How does the affective relate to ostensive-inferential communication?

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1 Introduction

In the course of my research, from a relevance-theoretic perspective, into the psychological underpinnings of the human ability to translate between languages, I came across the challenge of having to deal with affective meaning. Relevance theory does address vaguer aspects of communication - poetic effects and impressions - via the notion of strength of communication. Yet there remains uncertainty about how emotional aspects of communication relate to this theoretical framework. Pilkington (2000), for example, questions the adequacy of cognition-based pragmatics in general to account for affective meaning (qualia). Wharton (2000), Wilson and Wharton (2006), and Wharton (2009), on the other hand, suggest that the different “feel” of the communication of affective meaning, as found with prosody and interjections, is due to the involvement of procedural rather than conceptual encoding.

Using insights from the work of Damasio (1994), this paper attempts to briefly sketch an account of the communication of emotional aspects might look like which is both nonpropositional and cognitive.

2 Concerns raised by Pilkington 2000

In his book, Pilkington explores how a wide range of what he calls “poetic effects” can be accounted for in terms of weaker communication, along the lines proposed in Sperber and Wilson (1995; 1986). However, after an exploration of affective meaning, using especially the framework of Rey (1980), he concludes with regard to the weaker-communication account offered by relevance theory:

> Although this "wide array of minute cognitive effects" may characterise and distinguish poetic effects from other kinds of stylistic effects in terms of propositions, it is not clear that the affective dimension can be reduced to such cognitive effects. In fact, I have argued for the view that the affective (or, more generally, qualitative) dimension is real and central to what is expressed and communicated via poetic effects. (Pilkington 2000, 190–191)

In fact, Pilkington suggests that affective meaning goes not just beyond relevance theory, but beyond cognitive pragmatics in general:

> Although cognitive pragmatics is now in a position to provide a substantive theory of literariness, it is important to be aware of the limits on how far it can go. There is a theory of literariness based on pragmatic theory and there is a beyond. (Pilkington 2000, 192)

3 Proposal by Wharton and Wilson

Wharton (2000), Wilson and Wharton (2006), and Wharton (2009) do not focus on literariness and poetic effects, but deal with the distinction between linguistic and nonlinguistic communication as regards prosody and interjections, which, according to their analysis, can also involve affective or nonpropositional meaning.
3.1 Affective meaning from prosody

As a case of affective meaning arising from prosody, Wilson and Wharton (2006) discuss the example of someone saying “I’m disappointed” in an angry tone of voice rather than just with a neutral intonation:

While neutral (or ‘expected’) prosody would cause the hearer least phonological processing effort, it would give him little guidance on the type of cognitive effects he was expected to derive. By contrast, any departure from neutral (or ‘expected’) prosody would increase the hearer’s phonological processing effort, but would thereby encourage him to look for extra (or different) effects. Which effects should he derive? According to the relevance-theoretic comprehension procedure, he should follow a path of least effort, deriving whatever effects are made most accessible in the circumstances by the type of prosodic input used, and stopping when he has enough effects to justify the extra effort caused by the departure from neutral (or ‘expected’) prosody. Thus, the utterance of “[I’m disappointed]” in an angry tone of voice, with a wide pitch range and increased stress on ‘disappointed’, should indicate a degree and type of disappointment that would warrant the derivation of a particular range of positive cognitive effects via the automatic working of the relevance-theoretic comprehension procedure. (D. Wilson and Wharton 2006, XXX)

3.2 How is affective meaning different?

Wharton notes that attitude-related meaning can be accounted for in relevance-theoretic terms through the recovery of higher-level explicatures and/or propositional attitude descriptions. Wharton 2009 discusses how the attitude of regret would be recovered in the following example:

(21) Jack: Would you like some ice cream?
Lily: (regretful tone of voice) I’ve got toothache.

(Wharton 2009, 187)

When interpreting Lily’s response, Jack could derive either or both of the higher-level explicatures, (23a) amounting to a description of the speech act and (23b) amounting to a description of the propositional attitude Lily was communicating:

(23a) Lily is saying that she’s got toothache.
(23b) Lily regrets that she’s got toothache. (Wharton 2009, 188)

He points out that Lily could also have expressed her regret more explicitly by using the interjection *alas*, rather than just relying on tone of voice.

He then argues that these explanations do not work for the communication of a “feeling or sensation”. He takes the following example:

“(29) Child: (taking foul-tasting medicine) *Yuk!* (Wharton 2000, 190)

He goes on to explain:

Here, the interjection stands alone as an utterance in its own right in the unique non-elliptical manner characteristic of interjections. Not only is the attitude not directed at any embedded propositional content, there is no propositional content to embed. For this reason, it is hard to analyse (29) as conveying a higher-level explicature or
The solution Wharton suggests, has two parts. First of all, he proposes that what the interjection in cases like (29) expresses is not “an emotional attitude at all”, but “something more like a ‘feeling’ or ‘sensation’” (Wharton 2000, 190). He adds, “the speaker simply reveals something about her internal state. In Kaplan’s terms this state is expressed rather than described” (Wharton 2000, 191).

The second part to the solution is that such interjections provide meaning by procedural rather conceptual encoding. Starting from the more established uses of procedural encoding with discourse connectives, which characteristically provide computational instructions, he proposes to widen the concept of procedural content to an activation process:

With other non–truth-conditional expressions, however, it might be better to view procedural content in a broader sense, as simply activating certain types of representations, or contextual assumptions, or expectations about cognitive effects. Thus, a pronoun might activate a certain class of candidate referents from which the hearer must choose. We might characterise the procedural information encoded by mood indicators in this broad sense, as activating certain propositional-attitude descriptions, which the hearer is expected to draw on during the comprehension process. (Wharton 2000, 194)

Wharton then applies procedural encoding to interjections communicating affective meaning:

Along these lines, the procedural information encoded in interjections might activate various attitudinal concepts or types of concepts. Under such an account wow would not encode a concept that a hearer translates as ‘X is delighted’. Instead wow activates a range of attitudinal descriptions which involve delight, surprise, excitement etc.. In the case of yuk, the attitude will be one of disgust; in the case of aha it will be an attitude of surprise etc. (Wharton 2000, 194)

3.3 Evaluation

It seems that, at the end of the day, in this analysis the essence of affective meaning is no different from other representational meaning, it is a case of weaker communication of a range of propositional forms, resulting from the “activation” of “a range of attitudinal descriptions” (Wharton 2000, 194). The only other difference suggested by Wilson and Wharton is that the interpretation process involves procedural rather than conceptual decoding, which leads to implicatures, rather than explicatures. Thus, the distinction between the communication of propositional and affective meaning would reduce to the explicit-implicit distinction.

At this point one wonders whether this analysis does justice to the communication of feelings. Recall that Wharton himself stated on one point in his paper that the communication of feelings involves something different from description, that in such cases “the speaker simply reveals something about her internal state. In Kaplan’s terms this state is expressed rather than described” (Wharton 2000, 191). Like Pilkington, one has the suspicion that the weak communication account does not really capture what seems to make the communication of feelings so distinct. But if this intuition is right, does it mean that to capture this distinction communication theory has to move beyond the cognitive realm, as Pilkington concluded?
4 A brief sketch of the model of emotions and feelings by Damasio (1994)

It appears that this is not necessarily so and that much depends on how cognition and emotion relate to each other. Wharton essentially works with the view proposed by Rey (1980). He writes:

Rey (1980) defines ‘emotion’ in terms of a process of interaction of the various elements that he regards as comprising emotional states: cognitive, qualitative and physiological. Thus, sadness might be defined as the interaction between a cognitive element – the knowledge that something has happened which you would prefer not to have happened, or the belief that something which you would prefer not to happen is going to; a qualitative element – that feeling of being ‘down’ (perhaps accompanied by behaviour consistent with feeling this way, such as drooping shoulders and a flat tone of voice); and a physiological element – chemical changes in the brain (in the case of sadness or depression, depletion of norepinephrine). Whilst emotional states crucially involve the cognitive, as well as the qualitative and physiological elements, feeling or sensations need not. Seen in these terms what is communicated by yuk in (29) is indeed a feeling or sensation rather than an emotion, and not an emotional attitude or propositional-attitude proper. (Wharton 2000, 191)

Based on extensive neurobiological research, Antonio Damasio (1994) offers a considerably more detailed and differentiated account of the relationships between emotion and cognition. In fact, deviating from a long tradition, Damasio states the relationship between emotion and cognition is crucial to rational behaviour, and that feelings are cognitive objects – cognitive representations of body states. (It should be noted that Damasio’s greater degree of differentiation leads to a use of terminology different from that of Rey and Wharton: emotions are a certain kind of body states, and feelings of emotions are mental, cognitive representations of this kind of body state – see below.)

Put in a highly condensed form, Damasio’s account runs as follows. First of all, there is the flow of events surrounding a person. These events are perceived. If certain features (or constellation of features) are perceived, they trigger a complex response in the limbic system (amygdala). This response brings about a complex change of body state. Changes of body states originating in this way are called (primary) emotions. One of the tasks of the brain is to monitor the constant flow of body states, which it does through mental representations of the body called ‘feelings’. When in this constant flux of body states emotions occur, the prefrontal cortex is set up to identify or recognise their representations as distinct and signals their occurrence to the self as a feeling of an emotion. Thus the feeling of an emotion is a mental representation of a body state, not a propositional representation, but, as mental representation, it is nevertheless cognitive. As a result, we experience happiness, sadness, anger, etc”, depending on the kind of emotion. The prefrontal cortex also monitors conceptual representations (or images) of the outer flow of events. When an emotion, as defined above, occurs, the prefrontal cortex establishes a link between the mental representation of the emotional body state, i.e. the feeling of the emotion, and the co-occurring conceptual representation. As a result, we “feel happy, sad, etc about X” – X being the object or event that took place. This complex process accounts for the “aboutness” (intensionality) of emotions, how links can be established between emotions and mental representations of people, things or situations. The linkage between the body state and a mental representation can
become more permanent, probably by being stored in memory. The point of particular interest to the communication of feelings is that this more permanent linkage has the effect that conceptual representations can serve as triggers for feelings of emotions. This can apparently happen in one of two different ways. In one case, when recognising a conceptual representation linked to an emotional experience, the prefrontal cortex can send a signal to the amygdala that triggers the corresponding change in body state, that is, that emotion. Emotions set off in this way are called secondary emotions. In the other case, the prefrontal cortex can signal directly to the self a feeling of this emotion, although no emotional change of body state has actually occurred. Damasio calls such experiences “as-if” feelings (Damasio 1994, 159).

5 Proposal for employing Damasio’s findings for a relevance-theoretic account of affective meaning

How, then, could Damasio’s insights be applied to a relevance-theoretic account of communication? The standard relevance-theoretic model (Sperber and Wilson 1995) focuses on the communication of propositional information. According to this model an ostensive stimulus will make more manifest a set \( A \) of (propositional) assumptions, of which only a subset \( I \) would be treated as ostensively communicated, by the relevance-theoretic comprehension procedure.

Note that the relevance-theoretic comprehension procedure essentially works by an inferential scheme of the following sort:

If a set of assumptions \( I \) meets the criterion of optimal relevance, assume that \( I \) is the set of assumptions the communicator intended to communicate.\(^{vi} \)

As a result, the mind of the addressee constructs a metarepresentation of the following kind:

(1) By saying \( S \), the communicator has made manifest her intention [to make manifest that \( [I] \)]

This subset \( I \) consists of explicatures and implicatures, that is, propositional representations, which can be communicated with different degrees of strength.

Now if concepts occurring in these mental representations are linked to or associated with feelings in the sense of representations of emotions, via so-called “somatic markers” very likely located in the prefrontal cortex, these emotional representations will also become more accessible, similar to information in the encyclopaedic entry associated with a concept. According to Damasio, these representations are dispositional in nature, that is, their activation can trigger further activity, for example, the causation of “as-if feelings” or of secondary emotions, as explained above.

However, from a relevance-theoretic point of view, this rise in accessibility and activation alone is not enough for such feelings to be ostensively communicated. Whether or not any of these feelings were intended to be communicated will depend on whether they are covered by a communicative intention – which will be determined through the relevance-theoretic comprehension procedure.

This raises two issues:

1) what does it mean for a feeling to be ostensively communicated?
2) how does the communication of feelings relate to relevance?

Since feelings are not propositional representations, they cannot be made “manifest” in the strict relevance-theoretic sense.\(^{vii} \) If, instead of “making manifest” we use the
notion of activation (of a dispositional representation), we could then rephrase (1) for the communicative intention as feelings as follows: 

(2) By saying S, the communicator has made mutually manifest her intention [to activate feeling F].

If this communication is successful, then this intention will be fulfilled, that is, the addressee will recognise that by saying S the communicator has made manifest her intention to activate feeling F. Thus this communication will lead to propositional representation which has the status of an implicature, more precisely of an implicated conclusion, and therefore counts as a cognitive effect. Thus, the communication of feelings could be said to increase relevance by creating an additional cognitive effect in the form of an implicated conclusion. Thus, one way in which the communication of feelings relates to relevance would be via the creation of additional cognitive effects of the “standard” variety. What would be different about such a communication is that the implicature would relate to a non-conceptual element, the mental representation of the feeling F.

There seems a further way in which the communication of feelings might relate to relevance. Though not necessarily using “relevance” in the sense of Sperber and Wilson, Damasio makes the following interesting statement:

… the prefrontal cortices themselves represent categorizations of the situations in which the organism has been involved, classifications of the contingencies of our real-life experience. What this means is that prefrontal networks establish dispositional representations for certain combinations of things and events, in one’s individual experience, according to the personal relevance of those things and events. (Damasio 1994, 181)

Damasion goes on to illustrate what he means by this as follows:

In your own life, for example, encounters with a certain type of pleasant but authoritarian person may have been followed by a situation in which you felt diminished or, on the contrary, empowered; being thrust into a leadership role may have brought out the best in you, or the worst; sojourns in the country may have made you melancholic, while the ocean may have made you incurably romantic. Your next-door neighbor may have had precisely the opposite experience, or at least a different one, in each case. This is where the notion of contingency applies: it is your own thing, related to your own experience, relative to events that vary with the individual. (Damasio 1994, 181–182)

Taking all this into consideration, it seems that from a cognitive point of view, the triggering of feeling effects might be perceived as cognitively beneficial. If this is correct, it seems well worth considering that the triggering of feelings could count as another kind of cognitive effect.

This would mean that, the list of cognitive effects would need to be extended by one:

- strenghtening of contextual assumptions
- erasure of contextual assumptions
- contextual implications
- activation of feelings of emotions

This extension of the list of cognitive effects does not seem to be implausible from an intuitive point of view. As Sperber and Wilson suggest, one of the social values or rewards of ostensive communication is that it enlarges the mutual cognitive
environment of the communication partners, e.g. with regard to shared beliefs. It seems true to experience that the sharing of feelings, too, enhances the relationship between people, and, in fact, if feelings are cognitive in nature, they, too, could arguably be part of the cognitive environment of people. Furthermore, just as understanding the beliefs of others can have important consequences for successful interaction with them, being aware of their feelings would seem to be also advantageous.

6 Further discussion
This has been but a very sketchy outline of how the communication of feelings could be seen as part of ostensive-inferential communication, if one adopts Damasio’s account of feelings as cognitive representations of emotional body states, produced by dedicated systems of the brain. The actual interactions are much more complex, as the following passage may serve to show:

In order for us to feel a certain way about a person or an event, the brain must have a means to represent the causal link between the person or event and the body state, preferably in an unequivocal manner. In other words, you do not want to connect an emotion, positive or negative, to the wrong person or thing. We often make wrong connections, for instance, when we associate a person, object, or place with a bad turn of events, but some of us try to keep from making those erroneous links. Superstition is based on this sort of spurious causal association: a hat on a bed brings bad luck, as does a black cat crossing your path; walk under a ladder, you’ll meet with misfortune; and so on. When the spurious alignment of emotion (fear) and object is pervasive, phobic behavior will ensue. …

This sense of precise cause-and-effect may arise from activity in convergence zones that perform a mutual brokerage between body signals and signals about the entity causing the emotion. Convergence zones operate as “third-party” brokers by means of the reciprocal feedforward and feedback connections they maintain with their sources of input. The players in my proposed arrangement are an explicit representation of the causative entity; an explicit representation of the current body state; and a third-party representation. (Damasio 1994, 161–162)

7 Conclusion
It appears, then, that the insights from Damasio’s work offer a way in which the intuitively so distinct nature of “feelings” can be accounted for in communication theory, without abandoning either the cognitive nature of ostensive-inferential communication or the central role of the communicative intention. The tentative proposal made here would require an addition to the list of cognitive effects, but this does not seem an altogether arbitrary move. All this certainly requires further examination. It is unlikely that I will be able to follow this up myself, since, as stated above, my primary concern is with matters of translation, and so this is a suggestion for research by others.

References
8 Notes

--- Wharton here follows the terminology proposed by Rey (1980) – more will be said about that below.

--- There may be some indication of a tendency of the view regarding affective meaning that, as a cognitive theory, relevance theory does not go beyond impressions, i.e. is limited to the parameter of strength of communication. Thus in her concluding remarks, Wilson (2011) briefly mentions “…two types of case where some of the emotional effects of a literary work might be seen as involving the communication of an impression, and thus fall partly within the scope of a cognitive account” (Deirdre Wilson 2011, 79). However, these comments are too brief to be sure about this point.

--- Damasio is very cautious about what feeling an emotion means in neurological terms. He writes: “What are the neural processes by which we feel an emotional state or a background state? I do not know precisely; I think I have the beginning of the answer, but I am not certain about the ending.” (Damasio 1994)

--- Caveat to Damasio: not only “about something different” than conceptual representations, but presumably also of quite a different nature, i.e. non-propositional. Interestingly, Damasion explicitly mentions that the representations of feelings do not blend or mix with conceptual representations (in his terms “images”), but remain separate – which would support the idea that these representations are of a different nature.

--- Damasion writes, “…the essence of feeling an emotion is the experience of such changes in juxtaposition to the mental images that initiated the cycle.” (1994, 145)

--- It should be noted that Pilkington (2000) does briefly refer to Damasio’s work (Damasio 1989), but only with regard to the notion that concepts may be linked to ‘phenomenal memories’, in addition to encyclopaedic information (Pilkington 2000, 153–154), and then quotes Damasio briefly in his criticism of the general tendency to neglect emotions and feelings in theoretical work (Pilkington 2000, 191).

--- Interestingly, in their statement of the relevance-theoretic comprehension procedure Sperber and Wilson leave this important step implicit:
(a) Follow a path of least effort in computing cognitive effects. In particular, test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.

(b) Stop when your expectations of relevance are satisfied.

(Sperber and Wilson 2002)

viii “A fact is *manifest* to an individual at a given time if and only if he is capable at that time of representing it mentally and accepting its representation as true or probably true.” (Sperber and Wilson 1995, 39; italics as in original)

ix As Damasio points out, a representation of the feeling itself is not enough: “Another falsely satisfactory answer is the simple equation of feeling with the neural representation of what is happening in the body landscape at a given moment. Regrettably this is not enough; we must discover how the constantly and properly modulated body representations become subjective, how they become part of the self that owns them. How can we explain such a process neurobiologically, without resorting to the convenient tale of the homunculus perceiving the representation?” (Damasio 1994, 161). Damasion has some proposals to make to this, but I am not going into these complexities here, though, since they do not affect the main concern of this paper.

x “The entire prefrontal region seems dedicated to categorizing contingencies in the perspective of personal relevance. This was first established for the dorsolateral sector, in the work of Brenda Milner, Michael Petrides, and Joaquim Fuster.8 Work in my laboratory not only supports those observations but suggests that other frontal structures, in the frontal pole and ventromedial sectors, are no less critical for the process of categorization.” (Damasio 1994, 182)

x For instance, “Categorized contingencies are the basis for the production of rich scenarios of future outcome required in making predictions and planning. Our reasoning takes into account goals and time scales for the enactment of those goals, and we need a wealth of personally categorized knowledge if we are to preview the unfolding and outcome of scenarios relative to specific goals and in the appropriate time frames.” (Damasio 1994, 182–183)