NUCLEAR TONES IN ENGLISH: THE CASE OF HOUSEHOLD CONSUMER PRODUCTS TV COMMERCIALS

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ABSTRACT: This paper presents the results of a study of nuclear tone usage/variability in a spoken corpus of English TV commercials advertising household consumer products. Twenty adverts were recorded from British TV channels, extracted their audio files and analysed combining auditory analysis with a visual inspection of F0 contours/traces. The rates of occurrence of five types of tone (fall, rise, fall-rise, rise-fall, and level) were calculated for four utterance types (declaratives, questions, exclamatives, and imperatives). Results show that declaratives exhibit falling tones in most cases, followed by exclamatives and imperatives. Moreover, the rates of occurrence of tone types in exclamatives and imperatives generally mirror those in declaratives, compound tones being rare across all utterance types. An explanation of the presence or absence of a given tone in a specific grammatical structure is provided by relating tone variation with the specific pragmatic context of each sample.

KEYWORDS: TV commercials; intonation; English.

1. INTRODUCTION

Since the beginning of the twentieth century, there has been an upsurge of interest in the prosodic and segmental characteristics of the phonological systems of different languages. Generally speaking, these studies focus mainly on languages viewed more or less implicitly as uniform systems rather than as conglomerates of varieties such as advertising, politics, religion, etc. In contrast, stylistic studies have typically centred more on semantic/pragmatic and grammatical/syntactical than on phonetic/phonological aspects. As a result, few efforts have been made so far in linguistics to study the phonetic and phonological peculiarities of stylistic varieties of specific languages.

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English is a case in point. Its intonation patterns have been extensively researched (e.g. Brazil *et al.*, 1980; Crystal, 1969; O'Connor and Arnold, 1973) and compared with those of other languages like Spanish, German, Portuguese, etc. (e.g. Bald, 1976; Cruz-Ferreira, 2002; Mott, 1993). And yet, little attention has been paid to the intonation of a variety of language of widespread use in the media such as that of advertising, although other levels of language structure have been thoroughly analysed (Goddard, 1998; Hermeren, 2002; Leech, 1996).

2. INTONATION IN HOUSEHOLD CONSUMER PRODUCTS TV COMMERCIALS

Given the scarcity of studies looking at the intonation patterns in specific non-dialectal varieties of language, the present paper reports on the preliminary results of a study on advertising in British TV commercials (henceforth TVCs). More specifically, the aim of this study is to look at the usage patterns in the choice of the nuclear tone within an intonation phrase (henceforth IP) in the language of one subfield of TV advertising: household consumer products. In other words, the aim of the study is to find out what tone types are most common in the type of language mentioned above. In addition, our study looks at different utterance types according to their grammatical structure (declaratives, questions, exclamatives, and imperatives) in an attempt to see what associations there are between sentence type and tone types in the language of TV advertising.

The reason why we focus on nuclear tones is that they exhibit non-arbitrary, meaningful patterns in discourse. By means of tones, speakers can fulfil different functions (attitudinal, grammatical, communicative, etc.). Thus, tones (on nuclear accents) seem to contribute most to the pragmatic impact of utterances. It is inherent to advertising in general that in order to reach a larger audience they have to play not just with the visual but also with the oral component in order to convince their audience of the goodness of the advertised product and nuclear tone variability is certain to play a role in this.

2.1 METHOD

2.1.1 DATA

For the present study, twenty TVCs were analysed. These are part of a larger corpus compiled for the contrastive analysis of English and Spanish intonation in the language of TV advertising (see the acknowledgements section at the end of the paper). The TVCs in the larger corpus are classified into different categories (cars, food, etc.) depending on the product they advertise. The category analysed in this study is that of household consumer products, which include items such as air fresheners, oven cleaners, washing-up liquid, water softeners, detergents, etc. TV adverts do not have a specific name known to the general public. For this study, they were named after the specific product advertised. Italics are used in this paper to refer to such names.

All the English ads were recorded in the UK. Since in this country, the BBC is funded by a licence fee and does not screen adverts, TVCs were recorded from commercial channels like ITV or Channel Four. The video clips analysed exhibit some characteristics common to the whole corpus: they are very short (under a minute), there is plenty of variation in the number of actors that appear in them as well as in the presence/absence of music, songs and melodies or written text supporting the spoken one, and the gender of the participants is known but not so their age. Most TVCs have a voice-over and in many of them actors appear physically on the screen; occasionally, TVCs contain animated characters. The accentual varieties range from a standard or near standard Southern British English (Received Pronunciation) to American English accents.

2.1.2 PROCEDURE

As a preliminary step, the TVCs were transcribed, noteworthy speech features of the speakers (e.g. accent) being carefully annotated.

After the transcriptions had been completed, the video files were converted to wav files using the software Allok Video Converter by Allok Soft Inc., which converts video files to different audio formats. The analysis consisted initially in the manual division of the texts into IPs for which common criteria for intonation unit boundaries (fast initial speech, slow terminating speech, pitch reset, presence of pauses) were followed. Next, nuclear syllables (or last accented syllables of a given IP), were identified as well as the tone the syllables were

produced with. The analysis involved a combination of auditory analysis and visual inspection of F0 contours/traces alongside wideband spectrograms. This approach is standard in the field of intonational phonology (e.g. GraBe *et al.*, 2005; Ladd, 1996). For the acoustic analysis of the audio files, the speech analysis software SFS/WASP (version 1.41), developed at University College London, was used.

As pointed above, only speech produced by the participants was considered. This excludes lyrics and any other sort of unintelligible or non-linguistic audio material. Moreover, since intonation is subject to variation across accents, only speech produced by speakers of Southern British English (standard or near-standard varieties) was analysed. Markedly regional (northern and southern British) or non-British voices were excluded.

Figure 1 shows the initial IP in the TVC advertising the product *Air Wick® X-Press® Scented Oils* (an air freshener), by the company Air Wick®. The figure shows a typical display from WASP with a wideband spectrogram at the top and an F0 contour at the bottom. The annotation in this figure has been pasted onto the .jpeg file for convenience and the nuclear syllable, instantiating a fall-rise tone, circled. This particular IP, incidentally, is non-final and is followed, in the ad, by other IPs with different tones.
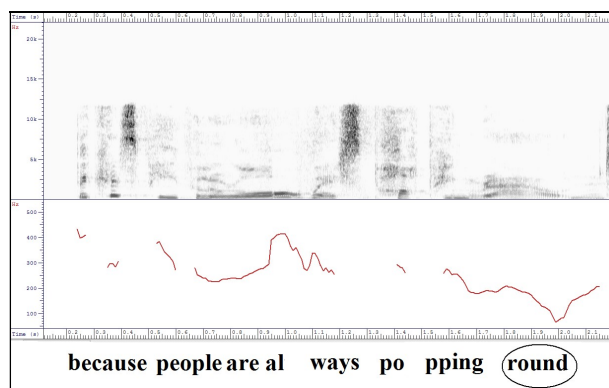
Figure 1: WASP screenshot of the initial IP in the TVC Air Wick® X-Press®, with a wideband spectrogram (top), and F0 contour (bottom) and an annotation with the tonic syllable (circled) below.

For the analysis, an inventory of tones is necessary. As far as English is concerned, there is considerable variation amongst analysts as to "what constitutes a 'major difference of meaning' and hence in the number of nuclear tones which are set up" (Cruttenden, 1997: 58). For this language, some authors consider two basic tones – rise and fall – (O'Connor and Arnold, 1973) while others consider four – fall, rise-fall, rise, and fall-rise – (e.g. Crystal, 1969). This study follows a fairly standard British tradition (e.g. Brazil *et al.,* 1980; GraBe *et al*., 2005) which proposes a minimal intonation lexicon of five tones – fall, rise, rise-fall, fall-

rise, and level –. Other authors have proposed a greater number of tones, making distinctions, for instance, between high rise and low rise, or high fall and low fall (Cruttenden, 1997) but no such distinctions are made in this paper in the analysis of results.

We examined the occurrence of these five tones in nuclear syllables of all IPs identified as well as in four utterance types: declaratives, questions, exclamatives, and imperatives. Questions were also subdivided into wh-questions and yes/no questions (polar and echo combined). Next, we tabulated the absolute frequency (rate of occurrence in the whole corpus) and the relative frequency (rate of occurrence in a specific utterance type) of particular tones for each utterance type.

A note on the representation of tones is due. At present, tones are often annotated using the principles of systems like the non-IPA based, two-level ToBI, which is becoming a standard way of describing prosodic phenomena in English and other languages. Alternatively, use can be made of the more iconic approach of the tonetic or nuclear tone approach framework, the traditional British model of intonation, where tone marks are typically iconic typographic symbols such as (/) for rise, (\) for fall, (∨) for fall-rise, etc. In this study, we use capital (hyphenated) initials to refer to the tones in tables: thus fall (F), rise (R), fall-rise (F-R), rise-fall (R-F), and level (L). We also use iconic typographic symbols in examples of IPs interspersed in the text.

2.2 RESULTS

Table 1 shows the results obtained in the analysis of the IPs. The table shows the absolute rate of occurrence of each tone type in the corpus for all IPs and utterance types. The table also shows the absolute rate of occurrence of each tone type per utterance type (or subtype) as well as the relative rates (i.e. rate of occurrence in a specific utterance type).

Utterance type		Tone type				
		F	R	F-R	R-F	L
All utterance types	IPs: 143	107	19	3	3	11
	abs: 100%	75%	13%	2%	2%	8%
Declaratives	IPs: 90	66	12	2	1	9
	abs. %: 63%	46%	8%	1%	1%	6%
	rel. %: 100%	73%	13%	2%	1%	10%
Questions	IPs: 5	4	1	-	-	-
	abs. %: 4%	3%	1%			
	rel. %: 100%	80%	20%			
Wh-	IPs: 3	3	-	-	-	-
	abs. %: 2%	2%				
	rel. %: 60%	60%				
yes/no	IPs: 2	1	1	-	-	-
	abs. %: 2%	1%	1%			
	rel. : 40%	50%	50%			
Exclamatives	IPs: 31	25	3	1	2	
	abs. %: 22%	17%	2%	1%	1%	
	rel. %: 100%	81%	10%	3%	6%	
Imperatives	IPs: 17	12	3	-	-	2
	abs. %: 12%	8%	2%			1%
	rel. 100%	71%	18%			12%

Table 1. Absolute and relative rates of occurrence of type of tone per utterance type (or subtype) in the English household consumer products TVC corpus.

The total number of IPs analysed was 143. For this, the most common tone type is the fall (75%), followed by the rise (13%) and the level (8%). The fall-rise and the rise-fall are only found in 2% of the tone units respectively.

Moving now onto results by utterance type, the data analysed show that declaratives (statements and negations) represent the commonest type of utterance (63%) in the corpus. Exclamatives are not very common (22%) but more frequent than imperatives (12%) while the latter occur three times more than questions (4%), a rather infrequent utterance type in the corpus studied.

Regarding declaratives, they are mostly produced with a falling tone – high or low – (73%). This combination of utterance type and tone type represents 46% of the whole corpus. Rising tones and level tones occur occasionally (13% and 10% respectively) in declaratives, while compound tones like the fall-rise and the rise-fall are very rare (2% and 1% respectively). These results seem to meet the expectations that falls are typical tones for declaratives (GraBe *et al*., 2005; and references therein], which seems to be the unmarked pattern in most languages (Cruttenden, 1997: 153).

As mentioned above, rise and level tones in declaratives are not uncommon in the corpus; rises (particularly low rises) are typically used to indicate a subsidiary role, and that something else, more primary information, is to follow (e.g. "I can turn it up to ∕five for enter∕taining || and for big sur∕prises | there's a unique \boost button", from *Air Wick® X-*

Press® Scented Oils by Air Wick®). Moreover, it has often been said that the level tone is used to convey non-finality (e.g. Roach, 1991; Collins & Mees, 2003). In most cases in our corpus, besides expressing continuity, the pragmatic import is one of lack of interest, i.e. the utterances produced with a level tone seem to refer to viewers' potential lack of interest in the product. An example of this is found at the beginning of the TVC *Calgon*, by Reckitt Benckiser Inc.: "you've heard of ‒Calgon | but why should you \use it?" A further example comes from the TVC *Finish Quantum*, by Reckitt Benckiser Inc.: "I remember thinking Finish‒Quantum | ⁄New | Im⁄proved | I thought they can improve it all they ‒like | It won't work on \my cooking".

Regarding questions, the very low frequency of occurrence of this type of utterance (4%) does not permit to make conclusive generalisations. This low rate might seem surprising given that the use of questions is claimed to be a typical strategy, mainly at the beginning of ads, used to attract attention, to arouse the curiosity of the customers and to entice them to listen on to find the solution to the problem (Arens and Bovée, 1994). In any case, the results obtained show that wh-questions conform to the most frequent pattern in this kind of question, i.e. falling tones (e.g. "and why not try Universal \Stain and Drain?", from the TVC Cillit Bang® by Reckitt Benckiser Inc.); the results also show that rising tones typically occur in polar/echo questions unless the speaker knows the answer (or thinks so), in which case s/he may use falling intonation (e.g. "Short of \space?" from the TVC *Tefal Compact Cookware* by Groupe SEB).

As for exclamatives, which in this study also include interjections, the results obtained show that they are not a relatively uncommon type of utterance (22%). Produced most of the time with a falling tone (81%), this utterance type also exhibits other tones like the rise (10%) or the rise-fall (6%). Interestingly, most of the rises include the lexical item "wow" – twice in the corpus – (e.g. "⁄Wow! | Fan\tastic!", from the TVC *Quick•Step® Laminate Flooring*, by Quick•Step®). Equally interesting is the fact that, except for the level tone (not found in exclamaives), the relative rates of occurrence of tone types are very similar between declaratives and exclamatives (e.g. F: 73% dec., 81% exc..; R: 13% dec., 10% exc., F-R, 2% dec., 3% exc.; etc.), which suggests functional (semantic/pragmatic) similarities in the use of both utterance types in the corpus (see discussion below).

The last utterance type analysed, imperatives, is not very frequent in the corpus (12%), but it is three times more common, as mentioned above, than questions. The occurrence of

imperatives in TVCs is not surprising since the former are a way of exhorting the potential customers to act in a certain way (e.g. "Call \now!", from the TVC *Safestyle UK*, by Safe Style UK Ltd.) or to buy something. As expected, imperatives are generally produced with a falling intonation (71%) although rises (18%) and level (12%) nuclear tones are also found. Again, the relative rates of occurrence of specific tone types are similar between declaratives, and imperatives. No compound tones occur in imperatives, but rise and level tones show similar rates (F: dec. 73%, imp. 71%; R: dec. 13%, imp. 18%; L: dec. 10%, imp. 12%).

3. DISCUSSION

With the data available, a number of general observations can be made. In the first place, declaratives show a higher degree of occurrence in our corpus than the remaining utterance types, a falling tone being by far the most common in this grammatical category. This is not surprising since the declarative mode is typically used, for instance, for providing facts, describing qualities, expressing beliefs (feigned or not) making announcements, stating conclusions, etc., something that TV ads about household consumer products typically do. The latter often describe the characteristics of a certain product and actors tend to be assertive, often 'revealing' to the audience the 'incomparable' virtues of the product they advertise. Since the fall tone signals a sense of belief in the content of the utterance, and actors wish to convey the impression that they believe what they say, declarative utterances with falling nuclear tones suit actors well. This is also important for certain elements of the TVCs like catch-phrases or slogans, which generate sustained appeal and may remain in the minds of television viewers long after the span of the advertising campaign (e.g. "\Tefal | Ideas you can't live with\out", from the TVC *Tefal Compact Cookware* by Groupe SEB).

In the second place, and considering all utterance types, it is clear that the fall is again the commonest type of tone (75%), followed by the rise (13%) and the level (8%), while the fall-rise (2%) and the rise-fall (2%) are rare. As pointed above, the rates of occurrence of the fall are very similar for declaratives and exclamatives, suggesting that both utterance types may be used for similar purposes. In this respect, it should be borne in mind that exclamatives are often identical in syntactic form to declaratives and that the main difference between both lies often in the expressiveness of the former vs. the informative character of the latter (Leech, 1996: 160). Thus, declaratives with falling tones inform of qualities of products, for instance, while exclamatives emphasise those qualities.

As for imperatives, there is also a similarity between declaratives and that utterance type in the relative rates of occurrence of fall, rise, and level tones, with falling tones again being more numerous. This is not surprising since the preferred tone for imperatives (i.e. the fall) has been claimed to be equivalent or very similar to that used with declaratives (Cruttenden, 1997, ibid). However, it has also been reported that the command function of imperatives can be softened to a request by changing the tone to the typical one used for yes/no questions, i.e. a rise (e.g. "simply spray ⁄on | wipe ⁄off | a\mazing!", from the TVC Cillit Bang® by Reckitt Benckiser Inc.). Certainly, actors want to convince viewers to buy products but they will, at times, soften the command function of imperatives to avoid rudeness or unwanted effects. The analysis also reveals the use of the level tone in imperatives, which seems to suggest routine (e.g. "plug it−in | and en\joy", from the TVC Glade Light'n Scent, by SC Johnson).

Finally, the infrequency of compound tones (fall-rise and rise-fall) may be due to the inappropriateness of the functions typically claimed for those tones in order to serve the ends of TVCs, i.e. to convince viewers to buy some product. As regards the fall-rise, this tone generally signals reservations, doubts, limited agreement, and uncertainty (e.g. Tench, 1997; Ward and Hirschberg, 1985); it generally indicates some concealed doubt or contrast or the speaker may say one thing and mean something else. It may also indicate that the speaker is not sure whether his/her contribution to the discourse can be seen as relevant. Given these values, it is not surprising that fall-rises are not very common since actors on TVCs do not wish to sound uncertain, unconvinced, etc., when talking about the advertised product/s. On the contrary, actors wish to sound convincing and convinced of the qualities of the products. On the other hand, the rise-fall is often claimed to imply "impressed, arrogant, confident, self-satisfied, mocking, putting down' (Collins and Mees, 2003: 140), and it is normally used to convey strong feelings of approval, disapproval or surprise (Roach, 1991: 139). Clearly, some of the implications of this tone (e.g. arrogance, mockery, etc.) may be generally avoided by actors since TVCs try to present a friendly image of the product, company and actors. In any case, this tone type is said to be generally uncommon so the low rate of occurrence in the corpus is not surprising.

4. CONCLUSION

Intonation studies typically view languages more or less implicitly as uniform systems irrespective of the existence of stylistic varieties. However, the study presented above has looked at a specific variety of language (household consumer products in TV advertising) since we believe that an understanding of the intonation of languages like English needs to look not only at data produced in a laboratory setting or from spontaneous speech but also at multi-faceted linguistic manifestations represented by varieties of different sorts.

In this paper, the use of tone in a corpus of English TVCs was analysed. The language of advertising was chosen because, television being a crucial mechanism for communicating with the marketplace, the intonation patterns TV adverts exhibit are an interesting field of research. The results of this study reveal, amongst other things, that falling tones are widely used across utterance types or that compound tones are uncommon. The discussion has related the semantic/pragmatic functions of utterance types and tones to the variety of language studied and the aims it typically pursues in an attempt to explain why specific tones co-occur with specific utterance types.

The study presented is a preliminary approach and has several limitations. The most important may be that the analysis was carried out in terms of shapes and levels of tones. No reference was provided to the phonological skeleton which the tones are linked to, which can be carried out with ToBI does. Given this, further reformulated analyses of the material could be carried out following a phonological framework like ToBI and not by a simple tonetic transcription. In addition, further studies will have to reanalysis the material studied and look at other aspects of the IPs that might influence the choice of specific tones (e.g. patterns in the choice of tones in successive IPs, influence of pre-nuclear accents, etc.). Moreover, future work might also compare the intonation patterns of the language of TVCs and those of other language varieties like politics, religion, etc. Comparison of the intonation of the TVCs across different languages is also an interesting field of research. At present, a comparison is been carried out by the authors of the corpus analysed with a similar one in Spanish in an attempt to find cross-language similarities and differences in the use of intonation in TV ads.

5. ACKNOWLEDGEMENTS

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ABSTRACT: This paper presents the results of a study of nuclear tone usage/variability in a spoken corpus of English TV commercials advertising household consumer products. Twenty adverts were recorded from British TV channels, extracted their audio files and analysed combining auditory analysis with a visual inspection of F0 contours/traces. The rates of occurrence of five types of tone (fall, rise, fall-rise, rise-fall, and level) were calculated for four utterance types (declaratives, questions, exclamatives, and imperatives). Results show that declaratives exhibit falling tones in most cases, followed by exclamatives and imperatives. Moreover, the rates of occurrence of tone types in exclamatives and imperatives generally mirror those in declaratives, compound tones being rare across all utterance types. An explanation of the presence or absence of a given tone in a specific grammatical structure is provided by relating tone variation with the specific pragmatic context of each sample.
KEYWORDS: TV commercials; intonation; English.

RESUMO: Este artigo apresenta os resultados de um estudo do uso do tom nuclear/variabilidade em um corpus falado de comerciais de TV em inglês de produtos de consumo doméstico. Vinte anúncios foram gravados de canais de televisão britânicos, seus arquivos de áudio extraídos e analisados, combinando análise auditiva com uma inspeção visual das curvas\traços de F0. As taxas de ocorrência de cinco tipos de som (queda, ascensão, queda-ascenção e nível) foram calculadas para quatro tipos de enunciados (declarativos, perguntas, exclamativos e imperativos). Os resultados mostram que enunciados declarativos exibem tons descendentes na maioria dos casos, seguido por exclamativos e imperativos. Além disso, as taxas de ocorrência de tipos de tom em exclamativos e imperativos geralmente são iguais às dos enunciados declarativos, tons compostos sendo raros em todos os tipos de enunciados. Uma explicação sobre a presença ou ausência de um determinado tom de uma estrutura gramatical específica é fornecida pela relação entre a variação de tom com o contexto pragmático específico de cada amostra.
PALAVRAS-CHAVE: Comerciais de TV; entoação; inglês.