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**Default Non-literal Interpretations of Negative Utterances: The
Poetic Power of Negation**

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requirements for the M.A. degree in Linguistics
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1. Introduction

The ubiquity and power of the slogan “no is no” (Hebrew’s equivalent of “no means no”) stems from an implicit and deep-rooted belief in a monolithic, invariant function of negation. A long line of research has established the belief that negation has one function only, and a simple one at that, namely rejecting or discarding an affirmative notion (e.g. Clark & Clark 1977; Fillenbaum 1966; Hasson & Glucksberg 2006; Kaup, Lutdke & Zwaan 2006; MacDonald & Just 1989). Recent research has shown, however, that negation serves several different purposes, like mitigation, activation of alternative concepts or low salience marking. Furthermore, even its more straightforward functions are subtly variant and sensitive to the concept within its scope – thus creating a graded spectrum between suppression, inhibition and “regeneration” (see, Ferguson, Sanford & Leuthold 2008; Giora 2006, Giora et al. 2010; Givoni 2011, Paradis & Willners, 2006 *inter alia*).

Defying the common belief mentioned above, this paper is concerned with the multifacetedness of negation. Specifically, we explore the poetic dimension with which negation endows the concept in its scope. A series of three experiments demonstrates how negation serves to enrich those concepts with default novel non-literal interpretations, so that novel utterances of the type “X is not Y” and “X s/he/it is not” (e.g. *This is not memorial day* and *Exciting she is not*, respectively), are rated as more metaphoric/ironic than their affirmative (and equally novel) counterparts. Additionally, these utterances are shown to be read faster when presented in contexts biasing towards their non-literal interpretation, than in contexts biasing them towards their literal interpretation.

This work is structured as follows. In section 2, I provide the relevant background for the experimental research, clarifying the relevant terminology and providing examples from natural discourse. In section 3, I present and discuss the results of Experiment 1, which studies metaphoric interpretations of negative utterances. Finally, in section 4, I present Experiments 2 and 3, both of which study ironic interpretations of negative utterances (to avoid confusion, the words ‘irony’ and ‘sarcasm’ are used interchangeably in this work).

2. Theoretical Background

2.1 Terminology

Let me start by elaborating on the three concepts which are the cornerstones of my claim, namely ‘default’, ‘interpretation’ and ‘novel’. ‘Default’ means that the interpretation discussed is the first to be produced; it is the automatic and earliest output of the computing process of interpretation, as opposed to, for example, an interpretation constructed in response to a failure of a prior, contextually inappropriate interpretation. Whatever the number of stages in which an interpretation is produced, the default one is invariably the one produced in the first stage, enjoying temporal priority. Therefore, default

interpretations are not reached via pragmatical means. Their ingredients are to be found solely within the utterance itself, and involve no comparison, or viewing in relation to utterance-external contextual cues. Default interpretation does not, however, mean a sole possible interpretation. For an interpretation to be a default it has to be temporally *preferred over other* interpretations, which must be available, although not prioritized.

'Interpretation' refers to *utterance* interpretation, as opposed to lexical meanings. I assume that independent minimal parts of speech, such as morphemes and words, are paired tightly with meanings in the mental lexicon. Whether the form is paired with one meaning or several, or whether these pairings have an inner hierarchy is irrelevant. When an addressee encounters the form, he has already a ready-made meaning in his disposal, to make sense of it – and the process is one of retrieval (see Giora 1997, 2003). An interpretation, on the other hand, relates to the utterance as a whole and is constructed on the fly. Thus, the interpretation does not exist prior to the act of utterance, and rather than being accessed and retrieved, it is *constructed* [how about constructed? Does Gibbs use "manufacture"?](Gibbs 2002). No previous encounter with the complete utterance is needed for a seamless interpretation process to take place. Note that 'default' and 'interpretation' (in the sense used here, namely – online manufacturing) do not contradict one another and can co-exist. A default interpretation merely has to be the *initial* product of the construction process, instead of a retrievable, pre-existing entity.

The third component is novelty. By 'novel' I refer to interpretations which are not derived compositionally from the meaning of the individual constituents of the utterance. The interpretation of an idiom, for that matter, might be considered default and non-literal – but it will not be novel. As a matter of fact, it will not even be an interpretation, as the idiom is processed as a single constituent (rather than a composition of several constituents) and its meaning is pre-given. The end product of the comprehension process (pseudo interpretation, if you will) is identical to a pre-computation concept. In the sentence *An effortlessly prolific author, she never seemed to suffer from the dreaded writer's block*, both 'prolific' and 'block' are understood metaphorically, yet no novelty is involved, as the metaphors are already encoded.

Attempting to claim that negation may endow an utterance with a default non-literal interpretation, one has to make sure that there are no other factors that could alternatively affect non-literality, and that this default interpretation is not the only one available. In other words, ambiguity must always potentially exist. Semantic anomaly and internal incongruity, for example, are likely to trigger non-literality (Barbe 1993; Partington 2011). That is why it cannot be suggested with any likelihood that the metaphoric interpretation of an utterance such as *A husband is not a man* is a product of negation. Rather, it is a likely outcome of its internal incongruity – note that the utterance is presented here in isolation, which means that contextual cues could not facilitate the metaphor, and the metaphor's *raison d'être* has to be utterance internal. A husband, according to our linguistic

knowledge, is a man, thus creating a clash between the compositional meaning of the utterance and the meaning of one of its constituents.

Moving on, it is important to note that both 'default' and 'literalness' are orthogonal concepts, as are 'novelty' and 'non-literalness'. Existing notions of default utterance interpretations in the literature identify them differently. Whereas proponents of the Standard Pragmatic Model (Dascal 1987, 1989; Grice 1975; Searle 1979) equate default utterance interpretations with literal interpretations, proponents of the Graded Salience Hypothesis (Giora 1997, 2003) are agnostic in relation to literality, suggesting salience as the foundation of the interpretation. That is why an utterance such as *This place is a junkyard* is interpreted by default as a metaphor (dirty and in disarray, rather than a site intended for waste disposal), with no internal incongruity or contextual cues involved.

Note also that non-literalness per se, although it is often a feature of novel interpretations, is not enough to merit an interpretation a novel status. For starters, it may rely on a word's non-literal yet salient meaning (e.g. *mouse* referring to an electronic device rather than to a rodent). Further, literal interpretations may, at times, be highly uncommon and surprising, but still not novel (since these are based on a less salient, yet still coded constituent meaning – and are at some point manufactured compositionally, albeit not immediately).

As mentioned in the introduction, one aim of this study is to show that novel utterances of the form "X is not Y" and "X s/he/it is not", which have permissible and equally meaningful affirmative counterparts, are rated as non-literal compared to those counterparts. Another aim is to show that these utterances are processed faster when embedded in a context strongly inviting their non-literal interpretation compared to when embedded in a context equally strongly inviting a literal interpretation.

2.2 Ambiguity Conditions

In order to convincingly argue for negation as an operator inducing non-literal interpretations by default, the interpretations must be shown to be derived under conditions which a priori render the utterances potentially ambiguous. The specific conditions are as follows (see also Giora, Livnat, & Fein, 2012):

- i. Constituents (words, phrases, utterances) have to be *unfamiliar* so that salient/coded non-literal *meanings* of expressions and collocations (e.g., the salient non-literal meanings of familiar idiomatic, metaphoric, ironic or any conventional formulaic expression, see Gibbs 1980, 1981; Giora 2003), prefabs (Erman & Warren 2001), or conventionalized, ritualistic, situation-bound utterances, such that occur in standardized communicative situations, (Kecskés 1999, 2000) would be excluded; also excluded should be explicit irony markers, explicit metaphor markers, and of course, explicit literality markers (Barbe 1993; Katz & Ferreti 2003). This condition assures potential ambiguity by operating on the constituent level of the utterance.
- ii. On the inter-constituent level (but still within the scope of the utterance), potential ambiguity is assured by avoiding semantic anomaly or any other form of internal incongruity or opposition between elements

- of the phrase. Such oppositions are known to trigger metaphoricity and prevent the dual permissibility of a literal and non-literal interpretation. Explicit irony marking in the form of intonation is also to be avoided.
- iii. On the discourse level, specific and informative contextual cues should not be involved, so that neither a pragmatic incongruity in the form of contextual misfit or Gricean maxim breach, nor some supportive biasing information, may invite or block a particular interpretation (Barbe 1993; Beardsley 1958; Partington 2011; Ward 1983, Ward & Birner 2006). Epitomizations, that is OSV constructions in which the object is a proper noun, especially of a widely known public figure (e.g. *Brad Pitt/Steve Jobs he is not*), should also be excluded, as they have been shown to be primarily metaphorical (see Ward 1983, Ward & Birner 2006).

While the second condition (avoidance of semantic anomaly or internal incongruity) was phrased mainly to avoid the possibility of alternate triggers of metaphoricity, note that the non-literal interpretation invited by it also stands in contrast to the notion of 'defaultness' in two regards. Not only because the potential ambiguity is violated and interpretation is therefore not a default (in the sense of automatic *preference* between *several* options), but also because there's a lack of temporal priority: metaphoricity is called for since literal interpretation is obligatorily rejected – and the rejection-substitution pattern is opposite to the notion of default (in the sense of being activated *initially*).

2.3 Predictions

Having provided the relevant background, let us turn to the predictions in (1):

- 1) Negation will generate non-literal interpretations by default. Thus, some negative utterances of the form "X is not Y" (e.g. *You are not a pilot*) and "X s/he/it is not" (e.g. *Meticulous she is not*):
 - (a) will be perceived as non-literal compared to their affirmative counterparts when presented in isolation, and
 - (b) will be read faster when embedded in a context biasing them toward their non-literal than toward their (equally biased) literal interpretation.

The rationale behind part (b) of the prediction is as follows. If a non-literal interpretation is automatically manufactured upon encountering the utterance, and the context is supportive of such interpretation, comprehension is unhindered and the addressee can proceed processing the subsequent utterances. If the context supports a literal interpretation, yet the addressee automatically and inevitably constructs a non-literal one, extra processing time is needed in order to reject the default but incompatible non-literal interpretation, and replace it with a non-default but contextually appropriate one.

2.4 Default Metaphoric Interpretations: Natural Data

The following examples are instantiations of naturally occurring "X is not Y" constructions. I have noticed that the utterance *This is not ballet* (personal

communication) can be used in two very distinct manners; to support this intuition, I carried out a Google search of the phrase:

- 2) This is not ballet, it is Cunningham technique. It is done barefoot and involves a lot more use of the torso. It's named after the contemporary choreographer who developed it, Merce Cunningham.
(K S 20.04.2011, personal communication)
- 3) This is not ballet Danielle. This is hip hop, loosen up.
(<http://www.ask.com/questions-about/Make-Yourself-Ill>)
- 4) He is not playing dirty, he is playing football. This is not ballet, you know.
(<http://www.setxsports.com/forum/index.php?topic=26632.100;wap2>)
- 5) This is not ballet, so you will not need to bend your knees too far or spread your legs too wide.
(http://www.ehow.com/how_2056581_hip-walk-jazz.html)
- 6) This is not ballet. It's some kind of synchronized gymnastics, no soul whatsoever.
(N D 15.02.2011, personal communication)

In (2), the rejected concept is a literal one. A saleswoman was correcting the mistaken impression of a mother watching a class in a dance studio where she wished to enroll her daughter. In examples (3) through (5), metaphorical interpretations of 'ballet' are rejected, highlighting its secondary, non-defining features (on negation as highlighting less-salient, non-defining features, see Giora, Fein, Metuki, & Stern, 2010). In (3) it is "a formal, restrained form of dance"; in (4) it is "an activity highly regulated, and commonly associated with gentle dainty women"; in (5) it is "a physical endeavor often testing the limits of human capabilities". In all three examples, the literal interpretation is indeed compatible with the truth, but it is irrelevant in terms of discourse. Example (6) was provided by a ballet aficionado commenting on a performance of *Swan Lake* at London's Royal Opera Ballet. Although the utterance was incompatible with the truth (as the piece is one of the greatest all-time classics, and performed by the best trained ballet dancers one can imagine), it was instantly and easily understood to mean that the performance was wanting in terms of artistic merit or a certain magical atmosphere.

This collection of examples highlights a few points: first, the utterances are potentially ambiguous. Although they are generally used metaphorically, each can and is used literally as well (as demonstrated in (2)). Second, the metaphoricity is not necessarily a product of contextual (or internal) incongruity. There is no clash between the perceived reality and the literal interpretation of the utterance, or a clash between the general message and its internal components, which can be said to trigger the metaphoric interpretation. Finally, the metaphoric interpretations are varied. Every metaphorical scenario calls for a different reading and highlights different features of ballet. Thus, each interpretation is unique, pointing to its novelty. In fact, the utterance would sound equally and perfectly natural in a context where it is taken to mean anything from "this is not an activity in which weight is closely monitored" and "musicality is not a big concern here" to "this is not pretty" and "this isn't supposed to look easy". Now, language users' capability for novelty is not particularly noteworthy. What is noteworthy is the

concomitance of default and novelty – it is striking that a novel, unprecedented interpretation would be the *first* to be constructed (for a related discussion concerning the comprehension of novel metaphors see Glucksberg, Keysar & McGlone 1992).

Further, it is interesting to observe how, within the same text and a rather small discourse unit, the same concept can be both affirmed and negated, and despite the great proximity of these occurrences, different meanings are addressed. Consider (7) (for convenience, occurrences of 'food' are marked with bold):

- 7) "This is **not food**. I'm a Bangkok man and have to endure this place a couple of times because my friends want to. You may see a lot of people in the restaurant, but don't be fooled, this franchise offers the **worst Japanese food in Bangkok**. Remember, This are CRAZY about two things: **Japanese food**, and buffets. Shabushi is the two combined, and they have very good marketing. So it's very popular even though the **quality of the food** is very low. It's like rotating sushi, but what's rotating is pieces of various stale meats and veggies and hardened sushi. The raw fish on sushi are pieces of cheap fish part, they are also not fresh at all, no smell yet but not fresh. The waiters are always too busy and tend to ignore you. **The pre-cooked food** and dessert are non-edible."
(<http://www.tripadvisor.ie/ShowUserReviews-g293916-d1888884-r80635012-Shabushi-Bangkok.html>)

While the meanings that the speaker is rejecting by uttering *This is not food* are non-literal (e.g. tasty cuisine, fresh ingredients, nutritional value), the meanings arising from the occurrences of *food* in the affirmative are literal, namely, stuff to eat. In fact, the great proximity of these different interpretations between the negative and the affirmative may support the notion that the difference in interpretation is regulated. One would not expect an interpretation that was costly to process to be discarded so quickly. Therefore, had the interpretation been surprising (or non-default) the following resonance would resonate with the same meaning, or else have some marking, cueing the addressee to substitute the meaning. It is precisely because the alternation in meaning is highly regulated by rule, being the normal expected behavior (when 'default' for negation refers to non-literal and 'default' for affirmation refers to salience-based or literal), that it can take place without additional marking or processing effort. Note also that the metaphor takes a discourse unit initial position. This fact is important in two regards. First, it means that the metaphoric interpretation could not be facilitated by context. Second, it means that it occupies the coveted most privileged spot in the discourse unit, where discourse topic is usually defined (and later adhered to, unless an explicit deviation marker appears, see Giora 1985, 1994). Therefore, the utterance that a speaker is inclined to insert in that spot is likely to be one that is expected to be clear, and not one whose interpretation would need subsequent correction. Thus, the use of metaphorical novel utterances in paragraph initial positions can be viewed as a support for their ease of direct processing.

3. Default Non-literal Interpretation: the Case of Metaphor (Experiment 1)

Giora et al. (2010) has shown that familiar utterances of the form *this is not x, I am not x, you are not x*, were found to have both literal and metaphoric interpretations in corpus searches. Metaphoric interpretations, however, were much more common, but literal interpretations existed as well, in far from negligible percentages. This seems to cement both the potential ambiguity and the preference for a nonliteral reading. In other words, this means that neither the affirmative nor the negative version of the utterance contains an inherent semantic anomaly. Giora et al. (2010) further tested 12 utterances of the same type (pronominal topic followed by a nominal predicate) with their affirmative counterparts for familiarity and found them all to score significantly *lower* than 4 on a seven point scale of familiarity. Thus, their unfamiliarity was established. In a subsequent experiment described in Giora et al (2010), these utterances were judged more metaphoric than their affirmative counterparts, when presented in isolation, establishing the independence of the metaphoric interpretation from contextual information and fulfilling the prediction outlined in (1a). This experiment aims to use processing effort, measured by reading times, to show that negation induces metaphoric interpretations by default. The aforementioned utterances from Giora et al. (2010) are expected to be read *faster* when embedded in metaphorically biasing than in literally biasing contexts.

Participants

Participants were 38 students of Tel-Aviv University (24 men, 14 women, mean age 25.7 (SD=5.03)). They were paid 40 NIS for taking part in the experiment.

Stimuli

The stimuli were 12 novel Hebrew¹ negative utterances of the form "X is not Y", where X is an uninformative pronoun and Y is a nominal predicate. As mentioned in the preceding section, these utterances were shown by Giora et al. (2010) to be unfamiliar both in their negative and affirmative uses, in addition to being rated as more metaphoric than their affirmative counterparts. The utterances comply then to the first two conditions, namely unfamiliarity and no semantic anomaly/internal incongruity. Since this experiment in Giora et al.'s study took part in isolation, the stimuli also comply with the third and final condition, namely lack of biasing contextual information.

The utterances (in bold below, for convenience) were embedded in literally (8) and metaphorically (9) biasing contexts, and were followed by a two-word spillover phrase (in italics below, for convenience). The target utterances and the following spill-over phrase were in a non-final position, to prevent wrap-up effects slowing reading speed. Each text was followed by a

¹ For the sake of convenience, all experimental stimuli are presented in their English translation. The experiments themselves were carried out in Hebrew. The appendices contain the original Hebrew targets, as well as their English translation.

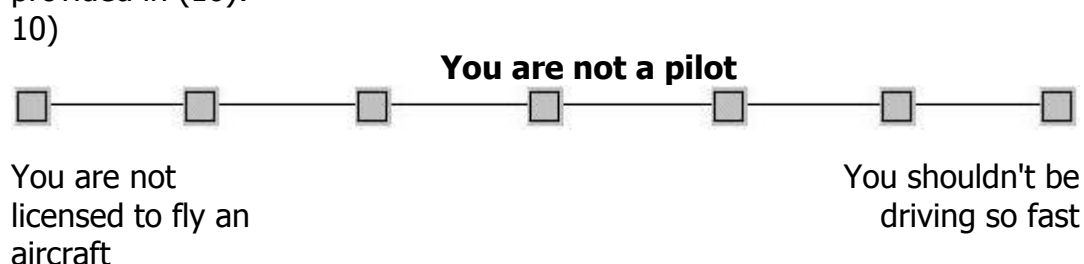
Yes/No question, testing comprehension, to ensure careful reading of the texts.

- 8) David cringed as Ariel completed yet another needlessly dangerous maneuver on the road. His heart pounding, he looked at his fellow passengers and saw they were just as petrified as he was. The speed was mind boggling. When the car careened around the corner he mustered his courage and shouted at Ariel **"You are not a pilot! *You are* going to get us all killed! Either you slow down right this second or you drop us all off right here"** Ariel peeked at the people in the backseat and reluctantly eased off the gas pedal.
- 9) Avner, the security officer, noticed the captain was sprawled over the dashboard, patently unconscious. He tried to keep cool, and grabbed the control stick. Ariel started to panic and whimpered **"you are not a pilot! *You are* going to get us all killed"**. Avner snapped at him "this is our only hope. This plane isn't going to land itself"

The items were randomly interspersed with 13 filler items, of which 8 were familiar negative metaphors, 3 were unfamiliar negative metaphors, and 2 negative items with a literal meaning. Two booklets were prepared, each showing only one version of the experimental item. Filler items were identical between booklets. (For a full list of items, see Appendix 1.)

Pretest

In order to control for contextual bias in the two conditions (i.e. the literal and metaphoric), a pretest made sure that indeed both types of contexts were equally biasing. Twenty two students of Tel-Aviv University were presented with the experimental contexts, up to (and including) the target utterances. These were followed by a seven point scale, whose different ends randomly instantiated the literal or metaphoric interpretation compatible with each item. Participants were asked to indicate the proximity of their interpretation of the utterance within the given context, to one of the scale's ends. An example is provided in (10):



In this particular example, the interpretation at the left end is the literal interpretation of *You are not a pilot*, while at the right end is the metaphoric interpretation.

Results showed that the bias was equally strong in both contexts. When embedded in these contexts, the negative items scored as high on literality ($M=6.63$, $SD=0.37$) as they did on metaphoricity ($M=6.78$, $SD=0.13$) when embedded in contexts supporting a metaphoric interpretation. Thus,

both types of contexts were equally constraining ($t(11)=1.51$, $p=0.16$), which means that any differences in reading times cannot be explained away by contextual effects.

Procedure

Subjects were presented with a self-paced reading task, which was controlled by pressing a key on the keyboard. An example was provided in order to ensure that participants understood the mechanism, in addition to a filler item at the beginning of each questionnaire, ensuring more practice time. The reading was advanced segment by segment, and the reading times of the target utterance and the following spillover phrase were recorded. Immediately after that, subjects had to answer the Yes/No comprehension question, which could relate to any part of the text.

Results and Discussion

Reading times were considered only when the comprehension question corresponding with the text was answered correctly. As predicted, the results showed *faster* reading times for the metaphorically biased targets (895msc; SD=288) than for their literally biased counterparts (978msec; SD=207), $t(37)=2.57$, $p<.01$; $t(11)=1.51$, $p=.08$. No spillover effects were visible: following metaphorically biased targets, reading times of spillover segments (641msec; SD=197) were similar to those following literally biased targets (651msec; SD=200), $t(37)=0.31$, n.s.; $t(11)=0.01$, n.s. These results support the view of negation as an operator inducing default non-literal interpretations. Furthermore, these results are unprecedented, as nowhere in the literature is there an account of novel utterances read faster non-literally than literally. Basing the interpretation on salience would generate a literal interpretation for the negative items (on a par with their affirmative counterparts). Together with the fact that contexts of both conditions were shown to be equally constraining, the results support the proposal that negation induces default non-literal interpretations, as no other theory can otherwise account for the temporal priority of the metaphoric interpretation.

4. Default Non-literal Interpretation: the Case of Irony (Experiments 2 & 3)

Experiment 1 showed that negation induces metaphoric interpretation by default when the construction "X is not Y" is used. The claim that negation generates non-literality by default has, however, boarded implications relevant to other types of nonliteralness. To support this broad claim, one should demonstrate other forms of non-literal interpretation induced by default. That was the aim of experiments 2 and 3, which was conducted in order to show that ironic interpretations are also induced by negation in a default manner. Although the type of the interpretation itself is different from the one explored in experiment 1 (and granted, more predictable and

systematic so that an illusion of non-novelty may arise) the theoretical assumptions and predictions and methodology remain the same. .

4.1 Experiment 2

The aim of experiment 2 is to show that negation induces ironic interpretations by default. More precisely, it aims to show that novel negative utterances of the form "X s/he/it is not", potentially ambiguous between literal and ironic interpretations, will be both interpreted sarcastically and rated as more sarcastic than their equally novel affirmative counterparts, when presented in isolation. (And as all the experiments hitherto and hereinafter described involved reading alone, and no auditory features come into play, explicit irony marking by intonation was avoided).

Experiment 2 consisted of two parts, referred to henceforth as experiment 2.1 and experiment 2.2. The goal of the former was to show that novel negative utterances of the form "X s/he/it is not" are *rated* as more sarcastic than their affirmative counterparts, when presented in isolation; the goal of the latter was to show that they are *interpreted* sarcastically by default. This method of dually testing for sarcasm was employed in order to avoid two possible caveats: on the one hand, since irony rating is an explicit task (made even more so by the use of the word 'ironic' on *both* ends of the scale), and since the ability to detect irony is considered a mark of linguistic aptitude or general savvy, participants could possibly be swayed or suggested to "over-detect" and overestimate the ironicity of the utterances. This is why it was important to show that they opted for an ironic interpretation regardless of the labeling. On the other hand, though, choosing ironic interpretations per se is not enough to determine ironicity. Suppression of the negated concept, reversal of polarity and evocation of an alternative concept are all possible outcomes of the use of negation, regardless of ironicity. To use Partington's (2011) terms, ironicity is not merely about the ideational content of the utterance, but the evaluative message. To use Giora (1995) and Kotthoff (2003), irony lies less in the final message but more in the *gap* between it and the literal interpretation. It has a clear experiential dimension that is best recognized by the explicit labeling.

Participants

Participants of experiment 2.1 were 43 students of Tel-Aviv University (29 women, 14 men, mean age 23.3 (SD=2.9)). Participants of experiment 2.2 were 19 students and graduates of several universities in Israel (11 women, 8 men, mean age 37.9 (SD=12.9)).

Stimuli

Stimuli for both experiments were 18 negative Hebrew utterances of the form "X s/he is not" and their affirmative counterparts "X s/he is yes", involving no semantic anomaly or internal incongruity, which were also controlled for novelty in the pretest described below. In addition to the experimental items, there were 33 filler items. Both experimental and filler items were presented in isolation. Fillers were unmarked sentences which either conveyed moderate

praise or moderate critique. (For a full list of the experimental items, see Appendix 2.)

Pretest

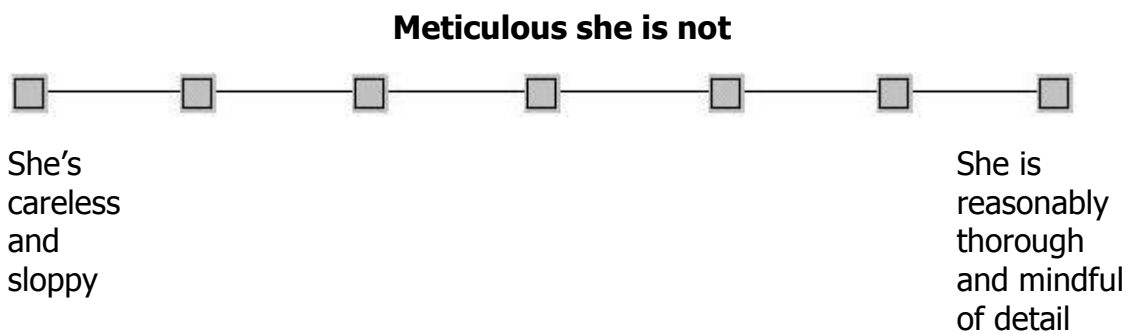
To establish compliance of the experimental items with the condition of non-familiarity, ratings of familiarity on a 7-point scale were collected from 22 Hebrew speakers, students of Tel-Aviv University. Both the negative utterances and their affirmative counterparts were presented in isolation, along with 143 filler items, which varied in their degree of novelty. Each participant saw only one version (i.e. negative/affirmative) of the target items, avoiding direct comparison between the affirmative and the negative versions. Participants had to rate on the scale how familiar the utterance sounded to them, or how likely they were to produce or hear it (7 referring to 'all the time'; 1 referring to 'never'). Results showed that both types of items were equally unfamiliar: the mean score for the negative items was 2.34 (SD=0.48), and the mean score for their affirmative counterparts was 1.89 (SD=0.46). Thus, both types of items scored significantly lower than 3, $t(17)=5.91$, $p<.0001$; $t(17)=10.23$, $p<.0001$ (negative and affirmative results, respectively).

Procedure

In experiment 2.1, sarcasm ratings were obtained for the novel negative utterances and their affirmative counterparts, presented in isolation. Subjects had to rate the degree of sarcasm of each item on a seven point scale. It is interesting to note that many participants were initially baffled by the task, often explaining in some manner the inherent potential ambiguity of the utterances (not only of the targets, but of the fillers as well). These participants were instructed to think of the first scenario that comes to mind in which they can expect the usage of each utterance, and judge it accordingly. Although this would seem at first glance a breach of the "contextlessness" condition, it is not. The context is not presented alongside the utterance, but is activated by the addressee as a stage in the process of interpretation. Choosing one that supports either sarcasm or literality in order to make sense of the utterance is in fact indicative of the default interpretation. Targets were divided into two booklets so that each participant saw only one version of the target.

In experiment 2.2 each negative utterance was presented alongside two possible interpretations, a literal and an ironic one, situated randomly near the different ends of a seven point scale. Subjects had to determine the proximity to what seemed the most appropriate and likely interpretation. For example:

11)



Care was taken to avoid priming effect which could sway participants. For that aim, either no interpretation included negation, or both did; similarly, either no interpretation repeated a lexical item from the target, or both did.

Results and Discussion

Results of experiment 2.1 show that outside of a specific context, the novel negative utterances were rated as more sarcastic ($M=5.88$, $SD=0.37$) than their novel affirmative counterparts ($M=2.63$, $SD=0.40$), $t(17)=45.55$, $p<.0001$. Results of experiment 2.2 show that outside of a specific context, the interpretations of the novel negative items were sarcastic, scoring high on the 7-point scale of sarcasm ($M=5.59$, $SD=0.54$), significantly higher than 5, $t(17)=4.65$ $p<.005$. As predicted, the results support the idea that negation induces irony by default, as witnessed via both, interpretation and rating.

4.2 Experiment 3

Both parts of experiment 2 established that novel negative utterances of the form "X s/he/it is not", presented in isolation, are interpreted sarcastically by default – bearing out prediction (1a). Experiment 3 was designed to test the prediction (1b), namely, that such utterances will be processed faster in a context supportive of their sarcastic than of their literal meaning.

Participants

Participants were 44 students of Tel-Aviv University (30 women, 14 men, mean age 26.4 ($SD=3.02$)). They were paid 40 NIS each for their participation.

Stimuli

The items were identical to those used in Experiment 2, the sole difference being their presentation within a specific context: each item was embedded in literally or sarcastically biasing contexts, followed by a 2-word spillover phrase. The target utterances, followed by the spillover sentences, were presented in context non-final position. The texts were followed by a Yes/No comprehension question. Let us look at the following example (bold marking the target items, and italics marking the spillover):

12)

Bat-el and Shlomit attended the opening of the exhibition of some well-known artist. It was not five minutes before Shlomit decided she had had enough and whispered in Bat-el ear "ok, we get it. The lady can hold a paintbrush. So what? Every work here looks exactly like a thousand others that were painted before. Long before. This one looks like a poor Gauguin imitation, and that one - like a Van Gogh rip-off. **Innovative she is not.** *What I personally care about is seeing something fresh, groundbreaking, moving beyond mere technical proficiency*".

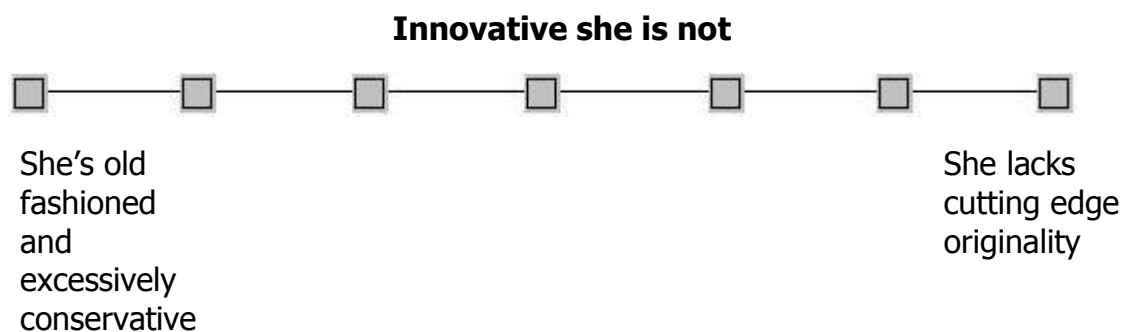
13)

The doctor presented her recent findings in the convention. Everyone agreed her methodology was flawless. Here and there she briefly suggested an interesting new perspective, and she even mentioned an original direction for further research, but all in all, her work didn't venture much away from the already known and accepted in the field. Going out of the auditorium, an audience member was heard remarking to her colleague "I enjoyed her talk. **Innovative she is not.** *What I personally care about, though, is seeing healthy patients, not sensational headlines*".

Pretest

Similar strength of the contextual bias had to be controlled for. For that aim, 44 students of Tel-Aviv University were presented with the 18 contexts, each ending in the target utterances. Each context was succeeded with a seven point scale, at the ends of which were the two interpretations, ironic or literal (as before, the ends were randomized). For example:

14)



Care was taken to avoid priming effects which could bias participants' response. Therefore, the use of content words from the targets, or their cognates, was either avoided for both interpretations of a given utterance, or employed for both. Similarly, usage of negation was either employed in both interpretations or not used at all. Results of this pretest showed the contexts were equally biasing: while the targets embedded in literally supportive contexts were judged high on literality ($M=5.92$, $SD=0.30$), those embedded in ironically supportive context were found highly ironic ($M=6.02$, $SD=0.37$), $t(17)=1.42$, $p=.17$ two-tail. As before, this means that any differences in

processing times if found would not be explainable by differences in terms of contextual bias.

Procedure

Contexts were presented phrase by phrase, with the participants self-pacing the reading process using their keyboard. As before, target sentences were followed by a two-word spillover segment, and were not located in text-final position. Reading times of the target sentence, and the spillover part of the following sentence were recorded. As before, following the reading of the entire text, participants answered a Yes/No comprehension question, ensuring their reading for comprehension.

Results and Discussion

Data of one participant performing above 3 *SD* from the mean of each participant were discarded from the analysis. In addition, 32 data points were discarded due to errors in responding to the comprehension questions (4%); 30 outliers were discarded from the analysis of the target sentences, and 20 outliers were discarded from the analysis of spillover phrases. The remaining results show that prediction (1)b was borne out.

When embedded in irony-supportive contexts, targets were read faster ($M=883\text{msec}$, $SD=183\text{msec}$) than when embedded in literal-supportive contexts ($M=949\text{msec}$, $SD=234\text{msec}$), $t_1(43)=1.75$, $p<.05$; $t_2(17)=1.20$, $p=.12$ (albeit only in the subject analysis). No spillover effects were found: spillover phrases following ironically biased targets (short of two in which a measuring malfunction occurred) were read as fast as those following literally biased targets ($M=787\text{msec}$, $SD=204$; $M=811\text{msec}$, $SD=211\text{msec}$, $t_1(43)<1$, *n.s.*; $t_2(15)<1$, *n.s.*). The results thus bear out prediction (2)b.

5. Summary

This work deals with the poetic effects of negation. Giora et al. (2010, 2012) shows the following: first, that naturally occurring instances of the hitherto discussed constructions are more often interpreted non-literally than literally. Second, they are more often interpreted non-literally than their affirmative counterparts. Third, and finally, their environments tend to resonate with their non-literal interpretation.

Although these facets of non-literal interpretation point in the direction of default interpretations, and can act as an additional support of our claims here, they are not sufficient by themselves, lacking the crucial temporal aspect (i.e. online testing), and contextual independence. The claim for the default nature of non-literal interpretations induced by negation could only be supported by a combination of experimental methods which would control for the temporal aspect and at the same time control for contextual effects. In a way, claiming for novel default interpretation is walking the tightrope between a coded, invariant and sole (rather than preferred) meaning, and a novel, but not temporally prioritized meaning. By combining the offline and online

experiments presented here, all conditions for default non-literal interpretations of these negative utterances were met, namely the utterances were all unfamiliar, contained no semantic anomaly or internal incongruity, and presented in isolation so that their literal or non-literal interpretations were neither invited nor blocked by context. Compliance with the three conditions made sure that the non-literal interpretation was indeed induced by negation rather than by any other cueing mechanism. As predicted, this interpretation was both constructed on the fly and activated initially, without rendering a literal interpretation a priori unacceptable. Utterances, then, were shown to be interpreted non-literally compared to their affirmative counterparts when presented in isolation, and to be processed faster when embedded in contexts that supported their non-literal interpretation than when embedded in contexts that equally strongly supported their literal interpretations.

Although our items' interpretations are non-coded but constructed on the fly, I believe they can be accounted for by Goldberg's (1995) Construction Grammar, according to which "All levels of description are understood to involve pairings of form with semantic or discourse function, including morphemes or words, idioms, partially lexically filled and fully abstract phrasal patterns." (p. 219) Therefore, although the pairing of the form with the meaning isn't conventionally entrenched as in the symbolic manner we find in lexical items, the path of the inference is not a one-off. Rather, a predictable association is maintained between the form of the construction, and a dominant interpretation strategy. It is this intermediate level of conventionalization (intermediate in the sense that a predictable and repeated pattern takes place, but still not fully conventionalized in the sense that the specific interpretation is actually pre-coded and rigidly paired with the form) that allows for the concomitance of novelty and variability in interpretation, alongside the constant predictability of automatic gravitation towards either a metaphoric or an ironic mode, according to the specific construction. In other words, this state of semi, rather than full, grammaticalization, allows interpretations to repeatedly behave in the same general pattern, while not restricting the exact final outcome of the interpretation.

Importantly, these results have no precedent in the literature. Non-literal interpretations have been shown to have shorter processing time only in the case of familiar utterances, and thus could be related to specific items rather than an over-arching principle. It is my hope that further research will reveal more negative constructions which duplicate this behavior, namely, items that are interpreted non-literally in isolation and processed faster in contexts supportive of their non-literal interpretations than in contexts supportive of their literal interpretations.

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Appendix 1

זה לא דיסקוטק

This is not a disco

זה לא שירותים ציבוריים

This is not a public toilet

אתה לא טייס

You're not a pilot

זו לא כספת

This is not a safe

אני לא העובדת הסוציאלית שלך

I am not your social worker

אני לא פועל בניין

I am not a construction worker

זה לא אוטובוס

This is not a bus

זה לא הבית של סבתא שלי

This is not my grandma's house

אני לא נשיא המדינה

I am not the president

זה לא יום הזיכרון

This is not Memorial Day

זה לא בית משפט

This is not a court of law

אני לא השליח שלך

I am not your messenger

Appendix 2

Note: the English translations use the form 'ain't' to make them palatable and natural sounding. The actual Hebrew items involved no such register markedness.

זריזה היא לא

Quick she ain't

מפוקס הוא לא

Focused he ain't

מלהיבה היא לא

Exciting she ain't

דקדקנית היא לא

Meticulous she ain't

דידותית היא לא

Friendly she ain't

מיומן הוא לא

Skilled he ain't

נחושה היא לא

Driven she ain't

מאופקת היא לא

Restrained she ain't

תומכת היא לא

Supportive she ain't

אכפתית היא לא

Caring she ain't

מאורגנת היא לא

Organized she ain't

לבבי הוא לא

Amiable he ain't

חושנית היא לא

Sensual she ain't

שליוה היא לא

Relaxed she ain't

אמביציוזית היא לא

Ambitious she ain't

ברורה היא לא

Clear she ain't

יסודית היא לא

Thorough she ain't

משעשע הוא לא

Amusing he ain't