

Economical with the truth: Register categories and the functions of *-wise* viewpoint adverbs in the British National Corpus

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1 Introduction

The suffix *-wise*, when examined against a range of other English derivational affixes in the British National Corpus (BNC), seems to behave differently from the rest. This is the finding of Plag, Dalton-Puffer and Baayen (1999), who use the BNC to test the relationship between the productivity of English derivational affixes¹ and register. All affixes measured were more productive in written registers, except for *-wise*, which is “at least as productive in spoken as in written registers” (Plag *et al.* 1999: 220), and “significantly more widely used in context-governed speech than in written language”, making *-wise* a “counterexample to the general claim that derivational affixes are more productive in written than in spoken language” (*ibid.*). Subsequent studies (Dalton-Puffer and Plag 2000) have shown that it is the viewpoint adverb construction with *-wise* (shown in (1)) which is responsible for these results:

(1) I feel fully satisfied **appetite-wise**

The aim of this paper is to explain the distribution of the above construction across the registers of the BNC with reference to its pragmatic function. *-Wise* viewpoint adverbs have been attributed with properties that go beyond “topic restriction” (Rickford *et al.* 1995) or the provision of a “viewpoint” for the clause. They are believed not only to convey an economical, but also an impersonal style. Here I suggest that they play a role in discourse organization and may be used as a politeness strategy. The first challenge is thus the identification of these roles in the spoken corpus data despite minimal contextual information. The second is the selection of appropriate register categories for the analysis of the written corpus data.

“Register” (or “type of discourse”) in Plag *et al.*’s study refers to the written/spoken distinction, which in the BNC is represented by three subcorpora: written language, context-governed spoken language, and socially and geographically representative informal conversation (the “demographic” corpus). I will refer to these as W, CG and D respectively. These divisions which are built into the BNC are the obvious categories to use in a first analysis of register difference. The subcorpora are however constructed on the basis of *medium*, and it has long been established that oral and literate styles do not directly correspond to medium (Biber 1988, Tannen 1982, 1985, Plag *et al.* 1999: 12). We cannot assume therefore on the basis of Plag *et al.*’s results that *-wise* is straightforwardly characteristic of spoken interaction, and we must seek a more detailed understanding of the kind of texts which produce *-wise* viewpoint adverbs. Register categories explored in this paper are the BNC’s “domains” of discourse (Aston and Burnard 1998) and the more conventional “genres” designed for use with the BNC by David Lee (Lee 2001). For both sets of categories, however, texts are pre-assigned to a register on the basis of external rather than linguistic features. I argue, therefore, that it is also necessary to characterize texts which produce *-wise* viewpoint adverbs on the basis of structure.

It is important to bear in mind that some of the pragmatic functions identified here for *-wise* viewpoint adverbs may or may not apply to other topic restricting or “viewpoint” constructions e.g. *as far as NP is concerned*, and that exactly which of these functions are unique to *-wise* remains unknown until a full comparative study of topic restricting constructions in English (or indeed across languages) is available. Sections 2 and 3 describe the viewpoint adverb construction and examine its categorial status. Section 4 reviews claims about the registers in which *-wise* evolved historically, and sections 5 – 8 set out an analysis of *-wise* viewpoint adverbs in the spoken and written texts of the BNC.

2 *Viewpoint subjuncts*

Dalton-Puffer and Plag (2000) compare the productivity of viewpoint adverbs in *-wise* in the BNC to that of adjuncts or “manner adverbs”, compound adjectives (e.g. *streetwise*) and trade names (e.g. *Netwise*, *Drugwise*). The distinction between manner adverbs and viewpoint adverbs is illustrated in (2) and (3) respectively, where *sarongwise* is thought to modify a VP and *controlwise* a clause:

- (2) He was standing very close to her, his waist and hips only inches from her face and covered only by the towel wound **sarongwise** about his middle.
- (3) Now **controlwise**, we can look at various things, and I think last year we had various discussions on different things, but naturally, you're looking for smooth, positive control of the vehicle

Levels of productivity for the different constructions with *-wise* are compared through counting tokens, types and hapaxes (lexical items occurring once in the entire corpus). The figures are reproduced in Table 1. Productivity is understood here in a quantitative sense as the statistical likelihood of the affix to form new combinations (see Bauer 2001), which means that the number of types (V) is regarded as a better indicator of productivity than the number of tokens (N), and hapaxes or hapax legomena (n1) are regarded as the best indicators of productivity as they are most likely to represent words that are actually novel in the language (Baayen and Renouf 1996: 74).

Table 1: *-wise* derivations in the BNC (Dalton-Puffer and Plag 2000)²

	N	V(N)	n1
manner adverbs	591	39	21
viewpoint adverbs	205	137	111
compound adjectives	146	20	14
trade names	101	19	12

It is clear that while viewpoint adverbs constitute fewer tokens than the other processes, they show considerably greater numbers of types and hapaxes. Novel combinations in *-wise* therefore are most likely to be viewpoint adverbs. Lenker (2002) too finds that viewpoint adverbs are the most productive use of *-wise* for corpora from the ICAME-collection and a more recent corpus of British newspapers (the *Independent on CD-ROM* for 1993 and the *Guardian* and *Observer* for 1999 and 2000).

The term “viewpoint adverbs” is adopted from Dalton-Puffer and Plag (2000). These constructions in *-wise* are variously termed “viewpoint adverbials”, “domain adverbials” and “sentence adverbials” (Lenker 2002). They are denominal and take as their scope the clause rather than the VP. For Quirk, Greenbaum, Leech and Svartvik their meaning is “if we consider what we are saying from the point of view of NP” (1985: 568), and they belong to a larger set of constructions called “viewpoint subjuncts” which includes: Adj + *-ly* (*speaking*

ing); *as regards NP*; *with respect to NP*; *as far as NP is concerned*.³ Such constructions are described as “topic restricting” by Rickford *et al.* (1995).

According to Quirk *et al.* (1985) viewpoint subjuncts have the semantic role of *respect* in that the base of the adverb acts as a relevant point of reference for the clause. Lenker claims that they share properties with Quirk *et al.*'s category of disjuncts which convey the speaker's evaluation of the communication e.g. *frankly speaking* (2002: 163), and are used by speakers “to indicate that the proposition of the whole sentence or clause is only true in the perspective chosen by the speaker, the given domain” (*ibid.*), as in *morally, he is wrong* (Bellert 1977 in Lenker 2002: 164). They differ from disjuncts however in that they are still “relatively integrated within the structure of the clause” (Quirk *et al.* 1985: 440).

3 Derivational affixes and pragmatic function, or, what sort of animal is the suffix -wise?

Plag *et al.* (1999) observe that there is not a well-developed framework for describing the functions of word-formation processes. Treatment of the pragmatic or textual role of word-formation has been limited, they suggest, to some remarks on nominalizations, “unanimously regarded as typical of written, information-centered texts” (1999: 210),⁴ and recent work on diminutives, most likely to occur in vocative speech acts and in phatic communication generally (Dressler and Barbaresi 1994 in Plag *et al.* 1999; see also Kiefer 1998).

Two kinds of functions have been identified for nominalizing processes and word-formation processes more broadly: a cohesive or “reference” function, and a “labelling” function which involves the encoding of new concepts (Plag *et al.* 1999: 225; Kastovsky 1986; Bauer 2001: 24). Baayen and Renouf (1996) have described the productivity of highly productive processes as most similar to the “ephemeral” productivity of syntactic constructions, thus differing from “conscious and deliberate lexical creativity in which a novel expression is carefully constructed to express a new concept intended for repeated use within an – often specialized – domain” (1996: 78).

I have remarked elsewhere with regard to nominalization (Cowie 2000) that this dichotomy is a difficult one to uphold, especially given general consensus that the distinction between derivation and inflection is continuous rather than discrete (see for instance Haspelmath 2002). Few would argue that *-wise*, in its viewpoint adverbial function, is involved in concept formation; yet its productivity relative to other English derivational affixes is not remarkable. In their study Plag *et al.* observe that *-wise* contributes “very little” to “overall vocabu-

lary size” (1999: 222). This raises a question about the association between relatively high productivity and grammatical function which cannot be resolved here. Suffice it to say that there may be grounds for not treating *-wise* viewpoint adverbs as derivational.

Inflectional or derivational, the grammaticalization of the suffix in this particular function has taken a somewhat uncharted route. Shift in adverbial scope from VP to the clause is well documented (Quirk *et al.* 1985), but accounts typically focus on “style disjuncts” involving certain high frequency lexemes e.g. *hopefully, frankly* rather than adverbial suffixes. Lenker (2002) argues that the evolution of *-wise* viewpoint adverbs, which, according to the *OED* make their first appearance in the American English of the 1940s, is bound up with the use of viewpoint adverbs in *-(c)ally*. She demonstrates how adverbs such as *botanically* come to be used as “domain adverbials” in sentences such as “botanically, this is the region of palms” (*OED* 1870) on the basis of phrases such as “to speak more botanically” (*OED* 1793). These *-ly* constructions appear with the high frequency lexeme *otherwise*, and the *-wise* viewpoint adverbial suffix, Lenker suggests, may have been reanalysed from phrases that she finds in the *OED*, such as “etymologically and otherwise” (2002: 176). *-wise* adverbs are not only similar to sentence adverbs in *-(c)ally* but are used together with them: “This takes the pressure off, financially and healthwise” (*Guardian* Sept 8 1999; Lenker 2002: 164). The advantage of *-wise* over *-(c)ally* is that it is not restricted to adjectival bases with the *-al/-ical* latinate ending. While *-wise* seems to be specialising in the sentence adverbial function, this cannot be said for *-ly*.

As this study examines data from a contemporary corpus I will not comment further on the constructions that are considered to be part of the history of *-wise* viewpoint adverbs. What will be of interest here, however, is claims made about register in the emergence of *-wise* viewpoint adverbs, claims which are, on the face of it, difficult to reconcile with Plag *et al.*'s findings about their contemporary patterning across registers.

4 Register in the evolution of *-wise* viewpoint adverbs

Lenker posits that sentence adverbials in *-(c)ally* and later sentence adverbials in *-wise* were initially prominent in scientific discourse and “transferred” to other discourse types (2002: 175). She describes how *-(c)ally* sentence adverbials are a part of the shift in scientific discourse from involved to informational in the nineteenth century described by Biber and Clark (2002):

The new domain adverbials *-(c)ally* are an excellent vehicle for that new informational pattern. They indicate the speaker perspective (most often sentence-initially) without having to name the speaker directly and thus help to avoid the use of a personal pronoun. Domain adverbials are furthermore an extremely condensed and therefore quick and efficient means of stating the perspective chosen for the proposition, a property that is indispensable for scientific texts, but also quite convenient in other contexts. (Lenker 2002: 174)

Not only does the viewpoint adverb provide a point of reference for the clause; it is a *subjective* point of reference (“speaker perspective”), which at the same time masks subjectivity through the avoidance of apparatus such as personal pronouns. In the past the economy of the *-wise* construction has been emphasised over its subjectivity. For some writers, it allows speakers to condense form by providing points of reference that do not necessarily convey attitude: for Howard “*careerwise* is much quicker than ‘in relation to my career’”, and “*moneywise* is more direct than ‘as far as money is concerned’” (1993: 411 in Lenker 2002: 158). Whether the construction primarily serves efficiency, and the role of subjectivity in its use are issues that I will return to in my analysis of the BNC data.

Lenker’s claim is striking in that scientific, or to use Biber’s term, “information-al” language, which she has associated with the origins of *-wise* viewpoint adverbs, is typically associated with the written medium, and the finding in Plag *et al.* (1999) is that *-wise* is more frequent in the spoken medium. Lenker’s own survey of contemporary corpora in fact indicates that sentence adverbials in *-wise* are more frequent in the spoken medium (2002: 175). For Lenker however, the factors influencing the use of *-wise* are not “medium” (spoken vs. written) or “attitude” (informal vs. formal) but “field of discourse” (after Quirk *et al.* 1985), in particular, “science” and “arts”, which she subsequently refers to as “technical registers”. This view is supported, she believes, by 1960s commentaries on *-wise* in American English: “*-wise* is often used in the languages of business, trade and industry, all of which are technical varieties more or less modelled on the field of discourse of scientific language” (2002: 175). In Lenker’s account, *-wise* viewpoint adverbs are seen to have emerged from a register which is “technical” (in the sense of specialist, professionalized) and “informational” but not necessarily written.

Both Pulgram (1968) and Houghton (1968) mention in particular the discourses of advertising and “bureaucracy”, where the form confers on its users

“the flavour of authority and officialdom” (Pulgram 1968: 383). Both writers also state explicitly that *-wise* viewpoint adverbs are more common in speech than in writing. This observation in fact leads Pulgram to question the notion that *-wise* is selected for reasons of economy. Economy, he notes, is seldom a consideration of colloquial language (1968: 382–383). The frequency of the construction in sports reporting, Houghton believes, is an indication of how “*-wise* is used on public occasions by people who make their living primarily by talking” (1968: 211). The strong performance of the CG subcorpus in the BNC supports a specialist, professionally-based, spoken register of origin.

5 Methodology

The productivity of derivational affixes is measured in Plag *et al.* (1999) by plotting the number of types found in an affix against the number of tokens sampled from the corpus. This is done independently for each of the three subcorpora of the BNC. What is actually plotted is “the expected vocabulary size $E[V(N)]$, the number of types one may expect to count on average for a great many orderings of the text fragments in a given subcorpus”. These “vocabulary growth curves” allow for comparisons between the three subcorpora of the BNC “for a range of different values of corpus sizes N ” (1999: 217). Roughly, the written subcorpus makes up 90 per cent of the BNC, and the two spoken subcorpora 5 per cent each.

Unlike these “vocabulary growth curves”, a straightforward count of types and hapaxes for each subcorpus does not allow for comparisons between the subcorpora⁵ and these will tend to reflect the unequal sizes of the subcorpora. The tokens, types and hapaxes of *-wise* viewpoint adverbs for the present study (Table 2) were obtained by assessing each lexical item with the suffix *-wise* in a word frequency list for the BNC.⁶

Table 2: Distribution of *-wise* viewpoint adverbs across the three subcorpora of the the BNC⁷

	Total	W	CG	D
N	204	140	37	27
V⁸	164	111	31	22
n1	114	81	17	16

Given that hapaxes are regarded as the most reliable indicators of neologising (Baayen and Renouf 1996: 74; Plag *et al.* 1999: 215), it makes sense for any

examination of items in their contexts of occurrence to focus on the hapaxes. However, given the high proportion of hapaxes in the data, and the fact that only two items have a token frequency greater than five (*workwise* and *business-wise*), I have not disregarded tokens which are not hapaxes, and all tokens of viewpoint adverbs in *-wise* are part of the following investigation of function. The investigation begins by applying certain linguistic variables to the data to see if they correspond to differences in the use of the viewpoint adverbs. Subsequent sections explore these differences further through a discourse analytic approach.

6 Linguistic variables and the functions of *-wise* viewpoint adverbs

Rickford *et al.* (1995) and Britain (1998) consider the following linguistic variables in their studies of codaless *as far as*: syntactic complexity of the base NP, number of words following *as far as*, prosodic structure (branching or non-branching NP) and position of *as far as* in the sentence (initial or non-initial). Both studies found that sentential NPs tended to delete codas more than less complex NPs. It is very likely that, as for codaless *as far as*, NP complexity (or rather the lack of it) of the base is relevant to the selection of *-wise* over *other* viewpoint subjuncts, but NP complexity does not seem to be highly variable among *-wise* constructions. For the BNC data there were only a handful of NP bases that were not a single noun, such as *long term future-wise*, and *Christmas cracker-wise*. I have therefore not investigated NP complexity, or the related factors of prosodic structure and number of words in the BNC *-wise* data.

There does seem to be considerable variability in the placement of *-wise* viewpoint adverbs in relation to the modified clause however. For *as far as*, Rickford *et al.* (1995) find coda deletion more common in initial position, but Britain (1998) finds it overwhelmingly more common in non-initial position. Table 3 shows variation among *-wise* viewpoint adverbs (tokens) in the BNC subcorpora in terms of their position in relation to the clause. In the present study two variants are identified in addition to initial and final: I have used the term “phrase modifier” for items which appear to modify elements within the clause, usually the NP subject, as in (4) or VP as in (5). An adjectival complement is modified in (6):

- (4) The story of the HSTs powerwise does not belong here but from the point of view of passenger comfort we should note that while much was conventional there was also much that was new (W)

- (5) but if you are actually swimming and you are using the different strokes and so forth, it does use **power-wise** all the main muscles of the body (CG)
- (6) But if you look at the H and A's, they're in fact, **feature-wise**, identical but you're able to work out that one's er an H and one's an E based on the context. (CG)

The term “outside clause” designates items which, in conversation, do not modify a clause in the turn in which they occur. They may however modify a clause in another speaker’s turn.⁹

Table 3: Position of *-wise* viewpoint adverbs in relation to the clause in the BNC

	CG	D	W
Clause initial	9 (24%)	4 (16%)	53 (38%)
Clause final	20 (54%)	16 (64%)	70 (50%)
Phrase modifier	3 (8%)	1 (4%)	14 (10%)
Outside clause	5 (14%)	4 (16%)	3 (2%)
Total N	37	25	140

The “phrase modifier” positional variant is clearly in the minority, but its presence is not altogether surprising. Quirk *et al.* (1985) argue that, while *-wise* sentence adverbials are subjuncts with a “wide orientation”, it is entirely possible for them to simultaneously focus on one element of the clause (1985: 567). The dual narrow and wide orientation shown by these examples is marginally present in the CG subcorpus and does not seem to be apparent in the demographic corpus at all.¹⁰ But it is not that the “phrase modifiers” in the W subcorpus deviate from the basic function of providing a perspective on the clause; rather, I will argue, the additional, interesting dimensions demonstrated by *-wise* viewpoint adverbs are manifest in the initial and final positions.

Table 3 shows that for both spoken subcorpora clause final position is overwhelmingly more popular. Interestingly, Britain’s finding for codaless *as far as* in New Zealand English is that it is both more common in spoken New Zealand English and more common in clause final position, although he attributes the latter finding to the increased complexity of NPs in final position (1998: 21–22).¹¹ In the following pairs from all three subcorpora, it is not immediately apparent that there is a difference in function between initial and final viewpoint adverbs:

- (7) then there is a, there is a erm declining debt, er **tax-wise** (CG)
- (8) So er bu **business-wise** I don't think much went on (CG)
- (9) It's working, like **gas-wise** (D)
- (10) Rubbish they take more petrol but **servicing-wise** they don't require as much (D)
- (11) but despite everything it was a satisfying day **business-wise** (W)
- (12) Work-wise it followed a similar pattern to the previous day. (W)

What does attract attention in the spoken examples in the above set is the hesitation before the viewpoint adverb in (7) and (8), and the hedge in (9). If these features are typical of *-wise* usage, it would not be surprising to find more examples of the construction occurring finally after some amount of hesitation and hedging. And indeed this is what is shown by Table 4, at least for hesitations.

Table 4: Hedges and hesitations used before *-wise* viewpoint adverbs in the BNC spoken subcorpora

	Hesitations ¹²	Hedges
CG – initial	1	1
CG – final	7	1
CG phrase-modifier	1	0
CG outside	2	0
D – initial	0	4
D – inal	2	3
D – phrase modifier	0	0
D – outside	2	1
Total	15	10

The tokens in Table 4 constitute less than half of the tokens for CG and D, and therefore cannot form the basis for valid generalizations. What Table 4 does tell us is that examples such as (7) are common, even archetypal, and this observation can provide some insights into the way that *-wise* is used in spoken language. In section 7, I will be exploring in more detail the way that *-wise* viewpoint adverbs are used as a politeness strategy in conversational interaction.

7 Economy and politeness: -wise in the spoken subcorpora

A relatively common use of *-wise* viewpoint adverbs in clause final position is in questions. Five of the tokens in CG (14%) and six of the tokens in D (24%) occur with questions. Examples (13)–(16) are from the D subcorpus:

- (13) S: How are you managing then **moneywise**?
- (14) S: What are they like service manuals, Toshiba, **price-wise**?
- (15) S: I should think this is about the same as the non-stereo one, for **hand set-wise** innit?
- (16) S: ... Do you have anything to do with the Hampton court area Steven er **work-wise**?

These should not be viewed in isolation. A more detailed examination of conversations and interviews show that *-wise* viewpoint adverbs can be used collaboratively by speakers across turns, giving rise to the examples which are classified above as “outside” the clause. This is particularly evident within the turn-taking system of interviews in the CG subcorpus. The viewpoint adverb can be used to introduce a topic to an interviewee, as a kind of open-ended prompt, as in (17):

- (17) S1: Yes okay. Erm **health-wise**
S2: Er have just been in hospital this last three or four years.

In (18) the interviewer uses *-wise* to introduce a topic, which is subsequently elaborated (note the use of *like* to assist in this). The interviewee echoes the viewpoint adverb before answering:

- (18) S1: Do you think your, your **amenity-wise** er the flats **like** they they've got the housing and the clubs and the playgroup and stuff like that, do you think you're very badly off for that or
S2: No, no **amenity-wise** you're okay but I mean amenities doesn't make up for sort of living standards you've got does it?

In (18) the interviewee is being asked to produce an assessment or evaluation. Or rather, an assessment is produced by the interviewer which the interviewee is asked to accept or reject. In (18), (19) and (20) the viewpoint adverb is used by the interviewee to focus the assessment:

- (19) S1: ... So you think the community's certainly gone down since you?
S2: In **number-wise**?
S1: Well in the way people act
- (20) S1: Right, erm, so do you think the place has changed much in the years that you've worked here?
S2: Oh **factory-wise**, aye, aha.
S1: Mhm.
S2: I mean it's, it's gonna seem, it was an awfully big factory over there, it's a different factory entirely.
S1: Mhm. Mhm
S2: More like a big shed over there. That's all it is.

Some of the uses of *-wise* in the informal conversation of the D subcorpus, judging from (21) and (22), are not dissimilar, but interestingly in each of these cases, there is further negotiation between speakers. In (21) S2 restricts the focus of the assessment, but uses *or* to allow S1 to suggest alternatives:

- (21) S1: mm mm nothing interesting up there
S2: **conversation-wise** or
S1: Well it depends
S2: All depends who turns up tomorrow.
- (22) S1: I, do you know something? When he's in clothes ... when he, not wearing his wrestling tights, or trunks whatever he calls them
S2: Shorts
S1: He looks smaller
S2: Oh he don't, he looks bigger
S1: No! He looks smaller, you know **height-wise** ... but **muscle-wise**
S2: **Muscle-wise** bigger
S1: More wider

In (22) S1 uses *height-wise* (preceded by a hedge) to focus an assessment which S2 has previously disagreed with; but then provides an alternative focus, also in the form of a viewpoint adverb (*muscle-wise*), which is repeated by S2 for agreement and confirmation. In (23) *strong-wise* precedes the assessment "he wasn't hitting as well as you" and *standard-wise* precedes, after considerable hedging and an intervening turn from S2, the assessment "you were very good today".¹³

- (23) S1: No, he wasn't as, as **strong-wise** he was hitting as well as you, but he wasn't as, much better than you at all
S2: oh you can't watch yourself play can you?
S1: you are, you, you were very sort of **standard-wise**
S2: yeah
S1: but I thought that you were very good today, much better than before

The use of *-wise* viewpoint adverbs with assessments or evaluations involves the two properties that have been attributed to the construction – economy and subjectivity – although perhaps not in the way that was meant by earlier commentators. In these cases we can talk about economy only in the sense that *something is left out*. It is not the viewpoint subjunct that is somehow reduced, but the clause it modifies. It is the modified clause, too, that contains the element of subjectivity – what I have referred to as the assessment. As shown above, *-wise* viewpoint adverbs in conversation can be useful in the negotiation of agreement. Examples like (24) and (25) highlight other features of this method of presenting assessment. In (24) and (25) the *-wise* suffix is attached to an element of the underlying proposition. The viewpoint adverb then occurs with a “weakened” version of the proposition which excludes significant content (shifted to the *-wise* adverb), allowing speakers a means of being indirect, and thus polite:

- (24) she's not much to shout about, you know, **intelligence-wise**
(25) S1: because er Saturday Bill went to work at the weekend
S2: yeah
S1: which was good news **moneywise**

(24) and (25) are from the D subcorpus but (26) and (27), from interview situations in the CG subcorpus, operate in an identical fashion. The clauses “it never happened” and “nothing was happening” are typical “reduced” propositions. With their non-specific anaphoric subject and generic verb they could be described as fixed expressions or at least formulas:

- (26) S1: ... What about America with you, the American scene with you?
S2: Er **recordwise** it never happened and does never seem to happen but we can go to America and work in the Irish centres and the Irish clubs and be an Irish band ...

- (27) certainly Tom tried to lift us or because over the winter months when nothing was happening **negotiations-wise**, you know he knew if he didn't lift us then nothing would and everyone would get so disheartened

Claims about indirectness are difficult to make, firstly because one is talking about what is not said rather than what is said, and secondly because they require more detailed social knowledge of speakers and their relationships than is available from a corpus like the BNC. For these reasons I am reluctant to put a figure on the number of tokens that show this indirectness. I will say however that it is more difficult to find examples in the spoken subcorpora which do not fit the above description than it is to find examples which do not. An additional set from the CG subcorpus is given in (28)–(34). Apart from the more interactive examples in (17)–(23), it should be obvious that the polite usage is typically clause final:

- (28) So I mean there is a limit to how much we can earn you know **bonus-wise**.
- (29) I had no confidence whatsoever ..., in all areas, **work-wise** mm at home with my family
- (30) I mean I don't think there's any problems **work-wise**
- (31) Doesn't look like a brilliant day does it **weatherwise**
- (32) This gave a close knit of people all intermingled **relative-wise**
- (33) The worst we've had **recrimination-wise** with Neighbourhood Watch schemes
- (34) Buggers us up **promotion-wise** in future again

Note that I am not claiming that every use of a *-wise* viewpoint adverb involves indirectness but rather, that this is an adapted function of *-wise* viewpoint adverbs in spoken language, and its utility in interpersonal contexts may in some way account for the frequency of the construction in spoken language. There is clearly room for further exploration here. In particular, these claims should be considered in relation to the modality of viewpoint subjuncts in general, a rather under-explored area. Further, whether it is integrally related to politeness or not, the formulaic character of the clauses modified by *-wise* viewpoint adverbs demands investigation. A total of 26 out of the 37 tokens in the CG corpus (70%), and 21 out of the 25 tokens in the D corpus (84%), have an anaphoric NP

subject¹⁴ in the modified clause. These proportions do not have much validity without a sense of the overall proportion of clauses in the spoken subcorpora with anaphoric subjects, but it is nevertheless striking that the modified clauses seldom have content heavy NP subjects.

Section 8 concentrates on the W subcorpus. Even though the normalised data shows that *-wise* viewpoint adverbs are at least as productive in the spoken subcorpora, in real terms there are many more tokens from the W subcorpus to analyse. Here we might expect to find less of the polite use of the construction, given the ways in which it is part of the interactive production of agreement. The written data is, however, in many aspects, surprising.

8 Hobbies and handbooks: -wise in the written subcorpus

Measuring variation in the position of the viewpoint adverb in relation to the clause that it modifies suggests that the clause is the only relevant level of structure. Yet this example from a “monologue” (see Appendix I) in the CG corpus suggests that *-wise* viewpoint adverbs can play a discourse organising function which goes beyond the clause which they apparently modify. Example (35) is shown here with surrounding text:

- (35) Now the technique that you employ driving your vehicle is divided into two parts. How you control the vehicle and how you read the road ahead. Now **controlwise**, we can look at various things, and I think last year we had various discussions on different things, but naturally, you’re looking for smooth, positive control of the vehicle. A nice balance between clutch and throttle.

The viewpoint adverb indicates which of two possible subtopics the speaker will select next, creating a textual coherence which *is* typical of “informational” discourse. *Controlwise* links back to the heading provided in the previous sentence, with the base *control*. This is the only “discourse organizing” viewpoint adverb in the monologues of the CG subcorpus. Other spoken interactions were examined to see if viewpoint adverbs were likely to occur at the beginning of a long turn, but this was rare, and happened only twice in the CG subcorpus. There are very few long turns in the D subcorpus. It may not require substantial turn length, however, for a *-wise* viewpoint adverbs to introduce a topic, as is evident from in (36), a clause-initial item from a conference in the CG subcorpus:

- (36) I mean, look what they doing **language-wise**, they're reading, they're evaluating, they're projecting, they're projecting I mean, the that, they're doing quite complicated things there

Unsurprisingly, it is much easier to find these discourse organizing viewpoint adverbs in the W subcorpus. Examples (37) and (38), given here with surrounding text, are representative. In (38), which is from a review of a personal computer, *performance-wise* introduces a subtopic after the headline *So what are the benefits*, and in (39), *career-wise* introduces a subtopic in a horoscope. The next subtopic is introduced by another viewpoint adverbial, *emotionally*.

- (37) And the new chip is good news if you're considering one of the slower 20MHz or 25MHz versions, as these have been forced down in price. SO WHAT ARE THE BENEFITS? Performance-wise the 33MHz 486SX has a slight benefit over the 25MHz version in processor-intensive tasks. For example, as part of the What Personal Computer Power Tests we run a Lotus 1-2-3 calculation to test processor speed. The 25MHz PCs we looked at in October took around 7 seconds to complete the test, while the 33MHz machines reviewed here took around 5 seconds.

What personal computer: the ultimate guide to choosing and using. London: EMAP Business & Computing, 1993

- (38) Indeed a major move of some kind seems to be unavoidable if not inevitable now, but once you decide where you ought to be – and more importantly, with whom you want to be – then the world will be your oyster. Career-wise, especially, it seems you are destined to scale new heights and what takes place sometime around October 29 and again on November 3 will put you firmly in the big league and back in the money again. Emotionally, you still appear to be feeling somewhat torn and indecisive and the trouble is you have an enormous yearning to give while asking for very little or even nothing in return.

She magazine. London: The National Magazine Company Ltd, 1989

Viewpoint adverbs with this function tend to be clause-initial and their presence in the W subcorpus may account for the greater number of clause-initial items in the W subcorpus. Yet this is not the most striking aspect of the written data. What is particularly interesting about the data in the W subcorpus is the proportion of *-wise* viewpoint adverbs that occur in clauses which are *represented* spoken discourse. The number of *-wise* viewpoint adverbs in W presented as occurring in direct speech, as in (39), is 52 out of 140 (37%).

- (39) THE most fashionable new children's shop in London is Cheeky Monkeys, recently opened in Kensington by Bridget Young and Georgia Hainault. Miss Young, 24, daughter of James Bond films director Terence Young, tells me: 'Six months ago my horoscope said it was time to do something for myself workwise, so I phoned Georgia that evening.' Cheeky Monkeys offers nearly-new designer clothes, a haircutting service, shoes, toys, furniture and a Montessori playgroup. Miss Young, above, who grew up in the south of France, earned pocket money as an extra in her father's films.

Today. London: News Group Newspapers Ltd, 1992

Also classified as direct speech here are what I have termed examples of "personal testimony", shown in (40) and (41):

- (40) I no longer craved sweet things, no longer felt the need to binge and have only cheated twice (and I mean one chocolate – not the whole box as before). As a nurse I cannot think of a healthier diet to follow and can see no disadvantages in it. I feel fully satisfied appetite-wise and have lost weight easily despite having the bread or rice every day. I looked my slimmest ever on my wedding day and thoroughly enjoyed my holiday.

Rosemary Conley's inch loss plan. Conley, Rosemary.

London: Arrow Books Ltd, 1990

- (41) I feel lost sometimes, like I ain't got no one. I think people who go to prison must have had a reason for whatever they did. It may not be a good reason to us, but they must have had a good reason to do it, either family-wise or tension-wise, or because of life in general. Some people like prison because they make more friends in there.

Insiders: women's experience of prison. London:

Virago Press Ltd, 1988

The proportion of *-wise* viewpoint adverbs in the W subcorpus occurring in direct speech surely strengthens Plag *et al.*'s (1999) findings that the construction is one that is "oral", and underlines the significance of the added functions for spoken language explored in section 7. "Represented" speech should further include reported speech and free indirect discourse. There are 3 items (out of 140) which could be classified as occurring in reported speech, one of which is (42), and a further 10 items which could be classified as occurring in free indirect discourse, one of which is (43).

(42) Although Elstone reckons that no more reorganisation will be necessary in the near future, he doesn't believe performance at the division will improve markedly until the recession is over. But, he said, its new management is going all out to ensure that it becomes more efficient cost-wise, that it focuses its research more effectively, and that it becomes more market-led.

Computergram international.

(43) He was glad of the distraction, having earlier received a wire from Hilary who, at the last minute and in spite of cross-my-heart-and-hope-to-die promises, found it impossible, after all, to come down from London for the first night of Peter Pan. Something had cropped up, work-wise, something wildly important.

An awfully big adventure. Bainbridge, B.
London: Duckworth & Company Ltd

Thus the total number of items in W in “represented” speech is 65 out of 140 (46%). Table 5 sorts the remainder of items in the W subcorpus according to their BNC “domain” classification.¹⁵ It also reflects the proportion of texts in the BNC which belong to that domain (see also Appendix I). The domains are arranged in descending order according to incidence of viewpoint adverbs.

Table 5: *-wise* viewpoint adverbs in the W subcorpus (not in represented speech)

BNC domain classification	% of BNC	N
Informative: arts	8%	32
Informative: world affairs	18%	15
Informative: leisure	11%	14
Informative: applied science	8%	10
Informative: natural science	4%	5
Imaginative	22%	4
Informative: social science	15%	1
Informative: commerce	8%	2
Total		83

Despite the substantial portion of the BNC taken up by the Imaginative domain (prose fiction mainly), it is a relatively unlikely source of *-wise* viewpoint adverbs.¹⁶ The poor performance of the more academic domains of natural sci-

ence and social science suggests that the construction does not at least characterise *all* informational registers. On the face of it, it is hard to reconcile the top performing domains – arts, leisure and world affairs – with the hypothesized technical, specialist, professionalized, yet oral register described in section 4. The full list of texts in which these viewpoint adverbs appear is given in Appendix II. This reveals that the “arts” contribution is mostly due to two texts: *Guitarist* and *New Musical Express (NME)*, with 16 and 9 tokens respectively. I have further verified that these tokens are not from the same author but appear in different extracts from the two magazines. They are not all tokens of the same word either: only four of the tokens from *Guitarist* are not hapaxes; all the tokens from *NME* are hapaxes.

A more developed sense of the character of these texts can be obtained through the genre and medium classifications developed for the BNC by David Lee (Lee 2001). Table 6 sorts the *-wise* viewpoint adverbs of the W subcorpus according to genre. The full reclassification of texts is shown in Appendix III.

Table 6: -wise viewpoint adverbs in the W subcorpus (not in represented speech)

Genre	N
Pop lore	42
Miscellaneous	18
Newspaper – other	4
Prose fiction	3
Commerce	2
Newspaper – broadsheet	2
Email	2
Advert	2
Biography	2
Non-academic technical	2
Newscript	1
Non-academic natural science	1
Non-academic politics	1
Non-academic humanities	1
Total	83

In this table, one genre category is more clearly dominant: pop lore. This can include magazines aimed at a wide audience, for example *She* and *Esquire*, but it also includes magazines aimed at special interest groups. Music fans and musi-

cians are a typical grouping. *Guitarist* is described by Lee as a “magazine for serious guitar and base players”; *NME*, more broadly, covers “modern music, film, books”. Interestingly, two “pop lore” publications related to special interest groups (*Practical Fishkeeping* and *Machine Knitting Monthly*) are given a more specific label “pop lore – instructional”. If we add to this class texts which are categorised as “miscellaneous”, but which clearly relate to non-professional special interests (hobbies) such as *Rottweilers: an owners companion*, *Climber and Hill Walker*, *Know your Landrover*, and *Understanding book-collecting* (see Appendix II), a theme begins to emerge. The BNC’s “applied science” and “natural science” domains do not indicate what is indicated in Table 6: viewpoint adverbs do occur in “scientific” texts but these are unlikely to be academic.

One primary purpose of “hobby” texts is to review. Items (45) to (46) are reviews of a two guitars and a fish tank, respectively:

- (44) The T-bass does have an attractively simplistic look to it, with the output from two humbucking pickups being controlled by only three rotaries: a master volume, a pickup pan with a useful centre-detente at the ‘blend’ point, and a master tone. Electrics-wise, Michael Pedulla has relied upon the famous Bartolini brand of custom active pickups and, in the belly of the beast, a Bartolini TC-4 preamp. The gold-plated ABM machined brass bridge is simple, elegant and strong.

Guitarist. Ely, Cambs: Music
Maker Publications, 1992

- (45) The bridge is Brazilian rosewood, and comes with six pearl-inlaid bridgepins and a straight saddle, made of Corian and shaped for compensation. Some guitars hang together design-wise, and some don’t. To my mind, the Bluebird emphatically does; the line of the cutaway is echoed by the curvy, koa-faced headstock, and on the headstock lies a very elaborate inlaid ebony truss rod cover that matches the equally elaborate ebony scratchplate. The scratchplate draws your eyes to the body outline, the outline leads into the cutaway and – well, you get the idea.

Guitarist. Ely, Cambs: Music
Maker Publications, 1992

- (46) The tank has all the mod. cons. for plant growth, including CO₂ injection and undergravel heating. At the time, the water quality was pretty good – the pH was a little below 7, with nitrite nil and nitrate less than 20ppm. All was well **algae-wise** apart from a smear of brown algae on the glass, some beard algae on the bogwood and on some of the slow-growing

plants and what I now know to be the tell-tale sign of a thin greasy film on the water surface, which is present long before it thickens up into slime algae.

Practical Fishkeeping. Peterborough, Cambs:
EMAP Pursuit Publishing Ltd, 1992

Example (44) demonstrates the discourse organisational function for clause initial viewpoint adverbs shown above in (37) in a review from *What PC?*. In this function viewpoint adverbs allow reviews to be structured according to the features or properties which are to be assessed. The two clause-final examples, (45) and (46), are more similar to items that were examined in the spoken subcorpora. The clause is a formulaic assessment (“all was well”, “NP hangs together”) which is given a focus by the “viewpoint adverb”.

There are other features from these excerpts that should be noted. The excerpts shown here are long enough for the reader to observe the use of personal pronouns: the first person in (45) and (46) and the generic second person in (45). Personal pronouns are one feature that is strongly associated with *involved* rather than *informational* discourse (Biber 1988, Biber and Finegan 1992, 1997). This suggests that the written texts that *-wise* viewpoint adverbs tend to occur in are closer in structure to conversation than written scientific discourse. They are only “technical” in the sense that they have specialised audiences. It is worth noting that 8 of the tokens in direct speech in the W subcorpus are from *Guitarist*, two of which are shown in (47) and (48).

- (47) Okay, we’ve just signed the 8 album deal for 150 squillion quid with the record company, and they’re paying for the new gear. What would we walk out of here with? ‘Ampwise,’ suggests Martin, ‘you’d be looking at the Ampeg SVT II head at £1595 and 8x10 cab at £880. But as we’ve just done Ampeg, it’s either SWR gear or the Boogie 400+ stack – all pretty formidable stuff.’

Guitarist. Ely, Cambs: Music Maker
Publications, 1992

- (48) John McVie’s wife, ex Blue-Horizon label stalwart and Chicken Shack evacuee Christine Perfect, had joined the band full time. A tour of America ensued. Then, in Los Angeles, Jeremy Spencer disappeared. ‘Although we’d been unbelievably disheartened by it all with Peter,’ continues John, ‘that was how things were. Then, after apparently sorting everything out band-wise, Jeremy suddenly disappeared and we didn’t know if he’d been ‘offed’, or what, given the uncertainty of Los Angeles.

But it seemed like every few months there'd be another little trip up. But Mick and I never questioned ourselves; we just tried to keep it all on the road.'

Guitarist. Ely, Cambs: Music Maker Publications, 1992

Examples (47) and (48) give the impression that the people who write *Guitarist* speak the same way as the people interviewed in *Guitarist*, and this, in a sense, is what specialist non-scientific (or "hobby") publications are: a community in conversation. Some of the tokens from *Guitarist* and *New Musical Express* which are not from represented speech are from readers' letters. For the most part, the texts in the first person with the generic second person have an instructional purpose, as in (49) and (50):

- (49) On one hand, you can use either the DOS or Windows package on the same data. On the other, you have to use a word processor or text editor to change the layout of any of the forms the package can produce, and can only use one font in any one document (which is hardly in the spirit of Windows). On the one hand you've got everything, accounting-wise, you need to run a large company now, and on the other, the bits that make what you send to other people look professional are coming 'real soon now' in a later release. Summary As you can see, I've never had as much difficulty in coming to a conclusion about any piece of software.

Articles from *Practical PC*. London: HHL Publishing group, 1992

- (50) I noted last week, while I hung like the average orang-outang from a strap in a train on the London underground, gazing about at travellers' knitteds, that many of them had cuffs rolled up. It isn't only sleeves; look at those enormous sweaters. They're great aren't they, covering a multitude of peculiarities, but even they can sometimes do with a little adjustment, sizewise. Not only do the size diagrams in the magazine indicate the measurements of the pieces, they can also tell you the proportions of the finished garment. Do you really want a sweater that is as wide as it's long? That depends upon your own measurements, doesn't it?

Machine Knitting Monthly. Maidenhead: Machine Knitting Monthly Ltd, 1992

Example (50), with its tag questions (*aren't they, doesn't it*), is particularly interactive. It is unsurprising that some of the examples from Tables 5 and 6 which

do not appear to be from “hobby” texts, for example fashion and beauty magazines or holiday brochures, are nevertheless also providing instruction, as in (51)–(54):

- (51) Which is best, fresh, dried or canned? Calorie-wise, all fresh fruit is lower than both dried and tinned. Nibbling on dried fruit may quickly eat up your calorie allowance – just 25g (1oz) of sultanas or raisins provides 70 calories, whereas 100g (4oz) grapes provides the same. Always stick to tinned fruit in natural juice where possible.

Best. London: Periodical Publishers Assoc., 1991

- (52) It turned out that all the big trucks were Volvos, so in order to keep things British we had to confine our film to little electric dustcarts. Not nearly so visually impressive but essential content-wise. By the way, always make sure you've cleared all on-the-road activities with the necessary authorities.

Making an impact. Thomas, Harvey and Gill, Liz.

Newton Abbot, Devon: David & Charles Publishers plc, 1989

- (53) At night we'd recommend that you follow our lead through the throngs of people crowding the streets to the amazing bars, clubs, pubs and discos. Our three favourite bars are Sgt Peppers – warm and friendly with live music and videos, Darrell's – with Darrell Dean Walker live on stage, probably the best musician on the island, and King's – another live music bar. Nightclub-wise we hit the Star Club, which has been a popular haunt in San Antonio for many years, and as ever we've arranged free entry for all club Discount book holders, saving you £5 every time you go.

Club 18–30 summer holiday brochure 1990.

ILG Travel Ltd, 1990

- (54) THE property market will continue to be depressed through 1993, although this is not a reason for you to become depressed. If you are in fluid situation house-wise, you could make the purchase of a lifetime. But otherwise a move could prove tricky and rather protracted.

Today. London: News Group Newspapers Ltd, 1992

All of these texts are interactive and addressing a generic second person. (51) and (52) use imperatives and (53) and (54) use modals for advice or instruction. Both “kinds” of *-wise* viewpoint adverbs that we have identified, the evaluative

(usually clause-final) and the organisational (usually clause-initial) appear in these involved texts. Observations about the linguistic structure of the texts which *-wise* viewpoint adverbs occur in and the kind of features they co-occur with must remain quite speculative however until multi-dimensional analyses of the BNC become available.

9 Conclusions

The point of departure for this paper was that *-wise* viewpoint adverbs restricted topic, or provided a perspective on the clause. A closer look at the BNC data shows that this basic function can be adapted for two purposes: providing a focus for an *evaluative* clause, creating a politeness strategy (this use is usually clause-final) and organising discourse beyond the clause level by introducing topics and subtopics (this use is usually clause-initial). The first “added” function is more prevalent in the interactive situations of spoken language, which may explain why Plag *et al.* (1999) find the construction relatively more frequent in spoken language. Both uses however can be found in written language. Almost half of the written data in this study occurred in represented speech, confirming the centrality of the polite, indirect, conversational function. The remainder of *-wise* viewpoint adverbs in the written subcorpus of the BNC occurred in texts which were specialist in terms of their audience (although not necessarily professional) but conversational and “involved” in terms of the linguistic structure.

Is it really so surprising that texts generated by close-knit “hobby” communities should be conversational in nature? Probably not, but the register demands further research if the traditional association between the discourse of specialist knowledge and the informational style is to be broken. It was evident that the domain descriptors of the BNC were not precise enough to identify the sorts of written texts likely to produce *-wise* viewpoint adverbs, although they were at least effective in determining the sorts of texts which were not relevant, for example fiction, or academic texts. The genre categories devised in Lee (2001), especially “pop lore” and “pop lore instructional” were somewhat more revealing, but ultimately externally provided labels cannot tell us as much as the texts themselves.

What I have not established, given the synchronic structure of the BNC, is whether *-wise* viewpoint adverbs *originate* in conversation. All that can be said on the basis of the above evidence is that written, informational, academic texts are a highly unlikely register of origin. This paper therefore has hopefully produced some pointers for diachronic studies of the role of register in the emer-

gence of *-wise* viewpoint adverbs. Further aspects of any corpus-based history of *-wise* should address regional variation and the putative American origins of the construction, as well as competition with alternative viewpoint subjunct constructions. Constructions such *concerning*, *in regard to*, *in respect to* are viewed as more formal viewpoint subjuncts (see Brown, Brown and Bailey in Houghton 1968: 214) and this will certainly have some bearing on the register distribution of *-wise*. *-wise* itself however may be in competition with the demonstrably less formal (Britain 1998, Rickford *et al.* 1995) codaless *as far as*. Indeed, repairs such as (55) from the CG subcorpus suggest that speakers are indeed faced with such a choice:

- (55) The handsets, there the are cream handsets and the grey handsets, there are no differences that are worth noting **as far as performance-wise**, but the grey handset has, I don't know if you've noticed, a mute button.

Notes

1. The affixes studied include: *-ity*, *-ness*, *-(t)ion*, *-er*, *-ist*, *-ful*, *-ize*, *-able*, *-free*, *-ful*, *-ish*, *-less*, *-like*, *-type*, *-wise* (Plag, Dalton-Puffer and Baayen 1999).
2. The types *likewise* (manner adverb) and *otherwise* (conjunction) have been excluded from this data because of the high number of tokens for these lexemes.
3. To this set we can add *as far as* without its verbal coda (see Rickford *et al.* 1995 and Britain 1998).
4. A typical example is Wells 1960 (see Cowie 2000 for further discussion).
5. Plag *et al.* do in fact compare types across the subcorpora by for “the largest range of token sizes N that they have in common” (4.2. million). Averages are taken rather than the final values at 4.2. million. (1999: 222).
6. The data was extracted from Adam Kilgarriff's word-frequency lists available on <ftp://ftp.itri.bton.ac.uk>. I have not followed Kilgarriff's practice of treating hyphenated forms as distinct lemmas i.e. *work-wise* and *workwise* are not treated as different types.
7. The totals here are close to but not identical to the totals for viewpoint adverbs in Dalton-Puffer and Plag (2001). This has to do with differences in the classification of items as viewpoint adverbs.
8. Note that types for subcorpora will not add up to the total number of types in this table as there are some types which occur in more than one subcorpus and have therefore been counted twice or even three times.

9. The examples of these in the written subcorpus are from represented speech.
10. In fact the only example classified as such in the demographic subcorpus appears to be due to competing constructions: “Yeah, exactly, it’s just **number-wise** he’s worrying about”
11. Lenker actually claims that the perspective provided by a sentence adverbial is mostly sentence initial (2002: 174) but this appears to be with reference to adverbials in *-(c)ally*.
12. Includes *er* and repetitions. Information about the timing of pauses is not available from the BNC.
13. Dalton-Puffer and Plag (2001) classify *standard-wise* as a compound adjective but my analysis here is that it is a sentence adverbial similar to *strong-wise* and doesn’t belong to the clause which precedes it.
14. This includes personal pronouns, dummy subjects, *wh-* subjects, placeholders like *anything* and *everything*, and also null subjects, as in (34).
15. These domains have been checked on David Lee’s index at <http://clix.to/davidlee00>
16. Unsurprisingly, a greater proportion of items occurring in represented speech are from the Imaginative domain.
17. Two other texts in the W subcorpus showed 2 tokens in direct speech, all other texts showed only 1 token in direct speech. This makes *Guitarist* the only text in which *-wise* viewpoint adverbs feature noticeably in direct speech.

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Appendix I

Domains of the subcorpora of the BNC

(<http://info.ox.ac.uk/bnc>; Aston and Burnard 1998)

Context-Governed Spoken Corpus

	Texts	%	Kbytes	%	S-units	W-units	%
Educational	144	18.89	21037	21.00	100745	1265318	20.56
Business	136	17.84	22344	22.30	110421	1321844	21.47
Institutional	241	31.62	21878	21.84	77694	1345694	21.86
Leisure	187	24.54	23451	23.41	101207	1459419	23.71
Unclassified	54	7.08	11462	11.44	40281	761973	12.38

Interaction types for spoken texts

	Texts	%	Kbytes	%	S-units	W-units	%
Monologue	218	23.82	30152	16.28	114362	1932225	18.64
Dialogue	672	73.44	144666	78.14	888535	7760753	74.87
Unclassified	25	2.73	10306	5.56	39500	672486	6.48

Written text domains

	Texts	%	Kbytes	%	S-units	W-units	%
Imaginative	625	19.47	301422	22.12	1580771	19664309	21.91
Natural science	144	4.48	57075	4.19	181005	3752659	4.18
Applied science	364	11.34	112264	8.24	368723	7369290	8.21
Social science	510	15.89	201313	14.77	661897	13290441	14.80
World affairs	453	14.11	246718	18.11	764867	16507399	18.39
Commerce	284	8.85	108150	7.94	374830	7118321	7.93
Arts	259	8.07	109923	8.07	369762	7253846	8.08
Belief & thought	146	4.54	45472	3.33	154628	3053672	3.40
Leisure	374	11.65	151946	11.15	588010	9990080	11.13
Unclassified	50	1.55	27791	2.04	143880	1740527	1.93

Appendix II

-wise viewpoint adverbs in the W subcorpus not in represented speech

Text	Tokens	BNC domain
<i>Guitarist</i>	16	Informative: Arts
<i>New Musical Express</i>	9	Informative: Arts
<i>Doctor Who: the early years</i>	5	Informative: World affairs
<i>Practical PC</i>	3	Informative: Applied science
<i>Practical fish keeping</i>	3	Informative: Applied science
<i>Sky</i>	3	Informative: Leisure
<i>BR in the Eighties</i>	3	Informative: World affairs
<i>The Bookseller</i>	3	Informative: Arts
<i>What PC?</i>	2	Informative: Applied science

<i>Memories of the Gorbals</i>	2	Informative: World affairs
<i>She magazine</i>	2	Informative: Leisure
<i>Making an impact</i>	2	Informative: Commerce & finance
<i>Daily Telegraph</i>	2	Informative: World affairs
<i>Leeds United e-mail list</i>	2	Informative: Leisure
<i>Rottweilers: an owners companion</i>	2	Informative: Natural science
<i>Holiday brochure</i>	2	Informative: Natural science
<i>Today</i>	2	Informative: Leisure
<i>Scotsman</i>	1	Informative: Arts
<i>The nature of the stratigraphical record</i>	1	Informative: Natural science
<i>Climber and Hill Walker</i>	1	Informative: Leisure
<i>Know your Landrover</i>	1	Informative: Leisure
<i>Creative writing</i>	1	Imaginative
<i>Best magazine</i>	1	Informative: Leisure
<i>Understanding book-collecting</i>	1	Informative: Arts
<i>Esquire</i>	1	Informative: Arts
<i>TV news script</i>	1	Informative: World affairs
<i>Henley Golf Club: the first 80 years</i>	1	Informative: Leisure
<i>Gramophone</i>	1	Informative: Arts
<i>Unigram x</i>	1	Informative: Applied science
<i>New Statesman</i>	1	Informative: World affairs
<i>Posthumous papers</i>	1	Imaginative
<i>Machine Knitting Monthly</i>	1	Informative: Leisure
<i>My favourite stories of Lakeland</i>	1	Imaginative
<i>True confessions and new cliches</i>	1	Imaginative
<i>Belfast Telegraph</i>	1	Informative: World affairs
<i>RBS Newslite</i>	1	Informative: Social science
<i>Everyday Electronics</i>	1	Informative: Applied science

Appendix III

Genre and medium classification of texts (Lee 2001) with -wise viewpoint adverbs in the W subcorpus (not in represented speech)

Text	Genre	Medium
<i>Guitarist</i>	16poplore	periodical
<i>New Musical Express</i>	9poplore	periodical
<i>Doctor Who: the early years</i>	5miscellaneous	book
<i>Practical PC</i>	3pop lore	periodical
<i>Practical fishkeeping</i>	3pop lore also instructional	book
<i>Sky</i>	3pop lore	periodical
<i>BR in the Eighties</i>	3miscellaneous	book
<i>The Bookseller</i>	3miscellaneous	periodical
<i>What PC?</i>	2pop lore	periodical
<i>Memories of the Gorbals</i>	2biography	book
<i>She magazine</i>	2pop lore	periodical
<i>Making an impact</i>	2commerce	book
<i>Daily Telegraph</i>	2newspaper- broadsheet national	periodical
<i>Leeds United e-mail list</i>	2email	unpublished
<i>Rottweilers: an owners companion</i>	2misc	book
<i>Holiday brochure</i>	2advert	unpublished
<i>Today</i>	2newspaper-other-social	periodical
<i>Scotsman</i>	newspaper-other-arts	periodical
<i>The nature of the stratigraphical Climber and Hill Walker</i>	non-academic natural science miscellaneous	book periodical
<i>Know your Landrover</i>	miscellaneous	book
<i>Creative writing</i>	fiction prose	unpublished
<i>Best magazine</i>	pop lore	periodical
<i>Understanding book-collecting</i>	miscellaneous	book
<i>Esquire</i>	pop lore	periodical
<i>TV news script</i>	newsript	to be spoken
<i>Henley Golf Club: the first 80 yrs</i>	non-academic humanities	unpublished
<i>Gramophone</i>	pop lore	periodical
<i>Unigram x</i>	non-academic tech-engin	periodical
<i>New Statesman</i>	non-academic politics ...	periodical
<i>Posthumous papers</i>	prose fiction	book
<i>Machine Knitting Monthly</i>	pop lore also instructional	periodical
<i>My favourite stories of Lakeland</i>	prose fiction	short stories

<i>True confessions and new cliches</i>	miscellaneous	book
<i>Belfast Telegraph</i>	newspaper-other-report	periodical
<i>RBS Newslite</i>	miscellaneous	periodical
<i>Everyday Electronics</i>	non-academic tech-engin	periodical