

Capturing the Effect of Expressive Adjectives

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December 2018

1 Introduction

An expressive adjective (let's consider *fucking*) can have one of two polarities attached to it. This polarity can be deciphered from the context around it.

- (1) I broke my fucking phone.
- (2) I love my fucking phone.

In (1), it is clear that *fucking* acts as an adjective for the *phone* adding a negative connotation to the emotion attached to it. In (2), it can be seen that *fucking* actually possesses a positive connotation due to the verb (*love*) it is used with. This indicates that the type of contribution of the expressive adjective cannot simply be classified into one of at-issue entailment, presupposition or implicature. The mere change of a verb flipped the entire sense in which *fucking* works. This suggests a dependence on something more than just lexical content.

Expressive adjectives contribute to an utterance in multiple ways, depending on their placement in the content itself.

- (3) The movie was fucking terrible.

In (3), we see that *fucking* actually acts as an adverb, strengthening the emotion conveyed by the adjective *terrible*. This variable use of expressive adjectives contributes differently to the meaning of an utterance.

- (4) I broke my *fucking_F* phone.
- (5) *I_F* broke my fucking phone.
- (6) I *broke_F* my fucking phone.
- (7) I broke my fucking *phone_F*.

Here, x_F denotes emphasis placed on the word while speaking i.e., a particular intonation in discourse. Each of these convey a slightly different meaning intended by the speaker. In (4), when the focus is on the expressive adjective (*fucking*), the emotion conveyed in this utterance is directed towards the object. (5) shows that, by emphasising on *I*, the emotion is captured in the speaker’s intonation of the subject. Looking at (6), the emphasis placed on the verb may denote surprise at committing that action or an escalation in emotion toward the object which culminates in the action described by the verb. The intonation in (7) expresses astonishment at the object of the action that has been committed. The speaker may be taken aback at the fact that he/she broke his/her phone, of all things.

Focus is used to describe prosodic prominences serving pragmatic and semantic functions. It has a truth-conditional effect on each grammatical type. Phrases that differ in the location have differing semantic value.

2 Previous Treatment

2.1 Expressive Adjectives

Expressive adjectives are often used to add emphasis, or an extra injection of emotion, to an utterance. Their use, with respect to position and in intonation, has a drastic effect on the utterance and the meaning conveyed in it. A speaker’s perspective is also often encoded in the context around such adjectives, which actually defines whether it is used to positive effect, or a negative one.

[2] recognizes various linguistic characteristics around expressive adjectives. Summarily, these are:

1. Independence: There is an extra dimension of content, apart from the regular descriptive content
2. Nondisplaceability: Expressive adjectives predicate something about the condition/situation of the utterance

3. Perspective dependence: The perspective of the speaker often decides the way that an expressive adjective affects the utterance
4. Descriptive ineffability: The impact, and use, of expressive adjectives can, generally, not be replaced, or paraphrased, by descriptive content
5. Immediacy: Expressive adjectives don't really contain content. Their use itself causes a change in the meaning of the utterance
6. Repeatability: Repetition of expressive adjectives means strengthening the emphasis on the conveyed emotion. This repetition is not redundant

An *expressive type* ϵ is defined, separate from descriptive content types. Further, *expressive indices* are used to measure the impact and polarity that any particular expressive adjective brings to an utterance, with the use of the surrounding context c_ϵ . These indices are denoted as a triple $\langle a\mathbf{I}b \rangle$ where a, b are entities and $\mathbf{I} \subseteq [-1, 1]$. An expressive index can have its interval \mathbf{I} replaced with a subinterval of \mathbf{I} during the course of a semantic computation.

2.2 Focus

Focus was originally looked at through one of two lenses - structured meaning semantics and alternative semantics. The problems with these approaches follows their description.

2.2.1 Structured Semantics

Focus structures the propositions given by sentence. A single focus clause's semantic value, affected by that focus, is comprised of (1) a property obtained by abstracting the position of focus, and (2) semantics of the phrase being focused on.

2.2.2 Alternative Semantics

Alternative semantics can be understood analogous to the question-answer paradigm. Propositions generated by making replacements in the position of the focused phrase are alternatives to the actual answer. A general application of focus is evoking alternatives. For meaning, focus determines an extra value at a position in a phrase. An utterance's intrinsic semantic value is not

directly affected by focus since any focus variants mean the same proposition as the ordinary semantic value of that utterance.

(4), (5), (6) and (7) can be the answer to a generic question like *What happened?*. For (1), following are the propositions ((4), (5), (6), (7)) restated in a question-answer paradigm. Here, the question is an interrogative sentence that matches its corresponding response.

- a Q - Who broke your fucking phone?
A - I_F broke my fucking phone
- b Q - What did you do to your fucking phone?
A - I *broke*_F my fucking phone
- c Q - What did you break?
A - I broke my *fucking*_F phone
- d Q - What did you break?
A - I broke my fucking *phone*_F

2.2.3 Inadequacies

Both these traditional approaches offer up objects which can be used to formalise the contribution of focus to the semantics or pragmatics of a given utterance. So, in the end, these are mere tools that can be used, and not an explanation of the descriptive problem that is thrown up by single-focus (or multiple-focus) utterances.

Structured meaning semantics offer up almost all the relevant information available in an utterance. This leaves room for the creation, and subsequent justification, of several quite implausible lexical objects.

Consider the structured semantics approach and a supposed verb *tolfed*, which is actually a focus-sensitive version of *told*. [4]

- a I tolfed [that he_F resembles her] \equiv I told him that he resembles her
- b I tolfed [that he resembles her_F] \equiv I told her that he resembles her
- c I tolfed [that he_F resembles her_F] \equiv I told him and her that he resembles her

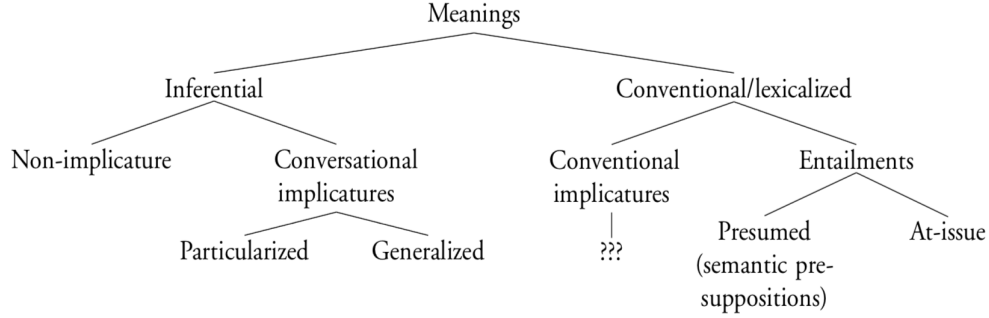


Figure 1: A Taxonomy of Meanings

This means that *tolfed* ψ means the same as *told the focus of* ψ that ψ . Defining *tolfed* as a focus-sensitive operator in the English language is just a matter of simple rule addition which would not impact other existing structures. So, by structured meaning semantics, it is correct to state that *tolfed* is a valid lexical item. This is in direct contradiction of the traditional rules of the English language.

In the case of alternative semantics, dropping a pragmatic rule could lead to a language without the question-answer paradigm. So, it cannot be used to capture grammars that contain construction-specific rules. In some cases, it is seen that an alternative proposition has different pragmatic motivation than that of the ordinary semantic value of the utterance.

[4] advocated for the claim that intonational focus in English has weak semantics of evoking alternatives. Both restrictiveness and compositional issues can be tackled better by acting on the intuition that the alternative set of propositions has an independent semantic origin than the ordinary semantic value.

3 Expression of Meaning

3.1 A Taxonomy of Meanings

First, we examine a few types of meaning, and, if available, tests to verify whether a clause can be categorized as an instance of the same.

Figure 1 is an overview of the different types of meanings [3].

3.1.1 Conversational Implicatures

A conversational implicature is not part of the conventional meaning of the words that form the utterance. Instead, it depends on the features of the context of the conversation. It is a subset of the implications of an utterance: namely those that are part of utterance content. Conversational implicatures:

- are implied by the speaker in making an utterance
- are part of the content of the utterance
- do not contribute to direct (or explicit) utterance content
- are not encoded by the linguistic meaning of what has been uttered

Under the umbrella of conversational implicatures, there are distinctions between particularized and generalized implicatures; implicated premises and implicated conclusions; and weak and strong implicatures. A few types of conversational implicatures that can be encountered in everyday life are figures of speech, hyperbole, meiosis, metonymy, synecdoche, and metaphors.

3.1.2 Conventional Implicatures

Conventional implicature is an implicature that is: part of a lexical item's or expression's agreed meaning, rather than derived from principles of language use, and not part of the conditions for the truth of the item or expression. Speakers convey their conventional implicatures by means of linguistic conventions.

(8) She is Punjabi; she, therefore, has an inherent affinity for drinking.¹

The speaker has only literally said that he (the person the speaker is referring to) is Punjabi (someone from the state of Punjab in India) and that he has an inherent affinity for drinking. The speaker has conventionally implicated that his love of drinking is a consequence of his Punjabi heritage. This implicature is conveyed by the traditionally accepted meaning of *therefore*.

¹as observed from close, first-hand experience

3.1.3 Entailments

Entailment phrases are relations between propositions. Informally, they can be worded as: *if A is true, then B must necessarily be true*. They are often qualified into two types: *at-issue entailments* and *presuppositions*.

3.1.3.1 At-Issue Entailments

At-issue entailments occur when one may draw necessary conclusions from a particular use of a word. They depend entirely on the dictionary definitions of the words used in the utterance.

Entailment differs from implicature in that for the latter the truth of A suggests the truth of B, but does not require it. For example, looking at *Alfonso missed the movie after his car broke down*, it is implied that Alfonso missed the movie *because* his car broke down. He could have missed the movie due to other reasons (if the movie was a couple of days after his car broke down, and he got stuck at work). Entailments, however, do not allow for reinterpretations that are not captured in the words of the utterance itself.

Entailment also differs from presupposition in that in presupposition, the truth of what one is presupposing is taken for granted. For example, consider the utterance *The king of France is bald*. This sentence presupposes that there is a king of France, which there is currently not. This means that though the sentence is syntactically sound, it is still incorrect because there is no entity that can be referred to as "the king of France".

3.1.3.2 Presuppositions

A presupposition is a semantic relation that holds true between sentences or propositions. They can be considered background beliefs of the interlocutors i.e., propositions that are assumed to be true in a conversation. It is different from an assertion in that an assertion is made by the speaker in the conversation, advocating its veracity, while a presupposition is encoded in a speaker's utterance, and is automatically considered to be true. Any presupposition extracted from a sentence is required to always be true in order for the sentence to hold a truth-value. It constitutes a necessary assumption required to understand the meaning of a sentence.

3.2 Where Expressive Adjectives Fit

Expressive adjectives can be considered a class of conventional implicature-triggering words [1]. The negative connotation is captured in such utterances by the speaker perspective dependence of the utterance. This contribution is similar to a lexicalized meaning. It is slightly different from an at-issue entailment and presuppositions. At-issue entailments talk about the content of the utterance. Presuppositions assume some information for the utterance to be true.

To quantify the various types of meanings that different words contribute to, various tests have been proposed. For presuppositions, this is the constancy test. The presupposition should hold under the effect of negation, interrogation, imperative and the if-conditional of the utterance itself.

For conversational implicatures and entailments, we use the cancellation test: if S_1 is the utterance and S_2 is an implicature derived from it, the cancellation test states that S_1 and $\neg S_2$ is odd. If S_2 is an entailment of S_1 , it cannot be cancelled: S_1 and $\neg S_2$ is valid.

3.3 Expressing the Adjective

Looking at (1), negative emotion is expressed by the utterance, exaggerated by the use of *fucking*. However, in (2), positive emotion is conveyed, heightened by the use of the expressive adjective *fucking*. All the words in the utterances remain constant, bar *broke* and *love*. This indicates that the polarity of the emotion that is exaggerated by the expressive adjective can be captured by analyzing the context around it.

[2] advocates the use of an index depending on the entities interacting together in the context of the utterance. This index $\mathbf{I} \subseteq [-1, 1]$ denotes the polarity of the aforementioned interaction. It is worth mentioning here that \mathbf{I} can be a set of values in this range. While complete, this analysis can be abridged for simple utterances. This can be done by attaching a polarity index to the verb that the speaker is operating on.

A polarity index $\mathbf{P} \subseteq [-5, 5]$ denotes the connotation, positive or negative attached to a particular verb. It is important to note that this can only be an integer value. It is easy to assign a sentiment to any verb in the English language. Verbs can be neutral, or various degrees of positive or negative. In simple utterances, the choice of verb often dictates the feeling of the speaker.

We can read $verb_P$ as the expressive level the speaker communicates

through the verb in the utterance. It is an absolute value ranging from -1 and 1 attached to the verb itself. As the magnitude of this index increases, stronger emotions emerge: the more positive the number, the more positive the sentiment, and conversely. A necessary condition for this theory to work is that the expressive must be used as an adjective, not as an adverb or any other form.

- (9) Alfonso *dislikes*₋₂ the fucking book.
- (10) Alfonso *loves*₊₅ his fucking book.

The above examples demonstrate that a polarity index attached to the verb itself is effective in conveying the emotion the speaker wishes to convey. It is clear, from (9), that Alfonso is not a fan of the book. The use of *fucking* exacerbates this dislike further. From (9) and (10), we see that the polarity index attached to the verb is indicative of the severity of the sentiment attached to it in this context. Expressives accompanied by such a polarity index may also be used to draw inferences in various cases. For example, (9) implies that Alfonso has a problem with the content of the book; (10) implies that Alfonso agrees with, and maybe even endorses, the message of the book.

- (11) Alfonso *thinks*₀ that Sharon *hates*₋₅ the fucking book.

(11) shows the use of multiple verbs in an utterance. Here, the emotion is conveyed by *hates*. This verb encodes what Sharon feels about the book, reflecting what Alfonso thinks.

It is worth noticing that such an index might also attach speaker sentiment to verbs, even when not being used in the presence of an expressive.

- (12) Alfonso *dislikes*₋₃ Sharon.

Such an utterance makes Alfonso's sentiment towards Sharon clear. In the absence of an expressive, this sentiment is not exacerbated, but is present nonetheless.

In case of multiple sentiments being echoed in the same utterance, using this index presents a conflict.

- (13) Alfonso *loves*₊₅ the fact that Sharon *hates*₋₅ his guts.

From (13), formulating a clear analysis of the emotions being expressed is difficult since verbs of opposing polarity interact with each other, without any clear guideline to model this interaction.

4 Shifting Focus to Effect

This section is dedicated to examining how varying intonation in an utterance shifts its contribution to different types of meaning. The word that is especially emphasised in the utterance is taken to be the one focused on. We look at (4), (5), (6), and (7), through the lens of focus, to this effect.

As discussed in [4], the concept of scope islands is important to quantify the extent of the impact of focus on a particular word. Scope islands are traditionally used as a term for the level at which focus is interpreted. We tweak the definition to fit this data puzzle. Scope islands are used to constrain the intonational emphasis placed on the word that is being focused on.

In (4), the intonation is part of the noun phrase describing the object, specifically the adjective describing that object. This means that the emotion (here, anger) being expressed in the utterance is directed at this object. It represents something might be wrong with the phone and that breaking it was a consequence of frustration or resentment towards it.

In the case of (5), the subject of the utterance is emphasised. This denotes frustration, since the accompanying verb is one with a negative connotation, at the person who performed the action. The use of a severity index, in conjunction with focus denotations, can clear up which direction the speaker's feelings lean toward in the utterance.

Looking at (6), it is the verb that is stressed intonationally. Given that the verb itself has an attached polarity index, stressing on it in discourse merely exaggerates the feeling of the speaker. This effect, although seemingly trivial, expresses regret (or happiness) that an action has been performed. It escalates the importance of the verb even more so than in utterances with flat intonation.

For (7), like (4), the intonation is part of the noun phrase, and specifically the common noun object. However, here, this emotion is attached to the phone, and it can be quantified as one of surprise, rather than regret (or happiness, depending on the verb in the utterance).

5 Conclusion

We propose and analyze a way to integrate speaker-dependent perspective into any understanding we might extract from an utterance. It is seen that the polarity index acts as a separate dimension construed to capture something that the speaker implicitly contributes to the utterance. Isolating various words that might be highlighted in discourse using the notion of focus allows us to study the different types of effects that intonation has on the effect of each word in the utterance. Verb polarity index in conjunction with intonational focus is capable of giving us a more exhaustive outlook of the effect of expressives in an utterance. In the future, we propose a more rigorous study of this interaction.

References

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