Input and Output in Oral Reading in English: the Interaction of Syntax, Semantico-pragmatics and Intonation

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To Andreas

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Acknowledgements

1 The aims of the present study against the background of previous research

1.1 Previous research in oral reading, particularly with a view to reading intonation

Most research in the field of reading focuses on constructing theories about the reader's covert psychological processes (cf. e.g., Pirozzolo/Wittrock 1981), that is to say what goes on in the visual system and the brain when readers are comprehending text. This involves, for example, the recognition of letters and words but it also involves the establishment of relations between this reading material and the reader's linguistic knowledge and extralinguistic experience (see the top left box in Figure 1).

cognitive / psychological studies of reading
(explanation of language processing, e.g. recognition of letters, words; establishment of relations between reading material and extralinguistic experience)

mainly linguistic approaches to reading
(partly include the interaction of intonation with other levels of language and connections between intonation and the underlying cognitive processes in reading)

a)

b)

e)

silent reading

oral reading

b)

error research

e)

c)

d)

word recognition

intonation

Figure 1: Overview of the research in reading

This major approach of psychological studies in reading draws more heavily on oral reading than on silent reading (see a) in Figure 1). After all, it is generally assumed that oral

reading provides greater accessibility to the underlying processes of reading than silent reading (cf. Chambers 1987: 8f.).[1]

Within oral reading, the major research focus has been on the study of errors committed while reading aloud (e.g., Payne 1930, Bennett 1942, Gilmore 1952, Clay 1968, Weber 1970). In these studies, which mainly take the perspective of (educational) psychology again, and partly also consider linguistic aspects (see b) in Figure 1), the bulk of oral reading error research concerns the recognition of words (see c) in Figure 1), while comparatively very little attention has been paid to intonational behaviour (see d) in Figure 1). Chambers (1987: 5, 51) explains this rather 'meagre' state of the art with the rare occurrence of intonation errors compared to word recognition errors.[2]

Research on reading intonation is also quite generally, not just with regard to intonation errors, scarcely represented in mainly linguistic approaches (see e) in Figure 1). This might be due to the following reasons:

- Intonation in general is regarded as rather complicated (cf. Wichmann 2000: 1). The large number of intricate transcription systems used impedes comparability of results, and might per se be claimed to act as a deterrent just as the handling of the technical devices in acoustic approaches.
- A larger amount of authentic data appropriate for studying reading intonation became openly available only in the late 1980s with the completion of the Lancaster IBM Spoken English Corpus.

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[1] See the myriad of literature on dyslexia you get when entering a key word as e.g. 'oral reading' on Linguist List Plus (http://www.linguistlistplus.com/).

[2] This claim is certainly interrelated with Chambers' exclusive dealing with specific intonation errors he refers to as 'repunctuation': "The reader commits an error in which he seems to be ignoring commas and periods, or adding them where they should not be. This class of oral reading error I call *repunctuation*; the error makes it seem as if the reader has repunctuated the original text" (Chambers 1987: 1; cf. section 5.4).

As a result of this initial position that oral reading and, in particular, reading intonation, has so far only been of marginal interest to linguistic studies (see e) in Figure 1 again), hardly any attempts have been made to develop a device for studying the interaction of intonation with other levels of language. However, 'freestanding'[3] approaches, which study intonation in its own right, detached from the other levels of language, can hardly claim an ultimately illuminating contribution to the study of authentic language use.

Therefore, the current study is intended to be a contribution to doubtlessly desired linguistic research into oral reading and reading intonation in particular. Rather than taking a freestanding approach, it will focus on the interaction of intonation with syntax and 'semantico-pragmatics'. The latter term will here cover textsemantic information - including cohesion across sentence boundaries - and consider at the same time that any interpretation of information must usually be assumed to be influenced by knowledge of the world, i.e. the extralinguistic context, too.

In what follows, I will briefly characterise those approaches on oral reading to date which touch on reading intonation. Cognitive approaches will here only be considered to the extent to which they are needed as a background for the development of a device serving to analyse the interplay of the above-mentioned levels of language.

As for the mainly linguistic approaches, it will emerge that the studies very much differ in the amount to which they also try to include both the interaction of intonation with other levels of language and the connections between intonation and the underlying cognitive processes in reading. While the early studies still largely draw on mostly intuitive data, the later ones are increasingly corpus-based,

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[3] I take this terminology from Brazil (1997: xii).

above all benefiting from the compilation of an appropriate corpus in the late 1980s.

The overview of linguistic approaches focuses on indicating deficiencies of research to date in order to derive the need for the current study. In Chapter 1, I will confine myself to sketching those linguistic studies which claim a more comprehensive treatment of reading intonation. Studies just treating particular questions of reading intonation (cf. Bolinger 1982, Bolinger 1989, Chafe 1988, Chafe 1992, Chambers 1987) will be integrated in Chapters 4 and 5 under the discussion of the relevant aspect.

The transition between the cognitive and the linguistic research touching on oral reading is formed by linguistic studies on written discourse structure and turn-taking in sponataneous spoken language, which have earlier drawn on those cognitive aspects that will here be integrated into the study of oral reading. Figure 2 (see page 5) will serve as a guidepost through the following sections 1.1.1-1.1.3.6.

approaches on oral reading touching on reading intonation

1.1.1
COGNITIVE/PSYCHOLOGICAL APPROACHES
needed as a background for the development of a device serving to analyse the interplay of intonation with syntax and semantico-pragmatics

1.1.3
LINGUISTIC APPROACHES
focus here on deficiencies of research to date (considering cognitive aspects and the interaction of intonation with other levels of language to different degrees) to derive the need for the current study

1.1.1.1
language perception of the oral reader

bottom-up models

top-down models (expectancies of following information as central feature of language processing)

Rumelhart's interactive model of reading (simultaneous processing of interacting information from various levels and generation of hypotheses about incoming information ('EXPECTANCIES') on different levels in a MESSAGE CENTRE)

1.1.3.1
general distinction between speaking and reading intonation

1.1.3.2
'normal intonation' approaches: systematic allocation of prosodic segmentation, nuclei and tones to syntactic elements; description of reading intonation confined to isolated sentence analysis, without consideration of context

1.1.3.3
dis-ambiguation of temporary syntactic ambiguities through intonation in individual artificial sentences, without consideration of context => no valid conclusions about prosody-syntax interactions

1.1.3.4
reading intonation beyond the sentence level I

1.1.3.5
research based on the Lancaster/ IBM Spoken English Corpus

1.1.3.6
Mukherjee's interdisciplinary approach: study employs the talk unit as a device for a systematic analysis of prosody-syntax interactions, but focuses on spontaneous spoken language and includes only a small range of read texts; talk unit exhibits still obvious deficiencies

1.1.1.2
language perception and production of the oral reader

eye-voice span research

voice .... eyes

(appropriate intonation production)

(processing of the text on various levels in a MESSAGE CENTRE)

1.1.3.5.1
text-to-speech synthesis: correlations between e.g. syntactic structures and tone groups, between word classes and nuclei or tones as basis for rules which allow automatic conversion of written text into speech; approach derives only a single intonation for an isolated sentence => no appropriate prediction of prosodic features which are more heavily influenced by contextual factors than by syntax (particularly tones)

1.1.3.5.2
reading intonation beyond the sentence level II

1.1.3.4.1
Brazil's approach: systematic classification of reading intonation styles, study still not based on a corpus analysis, binary distinction between proclaiming and referring tones insufficient to explain all the occurrences of rising and falling tones in a corpus

1.1.3.4.2
Esser's approach: comparison of the reading performances of ten informants reading the same two texts, evaluation by means of assumed hierarchical relations between tone units, approach does not yet provide the means for a systematic consideration of the syntactic level

1.1.1.3
language perception of the listener
in constructivist models: comparison of speech production on the grounds of expectancies (synthesis) with incoming information [analysis-by-synthesis] on all linguistic levels, fulfilment of predictions => facilitation of information processing

1.1.2
transition: the expectancy model in linguistic research on written discourse structure and on turn-taking in spontaneous spoken language:
Sinclair (1993):
'prospection' a "major feature" of written discourse structure: phrasing of a sentence leads the addressee to expect specific contents in the next sentence
Brazil (1995):
'prospection': a single item prospects a choice from a limited range of patterns
Ford/Thompson (1996):
in-advance projection of turn completion on the grounds of syntactic, pragmatic and intonational (here: tonal) phenomena

1.1.3.5.2.1
Wichmann's approach: interpretation of recurring pitch patterns via beginnings, middles and ends of discourse units as spoken paragraphs/sentences; enumeration of a large number of different cases to which certain contours apply; no (device offered for a) systematic description of the interaction of the relevant features of intonation with syntax and semantico-pragmatics

1.1.3.5.2.2
Mindt's approach: primarily acoustic study with the ultimate aim of improving speech-recognition and speech-synthesis programs; only unsystematic consideration of the interaction of intonation with syntax, lexico-semantic and pragmatic context

Figure 2: Guidepost through sections 1.1.1 - 1.1.3.6

1.1.1 Cognitive/Psycholinguistic approaches: psychological prerequisites of language processing in reading

1.1.1.1 Language perception of the oral reader: bottom-up, top-down models and Rumelhart's interactive model of reading

Models of reading comprehension basically fall into 'bottom-up' and 'top-down' models (cf. Rumelhart 1985). Bottom-up models (e.g. LaBerge and Samuels 1974) regard the comprehension process as taking place sequentially from lower-level to higher-level information. Here, the recognition of letters is followed by the recognition of words, sentences, textual meaning and thinking. Top-down models (e.g. Goodman 1976), however, stress that individuals use their knowledge base to make predictions about the information which might come next before they turn to the processing of the reading material which actually follows from sentences down to words and letters. These predictions are made possible by the frequent and thus habitual co-occurrence of particular phonetic, phonological and grammatical forms: through lifelong exposure to a language, native speakers acquire what Firth has called 'expectancies' (1957: 195) of which items commonly co-occur with which others in texts. To know what are normal and what are unusual co-occurrences in given circumstances thus becomes part of a native speaker's communicative competence. Correspondingly, Oller (1972) has introduced the notion of linguistic competence as "at least in part" (443) a 'grammar of expectancy':

> Because of its naturally high redundancy, it is almost
> always possible in the normal use of language to
> partially predict what will come next in a sequence of
> elements. This is true no matter what level of language
> or mode of processing we are speaking of. The elements
> may be sounds, syllables, words, phrases, sentences,

> paragraphs, etc. The mode may be listening, speaking, reading, writing, or even thinking. Expectancy for successive elements functions in all cases (Oller 1972: 446f.; cf. 1979: 25).

Oller thus regards 'expectancy for successive elements' as the central feature of language processing (1972: 448). Correspondingly, Nattinger and DeCarrico (1992: 34) stress that expectancy "is an extremely important fact in communication […] and accounts for much of the way we process language" and Partington (1998: 139) maintains: "Normal communication […] is heavily dependent on predictability and therefore on preconstructed language".

On the lexical level, the 'open choice principle' (Sinclair 1987, 1991: 109f., 175) is generally said to be massively reduced by the 'idiom' or 'collocational principle' (Sinclair 1987, 1991: 110-115, 173), i.e. habitually collocating word strings, 'prefabrications' or 'prefabs' (Bolinger 1976: 1, 5). Of course, this then also touches on the syntactic level:

> syntactic structures and lexical items (or strings of lexical items) are co-selected […]. Particular syntactic structures tend to co-occur with particular lexical items, and – on the other side of the coin – lexical items seem to occur in a limited range of structures (Francis 1993: 147).

On the syntactic level, the sequencing rules (seven sentence types, cf. Brazil 1995: 44, 51; Quirk et al. 1985: 721, 754) provide a framework of expectation within which it is always possible to know what may come next. This part of the 'expectancy theory' is supported by the finding that oral reading errors tend to conform to the grammatical constraints of the preceding context, e.g. nouns, verbs and adverbs are usually replaced by words of the same class (Chambers 1987: 15).[4] Even when the above-mentioned sequencing rules seem to

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[4] According to Goodman (1976), reading errors are the result of 'guesses' (hypotheses) about subsequent data made on the basis of the

allow alternative ways of proceeding, the choice is normally further restricted by the (semantic) requirements of the communicative context (cf. Brazil 1995: 52).

Somewhere between the extremes of bottom-up and top-down processing lies Rumelhart's (1985) interactive model of reading, which assumes that the reading process requires a continuous interaction between information from various levels. It thus incorporates the possibility of simultaneous but selective processing of information from more than one source at any stage of processing. Based on these various sources of information from prior text and the immediate, partially processed, graphic string, hypotheses about the incoming text are generated on the different levels of information processing in a message centre. The graphic features may hint at a particular word while the syntax may make an alternative prediction more likely. The reader's knowledge of the topic may lead to yet a different anticipation. With more information entering the message centre, one or another hypothesis is confirmed.

It is important to note that the moment at which particular pieces of information from different levels are 'frozen' and weighed in the message centre, must be assumed to be several words ahead of the reader's voice in oral reading. This was shown by another major subfield of oral reading research: that of the eye-voice span.

1.1.1.2 Language perception and production of the oral reader: eye-voice span research

Eye-voice span research (Levin 1979) has shown that, in reading aloud, the reader is generally processing the text a

previous context. Given this sequence of processing from higher-level to lower-level information, Goodman (1976: 497) in the title of an article has characterised reading as "a psycholinguistic guessing game".

few words ahead of the point indicated by the reader's voice.
The finding of this distance between the eyes and the voice
in oral reading is relevant to intonation research since it
demonstrates that intonation production requires information
about the text which lies to the right of the word being read
aloud:

> In order to read with normal intonation the reader must
> have information about the sentence which occurs to the
> right of the word he is actually reading aloud (Gibson
> and Levin 1976: 360).

For instance, in a sentence like

(1) My father was holding the check Mr Barnaby had given him.
(Chambers 1987: 97)

the eye-voice span can be expected to support readers in
correctly signalling – by their use of tones – completion
after *him*, where the full stop occurs, rather than already
after *the check*.

Levin (1979) again stresses the correlation between the
eye-voice span and the quality of a reading performance.
However, this approach only hints globally at successful
realisation in the spoken medium without going into more
linguistic detail: "An eye-voice span of considerable width
is necessary in order that the reader may have an intelligent
grasp of the material read, and that he may read it with good
expression" (Levin 1979: 47, cf. Tinker 1966: 85, 87).

1.1.1.3 Language perception of the listener: oral language comprehension

The expectancy theory pertains to all modes of processing: in
our case, reading as well as listening. Similar to the
information processing of an oral reader (cf. 1.1.1.1) then,
constructivist models of speech perception and information

processing (Oller and Streiff 1975, Brown 1990) assume that a listener's syntactic knowledge of which elements accompany others enables him, on hearing the first word in a constituent presented by a reader, to expect a particular type of constituent to be coming up, since sentence context presented up to a certain point limits the number of possible alternatives which can fill the following slot: "It seems that the perceiver formulates expectancies (or hypotheses) concerning the sound stream based on his internalised grammar of the language" (Oller and Streiff 1975: 77). Such expectancies are evoked in the mind of the receiver on all linguistic levels (cf. Oller 1972: 446f.; 1979: 25). Thus, "[w]e are almost always a jump or two ahead of the person to whom we are listening" (Oller 1972: 444; cf. 1979: 20). "We listen to the incoming signal actively predicting ends of words, ends of phrases, and sometimes whole chunks of expression" (Brown 1990: 59). Subsequent perceptual sampling confirms or disconfirms the hypothesis. The listener is thus assumed to carry out 'analysis-by-synthesis' (Gibson and Levin 1976): he produces speech while he listens to it and thus compares his synthesis with the incoming sequence (cf. Cooper 1972: 42). The synthesis based on grammar generated expectancies will then be accepted if it is not too radically at variance with the acoustic material. If predictions are fulfilled, processing is facilitated (cf. Oller 1972: 447f., cf. Partington 1998: 20). Sometimes, a listener's processing is impaired, because he or she was expecting something else to be said (cf. Oller 1972: 444).

1.1.2 Transition: the expectancy model in linguistic research on written dicourse structure and on turn-taking in spontaneous spoken language

The expectancy- or analysis-by-synthesis model is in accordance with assumptions on language processing by primarily linguistic research on both written discourse structure and on turn-taking in spontaneous spoken language. Sinclair suggests 'prospection' (1993: 12-15), i.e. 'forward-facing, or prospective, analysis' (14) as "a major category of coherence" (10) and thus "a major feature" (12) of written discourse structure: "Prospection occurs where the phrasing of a sentence leads the addressee to expect something specific in the next sentence" (12). However, this notion remains rather vaguely defined in terms of contents. It is also tied to the interpretation of a following sentence. Yet, given the identification of a number of sentence-internal acts of reference, Sinclair admits that it might be necessary to redefine 'prospection' by "revis[ing] the original assumption that the orthographic sentence is the best minimal unit for text structure" (19, cf. 13, 30).

Brazil (1995) also uses the term 'prospection' to indicate that something that occurs in a discourse leads the reader or hearer to expect that some other thing will occur. However, it differs from Sinclair's view of the concept in that a single item, a verb like *tell*, for example, prospects a choice from a limited *range* of patterns (cf. Hunston/ Francis 2000: 208), e.g. *tell someone*, *tell someone something*, *tell someone what to do* etc., in short, "[t]he match is not one-to-one but one-to-a few" (Hunston/Francis 2000: 241). Basically, prospection is restricted by the lexical items involved. 'Chaining rules' (Brazil 1995: 47-56) specify the kind of word that is expected to follow any other kind of word. Brazil's rules are situational, e.g. *My friend told* "is unlikely to be complete in itself, not because of an

abstraction such as transitivity, but because '[t]here are probably few situations where […] *My friend told* would satisfy a conversational need'" (Hunston/Francis 2000: 240, quoting Brazil 1995: 55).

Ford and Thompson (1996) suggest that syntactic, pragmatic and intonational phenomena "provide hearers with resources for projecting *in advance*" (171) the end of a turn and the start of a new one, that is the upcoming occurrence of a 'transition-relevance place' (135, 171).[5]

1.1.3 Linguistic approaches (with more or less cognitive influence)

1.1.3.1 The general distinction: speaking versus reading intonation

Mainly linguistic approaches to reading intonation (showing consideration of cognitive aspects to differing degrees) first of all confine themselves to making the more general statement that it is possible to distinguish between reading and speaking activity. The systematic distinction between speaking and reading intonation in linguistics is rather new (cf. Chafe 1988: 405; Esser/Polomski 1987: 59; Esser 1987: 319; Esser 1988: 1; Esser 1999: 249). Crystal (1969: 152, 225) repeatedly draws attention to the distinction between reading and speaking intonation. Similarly, Brazil et al. (1980) Brown et al. (1980) and Chafe (1992) point out that a distinction between reading intonation and speaking intonation is necessary, while Esser (1992)[6] is the first to illustrate this by means of examples. In Levin/Schaffer/Snow

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[5] The title of Ford and Thompson's (1996) paper was originally supposed to end in "resources for the *projection of turn completion* [emphasis by J.M.]" instead of in "resources for the management of turns" (Ono and Thompson 1995: 264).

[6] I here quote the third edition of a book which was originally published in 1979.

(1982), reading is only roughly delimited from free narration by the simple enumeration of parameters like "more rapid and free of hesitations" (43) versus "pauses, drawls, fillers, false starts, repetitions, nonliterary words and concatenatives" (52).[7]

1.1.3.2 'Normal intonation' approaches: from syntax to prosody

Auditory approaches have stated early and then repeatedly that oral reading exhibits clear correlations between the syntactic structure of an utterance and its prosodic segmentation into tone units. Correspondingly, the observation that certain syntactic constituents, e.g. sentence adverbials or the subject of a clause, typically form separate tone units has been repeatedly stressed (cf. Wode 1966: 141-161; Brown 1990: 96 f.; Blaauw 1994: passim). This kind of statement – also found in grammars which do not explicitly distinguish between reading and speaking intonation (Quirk et al. 1972: 937 f.; Quirk et al. 1985: 1357f.; Leech/Svartvik 1994: 193 f.) – implicitly refers to reading intonation (cf. Esser 1987: 320; 1988: 1).

Such a systematic allocation of intonation to syntactic elements ('normal/default intonation') has also been postulated for the assignment of nuclei (Wode 1966: 161–193) and tones (Wode 1966: 193-199). It is, however, clear that a

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[7] The studies by Silverman et. al. (1992), Blaauw (1994) and Laan (1997) are only of marginal interest here, since 1. their studies concern the Dutch language so that, although similarities between English and Dutch intonation have been pointed out (cf. Blaauw 1994: 363), the results cannot simply be transferred to English and 2. these approaches as well as Howell and Kadi-Hanifi (1991) and Lieberman et al. (1985: 655) confine themselves to studying the differences between fluent spontaneous spoken language and the same utterances read out aloud from transcripts, i.e. "a read speaking style" (Laan 1997: 44). Consequently, their focus of interest is rather on spontaneous spoken language than on reading aloud since at least in Laan's case this approach ultimately aims at improving text-to-speech-synthesis (cf. section 1.1.3.5.1 on page 19).

description of reading intonation which confines itself to a default intonation and thus to an isolated sentence analysis leaves the context of the utterance out of consideration. Actual discourse intonation will often differ from such postulated norms (cf. Wode 1966: 199), which are consequently of little use for an assessment of reading performances.

1.1.3.3 Temporary syntactic ambiguities

Bader (1994, 1996, 1998) intends to unveil psychological mechanisms of the interplay of syntax and prosody during reading. He focuses on discussing the role which intonation plays in the disambiguation of temporary syntactic ambiguities, in so-called 'garden-path sentences' (cf. also Frazier 1978, Carroll/Slowiaczek 1987; Nagel et al. 1996; Speer et al. 1996). In a sentence like

(2a) [In order to help the little boy] put down the package.

the preferred initial assignment of syntactic structure has *the little boy* attached as object of *to help*, so that prosodic segmentation will tend to occur after this noun phrase.[8] Encounter of the verb *put* then necessitates not only the revision of the syntactic structure but also of the prosodic one to

(2b) [In order to help] [the little boy put down the package].

Such a process of reanalysis leads to processing difficulties. By contrast, sentence processing is

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[8] Carroll and Slowiaczek (1987: 222f.) state a general preponderance of what they refer to as 'late closure strategy'; i.e. in the initial assignment of a syntactic structure, a new constituent tends to be integrated into a current clause structure. The opposite would be an 'early closure strategy'.

facilitated, if syntactic and prosodic boundaries immediately match as in

(3) [In order to help the little boy] [Jill put down the package].

In this approach, the influence of intonation on information processing is only discussed on the basis of individual, artificial sentences. Bader's object of study is inner speech in silent reading. He assumes that "silent reading […] is regularly accompanied by some kind of PHONOLOGICAL CODING, by an inner voice we hear when reading something."[9] Considering the nature of the object language – artificial individual sentences – this approach cannot claim to draw generally valid conclusions about the interaction of prosody and syntax in reading (cf. Esser 1998) and thus does not provide a framework for assessing authentic reading performances beyond the sentence level, i.e. reading performances which are embedded in a natural context.

1.1.3.4 Reading intonation beyond the sentence level: part I

From the above, it should be clear that a theory of reading intonation has to take into account information structure beyond the sentence level as well as the reader's translation from the written into the spoken medium (cf. Fries 1965: 131; Esser 1987: 321). Accordingly, Brown et al. (1980: 17f.) and subsequent research on reading intonation place special emphasis on this translation process. The latter first of all involves the interaction between the reader and the text, which leads to a particular interpretation ('decoding', cf. 1.1.1.1 Language perception of the oral reader). Secondly, it

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[9] The claim that silent readers experience inner speech is supported by statements of actors who I interviewed at Oxford University Press recordings at London's Soundhouse Studio in September 2000. Most of them told me that they actually prepare their performances by reading silently and by "hearing" themselves in their own minds.

involves the appropriate transfer into the spoken medium by
means of a suitable choice from the intonation repertory
('encoding', cf. 1.1.1.2 Language perception and production
of the oral reader, Brazil et al. 1980: 83).

1.1.3.4.1 Brazil's approach

The most comprehensive approach which aims at systematically
classifying the potential variation in different reading
performances is the one by Brazil et al. (1979, 1980) and
Brazil (1984, 1992, 1993). Brazil basically distinguishes
between a reader with 'direct orientation', who tries hard to
transfer the meaning of the text, and a reader with 'oblique
orientation', who voices the text monotonously in the sense
of a sequence of words. In the case of direct orientation the
reader orientates towards the hearer: he or she uses the
fall-rise tone as 'referring tone' to indicate already given
and thus shared knowledge, whereas the falling tone is used
as 'proclaiming tone' to highlight new information. By
contrast, a reader with oblique orientation does not mark his
judgement on common ground but is rather guided by syntactic
completion, i.e. orientation towards the medium-independent
string of language elements. If a tone unit boundary
represents a potential end, the reader uses the falling,
proclaiming tone, if not, he or she uses the neutral (=level)
tone.

 In a later article (1992), Brazil tries to fan out the
originally binary distinction between direct and oblique
orientation into a five point 'scale of engagement'.
Engagement 1 is characterised by a strict orientation to
linguistic units without any consideration of context:
"Perhaps the clearest example is the act of word citation"
(211). Engagement 2 shows consideration of the recipients in
the choice of nucleus and prosodic segmentation, but not in

the choice of tones. At this level of engagement only level tones are used (216). Engagement 3 represents the oral reading of a decontextualised sentence. At this degree of engagement the tendency of readers to make up a context even for an isolated sentence, additionally leads to an appropriate choice of proclaiming and referring tones according to new and given information. Starting with engagement 4, the reader's choice of intonation is guided by the provided context: "the reader's intonation choices are in line with each newly created context of interaction that the progressive revelation in the text sets up" (220). However, ultimate perfection of a reader – Brazil's engagement 5 – is defined by a different criterion: the reader then performs the text as if it genuinely was an utterance made by himself.

Brazil's way of assessing different reading performances on the grounds of changing criteria appears inconsistent, even arbitrary, given that it is not based on an exhaustive corpus analysis. Direct and oblique orientation can be present simultaneously in a reading version; thus, they are not really opposed to one another (cf. Esser/Polomski 1987: 74). It is Brazil himself who remarks the following: "We must be prepared, however, for fairly frequent changes of stance in the course of some readings: in principle, the degree of involvement can change at the end of any tone unit" (1992: 212). Furthermore, he states that "the reading out of sentences has little place in what we might regard as normal linguistic activity, […]" (1992: 218).

Quite in contrast to Brazil's simple category of context-dependent reading ('engagement 4'), a thorough corpus analysis of two texts which were read by a professional reader and nine amateurs (Esser 1988) illustrates nicely that the presentation of contextualised language material exhibits a range of variation and different qualities in performance. What is more, it also shows that the binary distinction between proclaiming and referring tones is not sufficient to

explain all the occurrences of rising and falling tones in a corpus. Consequently, this dichotomy turns out to be an improper generalisation (cf. Esser 1983: 125-129, 137; Esser 1987: 323; Fox 1984: 127; House 1990: 41): a simple dichotomy between tones is not enough to describe adequately the large amount of variation in the reading performances of a parallel reading corpus (cf. Esser 1987: 326f.; Esser 1988: 86).

1.1.3.4.2 Esser's approach

In contrast to Brazil, Esser (1988) does not describe reading intonation styles which are dependent on the situation, but rather focuses on individual intonation styles: the reading performances of ten informants reading the same two texts - a narrative and an argumentative text - are compared. They are evaluated by means of abstract presentation structures.

Following Palmer (1922: 87), successive tone units with different intonation elements, particularly different tones, are interpreted as expressing subordination or superordination (in terms of information hierarchy), whereas those consecutive tone units with the same intonation elements - mostly identical tones - are assumed to express coordination, i.e. communicative equivalence. Within this theory of structural relations between tone groups, tone units with rising tones are interpreted as subordinate to tone units with falling tones (cf. Halliday 1970: 31; Fox 1984: 123). Additionally, high key and obtrusive pauses are interpreted as intonational means to express superordination, whereas the opposite holds for low key.

The hearer's interpretation of the hierarchical relations between tone units is assumed to be restricted to the transition between consecutive tone units, i.e. to tone

unit boundaries, which are therefore metaphorically referred to as windows.[10]

Although Esser's study demonstrates the great versatility of reading styles, it illustrates at the same time that different intonational means can often be shown to express the same information hierarchy, i.e. the same underlying reading strategy. As for the assessment of different reading performances, a poor reader, for instance, might be found to present all intonation units as equivalent in information hierarchy instead of marking some sort of conclusion in a last tone unit by inserting a pause or using high key (cf. Esser 1988: 86; Esser 1987: 326f.). Although this approach does not yet provide the means for a systematic consideration of the syntactic level, it provided the basis for such an achievement at a later date (see below: Mukherjee 2001).

1.1.3.5 Research based on the Lancaster/IBM Spoken English Corpus

1.1.3.5.1 Research aiming at text-to-speech synthesis

The compilation of the Lancaster IBM Spoken English Corpus (SEC) – a reading corpus comprising several genres and just under 53,000 words – in 1987 triggered further research. In accordance with the main purpose of compiling this corpus (cf. Knowles/Wichmann/Alderson 1996: 20; 189), the bulk of these studies, however, deals with the analysis of intonation patterns in British English with regard to text-to-speech synthesis. Consequently, they assume – similar to the 'normal intonation approaches' (see above) - a fixed interrelation between syntax and intonation, which leaves the influence of

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[10] Mukherjee has summarised this approach in the term 'window theory' (Mukherjee 2001: 19).

context unconsidered (cf. Brazil 1997: 151). Significant correlations between syntactic structures and tone groups, between word classes and nuclei or tones, between tone units and speed or punctuation serve as a basis for the derivation of rules - again similar to the normal intonation approaches above - which allow the automatic conversion of written texts into speech (Knowles 1992; Knowles/Wichmann/Alderson 1996; Mosey 1994; cf. Campbell 1990; Campbell 1996; Taylor 1996b; Wichmann 1991).

The problems inherent in such an 'algorithmic' approach which only derives a single intonation for a given syntactic chain (an isolated sentence) are illustrated by the range of variation exhibited in parallel reading versions (cf. Esser 1988: 89). Although there are rather clear correlations between prosodic segmentation into tone units and the syntactic structure of an utterance in reading aloud, such a systematic link between intonation and syntax is less evident for the placement of the nucleus in a tone unit since this is also subject to the influence of the respective context. Above all, there is no systematic correlation between syntax and tone. In Arnfield's (1994) study of the relation between prosodic annotation and word class tags in the Spoken English Corpus, placement of stress can be predicted accurately in 91% of the cases (Stress Prediction Model). However, if tones are considered additionally (Prosody Prediction Model) the predictability of prosody is only at 65%: "The results of the PPM suggest that the *placement* of stress accents is predictable from structure and word class information, but that the *direction* of the stress accent is not" (Arnfield 1994: 84). Correspondingly, the results of such automatically synthesised speech do not really come near natural language use.[11] The aim of predicting intonation patterns for text-to-

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[11] This still holds true even though some studies as Laan (1997) do not exclusively base research on text-to-speech synthesis on primarily written texts read aloud, but focus on characteristic acoustic aspects of fluent spontaneous spoken language and the same utterances read out

speech synthesis clearly stands in contrast to the aim of the research described here: the comprehensive description and explanation of actual language use in reading aloud.

1.1.3.5.2. Reading intonation beyond the sentence level: part II

1.1.3.5.2.1 Wichmann's approach

Wichmann's study on "intonational structures and meanings which extend beyond tone groups and 'spoken sentences'" (Wichmann 2000: 1) interprets recurring pitch patterns via beginnings, middles and ends of discourse units (e.g. spoken paragraphs, spoken sentences). It is based on the auditive prosodic transcription of the Spoken English Corpus as well as on acoustic information. The perspective Wichmann adopts – looking from the realisation of intonation (above all: particular successions of tones) to syntax and discourse - leads to the enumeration of a broad range of different cases to which certain contours apply. Thus, 'early closure'[12] is, for example, found to occur "at the end of a main clause in a complex sentence […] before a sentence-final non-finite clause […] or before a conjunction; […] between co-ordinated items, in the first case a noun phrase, and in the second case a clause." Besides, "apposition, non-finite clause and final adverbial" are equally found to prompt such 'utterance-internal falls' (51) as well as a noun phrase which "announces a new discourse topic" (Wichmann 2000: 51ff.). Accordingly, since no device is offered for a systematic

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aloud from transcripts. As was pointed out before (see footnote 7 on page 13), their focus of interest is thus rather on the synthesis of spontaneous spoken language than on reading aloud.

[12] Wichmann uses the term to refer to intonational closure - in the sense of a drop to low pitch, close to the speaker's base line – before the end of an orthographic sentence (cf. Wichmann 2000: 27, 50-53): "Speakers and readers regularly reduce complex syntactic sentences to shorter spoken sentences" (Wichmann 2000: 53).

description of the interaction of different features of intonation with syntax and semantico-pragmatics, this study fails to provide a comprehensive overview of discourse intonation and tends to get lost in individual observations.

A particularly questionable aspect of Wichmann's approach is that it interprets recurring sequences of tones irrespective of whether they occur *within* tone units or *transcend* the boundaries of the latter. In other words, there is no fixed reference point for the interpretation of a particular tonal sequence since the status of tone groups as base units is called into question (Wichmann 2000: 67).[13] This, again, impedes direct comparison between the results for different genres. Instead, if a certain contour appears frequently in a particular genre, it is considered a mannerism of this genre, e.g. the 'journalistic flourish', the 'liturgical drop' (Wichmann 2000: 66f.), rather than being allocated a consistent linguistic function.

All in all, this rather impressionistic approach does not provide the means for a systematic description of the relevant features of reading intonation with regard to their interaction with syntax and semantico-pragmatics and thus remains rather freestanding in that it keeps focusing on the interpretation of intonation – mostly tones - while establishing only unsystematic connections with syntactic and pragmatic units. However, a few useful observations made, including the phenomenon Wichmann refers to as 'early closure', will be integrated into the framework of description to be developed in the further course of the present study (cf. pages 125-128).

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[13] See, however, Mukherjee (2001) on page 26 below for a corroboration of the tone unit as cognitive and thus also linguistic base unit.

1.1.3.5.2.2 Mindt's approach

Mindt (2001) uses the prosodic transcription of the Spoken English Corpus as a starting point for a primarily acoustic study (41). Fundamental frequency, the acoustic correlate of pitch, is only measured at those places at which falls and fall-rises occur in the transcript. This is due to the fact that Mindt primarily aims at improving speech recognition- and speech synthesis-programs (Mindt 2001: 2). Since the interaction of intonation with syntax as well as with lexico-semantic and pragmatic content is only considered occasionally and unsystematically, e.g. when the author deals with the paratone or declination, her study can be characterised as another basically freestanding approach. However, some observations - in particular the need to distinguish different kinds of falls in the interpretation of intonation – are helpful and have influenced the framework of description developed in the course of the present study.

1.1.3.6 Parasyntactic configurations and Mukherjee's interdisciplinary approach

For a summary of Mukherjee's (2001) findings, the notion of the 'talk unit', a rather new information structural concept for the description of spoken English, has to be explained first. Its origins can be traced back to Axiomatic Functionalism (Mulder 1989), which tries to consider the fact that linguistic structures in the spoken medium have to be described syntactically *and* prosodically and, combining the level of prosody and syntax in a new level of linguistic description, introduces a 'parasyntactic' level of description. Stressing that the term 'sentence' has primarily been associated with written language, Halford (1996) proposes the notion of 'talk unit': "The talk unit is the

maximal unit defined by syntax and intonation" (Halford 1996: 33). However, Halford neither defines the nature of the prosodic unit entering the talk unit nor pins down the criterion for prosodic completeness (cf. Esser 1998). Esser (1998), stating that "talk units are those stretches of speech where syntactic completeness and prosodic completeness coincides" (480), draws on the general interpretation by, for example, Cruttenden (1986: 98, 115) of falling tones as expressing completeness and rising tones as expressing continuation. Prosodic completeness is then assumed to be "realised by a tone unit that has a falling nucleus, and prosodic openness [...] realised by a tone unit that has a rising or level nucleus" (Esser 1998: 481). He then redefines the talk unit as a "stretch of speech which, at a given point [i.e. a tone unit boundary, cf. Esser 1998: 482], is syntactically complete and ends with a falling tone" (481). This coincidence of syntactic and prosodic completeness is visualised like this:

self-contained syntagms

units of prosodic completion
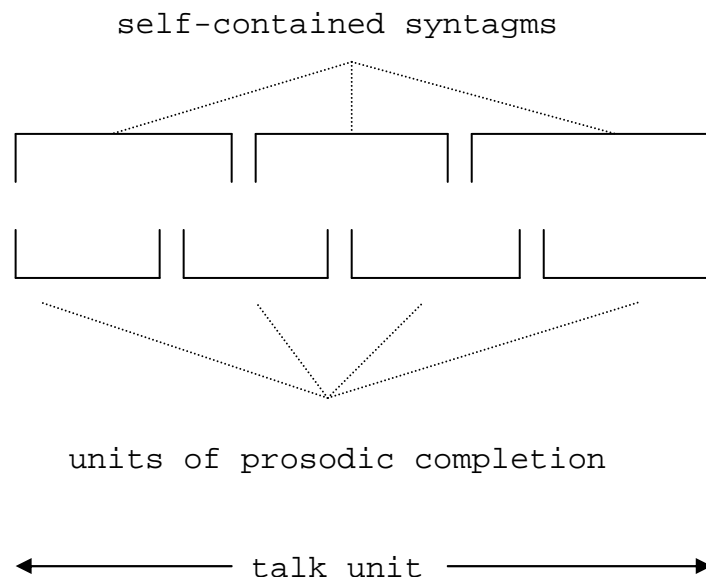
← ——————— talk unit ——————— →

Figure 3: The talk unit (Esser 1998: 480)

A talk unit is thus assumed to consist of one or more self-contained syntagms and one or more contour-defined (cf. Chapter 2, pages 45-56) tone units. At each tone unit

boundary the choice of tone – either fall (↓) or rise (↑) –
is taken together with the choice of syntactic status. The
latter is determined at the clause level: a syntactically
final status is marked with an f, a syntactically non-final
status with an n. Additionally, some finer distinctions are
made: n is used in case of syntactic incompleteness if
predictions are fulfilled somewhere to the right; n$ if the
predictions are not fulfilled at a later stage, i.e. in case
of a cut-off syntactic structure; f is used if the following
elements still depend on the preceding syntactic structure;
f& if a new syntactic beginning to the right is introduced by
a coordinator (*and*, *or*, *but*); f§ if there is a new syntactic
beginning to the right without an introductory coordinator
(see Table 1).

Code	Description of the syntactic status
n	syntactically incomplete; later completion: non-final syntactic status
n$	syntactically incomplete; no later completion: non-final syntactic status
f	syntactically complete to the left; stranded elements to the right: potentially final syntactic status
f&	syntactically complete to the left; new syntactic beginning to the right introduced by coordinator: final syntactic status
f§	syntactically complete to the left; new syntactic beginning to the right: final syntactic status

Table 1: Symbols used for the analysis of the syntactic
         status (cf. Mukherjee 2001: 28; Esser 1998: 484)

Combinations of prosodic and syntactic status, e.g. ↑n,
are called 'parasyntactic configurations' and the talk unit
is defined as: "a parasyntactic presentation structure in
spoken English which ends at a tone unit boundary with
syntactic completeness and a falling tone" (Mukherjee 2001:

30)[14]. Minor talk units end with ↓f& and may form part of major talk units which end with ↓f§.

Mukherjee manages to back up the appropriateness of the talk unit (comprising tone units) as a device for linguistic analysis by drawing on cognitive aspects and neurobiological findings. To start with, the function of tone units as base units on both the prosodic and the syntactic level is connected with Halliday's functional definition of the tone unit as an information unit (Halliday 1967b: 200; 1989: 54; 1994: 295)[15]. The neurobiological finding that no more than 7 +/- 2 information units can be retained simultaneously (Miller 1956) is related to the keeping of up to 7 +/- 2 tone units in a hearer's short-term memory. Additionally, Mukherjee transfers the temporal experience in "temporal windows" to the processing of a sequence of tone units with window-like tone unit boundaries. Since "the extent of these temporal windows (2-3 sec) correlates with the average length of a tone unit (2.5 sec)" (2001: 46) the tone unit is convincingly claimed to serve not only as a prosodic unit but as a base unit of natural language production and processing. The information-structural interpretation by hearers is seen as 'locally managed' in and around tone unit boundaries as "windows", so that this is where both the prosodic and the syntactic status are marked. A tone unit boundary is also seen as a "'window' through which the hearer gets a glimpse of what is to follow to the right" (Mukherjee 2001: 104).

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[14] Cf. Chafe's (1980: 20; 26) concept of an 'intonational sentence': a sequence of idea units (i.e information units or tone units, cf. 1980: 13) typically demarcated by sentence-final intonation and syntactic closure, expressing a single 'center of interest'. Cf. also Brazil's 'telling increment', which is defined in terms of syntactic and intonational features: (1) It proceeds far enough through a sequence of grammatical elements to represent something that could plausibly be told in those discourse conditions that exist at the time it is uttered. (2) Some part of it is proclaimed (Brazil 1993: 165; cf. Brazil 1995: 41-46).

[15] Cf. Brown (1990: 93): "The most general and important *function* of tone group division then must be seen to be the marking off of coherent syntactic structures which the listener must process as units." Cf. also Chafe's (1987: 49; 1986: 25) "one new concept at a time" constraint.

Mukherjee applies the talk unit concept mainly to a corpus of spontaneous spoken language, but he also includes a study of read texts from 3 categories (radio-features, news broadcasts and letters to the editor). Mukherjee's results can be summarised under the heading "automatisation in reading". This refers both to the tendency to place tone unit boundaries at grammatical boundaries and to the choice of tone types according to the 'principle of resolution' (Quirk et al. 1985: 1036): a sequence of rising tones is eventually followed by a fall. The written texts read aloud are thus found to stand out from the other narrative text forms in his corpus, on the prosodic level in particular, since they feature the highest amount of rises (cf. Mukherjee 2001: 82). Since variation of parasyntactic presentation structures in the read texts studied (cf. Mukherjee 2001: 124ff.) turns out to be rather constrained, the author concludes that "the use of parasyntactic presentation structures is highly conventionalised in reading" (126).

As a matter of fact, Mukherjee's pilot study is found to be a valuable starting point for my own investigation: First, the talk unit will serve as an appropriate device to integrate the study of formal and graphic input in the study of reading intonation (output). Given that in Mukherjee's study only a comparatively small amount of read texts could be considered, it is certainly desirable to test the validity of his results by enlarging the body of data subject to analysis, including a broader range of different text types.[16] Secondly, the problem of determining the syntactic status satisfactorily, mentioned by the author himself, and the fact that context has not been considered among the "factors which may influence the analysis of talk units" (48) suggest that the descriptive potential of the talk unit can

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[16] Having found obvious correlations between parasyntactic configurations and text types (Mukherjee 2001: 72-77; 79-84), Mukherjee himself calls for further investigation in this field (Mukherjee 2001: 151).

still be improved (Monschau 2001)[17]. In what follows, I will describe the aims of the present study in more detail.

1.2 The aims of the present study and its basic assumptions: examining oral reading on the basis of corpus data

As has been shown in the previous section, we still find a fundamental deficit in the research of reading intonation. Most studies aiming at making general statements about oral reading either assume a fixed relation between syntax and (at least one feature of) intonation and consequently ignore the consideration of context or they even go so far as to interpret intonation contours more or less freestanding and to neglect or only consider unsystematically the co-occurring syntactic information. Above all, studies so far do not investigate all the relevant features of intonation but are rather confined to a particular aspect of the prosody of reading aloud (cf. Wichmann 1994: 205) – compare, for example, Brazil's focus on tones – and thus fail to construct a comprehensive overview of the interaction of intonation with syntax and semantico-pragmatics.

By contrast, the present study refrains from interpreting intonation contours in isolation or with sporadic references to syntax and semantico-pragmatics. Instead, by drawing on the rather new concept of the talk unit, it is able to investigate the interplay of intonation,

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[17] Mukherjee (2001) himself stresses the preliminary nature of his talk unit model and this concept's potential of being expanded and thus revised at a later stage: "It is my firm belief that in a pilot study, such as this book, the corpus-based description and analysis of a newly established linguistic unit should not be based on too complex a model. This does not exclude the integration of further elements into the descriptive framework at a later stage" (2001: 21). "It goes without saying that […] future research on talk units will have to pay particular attention to further aspects left out of consideration so far" (Mukherjee 2001: 45). "What needs to be done in future research is […] refining the parasyntactic model. It is reasonable to assume that the parasyntactic sequencing of larger corpora might yield new descriptive categories" (Mukherjee 2001: 150).

syntax and semantico-pragmatics much more flexibly than normal intonation approaches or text-to-speech-synthesis approaches; for I will not just take over the talk unit concept but will rather identify its weak points and try to improve it by finding a way to incorporate the semantico-pragmatic level. In this way, a systematic investigation is carried out which will not get lost in the enumeration of numerous individual cases (cf. Wichmann 2000 above).

What is aimed at, for the first time, is a description of the reading process which is so comprehensive that not only the output - the phonic presentation of oral readers - will be considered but also the input of oral reading, i.e. words, syntax and textual organisation of written language as well as the graphic presentation in terms of punctuation of an underlying text. The study here will be based on an expanded version of a model which was originally developed by Esser (1999: 251). His model is depicted in Figure 4.

presentation structure of form ⇒ (medium-independent)	graphic presentation ⇒ structure of substance ⇒ (medium-dependent) ⇒	phonic presentation structure of substance (medium-dependent)

encoding   decoding
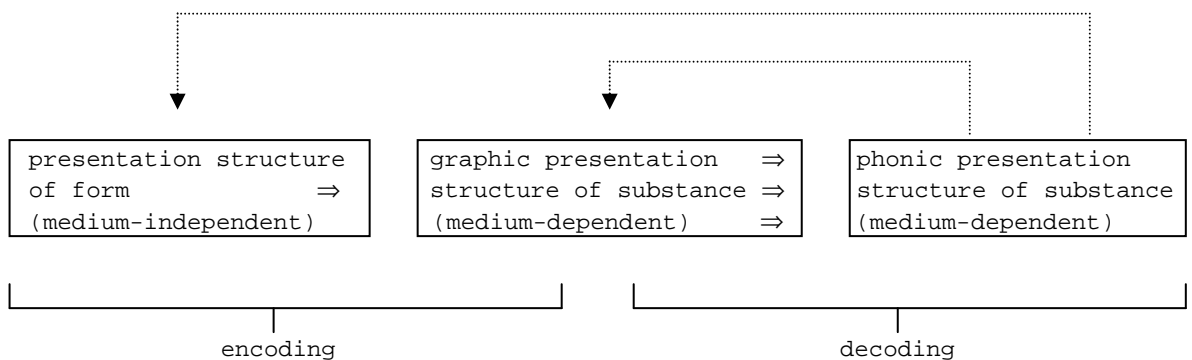
Figure 4: Esser's model of input and output in oral reading

Figure 4 illustrates that Esser's model distinguishes between medium-independent presentation structures (words and syntax) of written language and medium-dependent presentation structures (orthographic text, intonation). It also stresses a fact that has been largely ignored in research so far: although (the medium-independent structure of) a text usually only has one graphic presentation (⇒), it can be transferred

from this medium to the spoken medium, i.e. orally presented, in a variety of different ways (⇒⇒⇒) by any number of readers with different reading skills and intentions (cf. Levinson 1985: 80). The dotted arrows pointing backwards above the boxes hint at the author's anticipation of a potential presentation in the spoken medium (output) and the influence this anticipation can have on his choice of both graphic and medium-independent presentation structures (input).[18]

The following model, on which the study here is based, additionally incorporates the assumptions on information processing made by the psychological approaches described above. In concrete terms, it includes the expectancy model of information processing, which has in linguistic research so far been considered in written discourse structure and in spontaneous spoken language (cf. 1.1.2 above). Following Oller (1972, 1979; see section 1.1.1.1), it will be assumed that expectancies of what will come next in a flow of information exist on all, constantly interacting (cf. Rumelhart 1985), levels of language, and in all modes of processing, including writing, reading, speaking and listening. Accordingly, in Figure 5, the dotted arrows pointing backwards below the boxes symbolise how the reader's expectancies of what will come next are either confirmed or disproved with more and more actual information on the

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[18] Chafe (1986: 18), for instance, assumes writers to experience what he calls 'auditory imagery' during the creation of texts so that there is a 'covert prosody' of written language (Chafe 1988: 397): "The very fact that people assign various kinds of peculiar prosody in reading aloud might suggest that such prosody is invented solely for that purpose, and that written language is, in itself, devoid of intonation, stress, and pauses. But introspection suggests that as both writers and readers we do assign such features to whatever we are writing or reading. For example, when I wrote the last sentence I had in mind a high pitch and strong stress on the word 'do'. You, as reader, may or may not have read it that way, but in either case you are likely to know what you did. I am going to assume that writers and readers assign intonation, stress, and pauses to written language, though the writing itself provides less than optimal representations of them" (Chafe 1986: 18, cf. Sopher 1977: 309). As for the experience of inner speech by silent readers, see footnote 9 on page 15 again.

different levels of language entering the message centre (cf. section 1.1.1.1). The listener, too, can be assumed to have such an expectancy feedback loop (cf. section 1.1.1.3 above), i.e. advance hypothesizing about an incoming speech signal.

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                         encoding of writer


  ┌────────────────────┬──────────────────────┬─────────────────┐
  │                    │                      │                 ┆
  ▼                    ▼                      ▼                 ┆

┌────────────────────┐   ┌──────────────────────┐   ┌─────────────────┐   ┌───────────┐
│ presentation       │ ⇒ │ graphic presentation │ ⇒ │ phonic          │   ┆ decoding  ┆
│ structure          │   │ structure of         │ ⇒ │ presentation    │   ┆ of listener
│ of form            │   │ substance            │ ⇒ │ structure of    │   ┆
│ (medium-independent)│  │ (medium-dependent)   │   │ substance       │   ┆
└────────────────────┘   └──────────────────────┘   │ (medium-dependent)┆
      input                    input                      output
        ▲                        ▲                          ▲


                                      ┌──────────────────────┐   ┌───────────┐
                                      ┆ decoding-encoding    ┆   ┆ intonation
                                      ┆ of oral reader(s)    ┆ → ┆ as (advance)
                                      ┆                      ┆   ┆ support for
                                      ┆ EVS  →  'felicitous  ┆   ┆ information
                                      ┆         phonic       ┆   ┆ processing
                                      ┆         presentation'┆   └───────────┘
                                      └──────────────────────┘
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Figure 5: An expanded model of input and output in oral
          reading

A reader's eye-voice-span (EVS) provides him with information to the right of the word he is reading aloud and can thus reasonably be expected to enable him to choose an appropriate intonation (cf. Gibson and Levin 1976 in 1.1.1.2) in the sense that the listeners – who have no access to the right of the information voiced by the reader – can be correctly signalled whether they can expect more information to follow or not. If an oral reader, by his use of intonation, correctly 'translates' such information to the listeners, we can speak of 'felicitous phonic presentation', since an unambiguous intonation can reasonably be assumed to serve as

(advance) support for the listeners' information processing (cf. 1.1.1.3).

The model depicted in Figure 5 above is still characterised by the underlying assumption that medium-independent presentation structures are of primary importance in information transfer, i.e. it is taken for granted that information transfer is primarily achieved by medium-independent syntax and the text semantics derived from it. After all, filtered speech, i.e. speech which has been stripped of medium-independent presentation structures with only the intonation ('speech melody') left, transmits nothing on its own, as Bolinger (1964: 283) put it: "Intonation is not as 'central' to communication as some of the other traits of language. If it were, we could not understand someone who speaks in a monotone".

However, it is also clear that intonation occasionally turns out to be indispensable for syntactic and textsemantic disambiguation. Under normal conditions of communication in the spoken medium, intonation is omnipresent[19] and it appears reasonable to assume that competent readers will put *all* the devices of information presentation - including the components of intonation - to the best possible use to enhance information transfer and thus achieve a felicitous phonic presentation. Therefore, intonation will here be assumed to have a supportive function in information presentation, in the sense that "bad reading performance or infelicitous speaking intonation" would "put extra strain on comprehension" (Esser 1998: 489).[20]

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[19] "[…] it is undeniable that speakers, especially linguistic adults, can process language without relying on prosodic cues to structure, most notably when reading, but also under noisy conditions such as a bad phone connection or a cocktail party; […]. Nonetheless, the fact that speakers can process language in the absence of full acoustic information does not necessarily mean that they normally do so" (Schreiber 1987: 247). Compare what was said about inner speech in silent reading above (footnote 9 on page 15).

[20] Accordingly, Bolinger also judges the "intermittent placing of the wrong emphasis here and the unintended inflection there" by

The location where processing of different levels of information is assumed to take place, is, following Rumelhart's interactive model of reading (1985), assumed to be as far ahead of the voice as the reader's eyes. The fact that the distance of the eyes from the voice is found to vary with the size of the phrase units,[21] and phrase boundaries typically coincide with tone unit boundaries in reading (cf. 1.1.3.2), then supports the localisation of information structural interpretation at tone unit boundaries.[22]

There is further support for the bundled localisation of information-structural interpretation at tone unit boundaries - already convincingly assumed by Mukherjee (2001: 19, 23ff.; cf. page 26) - in the shape of House's (1990) remarks on processing units. Assuming that a tone unit is often, but not always, "the equivalent of the sentence in syntactic description" (38) – she states:

> it is probably true to say that all sentence boundaries correspond to PU [processing unit, J.M.] boundaries, but that the converse is not true (House 1990: 50).

In other words, processing unit boundaries occur not just at sentence boundaries, but also *within* sentences.

In the present investigation, tone units are therefore interpreted as information units (cf. Halliday 1989: 54, 1994: 295) and thus as base units not only on the prosodic and syntactic but also on the semantico-pragmatic level.

In accordance with the window theory (see page 18f. above), boundary tones are seen as indicators of the directionality of interpretation for the current tone unit – "whether it is forward-looking or not" (cf. Pierrehumbert/

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newscasters and commentators to be "mostly innocuous but sometimes misleading and all too often distracting" (Bolinger 1989: 392).

[21] A good reader's EVS is not a constant four to five words; rather, it expands and contracts with the size of the phrase units" (Levin 1979: 67; cf. Wanat and Levin 1968: 239).

[22] Correspondingly, Wanat and Levin (1968: 239) quoting a study by Schlesinger from 1966 about "Sentence Structure and the Reading Process" already stressed that "the EVS 'represents a unit of decoding'".

Hirschberg 1990: 308)[23]. This includes but is not confined to guiding the listener successfully to the preferred interpretation of background/foreground relationships (House 1990: 42). Rather, tone – and sometimes additionally the placement of the nucleus - will more holistically be regarded as an indicator of semantico-pragmatic completion/ incompletion.

Nuclei are generally taken to mean the marking of what the speaker wants to focus the listener's attention on within tone units, i.e. assumes to be 'foregroundworthy' (Esser 1983: 130). This may be 'new' but also 'given' information: the latter dichotomy is thus generally related to the tonic element and not to tone as in Brazil's theory.

Although expectancy can be assumed to pertain to all levels of language (cf. page 6f. above), House (1990), mostly dealing with tone and tonicity, stresses the priority of intonational information: "Often, intonation simply echoes and reinforces grammatical structure; but if there is any apparent conflict, the inferences generated by intonation will win" (House 1990: 56). In the model developed here, tone and to a minor extent tonicity are thus assumed to serve as advance support for information processing.

Given the aim of providing a comprehensive description of the reading process, the talk unit concept is a particularly suitable device since it makes it possible to study a reading performance by considering simultaneously the author's encoding (input), i.e. medium-independent syntax and textual organisation and the reader's decoding-encoding (output), i.e. medium-dependent intonation used at a particular syntactic place. The talk unit then also seems particularly suitable for the intended investigation of the interaction of syntax and semantico-pragmatics with different features of intonation, since firstly, it avoids bias towards

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[23] Pierrehumbert and Hirschberg (1990: 308) speak of 'intonational phrase' rather than 'tone unit'.

one particular feature of intonation only. Instead, it enables the study of those three features of intonation which have been shown to be linguistically relevant, since they may serve as disambiguating devices (cf. Esser 1984: 64f.; Esser 1992: 36-42). These three features are:

- the segmentation of speech into (contour-defined) tone units: *tonality*;
- the placement of the nucleus in each tone unit: *tonicity*;
- the choice of nuclear tone type: *tone*.[24]

Secondly, the appropriateness of the talk unit as a device for linguistic analysis has been backed up by neurobiological findings (Mukherjee 2001: 45f.).

Thirdly, the framework is still capable of incorporating aspects it left out of consideration before (cf. footnote 17 on page 28).

In concrete terms then, this study will set out from deriving the basic relationship between syntax, semantico-pragmatics and different features of intonation to identify the weak points of the former talk unit concept and set the ground for improving this tool for further, more comprehensive investigation (by incorporating the semantico-pragmatic level) (aim 1a; Chapter 3). To this end, I will present comprehensively the individual aspects which only turn up isolatedly in the relevant literature so far. I will additionally draw on a corpus of manageable size (10,000 words), which comprises parallel reading versions of different readers (Corpus 1). The analysis of the latter will also serve to get a first idea of the appropriateness of Mukherjee's (2001: 126) preliminary result that the range of parasyntactic variation in reading is highly constrained (aim 1b).

Having thus derived a suitable tool for a comprehensive study of the interaction of (different features of) intonation with syntax and semantico-pragmatics, I will then

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[24] These terms were introduced by Halliday (1967a: 18).

proceed to the main focus of interest in this study (Chapter 4): the investigation of the interaction of the different levels of language in a corpus of typical domains of oral reading (Corpora 2 and 3, comprising 20,000 words; aim 2). I will here consider language *use*, i.e. differences in communication situation (genre) and thus also take up Mukherjee's (2001: 151) proposal for further investigation into the correlations between parasyntactic and text-typological variation. I will also touch on differences according to *user*, not just to point up idiosyncratic choices[25] to a same end but, particularly, to pin down what can be referred to as a felicitous phonic presentation as opposed to a comparatively infelicitous phonic presentation. This part of the study is expected to reveal systematic patterns of language use in reading performance.

Finally, I will try to pin down the extent to which medium-independent presentation structures on the one hand and medium-dependent presentation structures on the other hand influence oral reading and how, consequently, a 'felicitous formal and graphic presentation' by an author (Esser 1999: 252) can be characterised (aim 3; Chapter 5). This involves tackling the question whether and how texts which are explicitly written for the purpose of being read aloud differ from texts which were originally intended for information transfer in the written medium.

All in all, this study aims at catching tendencies rather than at formulating rules. In what follows (Chapter 2), I will turn to the corpus material on which this study is based.

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[25] From this point onwards, the symbol ⇒⇒⇒ (cf. Figure 5 above) will be used as a short reminder of the phenomenon of idiosyncratic choices of readers.

2 Corpus Work

2.1 The Corpora

2.1.1 The Parallel Reading Corpus (Corpus 1)

In oder to derive the basic relationship between syntax,
semantico-pragmatics and different features of intonation
(aim 1a) and in order to get a first idea of the
appropriateness of Mukherjee's (2001) claim that there is
hardly parasyntactic variation in reading (aim 1b), the
choice of a corpus comprising parallel reading versions by
different readers including one by a professional reader
appears particularly suitable. Consequently, I chose the
Reading Corpus from J. Esser's *Comparing Reading and Speaking
Intonation* (1988) as a starting point. The problems emerging
from the analysis of the parasyntactic configurations in this
corpus were then also used to identify the weak points of the
former talk unit concept and to make suggestions for its
improvement (aim 1a).

This Reading Corpus consists of two texts, "Meeting in
Milkmarket" and "What is Democracy?", taken from an anthology
(Close 1971) and comprising 424 and 696 words respectively.
In addition to the recordings by professional readers
accompanying the book, nine English students (four male and
five female) were asked to read the texts in a recording
studio. Since they were given the texts well in advance they
had the opportunity to familiarise themselves with the
contents. They were instructed to read the texts out as to an
imaginary audience. Accordingly, the parallel reading corpus
(PRC) consists of two texts, each read by ten persons: a
professional reader and nine amateurs. All in all, the
parallel reading corpus amounts to 11,200 words. The
transcriptions of the variant readings as given in Appendix 1
and Appendix 2 of Esser's book are re-printed with the

addition of my own parasyntactic analyses (see below) in the Appendix as *Corpus 1*. The zero-line is that of the professional reader, lines 1 to 9 refer to the non-professionals concerned (cf. Esser 1988: 2).

2.1.2 The choice of texts from the Spoken English Corpus (Corpus 2)

In order to enlarge the body of data for the investigation of aims 2 and 3 (see page 36), I based one part of my further studies on extracts from the *Spoken English Corpus* (SEC). This corpus, compiled during 1984-7 at the Unit for Computer Research on the English Language (UCREL), University of Lancaster, and IBM UK Scientific Centre, Winchester, comprises 52,637 words within 53 texts – prepared speech, mainly monologues, in which RP predominates (cf. Taylor 1996a: 21). The corpus has been organised into the following genre categories:

Category	No. of texts	Total words	% Total
A Commentary	12	9066	17
B News broadcast	4	5235	10
C Lecture type I	1	4471	8
D Lecture type II	3	7451	14
E Religious broadcast	2	1503	3
F Magazine-style reporting	4	4710	9
G Fiction	5	7299	14
H Poetry	5	1292	2
J Dialogue	6	6826	13
K Propaganda	2	1432	3
M Miscellaneous	9	3352	6
Grand Total:	53	52637	100

Table 2: Composition of the Spoken English Corpus with genres selected for study in bold print (cf. Taylor 1996a: 24)

Given the focus of interest on professional reading in this study, as well as a main interest in the question whether scripts which were explicitly written-to-be-spoken offer the

reader more cues as to their oral presentation than texts which were originally intended for silent reading (aim 3), Corpus 2 of this study was recruited from categories A and B (written-to-be-spoken texts) on the one hand and G (texts originally intended for silent reading) on the other. This choice might also well turn out to allow for observations with regard to differences in presentation between informing on the one hand and performing in entertainment on the other (aim 2).

As for categories C and D, they were ruled out not only because there is no guarantee that their texts were actually read by professional readers rather than by their compilers, but also because their comprehension presupposes the listener's strong and undivided attention. There seems to be a much stronger necessity for particularly felicitous phonic presentation when readers must assume that their (radio) audience is not necessarily paying full attention but is rather engaged in other activities at the same time.

Religious broadcast and poetry (categories E and H) appear to be rather special cases which would merit an in-depth investigation of their own, and F, J and K are ruled out because they mainly contain material that is spontaneously-spoken or is at least supposed to sound spontaneous. Finally, category M largely contains material which is usually included in the News (Category B) like the weather forecast or the travel roundup. I also opted against Colin Lyas's speeches (M05, M06), since he cannot be considered to be a professional reader and, besides, these speeches were not recorded on the original occasion, in which he was facing an audience, but only afterwards; and consequently sound rather monotonous (cf. Knowles/Taylor 1988: 7, 9, 11, 16).

A further selection had to be made from categories A, B and G because of the rather time-consuming need to prepare my

own prosodic transcription.[26] On the one hand there had to be sufficient data to be able to make empirically sound statements on their basis. On the other hand the data still needed to be manageable given the time constraints. For this reason, I selected 20 minutes from each of the three categories chosen from the Spoken English Corpus, i.e. well over 3,000 words in each category, so that *Corpus 2*, all in all, amounts to 10,492 words, i.e. an hour of recorded material. The transcript of Corpus 2 including parasyntactic analysis can be found in the Appendix to this thesis.

2.1.3 The choice of texts from the Survey Corpus (Corpus 3)

In addition, I chose texts from the Corpus of the Survey of English Usage (SEU). The SEU corpus falls into a spoken part, referred to as the *London-Lund-Corpus of Spoken English*, and a written part. Each of them comprises 500,000 words within 100 texts. An overview of the composition of this corpus is presented in Figure 6:

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[26] The reasons for this as well as the system used will be explained below.
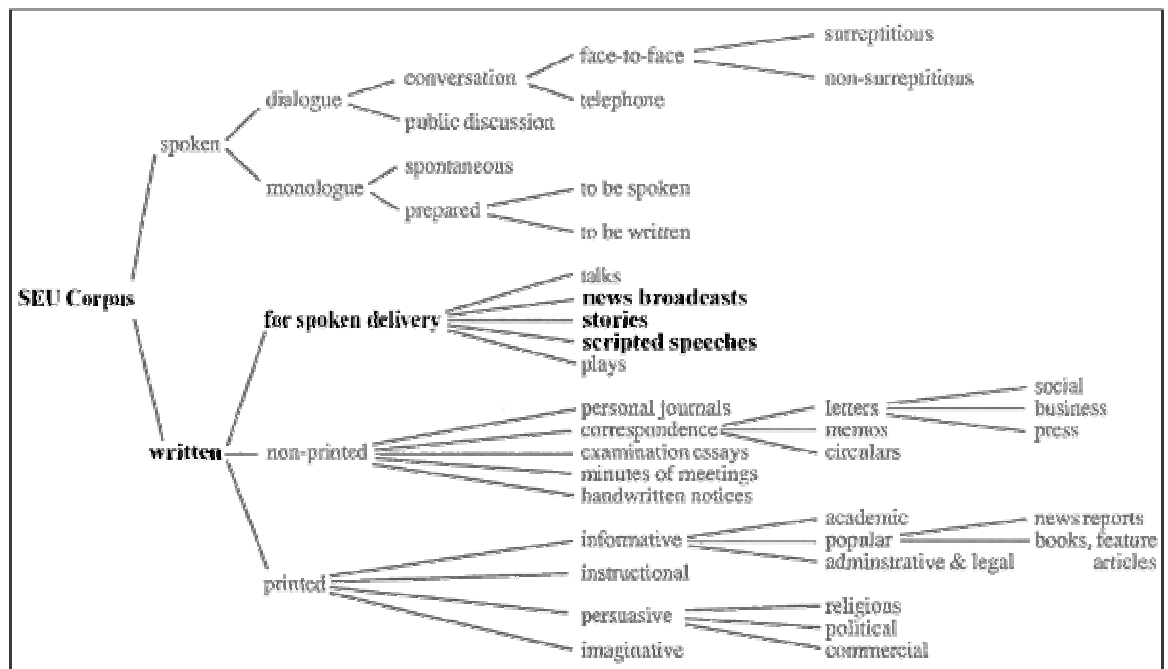
Figure 6: 'Path' taken in the Corpus of the Survey of English
        Usage (cf. Greenbaum/Svartvik 1990: 13)

For this study of oral reading, I obviously drew on texts
which were "written for spoken delivery". Within this
category, I decided to opt for texts equivalent to my choice
from the Spoken English Corpus: News and Stories. This
enabled me to compare the results for the same categories
across the two corpora.[27]

    Since the Survey of English Usage Corpus does not offer
any counterpart to the Commentary section in the Spoken
English Corpus, I decided to widen the scope of text types
and to study formal scripted speech after all. Even if this
category did not belong to my first choice while recruiting
material from the Spoken English Corpus for the reasons
mentioned above, it can be assumed that a University Orator

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[27] This procedure can be expected to serve as an indirect check on the
   consistency of my own transcriptions, since, particularly with regard
   to parasyntactic configurations, similar results can be expected in
   the same categories across the different corpora (cf. Mukherjee 2001:
   83). However, since the Survey of English Usage recordings date from
   the 1960s, whereas the texts from the Spoken English Corpus were read
   twenty years later, we might also come across divergent results due to
   diachronic change.

will be a person with at least reasonable presentation skills. Besides, this category stands out from the other choices because the presenter is in immediate touch with his audience, a fact that – among other possible effects - apparently slows down the reading process considerably.

Thus, the original intention to select, as in the choice from the Spoken English Corpus, 20 minutes, i.e. well over 3,000 words from each category, had to be slightly modified in the case of formal scripted speech. Given the amount of time lost by the audience's laughter and applause in particular, the orator had not even reached 3,000 words after 20 minutes. It was thus felt that in this case 30 minutes would rather be appropriate. This assumption is substantiated by the fact that the orator has then reached well over 3,000 words again. In total, *Corpus 3* thus comprises 10,096 words or well over an hour of recorded material. Its transcript is reproduced in the Appendix.

Finally, an exclusive reliance on material from the Survey of English Usage would not have been sufficient, not only with regard to the fact that the Survey material is rather too old for it to form the whole body of data - the Survey of English Usage recordings date from the 1960s – but particularly with a view to a study of punctuation since (the electronic version of) the Survey Corpus does not contain any information of the kind. Thus, the Survey material was simply added to enlarge the body of data for the study of aim 2, and my study of punctuation will be confined to Corpora 1 and 2. Table 3 below provides an overview of the whole working corpus.

CORPUS	NO. OF TEXTS	CATEGORY/DATES	DURATION	NO. OF WORDS
Corpus 1	1	Story		424 x 10
(PRC)	<u>1</u>	Expository Text		<u>696 x 10</u>
total	2	1984		11,200
Corpus 2		Commentary		
(SEC)		A01 24/11/84	5:00	793
		A03 24/11/84	4:01	620
		A06 24/11/84	4:32	828
		A08 22/6/85	4:08	618
		A09 22/6/85	<u>5:12</u>	<u>787</u>
	5		22:53	3646
		News broadcast		
		B01 24/11/84	9:32	1722
		B03 5/12/85	5:00	940
		B04 24/1/86	<u>5:00</u>	<u>853</u>
	3		19:32	3515
		Fiction		
		G01* 25/6/85	12:00*	2079
		G03 1982	2:39	442
		G04 1982	<u>5:30</u>	<u>810</u>
	<u>3</u>		20:09	3331
total	11		62:34	10,492
Corpus 3		News		
(SEU)		W.2.1 a) 18/3/64	10:00	1724
		W.2.1 b) 20/3/64	<u>10:00</u>	<u>1643</u>
	2		20:00	3367
		Stories		
		W.3.1 a) 9/11/64	11:00	1744
		W.3.1 b)* 28/3/65	<u>11:00</u>	<u>1526</u>
	2		22:00	3270
		Formal scripted Speeches		
		W.4.2 a)* 25/11/71		
	<u>1</u>		30:00*	3459
total	5		72:00	10,096

Table 3: The composition of the working corpus: Corpora 1, 2
        and 3 (*: abridged version of the original text)

2.2 The need to prepare a new transcription

Recruiting the working corpus from different sources as
described above causes problems since the different sources
use different transcription systems. The discussion of their
potential comparability will be preceded by the vindication
of the auditory approach taken.

2.2.1 Vindication of the perceptual approach

Sceptics doubting the value of *instrumental* analysis of
prosody point to the inability of the machine to distinguish
between linguistically relevant and irrelevant aspects of the
acoustic signal and stress that an auditory analysis, by
contrast, makes it possible to focus on the linguistically
and thus functionally relevant phenomena:

> An intonation contour leaving a speaker's vocal tract is
> a physical event, fair game for a machine. But the
> perception of the contour by a listener is a cognitive
> event, and the only physical manifestations of that
> event available to a machine are squiggles on an EEG or
> galvanic skin response meter or some other device
> sensitive to neurological activity. Listeners' – or
> linguists' – subjective reports of their perceptions and
> reactions are critical data for linguistic analysis. As
> long as we are discussing linguistics and not acoustics,
> then we may – indeed, we must – assume that the
> contrasts can be detected by native speaker linguists
> using no instrument other than their own senses (Ladd
> 1980: 134. Cf. also Wode 1966: 131, Crystal 1969: 13,
> Williams 1996: 39).

For example, we do not perceive a change in pitch whenever
there is a change in fundamental frequency, in other words,
"fundamental frequency has more variation […] than listeners
interpret as communicatively significant" (Edwards 1993: 22;
cf. 25).

Critics of such a perceptual approach, however, claim
that perceptual judgements of intonation by trained linguists
are unreliable: "prosodic annotations […] are subjective,
resulting in a level of disagreement between annotators"
(Huckvale/Fang 1996: 264, cf. Brown et al. 1980: 48). This
view is directly challenged by Schuetze-Coburn/Shapley/Weber
(1991), in whose study virtually all the acoustic unit
boundaries (declination units) were also identified as
auditory unit boundaries (intonation units). The acoustic
feature F0 reset was shown to have a perceptible auditory

correlate which the auditory analysts were consistently identifying when segmenting the corpus into intonation units. It may thus be inferred that (a) F0 is a salient cue to an auditory identification of boundaries and (b) auditory judgements of prosodic features can be consistently made, given an appropriate analytical framework. The latter should confine itself to marking only those suprasegmental phenomena that are linguistically relevant and refrain from marking too many details (cf. Williams 1996: 39-41, 59). This will increase agreement between transcribers (cf. Pickering/ Williams/Knowles 1996: 72).

2.2.2 Note on the use of transcription conventions

The production of spoken language is commonly described as a succession of what is alternatively referred to as 'intonation units' (Schuetze-Coburn/Shapley/Weber 1991; Croft 1995), 'intonational phrases' (Selkirk 1986; Pierrehumbert/ Hirschberg 1990), 'tone groups' (e.g. Halliday 1967a; Taylor 1996b) or 'tone units' (Crystal 1969; Altenberg 1990). Such a unit has been defined basically as consisting of a stretch of speech by a single speaker "with a single, coherent intonation contour" (Chafe and Danielewicz 1987: 95; cf. Chafe 1987: 22). This general definition is widely used, no matter whether the intonation contour itself is defined as a *holistic* tone or as a *sequence* of tones. Apart from cues concerned with the pitch contour of the utterance other cues that are commonly used to determine the boundaries of such units are related to pauses. We can thus broadly distinguish between contour-defined transcription systems, which were originally used in my choice of texts from the parallel reading corpus and the Survey of English Usage Corpus (Corpora 1 and 3), and pause-defined transcription systems, used, for instance, in my choice of texts from the Spoken

English Corpus (Corpus 2). These units do not necessarily correlate with each other (cf. Edwards 1993: 21).

2.2.2.1 The contour-defined transcription system in Corpus 1

The transcription system used in Corpus 1 from Esser (1988) is a rather broad, phonological one. First and foremost, it marks those prosodic elements that can be shown to be contrastive at the level of the sentence: the placement of tone unit boundaries, the placement of the nucleus and the choice of tone reaching from the nucleus to the tone unit boundary.

The tone unit is defined as:

Ein Redeabschnitt von meist mehreren Wörtern, dessen Laute durch ein Intonationszentrum integriert und durch eine distinktive Tonbewegung beendet werden.
[A stretch of speech usually of several words. Its sounds are integrated by a nucleus and a distinctive tone movement.] (Esser 1992: 102; translation: J.M.].

Every tone unit thus has only one nucleus, the tonic element (Esser 1992: 70, 102, cf. 20, 40). This is the word which stands out in a tone unit through pitch and stress. The nucleus may be preceded or followed by non-tonic elements. In the first case they are proclitic (pre-head, head and body), in the second, enclitic (tail). This descriptive system thus recognises four types of tone-unit:

Type I: proclitic word(s) + nuclear word + enclitic word(s)
Type II: proclitic word(s) + nuclear word
Type III: nuclear word + enclitic word(s)
Type IV: nuclear word
(cf. Esser 1988: 6).

In the transcript, the nucleus is indicated by underlining.

This broad transcription system is confined to marking only those tones at the end of a tone unit, i.e. which reach from the nucleus to the tone unit boundary. It just makes the

basic distinction between falling and rising tone (cf. Esser 1992: 97f.), since only this broad two-tone dichotomy is considered to be linguistically relevant. Falling or rising tone are indicated at the tone unit boundaries by down-arrow and up-arrow respectively, e.g.:

```
And then I heard  that he had gone abroad  and that was all.
        _____↑                      _____↓            ___↓
```
                                                      (Esser 1988: 3)

Since the distinctive tone movement is considered "decisive for the recognition of tone unit boundaries" (Esser 1988: 3), the tone-units of this transcription system are definitely contour-defined. The end of a tone unit can be only additionally indicated by a pause (cf. Esser 1992: 102).

The contour-defined tone units are found to overlap with a great variety of syntactic units: "They may be whole clauses […] or parts thereof […]; they may further be clause elements such as S, A, V, O or parts of S, O or C, lastly, they may be parts of PPs or NPs […]" (Esser/Polomski 1987: 64).

Esser's descriptive model also adds intonation phenomena which are functionally relevant at the level of the text: Of mid, high and low 'key' - i.e. pitch-level - only the last two - high and low deviations from the normal pitch range - are marked in the transcription: "High key is sometimes used to mark intonationally the beginning of a sequence of tone units corresponding roughly to a paragraph, low key or pause can mark its end" (Esser 1994: 112). Besides, 'emphatic pronunciation', words that are "pronounced with considerably more articulatory effort and greater sonority" (Esser 1988: 4), is marked. A "slight or incomplete" fall, which can be found in all three keys (cf. Esser 1993: 143) and is thus independent of declination, is marked as 'narrow fall' (Esser 1988: 4). As for pauses, only "obtrusive interruptions of phonation" (Esser 1988: 4) are indicated.

2.2.2.2 The pause-defined transcription system in Corpus 2

In contrast to the contour-defined transcription system in Corpus 1, the division into 'tone groups' which occurs in Corpus 2, taken from the Spoken English Corpus, is mainly pause-defined. A tone group boundary is identified when there is "essentially a discontinuity in the prosodic pattern" (Knowles 1991: 152) observing the following hierarchy:
1. temporal discontinuities,
2. pitch discontinuities and
3. segmental discontinuities.
Number 1 refers to a pause with a measurable duration greater than about 25cs. In the case of 2, the line of the preceding pitch contour is broken. Number 3 is characterised by the cancellation of a process which is characteristic of run-on words, e.g. assimilation or contractions as *John's here*, in which *'s* could not be used immediately after a boundary. If in this description system the first discontinuity is given, the second is also observed to occur frequently. And if the second discontinuity is given, there is a high probability of 3. "This suggests a hierarchical arrangement, so that the most important boundaries are marked temporally, lesser ones by pitch, and the least important by segmental patterns only" (Knowles 1991: 153). At the lowest level, there are still temporal discontinuities which cannot be measured but are just indicated by final lengthening (ibid).

Thus, a distinction is made between those boundaries which are always marked by a (longer) pause, 'major tone group boundaries', and boundaries which are situated lower on this hierarchical scale and may or may not be marked by a pause, 'minor tone group boundaries' (cf. Knowles 1991: 157).

This transcription system explicitly demands the matching of tone groups and syntax: the condition is "that the division must be made at a point that is syntactically possible" (Williams 1996: 51) so that, for instance, it will

not be made between *to* and its infinitive verb. While major tone groups are found to frequently correspond to sentences, minor tone groups rather tend to be coextensive with clauses or phrases (cf. Williams 1996: 51, Knowles/Wichmann/Alderson 1996: 95).[28]

However, in the transcript of the corpus from Esser (1988) (Corpus 1), the pauses which occur more or less by default at sentence boundaries are not considered, only obtrusive pauses are marked. The contour-defined tone-units of that transcription system are also found to overlap with a greater variety of syntactic units (see above). Thus, the transcription systems used in Corpus 1 and 2 are obviously orientated towards different criteria and we can see that they exhibit a lack of comparability with regard to prosodic segmentation (tonality).

However, it also turns out to be impossible to directly compare the two transcription systems with regard to tonicity and tone. A tone group is again described as consisting of *prehead* (any initial unaccented syllables), *head* (any accented material preceding the nucleus), *nucleus* and *tail* (Williams 1996: 51). However, by contrast to the transcription system used in Corpus 1, the transcription system used in the Spoken English Corpus is not orientated to exclusively marking the tones on the nuclei, but rather delineates the tones on all accented syllables, i.e. syllables which possess both rhythmic and pitch prominence. What is more, this transcription system does not make any notational distinction between the nucleus and the head accents: "there is only one set of symbols for all accented syllables, whether nuclear or non-nuclear. […] The claim thus being made is […] that the nuclear syllable is the final

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[28] This rather fixed connection between syntax and intonation is, of course, established with a view to the main purpose of the compilation of the Spoken English Corpus, the formulation of general rules for text-to-speech synthesis (cf. Taylor 1996a: 21).

accented syllable within the tone unit" (Williams 1996: 52). This, however, does not seem to work out all of the time.[29]

Apart from falling and rising tone, which are also indicated in Corpus 1, the transcription system used in the Spoken English Corpus additionally marks levels and the combinations fall-rise and rise-fall. In addition to accented syllables, the system also delineates stressed but non-pitch prominent and pitch-prominent but not stressed syllables. Significant steps up or down in the latter are marked with up-arrow or down-arrow respectively. Since these are identified in relation to the preceding pitch used (Williams 1996: 51-53), they cannot be directly compared to Esser's system of key, which is oriented towards 'normal pitch range' (see above).

2.2.2.3 The contour-defined transcription system in Corpus 3

The transcription system used in Corpus 3, taken from the Survey of English Usage Corpus, is basically contour-defined again: tone covers "the direction of pitch movement within the most prominent syllable of a tone-unit. […] At least one such tone is obligatory for a tone-unit to be interpreted as being 'complete' […]" (Crystal 1969: 142). This obligatory tone is the nucleus of the tone unit. It may additionally be preceded by *prehead* and *head* and be followed by a *tail*: (P)(H)N(T) (Crystal 1969: 207f.). Pointed out as an additional, automatically-occurring part of the identification of a tone-unit, is a slight pause, which is therefore not given separate consideration in the notation:

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[29] Either ignoring or equally doubting the last claim by Williams, Mindt (2001: VII) simply states that the transcription system used in the Spoken English Corpus does without categorization of the different tones in a tone group into *prehead, head*, *nucleus* and *tail*. Likewise, she points out the incompatibility of this prosodic transcription system with a nucleus-oriented transcription system as, e.g. Cruttenden's (1997: 44).

> The most important is the pause which may occur at tone-unit boundary […], usually as the result of the change in pitch direction, range, speed or loudness that usually takes place as one moves from one tone-unit to the next. This pause is never as long as *brief*. It subsumes what many scholars would take separately as juncture phenomena […], and is in effect part of the identification of the tone-unit; consequently it is given no separate notation here (Crystal 1969: 171).

This slight pause is defined rather vaguely, but is certainly not isochronous with the 'temporal discontinuities' marked at major tone group boundaries in the Spoken English Corpus, but at best with the level of discontinuity in the prosodic pattern prompting a minor tone group boundary, indicated by final lengthening. After all, it is similarly stated for the transcription system used in the Survey of English Usage Corpus that this pause is often accompanied by phonetic modifications as variations in length and aspiration after the nucleus. The latter is as in the Spoken English Corpus assumed to occur normally at the end of a tone-unit. The slight pause is seen as a safe indication that the end of the tone-unit has come (Crystal 1969: 206).

All in all, however, the hierarchy of criteria for division into tone units seems to be much more comparable in the transcription systems used in the Parallel Reading Corpus and the Survey of English Usage Corpus. Both these transcription systems are primarily orientated to contour, somehow including a slight pause. However, quite the reverse holds for the transcription system used in the Spoken English Corpus, since there the pause criterion is only followed in hierarchy by pitch discontinuities. The relative comparability of the system used in the Parallel Reading Corpus with the transcription system used in the Survey of English Usage Corpus in terms of tonality is additionally corroborated by the observation that in the latter "the tone-unit is infrequently co-extensive with a sentence, or even a clause" (Crystal 1969: 210) but "rather with a wide range of

structures" (Crystal 1969: 257f.).[30] This is quite different from the transcription system used in the Spoken English Corpus again (cf. page 49).

Consequently, we can conclude that the transcription systems of the Survey of English Usage Corpus and the Spoken English Corpus cannot really be compared with regard to tonality. This has been hinted at by Svartvik (1990) and Knowles et al. (1996) before:[31]

> In our approach, the tone-unit is contour-defined, not pause-defined: it is only optionally bounded by a pause, and there is no one-to-one relationship between tone units and pause-defined segments (Svartvik 1990: 74).

> there is no guarantee that the object called a tone group [in the Spoken English Corpus: J.M.] is the same as the object called a tone-unit in the LLC [although: J.M.] it is worthy of note that these objects have a similar distribution and their modal values are at least compatible (Knowles/Wichmann/Alderson 1996: 107).

By contrast to the Spoken English Corpus transcription system again (cf. Williams 1996: 56) but also to Esser's transcription system, there is not necessarily only one nucleus per tone unit. Apart from simple falling, rising and level tone, this system admits not only complex tones as (rise-) fall-rise and (fall-) rise-fall, but also compound, i.e. binuclear tones, namely fall-plus-rise and rise-plus-fall "to allow a larger stretch of utterance to fall under the semantic range of the nucleus" (Crystal 1969: 218). The meaning of the tonal selection is completed by its relative

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[30] It must have been on this basis that Mukherjee (2001) directly compared material from these two different transcription systems. However, as the following explanations will make clear, such a direct comparison is highly problematic and does not seem to be possible (cf. Monschau 2001).

[31] Although referring to the *London-Lund Corpus of Spoken English*, the following quotations are equally valid for the written-to-be spoken part of the Survey Corpus, from which my Corpus 3 was recruited, since the same contour-defined transcription system was used consistently for the whole Survey corpus, including the London-Lund Corpus (cf. page 40f. above).

pitch height and width in the pitch range system (Crystal 1969: 212).

Distinct from Esser's transcription system and more reminiscent of the transcription system originally used in the Spoken English Corpus with its minor and major tone groups, the transcription system used in the Survey of English Usage Corpus makes a hierarchical distinction between superordinate and subordinate tone units. Given the underlying assumption that the repetition of tones can basically be interpreted as cohesion between tone units (cf. Crystal 1969: 241), "the nuclear type postulated as subordinate must repeat the direction of the nucleus in TU1 [tone unit 1, J.M.], both nuclei being one of the two primary categories, fall or rise" (Crystal 1969: 245). At the same time, "the width of nuclear movement in TU1 must be greater than that in TU2. The range disparity between the nuclear tones is the main factor in determining the subordinate partner […]" (ibid). Apart from reduced pitch-width, subordination is found to correspond to reduced pitch-range, reduced loudness and thus also reduced prominence (Crystal 1969: 246, 251).

Equivalent to Esser's system of key, the Survey of English Usage transcription system notes if a speaker begins a tone unit at a distinctively higher or lower level in pitch-range than normal, with *l* for low onset, for example, to introduce a parenthesis in speech, and *h* for high onset, for instance at the beginning of 'paragraphs' of news (Crystal 1969: 143f.).

In the transcription system used in the Survey of English Usage Corpus, "*tone*, *pitch-range* and *loudness*[32], with *rhythmicality* and *tempo* closely related" are considered the most central prosodic systems of intonation (Crystal 1969: 195). Each of these systems is marked in detail, e.g. seven

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[32] Esser (1988: 4) draws a parallel between the 'emphatic pronunciation' of his descriptive model and "strong or extra stress" as well as "forte" in the simple loudness system of this transcription system.

different types of tone are notated (see above), pitch-range is also indicated on non-nuclear stressed and unstressed syllables and different lengths of pause are delineated. All in all, the system can be regarded as more phonetic than Esser's and be localised somewhere between Esser's transcription system and the transcription system used in the Spoken English Corpus. Table 4 presents an overview of the transcription systems used in the three corpora.

criterion of comparison	PRC (Corpus 1)	SEU (Corpus 3)	SEC (Corpus 2)
tonality	contour-defined tone unit - pause optional extra - no hierarchical distinction of different types of tone unit - overlap with a great variety of syntactic units	contour-defined tone unit - often accompanied by a slight pause - sub- and super-ordinate tone units - co-extensive with a wide range of structures, infrequently with a sentence or clause	pause-defined tone group - major and minor tone groups - major tone groups tend to correspond to sentences, minor tone groups often to clauses or phrases (matching of tone groups with syntax is explicitly demanded)
tonicity and tone	system marks tone from the nucleus to the tone unit boundary: fall, rise and, on the text level, narrow fall	system marks tone(s) on the nucleus/nuclei: fall, rise, level; complex (rise-) fall-rise, (fall-) rise-fall; binuclear fall-plus-rise, rise-plus-fall (+ pitch height and -width)	system marks tones on all accented syllables: fall, rise, level, fall-rise, rise-fall
deviations in pitch range	system marks high and low key as deviations from the normal pitch range	system marks distinctively higher and lower pitch range than normal	system marks up-arrow and down-arrow in relation to the preceding pitch used
pauses	system only marks obtrusive pauses	different lengths of pauses are delineated	pauses are constitutive of (particularly major) tone groups (see above)

Table 4: Comparison of the transcription systems of the
Parallel Reading Corpus (PRC), the Survey of English
Usage Corpus (SEU) and the Spoken English Corpus
(SEC) with regard to fundamental features

2.3 Transcription system used

The outline of the different transcription systems used in
Corpora 1, 2 and 3 makes it quite obvious that they cannot be
directly compared because they put into practice different
approaches to prosodic transcription. Among other things,
they diverge from one another with regard to the amount of

detail they notate. Consequently, I had to choose one transcription system as a standard for all three corpora.

A pause-defined transcription system as used in Corpus 2 was ruled out from the start because there is "no justification […] of the assumption that any F0 contour bounded by pauses must have phonological status" (Ladd 1982: 206). After all, pauses are multifunctional: "speakers pause for interactional, cognitive, and rhetorical, as well as for intonational and grammatical reasons […]" (Schuetze-Coburn/Shapley/Weber 1991: 226). Pauses have thus also been found to be rather unreliable structuring devices (cf. Halford 1996: 42f.).

Since Ladd (1988) has pointed out that only one kind of tone unit boundary is relevant in a hearer's psychological reality of language processing, no need was seen for any kind of hierarchical transcription system as in Corpus 2 and 3 either. The rather broad transcription system used in Corpus 1 provides the three categories tonality, tonicity and tone, which have been shown to be functionally relevant (cf. Esser 1984: 64f.; Esser 1992: 36-42; cf. page 35). The broadness of the transcription system presents a better basis for inter-transcriber agreement than the comparatively detailed and consequently complex systems used in the Spoken English Corpus and Survey of English Usage Corpus. Since finally the use of the talk unit model is tied to the contour-defined transcription system of Corpus 1, I chose it as a standard and transcribed Corpora 2 and 3 accordingly.

Thus, the prosodic transcription of Corpus 1 (The Parallel Reading Corpus) could just be copied from the Appendix of Esser (1988). I drew on tape recordings of the reading performances in this corpus to train myself in the application of this transcription system.

As for the Spoken English Corpus (Corpus 2), the orthographic, prosodic and part-of-speech annotated transcriptions can be obtained on CD-ROM from the

International Computer Archive of Modern and Medieval English,[33] while the acoustic recordings are available on a second CD-ROM as 'MARSEC' - the Machine Readable Spoken English Corpus - from the School of Linguistics at Reading University.[34] In order to avoid the laborious job of erasing the prosodic transcription symbols from the original, pause-defined prosodic version, I immediately drew on the orthographic version as a basis for a new transcription. Listening to the acoustic version on the MARSEC CD-ROM, I first rearranged the orthographic text into tone units. In further steps, I marked the nuclei by underlining the syllables concerned and indicated rising and falling tones by means of arrows pointing upwards or downwards. Finally, I labelled prosodic features on the textual level: narrow fall, nuclear as well as non-nuclear high key and low key, emphatic pronunciation and obtrusive pauses (cf. Table 5 on page 58). In order to mark these features, it was necessary to listen to the data repeatedly so that the transcription process turned out to be rather laborious.

As for the Survey of English Usage Corpus, I was given access to its tape recordings and provided with its prosodic transcript, also in electronic form, at *The Survey of English Usage at University College London*. While I prepared a prosodic transcription according to the standard used in the Parallel Reading Corpus, following the steps described above, I found that the previously described incomparability of it and the original Survey of English Usage transcription system was confirmed since there were several descrepancies. For instance, binuclear tone units in the Survey of English Usage transcription system usually fall into two tone units in the transcription system used as a standard here. However, I still kept the original prosodic symbols, too, deciding to ignore them, since their removal would have turned out rather

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[33] http://www.hd.uib.no/icame/newcd.htm
[34] http://www.rdg.ac.uk/AcaDepts/II/speechlab/marsec

laborious. The version of Corpus 3 presented in the Appendix thus features both transcription systems. By contrast, the examples quoted from this corpus in Chapters 3 and 4 have been stripped off the original Survey of English Usage prosodic transcription symbols and are there only presented with the new transcription in order to avoid confusion. Both the new and the original Survey of English Usage prosodic transcription of Corpus 3 as well as the explanation of the symbols used in the latter transcription system can be looked up in the Appendix (page 429).

All the new transcriptions were finally checked by a second transcriber. Given the rather broad transcription system used, disputed instances remained rather rare.

The following transcription symbols of Corpus 1 were used throughout and accordingly occur in the transcribed version of all three corpora in the Appendix:

symbol	meaning
↑	rising tone at tone unit boundary
↓	falling tone at tone unit boundary
underlined syllable	nucleus
N↓	narrow fall
H	high key on a nucleus
L	low key on a nucleus
h	non-nuclear high key
l	non-nuclear low key
E	emphatic pronunciation
¦	obtrusive pause

Table 5: Prosodic symbols used in the transcribed corpora (cf. Esser 1988: 3ff.)

For marking the status of the syntactic channel, the same symbols were used as for the talk unit model developed

by Esser (1998) and by Mukherjee (2001).[35] In what follows, a close examination of the concept of 'syntactic completion' will form the foundation for dealing with aim 1a (see page 35).

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[35] Cf. Table 1 on page 25 above for an overview of the symbols used to mark the syntactic channel in the analysis of parasyntactic configurations as they also appear in the 3 corpora in the Appendix.

3 Syntax, semantico-pragmatics and intonation in a revised talk unit model

3.1 Determining the syntactic status in the talk unit model

Analysing the corpus data, the determination of the syntactic status turned out to be difficult at several places since, in these instances, syntactic and semantico-pragmatic information often diverge. It was thus felt that a closer look at the interplay of syntax and semantico-pragmatics in discourse and, simultaneously, at the concept of 'syntactic completion' within the talk unit model was due.

'Syntactic completion' in the strict sense can be thought of as slot-filling in isolated sentences. Permitted sequences of elements are, for example, summarised in seven sentence types in Quirk et al. (1985: 721, 754) and Brazil (1995: 44, 51). The minimum requirement for syntactic completion at the clause level is thus a sequence of subject and verb (SV). In so far as these constituents of sentence or clause structure and sequences of them represent some sort of 'frozen semantics',[36] syntax cannot really be regarded as 'decoupled' from semantico-pragmatics, even more so when the object of study is a text rather than isolated sentences. After all, most discourse occurs in units larger than the sentence – a concept which does not fit satisfactorily into the spoken medium anyway – and normally occurs embedded in an inter- and extralinguistic context.

Stressing the idea of discourse "as something that is now-happening, bit by bit, in time, with the language being assembled as the speaker goes along" (37), Brazil (1995) draws attention to a potential occurrence of syntactic completion (in the strict, slot-filling sense) on the one

---

[36] For example, the 'subject' is traditionally associated with the 'doer' of an action (Crystal 1997: 369) and 'verbs' are traditionally defined as 'doing' or 'action' words (Crystal 1997: 409). However, it is clear that subjects also take different semantic case roles and that "many verbs do not 'act' in any obvious sense, e.g. *seem*, *be*" (ibid).

hand and utterance incompletion in a particular context on the other by introducing the notion of the 'telling increment' (Brazil 1995: 41; cf. footnote 14 on page 26). The first condition it must satisfy concerns the reaching of a 'target state' (Brazil 1995: 48, 52). Apart from minimally consisting of "a sequence NV" (Brazil 1995: 44), i.e. of nominal and verbal elements, it presupposes the satisfaction of present communicative needs of the hearer:

> Our question differs in one important respect from that of the sentence grammarian: *it cannot be answered in a simple way which will apply to all cases* [highlighting: J.M.]. Sentence grammars aspire to distinguish in some absolute way between all good sentences of the language and all sequences of words which are not sentences. But the exact requisites for an act of telling depend, as we have said, upon the present communicative needs of the hearer – upon what, on the particular occasion in question, needs to be told. […] At the beginning of our story
> She'd been shopping
> amounts to a satisfactory telling increment […]. But in another story, the hearer's appreciation of subsequent events may require specification of where she had been shopping, or of when, or even of both where and when. Giving this information will require a longer increment, such as:
> She'd been shopping in Oxford Street
> (Brazil 1995: 42).

Similarly, Ford and Thompson (1996) stress that "[s]yntactic completion points in English […] are *not* nearly always […] pragmatic completion points" (154). The deviance between potential syntactic completion on the one hand and potential utterance incompletion in a particular context on the other has also been addressed by Mukherjee (2001: 57).[37] He gives the example *I do not believe*, in which the verb may have a transitive or an intransitive reading. The problem of an appropriate annotation within the talk unit model is solved by deciding about the syntactic status on the grounds of the

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[37] The problem of syntactic parsing and the influence of expectations concerning the syntactic continuation is already hinted at in the section on temporary syntactic ambiguities in Mukherjee (2001: 26).

interpretation which is most likely in a given context and the author concedes: "Needless to say, this kind of procedure is to a large extent intuition-based" (ibid, cf. ibid: 151).

In the following, I will outline examples of cases in which, given the perspective of a listener to oral reading, the answer to the question of whether syntactic completion has been reached can vary due to the influence of 'textual organisation'.[38] The latter is being used as a cover term for both text semantics, the previous context from the listener's perspective, and lexico-grammatical pattern expectancies, which are triggered to a greater or lesser extent depending on the syntax and semantics of the respective context (cf. page 7f.; Mukherjee 2001: 26).

3.1.1 The role of semantico-pragmatics in determining the syntactic status in the talk unit model

In the following examples, nouns fill a slot which leads, strictly syntactically speaking, to potential finality of a clause. However, since most of these nouns are abstract nouns - often preceded by a definite article - which have not been referred to in the previous context, a strong expectancy for complementation, be it by a prepositional phrase or a subordinate clause, is evoked.[39] Many of these nouns thus function as 'general nouns' (Halliday/Hasan 1976) or 'shell nouns' (Schmid 2000). They then refer to factual, linguistic, mental, modal, eventive or circumstantial concepts and are normally not used without some kind of expansion – a *that-clause*, *a wh-clause* or a *to-infinitive* – in the surrounding text, i.e. they are "nouns which require lexicalisation in their immediate context"

---

[38] Cf. the experiment described in Monschau/Kreyer/Mukherjee (2003).

[39] The examples given here are particularly reminiscent of what has been referred to as 'prospection' by Sinclair (1993: 12-15) before. Cf. page 11 above.

(Hunston and Francis 2000: 185, cf. also Schmid 2000: 3f.)
and thus typically have cataphoric reference (Partington
1998: 87).

(4)[40]

The leader   of the Alliance party   in Northern Ireland,
  H   ↑n+   H   ↓n+   ___   ↓n+

Mr John Kushnahan,   has asked the Northern Ireland secretary,
  ____   ↑n+   h   ___   ↓n+

Mr Tom   King,   to suspend   **the business**
 ___ ↑n+   ____ ↓n+   E ↑n+   ___   **↓n+**

of the Northern Ireland Assembly.
       ___   ↓f§0 [SEC, B03]

(5)

Time's chief counsel,   Thomas Barr,   **has no doubt**
    ____   ↑n+   ____ ↑n+   **H**   **↓n+**

that the same fundamental principle   is at stake
        H   ↓n+   H ↓f+

in both trials: the freedom of the press.
  ___   ↓f0   _____ ↓f§0 [SEC, A03]

(6)

But some people say   the two libel actions
  h   ___ ↓n+   __   ↑n+

go even further than that: **that they're an attempt**
  ___   ↓f0   _____ **↑n+**

to rewrite history.
  ___   ↓f§0 [SEC, A03]

Since (4) represents the introduction of a new news item,
there is certainly no potential anaphoric reference for *the
business*, which means that the complementation of this noun
is inevitable for the creation of sense, for reaching an
acceptable 'target state'. Similarly, there is also no
potential anaphoric reference for *doubt* in example (5) or

---

[40] The use of the '+' and '0' symbols, which - in the examples (4)-(15) -
follow the notation of the syntactic status, will be explained later
(see section 3.3, particularly page 84f.). Here, the symbols are only
used to make it possible to refer back to these first examples once
the '+' and '0' symbols have been introduced.

attempt in example (6) in their respective previous contexts.
Thus, since the focus of interest is on online processing
rather than the analysis of 'system sentences' and a
concomitant judging of syntax independent of semantics,[41] the
status of the syntactic channel in the tone unit boundary
immediately following such nouns is judged to be non-final.

Sometimes, however, such nouns *do* have reference in the
previous context, so that the syntactic status in the tone
unit boundary immediately following them is then judged to be
final, e.g.:

(7)

```
As for Gerry,      once he saw      that his mother
    _____    ↑n+    ____        ↑n+            ____      ↑n+

had gained       her beach,       he began
    ____     ↑n+           _____   ↑n+          ___    N↓n+

the steep **descent**       to the bay.
    _____    ↑**f**+               ___    ↓f§0 [SEC, G01]
```

In example (7), there is potential completion (f) after
descent, since its destination, the bay, has been mentioned
in the previous context. Here, the protagonist shouted out:
"I'd like to go and have a look at those rocks down there."
Likewise, the following example (8) features potential
syntactic completion (f) after *the same problems* since we
have been told what "the major problem of the modern Artist"
is, namely "to reproduce on canvas the world that men know
yet present its meaning free from inherited traditions and in
a way that only the Artist sees it".

---

[41] The term 'system sentence' was introduced by Lyons to refer to "an
abstract, theoretical entity in the linguist's model of the language
system" (Lyons 1977: 29). Its principal function is to define the
concept of grammaticality (Lyons 1977: 387f., 419, 588, 632).

(8)[42]

```
one of the mAny remArkable things        about SIdney NOlan
              h                _____ ↑n+                  __    ↓n+

MA'am       is that […]
_____    ↑n+

he faced the same prOblems
              h     _____    ↓f+

as his great EuropEan contEmporaries
                              ___        ↓f0  [SEU, W.4.2 a)]
```

Apart from nouns without reference in the previous context other cases in which a judgement on the syntactic channel most conspicuously depends on textual organisation include:

- correlative and parallel constructions as *the same...as* (cf. (8) above), *greater...than*:

(9)
```
'Sensational coverage      on television',
       ___        ↑n+      ____        ↑n+

  said Westmorland,      'had a far greater impact
       ___      ↑n+                   __      ↓n+

  on the president      than my reports did.'
      ____        ↑n+                _____        ↓f§0 [SEC, A03]
```

- dummy *it* as anaphoric or cataphoric reference, for example in *it + copular verb + complement (clause)*:

(10)
```
it is too EArly      yet MA'am      to fOrecast
          H    ↓n+        _____ ↑n+      ____      ↑n+

  Average      Annual      OUtpull
  __      ↑n+  ___   ↑n+  ___        ↑f+ [SEU, W.4.2a)]
```

---

[42] Basically, the examples from the Survey of English Usage Corpus (SEU) as presented in Chapters 3 and 4 have been stripped off the original transcription symbols (see page 58). However, capital letters occurring *within* words, indicating the syllables to which formerly preceding notation symbols applied, have been kept. After all, they do not seem to impair the decoding of the text, and their removal would have been quite laborious again.

- verbs with different complementation patterns:

(11)

```
'One of the passengers ...       I overheard him saying
  h           H                ↓n$0                    N↓n+

that he'd been a pilot       in the war.       I'll get him.'
  __                ↑f+             ___  ↓f§+       ___      ↓f§0

She found the man       and asked him    to come to the galley.
  _____          ↑f&+       ___      ↑n+                ___  ↓f§0
                                                          [SEC, G04]
```

Here it is still not clear without some more specifically helpful information appearing in the previous context exactly what the stewardess would ask the passenger.

The cases specified so far all exhibited syntactic completion in the strictly slot-filling sense on the clause level, but not in the wider sense including potential semantic completion. I will now take a look at the opposite case, which demonstrates that semantico-pragmatic completion does not depend on syntactic completion, particularly not in spontaneous spoken language (cf. Ford/Thompson 1996: 154).

Studying spontaneous spoken language, Ford and Thompson (1996: 143f.) also do not reduce the definition of 'syntactic completion' to judging the well-formedness of decontextualised utterances, but include semantic completion:

> We include preceding context to the extent that it is responsible for the recoverability of reference, as in the case of answers, which do not require the full repetition of previous questions. […] A syntactic completion point, then, is judged incrementally within its previous context. […] So a syntactic completion point will sometimes follow a word, sometimes a phrase, sometimes a clause, and sometimes a multi-clausal unit.

This is quite in line with what has been observed by Mukherjee (2001: 58) with regard to discourse items like *yes*. In the following example, *yes* is analysed as syntactically complete since it forms its own turn and can be interpreted as short for *Yes, I mean to beat him at the game.*

(12)

```
and you mean to beat him at the game        said MAry
                 ____                    ↓f+        __   ↓f§0
```

yes
```
___  ↓f§0
```

```
well he has the edge on you
                 ____          ↓f§0
```

```
yes I know that        I said
     ____        ↓f0      L    ↓f§0 [SEU, W.3.1a) 1964]
```

In the same vein, *Me?* in example (13) could complete a turn,
just as *No*. The latter is also short for *No, I can't land the
plane.*

(13)

```
'Can you land the plane?'        said the doctor.
     ___                    ↑f0?                ___         ↑f§0
```

```
'Me?        No,        I'm not a pilot.
  H   ↓f§0   H   ↓f+                    ___        ↑f§0 [SEC, G04]
```

A borderline case, which remains by its very nature
debatable, is constituted by headlines. Though their block
language is incomplete in a strictly syntactic sense on the
clause level, it is usually possible to add the ellipses in
one's own mind, as, for example, *There is more news ...* in
(14) below. As a pragmatic unit, a headline can certainly be
considered to be complete. However, it normally serves as a
condensed introduction to the main ideas of a subsequent
text. The last aspect is considered decisive for analysing
headlines as non-final.[43] See the following long example of a
headline, in which the impression of incomplete information
is even strengthened by *more* at the beginning.

(14)

```
More       news        about the Reverend      Sun       Myung
 H    ↑n+   H   ↓n+                    ___        ↑n+  ___ ↓n+  _____ ↓n+
```

---

[43] In view of the whole corpus, headlines do not occur that often anyway,
so that it does not have to be feared that the results might be
distorted by this decision.

```
Moon,        founder       of the Unification church,
____  ↓n0   ____   N↓n+                    ___             N↓n0

who's currently in jail      for tax evasion:
   H                   ↑n+        ___              ↓n0 [SEC, A01]
```

In the above, I have tried to illustrate what Wichmann summarised as follows:

> It is possible for an utterance to be syntactically complete but pragmatically incomplete […]. Similarly an utterance can be syntactically incomplete but pragmatically complete […] (Wichmann 1993: 72).

As demonstrated above, an interpretation of 'syntactic completion' in natural discourse should include potential semantico-pragmatic completion. The latter, in turn, does not depend on syntactic completion on the clause level, particularly in spontaneous spoken language.[44] Since then the object of study is discourse rather than isolated sentences, the syntactic status in the talk unit model will not be determined detached from semantico-pragmatics, i.e. present communicative needs. In the following, this operationalisation of syntactic completion will be used in the parasyntactic analysis of Corpus 1. Apart from serving as a first check on Mukherjee's results for oral reading and from carrying forth the investigation of the interaction of syntax, semantico-pragmatics, tonality, tonicity and tones, this analysis will also serve as a further step in the revision of the talk unit.

---

[44] Ridgway puts it like this: "In discourse comprehension, syntactic cues are usually included in but also often overshadowed by semantic and pragmatic cues" (Ridgway 2000: 184).

3.1.2 Prosodic segmentation and parasyntactic variation in Corpus 1

Tables 6 and 7 below depict the results of the parasyntactic analysis in Reading Texts 1 and 2 of Corpus 1 as absolute and relative frequencies. In fact, all ten readers show the same tendency in the placement of tone unit boundaries. In Reading Text 1, the narrative text (see Table 6), about 43% of the tone unit boundaries on average can be found at syntactically non-final places (see the figures in bold print), while the larger part is situated at final places. In Reading Text 2, a more complex expository one (see Table 7), on average about 74% of tone unit boundaries occur at non-final places (see the figures in bold print).

This becomes even more obvious when one looks at the data in more detail. In Reading Text 1 (Table 6), the professional reader (R0) places 42.6% of his tone unit boundaries at syntactically non-final places. This is paralleled by the average figure for all nine amateurs (R1-R9): 42.6% again. The same tendency holds for Reading Text 2 (Table 7), where the professional reader (R0) locates 77% of his tone unit boundaries at non-final places, while the amateurs (R1-R9) still place them at on average 73.5% of their tone unit boundaries. There is thus only an average deviation between the professional reader and the amateurs of 3.5% in Reading Text 2. The deviations of the individual readers from the professional reader also remain rather low since they range between 0.2% (R4) and 4.7% (R8) in Reading Text 1 and 2.1% (R5) and 4.3% (R2, R3) in Reading Text 2. All this goes to show, then, that for reading, prosodic segmentation (tonality) is to a great extent predetermined by (medium-independent) syntax (including semantico-pragmatics, cf. 3.1.1 above).

Reading Text 1:

Absolute frequencies

R0	n	f	f&	f§	total
↑	48	9	4	2	63
↓	4	26	11	18	59
total	52		70		122

Relative frequencies[45]

R0	n	f	f&	f§	total
↑	39.3	7.4	3.3	1.6	51.6
↓	3.3	21.3	9	14.8	48.4
total	**42.6**		57.4		100

R1	n	f	f&	f§	total
↑	50	20	4	1	75
↓	4	15	10	20	49
total	54		70		124

R1	n	f	f&	f§	total
↑	40.3	16.1	3.2	0.8	60.4
↓	3.2	12.1	8.1	16.1	39.5
total	**43.5**		56.4		99.9

R2	n	f	f&	f§	total
↑	43	20	3	1	67
↓	1	13	11	20	45
total	44		68		112

R2	n	f	f&	f§	total
↑	38.4	17.9	2.7	0.9	59.9
↓	0.9	11.6	9.8	17.9	40.2
total	**39.3**		60.8		100.1

R3	n	f	f&	f§	total
↑	46	17	4	2	69
↓	3	16	11	18	48
total	49		68		117

R3	n	f	f&	f§	total
↑	39.3	14.5	3.4	1.7	58.9
↓	2.6	13.7	8.5	16.2	41
total	**41.9**		58		99.9

R4	n	f	f&	f§	total
↑	40	11	4	1	56
↓	10	22	10	20	62
total	50		68		118

R4	n	f	f&	f§	total
↑	33.9	9.3	3.4	0.8	47.4
↓	8.5	18.6	8.5	17	52.6
total	**42.4**		57.6		100

---

[45] Total percentages of more or less than 100.0 are due to rounding up or down.

Reading Text 1:

Absolute frequencies

R5	n	f	f&	f§	total
↑	33	8	1	1	43
↓	16	27	13	20	76
total	49		70		119

Relative frequencies

R5	n	f	f&	f§	total
↑	27.7	6.7	0.8	0.8	36
↓	13.5	22.7	10.9	16.8	63.9
total	**41.2**		58.7		99.9

R6	n	f	f&	f§	total
↑	39	10	3	1	53
↓	10	23	11	20	64
total	49		68		117

R6	n	f	f&	f§	total
↑	33.3	8.5	2.6	0.9	45.3
↓	8.5	19.7	9.4	17.1	54.7
total	**41.8**		58.2		100

R7	n	f	f&	f§	total
↑	39	8	1	___	48
↓	13	25	13	21	72
total	52		68		120

R7	n	f	f&	f§	total
↑	32.5	6.7	0.8	___	40
↓	10.8	20.8	10.8	17.5	59.9
total	**43.3**		56.6		99.9

R8	n	f	f&	f§	total
↑	51	8	1	3	63
↓	9	24	13	18	64
total	60		67		127

R8	n	f	f&	f§	total
↑	40.2	6.3	0.8	2.4	49.7
↓	7.1	18.9	10.2	14.2	50.4
total	**47.3**		52.8		100.1

R9	n	f	f&	f§	total
↑	41	11	4	___	56
↓	9	20	10	21	60
total	50		66		116

R9	n	f	f&	f§	total
↑	35.3	9.5	3.5	___	48.3
↓	7.8	17.2	8.6	18.1	51.7
total	**43.1**		56.9		100

Table 6: Absolute and relative frequencies of parasyntactic
configurations in Reading Text 1 of Corpus 1
(R0: professional reader, R1-9: amateur readers;
↑: rising tone, ↓: falling tone; n: tone unit boundary
at a syntactically non-final place, f: tone unit
boundary at a potentially final place, f&: tone unit
boundary at a final place with the new syntactic
beginning to the right introduced by a coordinator,
f§: tone unit boundary at a syntactically final place
with a new syntactic beginning to the right.)

Reading Text 2:

Absolute frequencies

R0	n	f	f&	f§	total
↑	161	9	___	___	170
↓	64	16	9	33	122
total	225	67			292

R1	n	f	f&	f§	total
↑	116	4	___	___	120
↓	70	22	9	33	134
total	186	68			254

R2	n	f	f&	f§	total
↑	129	10	1	___	140
↓	50	15	8	33	106
total	179	67			246

R3	n	f	f&	f§	total
↑	118	11	___	1	130
↓	63	15	9	32	119
total	181	68			249

R4	n	f	f&	f§	total
↑	105	4	___	___	109
↓	92	21	9	33	155
total	197	67			264

Relative frequencies

R0	n	f	f&	f§	total
↑	55.1	3.1	___	___	58.2
↓	21.9	5.5	3.1	11.3	41.8
total	**77**	23			100

R1	n	f	f&	f§	total
↑	45.7	1.6	___	___	47.3
↓	27.6	8.7	3.5	13	52.8
total	**73.3**	26.8			100.1

R2	n	f	f&	f§	total
↑	52.4	4.1	0.4	___	56.9
↓	20.3	6.1	3.3	13.4	43.1
total	**72.7**	27.3			100

R3	n	f	f&	f§	total
↑	47.4	4.4	___	0.4	52.2
↓	25.3	6	3.6	12.9	47.8
total	**72.7**	27.3			100

R4	n	f	f&	f§	total
↑	40	0.8	0.4	___	41.2
↓	37.7	6	3	12.1	58.8
total	**77.7**	22.3			100

Reading Text 2:

Absolute frequencies

R5	n	f	f&	f§	total
↑	123	4	__	__	127
↓	80	22	9	33	144
total	203		68		271

Relative frequencies

R5	n	f	f&	f§	total
↑	45.4	1.5	___	___	46.9
↓	29.5	8.1	3.3	12.2	53.1
total	**74.9**		25.1		100

R6	n	f	f&	f§	total
↑	116	6	__	__	122
↓	73	19	9	33	134
total	189		67		256

R6	n	f	f&	f§	total
↑	45.3	2.3	___	___	47.6
↓	28.5	7.4	3.5	12.9	52.3
total	**73.8**		26.1		99.9

R7	n	f	f&	F§	total
↑	93	8	__	__	101
↓	88	17	9	33	147
total	181		67		248

R7	n	f	f&	f§	total
↑	37.5	3.2	___	___	40.7
↓	35.5	6.9	3.6	13.3	59.3
total	**73**		27		100

R8	n	f	f&	f§	total
↑	107	4	__	__	111
↓	83	22	9	33	147
total	190		68		258

R8	n	f	f&	f§	total
↑	41.5	1.6	___	___	43.1
↓	32.2	8.5	3.5	12.8	57
total	**73.7**		26.4		100.1

R9	n	f	f&	f§	total
↑	108	10	__	__	118
↓	71	14	10	33	128
total	197		67		246

R9	n	f	f&	f§	total
↑	43.9	4.1	___	___	48
↓	28.9	5.7	4.1	13.4	52.1
total	**72.8**		27.3		100.1

Table 7: Absolute and relative frequencies of parasyntactic configurations in Reading Text 2 of Corpus 1 (R0: professional reader, R1-9: amateur readers; ↑: rising tone, ↓: falling tone; n: tone unit boundary at a syntactically non-final place, f: tone unit boundary at a potentially final place, f&: tone unit boundary at a final place with the new syntactic beginning to the right introduced by a coordinator, f§: tone unit boundary at a syntactically final place with a new syntactic beginning to the right.)

Interestingly enough, Mukherjee (2001: 75) finds that in his collection of texts written to be read aloud – radio features, news broadcasts and letters to the editor (2001: 52) – the range of parasyntactic variation stays lower than in spontaneously spoken discourse. While in his read texts only four different parasyntactic configurations exhibit relative frequencies above the significance level of 5% (↑n, ↑f, ↓f, ↓f§),[46] "[i]n all other texts, at least five, but mostly six or seven configurations […] are used significantly often" (2001: 75). He thus concludes that a text's degree of planning and its range of parasyntactic configurations might be interdependent.

Looking at the range of parasyntactic variation above the significance level exhibited by the ten readers in the two texts of Corpus 1, we spot the same tendency for all ten readers, namely a decrease of parasyntactic variation with increased complexity and factual content of text in Reading Text 2. While in the performance of the narrative Reading Text 1 (see the shaded cells in Table 6) by the professional reader and the amateur readers 1, 2 and 3 (R0-R3), five different parasyntactic configurations show relative frequencies above the significance level of 5% (↑n, ↑f, ↓f, ↓f& and ↓f§), only four do so in the expository Reading Text 2 (see the shaded cells in Table 7): ↑n, ↓n, ↓f and ↓f§. For the amateur readers 4-9 (R4-9), the number of parasyntactic configurations above the significance level even changes from six in Reading Text 1 (↑n, ↓n, ↑f, ↓f, ↓f&, ↓f§) to four in Reading Text 2 (↑n, ↓n, ↓f and ↓f§ again). These results are hardly surprising, given that Reading Text 1 (dealing with personal experience and involving quoted direct speech) is, in terms of contents and style, somewhat similar to spontaneously spoken language (cf. Esser 1988: 13), while the

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[46] By counting frequencies of ≥5% as significant, Mukherjee applies a threshold level which is commonly accepted in linguistics (Mukherjee 2001: 72; cf. Butler 1985: 71).

factual style of Reading Text 2 is comparable to the read texts under scrutiny in Mukherjee's (2001) study. However, this analysis also suggests that we cannot just sweepingly assume "a correlation between the range of parasyntactic configurations and the degree of planning in a given corpus text" (Mukherjee 2001: 75), that is that the range of parasyntactic variation in reading is highly constrained (Mukherjee 2001: 126). What we might have to consider additionally as an important influence on the range of parasyntactic variation is a text's level of complexity and, connected to this, whether it provides factual contents and style, or entertainment, for example in the form of everyday stories. This aspect will be taken up again in Chapter 4. The use of tones in Corpus 1 will be addressed in section 3.3 below, but let us first of all take a closer look at the amount of detail necessary in the notation of tones.

3.2 The interdependence of tonal and semantico-pragmatic interpretation

In the Parallel Reading Corpus and the talk unit model to date, we only find the marking and analysis of falling and rising tones. In general, intonationists tend to interpret falling and rising tones as indicating 'closed information'/completion and 'open information'/incompletion respectively (e.g. Ladd 1996: 113f., cf. Mukherjee 2001: 18, 20ff.).

However, it is clear that such a broad generalisation glosses over those cases in natural language use in which a rising tone cannot satisfactorily be interpreted as indicating incompletion as, for example, at the end of questions or in connection with politeness or implication. In the same vein, Mindt (2001: 56) has recently called into question the broad interpretation of falling tones as

indicating completion. In her study, which is based on the mainly pause-defined transcription system of the Spoken English Corpus, she states that the function of falls seems to have been assessed inappropriately since she finds that the majority of falls do not occur at major tone group boundaries, where falls can most reasonably be assumed to express finality, but occur much more often *within* a tone group (where they do not function as nucleus) (Mindt 2001: 55, cf. also Esser 1988: 52ff.). She also finds a "gradience" of falls (57) in the pitch range of individual speakers, corroborated by acoustic measurements: on average, tones at major tone group boundaries are situated deeper in the speaker's range than falls within a tone group or at minor tone group boundaries (Mindt 2001: 55, 56f., 253, 259). She thus suggests that the function of falls might be related to their situation in the speaker's range in connection with their position (Mindt 2001: 56).[47]

Similarly, Liberman and Pierrehumbert (1984) found that the pitch range in declaratives is lowered and compressed in anticipation of the end of the utterance with final lowering reaching its greatest strength right at the end of the utterance: "The lower the end point [of pitch], the greater the degree of definiteness and conclusiveness" (Trim 1970: 265, cited in Couper-Kuhlen 1986: 88).[48]

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[47] The fact that "intonational meaning is conveyed not just by the choice of a particular tone, but by *both* the respective tone and the pitch range" was already stressed by Ladd (1980: 110). In Ladd's framework 'pitch range' refers both to overall height relative to the speaker's voice and relative width or steepness of pitch movement. Cf. Couper-Kuhlen's (2003: 185) criticism of the holistic interpretation of all rises as expressing incompletion and of all falls as expressing completion in Mukherjee's (2001) talk unit model.

[48] In a perceptual experiment Wichmann (1993: 77f.) also considered the *starting* point of sentence-final nuclear falls: it was systematically manipulated, i.e. adjusted to five different positions of height in relation to both the preceding f0 peak and any intervening f0 trough. The subjects were then asked to judge on a four point scale whether or not the speaker had something more to say. "[…] the lower the starting point of the fall, the greater the degree of perceived finality" (78); "the higher the starting point of the final fall, the less final the sentence is perceived to be" (80); "speakers may use a

Reminiscent of – and in accordance with – the window theory, boundary tones are thus seen as indicators of the directionality of interpretation for the current tone unit – "whether it is 'forward-looking' or not" (Pierrehumbert/ Hirschberg 1990: 308). This point is further illustrated by the following examples (15) and (16):

(15)a. My new car manual is almost unreadable
    b. It's quite annoying
    c. I spent two hours figuring out how to use the jack
                        (Pierrehumbert/Hirschberg 1990: 305).

If the boundary tone used in (a) is high (and low in (b)), the referent of *it* in (b) will be interpreted as 'the fact that my new car manual is almost unreadable'. While, if the boundary tone used in (a) is low (and high in (b)), the referent of *it* in (b) will be interpreted as 'my spending two hours figuring out how to use the jack' (cf. Pierrehumbert/Hirschberg 1990: 305). The early/late closure ambiguity is thus disambiguated prosodically.

Similarly, the following two different reading versions differ in their placing of final lowering, i.e. the domains of declination (indicated by full stops). This leads to changed utterance boundaries (cf. Thein 1994:97f.) and a concomitant change of propositions:

(16)   **printed version:**

    1. Nearly every family living in the city suburbs takes a
       vacation sometime during the summer.
    2. When the weather becomes warm, usually during July, Bob and
       Jane accompany their parents to the seaside.
    3. In order to reach their destination on the shore, they are
       obliged to travel over a mountain range.

    oral reading of a seven-year-old:

    1'. Nearly every family living in the city suburbs takes a
        vacation sometime during the summer, when the weather becomes
        warm, usually during July.
    2'. Bob and Jane accompany their parents to the seaside in order
        to reach their destination.

---

high fall to indicate that they have more to say on the matter and
should therefore not be interrupted" (82).

3'. On the shore, they are obliged to travel over a mountain
    range.

<div align="right">(Chambers 1987: 2)</div>

The read version makes claims which are not there in the
original text: owing to 'annexation' of the adverbial clause
when the weather becomes warm, usually during July and thus
'late closure' in 1', the statement made is that July is the
most popular month for a holiday for all the families in the
suburbs, not just for this particular family. 2' exhibits
annexation of *in order to reach their destination* and thus
contains the statement that the family has to travel together
in order to make all of them reach their destination.
Finally, 3' implies that the family reaches the shore before
a mountain range, while the original text implies the reverse
order. Shifts in final lowering and thus in declination
domains (here with a concomitant shift in the allocation of
adverbials) can consequently also lead to fundamental changes
in the macroproposition of a text.

These examples illustrate quite clearly that position of
falls in a speaker's range can – in addition to tonality,
tonicity and just falling and rising tone (cf. Esser 1992:
36-42) – have a disambiguating effect and thus serve as a
distinctive feature. It thus has to be considered if one
wants to do justice to authentic language material and
analyse *discourse* intonation rather than intonation in
isolated sentences. As House (1990) has pointed out,
consideration of overall pitch range, or tonal envelope, is
important for the constitution of a processing unit (PU):
"There will be a resetting upwards of key between PUs, each
PU constituting a declination domain" (House 1990: 52).

Accordingly, Ford/Thompson (1996) find that
'intonational completion', in the sense of a falling or
rising tone expressing completion (147), plays a major role
in determining a pragmatically complete utterance (171). They

thus integrate intonational completion in their definition of pragmatic completion:

> In our operationalization of the notion of pragmatic completion, an utterance was required to have a final intonation contour and had to be interpretable as a complete conversational action within its specific sequential context (Ford/Thompson 1996: 150).[49]

While they stress an interdependence of pragmatic completion and tonal completion, they also draw attention to the fact that these two do not always coincide with syntactic completion, particularly not in their object of study, spontaneous spoken language: "Syntactic completion points in English […] are *not* nearly always intonational [=tonal] and pragmatic completion points; […]" (154).

Similarly, Fernald/McRoberts (1996: 378f.), rejecting the idea that prosodic information fundamentally facilitates the recovery of syntactic structure, found: "prosody buys the infant *utterance* boundaries […], but only sometimes *clause* boundaries [highlighting: J.M.]" (378). Again, a close connection between pragmatics and intonation is stressed, without, however, explaining the nature of their relationship in more detail, since utterances are defined by pauses (> 300msec.) "often accompanied by other prosodic cues as well" (ibid). However, the assumption that tones are among the 'other' prosodic cues expressing utterance completion seems justified.

Thein (1994) and Wichmann (1993) equally express a rather strong connection between pragmatic and tonal completion:

> Man kann jedoch nicht […] grundsätzlich davon ausgehen, daß Tonhöhenbewegungen syntaktisch konditioniert seien. […] Die Bedeutungen der Tonhöhenbewegungen sind […] nicht lexikalischer Natur, bzw. die durch sie hervorgerufenen Kontraste sind nicht grammatischer, sondern textlinguistischer Natur.

---

[49] A 'complete conversational action' refers to a turn.

> [However, one cannot assume in principle that tone
> movements are syntactically conditioned. The meaning of
> tone movements is not of a lexical nature and contrasts
> evoked by them are not of a grammatical, but of a
> textlinguistic nature.]
> (Thein 1994: 152f.; translation: J.M.. Cf. also Couper-
> Kuhlen 1986: 148-150).

> It is possible for an utterance to be syntactically
> complete but pragmatically incomplete, as in 'I (fall-
> rise) like it.' which implies a subsequent 'but...'.
> Similarly an utterance can be syntactically incomplete
> but pragmatically complete, as in a falling tone on one
> word utterances such as 'Always' or 'Don't' (Wichmann
> 1993: 72).

Accordingly, native speaker 'voice artists'[50] are not
given (linguistic) instructions when to use, for example,
rising or falling tones, but they are rather given a
description of the situation, the semantico-pragmatic context
in which they have to imagine themselves to be. In other
words, the 'voice artists' are unaware of the concrete
(linguistic) strategies they use:

> […] since intonation is associated to a large extent
> with intention, motivation and emotional expressivity,
> the focus of an actor's work is more concerned with
> clarifying these aspects of communication than with
> particular instruction in intonation [personal
> communication with David Carey, Senior Lecturer
> in Voice Studies, The Central School of Speech and
> Drama, London].[51]

Given the thus repeatedly stressed close interrelation
between semantico-pragmatics and tone, Ridgway's (2000: 184)
remark that "in discourse comprehension, syntactic cues are
usually included in but also often overshadowed by semantic

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[50] This is one of several job titles commonly used for those involved in
professional audio production, many of them being trained actors.
Other titles include 'voice (over) talents', 'voice over artists',
'voice overs' or simply 'VOs'.
[51] This is in line with what I witnessed at Oxford University Press
recordings in London's Soundhouse studio in September 2000. The use of
'intonation' by non-linguists as in the quote above can be assumed to
refer mostly to tone, maybe tonicity and pauses, rather than the
linguistic notion of 'tone unit boundaries'.

and pragmatic cues" (cf. footnote 44 on page 68), can be compared to the following statement by House (1990), who focuses on the pragmatic function of intonation and mostly deals with tonicity and particularly tone: "Often, intonation simply echoes and reinforces grammatical structure; but if there is any apparent conflict, the inferences generated by intonation will win" (House 1990: 56). Correspondingly, Mukherjee (2001: 100) has stressed that if tone unit boundaries are primarily placed at potentially complete positions, the functional load on intonation increases.[52] This point will be taken up again later (see page 86ff.). In view of all the above (particularly Brazil 1993: 165; 1995: 48, 52; Ford/Thompson 1996: 150), semantico-pragmatic completion will here be operationalised as follows:

> a unit of discourse that satisfies communicative needs in the discourse conditions that exist at the time it is uttered and has a final intonation contour.

A felicitous phonic presentation thus calls for a definite marking of proposition boundaries and thus of utterance boundaries - often coterminous with clause- or sentence boundaries - sometimes by a rise but mostly by a fall which is situated deep enough in the speaker's range. In the transcription system originally used in the Spoken English Corpus, these boundaries tend to correspond to major tone group boundaries - for which Mindt (2001: 259f.) has proved the phenomenon of declination. In the analytic framework employed in the present study, these boundaries

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[52] Mukherjee's observation that the syntactic status in general has priority over the prosodic status (Mukherjee 2001: 100) is valid with regard to provision of the main, i.e. medium-independent, information. This becomes clear when we consider filtered speech. If speech is completely stripped of all medium-independent elements, listeners cannot decode information on the grounds of intonation alone. By contrast, the prosodic status seems to have priority over the syntactic status when it comes to signalling completion or incompletion in the actual performance at tone unit boundaries. Here, ambiguous medium-independent presentation structures are disambiguated by intonational clues (cf. House 1990: 56. Cf. also (15) and (16) above as well as the further examples below).

usually correspond to talk unit boundaries (see below).
However, tones expressing completion also regularly occur at
other places (see Chapter 4).

In this regard, Wichmann (1994) has pointed out that the
situation of tones in a speaker's range serves as an
important clue to discourse structure (including text
semantics). She found that the pitch of low troughs in the
pitch contour of a read text and their position in the text
relate systematically to the structure of the text,
suggesting that the speaker's pitch baseline may carry
important linguistic information:

> [t]his fall to the bottom of the range […] often
> referred to as a 'low terminal' (Brazil et al. 1980) […]
> is an important element in intonation theory because it
> is seen as delimiting an intonational domain, a concept
> which is essential for intonation analysis. This domain
> is assumed to be usually coterminous with a sentence.
> It seems then that the baseline of a speaker's pitch
> span carries important information: syntactic
> information regarding clause and sentence structure,
> semantic information regarding topic structure, and
> interactional information as in turn-taking (Wichmann
> 1994: 206). This shows speakers' ability to exploit
> prosodic signals for strategic reasons […] (Wichmann
> 1994: 211).

In view of what has been said in this section, the
consideration of the auditory impression of variations in
overall pitch range, particularly of 'final lowering', in
intonational interpretation, and thus in the talk unit, seems
indispensable, given the aim of studying the interaction of
intonation with syntax and semantico-pragmatics.

3.3 The use and interpretation of tone in a revised talk unit model

In the study of parasyntactic configurations in Corpus 1
above (cf. Tables 6 and 7 on pages 70-73), the tonal

deviations of the individual amateur readers (R1-9) from the professional reader (R0) in Reading Text 1 (Table 6) vary between 1.9% and 15.6%, the average deviation is at 2.1%. In Reading Text 2 (Table 7), the range of variation in terms of the allocation of tone is even somewhat broader since here the deviation of the individual amateur readers from the professional reader lies between 1.3% and 17.5%, with the average deviation at 11.1%. The readers' deviation in terms of allocation of tone is also displayed by their different performances when it comes to reading the more difficult Reading Text 2: while the professional reader and four other readers increase the amount of rises, the other five readers use more falls.

Compared to tonality (see above) and tonicity (see below) the choice of tone thus exhibits the greatest amount of variation over the parallel reading versions (cf. Figure 8 on page 92). However, according to Esser (1988: 83), the individual readers can often be shown to use the same reading strategy, i.e. the same abstract form, but different surface features.

In order to explain the facts assembled so far, let us take a closer look at the nature of the difference of reading performances in Corpus 1. In the following example (17), reader 5 (R5) uses a falling tone in the second tone unit. This performance would, according to the talk unit model to date, have been interpreted as expressing potential completion after *me.*

```
(17)     Today     he saw me     before I saw him.
   R5      ___↑       ___  ↓f                    H  ↓
                                             [PRC, Reading Text 1]
```

In point of fact, however, the fall used is not low enough to be considered final.

Reader 5 also belongs to those who increase their use of falls in Reading Text 2. In this syntactically more complex text a greater amount of incompletion had to be expressed.

Hence it can be assumed – also in line with Esser's observation of a relative consistency of abstract presentation structures (cf. page 19) – that those who increased their use of falls chose to employ falls which are situated higher in the speaker's range rather than rises to express incompletion. Such variability is in line with the model of multiple intonational realisations in reading symbolised by ⇒⇒⇒ in Figure 5 (cf. page 31).

The previous section stressed that both choice of tones and their situation in a speaker's range are not only always included, but actually seem to play a decisive role, in the signalling of actual semantico-pragmatic completion or incompletion to listeners. Even if not all points of intonational completion are also points of semantico-pragmatic completion (Ford/Thompson 1996: 150, 155), a speaker's pitch baseline is more generally claimed to relate systematically to text structure (cf. Wichmann 1994 on page 82 above). In a study which aims at the investigation of the interaction of intonation with syntax and semantico-pragmatics, the revision of the chosen device – the talk unit – to the effect that it is made to include the situation of tones in a speaker's range thus seems warranted.[53]

In a first step, I will therefore use a formal criterion in the course of my further analysis (see Chapter 4). I will add a '+'-symbol

- to low rising tones ⇡ and

- to those falls which remain ⇣ comparatively high in a speaker's pitch range ,
since these tones have commonly been associated with continuation (cf. DuBois et al. 1992, DuBois et al. 1993:

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[53] Cf. footnote 17 on page 28 again.

54; Wichmann 2000: 52).[54]

Furthermore, I will add a '0'-symbol

- to high rises and

- to falls which finish

  low in a speaker's range ,

since these tones have been associated with completion (cf. DuBois et al. 1992).

In a second step, I will then use a semantic criterion and check impressionistically whether the tonal information really tends to correspond to semantico-pragmatic information – at least in a felicitous phonic presentation.

Rising or falling tones marked with a '+'-symbol ('plus tones') are generally expected to occur at places in which they signal semantico-pragmatic incompletion to the listener and thus cause the listener to expect something to follow (cf. DuBois et al. 1992). This is illustrated by their occurrence in the first two tone units of example (18):

```
(18)  Today      he saw me     before I saw him.[55]
      R5    ___n↑+       ___   f↓+             ___  f§↓0
                                                    [PRC, Reading Text 1]
```

---

[54] Since narrow falls (N↓) are independent of declination (cf. page 47) they do not necessarily have a non-low endpoint (+). In the same vein, there are also falls other than narrow ones marked with a +.

[55] The professional reader even reinforces the expectation of a continuation after the second tone unit with a rising plus tone by placing the nucleus on *me*, thus anticipating a contrast:

```
        Today      he saw me     before I saw him.
      R0     _H_n↑+         _f↑+                 _H_f§↓0  [PRC, Reading Text 1]
```

Consequently, it seems that the placement of the nucleus, and, in the same vein, the use of high key, low key and emphasis may occasionally add to the expectancy of completion or incompletion at tone unit boundaries. Although the choice of tone situated at a particular place in the speaker's range (formal criterion) is expected to be highly conformant with the intended semantico-pragmatic interpretation (semantic criterion), the sequence pursued in the course of the analysis helps to ensure that the two can actually be distinguished. What is primarily marked by '+' or '0' at tone unit boundaries is the kind of tone used. Only in a second step is the semantico-pragmatic context checked impressionistically for whether the expression of completion or incompletion would make sense. This procedure warrants that clashes between choice of tone and semantico-pragmatic information can be detected (cf. page 130f.).

In contrast, rising or falling tones marked with a '0' ('zero tones') are generally expected to be used as markers of utterance completion. This is the case with the falling zero tone after *him* in example (18). Rising zero tones can be expected to occur at the end of many yes-no questions (cf. Couper-Kuhlen 2003: 185) and in cases in which the rising tone primarily serves to express emotions such as, for example, admiration. They can also be expected to occur in polite or implicatory remarks, as in (19):

(19)

```
But what I can't understand is why, as he was leaving,
I should have said to him,    to George,    my friend,
                ____          n↑+      _____    n↑+      _____   n↑+

"Goodbye, Sir."
          ___      f§↑0 [PRC, Reading Text 1]
```

After *him* and *Sir* in examples (18) and (19) above, we have reached the end of a 'major talk unit'. This will be defined as follows:

> A major talk unit is completed when potential semantico-pragmatic completion in medium-independent presentation structures is confirmed as *actual* semantico-pragmatic completion by either a falling or a rising tone associated with completion.

Potential semantico-pragmatic completion often includes – although it does not necessarily have to – completeness of a grammatical sentence (cf. section 3.1.1 above). This is the case in example (18) above.

The basic assumption underlying this study (cf. Figure 5 on page 31) is that the competent reader makes his choice of tones - including their situation in the speaker's range - in accordance with information provided by the co-text so far and in accordance with the following information, which is available to him due to the phenomenon of the eye-voice span (see Figure 7 on page 88). He can thus signal felicitously to the listener how to interpret the information presented so

far and/or whether something is to follow or not. The listener's competence of the language as well as his familiarity with the preceding co-text is the precondition for his (successful) use of tones as support in information processing, particularly when alternative patterns of continuation are possible (cf. Nagel et al. 1996: 341). In example (20), the syntactic status after *preparing* is marked as potentially final (f) since the hostesses might just be going in for a general preparation. However, the use of a rising plus tone on *preparing* helps to make clear that more information is to follow and thus supports the transitive interpretation of this verb (cf. 'idiom/collocational principle' in section 1.1.1.1 on page 7).

(20)
```
It was Christmas Eve      1959,       and the beginning
              ___  f↓+      _ f↑+               ___       n↓+

of another      routine flight.      The hostesses
     ____    n↓+             _____   f§↓0        ___      n↑+

started      preparing     the food trays.
_____   n↓+     _____   f↑+     ____            f§↓0 [SEC, G04]
```

Similarly, in the case of *attempt* (example (6) on page 63) above, it would strictly speaking (in terms of a system sentence) still be conceivable (although rather unusual) that the clause finished after *attempt* and some explanation was given in a new sentence. Here, however, the choice of a rising plus tone (↑+) serves as a valuable indicator to the listener that a continuation is about to follow. This, again, supports lexico-grammatical pattern expectancies like *attempt [+ to]*.

Thus, the use of tones and their situation in a particular region of the speaker's pitch range is - in a felicitous phonic presentation - assumed to support information processing by indicating actual semantico-pragmatic (in)completion (cf. 3.2 above). In accordance with the window theory (see page 18f.) we therefore expect the

notation of plus and zero tones at tone unit boundaries to capture – more or less reliably - whether another tone unit is anticipated or not.[56] Hence, tone unit boundaries are regarded as 'expectancy-relevance places' (cf. Monschau/ Kreyer/Mukherjee 2003). Given the restricted horizon of the decision-making, the object of expectancy can be referred to as 'local (semantico-)pragmatic completion' (cf. Ford/ Thompson 1996: 150f.).

Figure 7 illustrates the assumptions for the choice of type of tones situated at a particular place in a speaker's range and their interpretation by the listener at tone unit boundaries, as reported in the above.
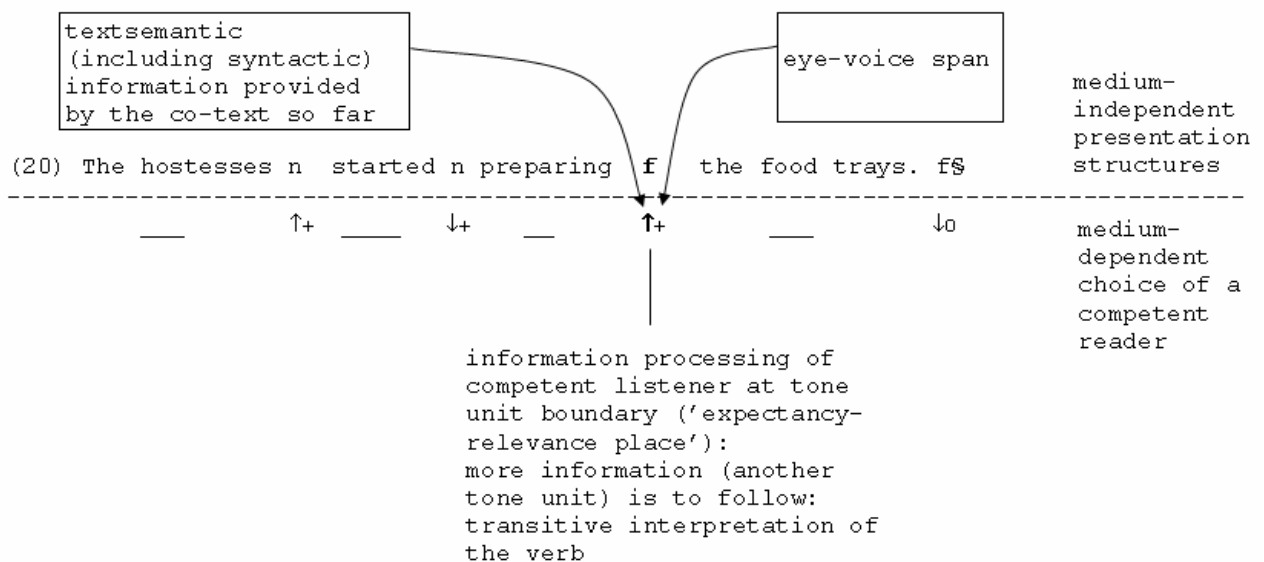
Figure 7: Use of tones situated in a particular region of the
          speaker's pitch range as indicator of actual
          semantico-pragmatic completion/incompletion

Since tone (situated in a speaker's range) is assumed to be the decisive factor in the assessment of actual semantico-pragmatic completion, the order of notation in the talk unit model will be reversed as has already been done in examples (18)-(20) above. For the sake of greater iconicity, marking

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[56] The extent to which such connections between tonal and semantico-pragmatic information actually occur in a sample of (mostly professional) oral reading will be systematically investigated in Chapter 4.

of the syntactic status (final or non-final in the sense
outlined in 3.1 above) will be followed by the notation of
rising (↑) or falling tone (↓) and its situation in a
speaker's range (+ or 0). It is expected that, in most cases,
the latter will serve as an indicator of the listeners'
expectancy whether something is to follow or not. However,
this will be checked in a second step of the analysis (cf.
pages 84f. above, footnote 55 on page 85 and footnote 56 on
page 88).

While tones are thus assumed to be determined primarily
by semantico-pragmatics rather than just by syntax (in the
slot-filling sense), there again seems to be a stronger
relation between syntax and tonicity. In Arnfield's (1994)
investigation of the relation between prosodic annotation and
word class tags in the Spoken English Corpus, predictability
of intonation is only at 65% when the occurrence of certain
tones is considered in addition to stress (_Prosody Prediction
Model_). By contrast, predictability of intonation is over 91%
in the mere _Stress Prediction Model_: "The results of the PPM
suggest that the _placement_ of stress accents is predictable
from structure and word class information, but that the
direction of the stress accent is not" (Arnfield 1994: 84;
cf. page 20 above). The following section will direct
attention to general observations on tonicity for its
additional consideration in the interaction of intonation
with syntax and semantico-pragmatics.

3.4 Additional consideration of tonicity

The fact that predictability of intonation in Arnfield's
(1994) stress prediction model is at 91% suggests that accent
placement is mostly – but not exclusively – determined by
syntax and morphology. In addition to syntactic factors,
semantico-pragmatic factors are assumed to influence accent

placement: "it is now generally believed that syntactic, semantic and discourse/pragmatic factors are all involved in accent decisions" (Hirschberg 1993: 310, cf. 315, cf. Ladd 1980: 80).

The function/content word distinction already makes possible the allocation of a large proportion of tonics (cf. Thein 1994: 185). Factors which are determined by semantico-pragmatics and also need to be considered in accent placement include: 'point of information focus' and 'emotional highlighting' (Bolinger 1972: 635; Ladd 1980: 71), the given/new distinction and contrastiveness (Hirschberg 1993: 310).[57]

In order to get a first impression of the adequacy of Arnfield's result that accent placement is primarily determined by syntax, I will check on accent placement in Reading Texts 1 and 2 of Corpus 1. In reading aloud, the nucleus is found to be often placed at the end of tone units, i.e. a high proportion of tone units is found to exhibit end-focus (cf. Esser 1988: 9). As for the placement of the nucleus in Reading Text 1 (see Table 8 on page 91), the professional reader is found to realise the principle of end-focus most often, namely in 82% of his tone units. The lowest proportion of tone units exhibiting end-focus, realised by reader 2, still amounts to 67% of her tone units. The extreme deviation from the professional reader thus amounts to 15%, the average deviation of all the amateur readers from the professional reader is at 8.4% (cf. Figure 8 on page 92).

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[57] Cf. the example in footnote 55 on page 85.

Reader	Reading Text 1		Reading Text 2	
	absolute frequency	relative frequency	absolute frequency	relative frequency
0	100 (of 122)	82%	256 (of 292)	87.7%
1	91 (of 124)	73.4%	230 (of 254)	90.6%
2	75 (of 112)	67%	215 (of 246)	87.4%
3	89 (of 117)	76.1%	219 (of 249)	88%
4	85 (of 118)	72%	243 (of 264)	92%
5	88 (of 119)	73.9%	244 (of 271)	90%
6	90 (of 117)	76.9%	214 (of 256)	83.3%
7	89 (of 120)	74.2%	200 (of 247)	81%
8	95 (of 127)	74.8%	227 (of 258)	88%
9	86 (of 116)	74.1%	208 (of 246)	84.6%

Table 8: Tone units with end-focus in relation to all tone units in Corpus 1

In Reading Text 2, which is more complex, all of the readers exhibit an even greater tendency for end-focus, in particular for one-word tone units, which might be related to the high proportion of complex phrases (cf. Esser 1988: 7). The percentage of proclitic tone units ranges from 92% (reader 4) to 81% (reader 7), with the professional reader at 87.7%. Thus, extreme deviation is at 6.7% (reader 7), average deviation at 0.5%. Figure 8 depicts the results for tonicity in an overview of the average deviation between the professional reader and the amateur readers in tonality, tones and tonicity:
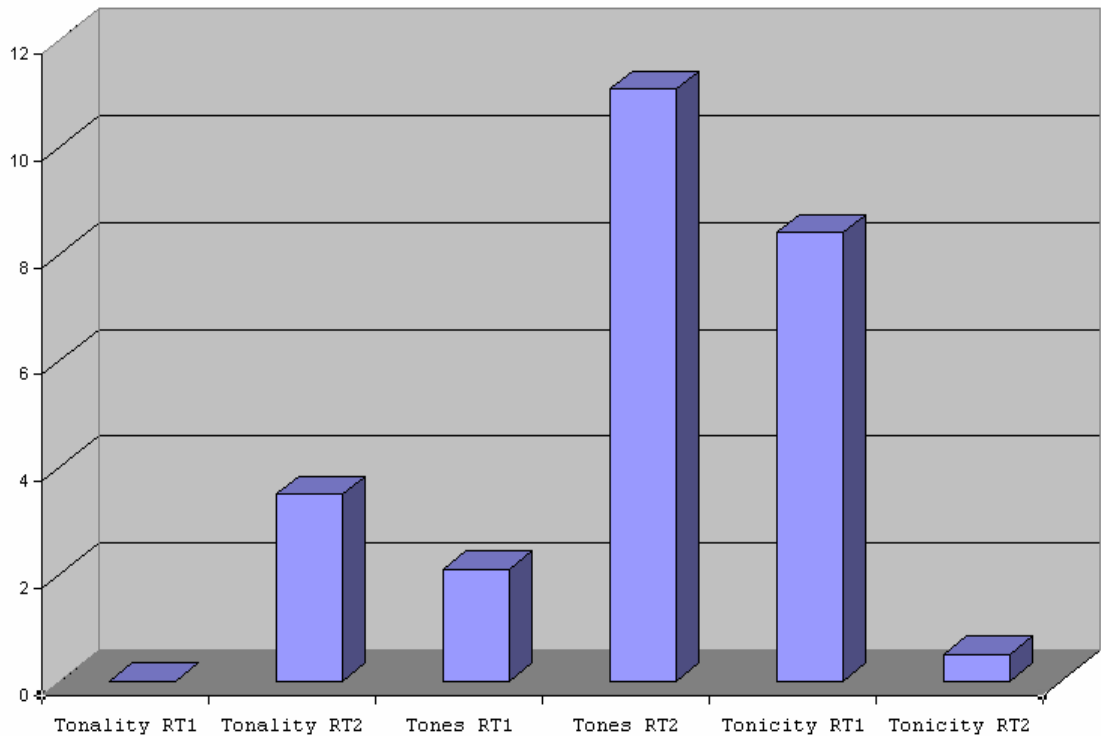
Figure 8: Average deviation of amateur readers from the
professional reader in %

Figure 8 illustrates that the average deviation between the
professional reader and the amateur readers goes up for
tonality and tones (when just simple falls and rises were
marked) with increasing complexity of the underlying text. It
seems reasonable to assume that the lower amount of deviation
displayed by tonality is due to its high amount of
determination by syntax. The great amount of variation in
tones was explained above by the comparability of rises with
falls which are situated higher in the speaker's range for
expressing incompletion. The tendency displayed by tonicity
is contrary to tonality and tone: the more complex nature of
medium-independent structures in Reading Text 2 seems to
promote the readers' falling back on end-focus by default.
This observation will receive further attention in Chapter 4.

In section 3.5, the interaction of syntax and semantico-
pragmatics with tonality, tonicity and tone as it has shown
in this chapter so far will be summarised. Against this
background, I will also provide a summary of the revised talk
unit model (in section 3.6).

3.5 The basic interaction of syntax, semantico-pragmatics and intonation

The following two figures illustrate the basic interaction of syntax, semantico-pragmatics and intonation which is assumed on the basis of the data and the references presented in this Chapter. The interaction is described
- 1) from the point of view of the reader: Figure 9 depicts the use of syntax and semantico-pragmatics as reading cues for 'translation' into the spoken medium;
- 2) from the point of view of the listener: Figure 10 depicts the use of tonality, tonicity and tone situated at a particular place in the speaker's pitch range as listeners' cues for supporting information processing.
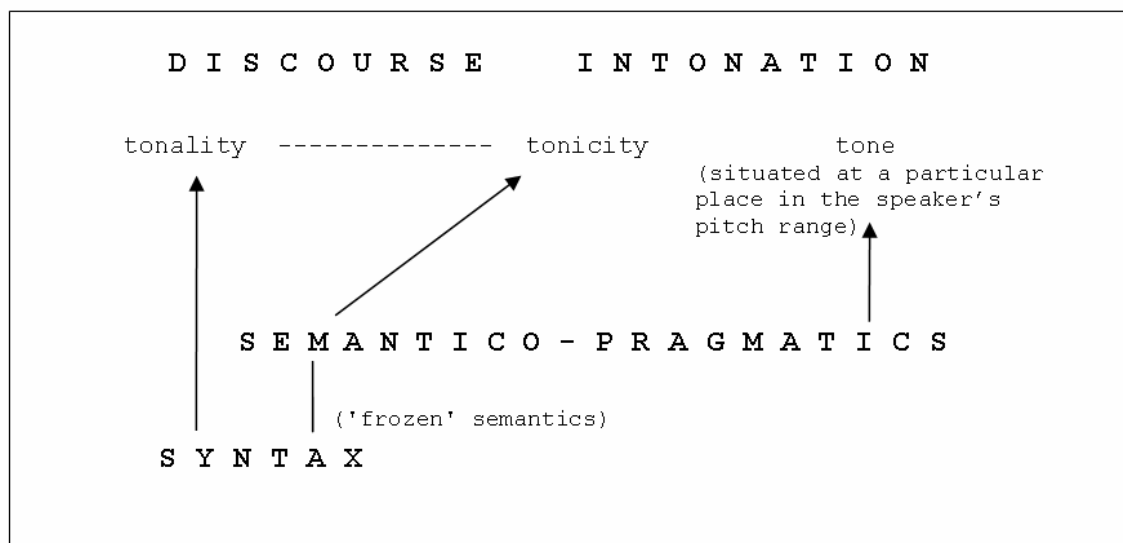
Figure 9: Decoding-encoding of the oral reader

In Figure 9, the arrow leading from 'syntax' to 'tonality' is meant to show that tonality is largely determined by syntax. This is primarily deduced from the results of Corpus 1 above. In the two very different texts of this corpus, the placement of tone unit boundaries by amateur readers was found to agree to a considerable extent with the placement of tone unit boundaries by the professional reader. While in the narrative text, about 43% of tone unit boundaries occur at

syntactically non-final places, the syntactically more complex expository Reading Text 2 exhibits on average 74% of tone unit boundaries at syntactically non-final places. In the placement of tone unit boundaries, the extreme deviation between the professional reader and the amateur readers also stays rather low. It thus seems reasonable to assume that readers unanimously draw on syntax as a cue to the placement of tone unit boundaries (tonality).

It was also pointed out above that tonicity seems to be still largely triggered by syntax, but that it is additionally influenced by semantico-pragmatic factors. In Figure 9, this is shown by an arrow reaching from 'syntax' through semantico-pragmatics to 'tonicity'. The line between 'syntax' and 'semantico-pragmatics' illustrates at the same time that these two levels of language description are connected, since the constituents of sentence or clause structure and sequences of them actually present 'frozen semantics' (cf. footnote 36 on page 60). The broken line between 'tonality' and 'tonicity' indicates that these two are connected via the tendency to place the nucleus on the last word of a tone unit in oral reading. This tendency was shown to go up with increasing syntactic complexity in Reading Text 2 of Corpus 1 above. Finally then, the arrow pointing from 'semantico-pragmatics' to 'tone situated at a particular place in the speaker's pitch range' indicates that semantico-pragmatics rather than syntax is the decisive factor for choice of tone including its situation in the speaker's range (cf. particularly Ford/Thompson 1996: 150, Thein 1994: 152f. and Wichmann 1993: 72 on page 79f.). All in all, Figure 9 thus provides a more differentiated description of what Allen (1966: 743) has formulated globally like this: "The way in which a person reads a given text aloud reflects the syntactic and semantico-pragmatic analysis he has made mentally".

Viewed from a complementary perspective, this means that the reader's (felicitous) use of tonality, tonicity and tone may, for its part, be assumed to support the listener's decoding of the medium-independent information presented to him. This was particularly demonstrated for tone above (cf. page 87f.).

```
+-------------------------------------------------------------+
|                                                             |
|      D I S C O U R S E    I N T O N A T I O N                |
|                                                             |
|   tonality --------------- tonicity            tone         |
|                                       (situated at a particular place |
|                                        in the speaker's pitch range)  |
|                                                             |
|                              ▲                  ▼           |
|      S E M A N T I C O - P R A G M A T I C S                |
|                              :                              |
|                              :                              |
|                    ('frozen' semantics)                     |
|      ▼                                                      |
|      S Y N T A X                                            |
|                                                             |
+-------------------------------------------------------------+
```
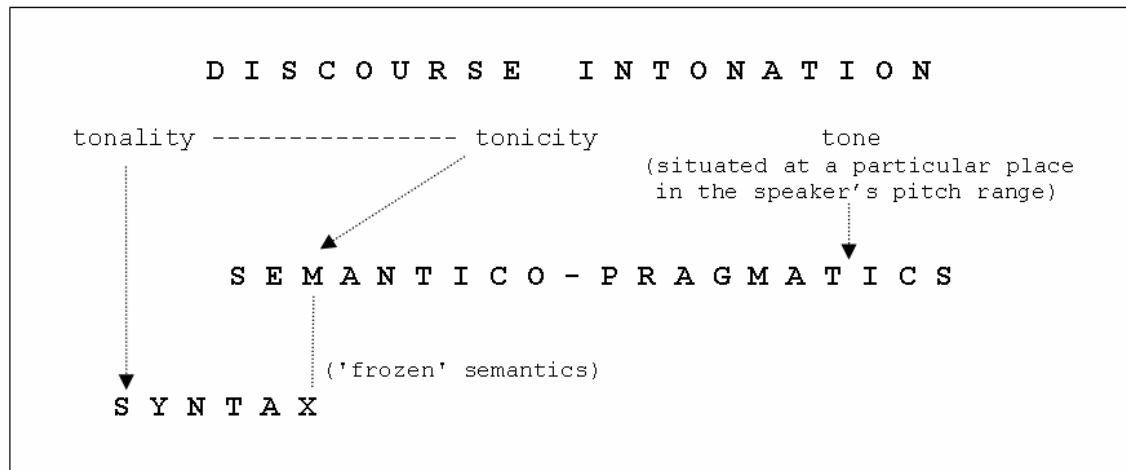
Figure 10: Supportive function of tonality, tonicity,
           and tone in the decoding of the listener

According to House (1990), "[t]he varied functions of intonation can be coherently integrated if we consider its role to be strictly pragmatic" (42). In concrete terms, this pragmatic contribution is stated to make "explicit the distribution of background and foreground information in the utterance" (44). Not surprisingly, since in line with Figures 9 and 10 above, the way in which this (semantico-pragmatic) interpretation is achieved is exclusively discussed by means of examples of tonicity and tones. The latter are additionally associated with "various attitudinal, social, illocutionary, etc. meanings" (House 1990: 55; cf. 48). Apart from tonicity and tone, House (1990: 39) initially also mentions tonality as part of Halliday's (1967a) 'three distinct meaningful choices'. However, tonality is then dismissed by an initial statement that tone units "tend to be associated with units of grammatical description, such as the

clause, or the noun phrase, though not in a strictly predictable way" (38). This is again in line with the scheme above. However, House does not consider the syntactic motivation of tonicity, which – as Arnfield's (1994) corpus analysis and my study of tonicity in Corpus 1 suggest – even seems to exert a decisive influence on accent placement.

Figures 9 and 10 seem to offer a comparatively comprehensive overview of the interaction of syntax and semantico-pragmatics with all the relevant features of intonation - tonality, tonicity and tone including consideration of speaker's range. This overview is in line with the data and the references presented in this Chapter. Figures 9 and 10 thus also illustrate that the sweeping statements of a more or less fixed connection between syntax and (often just one feature of) intonation and vice versa, held by normal intonation and text-to-speech synthesis approaches on the one hand (direction of *individual* arrows in Figure 9) and approaches dealing with the disambiguation of temporary syntactic ambiguities through intonation on the other (direction of *individual* arrows in Figure 10), do not do justice to the actual complexity of the interaction between the different levels of language description.

3.6 The revised talk unit

As demonstrated above, the judgement on completion or incompletion at tone unit boundaries in discourse is not just influenced by strictly syntactic factors, but additionally by semantico-pragmatic ones (see section 3.1). The talk unit model thus has to be expanded to include the semantico-pragmatic level, i.e. the consideration of textual organisation (see page 62) in the talk unit model seems appropriate (cf. Table 9). It was shown that - apart from tonality, tonicity and just falling or rising tone - the

situation of tones in a speaker's pitch range may also serve a disambiguating function (cf. particularly (15), (16), (18) and (20) above). It thus has to be considered if one wants to do justice to analysing *discourse* intonation.

Presentation Structures of		Activity
Form	Substance	
Presentation of encoder: styles (words, syntax **and textual organisation**) of written language	Graphic presentation of encoder: orthography and punctuation	Writing (encoding)
	Phonic presentation of decoder-encoder: **discourse** intonation, allomorphs of connected speech	Reading (decoding-encoding)

Table 9: Presentation structures and activities involved in reading aloud (cf. Esser 1999: 248)

In the talk unit model, tone units are interpreted as information units (Halliday 1967b: 200; 1994: 295) and tone units are thus regarded as base units on the prosodic, syntactic and semantico-pragmatic level. Accordingly, the syntactic status achieved (in the sense explicated in 3.1 above) is annotated at each tone unit boundary together with the choice of tone, including its situation in a speaker's range. The latter is assumed to reflect the actual semantico-pragmatic status achieved at a tone unit boundary (cf. Ford/Thompson 1996 and Figures 9 and 10 above). In other words, the former talk unit model is expanded and optimised by the notation of listeners' expectancies with regard to semantico-pragmatic completion, i.e. by considering tone to a larger extent than has been done in the talk unit model so far. In this way more justice will be done to the analysis of natural language use and we can hope to gain even more enlightening results, particularly with a view to the interaction of intonation, syntax and semantico-pragmatics.

On the whole, charting the frequency and distribution of the symbols which are used to analyse the two channels in Corpora 2 and 3 (cf. Table 1 on page 25, Table 5 on page 58 and page 84f. in section 3.3 again), is expected to give some sort of systematic insight into the interaction of intonation, syntax and semantico-pragmatics. Given House's (1990: 56) remark quoted above on the frequent matching of grammatical and intonational information, it is to be expected that the combinations spotted most often will be syntactically non-final or potentially final with tones expressing incompletion (n⇑+, n⇓+, f⇑+, f⇓+), as well as syntactically final with tones confirming actual completion (f§⇓0, f§⇑0). Comparatively rare but all the more of particular interest will be the potential occurrence of seemingly contradictory combinations as n⇓0, n⇑0, f⇓0, f⇑0, f§⇓+, f§⇑+, f&⇓+, f&⇑+, f&⇓0 and f&⇑0. The frequency and distribution of parasyntactic configurations in Corpora 2 and 3 is what we will look at in Chapter 4.

4 Medium-independent presentation structures and their 'translation' into medium-dependent presentation structures

This chapter presents the analysis of typical domains of oral reading, that is of genres which we regularly encounter in the form of oral reading in our everyday lives, above all, News, Commentary and Fiction, but also Formal Scripted Speech (Corpora 2 and 3: cf. Table 3 on page 43). The results of the parasyntactic analysis in these genres will be presented (4.1) and will first of all be explained with regard to tendencies in the medium-independent channel (4.1.1) in the individual text types (4.1.1.1-4.1.1.4) as well as with regard to general encoding strategies used in oral reading across the different text types (4.1.1.5). This will be followed by a discussion of the use of tones (4.1.2). The combined discussion of tonality and tones (4.1.3) and the treatment of tonicity (4.2) will then again point up the interaction of these features of intonation with syntax and semantico-pragmatics. After a short remark on pauses (4.3) the chapter will conclude with an overview of patterns found in typical domains of oral reading and by listing the features of a felicitous phonic presentation (4.4).

4.1 Parasyntactic configurations in Corpora 2 and 3

Tables 10.1-15.2 below (pages 100-103) present the results of the parasyntactic analysis of Corpus 2 (material from the Spoken English Corpus) and Corpus 3 (material from the Survey of English Usage Corpus)[58] as absolute and relative frequencies.[59] The tables depicting the results for the individual text types are presented in the order of a cline that we can observe in the typical domains of oral reading

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[58] See Table 3 on page 43 again.
[59] Total percentages of more or less than 100.0 are due to rounding up or down.

studied here. It ranges from Speech through News and
Commentary to Fiction. While in Speech, News and Commentary
the largest proportion of tone unit boundaries is at non-
final places (61.9%: cf. Table 10.2; 58.5% and 62%: cf.
Tables 11.2 and 12.2; 55.2%: cf. Table 13.2), tone unit
boundaries in Fiction can predominantly be found at final
places (60% and 55.4%: cf. Tables 14.2 and 15.2).
Correspondingly, the average length of a talk unit ranges
from 8 tone units in Speech (1087 tone units divided by 133
completed talk units: cf. Table 10.1 below) through 7 tone
units in News and 6 in Commentary to between 4 (Spoken
English Corpus) and 5 (Survey of English Usage Corpus) in
Fiction.

	n	n$	f	f&	f§	total
↑+	432	---	113	9	---	554
↓+	229	---	72	6	---	307
↑0	---	---	---	1	2	3
↓0	11	1	55	25	131	223
total	673		414			1087

Table 10.1: Absolute frequencies of parasyntactic
configurations in the Speech from the Survey of
English Usage Corpus (SEU)

	n	n$	f	f&	f§	total
↑+	39.7	---	10.4	0.8	---	50.9
↓+	21.1	---	6.6	0.6	---	28.3
↑0	---	---	---	0.1	0.2	0.3
↓0	1	0.1	5.1	2.3	12.1	20.6
total	61.9		38.2			100.1

Table 10.2: Relative frequencies of parasyntactic
configurations in the Speech from the Survey of
English Usage Corpus (SEU)

	n	f	f&	f§	total
↑+	547	175	16	3	741
↓+	137	75	2	---	214
↑0	---	---	---	---	---
↓0	5	30	25	161	221
total	689	487			1176

Table 11.1: Absolute frequencies of parasyntactic
configurations in the News from the Spoken
English Corpus (SEC)

	n	f	f&	f§	total
↑+	46.5	14.9	1.4	0.3	63.1
↓+	11.6	6.4	0.2	---	18.2
↑0	---	---	---	---	---
↓0	0.4	2.6	2.1	13.7	18.8
total	58.5	41.6			100.1

Table 11.2: Relative frequencies of parasyntactic configurations in the News from the Spoken English Corpus (SEC)

	n	f	f&	f§	total
↑+	476	151	15	2	644
↓+	206	67	3	---	276
↑0	---	---	---	---	---
↓0	4	16	15	152	187
total	686	421			1107

Table 12.1: Absolute frequencies of parasyntactic configurations in the News from the Survey of English Usage Corpus (SEU)

	n	f	f&	f§	total
↑+	43	13.6	1.4	0.2	58.2
↓+	18.6	6.1	0.3	---	25
↑0	---	---	---	---	---
↓0	0.4	1.4	1.4	13.7	16.9
total	62	38.1			100.1

Table 12.2: Relative frequencies of parasyntactic configurations in the News from the Survey of English Usage Corpus (SEU)

	n	f	f&	f§	total
↑+	459	129	13	1	602
↓+	77	46	---	---	123
↑0	---	---	---	4	4
↓0	3	52	32	161	248
total	539	438			977

Table 13.1: Absolute frequencies of parasyntactic configurations in Commentary from the Spoken English Corpus (SEC)

	n	f	f&	f§	total
↑+	47	13.2	1.3	0.1	61.6
↓+	7.9	4.7	---	---	12.6
↑0	---	---	---	0.4	0.4
↓0	0.3	5.3	3.3	16.5	25.4
total	55.2	44.8			100

Table 13.2: Relative frequencies of parasyntactic configurations in Commentary from the Spoken English Corpus (SEC)

	n	n$	f	f&	f§	total
↑+	343	1	168	37	3	552
↓+	84	---	90	11	3	188
↑0	---	---	5	1	19	25
↓0	1	1	58	23	225	308
total	430		643			1073

Table 14.1: Absolute frequencies of parasyntactic configurations in Fiction from the Spoken English Corpus (SEC)

	n	n$	f	f&	f§	total
↑+	32	0.1	15.7	3.4	0.3	51.5
↓+	7.8	---	8.4	1	0.3	17.5
↑0	---	---	0.5	0.1	1.8	2.4
↓0	0.1	0.1	5.4	2.1	21	28.7
total	40.1		60			100.1

Table 14.2: Relative frequencies of parasyntactic configurations in Fiction from the Spoken English Corpus (SEC)

	n	n$	f	f&	f§	total
↑+	275	---	120	16	7	418
↓+	184	1	100	7	6	298
↑0	---	---	8	1	18	27
↓0	8	1	69	37	192	307
total	469		581			1050

Table 15.1: Absolute frequencies of parasyntactic configurations in Fiction from the Survey of English Usage Corpus (SEU)

	n	n$	f	f&	f§	total
↑+	26.2	---	11.4	1.5	0.7	39.8
↓+	17.5	0.1	9.5	0.7	0.6	28.4
↑0	---	---	0.8	0.1	1.7	2.6
↓0	0.8	0.1	6.6	3.5	18.3	29.3
total	44.7		55.4			100.1

Table 15.2: Relative frequencies of parasyntactic
        configurations in Fiction from the Survey of
        English Usage Corpus (SEU)

The following Figure 11 visualises the individual
parasyntactic configurations above 5% in each text type (cf.
Tables 10.1-15.2).
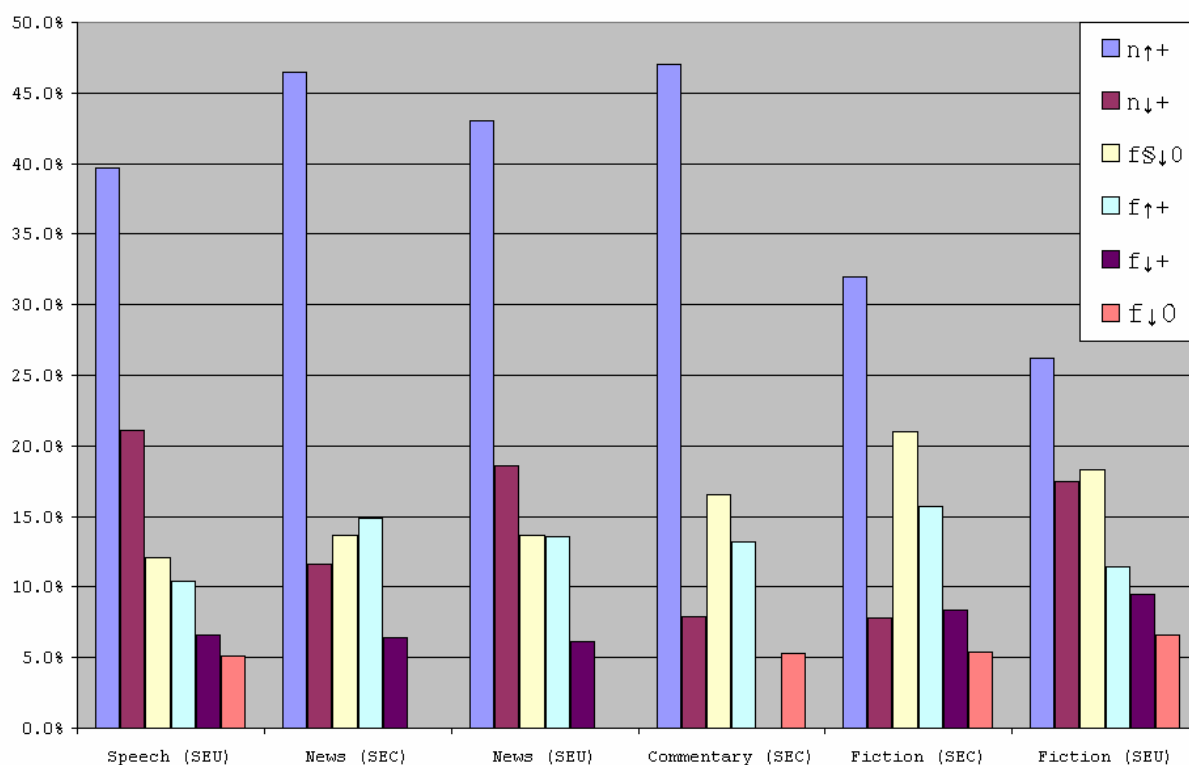
Figure 11: Parasyntactic configurations above 5%

The Figure shows that, across the different text types,
basically the same five to six parasyntactic configurations
exhibit a frequency above 5%.[60] The slightly higher range of

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[60] See footnote 46 on page 74 for this significance level. As mentioned
    above (cf. page 74), in Mukherjee's collection of texts written to be
    read aloud, only four different parasyntactic configurations show
    relative frequencies above the significance level (Mukherjee 2001:

parasyntactic variation in Fiction could be connected with the entertaining character of this category, which features direct speech, so that a similarity with spontaneous spoken language is established.[61] After all, Fiction (like Formal Scripted Speech) not only exhibits a slightly higher number of parasyntactic configurations above 5% (6) than News and Commentary (5), but also, its proportion of parasyntactic configurations below 5% is spread over twelve and eleven configurations in SEC and SEU Fiction respectively. By contrast, those parasyntactic configurations below 5% in the other text types are just spread over half as many, six (Commentary, SEU News) or seven (Speech and SEC News), parasyntactic configurations (see Tables 10.1-15.2 on pages 100-103 again). Although the slightly higher number of parasyntactic configurations in the Speech could still be connected with the entertaining anecdotes, with which the University Orator tries to provide the information on academics receiving an honorary degree, it at least also seems to be connected with the desire to split up the extremely long sentences underlying the performance of this reader. After all, the concrete configuration by which he differs from the next category in the cline of parasyntactic variation (SEC News) is f↓0.

The configuration marking the end of a talk unit (f§↓0), which is the third most frequent configuration in Speech and the News, changes to the second position in Commentary and Fiction. Since a chunk of information is inactivated in the hearer's language-processing working memory if it is marked

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75). He thus concluded that "[d]ue to the careful preparation of these texts (and writing them down), a wide range of parasyntactic configurations is presumably not necessary since the text has been prefabricated in a syntactically unambiguous and textually clear way" (Mukherjee 2001: 76; cf. 126). For a reliable assessment of parasyntactic variation in reading, it would be necessary to apply the revised talk unit model to samples of spontaneously spoken discourse, too.

[61] Cf. Mukherjee (2001: 76): "With decreasing degree of planning and level of formality, the range of parasyntactic configurations has to be widened".

as prosodically and syntactically complete (Mukherjee 2001: 114), information processing can be assumed to be made easier in Commentary and Fiction, i.e. in the categories of opinionated, in-depth informing on one topic and of entertainment. Particularly for the former, this might be an important precondition for keeping the listeners' attention.

Each of the typical domains of oral reading studied here exhibits the repeated occurrence of particular semantic units (see below). These semantic units are usually expressed in particular syntactic units, which then tend to be accommodated in individual tone units (Halliday 1994: 295; 1967b: 200)[62] and thus exert an influence on the typical length of a talk unit in a particular genre. Accordingly, Chafe and Danielewicz (1987: 98-102) have sweepingly mentioned such syntactic units as typical devices for packing more information into an 'intonation unit'.[63] Such syntactic units include: sequences of prepositional phrases, complement/relative clauses, present/past participles and attributive adjectives (ibid). The following section will describe the semantic and concomitant syntactic units, which are most typically found in the tone units of the individual text types. It will thus illustrate patterns of prosodic segmentation (tonality), including the coming about of the

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[62] Cf. the following description of newsreading by Brown (1990: 93): "It is clear that in general the newsreaders divide the texts which are presented to them on the basis of the *immediate constituent* structure of the sentence. The most likely break is between the two major constituents of the sentence, subject and predicate. The next most likely break will occur within a long subject phrase and/or within a long predicate phrase. This break will also depend on the constituent structure – in each case a clause or phrase which modifies the subject or predicate, gives extra information about them, is likely to be separated off into a tone group of its own."

[63] This unit is described as typically containing "one or *more* highlighting J.M.] intonation peaks, […] that usually but not always are separated from each other by pauses" (Chafe 1988: 397). Being contour- as well as pause-defined, this unit is often co-extensive with a clause: "Their grammatical form is variable, but the majority are single clauses" (Chafe 1988: 397). Thus, intonation units seem rather to correspond to talk units than to tone units in the transcription system used here.

average length of a talk unit, in Speech, News, Commentary and Fiction.

4.1.1 Tonality in the individual text types

4.1.1.1 Tonality in the Speech

In the Formal Scripted Speech, a university orator praises the achievements of individual academics as part of a ceremony in which they are awarded an honorary doctorate by the University of London. Their qualities are mostly described in postmodifications, be it prepositional phrases, relative clauses or non-finite clauses. Insertions of that kind then often lead to a delay of following obligatory clause elements and thus to a high amount of tone-unit boundaries at non-final places (61.9%, cf. Table 10.2 on page 100 above). In example (21), the subject of the that-clause is delayed by this technique:

(21)
```
one of the mAny remArkable things      about SIdney NOlan
          h               _____ n↑+                __      n↓+

MA'am       is that born and brought up in MElbourne
_____    n↑+                                ___         n↑+

with lIttle trAIning as an Artist
                       __      n↑+

and free from EUropEan tradItions in pAInting
                                      ____      n↓+

he faced the same prOblems      as his great EuropEan contEmporaries
          h    ____    f↓+                              ___          f↓0
                                                    [SEU, W.4.2a)]
```

In example (22), one of the anecdotes the orator inserts for entertainment, two time adjuncts - a prepositional phrase (*on another occasion*) and a noun phrase postmodified by an adverbial (*three centuries later*) - delay the subject, which

is then itself postmodified by a prepositional phrase and a non-finite (present participle) clause. The latter contains two co-ordinate object clauses (embeddings), of which the first even features another relative clause (*believing that it was the law which needed...and that he should...*). In this way, the verb phrase is only 'released' after 9 non-final tone unit boundaries.

(22)
```
on anOther occAsion       three cEnturies lAter
     h          ___        n↑+                    __      n↑+

a prIsoner in the dock       belIEving
                  ____ n↑+      ___        n↑+

that it was the law      and not himsElf
             ___ n↑+                  ____  n↑+

which nEEded refOrm       and that he should begIn
             ____ n↑+                          ___  n↑+

with the judIciary      decIded to take the nEcessary steps
     __         n↓+      h                          _____  f↓+

without wAIting for a commIssion
             ___          f§↓0   [SEU, W.4.2a)]
```

It is the use of such insertions providing information in a condensed form, and delaying following obligatory clause elements, which makes the average length of a talk unit in Formal Scripted Speech amount to 8 tone units. This mode of presentation is certainly rather demanding on the listeners and is thus suited for an address of people with an appropriate educational background on formal occasions like official events. This is quite in line with the observation by Chafe and Danielewicz (1987), who find that the intonation units, i.e. talk units (cf. footnote 63 on page 105 above), of academic writers "are maximally long, with frequent use of all the devices by which intonation units can be expanded" (Chafe and Danielewicz 1987: 111).

4.1.1.2 Tonality in the News

The News generally offer short and precise information about several topics. At the introduction of a new topic the details given on the subject are often spread over several tone units. The subject is very often postmodified by (sometimes several) prepositional phrases, a relative clause or a non-finite clause (see (23) and (24) below). The subject phrase is occasionally also expanded by an apposition or a co-ordinated phrase (see (25) below).

(23)

```
Workers     from the Gartcosh    steel works     near Glasgow,
  H     n↑+             ____ n↓+ _____      n↓+        ____  n↓+

who've marched to London    as part of a campaign
        ___     n↑+                  _____ n↑+

to save    the plant    from closure,     have held a meeting
 ____ n↑+      _____ n↑+     ___    nN↓+      ____          ↓f+ […]
                                                        [SEC, B04]
```

(24)

```
the inqUIry    in SYdney    Into the collIsion
   ___   n↑+    ___  n↑+          ____   n↑+

last month    betwEEn the AustrAlian AIrcraft cArrier MElbourne
  _____ n↓+                                   ___        n↑+

and the dEstroyer VOyager    in which EIghtytwo men
         ___       n↑+             ____        n↑+

died     has been told
____  n↑+        ____ n↑+  […] [SEU, W.2.1 a)]
```

(25)

```
the jOckey    of SOlar Charge    the fAvourite
  ____    n↑+        _____ n↓+    __      n↑+

for this Afternoon's LIncolnshire
                ___            n↓+

has been tAken    ill
  __    n↑+  ___ f&↑+  [SEU, W.2.1 a)]
```

Very often the source of an individual news item, i.e. either people or organisations in charge of a particular

topic or involved in an event, is mentioned explicitly for the sake of objectivity, so that we come across frequent use of indirect speech, i.e. embeddings. Accordingly, authorities as individual politicians – whose demands and arguments often form the contents of the News – correspondents, spokesmen, committees, departments and the like are often quoted indirectly, e.g. *Mr Heath said…*, *a Dublin hospital spokesman said…*, *the disciplinary committee said that…*, *The Department of Employment says…, the forecasters say that…*. Sometimes an authority is thus 'built up' by explicit mention of his or her function, often in the form of a title, so that the subject then extends over more than one tone unit because of premodification (cf. (26) below).

(26)

```
The secretary general     of the building societies association,
          ___     n↑+                                        __     n↑+

Mr. Richard Weir,      said the outlook     for January
         ____  n↑+                  ___     n↑+     ____    n↑+

was less      encouraging;
    ____  n↑+      ____       f&↓0 [SEC, B04]
```

In the News, we also often come across the use of the passive voice. In this way, the person or thing affected by an action appears in initial position as topic since the effect a particular event has had on somebody or something - the result as, for example, damage - is often of primary concern. Thus, the agent does not have to be mentioned and, if it is left out, it is either understood, not known (consider crime) or not that important. However, it does occasionally still turn up in a later sentence. The agent can also be added in a by-phrase at the end and thus be particularly emphasised ('end-focus'). In this position, it often undergoes further elaboration so that the whole talk unit is lengthened again:

(27)

```
An estimated forty     -nine      thousand teachers
          _____ n↑+  ____ n↓+  ____              nN↓+

have been called out     by their three unions,
          ___ f↑+                  H            f↑+

who're holding    a series    of rallies    around the country,
     ___         n↑+  _____ n↑+   H_____ f↓+        _____ f↑+

in support      of their campaign    for an independent pay review.
     ____ nN↓+             _____ n↓+                ___        f§↓0
                                                         [SEC, B01]
```

The above-mentioned phenomena of precision, indirect
quotations as well as passives have been shown to be
responsible for the relatively long average length of talk
units in News (7 tone units, cf. Tables 11.1 and 12.1 on page
100f.). Constructions like these have also been found to
cause more 'detachment' from the audience (cf. Chafe 1982:
45f.; Chafe 1985: 117f.; Chafe/Danielewicz 1987: 105-110;
Chafe 1986: 36; Beaman 1984: 48f.).

4.1.1.3 Tonality in Commentary

Commentary provides in-depth information on usually one
topic. Thus, by contrast to the News, where we encounter new
subjects usually spread across several tone units at least
with every new topic, Commentary usually makes do with fewer
content words and instead makes more use of cohesive devices
as e.g. partial repetition and use of pronouns. As in example
(28), then, subject and verb every now and then occur
together in one tone unit.[64] Here, *the assembly* refers back
to the previously mentioned *Autumn assembly of the British
Council of Churches.* The next tone unit already contains an
object, so that compared to the Speech and the News we get
less placing of tone unit boundaries at non-final places,

---

[64] Accordingly, the average length of a tone unit in Commentary is
slightly longer than in the other domains of oral reading studied
here, cf. Table 18 on page 143 below.

although the tone unit boundaries at non-final places still
predominate in Commentary on the whole.

(28)
The assembly will also be discussing
        <u>H</u>   n↑+

the UK immigration laws,
    ____   f↑+ [SEC, A01]

In contrast to the indirect and embedded constructions in the
News, the commentators seem to present their contribution as
direct speech. This includes the use of first person
references (*going by my postbag*, SEC A01), emphatic particles
and rhetorical questions. As a result, there is more
'involvement' with the audience (cf. Chafe 1982: 46ff.; Chafe
1986: 35; Chafe/Danielewicz 1987: 105-110). All the above
seems to correspond to the comparatively shorter average
length of a talk unit in Commentary: 6 tone units.

4.1.1.4 Tonality in Fiction

Aiming primarily at entertainment and thus easy processing,
it is hardly surprising that Fiction, particularly when
compared to Formal Scripted Speech, generally exhibits short
clauses. This also corresponds to the frequent simulation of
spontaneous spoken language, i.e. occurrence of direct
speech, which again leads to more involvement with the
audience (cf. Chafe 1986: 36). In Fiction, a whole clause can
thus often be accommodated within one tone unit, resulting in
a large proportion of tone units at places which were
classified as syntactically final or potentially final (f§,
f, f&) as well as in a comparatively short average length of
a talk unit: between 4 and 5 tone units. Consider examples
(29) and (30):

(29)

'Oh! There you are Gerry,'
 h   __H__   f↓0

she said.
     ____   f§↓0

She looked impatient,
             ___   f↓0

then smiled.
     ____   f§↓0 [SEC, G01]

(30)

I wanted to get some Christmas presents,
                _____   f&↑+

and I needed to find some books
                      __H__   f↓+

for my course
      __H__   f↓+

at college
   _____   f↓0

(you see, I'm a student).
             ___   f§↓0 [SEC, G03]

4.1.1.5 General tendencies in tonality across the different text types

Apart from the tendencies in the individual text types, we can also identify patterns in tone unit placement across the individual text types studied here. First of all, there is the strategic placement of tone unit boundaries for increasing anticipation as already observed by Mukherjee (2001: 107-111). In example (31), taken from the short story "Through the tunnel", the revelation of what the protagonist caught a glimpse of, is delayed by the (author's) adjunct insertion *as he retreated*, which the reader then also translates as an extra tone unit. The reader then additionally splits up the prepositional phrase *of a harmless*

tentacle of seaweed by placing a tone unit boundary after
harmless.

(31)

```
He pushed himself out        backwards           and caught a glimpse
            ___ f↑+      ____       f&↑+                    __H___    n↑+

as he retreated        of a harmless        tentacle of seaweed
    _____   n↓+          ____     n↑+              ___        f↑+

drifting in the mouth of the tunnel,
    ____        f&N↓0 [SEC, G01]
```

Secondly, a scene is often portrayed in its details by
the use of a sequence of one-word tone units, which
systematically put emphasis on every single aspect of a
scene. In (32), the tone unit boundaries comprising just one
word describe the English boy's perception of the foreign
boys and of all those of their qualities which still make him
feel like an outsider: the dark colour of their skin and the
way they watch him.

(32)

```
all of them     were burned   smooth    dark     brown
L           n↑+       ____    n↑+ _____ n↑+ ____ ↑n+ _____   f&↓0

and speaking a language    he did not understand.
        ____        n↑+                    _____  f§↓0

[…]

He swam a little closer;      they turned     and watched him
            ____     f§↓0¦         ____   f&↑+         _____        f↑+

with narrowed    alert     dark     eyes,
    ____        n↑+ ____ n↑+ ____ n↑+ ___   f§↓0  [SEC, G01]
```

Similarly, (33), taken from the News, evokes not just a large
number of striking teachers in the listeners' minds but also
the picture of the way in which they are voicing their
protest: *chanting ('No sellout')*.

(33)

```
Leaders       of the teaching unions       in England and Wales
___      n↑+          _____            nN↓+               H    n↓+

are meeting in London     to discuss their pay dispute.
              ___      f↓+               _____            f§↑+

As they arrived for the talks     they were met
        H                         n↑+           ___ nN↓+

by more than 500

          five
        ____  n↑+

          hundred
        ___        nN↓+

striking        teachers       chanting       'No sellout'.
____      nN↓+  _____    f↑+  ____    nN↓+¦    ____ l   f§↓0¦ [SEC, B03]
```

And in (34), again taken from the News, the individual emphasis on *would↑ go↑ forward↓* helps to transport the determination of the person quoted indirectly.

(34)

```
The agreement     was established     and would
   ____      n↑+          ___      f↑+       _____ n↑+

go      forward.
__ n↑+ ___       f§↓0 [SEC, B04]
```

This observation qualifies Bolinger's (1982, 1989) description of professional reading. He accuses professional readers of putting emphasis on more or less every word to "make sure that nothing is missed" (Bolinger 1989: 393) in a mechanical way of reading without internalising, i.e. of using too much end-focus and concomitantly too many one-word tone units. The inadequacy of this reproach will be dealt with in depth later (in 4.2). Suffice it to say here that only the occurrence of two tone units within a word (cf. examples (35) and (36) below) seems to be a phenomenon of an exaggerated presentation by professionals. However, this occurs only four times within the whole corpus (Corpus 2 A03, A08, B03; Corpus 3 W.3.1 a)) and thus remains such an extremely rare phenomenon that it does not really exert a disturbing influence.

(35)

It's a year   to the day   since the main union,
     ____ n↑+   ___ n↓+   ____   n↑+

the Educational   Institute   of Scotland,
     __   n↑+ __   n↑+   ____   n↑+

led by Mr John   Pollock,   held their first
     ____ n↑+ ____   n↑+   ____ n↑+

one-day strike   of the present **cam   paign**.
     _____ fN↓+   ___n↑+ __L__ f§↓0 [SEC, B03]

(36)

At **Heath   row** once,   a large   and stern
   _____ n↑+ ___   n↑+   _____ n↑+   _____ n↓+

security lady   got quite excited
   ___   n↑+   __   f↑+

by my beard trimming scissors.
     _____   f§↓0 [SEC, A08]

4.1.2 Tones

Table 16 (page 116) presents the results for tones from
Tables 10.1-15.2 above separately. In all text types, the
largest proportion of tones used is a rise generally
interpreted as expressing incompletion (↑+). Considering the
percentage of *all* tones apparently expressing incompletion,
i.e. falls associated with incompletion (↓+) additionally
(see the figures in bold print), we spot a similar cline for
the individual text types as the one observed for the
syntactic status at tone unit boundaries above. Formal
Scripted Speech and News have changed order, but both exhibit
a proportion of plus tones of about 80%. Then Commentary and
Fiction follow again with about 70% of tones apparently
expressing incompletion.[65]

---

[65] The results of about 80% in Formal Scripted Speech and News and about
70% in Commentary and Fiction are comparable to the percentage of
rises found by Mukherjee (2001: 82) in the written texts read aloud in
his corpus: 78%.

type of tone	Formal Scripted Speech SEU (60s)	News SEC (80s)	News SEU (60s)	Commentary SEC (80s)	Fiction SEC (80s)	Fiction SEU (60s)
↑+	50.9	63.1	58.2	61.6	51.5	39.8
% of ↑	99.5	99.9	100	99.3	95.7	93.9
↓+	28.3	18.2	25	12.6	17.5	28.4
% of ↓	57.9	49.2	59.6	33.2	37.9	49.3
total of plus tones	**79.2**	**81.3**	**83.2**	**74.2**	**69**	**68.2**
↑0	0.3	----	----	0.4	2.4	2.6
% of ↑	0.5	----	----	0.7	4.3	6.1
↓0	20.6	18.8	16.9	25.4	28.7	29.3
% of ↓	42.1	50.8	40.4	66.8	62.1	50.7
total of zero tones	20.9	18.8	16.9	25.8	31.1	31.9

Table 16: The percentage of tones associated with incompletion and completion in the individual text types

The predominance of tones interpreted as expressing incompletion across the text types is obviously due to what has been referred to as 'principle of resolution' (cf. Quirk et al. 1985: 1036). Rather than just applying to a sequence of rises followed by a fall, it can be interpreted as more generally referring to a sequence of tones expressing incompletion eventually followed by a tone expressing completion (see (37) below and (38) on page 118).

(37)
Mr. Leon Brittan,
   ———— n↑+

said
———— n↑+¦

he's not
  E n↓+

planning to resign
   ———— f↓0 [SEC, B04]

It is striking that News as well as Fiction exhibit virtually the same results for the expression of incompletion and completion in the 60s and the 80s. Thus, 81.3% of tones in the SEC News (in Corpus 2) and 83.2% of tones in the SEU News (in Corpus 3) signal incompletion. In SEC Fiction (in

Corpus 2), 69% of tones are used to express incompletion and in SEU Fiction (in Corpus 3) 68.2%. This observation is quite in line with the expectancy that the same text types should yield very similar results (cf. Mukherjee 2001: 79-84). Thus, the mode of presentation of the typical domains of oral reading Radio News and Fiction seems to have stayed fairly consistent over the years.[66]

While incompletion is still mostly expressed by a rise and completion is mostly expressed by a fall, the individual categories exhibit differences with regard to the amount of rises used to express completion as well as with regard to the main use which is made of falls. Since Fiction typically includes the reading out of direct speech or train of thought, it also contains the expression of emotions and questions. This explains the comparatively high amount of rises expressing completion ($\uparrow$0). Commentary and Formal Scripted Speech at least still feature rhetorical questions, while the factual style of News does not feature such rises at all.

Only in Commentary and SEC Fiction is the largest part of falls clearly used to express completion (see the shaded cells in the lower half of Table 16), in SEC News and SEU Fiction the amount of falls used to express completion on the one hand (50.8% and 50.7%) and incompletion on the other (49.2% and 49.3%) is almost equal (at nearly 50:50), while in SEU News and Formal Scripted Speech the largest proportion of falls (59.6% and 57.9% respectively) is employed to express incompletion (see the shaded cells in the upper half of Table

---

[66] A diachronic change in terms of an increased tendency to use rises has only been suggested for spontaneously spoken language and only with regard to rises expressing completion ($\uparrow$0). Thus, it is not to be expected in the respective samples of News and Fiction studied here anyway: "There is the often-noted use by younger British speakers of a final rise in statements: the pattern designated "high rising terminal" (HRT) by Cruttenden and others (Cruttenden, 1995), also described as "uptalk" (Ladd, 1996, p.284). Such prosodic innovations may be the tip of the iceberg in terms of diachronic change in prosodic systems of British English over the last 30-40 years" (Peppé/Maxim/Wells 2000: 319).

16). This differing use of tones is apparently mainly caused by idiosyncratic choices of the individual readers (⇒⇒⇒).[67] Unfortunately, no information on their regional background, i.e. their dialect, is available. However, the high amount of incompletion expressed by falls in SEU Fiction (49.3%), which decisively contributes to this category's standing out from the others by a general predominance of falls (28.4%↓+ + 29.3% ↓0 = 57.7%), definitely also has to be put down to conveyance of a gloomy mood as in example (38).[68] By contrast, the stories chosen from the Spoken English Corpus (SEC) are mostly amusing.

(38)
```
as we lay at Anchor        off MErcury Island
           __        n↓+              __        n↓+

we were surrOUnded      by death        and mYstery
            _____    f↓+       _____  f↓+       ___      f§↓0

[…]

and we were sure        that he and his crew
           _H__  n↓+                       ____   n↓+

were dEAd
       ____  f&↓0   [SEU, W.3.1 a)]
```

Despite the distinct ways used to express completion and particularly incompletion, the samples of News and Fiction taken from the 60s and 80s corroborate that we find relative agreement in the proportion of completion and incompletion expressed on the whole in each text type. Hence, in spite of distinct choices in substance, there is relative consistency in the choice of abstract presentation structures within each text type. Thus, Mukherjee's (2001: 125) claim that "the

---

[67] Cf. Arnfield's (1994: 84) finding that use of tones is hardly predictable (see pages 20 and 89).

[68] Cf. Ladd (1996: 113f.): "Broadly speaking, high or rising pitch signals interest, arousal, and incompleteness, while low or falling pitch signals absence of interest and hence finality and rest. This fundamental opposition between high and low (or up and down) is clearly seen in the use of pitch range for obviously emotional expression – raised voice for active emotions such as anger or surprise and lowered voice for boredom, sadness, and the like."

choice of tone type is also largely automatised in reading"
holds with regard to abstract presentation structures, i.e.
with regard to the predominant expression of incompletion
rather than with regard to concrete substance.

4.1.3 Tonality and tones combined:
parasyntactic configurations

This section will present an in-depth discussion of the
relationship between syntax, intonation (in terms of tones)
and semantico-pragmatics in oral reading as can be concluded
from the analysis of Corpora 2 and 3 with the revised talk
unit model. As can be seen in Tables 10.1 - 15.2 (pages 100-
103) and as is illustrated in Figure (12) below, syntactic
information, tonal and semantico-pragmatic information tend
to correspond most of the time.

$$\text{syntax} \quad \overset{\wedge}{=} \quad \text{intonation (tones)} \quad \overset{\wedge}{=} \quad \text{semantico-pragmatics}$$

$$(a) \quad n \quad \overset{\wedge}{=} \quad \uparrow+/\downarrow+ \quad \overset{\wedge}{=} \quad +$$

$$(b) \quad f(\text{\$}) \quad \overset{\wedge}{=} \quad \downarrow 0/\uparrow 0 \quad \overset{\wedge}{=} \quad 0$$
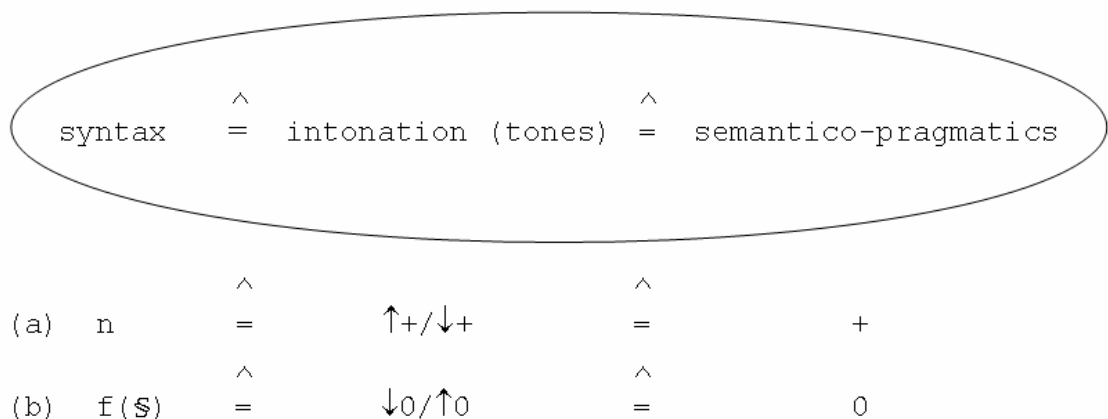
Figure 12: Agreement of syntactic, tonal and semantico-
          pragmatic information in the majority of cases

Taking all syntactic incompletion points which are also tonal
and thus assumed semantico-pragmatic incompletion points,
i.e. all $n\uparrow+/\downarrow+$, together with all syntactic completion
points which are also tonal and thus assumed semantico-

pragmatic completion points, i.e. all f(&, §)$\downarrow$0/$\uparrow$0, we can already account for 76.8% of the parasyntactic configurations in the corpus.[69] Considering information hierarchy and the principle of resolution, it is hardly surprising that the largest part of corresponding information, in all of the categories, goes back to incompletion points. For the whole corpus, this proportion amounts to 53.3%, while corresponding information expressing completion is only at 23.5%.

The percentage of incompletion in all cases of corresponding syntactic, tonal and semantico-pragmatic information is slightly above 75% in Speech (75.5%), SEC News (76%) and SEU News (78.8%). However, it drops to 68.3% in Commentary and to 56.4% and 58.6% in SEC Fiction and SEU Fiction respectively. Accordingly, the proportion of completion in cases of corresponding information increases in Commentary and particularly in Fiction. So while in the Speech and the News, on average three of four cases of corresponding information can be put down to incompletion, this ratio is only 2:1 in Commentary and not far from 1:1 in Fiction (cf. Figure 13).

---

[69] Potential completion is here counted among completion points, assuming the point of view of the listener (see Figure 12 (b) above, cf. Ford/Thompson 1996: 143ff.; 154). Even if just n$\uparrow$+/$\downarrow$+ and f**s**$\downarrow$0/$\uparrow$0 are counted as strictly corresponding syntactic and tonal information, this already covers roughly 70% (69.8%) of all the parasyntactic configurations in the working corpus here (Corpus 2 and 3), cf. Tables 10.1-15.2.
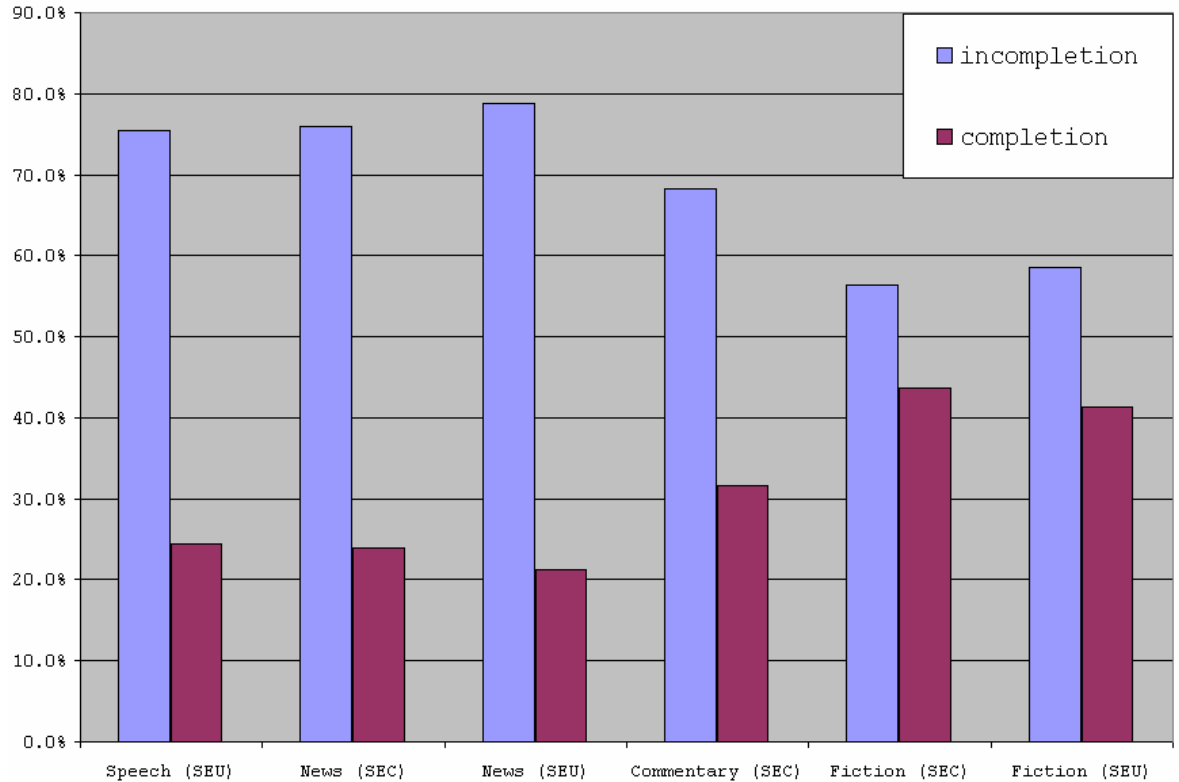
Figure 13: Growing proportion of completion points in
corresponding information in Commentary and Fiction

However, apart from these cases of corresponding
syntactic, tonal and semantico-pragmatic information, other
combinations do occur. In these cases, we most often come
across configurations in which the syntactic status diverges
from semantico-pragmatic and tonal information (as is
indicated by '↔' in Figure (14) below).

$$\text{syntax} \quad \leftrightarrow \quad \text{intonation (tones)} \stackrel{\wedge}{=} \text{semantico-pragmatics}$$

(c)   n   ↔   ↓0 $\stackrel{\wedge}{=}$ 0

(d)   f(§)   ↔   ↓+/↑+ $\stackrel{\wedge}{=}$ +
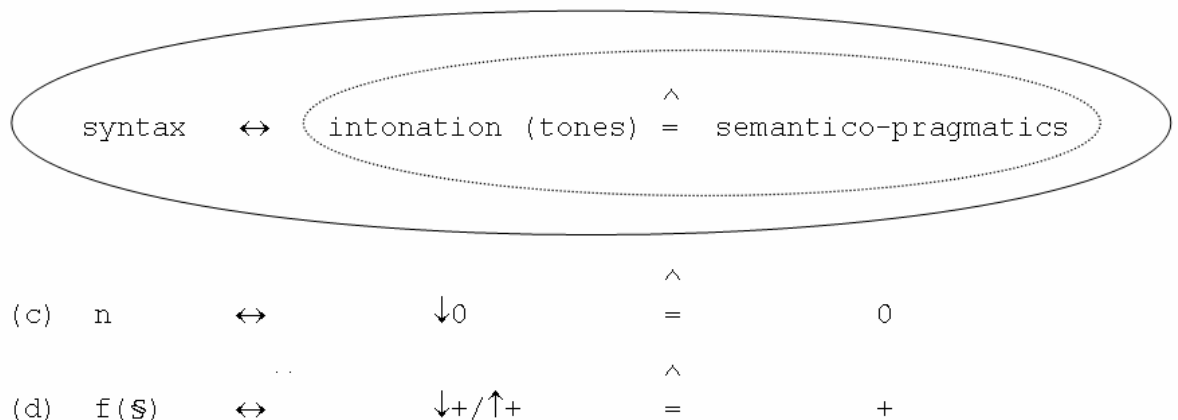
Figure 14: Deviation of syntactic information from
corresponding tonal and semantico-pragmatic
information

In the following, I will present incidences of such conflicting syntactic and tonal information and thus also of alternative ways of presenting the same syntactic information by means of different tones. These cases will illustrate that although the syntactic, semantico-pragmatic and tonal information most often coincide, there is still a closer link between semantico-pragmatics and tones than between syntax and tones, cf. Figure 14 and Figures 9 and 10 on pages 93 and 95 above.

Let us first of all turn to the combination of syntactic incompletion with a 'final fall' (n↓0). In Corpus 2 and 3, this occurs with

- the address of audience (in the Formal Scripted Speech)

      (39)

       your MAjesty   and ChAncellor
       __   n↑+   ____   n↓0   [SEU, W.4.2 a)]

- headlines (in the News)[70]

      (40)

       BBC News   at 8 o'clock   on Saturday,
       ____ n↑+   _   n↑+   ___   n↑+

       the twenty-fourth of November.
                             ___   n↓0 [SEC, B01]

      (41)

   now   Di French strike   of wOrkers
       ___ n↑+   _____   n↓+   ___   n↑+

       in the public sErvices   here's a report
                 ___   n↓0   h   ____ f↓+

       from our PAris correspOndent
                __   f↓+ […] [SEU, W.2.1 a)]

---

[70] Wichmann (1994) spots the occurrence of falls to the bottom of the speaker's range after NP subjects before and points out: "[T]his is a prosodic version of so-called 'block language' in newspaper texts, where the first few words of a new paragraph also act as a kind of headline. The prosodic version could therefore be a rhetorical device, or possibly a journalistic mannerism" (Wichmann 1994: 210). However, the cases listed above show that this phenomenon is more than a 'journalistic mannerism' and accordingly, there is a more global comment in Wichmann (2000: 53): "Sometimes, […] the closure signal serves to highlight a single phrase as if it were a complete utterance, usually with a discourse-structuring effect".

(42)

And finally the weather forecast.
        _____   l   **n↓0**

It will be very   windy
    ____ n↑+ ___   f↓+ […] [SEC, B04]

- quasi-headlines and an insistent demand (in Fiction)

(43)

sIlence   soft   rich   filled
__   **n↓0** ____ n↑+ ____ n↑+ ____   n↑+

with the nOIseless rippling of the rIver
                          ___   n↑+

and the last cAllings   of the birds
    ____   n↑+   _____ n↑+

flOAted   through his house
____   n↓+   _____ f↑+ [SEU, W.3.1 b)]

(44)

'One of the passengers ...
 h   H__   **n$↓0**

I overheard him saying
       ___   nN↓+

that he'd been a pilot
  __   f↑+

in the war.
    ___ f§↓+ [SEC, G04]

(45)

no more deaths
   ¦ _____ **n↓0** [SEU, W.3.1 a)]

In the cases listed above, a fall to the bottom of the speaker's range marks some kind of pragmatic completion, mostly of headlines. I also came across headlines in the corpus which, rather than being marked as a complete pragmatic unit by a tone expressing completion, were, alternatively, presented with a non-final intonation. In these cases, the readers obviously chose (⇒⇒⇒) to stress the semantic link between the headline and what follows (cf. examples (46) and (47) below).

(46)

And the main news   this morning: a thousand people
    ____   n↑+   ___   N↑+   ____   n↑+

were led to safety
            ____   f↑+ […] [SEC, B01]

(47)

And   the weather   - northern areas   will have bright intervals
    ¦   _____ n↑+   ___   n↑+   _____   f↓+

and showers   […]
    ____   f↑+   [SEC, B03]

These alternative ways of tonal presentation (⇒⇒⇒) should not merely be put down to the unclear syntactic status of headlines (cf. page 67 above). This will be corroborated by examples other than headlines of varying realisations of the same syntactic status. Rather, this phenomenon appears to be connected to information hierarchy (cf. Mukherjee 2001: 113), i.e. a tone expressing incompletion is used to increase anticipation and thus to indicate that more important information is to follow, while a fall expressing completion itself marks important information, so that in this way, the (condensed) main message in the headline stands out from the following text. Accordingly, the fall to the bottom of the speaker's range in (43) adds impact and marks silence as key word which is then further elaborated since it characterises the main character's predilection to withdraw from the world and other human beings.[71] In (44), the interrupted syntactic structure n$, which also occurs with plus tones in the corpus, is realised with a zero tone: left-dislocation of *one of the passengers* is presented as a headline for the solution of the story's complication: the passenger whom the stewardess overheard saying that he had been a pilot in the war, is asked to step in for the fainted pilots. So his importance for the whole story is obvious.

---

[71] Here, the fall to the bottom of the speaker's range is effectively combined with an illustrating description in one-word-tone units (cf. page 113).

It could be argued that the discussion of the combination of syntactic incompletion with tonal completion has to be extended to include the combination f↓0, since in these cases the syntactic status actually turns out to be just *potentially* complete and the fall to the bottom of the speaker's range occurs within a talk unit.[72] In fact, a potentially final syntactic status occurs most often with tones expressing incompletion (see Tables 10.1-15.2 on pages 100-103 again). However, it can be illustrated that cases of 'early closure' regularly occur for semantic reasons, similar to those mentioned with regard to n↓0 above. Thus, in the whole corpus, the combination f↓0 is typically employed when what follows is just a 'fleshing out' of what has been said before. The word that bears the tonic and is marked with a deep fall is of particular importance for the respective context. What follows is additional or background information. Such an 'exposition' – one of Halliday's (1994: 226) subcategories of 'elaboration' – is rated as less important than the actual event already reported on. The configuration f↓0 typically occurs before relative clauses (cf. (48) – (51)), non-finite clauses (52), prepositional phrases ((53), (54): a completed reprint of (37)) and noun phrases in apposition (55) (cf. Wichmann 2000: 78, 52).

(48)

```
We were friends      by which I mean  that he was easy with me
R0         _____  ¦f↓0                          ¦__          f&↓0

and I liked him      and was easy with him.
        ___ ↑f&+                    H__  ↓f§0  [PRC, RT 1]
```

---

[72] Wichmann (2000) refers to this alternatively as 'early closure' (50f.), 'utterance-internal falls' (51ff.) and as 'pitch depression inside sentences' (78; cf. section 1.1.3.5.2.1 on page 21 above). The terms 'early closure' as well as 'late closure' actually go back to Frazier (1978) and have since been particularly used in discussions of temporary syntactic ambiguities (cf. Speer et al. 1996) to refer to different syntactic parsing strategies (cf. section 1.1.3.3 on page 14 above. Cf. also Chapter 5: 'truncation' and 'annexation').

(49)

```
The emergency services      were hampered      by thick smoke
    ___                 n↑+       ___      f↑+            _____   f↓0

which spread quickly      through the station     and into tunnels,
          _____   f↑+                _____  f↑+       ____   f↑+
                                                        [SEC, B01]
```

(50)

```
It's thought      the blaze began      in a contractor's hut
    _____  n↑+              ___ n↓+                 ___  f↑+

on one of the platforms      where renovation work
        ____       f↓0                  __          n↑+

was being carried out.
        H___  f§↓0   [SEC, B01]
```

(51)

```
The official result of the ballot
                      ___     n↑+

will not be announced until Friday,      when   union leaders
        _____  f↓0                       ¦ _____          n↑+

will decide      whether [to?] call for strike action.
    _____  n↑+                      _____            f§↓0 [SEC, B04]
```

(52)

```
FrAncis BAcon tells us      that scIence
  h           _____  n↑+         ___  n↑+

has two fUnctions      to creAte
      ____   f↓0            ___ n↑+

a rich stOrehouse of knOwledge
          ____       n↑+

and to provIde relIEf      for man's estAte
        ____ f↓+               ____ f§↓0 [SEU, W.4.2 a)]
```

(53)

```
in the next qUArter of a cEntury      he was explOring the world
      h              ___    n↑+                   _____  f↓0

in Italy      in the AegEan      in the Far East
  _       f↑+          __  f↑+            ____  f↑+

in AmErica      in this cOUntry     […]
  __      f↑+      ____          f↑+  [SEU, W.4.2 a)]
```

(54)

```
Mr. Leon Brittan,      said         he's not
   ____       n↑+   ____  n↑+¦         E   n↓+

planning to resign        over his commons statement yesterday.
   ____    f↓0   l                              L       f§↓0¦
                                                      [SEC, B04]
```

(55)

```
the FOOtball AssociAtion      have suspended anOther
    H                n↑+                H    n↓+

plAyer        for fourteen days        he's Dick      Keith
____     f↑+               ____  f§↓0    ____  n↑+  _____    f↓0

the BOUrnemouth fUllbAck        and fOrmer Irish    internAtional
   ____       f↑+             __   n↓+     __       f§↓0
                                              [SEU, W.2.1 a)]
```

(56) below shows that there are also other syntactic means of realising an elaboration following an early closure than have been pointed out before.

(56)

```
Gerry dived,      shot     past the school of underwater swimmers,
_____        f↓0  ____ n↑+                       _____      f↑+

saw a black      wall     of rock     looming at him,
   H   n↑+ ____ f↑+   ____ f↑+ ___            f↑+

touched it      and bobbed up at once to the surface
_____       f↑+                            H     f↓0

where the wall was a low barrier    he could see across.
                ____    f↑+           ___       f§↓0 [SEC, G01]
```

Here, the protagonist's dive seems to be further elaborated by the enumeration of verb phrases (*shot…, saw…, touched it and bobbed up…*). The oral reader thus apparently interprets the dive as every activity mentioned until the resurfacing and not as just the moment of going under the surface of the water.

Given the various syntactic realisations of elaborations presented above, it seems clear that the drop to the bottom of a speaker's range at a potentially final place is primarily triggered by semantico-pragmatics, namely by the

need to express an elaboration. On the other hand, the number of syntactic constructions which can be used for expressing an elaboration is certainly not infinite. So syntax, at best, seems to act as a secondary motivation for early closure. In other words, early closure is just linked indirectly to syntax.

Appropriately, the configuration f↓0 appears among the most frequent parasyntactic configurations above 5% in those categories which feature a natural affinity to embroidery (cf. Tables 10.1-15.2 on pages 100-103 and Figure 11 on page 103 above): in the Speech, in which there is often background information on the careers of those academics receiving an honorary doctorate and where the rather long talk units are thus split up; in Commentary, since there the audience is provided with in-depth- and thus often background information on one topic; and, most naturally, in embroidery in Fiction. It is thus not surprising that the short and precise information on several topics in the News exhibits this configuration less frequently.

More generally, a drop to the bottom of a speaker's range within a talk unit, either at f or f&, is used to split up a major talk unit into smaller chunks. Such 'minor talk units' can be assumed to facilitate information processing. In (48) and (56), for example, a relatively long major talk unit is thus divided into three minor talk units.

Other cases in which syntactic information diverges from tonal and semantico-pragmatic information are the configurations f§↑+ and f§↓+. These configurations are used when the reader stresses a semantic link between two sentences, that something is to follow, by means of a non-final intonation.[73] In (57), we find the configuration f§↑+ with a headline which is this time expressed in a complete

---

[73] "[…] when two independent clauses are regarded as being sufficiently related to belong to one sentence, this may be shown by prosody in speech (cf. App II.13) – for example, narrow pitch range or a rising nucleus at the end of the first clause" (Quirk et al. 1985: 1622).

clause. And in (58), f§↑+ occurs between two sentences, in
which the topic - rainy weather - remains the same.

(57)

and now here agAIn   are the main points
          ____   n↑+   ____   f↓+

of the news
        ____ **f§↑+** [SEU, W.2.1 a)]

(58)

And   the weather   - northern areas   will have bright intervals
  ¦   _____ n↑+   ___   n↑+   _____   f↓+

and showers   which will be heavy   in places.
  ____   f↑+   _____ f↑+   _____ **f§↑+**

Rain   in some southern areas   will clear away
____   n↑+   ___   n↑+   ___ f&N↓+

but further rain   is likely tomorrow.
  ___   n↑+   ___   f&↓0 [SEC, B03]

In (59), the reader's choice to continue the talk unit (f§↑+,
f§↓+) rather than to go for default closure after each
sentence, is understandable on semantic grounds, since a
continuation with *because* seems to be implied in both cases.
The sentence following the configuration f§↑+ presents the
reason for the announced intention to take a rest, just as
the sentence following the configuration f§↓+ presents the
reason for the expressed intention to bring brandy
afterwards, namely the 'excursion' to a graveyard planned
later in the night and the need to be able to bear the sight
of corpses.

(59)

FElix I'm going to rest up   for an hour or two
              __ f↓+   ____ **f§↑+**

I want to be fresh   for a night out   among the cOffins
          _____ f↓+   _____   f↑+   ___   f§↓0

[…]

I'll bring a nip of brAndy   we may   need it
          ____ **f§↓+**   ¦ ____   f↓+

```
when we   see      what's InsIde     those cOffins
          ¦ ___ n↓+          ____ n↓+              ____    f§↓0  [SEU, W.3.1 a)]
```

We have thus seen that, although the end of a sentence (f§) is most often realised with a tone expressing completion, this is not exclusively the case (see Tables 10.1 - 15.2 on pages 100-103 and Figure 14 (d) on page 121 above). All in all, neither syntactic incompletion nor syntactic completion can be claimed to be directly linked to a particular tonal realisation. Basically, they are freely combined with plus and zero tones, depending on the semantico-pragmatic message intended.[74]

In just two cases, I also came across a clear discrepancy between tonal and semantico-pragmatic information (cf. Figure (15) below).
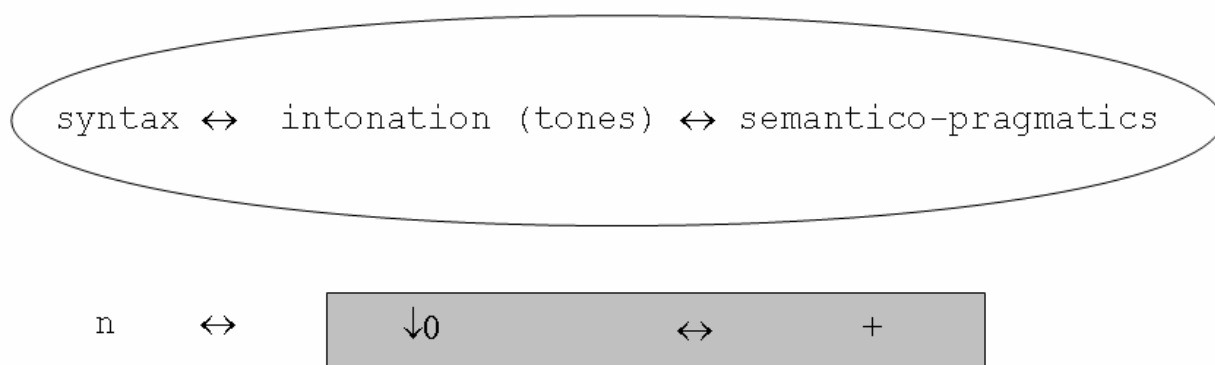

Figure 15: Discrepancy between tonal and semantico-pragmatic information in the performance by the non-professional oral reader

In these cases, presented in (60) and (61) below, the non-professional reader, the University Orator, obviously makes mistakes. In both (60) and (61), he uses a 'final fall' at a place where this does not make sense since no potential

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[74] When turning to the influence of medium-dependent graphic presentation structures in Chapter 5, I will, above all, illustrate the places where an oral reader has no choice of a varying tonal realisation at sentence boundaries, but has to indicate completion by his choice of intonation provided that he does not want to distort the original message of the author.

utterance completion has been reached. In (60), the medium-independent string of elements *unique in so many ways he shares with you Ma'am and with another fellow graduand Professor A. L. Hodgkin* clearly needs to be followed by an object to be potentially complete. And in (61), the final fall on *hence* also clashes with the textsemantic interpretation ($\downarrow0 \leftrightarrow +$), since *hence* also needs to be followed by further medium-independent elements, before potential utterance completion can be reached. In both cases then, the reader's choice of tone confronts the listeners' expectancies with conflicting information and can thus be assumed to impair the listeners' information processing. The identification of these oral presentations as mistakes is corroborated by the hesitation which accompanies the early closure in (60), and the restart, i.e. repetition of *hence*, this time with a tone indicating continuation, in (61).

(60)

```
unIque       in so mAny ways       he shares with you
 _____ n↑+             _____ n↑+                  ___ n↓+

MA'am       and with anOther fEllow grAduand
_____ n↑+                h           ___       n↑+

ProfEssor A L HOdgkin
             ____      ¦[hesitation]  n   ↓0 ↔ +

one great hOnour
          ___      f§↓0  [SEU, W.4.2 a)]
```

(61)

```
hence                 hence       arIsing
_____ n$   ↓0 ↔ +     _____ n↑+   __       n↑+


from the EArly work       of Professor J Z Young
          ____ n↑+                  _____ n↑+

the crab       begAn to be OUsted       by Di squid
 ____ n↑+                ___    f↑+           _____ f§↓0  [SEU, W.4.2 a)]
```

Although Ford/Thompson's (1996) definition of pragmatic completion comprises intonational [i.e. tonal] completion (150, 154), they stress that "pragmatic completion is not the

same as intonational completion, since there are points of intonational completion which are not also points of pragmatic completion" (Ford/Thompson 1996: 150). In other words, "intonational completion is *in principle* independent of both semantic and syntactic completion" (175). Here, we have to consider (a) that their definition of semantic and pragmatic completion refers to complete turns in conversations,[75] which often contain several sentences and thus points of intonational completion (cf. Ford/Thompson 1996: 150f.) and (b) that the example they then actually present of "intonational completion points which are *not* also pragmatic completion points" (ibid: 155) appears as an infelicitous performance and Ford and Thompson state that "[i]t is not clear why she [the speaker J.M.] did this" (ibid: 175). Thus my basic assumption of a tendency to agreement between tonal and semantico-pragmatic information (cf. Chapter 3) seems justified for felicitous phonic presentations.

Observations on combinations of syntactic statuses and tones can be further differentiated. 99% of the cases of syntactic incompletion are combined with tonal incompletion. After all, the configuration n↓0 occurs comparatively rarely. Thus, 1) syntactic incompletion is a good marker of incompletion on the whole, and 2) 97.7% of tones expressing completion appear combined with syntactic completion points (including points of potential syntactic completion).

Of all occurrences of tonal incompletion, still 70.2% are also syntactic incompletion points, i.e. n. The rate would be considerably higher if potential completion points were included here, too.

However, only 50.9% of syntactic completion points are combined with tonal completion signalling semantico-pragmatic completion. This is, of course, due to the high proportion of potential completion points which are combined with plus

---

[75] Cf. footnote 49 on page 79 above.

tones as well as combinations of f& and f§ with plus tones. A
similar result for conversation, also suggesting rather free
combination of syntactic completion points with different
tones, has led Ford/Thompson (1996) to conclude:

> syntactic completion points in English […] are *not*
> nearly always intonational and pragmatic completion
> points" (Ford/Thompson 1996: 154). […] [S]yntactic
> completion points alone are the least reliable
> indicators of any other sort of completion (1996: 155).
> [W]e find that intonation plays a major role in
> determining *which* syntactically complete utterances are
> being projected by hearers as complete units. […]. [I]n
> addition to intonation, pragmatics is also involved in
> determining those syntactic completions that are treated
> as complete by recipients (Ford/Thompson 1996: 157).

Given the tendency to agreement in tonal and pragmatic
information in a felicitous phonic presentation, tone can
then be identified as the decisive factor in indicating
completion and incompletion to the listener.

4.2 Tonicity

4.2.1 Bolinger's assessment of professional reading

Turning to tonicity in oral reading,[76] it is interesting that
Bolinger (1982, 1989) accuses newscasters and announcers of
an overuse of end-focus and, concomitantly, of an overuse of
one-word tone units. According to him, this tendency is
prompted by the practised reader's routine causing a
mechanical way of reading without internalising, which then
leads to the frequent emphasis on an element which, being
relatively unimportant, is not really suitable (cf. 1982:
725). And, since "what we say is livelier when the punch goes

---

[76] This parameter is not included in parasyntactic configurations.
However, since tone units serve as base units in the presentation
structural framework of the current study, it i§ possible to consider
the placement of the nucleus additionally.

at the end" (Bolinger 1982: 726) the readers are thus also said to "pull out all the stops" (ibid) to keep their listeners' attention. According to Bolinger, 'newscasterese' thus often features "prosodic excess" (Bolinger 1989: 396):

> The large-scale lapses are the result of a peculiar ability that practiced readers have, which is to utter a complete account in a way that is quite intelligible to a listener but without internalizing, or remembering, any part of it. […] A radio announcer is always somewhere between close monitoring and no monitoring at all of what his script calls for. The less monitoring, the more artificial the spontaneity of the accents and intonations. The free-wheeling part of the brain makes its best guess, which is to accent a word if it looks big and important, to accent practically *every* word if that will make sure that nothing is missed, to shift the stress in compounds if they are not recognized as such (the compound rule of stress *before* the end is anti-climactic), and to build almost every sentence toward a climax at the end. The result is an excess of fist-pounding, doubtless useful to keep drowsy motorists awake on the road but otherwise rather wearisome to listen to for long. What goes by the board is the delicate shading of "communicative dynamism" as the Prague linguists call it (Bolinger 1989: 393f.).

On the basis of evidence from an eight-hour log of CBS radio news, Bolinger (1982: 726f.) presents two categories of such alleged prosodic blunders: 1) deserving words that don't get the spotlight and 2) undeserving words that get the spotlight.

As for Bolinger's approach, there seem to be two general problems. To start with, Bolinger presents his examples detached from their original context, so that the appropriateness of the respective performances cannot really be assessed. So, e.g., for his first category, he presents isolated sentences as *The NBA playoffs RESUME tonight in San Antonio, SAN FRANCISCO police have arrested the 70-year-old manager* (Bolinger 1982: 726). The recipient is just told that there was no previous mention of *San Antonio* and *police*, and

that, since the latter thus present new information, the nucleus should have been placed on them.

Here, the second problem with his approach has to be noted: although the given-new distinction certainly is an important criterion for the placement of the nucleus, it is not the only one. The fact that an intonation element as the nucleus can have "multifarious functions" (Esser 1988: 67) is left unconsidered. In point of fact, the oral reader may just as well choose to emphasise elements that he or she regards as 'foregroundworthy' in a given context, even though these elements might be given (cf. Esser 1983: 136). This also applies to key words which are important for the interpretation of a text as a whole (cf. Esser 1988: 67).

Bolinger's second category - 'undeserving words that get the spotlight' – then falls into three subcategories: 1) 'mismated/mispronounced compounds'; 2) 'expected words' and 3) 'helpers', i.e. function words, prepositions like *to* and *from* and auxiliary verbs like *can* and *do*.

The subcategory 'expected words' within the category 'undeserving words that get the spotlight' includes examples like *They rushed him to the emergency ward where he was seen by several DOCTORS* (Bolinger 1982: 726). Although the word *doctors* can be claimed to be expected in the context of an emergency ward, this does not necessarily mean that the placement of the nucleus on this word has to be a 'wrong' choice. Here, we can repeat what has been pointed out above, namely that the nucleus can have multifarious functions with regard to context.

Bolinger's complaint about a rightshifting of the accent in compounds like *conservation ORGANIZATIONS, travel PLANS, tax LAW* (Bolinger 1982: 726) additionally has to be rejected on the grounds that there is a lot of fluctuation in the

realisation of compounds.[77] After all, in these cases an alternative emphasis does not lead to a change of meaning. If, in fact, such conspicuous rightshifting occured so often in newsreading, the question remains why it is hardly found in the performance by professionals in the corpus of the current study. In the corpus analysed here, we mostly come across instances like, e.g. *contingency plans* (SEC, B04), *immigration laws* (SEC, A01), *tax evasion* (SEC, A01), *tax cuts* (SEC, B04) and *renovation work* (SEC, B01). In those cases in which the nucleus *is* placed on the second part of a compound or syntactic group, the 'determinatum' (Marchand 1969: 3, 11f.), it embodies the aspect that is meaningfully stressed in the respective context. In the following example, co-ordination of *laws* with *science* makes particularly clear that here the emphasis is on guiding rules in physics.

(62)

```
I suppose     the popular notion of a miracle     is
  h  H   n↑+      ___                              n↑+ __ n↑+

 an event     unexplained by science or natural laws;
 ____  n↑+                                     ____  f&↓0
                                                     [SEC, A01]
```

With regard to inappropriate emphasis on function words, Bolinger lists examples like *the final flight OF the Columbia* (1982: 727), *...most publicly admit the country's role IN that tragedy* (1989: 394), *there HAS been an outbreak of venereal disease* (1982: 727). As for the effect of such a placement of the nucleus he states:

> The super-preposition […] is a trick to sound impressive without emphasizing anything in particular. You simply explode an extra word, preferably near the end of the sentence, to leave your hearer staggered. So instead of 'She's a policewoman and PROUD of it' we get 'She's a policewoman and proud OF it' (Bolinger 1982: 727f.).

---

[77] This great variation in the pronunciation of complex nominals has actually been found to pose a problem for text-to-speech synthesis (Hirschberg 1993: 316f.).

> The effect of the super-auxiliary is an earnest, even
> pugnacious, imploring of acceptance. It dares you to
> disbelieve, and is a favorite of airline stewardesses as
> well as newscasters (Bolinger 1982: 727).

Such cases of shifting the focus to the right, again do not
occur in the performance of the professional readers in the
corpus of the current study (British English, mostly RP: cf.
Chapter 2), but only in the performance by the University
Orator. Whenever the professional readers place a nucleus on
a preposition or an auxiliary, it does make sense within the
given context. In those cases of their performance in which a
preposition bears the tonic, it is 'iconic', i.e. meaning-
conveying (cf. Bolinger 1988: 237), rather than
grammaticalised and thus empty of meaning.[78] The relating
aspect or function (cf. Quirk et al. 1985: 657) of the
respective preposition is then deliberately stressed.

Accordingly, the tonic can repeatedly be found on
'lexical prepositions' (cf. Rauh 1991, 1993) as *above*,
across, before, *beneath*, *between*, *through*, *throughout* and
under. In (63), the nucleus on *across* stresses the extension
of chaos caused by a storm. The tonic on *between* in (64)
helps illustrate the dissociation of two ethnic groups
(Germans and Turks) in Huttenheim. And in (65), the stress on
through (with high key) is appropriate, since the complete
crossing of a particular tunnel under water is the
protagonist's ultimate aim.[79]

---

[78] The influence of semantic emptiness on accentuation is also addressed
by other studies: according to Partington (1998: 90, 105), who refers
to Martin (1992: 287), items used as 'general nouns' (Halliday/Hasan
1976) do not carry a tonic – provided that they are cohesive and not
strongly contrastive – "even when it is the last salient syllable in
the tone group": *Melbourne's a **ter**rible place; it actually hailed on
me*. Ladd (1996: 182) reports on studies by Monaghan (1991: 149f.,
1992: 155ff.), who identifies several combinations of Adjective + Noun
that are likely to be accented on the adjective, including phrases
with fairly unspecific nouns such as *meeting* and *committee*.

[79] Since in the story "Through the tunnel" (SEC, G01) a young boy's
relationship to his mother and to foreign boys at a holiday resort as
well as the overcoming of distances in diving features prominent, it
is not surprising that, throughout this story, the tonic occurs
particularly often on prepositions. This even causes prepositions in

(63)

Torrential rain   and gale-force winds   have caused havoc
           ____ n↓+   _____ n↑+   __   f↑+

all across the continent of Europe,
    _____   f↑+ [SEC, B01]

(64)

Before the exodus   there was a great deal of enmity
      __   n↑+   __   f↑+

and discrimination   between the two nationalities:
             __   f↓0   __   §↓0

'There was an invisible line between us,'   says George,
    _____   f↓+   _____   f§↓0
                                                 [SEC, A06]

(65)

probably now,   if he tried,
    _H_ n↓+   _H__ n↑+

he could get through that long tunnel,
         ___H___   f&↓0

but he was not going to try yet.
          ___   f§N↓0 [SEC, G01]

    In a Commentary on a new agreement between South Africa
and South West Africa about a local government in the latter,
the tonic on *in* in *South Africa's heart* ↑n+ *is not in* ↓n+ *this new
deal* ↓f&0 [SEC, A09] helps to make explicit the half-heartedness
of this undertaking. Accordingly then, in those two instances
in which *of* does bear the nucleus in the corpus - not at all
in Newscasterese, but in Fiction - it is not just used as a
'grammatical particle' (Bolinger 1988: 237),[80] but it is
definitely intended to put emphasis on the expression of a
relation, namely of origin, or belonging to, and being part
of, and thus serves an iconic function:

   SEC Fiction to be fourth in the rank of those parts of speech which
   most frequently bear the tonic in enclitic tone units (8.7%, cf. Table
   19 on page 144 below).
[80] *Of* has been found to have undergone grammaticalisation and to serve
   most often as a 'non-lexical preposition', a 'semantically neutral
   case preposition' (Rauh 1991: 50, Rauh 1993: 137).

(66)

```
The English boy     swam towards them,        but kept his distance
   ___          n↑+      _____        f&↓0             ___        f↓+

at a stone's throw.     They were of      that       coast;
        _____  f§↓0             __ n↑+  ____ n↑+  _____  f§↓0

all of them     were burned     smooth     dark     brown
L___        n↑+        ____   n↑+  _____ n↑+  ____ n↑+ _____   f&↓0

and speaking a language     he did not understand.
            ____   n↑+               _____  f§↓0

To be with them,      of them,      was a craving
    ____        n↑+ __      n↑+         ___   f↑+

that filled his whole body.
          __    f§↓0  [SEC, G01]
```

Sometimes the tonic is also deliberately placed on a
preposition right before a tone unit boundary as a strategy
to increase the listeners' anticipation of what is about to
follow (cf. Mukherjee 2001: 107-111). This is illustrated by
the following two examples:

(67)

```
It was enough;        in a minute     he had swum in      and was on
    _____  f§↓0          __    n↑+        ____   f&↑+        __ n↑+

the rocks      beside them,
   _____  f↑+     ____        f↓0  [SEC, G01]
```

(68)

```
The boy watched     that white,     naked arm
   _____    f↑+        _____  n↑+     ___ f&↓+

and turned his eyes,      which had a frown behind them,
        H__  f↓+                  _____              nN↓+

towards     the bay,     and back again     to his mother.
  _____ n↑+     ___  f↓0     ____         f↓+       __      f§↓0¦
                                                          [SEC, G01]
```

Only the University Orator's use of a tonic on a preposition
does not really seem to make sense and therefore appears to
be inappropriate:

(69)

```
that mEdiEval eqUIpment      shaped       in mOdern matErials
 ____        f↑+  _____  n↑+                    __        f↓0

which makes it impOssible for him      to defEnd himsElf
               ___        n↓+                ____  f&↓0
                                              [SEU, W.4.2 a)]
```

The use of stress on auxiliaries by professionals in the corpus can also be shown to be deliberate and meaningful. In example (70), the nucleus on *has* emphasises that, indeed, Britain's withdrawal from UNESCO is practically complete and in (71), the stress on *couldn't* helps to 'translate' the insisting nature of the call to prevent London from growing incessantly.

(70)

```
The necessary one year's notice      has been given
            ___                 n↑+ ___              fN↓+

by the government,
     ___          f&↑+  […] [SEC, B03]
```

(71)

```
Mr Heath       said   the LOndon Area
  _____  n↑+           ¦     ___        n↑+

cOUldn't be allOwed      to get so
_____                n↓+           __ n↑+

big     that it harmed     Other rEgions
___ f↑+              ___  n↑+ ___              f↓0   [SEU, W.2.1 b)]
```

The counterexamples listed above against Bolinger's claim of an arbitrary and mechanical placement of nuclei by professional readers have primarily illustrated correlations of tonicity with textsemantics. These correlations exceed the given-new distinction and can also overrule the strict syntactic distinction between content and function words. A more detailed look at the results for tonicity in the various text types will further corroborate the importance of textsemantics for the placement of the tonic.

4.2.2 A systematic evaluation of tonicity in Corpora 2 and 3

Table 17-19 below display the results for tonicity in Corpora 2 and 3. Not surprisingly, the majority of tone units, throughout the typical domains of oral reading (Speech, News, Commentary and Fiction), are proclitic, i.e. they exhibit end-focus (see the shaded cells in Table 17). Although the general tendency for end-focus in reading aloud is quite clear across the different text types, they still exhibit differences in the extent with percentages ranging from 96.4% in the Speech to 71.9% in Commentary.

	Speech	News		Commentary	Fiction	
		60s	80s		60s	80s
total number of tone units	1087	1107	1176	977	1050	1073
number of proclitic tone units	1048	918	929	702	876	866
proclitic tone units in %	**96.4%**	82.9%	79%	**71.9%**	83.4%	80.7%

Table 17: Proportion of proclitic tone units across the different text types

At first sight, the extremely high percentage of end-focus (96.4%) used by the University Orator in the Speech seems to confirm the observation made in Chapter 3 above, namely that the proportion of proclitic tone units grows with increasing syntactic complexity.[81] However, the proportion of proclitic tone units then does not decrease evenly from News through Commentary to Fiction. Such a cline would have been parallel to the one observed for tonality across these genres before. It was found that the proportion of tone unit boundaries at non-final places decreases from Speech through News and Commentary to Fiction. Accordingly, the average length of a talk unit - and, concomitantly, syntactic complexity – were shown to decrease across this cline.

---

[81] The tendency to insertions which lead to longer talk units in the Speech was demonstrated above (cf. section 4.1.1.1).

However, tonicity yields a different cline and thus seems no longer directly related to syntactic complexity. While News and Fiction both exhibit end-focus proportions of about 80%, the proportion in Commentary (71.9%) stays comparatively lower.

We can first of all quite generally observe that, in this way, the performance of Commentary sounds more similar to spontaneous spoken language than the other typical domains of oral reading examined here.[82] By contrast, the whole performance of the University orator, i.e. the non-professional reader, sounds rather monotonous and stilted. And it is striking that, though the proportion of proclitic tone units in News and Fiction is higher than in Commentary again, the professional readers presenting these categories (including the one of Corpus 1, cf. Table 8 on page 91 above) always make this proportion stay below 90%.

A more detailed look at the data helps to provide further explanation of the fact that Commentary exhibits most cases of exception from end-focus. It can be explained by the typical task of this genre to combine conveyance of important facts about a topic with opposing standpoints, i.e. by textsemantic 'superstructure'[83]. Accordingly, in most of the tone units *without* end-focus in this genre, the tonic is placed on premodifying elements as, particularly, attributive adjectives, but also on the first part in compounds, the 'determinant' (Marchand 1969: 3, 11f.). The fact that these elements bear the tonic in non-default, i.e. marked, tone units makes them particularly stand out. Examples include *Going by my postbag* (SEC, A01), *the popular notion of a*

---

[82] Cf. the observation on proclitic tone units (excluding one-word tone units) made by Davy (1968), quoted in Crystal (1969: 227): "Davy (1968) finds that the proportion varies from 64 per cent in conversational texts to 73 per cent for reading." Cf. also Esser (1988: 13).

[83] Van Dijk (1978) introduced the term 'superstructure' to denote conventionalised schemas which provide the global form for the macrostructural content of a discourse. In the present study, 'textsemantic superstructure' is used to refer to the communicative task of a genre. Within such a 'frame' the specific content varies.

miracle (versus a scientific definition: SEC, A01), *a philosophical position* (versus *a scientific one*: SEC, A01), *many German families* (as opposed to Turkish families: SEC, A06), *which the French colonial authorities had made in their handling of the Algerian people* (SEC, A09), *it boasted six hundred thousand people* (SEC, A06), *illuminates the structural problems* (SEC, A06), *but the real problem* (SEC, A01), *the key question was* (SEC, A01). This phenomenon seems to explain the opinionated, comparatively emotional presentation typical of Commentary and seems to be another reason why tone units in Commentary are on average a bit longer (3.7 words, cf. Table 18 below and section 4.1.1.3 on page 110f. above) and why, simultaneously, the percentage of one-word tone units in this genre stays comparatively low (6.9%, cf. Table 18 below). After all, if such particularising expressions occur in the Speech, they are often torn apart into individual tone units. In this way, the hyperbole effect, which helps to keep the listeners' attention in Commentary, is lost.

	Speech	News		Commentary	Fiction	
		60s	80s		60s	80s
total number of tone units	1087	1107	1176	977	1050	1073
number of one-word tone units	140	153	135	67	182	161
one-word tone units in %	12.9%	13.8%	11.5%	6.9%	17.3%	15%
average length of tone unit	3.2 words	3 words	3 words	**3.7 words**	3.1 words	3.1 words

Table 18: One-word tone units and average length of tone units across the different text types

With regard to word classes bearing the tonic in enclitic tone units (see the shaded cells in Table 19), the News exhibit the same trend as Commentary, but in the News, presumably due to the presentation of several topics, the proportion of premodifying elements bearing the tonic is even

bigger. As a result, adjectives do not just occupy the second rank in enclitic tone units again, but also take second rank within the parts of speech bearing the nucleus in all the tone units of the News (cf. Table 19 below).

By contrast, in Fiction, the largest part of enclitic tone units (see the shaded cells in Table 19 again) exhibits the nucleus on verbs (40.8% and 36.7%), so that we mostly find a stress on actions as a reason for abandoning default stress on the last word in a tone unit. This causes the proportion of nuclei on nouns in all tone units of this genre (52.7% in SEU Fiction and 45.9% in SEC Fiction) to stay comparatively lower than in the other text types. Simultaneously, the proportion of verbs bearing a tonic is comparatively higher (20.2% in SEU Fiction and 21.1% in SEC Fiction).

	Speech	News		Commentary	Fiction	
		60s	80s		60s	80s
most frequent parts of speech bearing the tonic in %	68.1% N 13.5% V 9.8% Adj	66.6% N 14.3% **Adj** 13.1% V	62.7% N 16.5% **Adj** 13.1% V	60.6%N 15% V 12.9% Adj 8.3% Adv/Ajct	**52.7% N** **20.2% V** 11.4% Adj 9.7% Adv/Ajct	**45.9% N** **21.1% V** 16.4% Adj 9.6% Adv/Ajct
most frequent parts of speech bearing the tonic **in proclitic tone units**	69.6% N 13.1% V 9.4% Adj	72.1% N 12.3% V 10.3% Adj	68.4% N 13.8% V 10.9% Adj	68.9% N 14% V 8.4% Adv/Ajct 7.1 % Adj	56.4% N 16.1% V 11.4% Adj 10.5% Adv/Ajct	50.3% N 17.3% V 15.8% Adj 10.6% Adv/Ajct
most frequent parts of speech bearing the tonic **in enclitic tone units**	28.2% N 25.6% V 23.1% Adj 10.3% Prep	39.7% N 33.3% **Adj** 16.9% V	41.3% N 37.7% **Adj** 10.5% V	39.3% N 27.6% **Adj** 17.8% V 8% Adv/Ajct	**40.8% V** 33.9% N 16.1% Adj 5.7% Adv/Ajct	**36.7% V** 27.1% N 18.8% Adj 8.7% Prep

Table 19: Most frequent parts of speech bearing the nucleus
in the tone units

In most of the extremely small number of enclitic tone units in the Speech (see the shaded cells in Table 19 again),

the tonic mostly occurs on premodifying elements again, and verbs are the second most frequent elements to bear the stress in such tone units. In contrast to the performance of the other text types - by professional readers – no strategy can be detected in this performance by the University Orator, i.e. it is not obvious how this performance by the University Orator should relate felicitously to the textsemantic 'superstructure' of the underlying text type. Overall, Bolinger's reproach to professional readers rather seems to hold for the non-professional reader than for the professionals.

Besides, his claim that newsreaders tend to "accent practically *every* word if that will make sure that nothing is missed" (cf. page 134 above) cannot be substantiated for the corpus here, given the rather low frequency of one-word tone units in the performance by the professionals, particularly in Commentary (cf. Table 18). If the professionals do use them, then this is for strategic reasons: either to increase anticipation (cf. section 4.1.1.5 on page 112f., cf. also page 139), or, they employ sequences of one-word tone units to portray a particular scene (cf. page 113).

4.2.3 Conclusion

In conclusion, the results of this study of tonicity in typical domains of oral reading have indicated that the placement of the nucleus is to a great extent influenced by textsemantic aspects.

The counterexamples to Bolinger's claim of 'wrong emphasis' on function words have shown that such placement of a nucleus can make sense for textsemantic reasons. In these cases, the status of function words is obviously elevated to (iconic) content words. Since the results for proportion of proclitic tone units across the different text types were

found to deviate from the cline observed for syntactic complexity before (cf. page 141f.), it seems that professional readers do not automatically use more end-focus with increasing syntactic complexity.

Rather, particular text types seem to exhibit typical patterns of tonic realisation (cf. Table 17-19) - i.e. 'tonic superstructures' - not just related to syntactic complexity, but particularly with regard to textsemantic 'superstructures'. For example, the opinionated information provided by Commentary was shown to lead to comparatively many enclitic tone units. The latter seem to be reserved for particular stress and their high number in Commentary causes a hyperbole effect which helps to keep the listeners' attention. On the whole, it was thus illustrated that, in a felicitous tonic presentation by professional readers, textsemantic aspects always seem to be considered and can, if appropriate, win over the strict schematic distinction between content and function words.

Finally, the observations made here are also in line with what I experienced at the BBC Broadcasting House in Glasgow. Here, texts for broadcasting are regularly produced under a tremendous time pressure and often include mistakes, so that the reader, apart from making last-minute corrections in the script himself, has to be very flexible and very good at interpretation. However, according to bi-media announcer Tony Currie (personal communication), the reader also has to have a rough idea of the contents of the text, i.e. familiarise him- or herself at least to a minimum extent with the text, before he or she can read it out satisfactorily on air.

All in all, the facts collected here are rather at odds with Bolinger's claim that a professional style is characterised by an unconsidered, mechanical way of

reading.[84] It has been shown that Bolinger's low opinion of professional newsreading at least cannot be substantiated for my corpus of British English, since here the professional readers could be shown to employ tonicity strategically. Bolinger's findings rather seem to apply to the non-professional reader, who, however, also deals with a syntactically more complex text. Nevertheless, it cannot be entirely ruled out that the phenomenon described by Bolinger could be a mannerism of 'newscasterese' in America. This remains an object for future research.

4.3 A basic remark on pauses

To complete the picture of the 'translation' of medium-independent presentation structures in oral reading, I will now go briefly into the use of obtrusive pauses. Since the readers of the corpora studied here employ such pauses to different extents and for different purposes ($\Rightarrow\Rightarrow\Rightarrow$), one is at first sight tempted to agree with Howell and Kadi-Hanifi (1991), who have pointed out that "there is little regularity where speakers add pauses in their readings" (Howell/Kadi-Hanifi 1991: 169).

The default use of pauses in reading aloud is to underline the ends of talk unit boundaries.[85] Such pauses at places of syntactic and prosodic completeness have been

---

[84] A bit reminiscent of Bolinger's reproach is Mukherjee's (2001: 126) claim that writers of news broadcasts "place textually important elements at syntactic boundaries so that readers are able to assign tone unit boundaries to the text automatically without even analysing in detail the referential content". Given the predilection for end-focus in oral reading, this would then also involve a more or less automatic placing of nuclei. However, Mukherjee (2001) does not really provide a treatment of tonicity and his claim cannot be confirmed here.

[85] Cf.: "[S]entence demarcation remains the more prominent function of pauses in read speech" (Huckvale/Fang 1996: 276, cf. 277; cf. Townsend/Carrithers/Bever 1987: 220). There is no extra marking of this regular use of pauses at talk unit boundaries in the transcription made for this thesis (cf. Chapter 2).

referred to as 'segmentation pauses' (Mukherjee 2000: 580-583).

However, readers also draw on pauses "to point up and make particularly important the part of the utterance following the pause" (Brown 1990: 135), to express "that something important is coming up" (Blaauw 1994: 363), that is to indicate information hierarchy. Such 'anticipation pauses' (Mukherjee 2000: 580-583) have been found to occur at tone unit boundaries with a syntactically non-final status and/or a prosodically open status. They thus additionally support the expectancy of something important to follow, which is already built up by the syntax and by the choice of tone (cf. Mukherjee 2000: 580, 581; Mukherjee 2001: 122). In the corpus, they are, for example, employed by the professional reader of Reading Text 1 in Corpus 1 as well as by the main newsreaders of Corpus 2 B03 and, particularly, B04.

Additionally, the frequently occurring obtrusive pauses *within* tone units[86] also turn out to be anticipation pauses. The following examples illustrate that the tone-unit internal pause helps to stress the succeeding information and makes it thus stand out: a headline in (72), a certain piece of information within a particular news item in (73), and the significance of the research by an academic about to receive an honorary doctorate in (74).

(72)

```
And   the weather
   ¦      _____  n↑+ [SEC, B03]
```

(73)

```
The latest unemployment figures     show a slight fall.
   h          H                 n↓+     ¦        L    f§↓0
                                                      [SEC, B03]
```

---

86 I here follow Mukherjee's (2000: 583) impetus to further research.

(74)

```
and all this   Opened the way     to signIficant advAnces
           ¦          ___ n↑+                      ___    f↓+
                                                    [SEU, W.4.2a)]
```

In the corpus, the succeeding information set apart by such a
tone-unit internal pause often turns out to be indirect and
sometimes direct speech (see (75) to (77) below). Apart from
increasing anticipation, the reader thus also makes clear
that he is presenting the words and ideas of another person.

(75)

```
Mr Heath       said   the LOndon Area
   _____ n↑+         ¦     ___          n↑+

cOUldn't be allOwed      to get so      big
_____               n↓+       __ n↑+  ___ f↑+

that it harmed      Other rEgions
           ___   n↑+ ___          f↓0  [SEU, W.2.1b)]
```

(76)

```
The Liberal leader,     Mr. David Steel,
   ___                n↑+             _____ n↑+

described      the Prime Minister's decision
   _H_   n↑+                            ___   n↑+

not to see the marchers     as  a 'slap in the face for Scotland'.
 _H_                 n↑+      ¦                        ____     f§↓0
                                                           [SEC, B04]
```

(77)

```
She gave the idea her attention;      it was a wild looking
                  ____    f§↓0¦            _H_          n↑+

place       and there was no one there,
_____   f&↓+                      _____   f&↓0

but she said,  'Of course, Gerry.
          ¦    _H_           f§↓0 [SEC, G01]
```

However, such pauses also regularly occur with emphasis on
specifications. In (78) certain people are specified as
possessing food and are then contrasted with "those who had
none". In (79), it is the scope of a look that is specified

and in (80), the person about to receive an honorary
doctorate.

(78)

```
or was the miracle    that those in the crowd  with food
      ___        n↑+                         ¦____       n↑+
```

```
shared it with those who had none?
                          H    f§↑0 [SEC, A01]
```

(79)

```
When he was so far out
              ___ n↑+
```

```
that he could look back, not only on the little bay,
                          ¦                     ___  n↑+
```

```
but past the promontory    that was between it
      ____        n↑+               __ n↑+
```

```
and the big beach,    he floated on the buoyant surface
      _____  n↑+                              ___     f&↑+
```

```
and looked for his mother.
      ____      f§↓0 [SEC, G01]
```

(80)

```
I presEnt      ProfEssor  Alan     HOdgkin
   ____ n↑+             ¦ __  n↑+  ____       f§↓0  [SEU, W.4.2 a)]
```

Apparently, then, tone-unit internal pauses are another
presentation structural device for creating anticipation. The
other devices serving this purpose include placement of tone
unit boundaries at syntactically non-final places and,
possibly, a concomitant use of tones expressing incompletion.
An additional pause at such a tone unit boundary is then
occasionally used to increase the anticipatory effect (cf.
Mukherjee 2001: 122 again as well as (81) – (82) below).

(81)

```
The employment secretary,    Lord Young,    said the figures
      ___          n↑+        _____ n↑+    ¦    ___      n↑+¦
```

```
added weight    to the view
   H   n↓+          ____ n↓+
```

```
that the underlying trend in unemployment    was now flat,
      _____                          n↑+           L   f&↓0
```

```
and          we could all be      encouraged by them.
___  n↑+¦                ___     n↑+  ___                 l  f§↓0 [SEC, B03]
```

(82)
```
The Trade and Industry Secretary,      Mr. Leon Brittan,
                          ___        n↑+             ____     n↑+

said     he's not    planning to resign
____  n↑+¦         E  n↓+                 ____  f↓0

over his commons statement yesterday.
l                             L      f§↓0¦ [SEC, B04]
```

Since in the corpus, anticipation pauses *within* tone units occur much more often than anticipation pauses *at* tone unit boundaries, oral readers apparently tend to use either a pause within a tone unit boundary or the appropriate placement of a tone unit boundary accompanied by a tone expressing incompletion in order to increase anticipation at a particular place in the discourse. The simultaneous use of both presentation structural means, i.e. the occurrence of anticipation pauses at tone unit boundaries, is comparatively rare – presumably due to its additive effect – and much more idiosyncratic, since it is used by only a small number of readers in the corpus (cf. page 148).

Not surprisingly, hesitation pauses, i.e. unintended pauses expressing insecurity, mainly occur in the reading performances of the amateur readers. Apart from occurring in the Speech by the University orator as illustrated before (cf. example (60) on page 131), they can particularly be found in the performance of Reading Text 1 of Corpus 1 by reader 8 (cf. (83) below). However, they also occur (if only rarely) in the performance by professionals (cf. (84)).

(83)
```
13.1  I did see George    some years after    when   he was about six teen,
8.        ___              ↑                  __  N↓¦  ____↑n¦ [hesitation]    ____  ↓
                                                                          [PRC, RT1]
```

(84)

```
the judge      in the mail train rObbery
   _____ n↑+           H                   ¦ [hesitation]  n↑+

trIal
___    n↑+ [SEU, W.2.1 b)]
```

Given the irregular use, different functions and concomitant different positions of pauses as just described, the pause, as has been pointed out above (cf. page 56), is a "highly unreliable" segmentation device (Halford 1996: 42). It was also stressed that, to express information hierarchy, pauses can also be replaced by other presentation structural devices (cf. Esser 1988: 66). Thus, some readers make more use of pauses as a strategic device, others less. The idiosyncratic use of pauses shows that their role in information presentation should not be overestimated. As we will see in Chapter 5, this also holds with regard to the realisation of punctuation. But before we turn to that, I will provide a short summary of the main aspects discussed in this Chapter.

4.4 Summary of Chapter 4

Table 20 on page 153 summarises the results for the typical domains of oral reading studied here. It illustrates systematic patterns of language use in the reading performance of various text types. This includes corroboration of correlations between text types and parasyntactic configurations (cf. Mukherjee 2001: 72-77; 79-84; 151).

aspect of comparison	Formal Scripted Speech	News	Commentary	Fiction
communicative task	information on praised academic careers interspersed with anecdotes	informing short & precise on several topics, objective	in depth, on one topic opinionated	entertainment primarily written
style/orientation	more formal, 'detached' from the audience ←―――――――――――――――――――――― ――――――――――――――――――――――→ increasingly informal, 'involved' with the audience			
tonality	predominance of syntactically non-final places ←→		predominance of syntactically final places	
plus tones	~ 80 % ←――――――→		~ 70 %	
Ø length of talk unit (in tone units)	8 >	7 >	6 >	5
no. of parasyntactic configurations ≥ 5%	6	5	5	6
f↓0 ≥ 5%	f↓0	----	f↓0	f↓0
tonicity (proclitic tone units)	**96.4%**	81%	**71.9%**	82.1%

Table 20: An overview of the results in Chapter 4

    In the Speech and the News there is more 'detachment'
from the audience (Chafe 1982: 45f.; Beaman 1984: 48f.; Chafe
1985: 117f.; Chafe/Danielewicz 1987: 105-110), i.e. more
subject-orientation, achieved by e.g. a bundle of insertions,

passives, abstract subjects, precision and indirect
quotations. Commentary and Fiction, by contrast, exhibit more
'involvement' with the audience (cf. Chafe 1982: 46ff.;
Chafe/Danielewicz 1987: 105-110), i.e. more hearer-
orientation. This is achieved by e.g. emphatic particles,
first person references and direct quotes.

As for the 'translation' of these medium-independent
presentation structures, Formal Scripted Speech and News show
a predilection for tone unit boundaries at syntactically non-
final places, and so does Commentary, although it already has
an increased amount of tone unit boundaries at syntactically
final places. The latter then predominate in Fiction.

Correspondingly, the tendency to syntactic complexity in
Formal Scripted Speech and News, leading to many incompletion
points and a high level of formality, causes the amount of
tones expressing semantico-pragmatic incompletion ($\uparrow+$, $\downarrow+$) to
be slightly higher (~80%) than in Commentary and Fiction
(~70%).

The average length of a talk unit thus systematically
decreases from 8 tone units in Speech through 7 and 6 in News
and Commentary to 5 in Fiction. Information processing can
therefore be assumed to become gradually easier from the
Speech through News and Commentary to Fiction. In other
words, information processing in entertainment is definitely
facilitated.

The number of parasyntactic configurations equal to or
above 5% varies between five for News and Commentary and six
for Formal Scripted Speech and Fiction. The higher amount of
parasyntactic variation in the entertaining texts is in line
with what was found for Reading Text 1 as opposed to Reading
Text 2 in Corpus 1. As for the Speech, the higher amount of
parasyntactic variation could have to do with the fact that
the University Orator tries to present the information on the
individual academic careers partly in a jocular way, namely

by inserting anecdotes. However, an important reason seems to
be the splitting up of his extremely long talk units by the
configuration f↓0. Since this configuration is mainly used
for following 'embroidery', it is hardly surprising that it
stays below 5% in the News, which focus on precise but short
information on several topics. Yet, on the whole, the results
for parasyntactic variation are not particularly conclusive.
A more thorough check on Mukherjee's claim that there is
hardly parasyntactic variation in reading would additionally
have to apply the revised talk unit to a sample of
spontaneous spoken language.

The phonic presentation by the University Orator was
found to put comparatively much strain on the listeners'
information processing. Characteristic of such a
comparatively infelicitous phonic presentation are
- maximally long talk units, largely triggered by according
  medium-independent input;
- discrepancies between tonal and (intended)
  semantico-pragmatic information;
- an extremely high amount of proclitic tone units, which
  makes the performance sound rather stilted;
- hesitation pauses rather than a strategic use of pauses.

Although the domains of oral reading presented by the
professionals still exert differences - according to the
respective communicative tasks - with regard to the demands
they make on the listeners, it is indisputable that their
phonic presentation is comparatively felicitous. Their
presentation is characterised by
- (no more than) 4-7 tone units within a talk unit largely
  owing to an according medium-independent input;
- strategic placement of tone unit boundaries. This includes
  the use of individual one-word tone units to increase
  anticipation or a sequence of one-word tone units to evoke
  detailed pictures of a particular scene in the listeners'
  minds;

- agreement between tonal and semantico-pragmatic
  information. Professional readers use tones primarily to
  indicate semantico-pragmatic (in)completion. This
  may diverge from syntactic (in)completion as is
  shown by alternative tonal realisations of the same
  syntactic statuses - n↓0 instead of n↓+ and f§↓+/f§↑+
  instead of f§↓0/f§↑0. Although the syntactic, semantico-
  pragmatic and tonal information most often coincide in
  texts which originated in the written medium, there is thus
  still a closer link between semantico-pragmatics and tones
  than between syntax and tones. Accordingly, tones are the
  decisive factor in indicating (in)completion to the
  listener.
- strategic placement of tonics. Tonicity seems to be more
  strongly influenced by textsemantics – and here not just
  the given-new distinction – than by strictly syntactic
  criteria as the content/function word distinction. Nucleus
  placement was shown to be connected to textsemantic
  superstructure. In Commentary and News, non-default, i.e.
  enclitic, tone units are primarily used to underline
  particularising expressions, while in Fiction they are
  rather used to accentuate action, i.e. the tonic is then
  mostly placed on verbs. All in all, professional readers
  always seem to make the proportion of proclitic tone units
  stay below 90%.
- strategic use of pauses for segmentation or, particularly,
  anticipation if pauses are selected from the available
  presentation structural means.

Thus, despite all the variations observed in the
presentation of typical domains of oral reading, we can pin
down particular modes of presentation for particular text
types (use) and different qualities of presentation (user).

Having discussed the 'translation' of medium-independent
presentation structures at some length, I will now turn to

the question in how far medium-dependent presentation structures exert an influence on oral reading.

5 The influence of medium-dependent and medium-independent presentation structures on oral reading

Turning our attention to the medium-dependent input, i.e. the graphic substance, the question arises if and how punctuation signs are realised in the spoken medium. In other words, to what extent is the placement of punctuation marks motivated prosodically? After all, punctuation has been described as the "principal device that writers use to make covert prosody at least partially overt" (Chafe 1988: 397; cf. Chafe and Danielewicz 1987: 95; cf. Sopher 1977: 309). Then again "the question of punctuation's role in reading […] remains largely unexplored today" (Little, 1984: 376), in particular "[h]ow readers respond to punctuation has not been fully investigated by any means" (Little, 1984: 377). In the few cases in which the topic *is* addressed, there is usually only reference to individual aspects, which leads to superficial generalisations and rather distorted accounts. Even Meyer (1987) exclusively deals with 'structural punctuation', i.e. punctuation that "does not set off constructions larger than the orthographic sentence [paragraph indentations] or smaller than the word" [apostrophes or hyphens] (Meyer 1987: xiii). This chapter thus aims at providing a more comprehensive compilation of observations on the realisation of punctuation than has been presented in the research literature so far.

I will discuss the association of punctuation with tonality (5.1), tonicity and tone (5.2), the frequent association of paragraphs with paratones (5.3) as well as punctuation marks which are indispensable for oral reading (5.4). This will culminate in the finding of a basic difference between primarily written and written-to-be-spoken texts (5.5) and a final recapitulation on the questions: (1) Which are the more influential – medium-dependent graphic presentation structures or medium-independent presentation

structures? (2) How do different motivation criteria of punctuation thus have to be weighed (5.6)?

As for my corpus data, hardly any of those graphic versions of the texts which were actually used during the reading process are available. There are only the two texts of Corpus 1, EFL-texts G03, G04 from Corpus 2, and none at all of Corpus 3 (cf. page 42 above). After all, scripts for News or Commentary are normally written for one presentation only and are therefore inherently ephemeral in character. Most of the scripts in the Spoken English Corpus were thus reproduced by volunteers (at Lancaster University and the IBM UK Scientific Centre) who had no access to the oral reading version but decided on punctuation on the basis of unpunctuated texts only. In this way the production of the repunctuated scripts was uninfluenced by the prosody actually used in the performance of the respective professional readers (cf. Taylor 1996a: 26f.).

Given the scarcity of original scripts in the corpus, I here first and foremost present a synopsis of what the research literature has to say on individual aspects of the relationship of punctuation and oral reading. I will additionally also draw on those read versions of my own corpus data for which original scripts are available. Since there are published versions of text G01 from Corpus 2, I compared two of them (Lessing 1957; 1978) with the repunctuated version of the Spoken English Corpus and examined how these versions match with the oral version.

5.1 The association of punctuation with tonality

Of those few linguists and non-linguists who tackle the realisation of punctuation, the majority seem to confine themselves to relating punctuation to pauses or at least to

allocate a major role to the 'pause principle' (de Beaugrande 1984: 196):

> The PAUSE PRINCIPLE is the most obvious control on punctuation in general. […] Since reading aloud tends to pause for the audience's benefit, the general strategy could be:
> *Mark with punctuation the points where, when reading aloud, you would pause* (de Beaugrande 1984: 196 f., cf. 200, 211).

> [P]unctuation is increasingly being used – and taught – as a device for recording pauses in the speech that writing mirrors […] (Baron 2000: 188, cf. 24, 167, 192, 195).

> The point of punctuation is to make your writing easier to read. It is the counterpart of the pauses and inflections that make speech understandable (Hicks 1998: 38, cf. Brown 1990: 50f.).

Individual punctuation marks are even associated with a particular pause length. The latter is supposed to increase gradually from comma through semicolon to full stop and paragraph breaks (de Beaugrande 1984: 197; Brown 1990: 48; Hicks 1998: 40 f., cf. 110).[87]

A possible reason for the pervasiveness of this pause hypothesis is the rhetorical origin of punctuation, the notion that medieval punctuation marks were vocal instructions:

> In early manuscripts, the marks were seen as indicating full pauses, half pauses, and even quarter pauses, or more generally 'longer' pauses or 'shorter' pauses – which makes sense for liturgical manuscripts designed to be chanted or sung in religious services. […] But once writing escaped from its liturgical function, it is difficult to imagine how the scribes as they wrote were to measure a pause as being longer or shorter – or, even more difficult, how a reader was in the very act of reading to usefully reconstruct a longer or shorter pause (Levinson 1985: 66f.).

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[87] Cf. also Bergien 1996 for a corresponding description of punctuation marks in selected grammars of the 16th and 17th century.

Since then, there has been a shift from 'heavy' or 'close', prosody-motivated punctuation, which can be expected to have at the same time provided all the punctuation that the grammatical structure of the material suggested (cf. Chafe 1988: 416) to 'light' or 'open' punctuation, which only marks some grammatical structures (cf. Hall/Robinson 1996: 9; Little 1984: 371). Given the frequently stated tendency for co-occurrence of grammatical and prosodic boundaries in reading (cf. Chapters 1 and 3 above), Levinson (1985) and others draw attention to the fact that it is not actually pauses that are indicated by punctuation but rather tone unit boundaries:

> Obviously one can, at some punctuation marks, stop for dramatic effect, or to take a breath, hence the modern currency of this notion [the pause hypothesis, J.M.]. […] It seems clear to modern linguists that what the term [pause; J.M.] really referred to was not pause but the end of an intonation contour or phrase contour, a discontinuity in the intonation curve, which may or may not involve a pause (Levinson 1985: 66 f.).

> [P]unctuation marks signal the boundaries of stretches of language to which we tacitly assign coherent intonation contours, as well as following hesitations. If that is true, then punctuation marks are at least rough delimiters of units that are analogous to intonation units (Chafe 1986: 18, cf. 19; cf. Chafe/Danielewicz 1987: 96; cf. Halliday 1989: 39; cf. Quirk et al. 1985: 1611).

> Punctuation tends to delineate the boundaries of units which, under the best of circumstances, are comparable to the intonation units of speech (Chafe 1992: 24).

> [I]n the majority of cases there is agreement between where a comma is allowed in writing and the typical occurrence of an IGB [Intonation-Group Boundary, J.M.] in speech (Cruttenden 1990: 70).

Accordingly, in the TESS (Text Segmentation for Speech) project,[88] all punctuation marks are automatically converted

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[88] The chief aim of this project is to describe syntactically-motivated segmentation of spoken language into tone units and thus at making possible an automatic prosodic segmentation of texts (cf. Svartvik

into a tone unit boundary, unless there are constraints that say otherwise (cf. Stenström 1988: 222).

5.1.1 'Speaking commas'

Apparently analogous to those cases in which syntactic units separated by commas are coterminous with tone units (e.g. adverbials, subordinate clauses), commas are at times used in places in which they do not occur on the grounds of grammar and in which they are thus even regarded as flawed. For example, Quirk et al. (1985: 1619) and Huddleston/Pullum (2002: 1744) point out that the placement of a comma between subject and verb is inadmissible.[89] However, Quirk et al. (1985: 1619) also point out that a comma in this position is sometimes motivated by a tone unit break. While they stress that this is "an error[90] particularly likely to arise with lengthy subjects", (cf. Chafe 1988: 404; Sopher 1977: 306), Chafe (1988: 421) states that "the subject need not be a lengthy one if it conveys information that is completely new" and Sopher points out (1977: 306): "In speech, even relatively short subjects […] normally constitute a separate

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1990). Since studies within this project are based on the spoken part of the Survey of English Usage Corpus, the London-Lund Corpus, Stenström's study of the role 'adverbial punctuation' plays in signalling prosodic breaks additionally draws on a corpus containing written texts: "I examined the correlation between commas setting off certain adverbials in writing (LOB) and the prosodic separation of the corresponding adverbials in speech (LLC)" (Stenström 1990: 254).

[89] They only allow exceptions to help clarify structure, e.g.: *What his name is, is of no interest to me* (Quirk et al. 1985: 1620).

[90] Compare, by contrast, Cruttenden (1990: 71): "[H]ow often does one see a comma between subject and verb in newspapers, in personal letters, in student essays, or indeed, in articles submitted to journals? More widespread acceptance of this sort of use of the comma would of course represent a return to a more elocutionary usage, i.e., use of the commas to accord with IGBs [intonation group boundaries; J.M.]. Although in many cases syntactic and elocutionary punctuation coincide, a too stringent […] concentration on prescriptive syntactic punctuation can undoubtedly hinder what should be the basic principle of punctuation: aiding communicative clarity. […] more regard for elocution […] would enable use of the comma to return to this basic principle of communicative clarity."

tone-group". I came across an unintended example of such a prosodically motivated comma in Wichmann (2000: 34):

(85) The logic of this particular performance, is to separate the description from the 'dialogue' (assuming that 'sulky looks' can be counted as a contribution to the conversation).

In the following example which Esser (1999: 257) quotes from Frank Mc Court's memoir *Angela's Ashes*, the comma marking off the object of a clause was certainly a deliberate choice for greater emphasis:

(86) It's quiet in the lane and I can hear her crying even though she pulls an old coat over her face and I can hear in the distance, my father.

Other cases of prosodically motivated comma placement include coordinated sentences with *and*, where "despite subject ellipsis, a comma is nevertheless preferred"[91] and coordination of two units within a sentence other than independent clauses: "In such instances a comma is occasionally inserted for rhetorical reasons, particularly when predicates or predications are coordinated […]", as, for example, in *I enjoy tennis but don't play it often* (Quirk et al. 1985: 1618).

Parallel to prosodically motivated comma placement, there are also recurrent places in which the absence of a tone unit boundary leads to the absence of punctuation, e.g. in the case of adverbials:

> A common error in manuscript punctuation by inexperienced writers is to omit the first correlative comma in a medial included unit, *eg*: *Crocodiles in fact, do not* … The error reflects the fact that in normal speech the medial included unit is not necessarily separated prosodically from the previous part of the sentence, though it may be so separated from the

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[91] A comma before *and* is usually preferred when the subject of the second clause is present. If it is absent, there is a tendency for the comma to be left out (cf. Quirk et al. 1985: 1617).

following part (cf. App III.9) (Quirk et al. 1985: 1626 NOTE; cf. 1632; cf. Meyer 1987: 73ff.).[92]

Accordingly, Meyer (1987: 73-83) points out that there is a strong tendency for adverbials to be punctuated according to whether or not they form a separate tone unit (cf. Meyer 1986: 93) apart from their length and complexity.[93] Stressing that "punctuation is determined less by the length of an adverbial or its structure […] than by its function", Quirk et al. (1985: 1627) then still link function to the mode of prosodic presentation again. Thus there is no comma after the initial adjunct in (87) since the whole sentence "would usually constitute one tone unit in speech", but the same adverb as conjunct (87a) requires a comma since it would normally constitute its own tone unit in speech:

(87) Again he felt hesitant. [= 'Once more...']
(87a) Again, he felt hesitant. [= 'It should be added
                                    that...']
                              (Quirk et al. 1985: 1628)

A similar observation is made for the two conjuncts *however* (concessive: Quirk et al. 1985: 636) and *thus* (resultive: Quirk et al. 1985: 635) by Huddleston/Pullum (2002: 1747):

> In speech an initial *however* is characteristically
> prosodically detached from the rest, while *thus* is not,
> and this correlates with the fact that delimiting
> punctuation is very much more frequent with *however* than
> with *thus*.

All in all, we can thus see that if there *is* correspondence between the structure of the written and the

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[92] Strikingly enough, what is referred to as a "common error" in Quirk et al. is described as "optional" for an adverbial clause in *English for Journalists* (Hicks 1998: 40): "Where a phrase or clause that needs commas follows a conjunction such as 'but' or 'and', the first comma is now considered to be optional: *Fred tried to get up but (,) because he was tired and emotional, he failed.*" This is also adhered by Sopher (1977: 304f.): "[R]hetorically, they [the adverbial clause and the preceding conjunction, J.M.] form a single tone group" (Sopher 1977: 305).

[93] Cf. the 'heaviness principle' by de Beaugrande (1984: 200). Length and complexity are certainly related to the length of a tone unit.

spoken medium, rather than representing pauses, 'structural
punctuation' (see page 158 above), stands for contour-defined
tone unit boundaries. Commas which are merely inserted to
indicate tone unit boundaries in the spoken medium and are
thus used to guide the voice in reading aloud, have been
referred to as 'speaking commas' (Peters 2002: 84). As we
have seen above, they typically occur in places in which they
are not syntactically motivated and in which they are thus
sometimes even regarded as flawed.

It is apparently on the grounds of such 'speaking
commas' as well as on the grounds of the frequent co-
occurrence of syntactic and elocutionary punctuation that
several authors claim and even demand an increasing tendency
to prosodically motivated punctuation:

> A review of modern handbooks, empirical research, and
> pedagogical manifestos suggests that the semi-stable
> grammatical model of the past century is being
> abandoned. In its stead, punctuation is marking the
> cadences of informal speech or, in the case of email and
> other contemporary visual language media, helping the
> eye make sense of messages that are intended to be
> viewed quickly (Baron 2000: 189, cf. 24, 172).

> A growing number of composition theorists advocate
> shifting punctuation standards away from grammatical
> pointing to a model of informal rhetoric (Baron 2000:
> 192). […] [T]hose with pedagogical authority are not
> only urging student authors to write what they say (and
> read aloud what they write) but openly questioning the
> usefulness of non-speech-based punctuation" (Baron 2000:
> 195).

> [A]lthough certainly there are instances of punctuation
> that do not serve prosodic ends […] those instances are
> departures from its main function, which is to tell us
> something about a writer's intentions with regard to the
> prosody of that inner voice (Chafe 1988: 397, cf. 425;
> Danielewicz/Chafe 1985: 225; Cruttenden 1990: 71;
> Dawkins 1995; Sopher 1977).

However, as will be illustrated in the following, even tone
unit boundaries are indicated only "to *some* extent" by
punctuation marks (Chafe 1986: 18; cf. Chafe 1992: 24).

5.1.2 The influence of medium-dependent presentation structures and medium-independent presentation structures on the placement of tone unit boundaries

Despite the claims of a primarily prosodic motivation of punctuation, the ratio of punctuation marks and tone unit boundaries in oral reading at present still suggests that medium-independent presentation structures are of primary importance for the placement of tone unit boundaries. After all, we still come across more tone unit boundaries in the spoken medium than punctuation marks in the written medium.

Taylor (1996 b), in a study of the overall correlation between punctuation and (major and minor) tone-group boundaries in the Spoken English Corpus, found that tone group boundaries (3289 major, 8950 minor) occur almost twice as frequently as punctuation marks (7994). While 82.9% of the marks corresponded to a tone group boundary of some sort, only 52.8% of the tone group boundaries were found to correspond to a punctuation mark in the orthographic version.[94] Taylor's findings can, at any rate, be compared to Chafe's (1988) results. In his study,

> [o]f the total number of prosodic boundaries in the versions read aloud […], about 60% reflected punctuation marks in the written passages, while 40% did not. […] The punctuation marks […] were almost always read as prosodic boundaries (Chafe 1988: 408).

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[94] The catch to Taylor's study is that she compared the pause-defined tone group boundaries of the transcription system originally used in the Spoken English Corpus with the graphic version of the Spoken English Corpus, which contains mainly repunctuated scripts, hardly original scripts. Taylor's claim (1996b: 129) "The Spoken English Corpus transcribed in its various forms provides an ideal database for a study of the exact correlation between punctuation and prosody, enabling a direct comparison to be made between the orthographic and prosodic transcriptions" is not really valid since shifts between the original script/oral version and repunctuated versions do occur (see below). Her attempt at formulating rules how the punctuation system should be interpreted in a speech synthesis system is thus slightly problematic from the start.

Correspondingly, when Chafe (1986, 1988) compared the average length of a 'punctuation unit' - the distance between two marks of punctuation - with the average length of an intonation unit he found that "punctuation units are typically somewhat longer than the intonation units of speech" (Chafe 1986: 21). The average length of a punctuation unit was 8.9 words in the passages read by college students and 9.4 words in the texts read by members of an adult education class, while, when reading aloud, both groups divided their respective passages into considerably smaller intonation units: the average number of words per intonation unit was 5.7 and 5.2 respectively:[95] "[r]egardless of how a passage was punctuated, an oral reader will force it into a series of intonation units of spoken language size" (Chafe 1992: 25). Also in a second task, in which the test subjects were asked to repunctuate, i.e. add punctuation marks to original texts which were presented to them entirely without punctuation, the length of the punctuation units was 9.4 and 10.6 words on average.

All in all, there thus seems to be a general tendency to light punctuation.[96] What we have to consider in this context is that the permanent form of writing makes it possible for both writers and readers to process larger chunks of information at a time, "to assimilate more information in a single gulp of comprehension" (Chafe 1988: 414). Readers do not have to follow the pace set by a speaker and can read (and if necessary reread) at their own pace: "the eye, that

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[95] By contrast, the average length of a tone unit in my corpus of oral reading is 3 words (cf. Table 18 on page 143). The difference can be explained by the fact that an 'intonation unit' is often co-extensive with a clause (cf. page 105 above), while a tone unit in the transcription system applied in the present study often comprises units smaller than the clause.

[96] "In preference to […] heavy punctuation […], writers often move in the opposite direction towards a light punctuation, just sufficient to make their sentences quickly and easily understood" (Quirk et al. 1985: 1631). "[…] a light style puts in relatively few commas (or other marks) in those places where they are optional rather than obligatory" (Huddleston/Pullum 2002: 1727; cf. Meyer 1986: 82; cf. Chafe 1988: 416).

takes in large units of text at a glance, requires fewer
signals than the ear that receives the message piecemeal"
(Sopher 1977: 306, 311). Thus, "[t]here is evidently an
unavoidable constraint that spoken language of any kind must
be produced in spurts of a relatively constant length" (Chafe
1992: 25; cf. Chafe 1988: 406: cf. Shattuck-Hufnagel/Turk
1996: 203).

If there really was a tendency to an increasing prosodic
motivation of punctuation, one would rather expect a general
tendency to heavy punctuation, particularly in texts which
are explicitly written for the purpose of being read aloud.
However, as I could see for myself when I traced the working
day of a bi-media announcer at the BBC Scotland Broadcasting
House in Glasgow in August 2001, the tendency to light
punctuation is also followed in scripts for radio news. The
chief trainer of BBC Training and Development in London also
only makes temporary use of 'speaking commas' as a last
resort in the training of professional readers whose
performance is supposed to be improved.[97] The following call
for 'speaking commas' in broadcast journalism thus turns out
to be rather theoretical:

> In print journalism, punctuation usually follows certain
> formal rules, rules which help the reader disentangle
> the meaning of a complicated sentence. In broadcast
> journalism, there should never be a complicated sentence
> […]. Punctuation in a script for broadcast is there for
> one purpose only: to show that there should be a pause
> between one group of words and another (Gilbert in Hicks
> 1998: 110; cf. Wichmann 2000: 26, 28, cf. Chafe 1988:
> 416).

Finally, the following examples of optional and
inconsistent punctuation taken from Reading Text 2 of Corpus
1, additionally help qualify the remarks on 'speaking commas'
above, since they show that the sentence adverbial *in opinion*
is realised as a separate tone unit by all ten readers,

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[97] The interview with Fran Acheson took place at BBC Training and
Development London in September 2000.

regardless of whether it is followed by a comma (88) or not
(89). Six of the ten readers also come up with exactly the
same performance with and without a comma after *in opinion*.
In cases of such commas placed at a grammatical boundary it
is thus sometimes still claimed that even though punctuation
here does not *impose* a prosodic structure on the written
text, it seems to *reinforce* the position where a prosodic
juncture occurs in speech (cf. Meyer 1987: 13, 69).

(88)

```
17.1  In opinion,   a man    sometimes thinks   with the bulk  of his fellows
0.         H     ↑    ____↑       _____↑          ____↑          L    ↑¦
1.         H    ↓¦    ____↑       _____N↓         ____↑          __   ↓
2.         H    ↑¦    ____↑       _____N↓         ____           ↑¦
3.         L     ↑    ____↑       _____N↓         ____↑          H    N↓
4.         E    ↓¦    ____↑    E  ↓                ____↑          __   ↑¦
5.         H    ↓¦    ____↑       _____↓          H              N↓¦
6.         __   ↑¦    ____ can↑   _____↑          ____↑          __ l ↑
7.         H    ↓     ____↓       _____↑          ____           ↑
8.         H    ↓     ____↑       _____↓          ____↑          __   ↓
9.+        H    ↓     ____↑       _____↑          ____↓          __   ↑
```

(89)

```
19  In opinion   there is no  permanent   majority.
0.     __   ↑      H↑ ___      N↓   __  l ↓¦
1.     __  ↓¦         ___              N↓¦
2.     __  ↓       __   ↑          __  N↓¦
3.     __  ↑          __↑          __  N↓¦
4.     __  ↑          __↓          __  N↓
5.     __  ↓¦         __↑ ___    ↓ __  ↓
6.     __  N↓¦        L↑ l    l     __ N↓¦
7.     H   ↓          __   l      l ↓¦
8.     __  ↓                        ↓¦
9.     __  ↑          __↑ ___    ↓  __  N↓¦   [PRC, RT2]
```

All in all, medium-independent elements (e.g. *and*, *if*,
in opinion) thus still seem to be the primary indicators for
tone unit boundaries, i.e. their primary point of
reference.[98] Another argument to be held against a primary

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[98] Chafe holds the opposite view since he states that it is only the
  absence of commas that forces the reader to rely wholly on syntax for
  prosodic divisions. By signalling the boundaries of normal processing
  units with punctuation marks, writers relieve readers of the necessity
  of creating those boundaries for themselves (Chafe 1988: 420): "Most
  or all [oral readers] segmented the passage before a conjunction –
  before 'and', 'but', 'while', and 'before' – thus helping to confirm
  the notion that conjunctions signal prosodic breaks when punctuation
  is absent" (Chafe 1988: 419). "[I]n the absence of punctuation, the

orientation towards medium-dependent presentation structures
for the realisation in the spoken medium is the – if only
rare but still regular – occurrence of punctuation marks
which are not matched by a tone unit boundary in oral reading
(cf. Chafe 1988: 397; Meyer 1987: 70). The following section
will deal with such "instances of punctuation that do not
serve prosodic ends" (Chafe 1988: 397).

5.1.3 'Reading commas'

Chafe (1988: 408) found that "[i]n only 6% of the
possible cases was a punctuation mark not read aloud as a
boundary". In order to get an idea of these nevertheless
regularly occurring cases, consider the following instance of
spoken English:

(90) And ... it seems like a ... f-airly fruitless debate/
     because lots of times/
       things that have the same function have the same shape you know/
                                    (Danielewicz/Chafe 1985: 221).

In the written medium, the adverbial phrase *lots of times*
would normally be separated from the rest of the clause by
the insertion of commas because the adverbial phrase
interrupts the sequence *because things...* in the reason
clause (ibid; cf. Meyer 1986: 87; Quirk et al. 1985: 1367).[99]
In the spoken medium, by contrast, the conjunction *because*
and the adverbial phrase *lots of times* are realised as one
introductory unit for the last main idea (Danielewicz/Chafe

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presence of a conjunction might provide a reader with a clue to a
prosodic boundary" (Chafe 1988: 424). The fact that this is a rather
distorted view has in part already been demonstrated in the main body
of text above and will be even further illustrated in the following
elaboration.

[99] According to Hannay (1987: 92) we here come across the delimitation of
a "core message unit" (cf. the quote on page 174 below). Quirk et al.
(1985: 1628f.) speak of 'included units'. If it was not for the
tendency towards light punctuation, the graphic medium would be so
'crowded' with marks that such 'highlighting' would not be possible.
The same holds for the special effect intended by the insertion of
individual 'speaking commas' in prose.

1985: 221). As was noted before, in view of the strong
tendency for adverbials to be punctuated according to their
tonal integration into the clause (apart from their length
and complexity) there is a trend for these commas to be
increasingly left out in writing (cf. again Quirk et al.
1985: 1626 on page 163f. above; cf. Quirk et al. 1985: 1632).

In the following, I will present instances of such
deviations between the written and the spoken medium, which
occur in the short story "Through the Tunnel" (text G01 in
the SEC, i.e. Corpus 2). I will compare the repunctuated
(line 1) and the published scripts (line 2) with the
transcript of the oral reading version (line 3).[100]

(91)

```
Yet  walking down the path with her,     he blurted     out,
Yet, walking down the path with her,     he blurted     out,
                                    n↑+     ____    n↑+  ___  n↑+
```

(92)

```
he saw an edge        of white    sand       and  beyond that
he saw an edge        of white […] sand,      and, beyond that,
       ____   n↑+                  ____   f↓0      ____       n↑+
```

```
a solid       heavy       blue.
a solid(,)    heavy       blue.
  ___       n↑+  ___     n↑+  ____   f§↓0
```

(93)

```
he yelled up  in English,     'Look at me!
he yelled up, in English,     'Look at me!
   ____                  f↑+            H   f§↑0
```

(94)

```
He fixed        the goggles      tight      and firm,
He fixed        the goggles      tight      and firm,
 ___     n↑+          _____   f↑+  _____   f↑+      ____   f↓0
```

```
filled his lungs      and floated     face down  on the water.
filled his lungs,     and floated,    face down, on the water.
____                f↑+      _____   f↑+                 __      f§↓0
```

---

[100] The respective commas are underlined in the subsequent examples.

(95)

```
He […]    clambered         about the stones
He […]    clambered         about the stones
          _____    n↑+              _____    f↑+
```

[…]

```
until he found a big one,      and  with this      in his arms
until he found a big one,      and, with this      in his arms,
          ___    f&↑+              _____  n↑+          _____  n↑+
```

```
let himself down        over the side of the rock.
let himself down        over the side of the rock.
          _____  f↑+                    _____  f§↓0
```

(96)

```
First, he thought,      he must learn to control his breathing.
First, he thought,      he must learn to control his breathing.
_____        n↑+                              _____      f§↓0
```

In the examples above, a participle clause, prepositional phrases, a noun phrase postmodified by an adverb phrase and a 'reporting clause' (cf. Quirk et al. 1985: 1020) are integrated in a larger unit in the spoken medium than in the published scripts assumed to be the original scripts. However, such insertions also appear fitted into a tone unit of their own, particularly during the part of greatest suspense of story G01, during the protagonist's dangerous dive. The oral reader thus seems to use some kind of suspense-creating delay tactics.

(97)

```
He dropped      with the weight      straight to the sandy floor,
He dropped,     with the weight,     straight to the sandy floor.
  _____  f↑+          _____  f↑+                   _____  f§↓0
```

(98)

```
and then, once      while he was clinging to the black wall,
And then, once,     while he was clinging to the black wall,
          _____  n↑+                             _____  n↑+
```

```
his knees came up
his knees came up
          __  f&↑+
```

```
(99)

He […]  caught a glimpse       as he retreated
        caught a glimpse,       as he retreated,
            H       n↑+              ____      n↓+

of a harmless        tentacle of seaweed
of a harmless        tentacle of seaweed
   ____        n↑+          ___      f↑+
```

Quite generally, the presentation of such adjuncts, including
adverbial clauses, in separate tone units thus does not seem
to be primarily influenced by the average length of a tone
unit in oral reading (cf. above: 3 words), but first and
foremost seems to be intended to put more emphasis on the
insertions. The original script (see line two in (97)-(99)
above) here exhibits correspondence between the graphic and
the spoken medium.[101] More emphasis also holds for the next
example, in which fencing off of a participle clause
("authorised by the clock") explains the comma after a
subject in the following case:

```
(100)

The words      'two      minutes'      authorised by the clock
The words      'two      minutes',      authorized by the clock,
  _____  n↑+   ___  n↑+  ___     n↑+                     _____  n↑+

brought close       the adventure
brought close       the adventure
   _____  n↑+           ___      f↑+

that was so necessary to him.
that was so necessary to him.
      ___                      f§↓0
```

---

[101] Cf. my deliberate punctuation on page 29 above: "What is aimed at, for
    the first time, is a description of the reading process which is so
    comprehensive […]". Cf. also the one-word tone units in Chapter 4
    above. However, we here also see that the picture is complicated by
    the fact that writers as well as readers have a certain scope of
    choice in mode of presentation. Different authors use punctuation in
    different ways, with a major source of variation being the extent to
    which punctuation is used to express tone unit boundaries. The
    published scripts obviously adhere to a particular house style (cf.
    Little 1984: 383; Hicks 1998: 56) which is distinct from the choice by
    the repunctuators. It is here also of interest that Ford (1992)
    detected the same continuum of connectedness in the intonation and
    punctuation of adverbial clauses in English: "temporal clauses are
    separated from their main clauses only 3% of the time […] while causal
    clauses are separated 25% of the time, with conditionals falling
    between the two, being separated 17% of the time" (Ford 1992: 9).

In the published script there are also additional cases of punctuation marks which are regularly not 'translated' into the spoken medium, fencing off other units than adjuncts, mainly vocatives:

(101)

```
'Oh!    There you are  Gerry,'
'Oh(,) there you are, Jerry!'
 h      H                     f↓0
```

(102)

```
'Well, of course  darling.'
'Well, of course, darling.'
          H                  f§↓0
```

(103)

```
'I shouldn't overdo things  darling,
'I shouldn't overdo things, darling,
    h           H                 f↓+
```

According to Hannay (1987: 92), the motivation for the commas ignored in oral reading in all the above cases ((90)-(103)) is primarily semantic:[102]

> The linguistic categories known as free adjuncts, non-restrictive relatives, non-restrictive adverbials, apposition, afterthoughts, parentheticals, corrections, dislocations, vocatives, themes, inclusions, and disjuncts are all associated with separation by comma precisely because they refer to information which is by definition outside the core message unit of the sentence (Hannay 1987: 92, cf. Meyer 1987: 9).

---

[102] There is also a case in which a punctuation mark occurs within a tone unit only in the repunctuated version. Since this mark cannot be found in the published, assumed to be the original script, it actually falls outside the category 'punctuation marks ignored in oral reading' but still serves to illustrate at least subtle semantic changes:

```
under him  [...] was a floor  of perfectly clean,   shining, white sand,
Under him, [...] was a floor  of perfectly clean,   shining  white sand,
__          ↑n+           _____↑f+           _____ ↑n+          ____ ↓f0
```

While in the first case we get ((shining) (white) sand), so that *shining* and *white* each modify *sand*, the second case yields ((shining white) sand), so that *shining* modifies *white*.

In the cases listed above, the comma is thus primarily syntactically and semantically motivated, not prosodically. Commas which are not read aloud as tone unit boundaries have been referred to as 'reading commas' (Peters 2002: 84). They are exclusively intended to guide the mind in seeing through a grammatical construction, i.e. they are merely a visual aid in the interpretation of texts. However, we also saw that when the need arises for the expression of more emphasis, e.g. when the suspense within the text increases, there seems to be a trend for a realisation of adjuncts as separate tone units.

Having discussed the association of punctuation with tone unit boundaries at some length, I will now turn to the association of punctuation with tonicity and tone.

5.2 The association of punctuation with tonicity and tone

According to Stenström (1988: 228f., cf. Bruthiaux 1993: 34) punctuation marks are not linked exclusively to prosodic segmentation but also, particularly in the case of adverbials, to the other two elements involved in the construction of a tone unit, tonicity and tone.[103] This is particularly conceivable for tonicity since it is indirectly linked with tonality via the tendency for end-focus (cf. Figure 9 on page 93, cf. also page 94 above). Referring back to the example *Crocodiles in fact, do not […]* (cf. quote on page 163f.), Quirk et al. (1985: 1632) explicitly state that "a final correlative comma after the phrase *in fact*" is

---

[103] It is the complexity of intonation and the concomitant desire for simplification that Levinson (1985) regards as a further root of the pause principle (cf. page 160 above): "Perhaps because intonation is composed of so many different features and comprises so many different shapes, which though perceptible are not easily distinguishable, distinct elements such as tonal contrasts, contour sequences, rhythmic patterns and many other factors have been through the centuries simplified into 'pauses'" (Levinson 1985: 27). This may particularly hold for non-linguists and thus explain the instructions in *English for Journalists* (Hicks 1998) mentioned above.

rhetorically motivated "to place the greatest emphasis on this emphatic adverbial".

Italics or capital letters are also sometimes used to provide emphasis (cf. Lakoff 1982: 247). In fact, this is a stylistic device used by many novelists. Most recent examples can be found in abundance in J. K. Rowling's (2003) *Harry Potter and the Order of the Phoenix.* In the following example, taken from this book, nuclei are indicated by italics:

(104)

 'That dream I had about your dad and the snake, though –'
 'Harry, you've had these dreams before,' Hermione said. 'You
had flashes of what Voldemort was up to last year.'
 'This was different,' said Harry, shaking his head. 'I was *inside*
that snake. It was like I *was* the snake ... '
                    (Rowling 2003: 442).

Compare also my own writing on page 158: "In the few cases in which the topic *is* addressed…".[104]

As for tone, the situation turns out to be a little bit more complex since here the situation is slightly different for the period and the comma. The period is most often associated with a 'final' fall (cf. Chafe 1988: 409). However, we do come across examples which show that this is not always the case:

(105)

They were big boys,   men to Gerry.
    ___   f↑0   ___   f§↑0¦ [SEC, G01]

---

[104] Apart from indicating nuclei, italics are frequently used to mark
paralinguistic or metalinguistic information. The following is an
example of the first case, again taken from *Harry Potter and the Order
of the Phoenix*: "'No you are not,' said Ginny sharply. 'Neville
Longbottom – Luna Lovegood. Luna's in my year, but in Ravenclaw.' '*Wit
beyond measure is man's greatest treasure*,' said Luna in a sing-song
voice" (Rowling 2003: 169). In addition, capital letters are
frequently employed to indicate loudness or high key. The latter can
be assumed to be evoked in the subsequent example: "'Dudley thought
he'd be smart with me, I pulled out my wand but didn't use it. Then
two Dementors turned up –' 'But what ARE Dementoids?' asked Uncle
Vernon furiously. 'What do they DO?'" (Rowling 2003: 36).

(106)

```
He thought of octopuses,      of clinging
          __         f↑+      _____     n↑+

weed.
____   f§↑0 [speed]  [SEC, G01]
```

In the examples above, the rising intonation at the end
of the sentences, finished with a full stop in the original
and repunctuated versions alike, expresses awe and panic
respectively. Obviously, then, the choice of tone primarily
depends on the respective context and is thus a semantico-
pragmatic choice (cf. Figure 9 on page 93 again). However, in
terms of frequency counts, there certainly is a predilection
for a falling tone at places at which a full stop occurs in
the written medium. This can be explained by the fact that
for texts which originated in the written medium the end of
an utterance, of a 'processing unit' (cf. House 1990 on page
33 above) very often corresponds to the end of a clause or a
sentence, and the latter are usually marked with a full stop.
The association of a full stop with a fall to the speaker's
baseline is thus rather prevalent.[105] We thus sometimes come
across cases like the following:

(107) He had broken the vase. Deliberately.
                        (Huddleston/Pullum 2002: 1735)

Here, the default punctuation would be as a single sentence,
but "the division into two sentences […] presents the whole
as a sequence of two messages, which serves to give extra
importance to the contribution of the adjunct" (ibid). Thus,
an extra period is by analogy used to indicate completion of

---

[105] Conceding that periods are not only associated with the auditory image
of falling pitch but at the same time with the end of a sentence,
Chafe also stresses the frequent combination of prosodic and syntactic
aspects in the motivation of punctuation: "in many cases there may be
no point in asking whether some instance of punctuation is determined
by prosody or grammar. So long as prosody and grammar coincide, the
only proper answer is 'both'" (Chafe 1988: 402, cf. Sopher 1977: 310).

a processing unit independent of a clause. Such 'special
effects' can be particularly expected in prose.[106]

By contrast, in the case of commas, which are often
claimed to be read aloud as nonfalling pitches (cf. Chafe
1988: 409), there seems to be no real predilection for a
certain tone so that there the dependence of choice of tone
on the semantico-pragmatic part of medium-independent
structures becomes even more evident. Consider the multitude
of parasyntactic configurations in the performance of the
professional reader at commas in Reading Text 1 of Corpus 1:

n↑+	n↓+	f↓0	f↓+	f&↑0	f&↓+
14	1	8	3	1	1

Table 21: Parasyntactic configurations at commas in Reading
Text 1 of Corpus 1, professional reader

Table 21 illustrates that the number of commas occurring at
non-final and final places in the performance of the
professional reader in Reading Text 1 of Corpus 1 is nearly
the same: there are 15 occurrences at syntactically non-final
places and 13 occurrences at syntactically final places. The
preference for n↑+ on the one hand and f↓0 on the other
reflects the contrasting functions of the comma as integrator
and separator. However, apart from these contrasting
tendencies, various other combinations do occur. Consequently
there is no definite way of translating the comma into a
certain tone in the spoken medium.

---

[106] Cf. the multiple ways the following sentence might be punctuated
depending on the amount of emphasis the writer wishes to give:
  John asked for a date when he got the nerve.
  John asked for a date(, - .) W/when he got the nerve
                                        (Dawkins 1995: 538).
Depending on the hierarchical position of a punctuation mark, it is
associated with a different degree of separation. The scale reaches
from maximum separation by sentence-final marks (period, question
mark, exclamation mark) via medium separation by semicolon, colon
(anticipatory) and dash (emphatic) to minimum separation by comma,
while no punctuation rather stands for connection (cf. Dawkins 1995:
535). Use of higher marks in the hierarchy ('raising') is "a device
for gaining rhetorical effect" (Dawkins 1995: 539).

All in all, a fixed association of particular punctuation marks with particular tones, claimed by Chafe (1988: 402), cannot really be substantiated. Rather, what Chafe concedes for the dash and the question mark seems to hold more generally: "the dash, like the question mark, apparently has no consistent pitch interpretation, but receives such an interpretation from its context" (Chafe 1988: 409). In other words, choice of tone is primarily determined by semantico-pragmatics (cf. Figure 9 on page 93 above).

Association of the full stop with a fall expressing completion is a secondary phenomenon since in primarily written language, utterances are frequently expressed in complete clauses or sentences. But, as shown above (page 177f.), such an association may, of course, be exploited by an author.

Given the above-mentioned tendency for co-occurrence of syntactic and prosodic boundaries in reading, punctuation marks – primarily markers of grammatical structure in the graphic medium - can often be associated with tone unit boundaries and, via the tendency for end-focus, with tonicity. Chafe's originally vague statement "Although punctuation certainly fails to represent the total range of prosodic phenomena a writer or reader may assign to a piece of written language, it does capture some major aspects of a writer's prosodic intent" (1988: 397; cf. Chafe 1986: 18; cf. Meyer 1986: 93; 1987: 73; cf. Bruthiaux 1993: 34, cf. Hall/Robinson 1996: 52; cf. Peters 2002: 86) should by now have become clearer. The next section will look at whether it is justified to associate paragraphs with superordinate prosodic units often referred to as 'paratones'.

5.3 The association of paragraphs with 'paratones'

The paragraph can be described as a unit of graphic presentation (cf. Esser 1999: 256) which delimits a medium-independent linguistic unit of textual organisation and thus reflects the metalinguistic encoding by the author (cf. ibid):

> the paragraph enables a writer to show that a particular set of sentences should be considered as more closely related to each other, and that those grouped within one paragraph are to be seen as a whole in relation to those that are grouped in the paragraphs preceding and following (Quirk et al. 1985: 1624).

It has repeatedly been claimed that speakers use intonation to group sentences in a paragraph-like way, i.e. that there are spoken analogues of written paragraphs: Yule (1980) is among those who have propagated the existence of the 'paratone' (cf. Couper-Kuhlen 1986: 189ff.),[107] Wichmann (2000: 24) speaks of 'paragraph intonation'. Most commonly, a new topic is said to cause raised pitch at the beginning of a new spoken paragraph. According to Wichmann (2000: 26, 44) there is an extra high and extra late pitch peak on the first accented syllable. The end of a spoken paragraph is said to be frequently marked by low pitch close and/or a lengthy pause (cf. Brown/Currie/Kenworthy 1980: 26; Lehiste 1979: 101; Wichmann 2000: 27, Yule 1980: 36; 38f.). Swerts and Geluykens (1994: 40) stress that the observation of such "superordinate prosodic structures" over "larger-scale textual units" is particularly plausible in read-aloud speech, "given the fact that speakers are able – quite literally – to have an overview of the sentences constituting a paragraph."

---

[107] Yule (1980: 38) actually distinguishes between 'minor' and 'major paratones'. Since minor paratones are merely defined by phonological criteria and only major paratones are additionally described as "forming a unit with a single topic" (Yule 1980: 38), it is the major paratones that are of interest in the present context.

Accordingly, Wichmann finds that topic, paragraph and paragraph intonation tend to coincide in written-to-be-spoken texts like news broadcasts: "each news item begins with an extra high pitch reset" (Wichmann 2000: 26), and a drop to low pitch is seen as 'coming to the end' phenomenon (ibid: 27, cf. Yule 1980: 38, 39). This is, however, contrasted with the "oral performance of a primarily written text", the short story G01 of the Spoken English Corpus: "here we find that the printed paragraphs only account for a small part of the reader's prosodic topic signalling" (Wichmann 2000: 28). Wichmann (2000: 31) points out that the paragraphs she has chosen for analysis show hardly any topic-initial resets and that there is a shifting of paragraph breaks from the written medium to different 'speech paragraph' breaks in the spoken medium as illustrated in (108).

(108)

printed version	**spoken performance**
…They swam back to the shore without a look at him.	*They swam back to the shore without a look at him. He swam back to the big rock, climbed up and dived into the blue pool among the fanged and angry boulders. Down he went until he touched the wall of rock again.*
He swam back to the big rock, climbed up and dived into the blue pool among the fanged and angry boulders. Down he went until he touched the wall of rock again. **But the salt was so painful in his eyes that he could not see.**	***But the salt was so painful in his eyes that he could not see.*** *He came to the surface, swam to the shore and went back to the villa to wait for his mother. Soon she walked slowly up the path swinging her striped bag, the flushed naked arm dangling beside her. 'I want some swimming goggles', he panted, defiant and beseeching.*
He came to the surface, swam to the shore and went back to the villa to wait for his mother. Soon she walked slowly up the path swinging her striped bag, the flushed naked arm dangling beside her. 'I want some swimming goggles', he panted, defiant and beseeching.	*She gave him a patient, inquisitive look as she said casually, 'Well of course, darling.' But now, now, now! He must have them this minute, and no other time. He nagged and pestered until she went with him to a shop.*
She gave him a patient, inquisitive look as she said casually, 'Well of course, darling.'	

(Wichmann 2000: 31)

According to Wichmann (2000: 32) the paragraphs in the written medium indicate the chronological structure of the

story (He swam, He came, She gave…), while the division of paragraphs in the spoken medium rather follows van Dijk's (1977) 'episodes'. Correspondingly, the second spoken paragraph introduces a 'complication' in the story. This is followed by a 'solution': the purchase of the swimming goggles. Wichmann comes to the conclusion that professional readers stand out in that they do not rely too much on 'visual cues' (2000: 33f., 47). After all, the criterion of coherent content in a paragraph is sometimes undermined: "there seems to be a tendency whereby the original paragraph structure is later changed for reasons of the layout only and without the slightest consideration of content" (Bergien 1996: 474; cf. Quirk et al. 1985: 1624n.; cf. Wichmann 2000: 30).

However, the features claimed to be characteristic of paratone breaks, among them extra high pitch, are not used consistently to mark the beginning of an actual (topic-motivated) spoken paragraph. Rather, some speakers and readers exhibit a greater tendency to use high key and/or a pause at the beginning of what might be separated as 'conceptual paragraphs' than others (Mindt 2001: 187; cf. Schaffer 1984: 340; Esser 1988: 26-29). Consequently, this phenomenon seems to be reader idiosyncratic, i.e. user idiosyncratic, rather than just due to different text types (whether written-to-be-spoken or primarily written), i.e. due to use.

Above all, the acoustic features claimed to be characteristic of paratones have been shown to occur more often than at actual (topic-motivated) paratone breaks, i.e. the relevant features are also used *within* spoken paragraphs (Mindt 2001: 188, 268, cf. 185; 187; cf. Schaffer 1984: 340f.). In my corpus, extra high pitch (high key) is often used to mark key words of the context.[108] Not surprisingly,

---

[108] The following example is a case in point:

then, Mindt's (2001: 254; 259f., 269) study found that paratones cannot be confirmed to be units of declination.

All in all, paratones thus cannot be delineated on the grounds of intonational features alone (cf. Schaffer 1984: 340) but only by falling back on content and lexico-semantic criteria in addition (Mindt 2001: 181, 185, 187, 188, 195, 196, 269; Thein 1994: 195; Schaffer 1984: 343). However, since semantic criteria often allow various delimitations (Mindt 2001: 195), there is another reason for calling the assumption of the existence of a unit like the paratone into question. Mukherjee (2001: 43f.) actually goes so far as to reject the concept of paratone with reference to the contradiction between the potential length of a paratone – it can comprise far more than 7 + 2 tone units – and the neurobiological finding that no more than 7 +/− 2 information units can be retained simultaneously, "the more so as intonation forms only a tiny part of the entire linguistic information" (Mukherjee 2001: 44). It is thus "questionable whether the paratone as a formal entity is actually perceived by the hearer as a prosodic unit as such" (Mukherjee 2001: 41).

Having dwelt upon punctuation which apparently is not reliably translated into the spoken medium in terms of prosody, I will now turn to the opposite case: punctuation marks which are indispensable for oral reading.

The Department   of Employment   says   the **number** of people
  h   ____   n↑+   ____   n↓+ ____ n↑+   **H**   n↑+

unemployed   and claiming   benefit   last month
  _____ n↑+   ____   n↑+   ____   n↓+   _____ nN↓+

was **three** million   two hundred and fifty-eight thousand
    H   f↓+   ____   f↓+

eight hundred and sixty-eight.
    _____ f§↓0 [SEC, B03]

5.4 Punctuation marks which are indispensable for oral reading

Wichmann claims that the limited reliance of skilled readers on 'visual cues' does not merely hold for paragraph boundaries but also for sentence boundaries. The oral readers in one of her studies – children -

> […] although skilled, occasionally ignored full stops and capital letters at sentence boundaries, suggesting that sensitivity to typographic conventions is independent of the ability to interpret texts, and that a young reader uninfluenced by the layout may be able to respond more readily to narrative structures which are at odds with the layout (Wichmann 2000: 35).

However, this claim is not generally valid, and demands an important qualification. Namely, disregard of punctuation at clause boundaries might lead to a change of proposition(s) as demonstrated by the reading performance of a 7-year-old boy in (16), reprinted here as (109).

(109)   **printed version:**

1. Nearly every family living in the city suburbs takes a vacation sometime during the summer.
2. When the weather becomes warm, usually during July, Bob and Jane accompany their parents to the seaside.
3. In order to reach their destination on the shore, they are obliged to travel over a mountain range.

   oral reading of a seven-year-old:

1'. Nearly every family living in the city suburbs takes a vacation sometime during the summer, when the weather becomes warm, usually during July.
2'. Bob and Jane accompany their parents to the seaside in order to reach their destination.
3'. On the shore, they are obliged to travel over a mountain range.

(Chambers 1987: 2)

If, as in 1' and 2', an adverbial clause, phrase or word shifts as a module from the front of a successive sentence to final-position in a previous sentence, we talk of 'annexation' (Chambers 1987: 48) or 'late closure' (cf. footnote 8 on page 14, page 78 and footnote 72 on page 125).

Here, the reader's anticipation of a higher-order structure, the first word(s) of which can be assumed to have fallen within the reader's eye-voice span, has apparently overpowered the signal presented by the punctuation (cf. Chambers 1987: 98). In other words, the jarring effect of the medium-dependent graphic signs was not "as strong as the syntactic pull across that gap" (Chambers 1987: 80). We can see that such shifts of a constituent from one clause root to another, i.e. shifts in clause dependency, bring about dramatic semantic changes "because the same information is packaged differently" (Levinson 1985: 134; cf. Pilch 1990: 6; Thein 1994: 97f., cf. page 78 above).

According to Levinson (1985: 133) cases in which the attachment of a constituent to one clause or another is of little consequence, are rare. He gives the following example, in which the prepositional phrase *in 18 titled episodes or chapters* each time refers to the subject *the story* regardless of whether it belongs to the first or the second clause:

(110a)

> The story runs to 67 pages in 18 titled episodes or chapters. It presents a distorted picture of the rise and fall of the poet.

(110b)

> The story runs to 67 pages. In 18 titled episodes or chapters it presents a distorted picture of the rise and fall of the poet.

The second version above is also an example of 'truncation' (Chambers 1987: 49) or 'early closure' (cf. footnote 8 on page 14, page 78 and footnote 72 on page 125), of 'modular detachment of adverbials' (Chambers 1987: 95). This involves the shortening of a graphic text sentence into a grammatically acceptable sentence. The string accumulated by the eyes in reading is then judged to contain all the necessary structural elements a sentence requires, the sentence simply makes sense up to the point where the

truncation occurs. Since the voice lags behind the eyes, it allows for the now "appropriate" sentence-final intonation to appear on the last word or two of the truncated sentence (cf. Chambers 1987: 98).

In Chambers's (1987) corpus[109] 'modular attachment of adverbials' (Chambers 1987: 83) accounts for over 80% of the annexation errors, but there is also 'coincidental extension' (Chambers 1987: 91): attachments of units on either side of the sentence boundary which are more tightly integrated than adverbials, as if the annexation "extended" a phrase across the boundary:

(111)

> Father shouted for John to help. Mother ↓0 was running up to the tower as Father reached the stairwell (ibid).[110]

Since in these cases elements are left stranded, the danger of such misreadings seems to be not so great. This is corroborated by the comparatively small number of occurrences of this particular kind of mistake in Chambers's corpus.[111]

Rather, the overwhelming part of annexation and truncation errors (in 74 and 94% of the cases respectively in Chambers's study: 1987: 70f.) appear to be highly sensitive to rules of clause structure and connection and thus

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[109] Chambers's "oral reading error data base" stems from the performance of 513 children reading different amounts of fiction and non-fiction texts (Chambers 1987: 54). Rather than providing precise information on the size of his corpus, Chambers merely states that the texts used consist of "20 passages" ranging in length "from one paragraph to 13 pages". We are then only told that annexation at sentence boundaries occurred in 18% of all the sentence boundaries in the data base, while annexation at paragraph breaks appeared only in 8% of all the paragraph boundaries in the data base and annexation at page breaks was found in 7% of all the page breaks in the data base (Chambers 1987: 79). While truncation of sentences occurred in 15% of all the sentences in the data base, early closure was observed only at 3% of the page breaks (ibid).

[110] In Chambers (1987), *help* and *Mother* are underlined to indicate late closure after *Mother*. I decided to insert a tone unit boundary instead, in order to point out clearly that this phenomenon occurs in the spoken medium.

[111] In fact, the garden-path sentences discussed in great detail in approaches dealing with temporary syntactic ambiguities are of this kind.

simultaneously corroborate the active nature of the reading process, i.e. the expectancy model above (cf. page 6f. and Figure 5 on page 31). In Chambers's study, annexation and truncation also seemed to be triggered by the expectation of an average sentence length: The average sentence length in the corpus was 9.5 words, the average length of a sentence with late closure was 8 words, in the case of truncation the average sentence length was 10 words (Chambers 1987: 74, 117). Thus, annexation occurred if the text sentence appeared to be "too short", truncation was the result if the text sentence appeared to be "too long".

On the whole, annexation and truncation are the result of inattention to the essential graphic signals of the text, the readers exclusively pay attention to the medium-independent structures of the text. The children generally considered graphic features to play a secondary role to the key influence of medium-independent structures (Chambers 1987: 108f.).

While a professional reader can also be expected to orientate primarily to medium-independent structures rather than to medium-dependent graphic presentation (cf. 5.1.2 above), which is quite in line with the trend towards light punctuation, it is important to realise that he does not (or at least should not) do so exclusively, but instead has to be able to distinguish between punctuation at different levels and thus also to recognise the relevance of punctuation at clause boundaries.

In summary, we can therefore see that regular shifts between the written and the spoken medium can occur with those commas elaborated on in 5.1.3 above ('reading commas'). On the paragraph level, such shifts would not matter either (cf. 5.3). By contrast, clause boundaries have to be obeyed in skilled reading to make sure that the proposition(s) the respective author intends to convey, are not distorted by the oral presentation. What turns out to be indispensable for a

'felicitous phonic presentation' in oral reading are
consequently those punctuation marks which indicate clause
boundaries and thus help clarify propositional structure(s)
in the written medium. Accordingly, we can claim that in
skilled reading the realisation of punctuation marks depends
on their respective status within a text, in other words,
that there is identification of the text with only selective
attention to visual cues: punctuation at clause boundaries -
particularly with adverbials - turns out to be a decisive
reading cue. Realising this, we get a more differentiated
view of Meyer's (1987: 11) rather general claim that
punctuation is "an important perceptual cue". The following
section will show that the aspect dwelt on here proves
helpful in the finding of a basic difference between
primarily written and written-to-be-spoken texts.

5.5 The difference between primarily written and written-to-be-spoken texts

The claims of a basic difference between primarily written
and written-to-be-spoken texts could not be confirmed with
regard to medium-dependent (graphic) presentation structures
since scripts for radio news were found to exhibit the
general tendency to light punctuation, too (cf. page 168
above). Thus, the question arises whether texts which are
explicitly written for the purpose of being read aloud,
rather than containing more cues in their medium-dependent
(graphic) presentation structures, then actually offer more
cues in their medium-independent presentation structures for
realisation in the spoken medium than primarily written
texts. Can shifts as those illustrated in the preceding
section be shown to be prevented by less ambiguous medium-
independent structures?

For tackling this question, I will draw on the repunctuated scripts of the Spoken English Corpus. They were produced without access to the oral reading version. For them, we can identify places which – as their 'translation' into the spoken medium reveals - are bound to have originally exhibited a rather different graphic structure.

5.5.1 Proposition shifts in primarily written and written-to-be-spoken texts

Let us first of all look at the short story "Through the tunnel" by Doris Lessing (Spoken English Corpus, G01) as an instance of a text which was primarily intended for the written medium (cf. Mindt 2001: 10).[112] In the following instances, the first line (as in 5.1.3 above) again presents the version of the script in the Spoken English Corpus as produced by volunteer punctuators without access to the oral reading version. The second line displays the published version of the script (Lessing 1957; Lessing 1978) and the third line depicts the transcript of the intonation which was actually used in the oral presentation. It is obvious that the oral version much better matches the original script in the second line than the repunctuated script in the first. In the repunctuated version, the propositional content is obviously changed to a considerable extent since the

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[112] In comparing the repunctuated version of SEC G01 with the published script and the oral reading performance, I was *not* interested in
- those cases where punctuation is chosen from different levels in the punctuation hierarchy, i.e. where we find e.g. a full stop in the generally heavier punctuated original text and a semicolon in the repunctuated text;
- those cases where punctuation is optional, e.g. before *and*, where we may come across a comma in the repunctuated version but no punctuation mark in the original script. In such cases, at least professional readers seem to stay consistent in their intonational choice anyway and thus prove a stronger reliance on medium-independent structures than on graphic signs (cf. (88) and (89) on page 169 above).

punctuation marks suggesting placement of the final fall are presented in a different place:[113]

(112)

```
'Why, darling,    would you rather not come with me?
'Why, darling,    would you rather not come with me?
     H      n↓+                                        __ f§↑0

Would you rather...'    she frowned    conscientiously, worrying
Would you rather – '    She frowned,   conscientiously  worrying
    __           n$↑+   _____   f↓0                ___        f↑+

over what amusements    he might secretly    be longing for,
over what amusements    he might secretly    be longing for,
    ____        n↑+         __      n↑+    ____        f↓0
```

(113)

```
He felt he was accepted    and he dived again,
He felt he was accepted    and he dived again,
    ____    f&↓0                ____ f↓0

carefully    proud of himself.
carefully,   proud of himself.
____        f↓0 _____              f§N↓0¦
```

(114)

```
They looked down    gravely,    frowning –
They looked down    gravely,    frowning.
    ____ f↓+ _____   f↓0 ____      f§↓0

he knew the frown        at moments of failure    when he clowned
He knew the frown.       At moments of failure,   when he clowned
    E             f§↓0                ____   n↑+    _____    n↑+

to claim his mother's attention.    It was with just    this grave
to claim his mother's attention,    it was with just    this grave,
    ____                    n↓+          ____ n↑+      _____ n↑+

embarrassed inspection    that she rewarded him.
embarrassed inspection    that she rewarded him.
   ___             n↑+      ___             f§↓0¦
```

(115)

```
They were flying down    past him now    into the water;
They were flying down    past him now,   into the water;
   ___            f↑+ ____        f↑+         __  f§↓0
```

---

[113] These cases show that Taylor's (1996b) study of the relationship between punctuation and tone group boundaries for text-to-speech synthesis is inherently problematic, since here the rules are not derived from the original graphic version, but from the repunctuated script.

```
the air     was full of falling    bodies,
the air     was full of falling    bodies.
   ___ n↑+              ____     n↑+ ___    f§↓0

then      the rock was empty.    In the hot sunlight
Then      the rock was empty    in the hot sunlight.
____ n↑+                 ___  f↓+            ___       f§↓0¦

he counted:      one,     two,     three.
He counted      one,     two,     three...
   ____     f↓0 ___ f↑+ ___ f↑+ _____     f§↑+¦
```

(116)

```
'I want some swimming goggles,'    he panted.
'I want some swimming goggles,'    he panted,
           _____            f↓+     ___     f↓0

Defiant      and beseeching,      she gave him a patient,
defiant      and beseeching.      She gave him a patient,
  __   f↓+            _____     f§↓0¦  h   h         ___     n↑+

inquisitive look     as she said casually,
inquisitive look     as she said casually,
  ____            f↑+               ___       n↑+

'Well, of course  darling.'
'Well, of course, darling.'
          H              f§↓0
```

(117), (118)

```
He swam down     to its base
He swam down     to its base.    [new paragraph]
        ____ f↑+          ____ f§↓0

again and again.  He rose,
Again and again   he rose,
              ____ f↑+

took a big    chestful of air     and went down again,
took a big    chestful of air,    and went down again.
        ___ n↑+              ___ f&↑+            ____ f§↓0

again,    and again.    He groped over the surface of the rock,
Again     and again     he groped over the surface of the rock,
 ____ n↑+        ____ n↑+                          ____ f↑+

feeling it,   almost hugging it,   in the desperate need
feeling it,   almost hugging it    in the desperate need
____          f↑+           ____       f↑+              ____ n↑+

to find the entrance,
to find the entrance.
        __       f&↓0
```

(119)

He dropped   with the weight   straight to the sandy floor,
He dropped,   with the weight,   straight to the sandy floor.
   _____   f↑+   _____ f↑+   _____ f§↓0

clinging tight   to the anchor of stone.   He lay on his side
Clinging tight   **to the anchor of stone,** **he lay on his side**
    _____ n↑+   _____ n↓+   ____ f&↑+

and looked in   under the dark shelf
and looked in   under the dark shelf
    ____   n↑+   _____ f↓+

at the place where his feet had gone.
at the place where his feet had gone.
        ____   f§↓0

(120)

That night   **his nose**   **bled badly**   **for hours**;
That night,   his nose   bled badly. **For hours**
  _____ n↑+   ____ n↑+   ___ f§↓0   <u>H</u>   n↓+

he had been under water   learning to hold his breath
he had been under water,   learning to hold his breath,
      __   f↑+   _____ f&↓0

and now he felt weak   and dizzy.
and now he felt weak   and dizzy.
    ____ f↑+   ____   f§↓0

(121)

and they proceeded to forget him,
and they proceeded to forget him.
       ___   f&↓0¦

but **he**   **was happy**   **he**   **was with them.**
But he   **was happy.**   **He**   **was with them.**
  __ n↑+   ___ f§↓0 __ n↑+   ____   f§↓0¦

(122)

At fifty   **he was terrified**   **they must all be drowning**
At fifty,   **he was terrified.**   **They must all be drowning**
  ___   n↑+   ____   f§↓0   <u>H</u>   f↓0

beneath him   in the watery caves   of the rock.
beneath him,   in the watery caves   of the rock!
   _____   f↓+   ____ f↓+   ____ f§↓0¦

In nine out of eleven cases, we come across instances of late closure in the repunctuated version [(112), (113), (114),

(117), (118), (119), (120), (121), (122)].[114] There are two cases of early closure [(115), (116)]. The shifts mostly involve adjuncts, i.e. adverbial phrases or clauses and prepositional phrases. For example, in (112), the repunctuated version relates the adverb *conscientiously* to *frown*, while in the oral reading version there is already closure after *she frowned*, and *conscientiously* is then read aloud as belonging to the following *worrying*. This oral version is also consistent with the original published script. Similarly in (113), the repunctuated script describes the protagonist as being *carefully proud of himself* – in the sense of being careful not to reveal the pride to anyone else, i.e. not to appear arrogant, whereas in the oral version and original published script *carefully* refers back to *he dived*. In (119) *clinging tight to the anchor of stone* either describes the way in which the protagonist dropped (repunctuated version) or the way in which *he lay on his side* (original script and oral reading version). And in (120) *for hours* either refers to the duration of the nose bleed or to the time spent under water. There are also two cases of coincidental extension [(121) and (122)], which bring about different syntactic interpretations: the original script and the oral reading version feature closure after *happy* in (121) and *terrified* in (122), which leads to an interpretation as two main clauses. This reading gives more emphasis and is consequently much more dramatic than the interpretation of the repunctuated version as one main clause containing an embedded zero *that*-clause.[115]

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[114] Since adverbial phrases and clauses more frequently occur in final position in a sentence than they do in initial position (Quirk et al. 1985: 500, 510), a reader's movement of that unit from initial position in a successive sentence to final position in a previous sentence is consistent with what he can rather expect to occur in English.

[115] Cf. (107) on page 177 and footnote 106 on page 178. In (122) the comma after *beneath him* in the original script causes further dependency shifting and a concomitant slight semantic change: with the comma, *in the watery caves of the rock* refers back to *drowning*, without the

While eleven changes of propositions between the oral version and the repunctuated version occur within the 20 minutes of the short story G01 in Corpus 2, there is only one such discrepancy in the 20 minutes of the (written-to-be-spoken) Commentary texts (see (123)) and another one in the 20 minutes of the (written-to-be-spoken) News texts (see (124)) in Corpus 2.[116] Thus, such cases as above hardly occur in News and Commentary and the two that do occur only lead to rather subtle semantic changes.

(123)

At a news conference   after their installation,
 ____   n↑+ __   n↑+

the party leaders   clearly   betrayed   the differences
      ___   n↑+   _____ n↑+   ____ n↑+   ____   n↑+

between them;   […] instead, perhaps,   of laying out a programme,
 _____   f↓0   _____   n↑+   ___   f↑+

or policy agenda,   which might have […]   convinced the world
 ___   f↑+   n↑+   _H__ f↓+

that the new government was anything more
                              _H__ n↑+

than **proxy, ruled**   [comma ignored in reading aloud]
      ___   f↓+

from Pretoria.
     __   f§↓0 [SEC, A09]

(124)

There's also encouragement
    _H___   n↑+

for women workers
 _____   f§↓0¦ [full stop here in original script?!]

in recent months.   It's men   who've benefited
 _H___   nN↓+   ___ n↑+   ____   n↑+

from the slackening   pace   of unemployment,
 _____   n↑+ ____ f↑+   ____   f&↓0 [SEC, B03]

---

comma, *in the watery caves of the rock* simply postmodifies *beneath him* (cf. footnote 102 on page 174).

[116] For News and Commentary no original scripts are available, cf. page 159.

In (123) above, the comma suggested by the repunctuated graphic version makes the passage read as 'the new government was anything more than proxy, [it was] ruled from Pretoria'. That is, *proxy* and *ruled from Pretoria* act as two co-ordinated clause elements, they form two complements. The syntactic status after *ruled* would then be non-final. However, in the actual spoken version, *proxy* premodifies *ruled*, and *proxy-ruled* is postmodified by *from Pretoria*, i.e. we only have one complement: 'the new government was anything more than proxy-ruled from Pretoria'. The syntactic status after *proxy-ruled* is then potentially final. The second passage in (124) reports about the development of unemployment "in recent months". The shift taken place in the repunctuation can be explained by the fact that, in this context, the link of this adjunct makes sense to both "encouragement for women workers" and men's benefit "from the slackening pace of unemployment".

Since these two examples of shifts represent an exception, we generally find a striking agreement between the oral reading of the written-to-be-spoken News and Commentary texts and their repunctuated scripts. This suggests that the syntax and semantic relations, the underlying medium-independent structures of texts which are explicitly written-to-be-spoken, might be less ambiguous than in texts which are primarily intended for the written medium as Doris Lessing's story (cf. Figure (16) on page 196). Since scripts for the radio are often written under great time pressure and are rather ephemeral in character, their punctuation rather than their medium-independent presentation structures can easily turn out to be inaccurate and misleading.[117] An author's concern for felicitous phonic presentation thus rather seems to affect the medium-independent presentation structures of

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[117] At least this is what I found when I visited the BBC Broadcasting Centre in Glasgow in August 2001.

such texts.[118] By contrast, texts which are primarily intended for the written medium can obviously rely much more on punctuation for the clarification of sense than scripts for the radio.

```
written texts                           ↔      written-to-be-spoken texts
short story "Through the Tunnel"        _      News and Commentary Texts
repunctuated script                            repunctuated script
        ≠                                               =
oral reading                                   oral reading
+ published script
```
_____

```
More reliance on punctuation                   less ambiguous medium-
for clarification of sense?                    independent structures ⇒
(& 'special effects' in prose)                 less reliance on punctuation
                                               for clarification of sense
```

Figure 16: Written texts vs. written-to-be spoken texts

Since the amount of data available for this kind of study is rather limited here, it could, strictly speaking, be argued that the findings for primarily written texts are only valid for Doris Lessing's text. Thus, further examination of the basic difference observed here, on the grounds of a larger database in future research, is certainly desirable. The following section provides a closer look at the nature of medium-independent input to oral reading: it reveals how proposition shifts in written-to-be-spoken texts are obviously prevented from the start.

_____

[118] This is quite in line with a remark the chief trainer of radio production at BBC Training and Development made when I interviewed her in September 2000: "Seven times out of ten there is nothing wrong with the voice but rather the underlying script causes problems."

5.5.2 The dependence of medium-independent presentation structures on the target medium: means for the prevention of proposition shifts in written-to-be-spoken texts

Given the impression that BBC News and Commentary, i.e. written-to-be-spoken texts, avoid medium-independent structures with high repunctuation frequency, i.e. that their underlying medium-independent structures (syntax and semantic relations) are more unambiguous, let us take a closer look at how they prevent an unintended link of adjuncts or different syntactic interpretations. The phenomena observed in the corpus can basically be grouped into three categories. The latter, however, sometimes shade into one another and thus cannot always be strictly separated:

1) a syntactic mismatch,

2) a semantic mismatch and

3) a stylistic/pragmatic mismatch with the typical style of radio news.

If there was a shift of dependency in cases of a syntactic mismatch, there would be stranded components, double filling of the same slot (*early today* and *at the time* in (125)[119] below), clumsy connections, the use of a wrong preposition (see the use of *over* in (126 b)* below) or of a wrong tense, for example the combination of adjuncts as *ten years ago* or *yesterday* with the present perfect (see (127)). In several cases, such shifts (e.g. annexation of *for hours* in (128)) are blocked by insertion of the connectives *and*, *so* or *but*, which thus help to clearly delineate propositions:

---

[119] In the following examples, version (a) presents small and capital letters as can be guessed by the oral reading, while the version in line (b), additionally marked with an asterisk (*), is my own repunctuated, i.e. manipulated, version.

(125)

(a) Police in West Yorkshire say they're investigating
     a fire at the home of a working miner early today. The
     bungalow at Upton... was unoccupied at the time.

(b)* Police in West Yorkshire say they're investigating
     a fire at the home of a working miner. Early today the
     bungalow at Upton... was unoccupied at the time.

                                                      [SEC, B01]

(126)

(a) The Trade and Industry Secretary, Mr. Leon Brittan,
     said he's not planning to resign over his commons
     statement yesterday. The confederation of British
     industry has said the Chancellor should use the
     Budget...

(b)* The Trade and Industry Secretary, Mr. Leon Brittan,
     said he's not planning to resign. Over his commons
     statement yesterday the confederation of British
     industry has said the Chancellor should use the
     Budget...

                                                      [SEC, B04]

(127)

(a) Recession and unemployment, now at sixteen per cent in
     Duisburg, has driven people away from the city. Ten
     years ago it boasted six hundred thousand people,

(b)* Recession and unemployment, now at sixteen per cent in
     Duisburg, has driven people away from the city ten years
     ago. It boasted six hundred thousand people,

                                                      [SEC, A06]

(128)

     The fire caused chaos on the tube system: scores of
     trains on three lines were halted because the power had
     to be turned off, **and** for hours, road traffic had to
     contend with diversions because of street closures.
                                                      [SEC, B01]

     Shifts of dependency are also avoided by semantic
mismatches, i.e. a shift of an adjunct or of an other element
(coincidental extension) would not make sense at all, would
run counter to collocations and more likely combinations of
sense. In example (129) there is no sense in the idea of a
clear majority *voting* against the official result of the

ballot, although the majority might criticise it. One would
also have the rest of the sentence stranded. In (130) early
closure after *alone* would bring about an inappropriate
reference, since *they* and *an article* do not make sense
together.

(129)

(a)   The chief union negotiator, Mr. Mick Murphy, said the
      first indications were that a clear majority had voted
      against. The official result of the ballot will
      not be announced until Friday,[…]

(b)* The chief union negotiator, Mr. Mick Murphy, said the
      first indications were that a clear majority had voted
      against the official result of the ballot. will
      not be announced until Friday,[…]

                                                      [SEC, B04]

(130)

(a)   some Free Church people feel that, in practice, the
      Anglicans go it alone whenever they can. An article in
      this week's Baptist Times asks:

(b)* some Free Church people feel that, in practice, the
      Anglicans go it alone. Whenever they can an article in
      this week's Baptist Times asks:

                                                      [SEC, A01]

        Last but not least, proposition shifts are also avoided
by pragmatic mismatches with the typical style of radio news.
The latter often start with a subject (the topic), which is
followed by a verb phrase (often in the passive, cf. section
4.1.1.2) and afterwards there is more (circumstantial)
background information, e.g. in adjuncts, to reach a target
state. So there is a strong tendency for late closure, i.e.
an adjunct most often still belongs to the end of a preceding
sentence as default option[120] on provision that the statement
does not become too long (cf. page 187 above). The following
example is the first sentence of a news broadcast after the
reader has introduced himself. Early closure after *safety* and

---

[120] Cf. examples (125), (126), (130) above, as well as footnote 114 on
      page 193. Cf. also Mukherjee (2001: 26).

a concomitant shift of *after being trapped...last night* to the following sentence thus certainly would not do since the information presented up to there is too general for a satisfactory target state in the News to be possibly reached. One would ask "from where or what?" Besides, the tense of *led* is not right to end at *safety*. One would have expected *have been led*.

(131)

(a) A thousand people were led to safety after being trapped by a fire in the London Underground last night; many had to walk along the track to the nearest station.

(b)* A thousand people were led to safety. After being trapped by a fire in the London Underground last night, many had to walk along the track to the nearest station.

[SEC, B01]

All in all, the observations made in 5.5.1 and 5.5.2 seem to indicate that, for written-to-be-spoken texts, an author obviously does not rely too much on punctuation for clarification of sense, but primarily tries to guide and thus anticipate felicitous phonic presentation by unambiguous medium-independent presentation structures (syntax and semantic relations) which bar proposition shifts from the start. After all, written-to-be-spoken texts are often produced under great time pressure and are ephemeral so that punctuation can easily turn out to be inaccurate and misleading. In the following figure, basically a reprint of Figure 5 in Chapter 1 (see page 31), an unambiguous choice of syntax and textual organisation as primary concern of an author of written-to-be-spoken texts is indicated by a bold-type arrow. Such an unambiguous choice can at least be expected to lead to less variation in the phonic presentation of skilled oral readers ($\Rightarrow$).
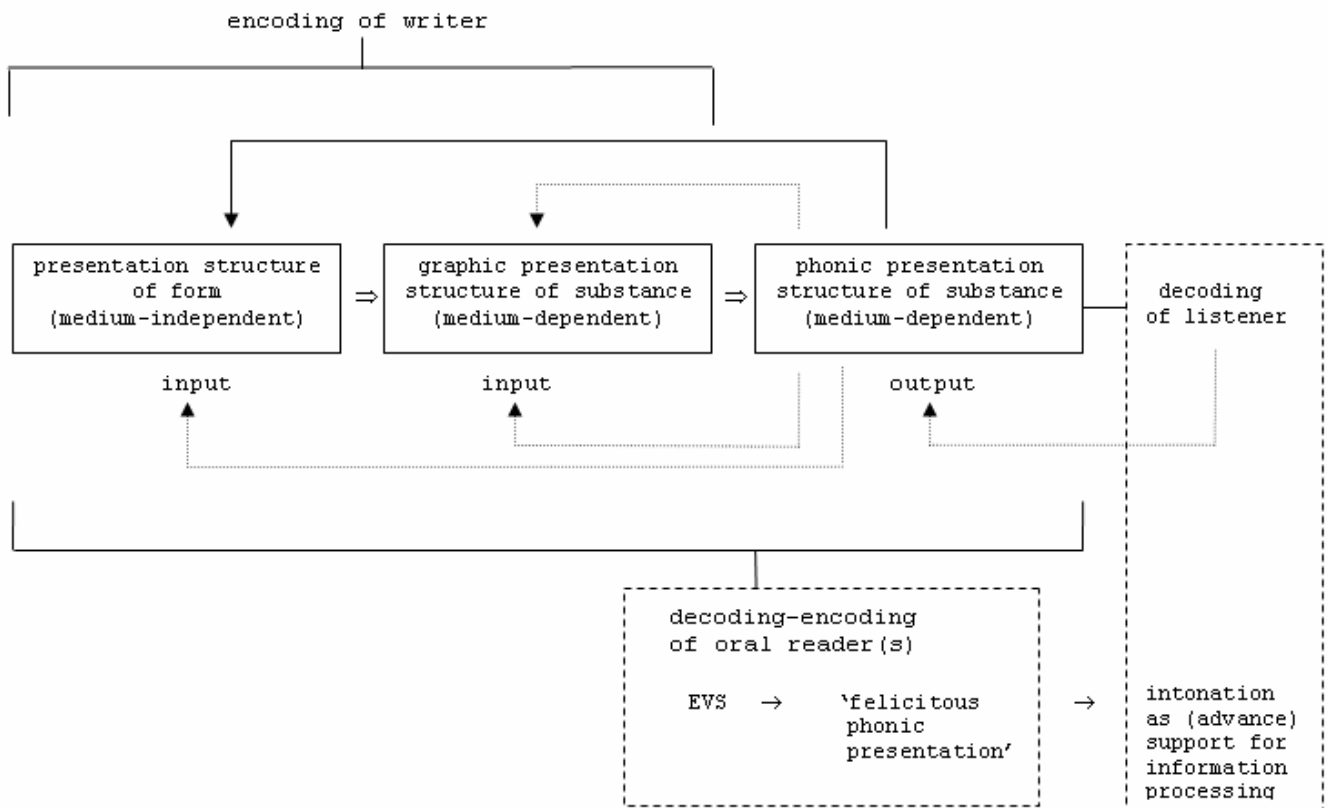
Figure 17: Input and output of texts explicitly written for the purpose of being read aloud (cf. Esser 1999: 251)

Finally, Table 22, a slightly altered reprint of Table 9 on page 97 above, now considers the different bases primarily written and written-to-be-spoken language provide for reading aloud by explicitly listing both of them.

Presentation Structures of		Activity
Form	Substance	
Presentation of encoder: styles (words, syntax and textual organisation) of **primarily written or written-to-be-spoken** language	Graphic presentation of encoder: orthography and punctuation	Writing (encoding)
	Phonic presentation of decoder-encoder: discourse intonation, allomorphs of connected speech	Reading (decoding-encoding)

Table 22: Presentation structures and activities involved in reading aloud (cf. Esser 1999: 248)

5.6 Summary: The influence of medium-dependent (graphic) presentation structures and medium-independent presentation structures on oral reading

The frequent correspondence of syntactic units and tone unit boundaries in reading aloud and, concomitantly, the primary motivation of punctuation by grammar since the 17th century apparently explain the primary association of punctuation, particularly commas, with tone unit boundaries. The tendency to end-focus in oral reading thus seems to be the reason for an indirect association of punctuation with tonicity. The association of periods with falling tones is a secondary phenomenon since, in primarily written texts, utterance boundaries are often co-extensive with sentence boundaries. Though some writers might try to exploit such frequency-induced associations deliberately, a reader's choice of tone still seems to be primarily motivated by semantico-pragmatics.

The ratio of punctuation marks and tone unit boundaries, i.e. the tendency to light punctuation, and additionally the regular occurrence of semantically motivated 'reading commas', which are not translated into the spoken medium, show that tone unit boundaries are primarily motivated by medium-independent presentation structures. 'Speaking commas' inserted to indicate tone unit boundaries, for example, between subject and verb, thus also still seem to be the exception rather than the rule. They are not normally used in written-to-be-spoken texts, only by individual authors and in particular genres as prose. Consequently, generalisations that punctuation is more and more prosodically motivated again, appear to be rather exaggerated at present, although, of course, it cannot be entirely ruled out that a possible diachronic change into that direction might have started. However, this remains to be observed by future research,

which will still be limited by the fact that it is impossible to command a view of the entire performance anyway.

At present, we can only state that punctuation "involves the complex interaction" of syntactic, semantic and prosodic factors (cf. Meyer 1987: 9) so that "the relationship between punctuation and prosody is weak and unsystematic" (Meyer 1987: 69). The following assessment by Quirk et al. (1985: 1611), which is quite in line with Crystal (1995: 278) and Nunberg (1990), thus best seems to summarise the present situation as shown in this chapter:

> […] punctuation practice is governed primarily by grammatical considerations and is related to grammatical distinctions. Sometimes it is linked to intonation, stress, rhythm, pause, or any other of the prosodic features which convey distinctions in speech, but the link is neither simple nor systematic, and traditional attempts to relate punctuation directly to (in particular) pauses are misguided.
> […] there is a great deal of flexibility possible in the use of the comma. The comma in fact provides considerable opportunity for personal taste and for implying fine degrees of cohesion and separation (Quirk et al. 1985: 1611).

All in all, readers primarily seem to orientate to medium-independent presentation structures rather than to punctuation for realisation in the spoken medium. However, it is certainly important for them to acknowledge the relevance of punctuation at clause boundaries and translate the latter, in order to prevent changes of proposition. In this context, it is telling that authors of texts which are explicitly written for the purpose of being read aloud do not rely too much on punctuation but instead set great store by unambiguous medium-independent presentation structures. Apart from a basic difference between primarily written and written-to-be-spoken texts, we thus again finally notice the primary importance of medium-independent presentation structures for realisation in the spoken medium (cf. Chapter 4).

6 Summary and conclusion

6.1 The interaction of syntax, semantico-pragmatics and intonation: input and output in oral reading

Starting from shortcomings and partial results of preceding studies of oral reading as well as from a first look at corpus data, this study posited a provisional model of the interaction of syntax, semantico-pragmatics and the distinctive intonational features tonality, tonicity and tone. Tonality was here postulated to be largely determined by syntax. For tonicity, this was already less the case, since here, semantico-pragmatics was found to exert a slight influence independent of strict syntactic categories. On the other hand, choice of tone was claimed to be largely connected with semantico-pragmatics, while not so reliably derivable from syntax.

On this basis, the talk unit concept was expanded to include the semantico-pragmatic level (aim 1a) and thus to do more justice to the complexity of the notion of 'completion' or 'finality'. First, the medium-independent channel in the talk unit is judged considering the respective context and not on the basis of mere syntactic slot-filling. Secondly, I have suggested a slightly more detailed interpretation of falls and rises in the talk unit model, particularly with regard to relative position in a speaker's pitch range. The revised talk unit model recognises that both rises and falls can express expectancy of semantico-pragmatic completion or incompletion. Sometimes, tonicity contributes to the overall judgement on incompletion or completion. However, given that the base unit underlying the talk unit is the tone unit, tonicity, too, and thus all the intonational elements which have proved to be functionally relevant so far, can be studied systematically when the talk unit is used as a device to analyse a corpus.

Using this device, the interaction of syntax, semantico-pragmatics and the relevant features of discourse intonation could be systematically examined in a corpus comprising typical domains of oral reading (aim 2). The analysis of parasyntactic presentation structures yielded a decrease in the average length of a talk unit from the Formal Scripted Speech through News and Commentary to Fiction and thus an increased facilitation of information processing along the cline. Strategic placement of tone unit boundaries by the professional readers considers anticipation as well as evocation of details of a scene in the listeners' minds by means of a sequence of one-word tone units. While the choice of falling and rising tones turned out to be rather idiosyncratic and at times also influenced by the intention to express a certain mood, the proportion of tones expressing completion and incompletion stayed rather consistent within the individual text types.

Across the typical domains of oral reading, syntactic, tonal and semantico-pragmatic information were found to coincide most of the time. Alternative tonal realisations of the same syntactic statuses – n$\downarrow$0 instead of n$\downarrow$+/n$\uparrow$+ and f§$\downarrow$+/f§$\uparrow$+ instead of f§$\downarrow$0 – confirm that there is still a stronger link between tonal and semantico-pragmatic (in)completion than between tonal and syntactic (in)completion. Cases in which tonal and semantico-pragmatic information conflict, were found to be performance mistakes made by the non-professional reader in the corpus.

The results for tonicity in terms of the proportion of proclitic tone units exhibited by the individual text types clearly diverged from the cline observed across the different genres on the grounds of the parasyntactic analysis before. Rather than being directly and exclusively connected to syntactic complexity, tonicity seems to be much more influenced by semantico-pragmatics than was at first assumed on the basis of Arnfield's (1994) result for the prediction

of accent from word class information. After all, placement of the tonic on function words as prepositions and auxiliaries could be shown to be a regular strategic use by professional readers for textsemantic reasons. Above all, however, the different text types could be shown to exhibit different patterns with regard to the most frequent word classes receiving the tonic, particularly in the comparatively rare and thus more conspicuous enclitic tone units. There are thus obvious connections between tonicity and textsemantic superstructure.

In an additional look at obtrusive pauses, it was found that professional readers tend to use strategic placement of tone unit boundaries *or* tone-unit internal pauses as alternative means to increase anticipation. Only a small number of oral readers make use of obtrusive pauses at tone unit boundaries which already have an anticipatory effect. Not surprisingly, hesitation pauses often, although not exclusively, occur in the performance by non-professional readers. The deliberate use of obtrusive pauses is irregular and partially idiosyncratic: they can generally be replaced by other presentation structural means. Therefore their role in information presentation should not be overestimated.

As for the influence of medium-independent and medium-dependent presentation structures on oral reading, it was shown that (aim 3) readers primarily orientate to medium-independent presentation structures given the general tendency to light punctuation and the occurrence of mere 'reading commas'. However, the 'translation' of punctuation at clause boundaries is often relevant to prevent changes of proposition and thus ensure a felicitous phonic presentation. Consequently, aiming at a felicitous formal and graphic presentation as a basis for a felicitous phonic presentation, authors of texts which are explicitly written for the purpose of being read aloud tend to rely not too much on punctuation

but instead seem to set great store by unambiguous medium-independent presentation structures.

Thanks to the development and application of a revised talk unit model as well as to the additional consideration of tonicity and medium-dependent graphic presentation structures, the present study, all in all, provides the most comprehensive investigation of the reading process to date.

6.2 Future research

The results of this study of typical domains of oral reading are a further, provisional contribution to the analysis of presentation structures in everyday language use. I will now finally point out some aspects for future research which suggest themselves leading off from the unavoidable limits of this study.

- The talk unit model could be reapplied, this time in its revised form, to spontaneous spoken language. This should include extension of work on how syntax, semantico-pragmatics and the relevant features of intonation interact in the projection of transition-relevance places. It would be interesting to see how the results of such a study of spontaneous spoken language would compare with the results in parasyntactic configurations in the current study and whether the following statement by House (1990) could be confirmed:

     we would expect to find much simpler intonational
     structures in spontaneous speech, such as informal
     conversation, where planning might proceed in a fairly
     ad hoc manner, than in prepared, non-spontaneous speech
     (lectures, speeches, etc.), where the speaker is
     presumed to have considered his material beforehand, and
     may be expected to hold the floor for some time.
     Prepared scripted speech, such as reading texts aloud,
     is likely to provide the most complex structures (House
     1990: 42).

- Bolinger's study of accent placement in American broadcast
  prosody (1982, 1989) suggests a more mechanical performance
  than my study of British, mostly RP, broadcast prosody. It
  could thus also be interesting to investigate differences
  in broadcast- and other prosody – and thus possibly in the
  interaction of syntax, semantico-pragmatics and different
  features of intonation – in different varieties of English,
  employing the revised talk unit model.

     Research in this field focusing on English spoken in the
  British Isles might particularly draw on the IViE
  (Intonational Variation in English) Corpus.[121] This corpus,
  available online free of charge "to any interested user"
  (excluding commercial use) at
  http://www.phon.ox.ac.uk/~esther/ivyweb/, offers speech
  data from nine dialects of English spoken in the British
  Isles. Most of them are available in .wav format and can be
  downloaded in prosodic transcriptions. Since one can choose
  from one male and one female speaker per dialect, each
  performing five speaking styles – including free
  conversation and read passages – it is even possible to
  carry out (admittedly very modest) studies of gender- and
  stylistic variation within cross-varietal research. The
  data are explicitly offered as source for "all academic
  research" and as "a basis for M.Phil or PhD dissertations"
  (Grabe and Slater 2001).

- As already mentioned in Chapter 5, continuing investigation
  of punctuation is particularly pertinent with regard to
  the question whether punctuation is really increasingly

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[121] Since **"the spoken texts in the ICE corpora are transcribed
orthographically without prosodic analysis, and with only pausing and
overlapping speech indicated" (Kennedy 1996: 222), this corpus can,
unfortunately, not be drawn on for further studies in this field. The
Santa Barbara Corpus of Spoken American English – representing the
American Component of the International Corpus of English – will only
be transcribed with marking of intonation units, but not accents or
tones (personal communication with John DuBois). It also does not
contain any categories of reading aloud (personal communication with
S. A. Thompson).

prosodically motivated. Given the limited amount of appropriate data which were available for this study here, it is also necessary to further investigate the influence the target medium has on the choice of medium-independent structures. This could make it possible to corroborate, and possibly even to extend, the differentiation between texts which are explicitly written-to-be-spoken and texts which are primarily intended for the written medium, set out on the grounds of medium-independent presentation structures in the present study. It could be interesting to focus on audiobooks for a start, and the special effects in the prose they mostly feature. After all, audiobooks provide both original scripts and their oral reading, although, of course, the material would still have to be prosodically transcribed.

- Even more solid work on the interaction of syntax, semantico-pragmatics and relevant features of intonation could be done if the analysis procedure could one day be fully computerised (cf. Mukherjee 2001: 150f.). Such an automated, systematic application of the revised talk unit model to spontaneously spoken, written-to-be-spoken and primarily written read aloud language in different varieties of English can be expected to depict presentation patterns more reliably and comprehensively than before. As a result, the scheme illustrating the interaction of syntax, semantico-pragmatics and different features of intonation outlined in the present study (cf. page 93ff.) might then possibly be extended and ultimately lead to a comprehensive picture of the interaction of these three levels of language, embedded in a general framework of presentation structures in English.

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