

Emphatic Reading and the Insertion of Pause

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I Introduction

This paper is concerned with the relation between emphatic reading and the insertion of pause into the reading.

Emphasis in reading is achieved, as we can assume, with exaggeration of acoustics. In other words, a speaker gives more prominence of a sentence through employing greater loudness, higher pitch and/or longer duration (Jones, 1960⁹). In line with the slowing down of a sentence (increased duration) one might insert pause(s), and actually this is what my informant has done with the materials for the present study. The purpose of this paper is to examine how we should deal with pauses introduced into emphatic reading in the framework of intonation.

II Experiment

Material: Seventy proverbs chosen at random from *The Penguin Dictionary of Proverbs* (1988).

Speaker: A British male speaker who is from Yorkshire but who has no discernible regional accent. We might safely say that he is a near-RP speaker.

Procedure: For the first session of the experiment, I only asked the speaker to read the proverbs in sequence just as normally as possible. The task of the speaker for the second session was to read the same proverbs emphatically. The purpose of the experiment had not been explained to the

speaker prior to the session.

The recording took place in a sound proof room. I recorded the reading onto a mini-disc, which was later analyzed by using Scicon's Macquiner speech analysis package installed on Macintosh i-Mac (OS-X version 10.4.11). The sampling rate was 44000hz.

Among the proverbs read, the speaker inserted quite a long pause into certain proverbs when offering his emphatic version. Examination revealed that those proverbs shared the grammatical structure of "Subject + Be + Compliment". For instance, the speaker inserted a pause after the subject of a proverb "Content is happiness", even though this type of rendition was not found in 'normal' reading. This means that the speaker intentionally inserted a pause for the purpose of giving an emphatic reading. However, in other samples, no pause was inserted. Analyzing and explaining this phenomenon will be the subject of this paper.

III Measurement

As is well known, prominence is given to an utterance through using acoustic elements such as pitch, duration, intensity and/or quality. In addition to these, the presence of pauses (and the rate of an utterance) plays an important role in the study of prosody (Bolinger 1989). In the present study I particularly focus on fundamental frequency, duration and pause insertion in the renditions.

1. F0 peaks on stressed syllables¹

The prediction here is that emphatic versions have higher f0's than normal versions. The followings are f0 peaks of stressed syllables of all words in each pair of proverbs that have the grammatical structure of "Subject + Be + Compliment". The numbers in the upper line indicate the f0 peaks of each word in normal reading and those in the lower line are those of emphatic reading in hertz. If an 'X' is inserted, it indicates that the f0 was not calcu-

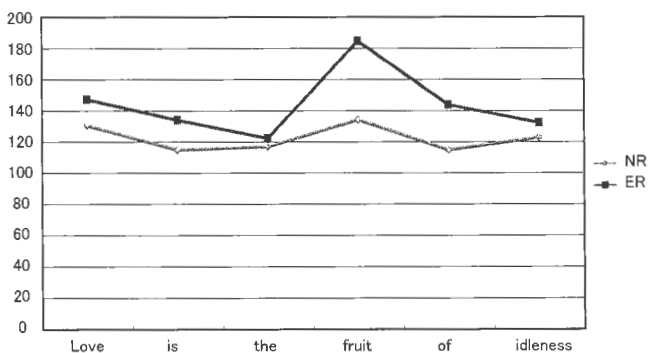
lated because the vowel was devoiced. These parts were discarded from the present analysis. The measurements are also shown in the graphs.

A. Love is the fruit of idleness.

131.1 115.4 117.4 134.7 115.3 123.3

147.8 134.4 122.7 185.1 144.3 132.7

F0: Love is the fruit of idleness

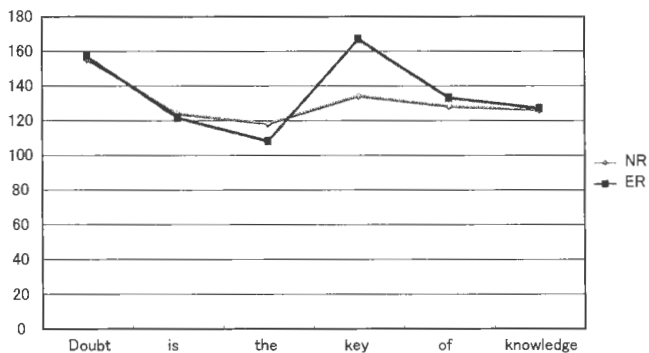


B. Doubt is the key of knowledge.

155.9 124.4 118.7 134.7 128.7 126.6

157.4 122 108.6 167.3 133.6 127.6

fo: Doubt is the key of knowledge

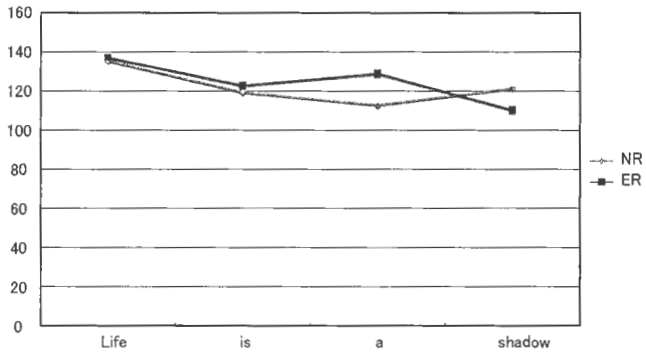


C. Life is a shadow.

135.6 119.6 113 121.6

137.2 123 129.1 110.4

f0: Life is a shadow

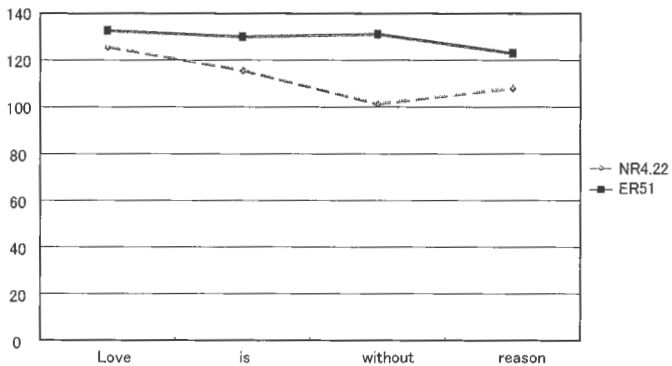


D. Life is without reason.²

126 116 101.7 108.5

132.9 130.3 131.4 123.3

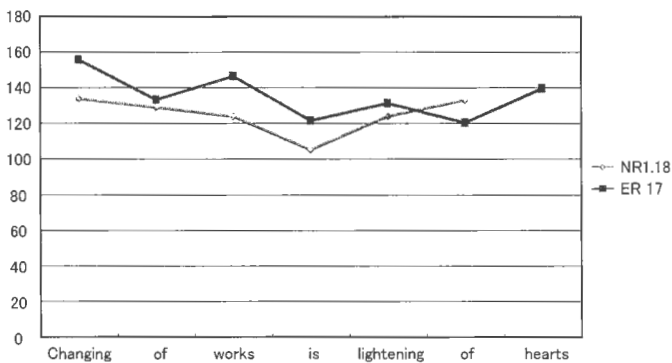
f0: Love is without reason



E. Changing of works is lightening of hearts.

134.3	129.5	124.3	105.7	124.5	133.6	xx
156	133.6	146.8	122	131.7	120.8	140.1

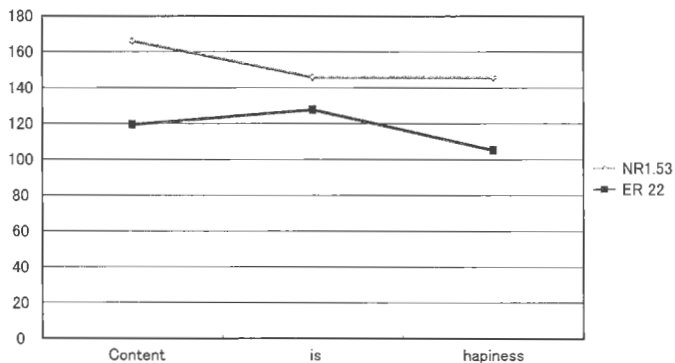
f0: Changing of works is ligening of hearts



F. Content is happiness.

166.5	146.4	146.3
119.8	128.1	105.7

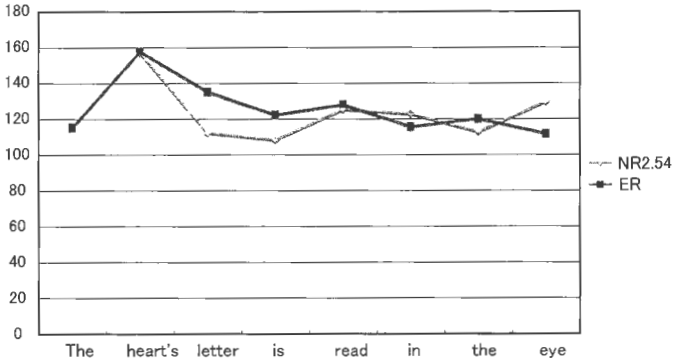
f0: Content is happiness



G. The heart's letter is read in the eye.

xx	157.4	112.6	108.6	125.7	123.1	113.1	129.9
	115.7	158.1	135.6	122.7	128.4	116	120.5

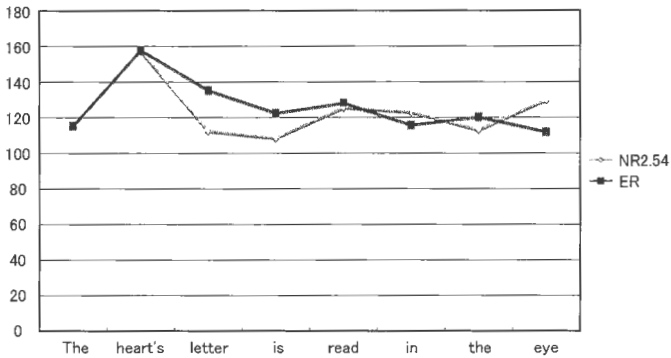
f0: The heart's letter is ...



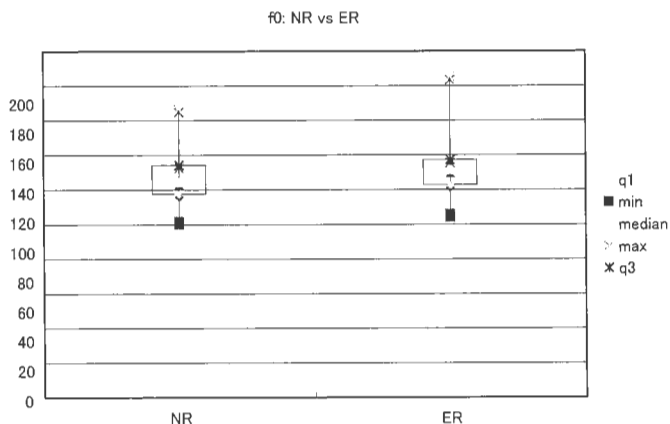
H. Forecast is better than work - hard.

	124.3	124.3	123	107.9	125.4	103.6
	174.1	112.1	133.5	106.8	128	115.7

f0: The heart's letter is ...



Mere inspection of the figures does not seem to show that the two versions of the readings are particularly different in terms of pitch. The following is the boxplot made on all the f_0 values. It still holds that they are not so different from each other; the values in 25 to 75% regions lie in 120 to 140 Hz range.



The t-test applied to all the f_0 values indicates that they are not significantly different ($t(28)=-1.7048$, $p>.005$).

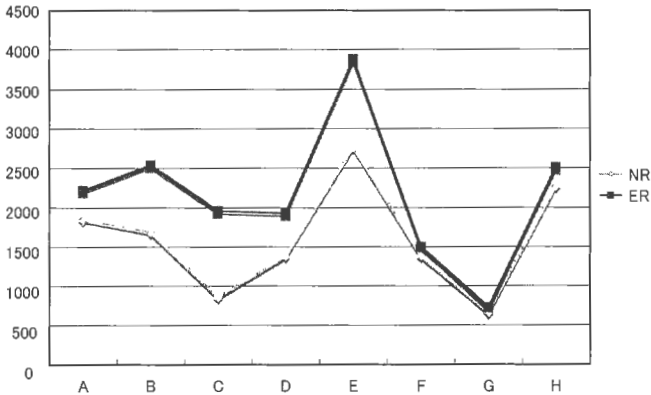
2. Duration

The prediction here is that the speaker might slow down the speed of his rendition for emphasis. The following table shows the duration of each reading in milliseconds, and we can see that the emphatic readings tend to have longer duration than their counterparts.

	A	B	C	D	E	F	G	H
NR	1851	1687.5	861	1379.6	2768.3	1380.8	662	2266.8
ER	2216.8	2539.6	1958.7	1929.3	3878.6	1497.8	726.2	2509.1

The figure below illustrates this tendency.

Table 1: duration of each reading



Statistical analysis shows that the two versions, normal and emphatic readings, are not significantly the same ($t(7) = -3.6699$, $p > .005$). So, the crucial difference between the normal and the emphatic readings is a consequence of the duration of each reading. However, as was mentioned above, the fact that the emphatic readings tend to be of a longer duration than their normal counterparts is not achieved by slowing down, but by the insertion of a pause.

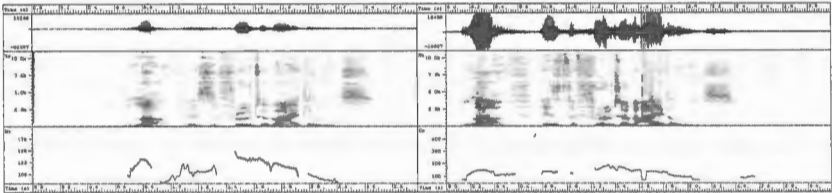
3. Insertion of pause

The reason that the emphatic readings have a longer duration is the insertion of a pause. For the emphatic renditions from A to H the speaker inserted a pause immediately after the subject noun phrase. The presence of a pause is the indication that the utterances before and after the pause are quite likely to belong to different word groups (Cruttenden 1997², Crystal 1969). That is, if a speaker inserted a pause after, for example, "Life" in "Life is a shadow", "Life" and "is a shadow" have become independent tone groups respectively. What the speaker did for emphasis is that he gave the subject NP the status of independent tone group. This seems to be a quite plausible assumption.

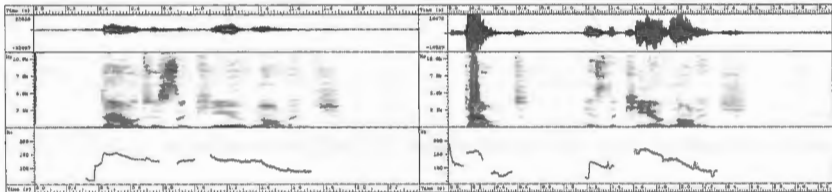
IV Discussion

The measurement of f_0 and duration of normal and emphatic proverb reading has revealed two facts. 1) f_0 peaks in both renditions are quite similar. 2) The duration is longer in emphatic reading than normal reading, but the difference is caused by the insertion of a pause after the subject NP. Generally, the insertion of a pause strongly triggers the end of a tone group, making the rest of the sentence hold a new intonation nucleus. If a pause is introduced after the subject NP, tonality (in the meaning employed by Wells (2007)) is reset, as it were, and the rest of the sentence is obliged to have an intonation nucleus on its own. Let us check if this is the case by examining the following figures that show f_0 contour of each rendition.³ The lowest part of the figure on the left is the f_0 contour of normal reading, and on the right is that of emphatic reading of each proverb.

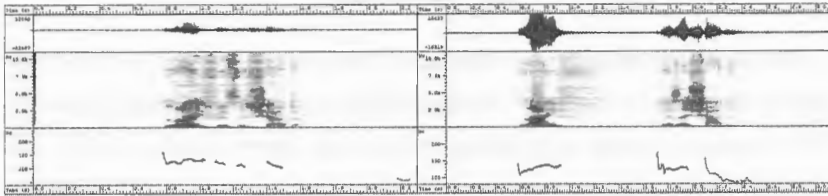
A. Love is the fruit of idleness.



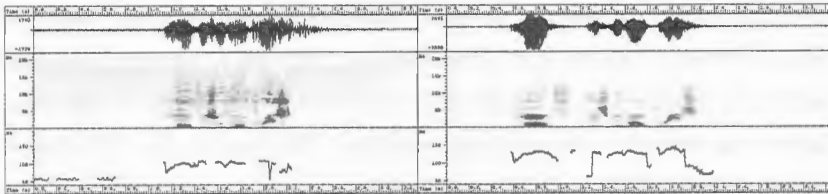
B. Doubt is key of knowledge.



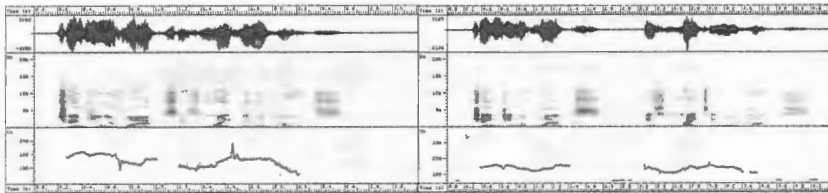
C. Life is a shadow.



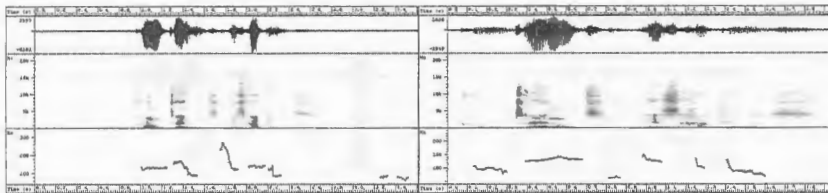
D. Love is without reason.



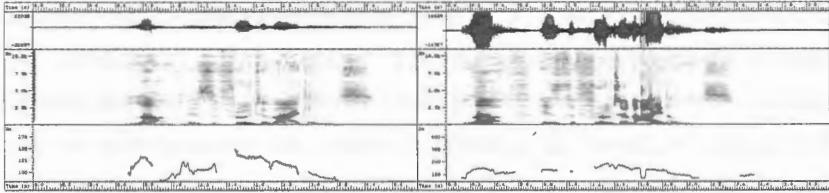
E. Changing of works is lightening of hearts.



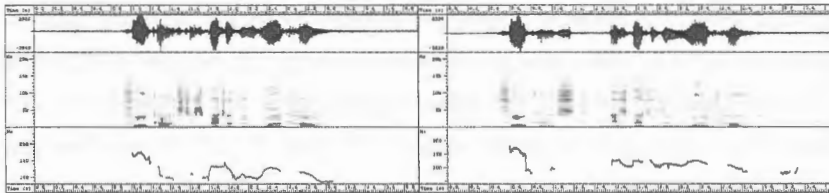
F. Content is happiness.



G. The heart's letter is read in the eye.



H. Forecast is better than work-hard.



The thing to be checked here is the tonality of the emphatic versions. As was mentioned above, the phrases before and after the pause, namely, the subject NP and the VP, are supposed to have the status of independent tone groups respectively. According to Curttenden (1997², 2001⁶), tone group boundary markers, other than the presence of a pause, are as follows:

- 1) The presence of an anacrusis: it generally indicates the beginning of a tone group, and the speed of which increases.
- 2) The lengthening of the final syllable of a tone group
- 3) The presence of a pitch step-up from the last syllable of the previous tone group, at the beginning of a new tone group

1) and 2) are out of consideration since the comparison through visual judgment on the f0 contours as well as aural judgment on the recording found no such examples of these types of phonetic cues. As to the step-up at the beginning of a new tone group, we can observe that all the emphatic versions from A to H did not have the same tendency. In A, B, D and H we can see that there is a step-up at the beginning of unaccented syllables of the

VPs, whereas in C, E, F and G there is no such a step-up at the beginning unaccented syllables of the VPs. In other words, the tonality of the emphatic reading, whether it is composed of one or two tone groups, is somewhat amphibious; we can safely say that A, B, D and H consist of two independent tone groups because of the presence of a pause and a step-up while we may not be able to decide conclusively if C, E, F and G have two independent tone groups or not because of the absence of a step-up.

However, the f_0 contours made on the normal and the emphatic renditions gives a somewhat different insight into tonality. Although there are some local fluctuations in pitch contours, the overall contours do not look so different, or rather similar, between the pairs—indeed, some are rather similar. At least, five out of eight proverbs, namely A, C, D, E, F and H, have this tendency. This could suggest that the speaker inherited the pitch contour of normal reading, leaving the VP intact in terms of tonality, despite the fact that he inserted a pause after the subject NP. In other words, the pause does not affect the tonality, resulting in the whole sentence remaining in one tone group.

The speaker inserted a pause exclusively into an emphatic version of the proverb that has a syntactic structure of “Subject + Be + Compliment”. Since this pause is inserted before the unstressed syllable(s), it is regarded as a silent stress. Abercrombie (1971) proposes that there are five types of silent stresses: syntactic, emphatic, terminal, tentative and rhetorical. However, the type of pause dealt with in this study is not the same as Abercrombie’s ‘emphatic silent stress’. He says that the ‘emphatic silent stress’ gives special prominence to the word or phrase which follows it. In the sentence below, the silent stress (marked with a caret) gives prominence to the following “stop”.

(girls do what they like but) boys \wedge stop here.

The pause dealt with in this study does not seem to be the kind, in the sense that the subject NP itself is the intonation nucleus and that the following syl-

lable is not stressed.

The pause introduced after the subject NP in this study has at least two functions. Since it appears between an NP and a VP, it is syntactic, and since it is introduced into emphatic reading, it is emphatic. What is noteworthy is that it appears exclusively in the sentence structure "Subject + Be + Compliment" and that it does not necessarily induce a new tone group. In view of the behavior of this type of pause, we might coin a new phrase to describe it: an *emphatic copulative pause/silent stress* which may not introduce a new tone group after it.

As Couper-Kuhlen (1986) points out, prosodic division is not a straightforward business. The different standpoints adopted by individual researchers led to various coinages to describe the intonational chunking, such as sense group, breath group, and phonemic clause, to name just a few. The present study used phonetic criterion to define tonal chunking. As far as the f_0 contour is concerned, the emphatic renditions such as A, C, D, E, F and H behave like 'intonational sandhi' which is referred to in Cruttenden (1997²). However, since the tonicity has not been firmly controlled, further experiment should be carried out in order to determine the tonality of the types of sentences dealt with in the present study.

Notes

- 1 I measured the f_0 peaks with reference to the intensity of the syllable as well.
- 2 I made the line for the normal reading 'dotted' because the f_0 on the second stressed syllable is the assumed value since the syllable was devoiced.
- 3 The figures were drawn by using WASP speech analysis program (Version 1.3) since the pitch contour is easier to see.

References

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