal (or, less frequently, non-verbal) action explicit. These are the uses which are most clearly characterised by their underlying textual functions. With 26.5 per cent of all instances of *by way of* in the BNC, this category is the second largest. The top collocates of *by way of* ‘with the function of’ are displayed in Table 7:

Table 7: The ten strongest collocates of *by way of* ‘as, with the function/intention of, for the purpose of’ in the BNC (span: 4:4)

No.	collocate	collocate frequency	log-likelihood
1	<i>illustration</i>	34	427.8099
2	<i>contrast</i>	41	387.3275
3	<i>explanation</i>	25	227.9493
4	,	271	191.517
5	<i>introduction</i>	19	149.397
6	<i>example</i>	24	119.4668
7	<i>compensation</i>	12	101.1161
8	<i>apology</i>	8	85.7472
9	<i>greeting</i>	5	50.1976
10	<i>comparison</i>	7	48.9164

A glance at the strongest collocates demonstrates that *by way of* in this group is part of a number of conventional phrasings: *by way of illustration*, *by way of contrast*, *by way of explanation*, *by way of introduction*, *by way of example*, in particular, may well be regarded as semi-fixed phrases. On the other hand, the phrases just mentioned are clearly related to one another since the nouns in these phrases share a semantic preference for the domain of discourse. In fact, this observation seems to point to the communicative purpose of the whole phrasal unit: The function of these phrases appears to be defined almost solely by their role in the structuring of discourse. *By way of illustration*, for example, tends to signal that what follows or what came before is intended by the speaker or writer as an illustration. Accordingly, these phrases have a similar function to connecting adverbs like *however*, *thus*, *consequently*, in that they make explicit the relations that hold between different portions of a text or an argument that is in the process of being developed. Like connecting adverbs, they thereby contribute to textual cohesion. Moreover, both the phrases under investigation and connecting adverbs have a tendency to occur in sentence-initial position or as a transitional phrase (usually separated by commas). See Concordance 6 for examples of this pattern; in all these citations, ‘*by way of*+ noun phrase’ clearly has the metatextual function of pointing to what the speaker or writer is going to say or do next:

Concordance 6: Thirty-five illustrative examples of 'by way of' with the function of fulfilling a text-structuring function

1	her types. First though,	by way of	an overview, let us consider the parties
2	ent Committee's report.'	By way of	background, it is worth noting that the
3	e Organisation Structure	By way of	background information, some EPHs operat
4	ays to separate the two.	By way of	background to what follows, I must first
5	d spat on his face. Now,	by way of	change, let us move from drama to humour
6	s remain to be explored.	By way of	comparison, both the British left and th
7	te peculiar order. Take,	by way of	comparison, the fiscal system: even here
8	the z-scores underneath.	By way of	comparison, the significance levels for
9	e reader. What we can do	by way of	conclusion, however, is to point out onc
10	be generated, so really	by way of	conclusion I I would like through you to
11	it. Chapter 4 sets out,	by way of	contrast, an approach to the allocation
12	t something to be there.	By way of	contrast, both Celtic and St Johnstone a
13	The Palau Constitution,	by way of	contrast, has specific limitations on th
14	he same way everywhere'.	By way of	contrast, he writes disparagingly of the
15	ile industrial material.	By way of	contrast, the Spanish conquerors of nort
16	l as a host of articles.	By way of	contrast we may note that between 1939 a
17	resent case. That is not	by way of	criticism, because the case does not app
18	n easily be pointed out,	by way of	criticism, that Benjamin neglects unduly
19	interesting way.) Take,	by way of	example, a devoted nurse who is quite ex
20	s given in NASA (1988b).	By way of	example, current programmes are collecti
21	ymbiotic potentials" .	By way of	example, Figure 7 shows a system that I
22	tive search areas. Take,	by way of	example, the first route in the book: th
23	lity of new discoveries.	By way of	illustration, let us take an example fro
24	ly enumerable. Consider,	by way of	illustration, the example of topless . W
25	t zoos are a good thing.	By way of	illustration, the Siberian tiger is beco
26	will be exhaustive, but	by way of	illustration of my essential point that
27	a bit of the background,	by way of	introduction, and in later weeks, variou
28	have moral implications.	By way of	introduction, this chapter outlines thre
29	hat the expression means	By way of	introduction to section 38 I should refe
30	y clear? It is necessary	by way of	preface to emphasise that in no circumst
31	t have become involved).	By way of	qualification it should be noted that th
32	y round. But, let me say	by way of	rejoinder, there is no necessary reason
33	recognition Finally, and	by way of	summarising and emphasising the main poi
34	finance sub-discipline.	By way of	summary, we contrast some recurring them
35	e now briefly sketch out	by way of	summary the salient points of the monist

In this context, it is noteworthy that out of a total of only 69 instances of *by way of* in the spoken component of the BNC (*by way of* has a frequency of 6.63 pmw in the spoken component as compared to 15.33 pmw in the written component), 30 were allocated to this category. Interestingly, 18 of those 30 instances feature hesitation markers like filled pauses (such as *er*, *erm*) or hedges (such as *just*, *sort of*, *well*, *I think*) in the immediate surroundings of *by way of*. This, too, could be taken to indicate that the phrasal unit around *by way of* in this group fulfils the function of structuring ongoing discourse. In fact, the function in spoken language appears to be not unlike the function of certain discourse markers, in that the phrases signal hesitation as well as an ongoing claim to the floor. In this sense, the use of *by way of* is to some extent reminiscent of the discourse-specific characteristics of *in terms of* described by Hoffmann (2005: 125–139). Consider the examples given in (7) to (9) below:

- (7) Okay then let me just *by way of* er introduction er to the concepts and the content of what we're going to do over the next two days let me just put a very small fraction of a picture up here. (BNC: JSA 223)
- (8) Now erm [pause] just just *by way of* look I'll just interrupt this slightly I'll come back to it in a second. (BNC: KPA 756)
- (9) Just just *by way of informa-- information*, the regional routes rail network, you're talking about the Harrogate line, the one to Scarborough and? (BNC: J9T 1130)

Note that in all these extracts, the construction around *by way of* marks the beginning of a new unit of discourse and indicates how this unit is to be interpreted; this would be in line with Schifffrin's (1987: 31) claim that discourse markers "bracket units of talk". However, the findings concerning the role of *by way of* 'with the function of' in spoken language would clearly have to be checked on more data from additional corpora.

In other cases of the 'with the function of' category, *by way of* is used in similar ways to explain the function of something that was said or done by the speaker/writer or, more frequently, some other person the speaker/writer refers to. Here, *by way of* combines with a wider range of noun phrases, not all of which necessarily have a direct connection with the world of discourse (e.g. *by way of retaliation*, *by way of preparation*). Nonetheless, in these uses, too, a clear semantic preference for discourse is noticeable, and the whole phrasal unit performs text cohesive functions. A strikingly large number of instances in this subgroup can be represented in the form of the broad lexico-grammatical frame

shown in Figure 2: noun phrases referring to people, mostly pronouns or proper nouns, are combined with verbs, followed by *by way of* and its complement. Importantly, both the main verb and the complement of *by way of* are concerned with verbal actions (e.g. making an apology, saying or explaining something). The order of the components is slightly variable. Typical examples of this pattern are given in Concordance 7:

personal pronoun/ proper noun/ other NP referring to people	+	verb	+	<i>by way of</i>	+	noun/ verb-ing
		semantic field of 'discourse'				semantic field of 'discourse'
		SAY				<i>explanation</i>
		ADD				<i>apology</i>
		OFFER				<i>greeting</i>

Figure 2: Model of an extended phrasal unit with *by way of* 'with the function of' as the core item.

Concordance 7: Thirty illustrative examples of *by way of* 'with the function of' co-occurring with NPs referring to people and verbs and nouns belonging to a semantic field of 'discourse'

1	I'll be buying much beer, if any,' <u>he said</u>	by way of	<u>a confidence booster</u>
2	idea of what they want. 'Hallo,' <u>she says</u> ,	by way of	<u>a general greeting</u>
3	u. "I own four prahus, " <u>the Keraing stated</u>	by way of	<u>an answer</u> . "Three p
4	ent too. 'The door was open,' <u>he explained</u> ,	by way of	<u>an apology</u> . 'I thoug
5	YN 'DID YOU know,' <u>enquires Anthony Newley</u> ,	by way of	<u>an ice-breaker</u> , 'tha
6	uble-check if the tape is running, <u>I mutter</u>	by way of	<u>apology</u> , 'I've had s
7	l stonework. 'I canna help it,' <u>shouted Tam</u>	by way of	<u>apology</u> . 'It's thaim
8	girl with the golden voice,' <u>said Harcourt</u> ,	by way of	<u>apology</u> . Vernon told
9	s. 'They've not had much chance,' <u>she added</u>	by way of	<u>apology for herself</u> .
10	nk it's for the best,' she said. <u>She added</u> ,	by way of	<u>conversation</u> , that s
11	ft the boy, has you?' 'With Sam,' <u>he added</u> ,	by way of	<u>defence</u> . He had been
12	are important ones,' <u>said director Gabriel</u>	by way of	<u>encouragement</u> . The p
13	ead person. <u>Cameron and Parkes (1983) cite</u> ,	by way of	<u>example</u> , the death o
14	lunteered a remark. 'Hashed mutton,' <u>I said</u>	by way of	<u>explanation</u> , 'and ti
15	rressed. 'Violet reads poetry,' <u>she offered</u>	by way of	<u>explanation</u> , 'especi
16	g that any of this lay beneath. <u>Alina added</u>	by way of	<u>explanation</u> , 'Everyo
17	r a good many years,' <u>Bull O'Malley offered</u>	by way of	<u>explanation</u> . 'Ah wel
18	e like that. 'I had to find you,' <u>she said</u> ,	by way of	<u>explanation</u> . 'So wha

19 I – um – had a train to catch,' she offered by way of explanation. 'Train
20 . I think he's the bashful type,' she said, by way of explanation. Smiling
21 ent's sadness. 'It could be worse,' he said by way of farewell. 'It could
22 Is it not warm enough in here?' he enquired by way of greeting, seeing her
23 All my clothes are second-hand she told him by way of greeting. 'I love th
24 just finished his evening meal. He grunted by way of greeting as the fat
25 his is Belinda and Danny,' explained Rachel by way of introduction. 'They
26 your father,' said the four-times champion by way of introduction to the
27 s together. 'It was Annie's idea,' he said, by way of justification. 'She
28 . 'What are you doing exactly?' Mungo said, by way of small-talk. 'The fox
29 hould not marry,' says Monika (sic) Kocanek by way of explaining how she e
30 as there. 'Terrible day,' commented Charlie by way of making conversation.

4.5 Category 5: by way of 'in the habit of, having a reputation for'

As mentioned in the OED (*way* n.1, sense 32–33), this sense of *by way of* is associated with a special formal pattern, namely 'BE + *by way of* + gerund'. The full set of ten uses (0.7 per cent) in the BNC is given as Concordance 8:

Concordance 8: *by way of* 'in the habit of'

1 e. Questioning is by way of being a bargain: 'You are asking me to give so
2 s. His family was by way of being a bit notorious locally. I don't mean in
3 Dlend a hand. I'm by way of being a bit of an expert on the moor, you know
4 . I fancy you are by way of being a professional photographer, Mr Kleiber?
5 layground. It was by way of being a royal command. She swept ahead to ente
6 . Punctuality was by way of being an obsession – although once he missed a
7 he following are by way of being examples and are not intended to be defin
8 f surprise. 'He's by way of being her foster-son.' Fen was in one of his b
9 e on fire as he's by way of being quite an authority on horses these days.
10 nges. All this is by way of saying the ego of film makers is a very frustr

With no more than ten instances in the whole BNC, it is impossible to make statistically significant statements about individual words that habitually co-occur with this construction. Nonetheless, it is noteworthy that in nine out of ten cases, the verb in the gerund is BE. Another observation that can be made is that, in most cases, the construction co-occurs with downtoners (*a bit* in lines 2 and 3, *quite* in 9) or other markers of tentativeness (*you know* in 3, *I fancy* in 4, a concessive clause introduced by *although* in 6, an explicit remark as to indefinite-

ness in 7). Thus, it might be claimed that the communicative purpose of using this phraseological unit in discourse is to signal a certain reluctance to commit oneself fully to the idea one is expressing. Importantly, what is at issue is thus not solely the expression of an attitude towards a particular situation in the world, but also the expression of an attitude to the discourse itself. In other words, the construction in these examples serves a metatextual function, again similar to that of discourse markers. However, these are no more than preliminary observations; whether or not this construction really has the metatextual function of signaling ‘vagueness/reluctance’ would clearly have to be tested on more data.

5 *Distributional characteristics*

The analysis of formal and functional patterns associated with the different sense groups of *by way of* has shown that many of the constructions built around *by way of* fulfil textual functions. I have highlighted that text-structuring functions are particularly characteristic of the ‘with the function of’ category (cf. Section 4.4.2). This finding is further supported by the observation that these uses are both relatively frequent and relatively widely distributed over the different text types represented in the BNC. Recall that the ‘with the function of’ category is the second largest (371 instances, which equals 26.5 per cent of all instances of *by way of* in the BNC). The first aspect to note is that the distribution of the text-structuring uses is fairly balanced over the written and spoken components of the BNC (3.88 pmw in the written component versus 2.88 pmw in the spoken component). What is more, the uses do not cluster in particular text types, but are relatively evenly distributed over the whole corpus. Figure 3 displays the distribution of *by way of* ‘with the function of’ over the eight derived text types of the BNC.⁴

The observation concerning the relatively even distribution of the constructions around *by way of* ‘with the function of’ becomes clearer as soon as one compares the distributional characteristics of this category of usage to those of the ‘by means of’ category.⁵ As mentioned above, the ‘by means of’ group is by far the largest (600 instances or 42.3 per cent of all instances of *by way of* in the BNC). The strong tendency of *by way of* ‘by means of’ to collocate with legal and economic terms is reflected in an uneven distribution over the different text types of the corpus. First of all, note that instances of this category occur with a much higher frequency in the written than in the spoken component of the BNC (6.63 pmw in the written component versus 1.63 pmw in the spoken component). As Figure 4 further illustrates, the construction is used with a much higher

frequency in ‘Academic prose’ (20.53 pmw) than in any of the other derived text types of the corpus.

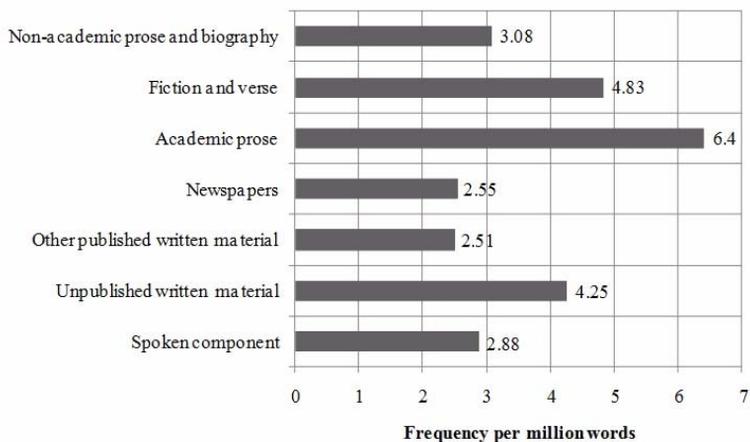


Figure 3: The distribution of by way of ‘with the function of’ over the eight derived text types of the BNC

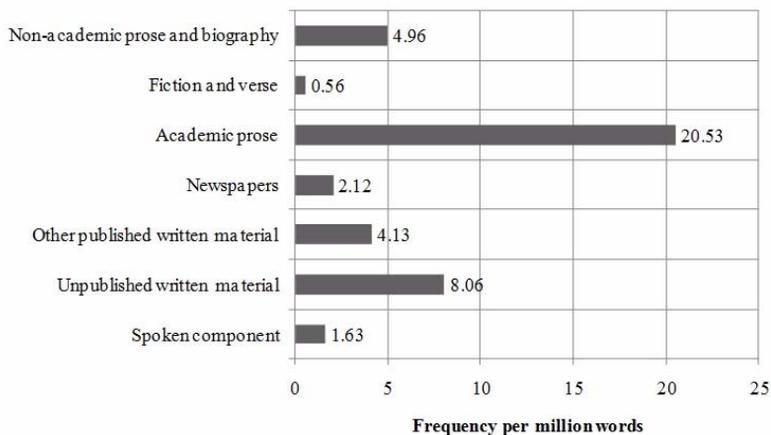


Figure 4: The distribution of by way of ‘by means of’ over the eight derived text types of the BNC

Since these eight text categories are very broad, it is important to investigate how evenly distributed the construction is within the individual text types. For this purpose I made use of the 70 genres that have been identified for the BNC by David Lee (cf. Lee 2001). As this much more detailed breakdown by genre reveals, the construction is in fact very unevenly distributed across the broad text type ‘Academic prose’: about 41 per cent of all instances of *by way of* ‘by means of’ are found in one and the same genre: ‘academic prose: politics law education’ (W:ac:polit law_edu). In this genre, the item has a frequency of 52.52 pmw. The genre breakdown also shows that, even though the overall frequency of *by way of* ‘by means of’ is much higher than that of *by way of* ‘with the function of’, the former occurs in fewer genres than the latter (*by way of* ‘by means of’ is used in 35 out of 70 genres, *by way of* ‘with the function of’ in 42). What is more, an investigation of the frequency with which *by way of* ‘by means of’ is used in individual text files shows that there are a number of texts in which *by way of* ‘by means of’ is used extremely frequently. The highest number of occurrences in a single text file corresponds to an extrapolated frequency of 2044.99 pmw; in this relatively short law report containing 5,868 words, the construction is used 12 times.

All of this suggests that *by way of* ‘by means of’ is a rather specialised item which tends to be restricted to certain contexts of use, but which also has a tendency to be used particularly frequently in these contexts. The observations concerning the much less specialised range of uses of the phrasal constructions around *by way of* ‘with the function of’, on the other hand, lend further support to the conclusion that these phrasal units perform very general discourse-pragmatic functions which are more or less independent of the content of the particular texts the constructions are used in (cf. Stubbs 2009: 26).

6 Discussion and conclusion

The starting point of this case study of *by way of* was the observation that the item can be used to mean very different things. In a combination of quantitative and qualitative analyses, I have identified a set of distinct senses of the item, and listed a number of typical formal and functional patterns for each of these senses. Of course, these observations are probabilistic in that the patterns found to be associated with a particular sense never apply to all the citations in a category. Yet there are clear patterns, and importantly, there is little overlap between these patterns. These observations show that no matter how many senses might be listed for *by way of* as considered in isolation, in actual language comprehension, the co-text is likely to disambiguate the item within a short span. This, in

turn, strongly suggests that the primary carrier of meaning is not *by way of* itself, but rather a number of larger phrasal units of which *by way of* is merely a part (cf. Sinclair 2008: 409). Moreover, the evidence gathered demonstrates in how far these phrasal units tend to be not only larger, but also much more abstract than single words or fixed multi-word items such as complex prepositions. The study of *by way of* therefore corroborates Sinclair's (1996, 1998) general model of extended lexical units, according to which a unit of meaning consists of a more or less fixed core plus collocational and colligational patterns, a semantic preference, and an overall communicative function.

However, it has also been suggested that more systematic attention needs to be given to the textual functions of lexis (Stubbs forthcoming). Sinclair's model of extended lexical units fails to take explicit account of such functions. In Sinclair's own analyses, the communicative function of lexical units tends to be related to the expression of attitudinal meanings. The study of *by way of* supports this classic notion of semantic prosodies insofar as some of the phrasal constructions built around *by way of* are indeed conventional ways of expressing attitudes towards particular situations in the world. Nevertheless, my data also support the view that extended lexical units can frequently perform text-internal functions, as many of the constructions involving *by way of* fulfil additional functions related to the organisation of discourse: they signal text structure and contribute to textual cohesion. In fact, one of the phrasal units around *by way of* 'with the function of' has been shown to be defined almost solely by its role in the structuring of discourse. Consequently, my findings suggest that the pragmatic parameter in Sinclair's model of extended lexical units should distinguish systematically between communicative functions connected to the expression of attitudes towards text-external situations on the one hand and text-internal functions of structuring discourse on the other hand. That is to say, the pragmatic parameter should be split up into two. Of course, that also means that in order to fully investigate the functions of extended lexical units, findings from quantitative corpus-based studies need to be combined with findings from detailed studies of individual texts (cf. Stubbs forthcoming).

Notes

- * I am grateful to Sebastian Hoffmann and Michael Stubbs for valuable comments on an earlier version of this paper.
- 1. To avoid the danger of circularity of argument, I tried to use only the paraphrased meanings indicated in Table 1 to allocate each instance of *by way of* to a sense category in the first step of the analysis. That is, even though it

soon became apparent that certain senses are associated with particular formal features, I tried to base my decision on the semantic criteria that had been established in advance. Still, I cannot rule out the possibility that the allocation process was unconsciously influenced by the emergent formal patterns (Sinclair 1987: 110 makes a similar point). Furthermore, a certain element of circularity is clearly inherent in the analysis of collocational patterns associated with each sense group in the second part of the analysis. The reason for this is the fact that the initial decision as to which category an instance should be allocated to in the first step of the analysis was already based on its collocations. This is inevitable insofar as the collocations of an item are the main evidence of its meaning.

2. Additionally, some tokens where no literal path or road can be imagined were included in this category. In these examples, the speaker or writer refers to some process of arriving at X via Y, where Y is some intermediate step and not the method or means used to reach X (cf. category 2). This is the case in (i):
 - (i) In the course of the years between 1310 and 1410 the spelling (and no doubt the pronunciation) had moved from de Foresteresheye (*by way of Fortereshey and Forteshegh*) to Forsey, the form in which it has stayed in and around the small area where the estate lay, close to Bridport, until the present time. (BNC: B1P 163)
3. Punctuation marks were retained in the lists of top collocates.
4. The term ‘derived text types’ refers to the categories that were formed by combining the 70 genres which were determined for the BNC by David Lee into 8 larger groups (cf. Lee 2001).
5. No distributional analyses were carried out for the other categories due to their fairly low overall frequency.

References

- Burnard, Lou. 2007. *Reference guide for the British National Corpus (XML Edition)*. <http://www.natcorp.ox.ac.uk/docs/URG/>. (Accessed 06.09.2010).
- Francis, Gill. 1993. A corpus-driven approach to grammar. In M. Baker, G. Francis and E. Tognini-Bonelli (eds.). *Text and Technology*, 137–56. Amsterdam: John Benjamins.
- Hoffmann, Sebastian. 2005. *Grammaticalization and English complex prepositions: A corpus-based study*. London: Routledge.

- Hoffmann, Sebastian, Stefan Evert, Nicholas Smith, David Lee and Ylva Berglund Prytz. 2008. *Corpus linguistics with BNCweb: A practical guide*. Frankfurt: Peter Lang.
- Lee, David. 2001. Genres, registers, text types, domains, and styles: Clarifying the concepts and navigating a path through the BNC jungle. *Language Learning & Technology* 5(3): 37–72.
- The Oxford English Dictionary*. 2nd ed., 20 vols. 1989. Prepared by J.A. Simpson and E.S.C. Weiner. Oxford: Clarendon Press.
- Schiffrin, Deborah. 1987. *Discourse markers*. Cambridge: Cambridge University Press.
- Sinclair, John. 1987. Grammar in the dictionary. In J. Sinclair (ed.). *Looking up: An account of the COBUILD Project in lexical computing*, 104–15. London and Glasgow: Collins.
- Sinclair, John. 1991. *Corpus, concordance, collocation*. Oxford: Oxford University Press.
- Sinclair, John. 1996. The search for units of meaning. *Textus* 9: 75–106.
- Sinclair, John. 1998. The lexical item. In E. Weigand (ed.). *Contrastive Lexical Semantics*, 1–24. Amsterdam: John Benjamins.
- Sinclair, John. 2008. The phrase, the whole phrase, and nothing but the phrase. In S. Granger and F. Meunier (eds.). *Phraseology: An interdisciplinary perspective*, 407–10. Amsterdam: John Benjamins.
- Stubbs, Michael. 2002. *Words and phrases: Corpus studies of lexical semantics*. Oxford: Blackwell.
- Stubbs, Michael. 2009. Technology and phraseology: With notes on the history of corpus linguistics. In U. Römer and R. Schulze (eds.). *Exploring the lexis-grammar interface*, 15–31. Amsterdam: John Benjamins.
- Stubbs, Michael. Forthcoming. Corpora and texts: Lexis and text structure.

