What Textual Relationships Demand Phonetic Focus?

A Corpus Study of Italics in Swedish Children's Books

Sofia Gustafson-Čapková and Jennifer Spenader

Computational Linguistics, Department of Linguistics
Stockholm University, 106 91 Stockholm, Sweden
{sofia,jennifer}@ling.su.se

Abstract. This study examines the textual relationships involved in the use of italics which is considered by the researchers to be the author's way of textually signaling what in speech would be realized with phonetic prominence. Four Swedish children's stories were studied. Each instance of italics usage was analyzed. Italics usage seemed to fall into two categories, CONTRAST or EMPHASIS, and phonetic focus seems to be the most appropriate way for the author to signal this. In order to interpret the examples, it was necessary to take the beliefs of the individual characters and the common ground into consideration. The authors argue that processing some examples involved accommodating a contrast set and that this process often characterized cases of EMPHASIS.

1 Introduction

Italics is often a textual marker for words and expressions that the author intends to be processed as phonetic focus in spoken form. What relationship do italicized expressions have with their context, and how does italics affect the interpretation of the message? Are there relationships that are more dependent on prosodic correlates than others, to the degree that they are best expressed in text with italics rather than with syntactic transformations that would have had a comparable focusing effect? Is it possible to develop reliable, objective definitions of these relations so that they can be consistently identified? In order to answer these questions a corpus study if Swedish children's literature was conducted.

2 Background

Reading Swedish text aloud, it becomes clear that italicized items are given phonetic prominence. Other researchers have also pointed out this connection between italics and phonetic prominence [1]. Phonetic prominence is expressed by pitch accent, e.g. a marked change in the level of fundamental frequency (F_0)

and vowel lengthening. Pitch accent placement is one device for marking the conceptual saliency of part of an intonation group and hence of the sentence [1].

Many different characterizations of conceptual saliency have been proposed. In a framework of New and Old information as described by Cruttenden [1], Old information will fall outside the focus, and therefore can not be given pitch accent. Gundel [2] has described the same phenomenon, but in slightly different words. Semantic focus, which she categorizes as New information, is said to be expressed with phonetic prominence [2].

Contrast is also a term associated with conceptual salience, though most intonationists find it difficult to give a clear definition of the concept. [1] gives an informal definition, arguing that focusing Old information gives rise to a contrastive interpretation, which in turn involves comparison within a limited set.

There is thus a connection between phonetic prominence and conceptual salience. However, the pitch accent associated with semantic focus is a property of every sentence. Italics is special in that it signals a phonetic prominence which is stronger than default pitch accent. The concepts expressed with italics could in turn be assumed to be conceptually more salient than average semantic focus.

What relations then give rise to the need to mark this strong conceptual salience in text or speech? Rooth [8] points out that varying the placement of focus gives a different interpretation to the whole message, and thus can affect the interpretation of the entire discourse. This means that, for the clarity of communication in a speech synthesis system, it is of great importance to assign phonetic prominence appropriately. One way to better understand what relations motivate extraordinary prominence is to study italicized words in context.

3 Method

All italicized expressions in four Swedish children's stories ([3], [4], [5], [6]) were excerpted. 102 examples in all were found. Each italicized expression was analyzed in context, and in relation to other examples, and an attempt was made to sort into similar usage. After working with the first text, a working definition of EMPHASIS and CONTRAST was made and applied to the other books. All texts were categorized twice by both authors with a time lapse of at least one week in order to control for consistency of classification. Before the second categorization the definitions were further revised.

4 Results

Various irrelevant instances of italics usage were discarded (13).[1] These examples were judged by the researchers not to mark phonetic focus in speech. This resulted in 89 examples, all contained within quoted speech, either a character

[1] These examples included a letter within the text, examples of shouting where the entire text was in italics and a case where italics marked waltz-timing.

speaking to himself or to others. The books contain narratives as well as dialogues, private monologues, and what could be called public monologues (e.g. the character is speaking to him- or herself but other characters are present). Throughout the books, the author only comments minimally on the characters state-of-mind. This information is instead communicated mainly through dialogues and monologues. Additionally, the setting is described.

The examples could be categorized into two groups, CONTRAST, 46 examples, EMPHASIS, 40 examples. 3 examples seemed ambiguous and were left unclassified.

CONTRAST: There is a relationship between a concept presented earlier in the discourse and the italicized concept. The contrasted concept may be explicit or implicit.

Note that the mere existence of a possible contrastive element in the world is not sufficient. It must be present, explicitly or implicitly, in the preceding text so that it can truly be considered to have been part of the common ground of the characters in the story (to the extent that this can be ascertained from the text).

Example 1. CONTRAST-EXPLICIT ([6], page 26)
SWE Är ni inte glada? *Jag* är hemskt glad och och lättad.
ENG Aren't you happy? *I* am terribly happy and relieved.

Here, the contrast is explicit ("ni" vs. "jag"), even to the extent that the two contrasted concepts are both characters involved in the current discourse, making identification easy.

Example 2. CONTRAST-IMPLICIT ([5],page 68)
SWE Det måste vara sant, tänkte mumintrollet upprörd. Jag *är* släkt med honom.
ENG It must be true, thought Moomin upset. I *am* related to him.

In the several pages leading up to this line, Moomin has been reluctant to believe that he is a distant relative of a certain troll. He is presented with evidence that convinces him that he is related, and the relationship signaled by the italics is the contrast between being related and not being related. In order to understand this example we must know what beliefs Moomin holds, as revealed to the reader earlier in the story.

EMPHASIS: Signals that the reader's (or the listening character's) attention should be focused on the concept itself and italics (or phonetic focus) helps bring this concept to the foreground.

In the next example, Snusmumriken wants to focus Sniff's attention on the buried treasure, rather than on his sea sickness, and he does this clearly with phonetic focus.

Example 3. EMPHASIS ([3], page 100)
SWE Jag kräks! skrek Sniff. Hör du Sniff, sa Snusmumriken.
Det är mycket möjligt att det finns *sjunkna skatter* på havsbotten.
ENG "I am going to vomit!" screamed Sniff. "Listen here Sniff", said Snusmumriken. "It is quite possible that there is *buried treasure* on the ocean bottom."

In the example below, danger is already present as a concept in the context and phonetic focus is used to direct our attention to the aspect of the degree of danger.

Example 4. EMPHASIS: ([3], page 4)
SWE Hur farlig? frågade Mumintrollet.
Jag skulle närmast säga *enormt* farlig, svarade det lilla djuret Sniff allvarsamt.
ENG "How dangerous?" asked Moomin.
"I would say *enormously* dangerous", answered the little creature Sniff seriously.

5 Discussion

Developing a reliable definition for the different functions of italics is difficult, in part because the two categories seem to be at two ends of a continuum. Cases of EMPHASIS can often be seen as implicit CONTRAST. Whenever a concept is brought to the foreground, i.e. emphasized, it necessarily becomes contrasted with those discourse items not emphasized. Still, this natural effect is insufficient to be considered CONTRAST as we have defined it above. CONTRAST demands that a contrasted concept or contrast set be present in the common ground *before* the utterance containing the italicized expression occurs. A complication arises in that once a sentence with the italicized element is "spoken" by the character, the common ground of the listening participants is incremented with the information introduced by the sentence with the italicized element. Examine the italicized word with subscript 2 in the example below.

Example 5. EMPHASIS (subscript 2)([5], page 78).
SWE (Mumin:) En hemul har kommit hit... Han tänker bo i ett snöhus och just nu $badar_1$ han i floden.
Aj, en $sån_2$ slags hemul, sa Too-ticki allvarligt.
ENG (Moomin:)"A hemul has just come here... He's going to live in a snow house and right now he is $bathing_1$ in the river!"
"Oh, one of $those_2$ hemuls", said Too-ticki seriously. (Lit: "A such kind hemul")

This example cannot be classified as CONTRAST according to our definition because previous to Too-ticki's statement there is nothing that invokes a contrast set having to do with different categories of hemuls. However, as soon as Too-ticki's statement is made, we understand that she believes that there are different types of hemuls. Note that from Too-ticki's perspective, her utterance is contrastive with a context set within her individual belief, but our definitions are meant to be interpreted from the point of view of an objective listener, and it therefore must be considered EMPHASIS.

To understand Too-ticki's statement Moomin needs to have a concept of different types of hemuls. We believe Moomin will accommodate this new concept, by creating a contrast set against which he can evaluate Too-ticki's statement. Accommodation as a process for discourse understanding among cooperative participants was first introduced by Lewis [7]. It involves a cooperative listener incorporating propositions or concepts necessary to understand the message of the speaker. Too-ticki's belief in the existence of different categories of hemuls is retrievable from her statement. Our definition of EMPHASIS then becomes CONTRAST without a previously introduced contrast set, or with a rather underspecified contrast set. Problem examples were often those where there was a very vague or implicit contrast set, and where whether or not accommodation took place would depend on the reader's processing strategy, or understanding of the situation. Indeed, what we understood of an utterance is surely slightly different than what the discourse participants (who in our data are fictional characters) understood, or were meant to understand.

For some examples, an analysis of EMPHASIS as accommodated CONTRAST was hard to apply. These were cases where it was difficult to pinpoint a plausible hypothetical contrast set, and the concept seems merely to have been foregrounded. Reexamine Ex. 5, looking this time at the italicized word marked with subscript 1. "Bathing" is classified as EMPHASIS but it could be considered CONTRAST with, for example, abnormal things to do in winter, abnormal things that hemul's do compared with other creatures, etc. All of these possible contrast sets are vaguely present in the preceding text, but whether or not it can be considered CONTRAST seems to depend on who interprets the utterance.

In summary, in order to correctly categorize, understand and eventually perhaps identify the textual relationships of CONTRAST and EMPHASIS we need to keep track of two things: 1) the beliefs of the individual characters, 2) those beliefs which are part of the common ground (to the extent that we can identify this by examining the text). Additionally, we must have a working definition of what types of concepts can be contrasted.

What textual relationships demand phonetic focus? The simple answer is CONTRAST and EMPHASIS. Prosody is one of the most basic ways of focusing the listener's attention. But in addition to prosody there are other lexical and syntactic means of showing CONTRAST[2] and EMPHASIS[3]; why did the author find these examples so special that she felt that forced phonetic prominence was required? One drawback of our method is that we chose only to examine examples with italics, which means we cannot say how frequent these relationships are among the other speech examples in the text. However, if CONTRAST is infrequent in the other dialogue examples, then we could conclude that cases of CONTRAST and EMPHASIS that are syntactically and lexically unmarked demand phonetic focus.

[2] E.g. "A...but B...", or "Despite A, B", though many of these constructions also carry set prosodic patterns.

[3] E.g. topicalization and in text through punctuation such as "!".

The examples studied also had a tendency to be emotionally-loaded. For example, common to most of the examples of monologues (9 private, 2 public) was the use of contrast with belief revision (in 8 of the examples), e.g. when as speaker changed his/her mind about an earlier personal belief this contrastive meaning was often marked with italics. Many of the examples also involved a speaker presenting a personal belief, or an attitude towards a concept, to the other characters; this belief was not part of the common ground. Both of these tendencies in the examples studied suggest that individual belief revision, as well as belief sharing, are special types of information introduction that need to be marked to be correctly understood, and that phonetic focus best signals this.

6 Conclusions

Italics usage seems to be a textual tool intentionally chosen by the author to force a certain interpretation by controlling the prosodic realization of the sentence in question. Examples could be divided into two categories, CONTRAST and EMPHASIS, but these were not unambiguously distinct but rather formed a continuum. Interpretation of both these categories seems to require examining the statement with a contrast set as background, and we believe understanding involves either identifying an earlier contrast set or accommodating a contrast set. Other findings included the tendency of belief revision and belief or attitude expressions to contain italics. This suggests that focusing in these circumstances may be most naturally expressed in speech through phonetic focus, rather than by other linguistic devices.

For an application, such as speech synthesis, it is important to assign phonetic prominence to the right items, so that the listener will make the preferred interpretation. If listeners do accommodate contrast sets, overgeneration of phonetic focus could mislead the listener into accommodating a contrasting element, even in cases where contrast was not intended. This would increase processing demands on listeners and could result in misinterpretation of the message.

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