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Discourse Intonation

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Abstract: This paper addresses the different notions of 'discourse' that underlie various studies of 'discourse prosody.' It describes the prosodic resources available to speakers to convey different kinds of discourse meaning. In so doing, I distinguish between discourse as structure – information structure and text structure, discourse as language in use – pragmatics and conversation, and discourse as a reflection of society – power and persuasion. In addressing the final aspect of discourse – its ability to manipulate and persuade, I recall the classical origins of rhetoric and revisit the all-important notion of 'delivery'.

***Key words**:* Discourse – prosody – rhetoric – speaking style – conversation.

1. Introduction

In this paper I examine what is variously meant by 'discourse' and the theoretical assumptions underlying the different definitions. I shall review the role of prosody in spoken discourse, and consider what resources speakers draw on in the process. I shall also address the question as to how these are exploited, including whether discourse effects are generated by inherent or relational features.

The theoretical assumptions regarding the nature of language that explicitly or implicitly underlie previous studies of discourse prosody are rarely addressed in published studies, so that the different approaches often appear to be more practically than theoretically motivated. In fact, there are very great differences in approach, which assume different relationships between phonological categories and phonetic variation: on the one hand, there is the view that there is an abstract underlying phonological system, variably realised both locally and globally according to situation of use. On the other hand, there is a view that any formal units of analysis are a function of the use to which speech is put.

The questions raised here are threefold: firstly what do we mean by 'discourse' when referring to 'discourse prosody'? Secondly there is a question as to whether discoursal meaning is conveyed by exploitation

of the underlying intonational phonological system *per se*, by the systematic realisation of its categories (e.g. by pitch scaling), or by manipulation of global prosodic parameters that are not normally considered to be part of the phonological system. And thirdly, it needs to be considered whether discourse meaning is conveyed by features inherent in a given utterance or stretch of speech, or by the interpretation of those features in a given context, or whether such effects arise from sequential relationships between utterances, i.e. contextual juxtapositions.

2. Discourse

The term 'discourse' in relation to prosody is often used to refer to the prosody of focus and accent, given and new, degrees of accessibility etc, thus mainly related to information structure (e.g. Baumann & Grice, 2006). Beyond prosody, however, the term is used more broadly. The many approaches to discourse derive from various fields, including anthropology, philosophy, sociology and linguistics (see Cameron 2001). There appear to be three main notions of discourse, firstly defined as 'language above the sentence', secondly defined as 'language in use', and thirdly defined as 'language as it constructs or reflects social reality'. In practice, the last two uses overlap, but broadly relate to pragmatics (language in use) and critical discourse analysis (social reality).

2.1 Discourse as 'language above the sentence'

This is a structural view of discourse, involving a hierarchy of units, each contained in a higher-level unit. A text, in this view, is presumed to be a coherent sequence of related sentences. The view of discourse taken here presupposes, of course, that it is possible to identify the lower-order units (sentences) that it comprises, and thus applies most obviously to written language, since a sentence is an orthographic unit but not a unit of speech. Obviously, 'sentences' are not so easy to identify in speech, unless we are dealing with the spoken performance of a written text, when the written form provides the basis for structural analysis, and prosodic patterns can be related to units of written language. In this framework, the role of prosody is to indicate how the parts of the discourse relate to each other rather than to anything outside it (context of situation), and could be described as the prosody of information management.

2.2 Discourse as 'language in use'

The functional view of language, which implies that its formal organisation derives from the purposes it has to serve, encompasses a wide range of approaches to language – from Gricean pragmatics and the study of

speech acts, to interactional pragmatics, and the radical functional approach of Conversation Analysis (CA). Some of the concerns here are derived from language philosophers, who endeavour to explain how we get from what we say to what we mean. By positing a separate 'interpreting' module, Relevance Theory (Sperber and Wilson 1995) is consistent with a modular view of language. Other approaches to speaker meaning, however, including the pragmatic function of prosody, relate language use to external social variables.

Conversation Analysis owes more to sociology, and is concerned with how conversationalists jointly create order in that part of social interaction that is 'talk'. The dimensions of this 'order' are threefold: first it is achieved by managing information: indicating new topics, asides, continuation of old topics etc; secondly it involves managing and maintaining the interaction itself, by means of negotiating turns, and finally by managing the relationships between the participants.

2.3 Discourse as 'language and social reality'

The third approach to discourse is one which allows in English the plural form 'discourses', and is taken by those more interested in the social world that it reflects or constructs, than in the language itself. This is a view of discourse in the sense used by Michel Foucault (1972), in its strongest form claiming that discourse creates the reality of which it speaks. A less radical view is that certain kinds of discourse may reinforce social and political realities, or at the very least reflect them. Research in this area focuses mainly on written text, or the written transcript of spoken text, presenting little opportunity for the discussion of the prosodic realisation of these texts. I am not aware of work on prosody explicitly using a Foucauldian ideological framework, but it would not be impossible to relate some observations to such a framework, albeit indirectly. A particular area that is ripe for development, it the prosody of rhetoric, which will be addressed further below. While CDA addresses the persuasive (often subliminal) characteristics of public or political discourse as embodied in the text itself, either written or the orthographic transcription of a spoken text, there is little work on the oral delivery of spoken texts.

3. The role of prosody in discourse

3.1 Discourse as a hierarchical structure

The way in which prosody indicates structural relationships between parts of discourse has been examined in numerous studies of the prosody of reading aloud. These examine, for example, the prosodic correlates of paragraphs, sentences, headlines, and

of the rhetorical relations between successive sentences (e.g. Lehiste 1975, Brown et al. 1980, Wichmann 2000, den Ouden 2004). This structuralist approach to discourse intonation, which examines the prosodic correlates of units and junctures at different levels of a hierarchy, focuses on prosody in its segmenting or topic-structuring function. It shows, for example, how boundaries of different strength in the discourse are reflected in the strength of prosodic boundaries, how pitch height is used to signal topic beginnings, and how global pitch range reflects the rhetorical relations between successive clauses or sentences. To what extent such variation is linguistic is not clear. A notion of structural pitch-range relations would, according to Ladd (1996), make sense of these phenomena. There often appears to be a quasi-iconic relationship between prosody and meaning in the way prosody indicates text structure: the high onset of a new topic can be seen as a renewed energy before embarking on something new. Depressed onsets, on the other hand, are usually a signal that an utterance or part of an utterance (in read texts these are usually phrases and clauses) is subordinate in some way – for example, a reformulation of what has just been said. Similarly, the typical lowering of pitch and compression of range associated with parenthetical remarks reflects their subordinate role in relation to the host.

Studies of how prosody can signal the structure of spoken as opposed to written narrative are often motivated by practical applications, such as speech synthesis, and the theoretical implications are rarely discussed. When they are (e.g. den Ouden 2004), the rationale given is that the prosody of unscripted spontaneous speech is in part a function of mental planning and that such 'performance' phenomena obscure the underlying system of 'competence'. This view is common in research aimed at technological applications, where a formal approach appears to be standard. The implicit hope that read-aloud texts might provide the 'purest' form of prosody is undermined by the fact that, as den Ouden and others before her have observed, the prosodic structuring of a written text read aloud is greatly dependent on the reader's rhetorical skills. Esser (1988) observed a considerable difference between the abilities of amateur and professional readers to indicate text structure prosodically. Similar observations have been made in my own work, where I note that readers can rarely be relied on to read well, 'particularly at the level of discourse' (Wichmann 2000: 21). Spontaneous narrative has structure too, but in analysing the prosodic cues, it is necessary first of all to

acknowledge the cognitive structuring of discourse – according to Chafe (1979) the units of text are not necessarily the units of storage. He argues that spontaneous oral narrative reflects 'foci' of memory (e.g. scenes, time sequences, characters, text worlds), and that boundaries occur when one or more foci change. Above all, it is harder in spontaneous narrative to identify neatly nested hierarchical relationships between segments. The 'topic' shifts observable in service texts[1] ('Gebrauchstexte') may not be commensurate with those we find in spontaneous narrative, or even in scripted texts of greater complexity such as fictional writing.

Studies of topic shift in spontaneous speech (e.g. Couper-Kuhlen 2004) result in similar observations to those of paragraph marking in read speech. However, the prosodic components do not operate as tidily as in read speech. In other speaking styles, too, such as poetry reading, we find that durational features (pause, timing) and intonation contours do not necessarily co-occur. In extemporaneous narrative or conversation there will typically be temporal and pitch changes around a topic shift (acceleration and high pitch excursion) but no pausing. Pauses may occur after the new topic has been established, but often the best we have is a 'transition phase' rather than a clear boundary. We also find that clause boundaries are marked differently in spontaneous speech – speakers often pause after, not before, a conjunction. In conversation, this may indicate a simultaneous need to hold the floor, and the absence of pause and acceleration of tempo allows the speaker to hold the floor, while at the same time using pitch excursion to mark the new topic. The question then arises as to whether the different prosodic components are in fact independent systems, that happen to operate in tandem in scripted narratives, or whether they are a single system occasionally disturbed by the noise of 'performance'.

An aspect of topic management that has not been addressed except in Conversation Analysis is the phenomenon of topic 'continuation' or 'resumption' after a digression. This has been studied by Local (1992, 2004), and focuses specifically on the phonetic cues to the link between the end of a pre-digression section and the beginning of a post-digression phase. Studies of parenthesis (Bolinger, 1989, Wichmann 2001, Dehé 2007) tend to focus more on the inherent characteristics of the parenthetical string itself than on the relationship between the edges of the interrupted sequence. It seems that speakers are able to convey prosodically whether they are simply continuing what they

[1] Functional texts such as news reports.

were saying before the conversation digressed, or whether they are starting again, i.e. treating the topic as if they were introducing it for the first time.

Spontaneous speech is also characterised by shifts in 'voice'. Direct or reported speech are the most common, together with digressions or parenthetical asides that can consist of a few words or a whole stretch of speech. Such shifts are often not marked correlatively, meaning that the beginnings and ends of embedded sequences are not equally identifiable.

3.2 Prosody in discourse as 'Language in use'

The most important work involved in interaction is the process of maintaining it. Keller (1981) suggests a number of speaker intentions ('gambits') which can be broadly classed as turn-taking ('interaction management'), semantic framing (indicating where we are in the talk, or 'information management') and attitude ('people management'). The indication of 'where we are in the talk' has partly been dealt with above, since it is analogous to many features of segmentation and information structuring in read texts, e.g. marking new topics, topic continuation, and closure; I focus here only on the role of discourse markers in their framing function. I will deal first with interaction management, then discourse markers and finally how prosody is exploited in the expression of stance or attitude.

3.2.1 Interaction management

The most widely studied feature of interaction management is turn-taking, and prosody is known to signal, for example, willingness to cede a turn and the difference between competitive and collaborative speech overlap. Pitch, loudness and duration are well-known resources for managing turn-taking, although there is not always a distinction made between production and perception in this matter. Cutler and Pearson (1986) found only pitch 'downstep' to be a reliable perceptual correlate of turn-finality. Recently there has been empirical work on the systematic role of voice quality (creak) in turntaking (Ogden 2004). Ogden's work relates to Finnish but reinforces what has been previously observed about English. Most work on turn-taking is grounded in the CA framework, a model that lends itself particularly well to this topic since it is essentially a sequential analysis relying on participant response for evidence.

The phenomenon of backchannelling has also been examined prosodically, and shows that both pitch contour and rhythm play a part. The typical backchannel vocalisation (*uh huh, mmm, yeah, right* etc) is assumed to encourage the current speaker to

continue. The prosody will reflect this function: usually a level or rising contour. Some backchannels, however, can be realised to signal lack of interest, lack of encouragement: this is what can be perceived if the timing of the backchannel is arrhythmic – coming in at the 'wrong' time, too often, or not often enough. Finally, the backchannel can indicate that the hearer wishes to take a turn, and, by implication, that the current speaker should stop: e.g. *right* with raised amplitude and a falling tone (see Wichmann 2000, 134-135).

3.2.2. Discourse markers

Discourse markers are generally seen as having both a textual, i.e. framing, and an interactive function (interpersonal, attitudinal). As framing devices they guide the hearer's interpretation in a cost-effective way. In their interpersonal function they convey pragmatic meaning, such as politeness or mitigation.

Seen historically, these discourse markers often derive from adverbs, moving to peripheral positions in the sentence and acquiring 'procedural' meaning or interpersonal (subjectified) meaning.

- *Actually* (lit. in actuality, in the real world > afterthought, softener, change of perspective, politeness)
- *Indeed* (PP > elaboration, clarification)
- *You see* (> indicates explanation)

Many discourse markers co-exist alongside the original adverbial meaning, and one concern of prosodists has been to identify the cues that disambiguate between the uses. In an early paper, Hirschberg & Litman (1987) examined the prosodic cues of the word *now,* showing how prosody disambiguates between the time adverb and the discourse marker (or 'cue phrase' as they call it). The disambiguation approach, clearly a concern for speech recognition, is pursued in a later paper (1993). Essentially the distinction they make is a phonological one: *now* as a time adverb is accented, while *now* as a discourse marker is not. A study of *anyway* (Ferrara 1997) on the other hand, identifies three different kinds of use as a discourse marker, and all are accented (L*L, H*L and L*HL). This suggests that the binary distinction made by Hirschberg and Litman, between unstressed discourse markers and accented adverbs, while appealing, may be an over simplification. Even normally unaccented discourse markers may be accented in order to give them a wider scope. An initial accented *well* (H*L%) functions as a discourse marker with wider scope, e.g.

projecting a longer turn, than the unstressed version. The same is true for *now*, showing that the presence of a pitch accent is not automatically a sign of lexical rather than discoursal meaning. This may explain why the normal tendency for discourse markers to be integrated prosodically into an intonation phrase is not invariable (Aijmer 2002: 34). The initial discourse marker with narrow scope is generally an intonational 'pre-head', i.e. integrated into a larger tone group as an initial unstressed syllable, while the broad scope is indicated by giving the marker its own tone group and intonation contour.[2]

3.2.3 Prosody and interpersonal meaning: attitude and affect

An important function of prosody is known to be the expression of stance or attitude towards the interlocutor. Reliable phonetic correlates of attitude (friendly, condescending) and of affective states (anger, happiness, sadness) have proved elusive, partly because of the unhelpful tendency to conflate emotion (indexical of speaker state) and attitude (stance towards interlocutor). The CA approach to interpersonal meaning, reflected, for example, in the notions of 'affiliation' and 'disaffiliation', has shown that such meaning arises frequently from relational phenomena, in other words, the prosody of one utterance in relation to another rather than from any inherent properties in an individual utterance. A good example of this is Couper-Kuhlen's (1996) work on mimicry. She observes that a speaker who repeats a prior speaker's utterance using the equivalent pitch in his/her own voice range is perceived as supportive. However, when the pitch matching is absolute, i.e. appears to match the pitch of the prior speaker regardless of where it lies in the speaker's own range, the speaker is perceived to be mimicking and hence mocking the prior speaker. Ogden (2006) also notes the effect of relative pitch on the perception of agreement or disagreement, showing that the nature (stance) of the response is not inherently reflected in phonetic properties such as high or low pitch, but in similarity or difference across speaker turns. Similar observations on the importance of context in interpreting prosodic patterns have also been made by Wichmann & Cauldwell (2003), who found that the 'attitude' or emotions expressed in utterances taken out of context were judged very differently from when the same utterances were heard in context (see also Wichmann 2012).This is a conclusion also reached by studies of prosody signalling vocal irony: the

[2] The prosodic characteristic of wide scope discourse markers is typical of a more general pattern that is found when speakers wish to project a long turn

cue is likely to be a sequential or relative one, rather than through any inherent 'sarcastic intonation', or inherent qualities of the utterance. (cf Bryant & Fox Tree 2002, Attardo et al.2003).

3.3 Prosody in discourse as social reality

3.3.1 Covert persuasion

Until recently, the role of prosody in the construction of social reality in the Foulcauldian sense has not been discussed. However, it is not difficult to see how prosody can be exploited strategically in the conscious construction of relationships in interaction. We know, for example, that prosody plays a role in the management of turns in conversation, and the success or failure of interlocutors to control the floor is a manifestation of, or an attempt to create, unequal power relationships between them. For example, the more combative political interviews between skilled journalists and equally skilled politicians often display an intense competition for the floor. It is in this situation that the phenomenon of 'rush through' (Local & Walker 2004) often occurs: the interviewee will wish to hold the floor as long as possible in order to address the topics of their choice rather than answer unwelcome questions, and this generally means taking steps to prevent interruption. The interviewee thus uses normal features of spontaneous monologue in a strategic way, in order to keep control of the interaction and therefore of the topic(s).

We can find other examples of certain features of natural interaction being used strategically, such as, for example, the expression of real or simulated emotion in the voice. Call centre operators are apparently encouraged to express a 'warmth' in their voices which they are unlikely to feel towards unknown callers. This is an example of attempts to convey a degree of intimacy and sincerity in what is in fact institutional and public discourse (see Cameron 2001: 133). In so doing they are in fact engaged in the attempt to 'mystify' the nature of what are actually institutional encounters by giving them the quality of casual conversation.

In addition to voice quality manipulation to suggest emotion, it is also possible to simulate and exploit the characteristics of extemporised speech, as opposed to those of rehearsed or scripted speech, in order to create the impression of improvisation. This technique was often used strategically by the former British Prime Minister, Tony Blair, whose public speaking style displayed features that could be said to indicate, or attempt to indicate, unrehearsed, straight-from-the-heart sentiments, and thus to suggest a degree of sincerity. From an

ideological point of view, the incorporation of 'sincerity' features (whatever they are prosodically) in public discourse could be seen as colluding with an attempt at creating, or obscuring, social or political realities.

All these attempts to persuade an audience of a non-existent intimacy, or of a feigned sincerity, will exploit the same resources as those found in ordinary narrative or conversation but for ideological reasons. In other words, there is no inherently 'ideological' prosody, just as there are no inherently ideological words - any political implications are derived from the context in which they are used.[3]

3.3.2 Overt persuasion: prosody and rhetoric

Critical approaches to how language is used, focus for the most part on covert persuasion – texts posing as factual accounts which are actually ideologically biased. This could be said, for example, of news broadcasts and print journalism, and of institutional statements (policy documents, mission statements etc). It could also be said of the strategic use of prosody exemplified above (power strategies in conversation, sounding 'friendly' in a call centre, sounding 'spontaneous'). However, there are other more overtly persuasive contexts – courtroom pladoyers, political speeches, TV evangelism - and these are also worth examining from the point of view of their delivery. It is, of course, possible that the line between overt and covert persuasion is not always easily drawn, so we must restrict ourselves for the moment to contexts where the distinction is easy to make.

What makes a political speech, a sermon, a marketing pitch, or a motivational talk actually effective? This has been the subject of rhetorical analysis since the 5th century BC in Athens (Toye 2013). Classical rhetoric was primarily intended to help citizens plead their claims in court, and is more broadly seen as the act of speaking to persuade an audience. The effectiveness of such persuasion was thought to depend to a large extent on the speaker's voice. Demosthenes (384-322 BC) claimed allegedly that the most important element was 'delivery delivery delivery'. Delivery, Cicero said in *De Oratore*, "has the sole and supreme power in oratory; without it, a speaker of the highest mental capacity can be held in no esteem; while one of moderate abilities, with this qualification, may surpass even those of the highest talent." (Translation 1970: 255)

[3] e.g. many texts have agentless passives, but in certain texts the omission of the agent is taken to be ideologically significant. Similarly, the word 'flood' is neutral, but a 'flood of immigrants' is tendentious

It is one thing to claim the primacy of performance, another, however, to be able to specify what exactly constitutes a good performance (good delivery). Quintillian (ca 35 – ca 96 AD) wrote most comprehensively on rhetoric including delivery. Much of what he wrote persists in elocution handbooks of a much later age, and indeed into voice training manuals of today. Most of these contain good sense, but in the absence of the technical knowledge that we now have, the descriptions tend to be impressionistic and hard to replicate. What needs to be done in future is to take a new approach to 'delivery': we need to see what the classical authors said and 'translate' it into modern terminology, and secondly, we can look at more recent research into performance (if there is any) to see what insights more recent studies have yielded.

Quintilian's work shows us that convincing delivery operates at a number of levels/in a number of ways: the voice first of all distinguishes clearly the different parts of a speech, such as the opening and closing sections: (page and section references here are to the translation published 2001)

> For the Prooemium, an even delivery is most often best ... a quiet voice, modest gestures ...' (169). And 'a confession of being overcome by grief and fatigue is ... wonderfully effective in an Epilogue' (177)

In other words the overall structure of the text had to be reflected in the delivery. The classical structure of an oration was, of course, strictly based on the function of each section: preface, narrative, proofs/argumentation and epilogue. Quintilian was also specific about certain aspects of delivery, for example in relation to pitch contours:

> "The use of the voice has many aspects. Apart from the threefold division into Acute, Grave and Circumflex, we also need intonations which are from time to time intense or relaxed, higher or lower, and in slower or quicker time." 92 (17)

An 'acute' contour is rising, 'grave' is falling, and 'circumflex' is falling-rising or rising-falling; these contours (although not the labels) are identical to those still used today in the British tradition of holistic contours and refer of course to contours associated with the end of a phrase or utterance. The reference to 'intense or relaxed' and 'higher or lower' pertain more probably to overall pitch (and amplitude) over a longer stretch of speech. The final reference to 'slower or quicker time'

brings in the matter of tempo (speech or articulation rate). There is a commonly expressed assumption that an engaging speech must be performed with appropriate variation of pitch level, loudness and tempo.

Quintilian also refers to the use of loudness and of voice quality:

> "The nature of the voice is seen in terms of volume and quality. Volume is simpler: in brief, the voice is either strong or weak..... Quality is more complex. A voice may be clear or husky, full or thin, smooth or harsh, limited or rich, hard or flexible, resonant or dull." 93 (15)

Finally, there is an awareness of the importance of phrasing, implicit in the following:

The breathing too may be longer or shorter 93 (16)

To summarise, the basic components of prosody – the same resources available for everyday conversation as for persuasive rhetorical speech – have been known since classical Greece and Rome. Persuasion is achieved not only through what we say but through how we say it, and there have been outstanding examples of effective speech in the last 50 years, from Martin Luther King to Barack Obama. And yet little work has been done to quantify the characteristics of persuasive speech, despite the considerable interest in improving the persuasive characteristics of synthesized speech, and also in learning to identify – possibly using quantitative analysis – speakers with charismatic/persuasive potential. An isolated study is that of Rosenberg and Hirschberg (2005 and 2008), who examined a number of US political speeches, looking for both lexical and prosodic correlates of speech judged to be charismatic. In relation to prosodic features they found:

> 'significant correlations between charisma ratings and.... raw f0 features including mean, standard deviation and maximum for male speakers (greater values correlate with higher charisma ratings) and normalized mean f0 (the greater the mean, the more charismatic); e) mean (raw) intensity (in this case, the louder the token, the more charismatic the speaker is rated); and f) speaking rate (the faster the speech, the more charismatic)' (2005:4).

Such findings are in themselves too broad to tell us much more than the more impressionistic accounts of the past, but they are a step towards reviving interest in speech as performance, an interest which has

been rather eclipsed in recent years by a focus on natural, spontaneous speech in everyday settings.

However, we need to complement this approach with a renewed study of speaking styles. The notion of 'style' has for too long been restricted to the distinction between read aloud and 'spontaneous' or unscripted speech (see Wichmann 2011). In order to understand the power of, say, Martin Luther King's 'I have a dream' speech, we need to return to the kind of approach pioneered by Crystal and Davy (1969), who examined the characteristics of particularly marked speaking styles, such as the liturgy. King's speech can only be understood in the context of a Black preaching style, including the elicitation of responses, which is prosodically highly marked but instantly recognisable by those listening. This style was highly effective, but in other contexts, effective speaking is as unmarked as King's is marked – a matter-of –fact, intimate style that is the opposite of 'performance'.

4. Conclusion

I have outlined in this paper some of the varying definitions of 'discourse', since without clarity about what we mean by 'discourse' we cannot speak usefully about 'discourse prosody'. I have also discussed the various prosodic resources that are available to speakers, and the way in which they can convey meaning. These resources include:

- linguistic choices (pitch accents, contours)
- local (gradient) realisation of individual categories (e.g. extra high pitch target)
- global (gradient) prosodic parameters (e.g. pitch level).

We have seen that there are many ways in which prosodic resources can be used to highlight features of spoken discourse. They can, for example, be exploited to indicate the information structure within an utterance (e.g. given and new information), and also to indicate the structure of an entire text (e.g. paragraphs). In addition they play an important part in managing conversational interaction, such as in the use of turn-taking and backchannelling. Finally, prosody plays a crucial role in creating or reflecting the relationships between speakers. This can be expressed in terms of power relationships, affective stance, or indeed, in the context of rhetoric, in terms of manipulation and persuasion.

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About the Author

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