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Levels of interpretation: New tools for characterizing intended meanings

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Abstract

This study investigates the pragmatic status and psychological reality of four levels of interpretation: linguistic meaning, explicature, strong implicature, and weak implicature. We test their potential to constitute the Privileged Interactional Interpretation, which is the primary interpretation of an utterance as intended by the speaker and understood by the addressee Ariel, 2002, 2008; Jaszczolt, 2010). Maximalists, such as Recanati (2001, 2004, 2010) and Carston (2001, 2002, 2004a,b, 2005, 2012) see no discourse role for the bare linguistic meaning. However, Maximalist Ariel (2002 and onwards) alongside Minimalists, such as Bach (1994) and Borg (2009) do. So, our first goal is to demonstrate that linguistic meanings, explicatures, and implicatures can all be taken as Privileged Interactional Interpretations. But our hypothesis takes the concept of the Privileged Interactional Interpretation a step further. We propose a scale of interpretation strength: Bare linguistic meaning > explicature > implicature$_{[strong]}$ > implicature$_{[weak]}$.

We here claim that the stronger (i.e., left) the representation on the scale, the more likely it is to count as the Privileged Interactional Interpretation.

Keywords: Privileged Interactional Interpretation; Explicature; Strong/weak implicature; Relevance; Cancelability

1. Introduction

This study aims to shed light on a variety of levels of interpretation: the bare linguistic (semantic) meaning, the implicature, and the intermediate meaning level between these two – the Relevance-theoretic concept of explicature.[1] We set out to examine which, if any, of these levels is taken by interlocutors to be the intended truth-bearing representation of an utterance within discourse. This intended interpretation, defined by Ariel (2002, 2008, 2010) as the Privileged Interactional Interpretation (PII), includes the information on the basis of which the speaker is judged not only as truthful or not, but also as relevant or not. A similar concept, the Primary Meaning, was independently developed by Jaszczolt (1999, 2005, 2009, 2010).

Researchers agree that utterances have both a minimal linguistic level (the conventional, compositional meaning) and an all-inclusive meaning level, which includes, in addition, all pragmatic inferences (the conveyed meaning). However, it is

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[1] Whenever the term 'Relevance' is mentioned in this paper, it refers to the Sperber and Wilson's (1986/1995) concept.

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not a widely accepted fact that (a) these levels are the only ones; and (b) that all theoretically-proven levels play a distinct role within discourse.

We find two major divisions into different levels of interpretation in the literature. First, there is the Gricean original distinction between 'what is said' (a representation very close to the linguistic meaning) on the one hand, and (all) pragmatic inferences on the other hand (Grice, 1968, 1975, 1981, 1989). Neo-Griceans have tried to incorporate the inferred aspects into the 'what is said' level in numerous ways.[2] Ascribing greater importance to pragmatic contributions in determining 'what is said', other researchers developed the Gricean division into a trichotomy (first and foremost, Sperber and Wilson, 1986/1995; Sperber and Wilson, 2008; Carston, 1993, 2002 and onwards' Wilson and Sperber, 2002), introducing a rather rich intermediate level, the explicature, which required modifications to the definitions of the other levels as well. It should also be noted that the maximalist theories themselves differ from one another. Some differentiate between the literal, the explicated, and the implicated and others, more radical Contextualists, such as Jaszczolt's (in press) rely on Salience-based Contextualism.

The role of contextual inferences in determining the truth-conditional content of the proposition is now widely accepted, but many challenge the discursive contribution made by the bare linguistic meaning. While the Minimalist Bach (e.g., Bach, 1994) does not rule out the interactional role played by the bare linguistic meaning, Maximalist Recanati (2004) proposes that the level of linguistic meaning is in fact inaccessible to interlocutors, and Carston (2002, Chapter 1; 2012, p.c), believes that people's intuitions about it cannot be tested in any rigorous way.

These different positions have different predictions with regard to the content of the Privileged Interactional Interpretation (henceforth PII), and by implication, for what is taken as implicature.

Distinctions between stronger versus weaker conversational implicatures are also relevant to our study. Sperber and Wilson (2008) stress that the relative strength of the speaker's manifest intentions determines the relative degree of strength of conversational implicatures. As was already elaborated in Sperber and Wilson (1986/1995:197): ''Some implicatures are made so strongly manifest that the hearer can scarcely avoid recovering them. Others are made less strongly manifest.'' Consider Sperber and Wilson's example:

Example 1. Peter: Would you drive a Mercedes?
Mary: I wouldn't drive ANY expensive car. (p.194)

In trying to make Mary's utterance relevant, Peter may retrieve from his accessible world knowledge the assumption 'Mercedes is an expensive car', which will yield the very strong implicature: 'Mary wouldn't drive a Mercedes'. However, Peter may retrieve other assumptions, which will summon other implicatures. If he retrieves, for example ''People who refuse to drive expensive cars disapprove of displays of wealth'' (p. 197), it is reasonable that the inferred implicature will be ''Mary disapproves of displays of wealth'' (ibid.). This is not as strong an implicature as the one mentioned above.

Sperber and Wilson associate these degrees of inference strength with speakers' intentions and with their degree of commitment to the conveyed content (1986/1995:199), as well as with the hearers' ability to retrieve the appropriate assumptions: ''The weaker the implicatures, the less confidence the hearer can have that the particular premises or conclusions he supplies will reflect the speaker's thoughts...'' (p. 200). These differences are used as the basis for Jaszczolt's (2009, 2010) gradability of strength of inferences

The present study examines how each of the theoretical levels (linguistic meaning, explicature, implicature$_{[strong]}$, and implicature$_{[weak]}$) intersects with an interactionally-based scale of PII. This scale allows for some interpretations to be more strongly communicated and perceived as more essential and relevant to the communicative act than others. In what follows, we dwell on this notion – the PII.

The notion of PII was first introduced in Ariel (2002) as: ''... the meaning which the speaker is seen as minimally and necessarily committed to, i.e., the one by which s/he is judged as telling the truth or being sincere. It is also the meaning which contains the message that the addressee should take to be the relevant contribution made by the speaker.'' (Ariel, 2002:1006). Jaszczolt's (2005, 2009, 2010) Default Semantics model proposes a similar concept of 'the Primary Meaning', defined as ''...the main message intended by the Model Speaker and recovered by the Model Addressee'' (2010:197). It should be noted, however, that unlike Jaszczolt, 2nd author does not have a 'Model Speaker' in mind, thus, allowing for differences (and disagreements) between speakers regarding the very same utterance in the very same context.

So, discursively, what is defined as a Privileged Interactional Interpretation or a Primary Meaning is heavily context-dependent. As argued in Ariel (2002), more often than not, the PII is equivalent to Relevance-theoretic explicature. Yet, neither 2nd author nor Jaszczolt rule out cases in which the Privileged Interactional Interpretation is equivalent even to the unenriched linguistic meaning (see especially Ariel, 2008:304 for wise-guy interpretations).

[2] And see Jaszczolt's (in press) criticism of these attempts, as well as of Maximalists' when revisiting Grice's Maxims.

Let's consider one of the 2nd author's examples. In Example (2), the bare linguistic meaning of 'midnight', rather than its explicated interpretation ('about midnight, too late to call people'), is taken as the Privileged Interactional Interpretation for one of the interlocutors (the operator):

Example 2. M.A. (San Francisco): I'd like to leave a message for X.
Hotel Operator (New York): I'll connect you to their room.
M.A.: No, no. I don't want to wake them up. **It's midnight** in New York!
Operator: No, **it's not**.
M.A.: What time is it there?
Operator: **It's 11:53** (10.13.1998, 2nd author, 2008: 302)

In Example 2, the Explicature, the enriched meaning relevant in the discourse, i.e., 'it's around midnight', namely, 'too late to call people', is rejected in favor of the bare, here rather implausible, linguistic meaning, of 'exactly midnight'. Similarly, there are instances in which it is the implicature, rather than the explicature, that constitutes the Privileged Interactional Interpretation, or as Jaszczolt puts it: ''it is a fact of conversation that strongly intended implicit meanings often surface as primary meanings.'' (2009:17). Here is an example from Ariel (2002:300):

Example 3. R_1: And Haim Getzl (=John Doe) who is a company director pretends to know that the balance sheet is going to be good so he starts buying
S_1: OK that's a criminal offense
R_2: Eh. . .
S_2: It's a bit of a criminal offense
R_3: **So he has a mother-in-law**
S_3: For *this* you go to jail (Lotan, 1990: 16).

In Example 3 the final utterance of R (R_3) seems quite irrelevant, as the relation between having a mother-in-law and committing a criminal offense is not clear. However, assuming that R_3 is being relevant, S must assume that by saying R_3, R intended to generate an implicature (='the company director will buy shares, but will use his mother-in-law's name in the process to conceal his act'). Note that S_3 does not refer to what was explicitly said by R_3, since having a mother-in-law will not send one to jail. Rather, he refers to the inferred implicature, which indeed suggests a criminal offense. Naturally, R relies on S to interpret R_3 the way S did. We then see that interlocutors treat the derived implicature in this case as if it were explicitly uttered, and hence, it seems that S would hold R responsible for practically 'saying' the cancelable (but hardly deniable – see below) content of the implicature.

Both 2nd author and Jaszczolt consider speakers' intentions crucial in understanding the discourse-relevant level of interpretation. Speakers' intentions determine the degree of strength of an interpretation. Jaszczolt (2009), for example, explicitly advocates gradable intentionality, and Ariel (2008) suggests different degrees to which the speaker is committed to an interpretation as PII.

The concept of PII is then orthogonal to the distinction between bare linguistic meaning, explicature, strong implicature, and weak implicature. But what we propose is that we can nonetheless construct a scale reflecting a graded distinction between strongly communicated and weakly communicated messages as follows:

(1) Bare linguistic meaning > Explicature > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

We base this scale on 2nd author's characterization of these meaning levels (Table 1) (see also Ariel, 2015). Note that all three share the basic features of pragmatic inferences, namely, they are implicit, cancelable, and indeterminate. But explicated inferences and strong implicatures share some of the features that characterize bare linguistic meanings (which are of course, explicit, noncancelable, and determinate). Explicated inferences are directly communicated, and both explicated and strongly implicated inferences are interactionally necessary. In addition, not only explicated inferences play a role in interlocutors' truth judgments; strong implicatures may too. Weak implicatures, however, do not share these 'said' features.

This scale then reflects the relative propensity of each of these representations to constitute the PII.

Empirical evidence for some different representations of the PII level, as interlocutors see it, was already presented in several well-known experiments: some supported the basic Gricean distinction between 'what is said' and 'what is implicated' (Hamblin and Gibbs, 2003); some opted for the significance of the explicature (Gibbs and Moise, 1997; Bezuidenhout and Cutting, 2002, Experiments 3–4; Hamblin and Gibbs, 2003); and others emphasized the importance of strong implicatures (Nicolle and Clark, 1999; Bezuidenhout and Cutting, 2002, Experiments 1–2;). Taken together, we interpret these experiments as showing that various levels of interpretation (explicatures and strong implicatures) can be taken as the PII, provided it is strongly communicated in a specific context.

Table 1
Ariel's (2008:292) parameters for distinguishing between explicated and implicated inferences.

	Explicated inferences	Strong implicatures	Non-strong implicatures
Explicit	−	−	−
Cancelable	+	+	+
Indeterminate	+	+	+
Direct	+	−	−
Interactionally Necessary	+	+	−
Truth-conditional	+	±	−

We also interpret Larson et al.'s (2009) experimental results as another piece of evidence for this assumption, as their findings suggest a scale along which various explicated contributions to the bare linguistic meanings are ordered. Their findings portray a *continuum* along which different types of Levinson's (2000) Generalized Conversational Implicatures (GCIs) are ordered. Certain types of GCIs may strongly affect truth-judgments, hence 'Explicated', while others have a smaller impact on truth-judgments, and are thus closer to implicatures.

2. Motivations, tests, and general predictions

2.1. Motivations and tests

We first introduce here our three strength criteria, followed by predictions to be tested concerning our proposal. Recall that according to our proposal, various levels of interpretation are ordered along a continuum, which is compatible with the Relevance-theoretic trichotomy, ranging between linguistic meanings, explicatures, and implicatures. However, it is more fine-grained and flexible than the Relevance-theoretic account.

The parameter we propose for this continuum is interpretation strength. A strong interpretation is the most essential part of an utterance, and as such, we expect it to carry more pragmatic weight made manifest pragmatically. Assuming two interpretation levels (A and B) associated with some utterance, A is defined as stronger if it demonstrates the following behaviors termed here ''pragmatic criteria'' (2) on any of the interpretation strength tests we extracted from the pragmatic criteria (3)[3]:

(2) Pragmatic Criteria:
- a. A has a higher propensity than B to be confirmed by interlocutors as the PII.
- b. Confirming A as the PII is made with a higher degree of confidence than confirming B as the PII.
- c. A is more difficult for the speaker to deny than B.

(3) Tests establishing relative degree of interpretation strength:
Interpretation A is considered stronger than interpretation B provided
- a. (i) Confirming A as having been said by the speaker is preferred over B.
  And/or
  (ii) Confirming A as having been said by the speaker is faster than confirming B.
  And/or
- b. (i) Confidence in confirming A as having been said by the speaker is higher than for B
  And/or
  (ii) Deciding how confident the addressee is in confirming A as having been said by the speaker is faster than for B.
  And/or
- c. Denying that A has been said by the speaker is harder than for B.

Criterion (2)a warrants that participants' relative propensity to confirm a certain interpretation as what was said by the speaker may distinguish between a bare linguistic meaning, an explicature, a strong implicature, or a weak implicature. This Confirmability criterion is accompanied by a Confidence criterion (2)b, which requires that degree of confidence in

[3] Note that we do not attempt to motivate strength differences, but rather focus on manifestations of different strengths of interpretations.

confirming each level of interpretation will further distinguish between the various levels of interpretations; the higher the confidence rate, the greater chance this interpretation stands to be considered as PII.

The rationale behind the Deniability criterion (2)c seems to be similar to Grice's (1975, 1989) Cancelability criterion, but the two are not identical. Grice's Cancelability is a semantic criterion, which applies to all types of pragmatic inferences. All pragmatic inferences are equally cancelable in that the interpretations they introduce are not part of the compositional meaning. Thus it does not make sense to look for different degrees of Cancelability.[4]

Deniability, however, can be viewed as the pragmatic counterpart of Grice's semantic Cancelability criterion. It is a discursive pragmatic correlate which pertains to the speaker's perceived ability to actually deny a potential message or inference somehow associated with his/her utterance when in a specific interaction. There is, of course, some correlation between Cancelability and Deniability: it is impossible to deny the bare linguistic meaning, which is also not cancelable. More interestingly, however, we suspect that not all that is cancelable is deniable, or not to the same degree. Unlike Cancelability, Deniability reflects the strength of a potential inference within context, and that strength depends on pragmatic factors only. Hence, Cancelability may bear one of the two values – cancelable or not cancelable, and reflects a semantic relation. Deniability is gradable, and pragmatic. The gradability of the Deniability test allows cancelable material to be denied to different degrees. Thus, it serves as a tool to differentiate between various types of pragmatic inferences tuned to a finer extent. When an interpretation is easy to deny, we take it to be a weak interpretation; when deniability is hard, a stronger interpretation is involved.[5] Note that such gradability has been independently proposed by Jaszczolt (2005, 2009:12), who expects strongly intended pragmatic meanings to be hard to deny.

Being gradable, Deniability allows us to ask: to what extent could any speaker deny having committed to a pragmatic inference? Such a question only makes sense when the utterance is examined in discourse, where it plays a specific discourse role. Below is an example where Cancelability and Deniability might have different effects (the inference is cancelable, yet hardly deniable):

Example 4. A: Can you introduce me to Shirley? I find her quite attractive.
B: I saw her with a new guy last week (Originally Hebrew, 12.3.2009).

A few implicatures may arise from B's reply. One of them will be 'Shirley has a boyfriend'. Indeed, this implicature is cancelable, in that the proposition will be seen as true even if Shirley does not have a boyfriend, provided she did go out with a guy last week. But discourse-wise, it will be very difficult for B to deny having committed to 'Shirley has a boyfriend', because the relevance of B's response depends on it. Hence, it will be highly unlikely for B to try and deny it, though it is deniable to a certain extent. Thus, Cancelability is available, whereas Deniability seems quite harder. Example 3 above also provides a situation where the speaker might find it very hard to deny the implicated inference, i.e., it will be hard for the speaker to deny having said that Haim Getzl will buy shares under his mother-in-law's name.

Examples (3) and (4) show that the Deniability criterion is stricter than the Cancelability criterion, as far as an appropriate interaction might proceed. Some interpretations which are cancelable are nonetheless hardly deniable. Obviously, semantics alone cannot provide all the propositional content for each utterance on all occasions. There is a clear role for pragmatics, and the Deniability criterion proposed here addresses exactly that. At the same time, it also provides an appropriate pragmatic tool for differentiating between interpretation strengths, since deniability comes in degrees, which we can test for by comparing participants' choices of the various levels of interpretation as PIIs. We aim to show that, in simulated natural discourse, speakers are often committed to much more than that which semantics alone dictates.[6]

2.2. Predictions

Recall that we assume that stronger interpretations manifest different discoursal patterns; the more basic unit of understanding of an utterance should be:

(4) (a) most frequently confirmed as the meaning the speaker is committed to;
(b) the fastest to be confirmed as the meaning the speaker is committed to;

[4] Some try to modify Grice's Cancelability criterion, e.g., Burton-Roberts (2006, and mainly 2010), who proposes a revised cancelation criterion, which should be thought of as clarification of the speaker's intended meaning. See also Capone (2009) for uncancelability of explicatures.

[5] And see Camp's (2013) interesting distinction between the speaker's deniability and the hearer's pedantry.

[6] It should be noted that some researchers have argued against taking into consideration what is understood by the addressee as a criterion in assessing the speaker's commitment to what was said. For example, Bach (2001) claims that ''it is a mystery to me why facts about what the hearer does in order to understand what the speaker says should be relevant to what the speaker says in the first place'' (p. 156). However, this study assumes that the speaker's commitment to the conveyed content, as understood by the addressee, is what both parties of the discourse consider as a PII, especially when the conversation proceeds smoothly.

(c) the level which interlocutors are most confident about confirming as the meaning the speaker is committed to;
(d) the level which a confidence decision about it is the fastest;
(e) the least deniable.

Different results are predicted by different theories, according to what they view as the most (or more) basic interpretation. Now, Minimalist Griceans and Maximalist Relevance theoreticians do not address the question of a Privileged Interactional Interpretation. But given that both theories find it important to exclude implicatures from what they view as the relevant propositional content, we think it reasonable that a discoursal distinction between implicatures and a more basic meaning level is highly compatible with their theoretical assumptions. For Griceans, this means a two-way distinction between linguistic meanings and implicatures:

(5) Bare linguistic meaning > Implicature

For Relevance theoreticians, we primarily expect a distinction between explicatures and implicatures, but since, in addition, they have pointed to a difference between strong and weak implicatures, we expect the following three-way strength partition:

(6) Explicature > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

2nd author's characterization (Table 1 above) predicts a strength scale based on directness, interactional necessity, as well as the truth-conditional contribution made by some inference. We are well aware that the linguistic meaning level is rarely interactionally functional on its own. But based on examples such as 2, Ariel (2008) has, in addition, distinguished between explicatures and linguistic meanings. Unlike explicatures, linguistic meanings are entirely explicit, and hence should be stronger. Thus, we chose cases where the explicature and the bare linguistic meanings were necessarily distinct, that is, where the explicature must incorporate some pragmatic inferences over and above the bare linguistic meaning.

Our newly proposed discourse-oriented gradation of strength is then mostly consistent with the theoretical hierarchy we extracted for the Maximalist Relevance theoreticians, with an added bare linguistic meaning level. The strength scale we then predict is the richer, more fine-tuned (7):

(7) Bare linguistic > Explicature > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

As noted earlier, for the Griceans to be vindicated, we expect a single clear-cut divide between bare linguistic meanings and all the rest, because just like implicatures, explicatures too incorporate pragmatic inferences. Relevance theory, however, predicts a three-way distinction between explicatures, strong implicatures, and weak implicatures. Now, it also predicts a difference between bare linguistic meanings and explicatures, but it's not clear to us that this difference should point to a higher strength for the bare linguistic level. Together with Recanati (2004 and onwards), Relevance theoreticians attribute no psychological reality to the unenriched linguistic meaning (what Bach, 1994 calls the propositional radical). We, on the other hand, assume a four-way distinction in the propensity of different levels of interpretations to constitute the PII. We test the psychological reality of this four-way partition in two experiments.

3. Experiments

3.1. Experiment 1: the confirmability and confidence tests

The aim of Experiment 1 was to test our predictions regarding the likelihood of each level of interpretation (linguistic meaning, explicature, strong implicature, and weak implicature) to be taken as the meaning the speaker is committed to. This, in turn, testifies to its ability to constitute the PII (Privileged Interactional Interpretation). Testing the predictions was carried out by using the Confirmability test, followed by the Confidence test.

3.1.1. Participants

Participants were 72 native Hebrew speakers (45 females, 27 males) aged 18–37 (*SD* = 3.28). They were all students of Tel-Aviv University. They were paid 8$ for their participation.

3.1.2. Materials[7]

The experimental materials used here were pretested for inferability. First, the materials were given to three judges, who rated the inferability of the specific interpretations (to what degree the short texts were comprehensible and coherent). After running an inter-rater analysis, three more pretests were run (with 11, 14, and 12 participants), where the likelihood of these interpretations to be taken as having been intended by the speaker was measured on a 7 point scale. All pretests were off-line tests. Their results led to some modifications made to the materials in the actual experiments.

Materials were 38 short texts including 14 filler items, of which 2 served as training items. In all, there were 24 experimental items. Four stimulus presentation files were prepared so that each participant would see only 1 of the 4 versions of the target (listed below), so there were 6 items for each level of interpretation in each file.

Each item was comprised of an initial short context followed by a ''trigger'' utterance, an unbiasing sentence-context, and the target utterance (see Examples 5a–d below). Each short text has four versions (usually dialogs). The same target sentence is used in all of the four versions, while in each of them it constitutes a different level of interpretation. The unbiasing sentence-context allows reducing the possibility of a priming effect, particularly relevant in the linguistic meaning and the explicature conditions.

Example 5.

a Linguistic meaning
A student knocks on the door of her professor's office.
Professor: Yes?
Student (slightly opening the door): Excuse me. Could I meet with you now?
(**Trigger** sentence:) Professor: Yes, but the meeting will be short.
(**An unbiasing sentence-context**:) Please, have a seat.
(**Target** sentence:) **According to the Professor, the meeting will be short.**

b Explicature
A student knocks on the door of her professor's office.
Professor: Yes?
Student (slightly opening the door): Excuse me. Could I meet with you now?
(**Trigger** sentence:) Professor: Yes, but it's going to be short.
(**An unbiasing sentence-context**:) Please, have a seat.
(**Target** sentence:) **According to the Professor, the meeting will be short.**

c Strong Implicature
A student knocks on the door of her professor's office.
Professor: Yes?
Student (slightly opening the door): Excuse me. Could I meet with you now?
(**Trigger** sentence:) Professor: Yes, but I don't have much time now.
(**An unbiasing sentence-context**:) Please, have a seat.
(**Target** sentence:) **According to the Professor, the meeting will be short.**

d Weak Implicature
A student knocks on the door of her professor's office.
Professor: Yes?
Student (slightly opening the door): Excuse me. Could I meet with you now?
(**Trigger** sentence:) Professor: Yes, I wish we could have sat down for a long meeting.
(**An unbiasing sentence-context**:) Please, have a seat.
(**Target** sentence:) **According to the Professor, the meeting will be short.**

The order of the experimental items was random for each participant in every set of tasks, whereas the order of the training items and filler items was constant across items.

3.1.3. Procedure

Participants were tested individually. They sat in front of a computer screen and were asked to read the following instructions:

[7] All our materials are based on natural discourses taken from Maschler (2011), Internet chats or everyday personal conversations. Naturally, some modifications had to be inserted to the raw materials.

Thank you for participating in this experiment. You are about to read a few very short texts. The texts will unfold one sentence at a time by pressing a key. When you finish reading a sentence, please, press the spacebar to move on to the next sentence.

At the end of each short text, you will be asked to decide whether the last sentence (appearing in capital letters/ larger font size) is true or false, based on the text you have just read. The possible answers are YES (for 'true', on your right) and NO (for 'false', on your left). (The appropriate keys, L and S keys on the keyboard, respectively, are marked as 'YES' and 'NO').

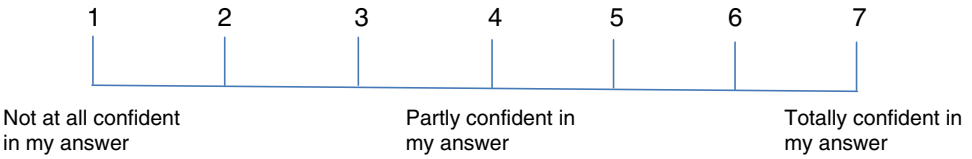
Please try to answer as quickly and yet as accurately as possible.

After pressing the 'YES' or 'NO' key, you will be presented with a scale ranging between 1 to 7 to indicate how confident you are about your 'YES'/'NO' response. You will be asked to press a number from 1 (not confident at all) to 7 (totally confident).

If you have any questions, please ask them now.

We will start with an example.

Then participants were asked if the instructions for the experiment were clear. Once this was confirmed, the experiment began by displaying the two training items followed by a filler item. Participants advanced the texts sentence by sentence by pressing a key. All the sentences of the texts were displayed centrally. The sentences of the text itself appeared on the upper half of the screen, while the target sentence appeared in the middle of the screen. Response times (RTs) were measured by the computer, starting from the onset of the target sentence until the press of the 'YES' or 'NO' key. After pressing the 'YES' or 'NO' key, the following scale was displayed. Pressing the spacebar displayed the next item:



3.1.4. Results and discussion

Confirmability (true/false) Results of Yes ('true') replies are presented in Table 2.

Both subject (F_1) and item (F_2) one-way ANOVAs were performed, showing that differences were significant by both participant (F_1) and item (F_2) analyses, $F_1(3,213) = 72.78$, $p < .001$, $F_2(3,69) = 16.17$, $p < .001$. When comparisons between conditions were run (using 3 orthogonal contrasts), no significant difference was found between Linguistic meaning and Explicature: $F_1(1,71) < 1$, n.s.; $F_2(1,23) = 1.23$, n.s. However, the difference between Explicature and strong Implicature was significant, $F_1(1,71) = 37.39$, $p < .001$; $F_2(1,23) = 11.97$, $p < .005$. The difference between strong implicature and weak implicature was also significant, $F_1(1,71) = 30.70$, $p < .001$; $F_2(1,23) = 5.07$, $p < .05$. While the percentage of 'YES' responses given to weak implicature (60%) was the lowest, it was still significantly higher than mere chance (50%), as confirmed by a one-sample-*t*-test, $t_1(71) = 3.91$, $p < .0005$; $t_2(23) = 1.91$, $p < .05$.

Hence, the scale we received was:

(8) Bare linguistic meanings = Explicatures > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

Response Times of Confirmability 'YES' replies are presented in Table 3.

Table 2
Mean ratings and *SD*s (in percentages) of 'YES' replies for each level of interpretation.

Level of interpretation	Mean%	*SD*
Linguistic meaning	.94	.11
Explicature	.94	.11
Strong implicatures	.80	.20
Weak implicatures	.60	.22

Table 3
Response times (of 'YES' replies) for each level of interpretation (ms).

Level of interpretation	Mean	*SD*
Linguistic meaning	3588	1322
Explicature	3687	1346
Strong implicatures	3574	1221
Weak implicatures	3856	1402

Table 4
Mean ratings and *SD*s ('YES' replies) for each level of interpretation.

Level of interpretation	Mean	*SD*
Linguistic meaning	6.36	.73
Explicature	6.46	.67
Strong implicatures	6.12	.69
Weak implicatures	5.80	.83

Table 5
Response times for each level of interpretation (ms).

Level of interpretation	Mean	*SD*
Linguistic meaning	1365	587
Explicature	1341	563
Strong implicatures	1509	740
Weak implicatures	1570	617

Fourteen outliers larger than 3 *SD* above the mean of each participant were discarded from the analysis (0.8%). No significant differences were found, $F_1(3,213) = 1.55$, n.s.; $F_2(3,69) = 1.02$, n.s. Our strength scale was therefore not supported by this measure.

Results of the degree of confidence response test (ranging 1–7) are presented in Table 4:

The resulting hierarchy replicated the results of the likelihood to be confirmed as the meaning the speaker is committed to, and thus, the PII (the Confirmability test – 4a (i)), $F_1(3,213) = 23.15$, $p < .001$; $F_2(3,69) = 10.61$, $p < .001$. As before, no significant differences were found between linguistic meanings and explicatures, $F_1(1,71) = 2.00$, $p = .16$; $F_2(1,23) < 1$, n.s. However, the difference between explicatures and strong implicatures was significant, $F_1(1,71) = 8.48$, $p < .001$; $F_2(1,23) = 11.62$, $p < .005$, and so was the difference between strong implicatures and weak implicatures: $F_1(1,71) = 7.31$, $p < .005$, although in the item analysis it only approached significance, $F_2(1,23) = 3.33$, $p = .081$.

Thus, the scale resulting from the Confidence test lends support to that established by the Confirmability test by replicating it:

(9) Bare linguistic meanings = Explicatures > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

Results of response times to confidence responses are presented in Table 5 and illustrated by Fig. 1.[8]

As before, 25 outliers larger than 3 *SD* above the mean of each participant were discarded from the analysis (1.4%). But unlike the results in Table 3 above, here, overall, a significant difference was found: $F_1(3,213) = 5.83$, $p < .005$; $F_2(3,69) = 4.16$, $p < .01$.

Examining the comparisons between conditions revealed that, as before, the difference between response times (RTs), concerning confidence in considering linguistic meanings as the intended meanings and those concerning explicatures as intended meanings, was not significant, $F_1(1,71) < 1$, n.s.; $F_2(1,23) < 1$, n.s. The difference between RTs concerning confidence in considering strong implicatures as intended meanings and those concerning confidence in considering weak implicatures as intended meanings was not significant, $F_1(1,71) < 1$, n.s.; $F_2(1,23) \leq 1$, n.s. However, the difference between RTs concerning confidence judgments in considering explicatures and strong implicatures as the intended meanings was significant, $F_1(1,71) = 5.11$, $p < .05$; $F_2(1,23) = 5.84$, $p < .05$.

[8] Standard errors in all figures were calculated according to Loftus and Masson (1994) recommendations for within-subjects designs.

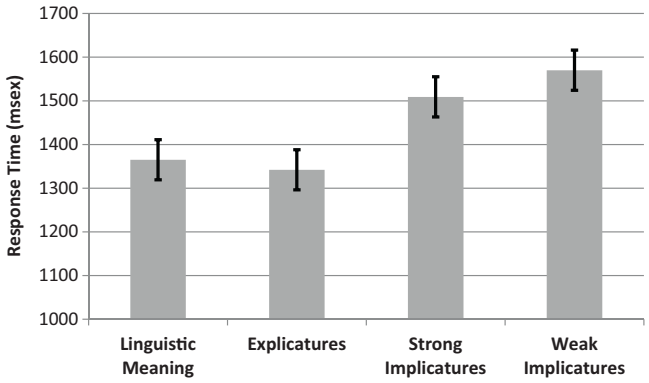


Fig. 1. Mean response times of confidence ratings of each level of interpretation (in ms). Error bars represent standard errors.

Thus, testing response times to determining the degree of confidence in the response given in the confirmability task yielded the following scale, grouping together linguistic meaning and explicature on the one hand, and implicature$_{[strong]}$ and implicature$_{[weak]}$ on the other:

(10) Linguistic meaning = Explicature < Implicature$_{[strong]}$ = Implicature$_{[weak]}$

All in all, the results of Experiment 1 establish a partial hierarchy in terms of both confirmability and degree of confidence as to the likelihood of each level of interpretation to be considered the PII. The hierarchy resulting from the Confirmability test suggests that the explicature (undistinguishable from the bare linguistic meaning) is the strongest level; weak implicature is the weakest level; and strong implicature is an intermediate level. The results of the online Confidence test demonstrate a dichotomy, grouping together linguistic meaning and explicatures, on the one hand, and both types of 'implicated' interpretations, on the other.

A number of conclusions can be drawn on the basis of the results of Experiment 1:

1. First, the lack of differences between linguistic meanings and explicatures does not support a psychological reality for bare linguistic meanings. Rather, in natural discourse, linguistic meanings are shown here to be subjected to enrichment to the level of explicatures, as argued by Relevance theoreticians. This may suggest that the rare cases where the bare linguistic meaning was taken as PII (see Example 2) might be the consequence of misunderstandings or ''special'' wise-guy interpretations (see Ariel, 2008:304). This finding goes against Minimalists, who predict a difference between the linguistic meaning and all pragmatically enriched representations. It equally goes against our prediction for a strength difference between bare linguistic meanings and explicatures.
2. Explicatures and strong and weak implicatures are ordered on a scale, which reflects their likelihood to be taken as the PII. The strongest level, the one with the highest likelihood to be considered the PII, is the explicature, as proposed by Ariel (2002, 2008, 2010), and as Carston (2012, p.c.), and Recanati (2004), among others, would most likely predict.
3. An especially interesting result is the finding that the likelihood of weak implicatures to be taken as PII is above chance (60%). Hence, these results suggest that when the context is rich and supportive, weak implicatures can also be identified as the PII. This underscores the highly influential role context plays in determining the discourse status of the various inferred interpretations.
4. The hierarchy further reveals that measuring participants' degree of confidence in their 'YES' responses supports Ariel (2002 and onwards) and Maximalist approaches (Sperber and Wilson, 1986/1995 and onwards; Carston, 2002 and onwards; Recanati, 2004 and onwards; Jaszczolt, 2005 and onwards, inter alia) in that it attests to the relatively high strength of explicatures as the level that is most likely to be considered the PII. Participants found it easier to confirm explicatures as the PII than to confirm both strong and weak implicatures.
5. The null results, showing no differences in response times to the decision as to whether to accept the target sentences as PIIs, argue against our gradedness hypothesis.
6. However, differences in response times to determining the degree of confidence of participants in their 'YES' responses were partially supportive of the predicted gradation, showing that it comprises of 2 (rather than 4) types of interpretations which differ in terms of strength. This dichotomy differentiates between the explicated and the implicated. It attests to the psychological reality of each of these categories. It thus supports the Relevance theoretic account, which draws a boundary between explicated and implicated inferences.

3.2. Experiment 2: the deniability test

Recall that Deniability, as introduced in section 2 above, is the interactional counterpart of Grice's (1989) Cancelability. Deniability tests the extent to which a speaker is licensed to later say that s/he never said a specific content in the specific situation. Note that one could expect a convergence between the Confirmability and the Deniability tests, namely, that whatever is confirmed as 'said' would not be deniable, and whatever is not confirmed as 'said' would be. But we hypothesize that the Deniability test might produce different results from the confirmability test in that interpretations confirmed as 'said' will nonetheless be seen as deniable by participants.

Here again, our aim is to use the Deniability test as a tool to differentiate between all levels of interpretation on the strength hierarchy: Linguistic meanings should be the hardest to deny, followed by explicature and then by strong implicature. Weak implicature should prove the easiest to deny. It is possible that the inferred representations already confirmed as potential PIIs in Experiment 1, i.e., the representations the speaker is perceived to be highly committed to, might be considered deniable. However, at least some of them should be denied less easily than others, which were found to be weaker (Experiment 1). If so, Deniability might prove to be a more sensitive tool in identifying interpretation strength.

3.2.1. Participants

Participants were 48 students of Tel-Aviv University (22 women, 26 men), aged 20–44 (*SD* = 4.15). All were native speakers of Hebrew. They were paid 8$ for their participation.

3.2.2. Materials

Unlike Experiment 1, Experiment 2 is an off-line test, which enables participants to read the texts over and over again, making redundant the need for the unbiasing sentences (used in the texts of Experiment 1). This time participants were presented with target sentences they had to rate in terms of perceived deniability (see Example 6a-d below). All versions of all short texts were arranged in four different questionnaires, each consisting of 39 items: 2 sample items, 1 buffer (presented as item 1), 12 fillers and 24 experimental items. Each questionnaire comprised 6 short texts whose target sentence was the linguistic meaning, 6 – whose target sentence was the explicature, 6 – whose target sentence was the strong implicature, and 6 – whose trigger sentence allowed understanding the target sentence as the weak implicature.

We should bear in mind that, as before, depending on the context, the same target sentence gives rise to either the linguistic meaning, or the explicature, or the strong implicature, or the weak implicature (see example 6):

Example 6.

a Linguistic meaning
Michal and Anat are talking about Gadi, a guy Michal fancies.
Michal met Gadi at a party, and it seemed to her that he was flirting with her.
Anat: Well, did you check up on him?
(**Trigger** sentence:) Michal: Yes, Gadi has been married for two years now.
(**Target** sentence:) **Conclusion: According to Michal, Gadi is married.**

b Explicature
Michal and Anat are talking about Gadi, a guy Michal fancies.
Michal met Gadi at a party, and it seemed to her that he was flirting with her.
Anat: Well, did you check up on him?
(**Trigger** sentence:) Michal: Yes, he has been married for two years now.
(**Target** sentence:) **Conclusion: According to Michal, Gadi is married.**

c Strong Implicature
Michal and Anat are talking about Gadi, a guy Michal fancies.
Michal met Gadi at a party, and it seemed to her that he was flirting with her.
Anat: Well, did you check up on him?
(**Trigger** sentence:) Michal: Oh, yes, if I like someone, he must have a ring on his finger.
(**Target** sentence:) **Conclusion: According to Michal, Gadi is married.**

d Weak Implicature
Michal and Anat are talking about Gadi, a guy Michal fancies.
Michal met Gadi at a party, and it seemed to her that he was flirting with her.
Anat: Well, did you check up on him?
(**Trigger** sentence:) Michal: I called him, but he wasn't home; some kid picked up the phone.
(**Target** sentence:) **Conclusion: According to Michal, Gadi is married.**

Table 6
Mean ratings and *SD*s for each level of interpretation.

Level of interpretation	Mean	*SD*
Linguistic meanings	1.83	.90
Explicatures	2.04	1.02
Strong implicatures	3.21	1.00
Weak implicatures	4.39	1.06

3.2.3. Procedure

Participants were instructed to rate degree of deniability of each target sentence, taking into consideration **the circumstances under which it was uttered** (emphasis added in the original and repeated by the experimenter). Given these specific instructions, we argue that what was rated was, in fact, perceived as the PII. The instructions were as follows:

> *Thank you for participating in this experiment*.
>
> *You are about to read a few short texts. At the end of each short text there is a conclusion derived on the basis of what a speaker in that text has just said. You are asked to rate, on a 7 point scale, the extent to which it is possible for that same speaker to deny having said (what is mentioned in) the conclusion, which could be implied from what s/he had said. You may change your mind and change your rating before submitting the questionnaire*.
>
> *Following the instructions, two practice examples were presented followed by a comprehension test. Once the participant's understanding of the task was confirmed, s/he was left alone to finish rating the deniability of all the items*.

3.2.4. Results and discussion

Results of mean ratings of Deniability and *SD*s are presented in Table 6 and Fig. 2.

Two one-way ANOVAs (one for subjects and one for items) revealed that there was a significant difference between the grades given to each level of interpretation, $F_1(3,141) = 101.19$, $p < .001$; $F_2(3,69) = 37.69$, $p < .001$. Comparisons between conditions showed a significant difference between each pair of conditions, thus, yielding a clear hierarchy: linguistic meaning – explicature, $F_1(1,47) = 2.07$, $p = .08$ (marginally significant); $F_2(1,23) = 2.50$, $p < .05$; explicature – strong implicature, $F_1(1,47) = 51.37$, $p < .001$; $F_2(1,23) = 27.63$, $p < .001$; strong implicature – weak implicature, $F_1(1,47) = 51.47$, $p < .001$; $F_2(1,23) = 32.28$, $p < .005$.

Hence, the scale we received for Deniability was:

(11) Bare Linguistic meaning < Explicature < $\text{Implicature}_{[\text{strong}]}$ < $\text{Implicature}_{[\text{weak}]}$

The less deniable the level, the stronger it is, which means that the strength scale here revealed was:

(12) Bare Linguistic meaning > Explicature > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

This hierarchy is illustrated by Fig. 2:

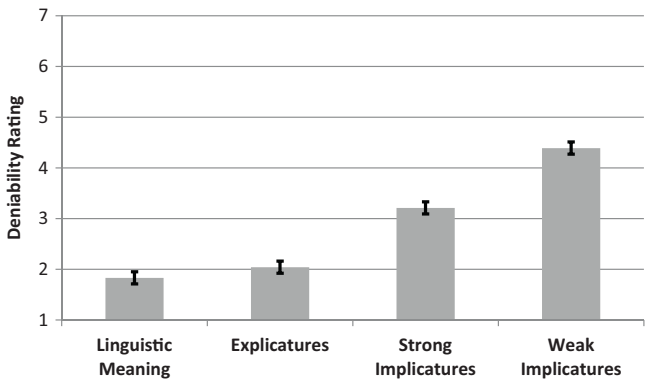


Fig. 2. Mean deniability ratings for each level of interpretation. Error bars represent standard errors.

We should also note that while linguistic meanings, as well as explicatures, are perceived as very hard to deny, with linguistic meanings being least deniable, the mean ratings assigned by participants to strong implicatures was 3.2, showing that they too were not so easy to deny. Weak implicatures were the only ones to be rated higher than 4.

In sum, the deniability test establishes linguistic meanings as the hardest to deny (their deniability rating was the lowest – below 2), and thus the strongest; weak implicatures are the easiest to deny (their deniability rating was the highest – above 4), and thus the weakest. Explicatures and Strong implicatures are of an intermediate level. But in fact, while the deniability of explicatures is significantly different from that of the linguistic meanings, it is closer to it than to that of strong implicatures.

Interactionally speaking, unlike the results of Experiment 1, here, bare linguistic meanings have proven a distinct level of interpretation. Only one explanation seems tenable: This test is more fine-tuned than the Confirmability test. The various levels of interpretations, whose gradation, as in fuzzy set cases, often escapes clear-cut distinctions, especially when not sufficient processing time is allowed (as is the case in Experiment 1), are all shown to demonstrate some propensity to be deniable.

The results of Experiment 2 inform us about two issues. On the one hand, they support Maximalist theories as they attest to the psychological reality of explicatures, which turn out as a level of interpretation that is not as easily deniable as strong (and weak) implicatures. Moreover, the proximity detected between the low deniability of linguistic meanings and explicatures supports a Maximalists' 'explicated' level, which consists of the linguistic meaning enriched by various explicated inferences.

On the other hand, the very low degree of deniability of linguistic meanings, as opposed to the relatively high degree of deniability of implicatures is quite compatible with Minimalist approaches such as Grice's a-contextual Cancelability criterion. The linguistic level here emerges as a distinct level of interpretation, distinguishable not only from both types of implicatures, but also from the explicature, thus manifesting its own discursive pattern. This finding, attesting that linguistic meanings may have a distinct psychological role interactionally as well as theoretically, supports the Minimalists' assumptions about the important role of the unenriched linguistic level. It argues against the Maximalists' claim (Recanati, 2004 and onwards; Carston, 2012, p.c.) that this level is not consciously accessible to interlocutors.

In sum, the results of Experiment 2 support a four-level scale of interpretations, each demonstrating its distinct degree of strength within natural discourse. They thus support our strength scale (7) based on Ariel's (2008) which further suggests that linguistic meanings also have some propensity to be understood as PIIs. Additionally, the results of Experiment 2 establish the significant role of the Deniability test in determining fine-tuned levels of interpretations. As this test is used only after having established the strength hierarchy (Experiment 1), the (almost-fully) replicated results we get here reinforce the ability of this test to measure degrees of strength of levels of interpretation. Thus, the Deniability test could be said to serve as a unique tool which enables us to obtain highly fine-tuned differences between levels of interpretation within actual discourse.

4. General discussion

The goal of this study was to examine the psychological reality of the notion of the PII (Privileged Interactional Interpretation) vis a vis various well-established levels of interpretation: Bare linguistic meaning, explicature, implicature$_{[strong]}$, and implicature$_{[weak]}$. The PII, introduced by Ariel (2002 and onwards), and the similar ''Primary Meaning'' independently suggested by Jaszczolt (2009), is the level most interactionally relevant in a given context. According to the Interpretation Strength Scale proposed here, ranging (and distinguishing) between linguistic meaning, explicature, implicature$_{[strong]}$, and implicature$_{[weak]}$ (13), each of these levels may function as the interactionally relevant PII in a given context. At the same time, we also predicted a gradation for all levels of interpretation, based on degrees of interpretation strength, measurable by cognitive (psycholinguistic) and interactional (pragmatic) tests:

(13) Linguistic meaning > Explicature > Implicatures$_{[strong]}$ > Implicatures$_{[weak]}$

Our proposal differs from those of two major pragmatic models: the Gricean model (the Minimalist model) and the Maximalist model. Each of these models supports a different level of interpretation as the PII: 'What is said' (Minimalists)[9] or explicature (Maximalists).

Given that our study focused on the interactional notion of the PII, we begin by reviewing the various criteria which are useful in determining the PII:

[9] These explicated materials could be the ones mentioned by Grice (1989): the outcome of reference assignment and lexical disambiguation.

1. The first criterion was participants' degree of confirmation as having been said of a certain level of interpretation. The PII on-line Confirmability test (Experiment 1) showed a very liberal inclusion of speaker-intended inferences as 'said' material. Hence, PII often diverged quite significantly from what Grice's (1975, 1989) non-Cancelable level of interpretation was, i.e., Bare linguistic meaning. This divergence, we proposed, was strength-dependent. The stronger the meaning level tested, the greater its likelihood to count as the PII. This criterion predicted the difference found between explicatures and strong implicatures, as well as between strong implicatures and weak implicatures. However, the distinct status of the bare linguistic meanings within discourse was not supported. Rather, the gradation reflecting the results of the PII Confirmability test looked as follows:

   (14) Bare linguistic meanings = Explicatures > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

2. The second criterion was the degree of confidence in the act of confirming each level of interpretation as the PII (the Confidence test, Experiment 1). The gradation established by the previous test, was replicated here:

   (15) Bare linguistic meanings = Explicatures > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

3. Experiment 1 also included 2 sub-tests: one measured Response Times (RT) when confirming a level of interpretation as the PII, and the other measured RTs when rating the degree of confidence with regard to that confirmation. The first sub-test showed no significant differences,[10] whereas the second yielded a dichotomy – a significant difference between the RTs to grading the degree of confidence for bare linguistic meanings and explicatures on the one hand, and the RTs to grading the degree of confidence for implicatures, strong as well as weak, on the other hand:

   (16) Linguistic meaning = Explicature < $\text{Implicature}_{[\text{strong}]}$ = $\text{Implicature}_{[\text{weak}]}$

4. Unlike the PII Confirmability and Confidence tests (Experiment 1), the Deniability test (Experiment 2) tapped what comprehenders might have perceived as deniable by the speaker. This test was expected to be more sensitive than the previous ones, resulting in the predicted differences distinguishing between all levels of interpretation as the PII:

   (17) Bare linguistic meanings > Explicatures > $\text{Implicature}_{[\text{strong}]}$ > $\text{Implicature}_{[\text{weak}]}$

   It is noteworthy that, throughout the various tests, even weak implicatures proved susceptible to being considered PIIs. Our findings, then, support the orthogonal relations between the PII and the various levels of interpretation in the literature, given that we showed that each level had the potential of constituting a PII.

The sensitivities of the various tests involved, allows for the big picture to unfold. The findings of Experiment 1 were compatible with the predictions of Relevance Theory, as they showed that bare linguistic meanings and bare linguistic meanings enriched by explicated pragmatic contributions shared the same degree of strength, and hence had the same likelihood to constitute the PII. They thus support the psychological reality of Explicature but not that of bare linguistic meaning; they also further distinguish between explicatures and $\text{implicatures}_{[\text{strong}]}$ and $\text{implicatures}_{[\text{weak}]}$. The level of Explicature has also proven to be the level having the highest chances to be taken as the PII in all Experiments. However, although not very often a pragmatically-independent level of interpretation, the bare linguistic meaning, usually constituting an inseparable part of the explicature, was also shown to potentially demonstrate a pragmatic independent status. This can account for the legitimate (though less than perfectly cooperative) behavior of wise-guy interlocutors (see example (2) above).

On the other hand, the findings of Experiment 2 provided support for the Gricean (or Minimalist) model, as they established the bare linguistic meaning as a level whose propensity to be deniable was significantly lower than that of the Explicature.

Taken together, the results of Experiments 1–2 provide support for our gradation of Interpretation Strength, ranging and distinguishing between linguistic meaning, explicature, $\text{implicature}_{[\text{strong}]}$, and $\text{implicature}_{[\text{weak}]}$ (see 13 above).

The fine-tuned continuum established here may shed light on the debate regarding the semantics-pragmatics division of labor with respect to truth-conditionality. Our results support the view that truth-conditional content results from a combination of semantic and pragmatic interpretations. An innovative contribution of this study is a methodological one – the introduction of the Deniability test. This test proved to be more sensitive than others, simultaneously showing both

[10] This result is inconsistent with some previous studies e.g., Bezuidenhout and Cutting (2002).

clear differences as well as a gradation between the various meaning levels. It further highlighted the need for more than one type of tool when predictions are tested.

Overall, results also lent support to Carston's (2008) statement that "... the dominant view of semantics as dealing in truth conditions, while appropriate for thought, is largely eroded when it is applied to natural language representations, ..." (p. 342). The Deniability test, which was independently suggested by Jaszczolt (2009) too, takes into consideration speakers' intentions, and provides support for our gradation of strength which constitutes four interactionally accessible levels of interpretation as opposed.

In sum, the results of this study provide support for gradation strength determining the interactionally relevant PII. They show that flexibility and gradability can co-exist, i.e., different interpretations could constitute the PII, and yet some could be stronger than others (as illustrated by our Interpretation Strength Scale). In other words, we found that all levels of interpretation had the potential to be taken as the PII, but each exhibited a different degree of likelihood to be taken as such.

In light of these findings, several issues still need to be addressed. First, the Interpretation Strength Scale. Since each level of interpretation may come with its own sub-continuum, we should perhaps expect a hierarchy within explicatures. Just like implicatures, which are divided into two sub-groups – stronger and weaker implicatures, we assume that testing the degree of deniability of various explicated contributions may also yield a sub-continuum within the level of explicature. In a preliminary research (Sternau et al., in preparation) we examined the degree of deniability of various explicated products of five pragmatic processes. Indeed, we found a significant hierarchy of strength where products of saturation (completions of fragmentary utterances and reference resolutions) were stronger, i.e., less deniable, than products of enrichment (adding default enrichments and enriching the meaning of the *and*-conjunction).

Next, we believe that the difference between strong and weak implicatures pointed to here, is only the tip of the iceberg. We propose that just like explicatures, strong as well as weak implicatures, may each comprise of an internal continuum, based on relative strength. Future research should explore the criteria which determine these degrees of strength.

An additional issue calling for further research is Jaszczolt's (2009) "potential" secondary meanings and, similarly, Ariel (2004, 2008) "truth-compatible inferences". These interpretations are not intended by the speaker, but may still be inferred by the addressee, as long as they are compatible with the speaker's utterance and the context. Where do they fit in the picture? Ariel (2015) discusses these issues.

Based on our empirical findings, we may conclude that perhaps our most challenging insight relates to the fact that examining natural discourse requires more sensitive tools, since it is not governed by the rigid theoretical concepts normally assumed. We hope researchers will consider the implications of our graded strength continuum for the theoretical constructs they propose when studying meaning.

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