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Four experiments and 2 corpus-based studies demonstrate that negation is a determinant factor affecting novel *nonliteral utterance-interpretation* by default. For a nonliteral utterance-interpretation to be favored by default, utterances should be potentially ambiguous between literal and nonliteral interpretations. They should therefore be (a) *unfamiliar,* (b) free of *semantic anomaly* or any kind of *internal incongruity*, and (c) unbiased by *contextual information*. Experiments 1–3 demonstrate that negative utterances, meeting these 3 conditions, were *interpreted* metaphorically (*This is not a safe*) or sarcastically (*Ambitious she is not*) when presented in isolation and were therefore *processed faster* in contexts strongly biasing them toward their *nonliteral* than toward their (equally biased) literal interpretation. Experiment 4 reduces the possibility that it is structural markedness on its own that induces nonliteralness. Two corpus-based studies provide corroborating evidence, supporting the view of negation as an operator generating nonliteral interpretations by default.

DEFAULT NONLITERAL UTTERANCE-INTERPRETATION

In this article we introduce a new notion: *default nonliteral utterance-interpretation*. The emphasis here is not just on nonliteralness but also on utterance-level interpretation derived by default. To gain an understanding of this notion, consider the following naturally occurring examples on which this study focuses. They feature the kind of negative utterances, (1) and (3), and their affirmative counterparts, (2) and (4)—examined here (in boldface) and the way they are interpreted in natural contexts (in italics):

(1) **He is not a politician***; he is not a business tycoon; he is not a landlord*; he is not *corrupt*; he is not *a liar*; he is not *a blackmailer*. (Abbas, 2012)

(2) **He is a politician**, actor, broadcaster, and anchorperson from Karachi, Sindh, Pakistan. Hussain was born on 5 July 1971 at Karachi. He has been the host of the TV program Aalim Aur Aalam . . .

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Aamir Liaquat Hussain contested 2002*, he was elected to the National assembly affiliated party with Muttahida Qaumi Movement*.[1]

(3) But **clever she is not** for her work is *short lived,* her seduction is *weak,* it's only a matter of time. . . .[2]

(4) Some how I felt she was *intelligent*. She is not naughty, *but **clever she is***. She is *innovative* because of the *various ideas that she was giving me* about Lounge site (Ste, 2009).

In (1), the negative statement, *He is not a politician*, highlights non-defining, nonliteral features ("corrupt," "liar," "blackmailer") of the concept ("politician"). These features can also be attributed to the neighboring concepts ("a business tycoon," "a landlord"), which, in the negative, are also interpreted metaphorically. However, the affirmative counterpart, *He is a politician*, in (2), refers to the concept's defining features ("was elected to the National assembly affiliated party") and is interpreted literally.

In (3), the negative statement, *clever she is not*, invites low-salience nondefining attributes ("short lived" and "weak") of the concept ("clever"), which suggest a contrastive reading (alluding here to stupidity and ineffectiveness), while getting across a sarcastic attitude. The affirmative counterpart in (4), however, refers to the concept's defining features ("innovative," generating "various ideas,"; i.e., being intelligent and therefore effective), to be taken at face value.

What these examples show is that, while the negative utterances are intended nonliterally, the affirmative counterparts are intended literally. In what follows, we show that such negative utterances are interpreted nonliterally by default, independently of contextual support.

But what is a default nonliteral interpretation? Under which circumstances may a nonliteral interpretation be considered a default? For a nonliteral interpretation to be favored by default, it has to be derived under the conditions for default *nonliteral* interpretations specified in (5). These conditions guarantee that utterances are a priori potentially ambiguous between literal and nonliteral interpretations. These conditions are thus instrumental in filtering out utterances' external and internal cues, known to prompt nonliteralness, so that one interpretation may be preferred over another while competing on equal grounds:

(5) Conditions for default *nonliteral* interpretations
(a) Constituents (words, phrases, utterances) have to be *unfamiliar* so that salient/coded nonliteral *meanings* of expressions and collocations would be avoided. Items should thus exclude familiar idioms (*"kick the bucket"*), metaphors (*"rack one's brains"*), sarcastic remarks[3] (*"read my lips"*), mottos (*"no pain, no gain"*), or any conventional formulaic expression (see Gibbs, 1980, 1981, 1994; Giora, 2003), prefabs, such as *"here you go"* (Erman & Warren, 2000), or conventionalized, ritualistic, situation bound utterances (*talk to you later*), such that occur in standardized communicative situations (Kecskés, 1999, 2000). In addition, if negative utterances are considered, they should not be negative polarity items (*no worries*); instead, they should have an *acceptable* affirmative counterpart, so that conventionality is avoided. (On negative polarity items exhibiting asymmetric behavior in minimal pairs of negative and affirmative sentences whereby, as a result of conventionalization, affirmatives are almost nonexistent; see Horn, 1989, p. 49; Israel, 2006, 2011.)
(b) *Semantic anomaly* (known to trigger metaphoricity; see e.g., Beardsley, 1958) such as *broken heart* or any kind of internal incongruency, any opposition between the elements of a phrase or

[1] See biographical summary for Aamir Liaquat Hussain at http://en.wikipedia.org/wiki/Aamir_Liaquat_Hussain
[2] http://www.onatah.co.za/index.php/being/2-uncategorised
[3] By "sarcasm" we also refer to "verbal irony."

proposition (known to trigger a sarcastic reading; see Barbe, 1993) such as *he has made such a good job of discrediting himself* (see Partington, 2011) should not be involved so that both literal and nonliteral interpretations may be permissible. For this reason, "epitomizations"—negative OSV constructions ("X s/he is not")—in which the fronted constituent is a proper noun, (*Einstein he is not*), must be excluded. Such constructions are primarily metaphoric, not least in their affirmative version. (On "epitomization," see Birner & Ward, 1998; Ward, 1983; Ward & Birner, 2006; on the pragmatic functions of such constructions, see Prince, 1981.)

(c) Specific and informative *contextual information* should not be involved so that pragmatic incongruity—a breach of pragmatic maxims or contextual misfit (e.g., Grice, 1975) —on the one hand, and supportive biasing information, on the other, (e.g., Campbell & Katz, 2012; Gibbs, 1981, 1986a, 1986b, 1994, 2002; Katz, 2009; Katz, Blasko, & Kazmerski, 2004) may not invite a nonliteral interpretation. Contextual or pragmatic cues such as explicit markers (*metaphorically speaking*, *sarcastically speaking, literally, pun intended*; see, e.g., Givoni, Giora, & Bergerbest, 2013; Katz & Ferretti, 2003), marked intonation/prosodic cues, whether nonliteral, such as sarcastic, effective even outside of a specific context (see, Bryant & Fox Tree, 2002; Rockwell, 2000, 2007; Voyer & Techentin, 2010), corrective, such as assigned to metalinguistic negation (see, Carston, 1996; Chapman, 1993, 1996; Horn, 1985, 1989, p. 375), or nonverbal (e.g., gestures, facial expressions) should be avoided so that nonliteralness would neither be invited nor blocked.

To control for default nonliteral interpretation, then, an utterance should be shown to be novel, as should be its affirmative counterpart, (condition 5a), and potentially ambiguous between literal and nonliteral interpretations (condition 5b) when presented in isolation or in a neutral nonspoken context (condition 5c).

(6) *Predictions*

The view of negation as generating nonliteral interpretations by default predicts that some negative constructions of the form "X is not Y" (*This is not Memorial Day*), "X s/he/it is not" (*Ambitious she is not*), "X is not his/her/their forte/best quality (*Supportiveness is not her forte/dominant attribute*)", or "X is not particularly Y" (*She is not particularly ambitious*), conforming to the conditions for default nonliteral interpretation specified previously (5a–5c),

(a) will be perceived as nonliteral compared to their affirmative counterparts when presented in isolation,

(b) will be processed nonliterally initially, regardless of contextual information; and will thus be read faster when embedded in a context biasing them toward their nonliteral than toward their (equally biased) literal interpretation, and

(c) will be used nonliterally by speakers and will therefore be echoed or referred to by neighboring utterances via their nonsalient nonliteral interpretation.

In this article, we test these predictions with regard to two negative constructions conforming to the requirements in (5). We first look at written negative utterances of the form "X is not Y," where the topic is an uninformative pronoun and the predicate includes a noun (e.g., *This is not Memorial Day*). We then look at written negative utterances of the form "X s/he/it is not," where the fronted constituent is a positive adjective and the topic—an uninformative pronoun (*Supportive she is not*). These constructions are compared to their affirmative counterparts "X is Y" (*This is Memorial Day*) and "X s/he/it is yes"[4] (*Supportive she is* [*yes*]). They are then further examined in their natural settings.

[4]These Hebrew affirmative constructions involve an obligatory affirmative marker—"yes."

NEGATION

The aim of this article is to substantiate the claim that, among other things, negation affects nonliteral interpretations by default. In the literature, negation has been associated with a number of roles, but only recently has it been shown to feature dominantly in inducing nonliteral interpretation (see Giora, Fein, Metuki, & Stern, 2010). Traditionally, it is perceived as a suppression operator (e.g., Fillenbaum, 1966; Hasson & Glucksberg, 2006; Kaup, Lüdtke, & Zwaan, 2006; MacDonald & Just, 1989). As such, it is taken to reduce the accessibility of the affirmative meaning of the negated concept to baseline levels (Hasson & Glucksberg, 2006) and below (Kaup et al., 2003), in order to allow for the activation of an alternative opposite. (For reviews, see, e.g., Ferguson, Sanford, & Leuthold, 2008; Giora, 2006; Giora et al., 2010; Horn, 1989; Israel, 2006; Jespersen, 1924; Pearce & Rautenberg, 1987.) Specifically, when presented outside of a specific context and allowed sufficient processing time (1500 ms), negated concepts were often shown to be discarded from the mental representation and replaced by an alternative opposite (Kaup et al., 2006), should this be available (Mayo, Schul, & Burnstein, 2004; but see Giora, Fein, Aschkenazi, & Alkabets-Zlozover, 2007; Prado & Noveck, 2006; Shuval & Hemforth, 2008).

An alternative view, however, suggests that negation is multifunctional, sensitive to contextual considerations and authorial intent (Giora, Fein, Aschkenazi, et al., 2007). Indeed, a growing number of studies have shown that negation is also a mitigator, retaining in memory the concept within its scope while slightly attenuating it (Fraenkel, & Schul, 2008; Giora, 2006; Giora, Balaban, Fein, & Alkabets, 2005; Giora, Fein, Aschkenazi, et al., 2007; Giora, Fein, Ganzi, Alkeslassy Levi, & Sabah, 2005; Giora, Zimmerman, & Fein, 2008; Horn, 1989; Jespersen, 1917, 1924; Paradis & Willners, 2006; Shuval, 2011; Shuval & Hemforth, 2008). Others have shown that it is a concept's presence in or absence from the situation model that affects degree of retention, regardless of negation (Kaup & Zwaan, 2003). Recent studies, however, have shown that negation also functions as a low-salience marker. Rather than acting as a suppression operator, negation highlights a concept's meanings low on salience (Givoni et al., 2013).

In this study, we propose that, as a low-salience marker, negation can also affect nonliteralness by default (Giora, 2006; Giora et al., 2010). As proposed by Giora et al. (2010), negation generates figurativeness via highlighting some low-salience nonliteral features of the concept it rejects, while rendering its defining, literal features pragmatically irrelevant, regardless of whether they are true or false.[5]

Similarly, Giora, Fein, et al. (2005) show that, when presented in isolation, negated overstatements (*"He is not particularly bright"*) are interpreted as more sarcastic compared to both their affirmative (*"He is particularly bright"*) and negated non-overstatement (*"He is not bright"*) versions. Indeed, being a modifier that highlights meanings low on salience, negation allows a contrastive reading of a statement (see Paradis & Willners, 2006),[6] thus inviting a novel sarcastic

[5]The processes of rendering some features "pragmatically irrelevant" on the one hand and "highlighting" others, on the other, are somewhat similar to the processes of "broadening/loosening" and "narrowing/enrichment" of an affirmative concept, proposed by the relevance theoretic account. The latter, however, are taken to be invited by contextual information and involve discarding features (see, e.g., Carston, 1997, 2002, 2012), which is not the case here.

[6]On various degrees of contrastive readings and on opposites activating each other, see also Clark (1970), Jones, Murphy, Paradis, and Willners (2012), Murphy (2003), Paradis, van de Weijer, Willners, and Lindgren (2012), Paradis, Willners, and Jones (2009), and van de Weijer, Paradis, Willners, and Lindgren (2012).

interpretation by default, while affecting an asymmetric behavior between affirmative and negative versions of overstatements (see also Giora, Drucker, Fein, & Mendelson, 2012; Giora, 2006).

NEGATION GENERATES METAPHORIC INTERPRETATIONS BY DEFAULT

To show that negation generates metaphoric interpretations by default, we study utterances such as (7)–(9), which instantiate "X is not Y" constructions (target utterances in boldface and their interpretations in italics, for convenience):

(7) Stop questioning everyone by claiming that they would not vote for Obama anyway.
Stop giving me orders . . .
"**You are not my boss** and *you are not my commanding officer", and you sure as hell have no business telling me what I can and cannot do.*[7]

(8) "Sis, I love you to death, but starting right now, this is not going to continue. *I am not your slave*, and **you are not my boss** . . . *Now, if you really want my help on something, all you have to do is ask for it respectfully.* (JMH, 2008).

(9) 2. **You are not my boss**.
2. *If you were my boss, we would have a serious discussion about THE MONEY*.[8]

As can be deduced from the context, the discourse in (7) features a negative statement (*you are not my boss*), which conveys a nonliteral, metaphoric interpretation ("you sure as hell have no business telling me what I can and cannot do"), which is further reinforced by a similar metaphor (*you are not my commanding officer*). In the other (8), this statement, which is also interpreted nonliterally, conveys, however, that "respect" is in order here ("if you really want my help on something, all you have to do is ask for it respectfully"); a complementary metaphor (*I am not your slave*) makes this even clearer. In both cases, then, it is a nonliteral ("you tell me what to do"; "treat me with no respect") rather than a literal interpretation ("you are my employer/master") that is rejected, rending what is negated the focus of attention. This can then be further highlighted by neighboring utterances, resonating with the figurative interpretation (see, also, Giora et al., 2010).

In contrast, in example (9), which features the same negative statement, it is the literal interpretation that is rejected, related to boss-employee relationships, discussing the pay (*If you were my boss, we would have a serious discussion about THE MONEY*). As shown by Giora et al. (2010), such negative constructions, potentially ambiguous between literal and nonliteral interpretations, are interpreted metaphorically rather than literally.

In Experiment 1 we test the prediction that such negative utterances, which comply with the requirements for default nonliteral interpretations (5a–5c), will be read faster in metaphorically than in literally biasing contexts.

[7]http://boards.historychannel.com/thread.jspa?threadID=520003057&start=45 (retrieved on October 2, 2011).
[8]http://multiplex.integralinstitute.org/Public/cs/forums/11/54536/ShowThread.aspx (retrieved on June 9, 2008).

EXPERIMENT 1

In Experiment 1 we use items tested for default nonliteral interpretation in Giora et al. (2010, Experiment 3). In Giora et al., utterances of the form "This is not . . . ," "I am not . . . ," You are not . . . ," were shown to be interpreted nonliterally by default; their affirmative counterparts, however, were shown to be interpreted literally by default. These negative items and their affirmative counterparts were tested for novelty, scoring significantly lower than 4 on a 7-point familiarity scale when presented in isolation (as postulated by condition 5a); and although free of semantic anomaly or internal incongruity (as postulated by condition 5b), they were interpreted nonliterally compared to their affirmative counterparts when presented in isolation (as postulated by condition 5c). Here we test the prediction (6b) that these items will be read faster when intended nonliterally than when intended literally.

Method

Participants. Participants were 38 students of Tel Aviv University (14 women, 24 men), mean age 25.7 ($SD = 5.03$). They were all native speakers of Hebrew. They were paid approximately 11 US dollars each.

Stimuli. Stimuli were 12 novel negative Hebrew utterances rated as more metaphoric than their affirmative counterparts when presented in isolation (see Giora et al., 2010, Experiment 3; and see Appendix A). They were embedded in literally (10) and metaphorically (11) biasing contexts (in boldface, for convenience), and followed by a 2 word spillover segment (in italics, for convenience). The target utterances, followed by the spillover segment, were presented in context non-final position. The texts were followed by a Yes/No comprehension question (which mostly did not tap the target utterance):

(10) When Danny arrived at school he was surprised to find everyone dressed in white. He tried to figure out the reason: well, it's not the eve of any holiday, as far as I can remember, and this is not a Friday either. What else could it be? Let me think. **This is not Memorial Day**.[9] *Geez, I* just can't understand what the occasion could be. Adding embarrassment to his confusion, Danny was wearing the loudest, brightest colorful shirt in his wardrobe, which made him stand out like a sore thumb. Looking at his watch, he realized he'll never make it home to change shirt and get back to school in time: "Maybe one of my friends will have a spare white t-shirt to lend" he thought, hanging on to a last hope.

(11) In one second the whole room fell silent. People dragged their feet and didn't dare lift their eyes off the floor. It was obvious that the recent news had totally shocked them. Ilan, though, was not going to let this party go down the drain. Not after slaving away for weeks over planning and preparation. He jumped on the table and shouted: "Hey you guys! What's with the long faces? **This is not Memorial Day**. *Geez, I* just can't understand what's gotten into you." "Let's dance. That's what we came here for!" From every corner of the room people were sternly glaring at him. The very idea of partying now seemed odious. Ilan got off the table, defeated, wishing he could disappear.

[9] In Israel, Memorial Day is a solemn, sad day, on which, as on Friday, it is customary, especially within the education system, to wear white clothes.

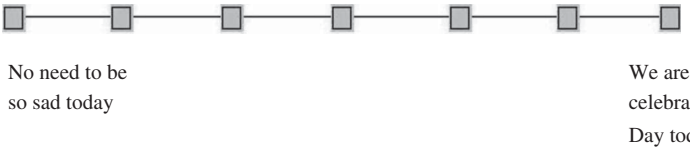

FIGURE 1 Literal and metaphoric interpretations.

In addition, there were 14 filler items, featuring 9 familiar and 3 unfamiliar negative metaphors, and 2 literally biased negative items. Two stimulus presentation files were prepared so that each file displayed only one context version of a target item. Filler items were identical for both files.

Pretest. To control for the similar strength of the contextual bias, 20 Hebrew speakers, students of Tel Aviv University, were presented the contexts ending in the negative target utterances. These items were followed by a 7-point scale (12), whose ends randomly instantiated either a literal (= 1, here at the right end of the scale) or a metaphoric interpretation (= 7, here at the left end of the scale) of each target. Two booklets were prepared so that each participant saw only one context for each target. Participants were asked to indicate the proximity of the interpretation of the target to any of those instantiations at the scale's ends (see Figure 1).

(12) **This is not Memorial Day**

Results showed that the contexts were equally constraining. Negative items embedded in metaphorically biasing contexts scored as high on metaphoricalness (M = 6.80, $SD = 0.28$) as did their counterparts on literalness (M = 6.64, $SD = 0.59$) when embedded in literally biasing contexts, $t1(23) = 1.26$, $p = .22$; $t2(11) = 1.51$, $p = .16$; two-tail. Given that the contexts were equally highly constraining, any difference in processing between the targets, if found, would not be accountable by context effects.

Procedure. Participants self-paced their reading of the contexts. They advanced the texts segment by segment by pressing a key. Segments, displayed from right to left,[10] accumulated on the screen to from a full paragraph. They either made up a part of a sentence or a complete sentence. Reading times of the target utterance and the spillover segment of the next sentence were recorded. Following the reading of the whole text, participants answered a Yes/No comprehension question (which probed different parts of the text).

Results and Discussion

Results of participants who responded correctly to the comprehension question are illustrated by Figure 2. They show that, as predicted, metaphorically biased targets were read faster (895 ms, $SD = 288$) than their literally biased versions (978 ms, $SD = 207$), $t1(37) = 2.57$, $p < .01$; $t2(11) = 1.51$, $p = .08$. No spillover effects were visible. Following metaphorically biased targets,

[10]Hebrew is read from right to left.

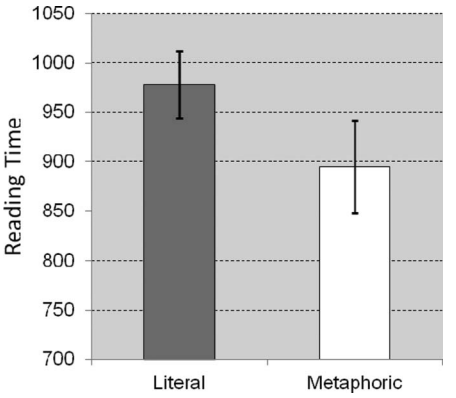

FIGURE 2 Mean reading times (in ms) and SEM of metaphorically and literally biased targets.

reading times of spillover segments (641 ms, $SD = 197$) were similar to those following literally biased targets (651 ms, $SD = 200$), $t1(37) = 0.31$, n.s.; $t2(11) = 0.01$, n.s.

Such results support the view that negation is an operator inducing nonliteral interpretations by default. Novel negative utterances of the form "X is not Y," communicating nonliteral interpretation by default (as shown by Giora et al., 2010), were faster to process when embedded in a context biasing their interpretation toward their metaphoric than towards their literal interpretation.

NEGATION GENERATES SARCASTIC INTERPRETATIONS BY DEFAULT

To show that negation generates sarcastic interpretations by default, we study utterances such as (13)–(15), which instantiate "X s/he is not" constructions (target utterances in boldface and their interpretations in italics, for convenience):

(13) I envy you, Diane.
I told my ma I was doing Nanowrimo: her reaction: "*Oh, God, not again*!" Basically, I pay her no attention during November, except to ask very, very obscure questions at all hours of the day and night. **Supportive she is not.** (Morrighan, 2006)

(14) Soul Searching: Google's position on China might be many things, but **moral it is not**.
"*The hottest places in hell* are reserved for those who in times of great moral crises maintain their neutrality." — John F. Kennedy (Carr, 2010)

(15) There are no religious *humorists*, there simply aren't any. There is no *clown* who'd put his faith in man's hallucinations. Moreover, religion, by nature, does not tolerate criticism, not to mention criticism by means of *satire*. Ergo, the god of all religions is praised and eulogized as a cornucopia of virtues, as gracious, full of compassion, righteous, great and heroic, redeeming, rescuing, and providing, but **a sense of humor he has not**. This *virtue* of spiritual superiority is, apparently, the exclusive property of humans.

As can be deduced from the context, the discourse in (13) features a negative statement (*Supportive she is not*), which conveys a sarcastic interpretation and stance (Du Bois, 2007; Sperber & Wilson, 1986). It suggests that the mother is far from being supportive (see italicized section). In (14) too, this kind of structure (*moral it is not*) conveys a sarcastic interpretation and stance, highlighting the gap between the concept of "moral" and the hellish punishment these "moral" acts deserve (see italicized section). (On sarcasm as residing in the gap between what is said and the situation described, see Giora, 1995; on negation as a sarcastic cue, see Giora, Fein, et al., 2005.)

In example (15), however, this construction conveys a literal interpretation. This is indicated by its context which requires no modification of the notion of "a sense of humor" (as the italicized sections show).

In Experiments 2 and 3 we test the prediction that such constructions, if complying with the requirements for default nonliteral interpretations, (5a)–(5c), will be interpreted sarcastically by default and will be processed faster in contexts strongly biasing them toward the sarcastic interpretation than toward their (equally biased) literal interpretation.

EXPERIMENT 2

Experiment 2 aims to show that negation induces sarcastic interpretations by default. When presented in isolation, novel negative utterances of the form "X s/he/it is not" (*Supportive she is not),* potentially ambiguous between literal and nonliteral interpretations, as postulated in (5a)–(5c), will be *interpreted* sarcastically (Experiment 2.1) and *rated* as more sarcastic than their novel affirmative counterparts (*Supportive she is yes*; Experiment 2.2).

Experiment 2.1

Method

Participants. Participants were 19 University students (11 women, 8 men), mean age 37.9 ($SD = 12.9$). They were all native speakers of Hebrew.

Stimuli. Stimuli were all presented in isolation. They included 18 negative Hebrew utterances of the form "X s/he is not," controlled for novelty (see *Pretest* below), involving no semantic anomaly or internal incongruity (see examples 13-14 and Appendix B). In addition there were 33 filler items, including structurally unmarked sentences which conveyed either moderate praise or moderate criticism.

Pretest. To establish the non-conventionality of the negative items and their affirmative counterparts, familiarity ratings were collected from 22 Hebrew speakers, students of Tel-Aviv University. The negative utterances (*Supportive she is not*) and their affirmative counterparts (*Supportive she is yes*) were presented in isolation. Two booklets were prepared so that participants saw only one version of the targets. In addition, there were 143 filler items varying in degree of novelty and register. They included affirmative and negative statements, questions,

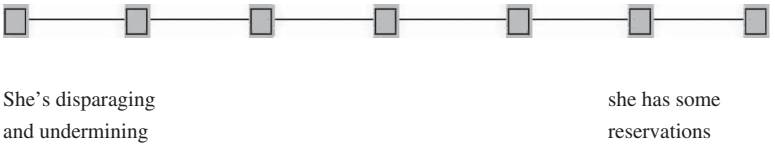

FIGURE 3 Literal and sarcastic interpretations.

interjections, and aphorisms. Participants were asked to rate, on a 7-point familiarity scale, where 7 was highly familiar and 1 was highly unfamiliar, the extent to which the items were familiar.

Results showed that both the negative items (M = 2.40, *SD* = 0.84) and their affirmative counterparts (M = 1.85, *SD* = 0.76) were unfamiliar, scoring significantly lower than 3 on a 7-point scale, $t1(21) = 3.38$, $p < .0005$, $t2(17) = 5.91$, $p < .0001$; and $t1(21) = 7.09$, $p < .0001$, $t2(17) = 10.23$, $p < .0001$, respectively. The established novelty of the negative items ascertained that they conformed to condition (5a) for default nonliteral interpretations.

Procedure. The negative items were followed by a 7-point scale, whose ends randomly instantiated either a literal (= 1, here at the right end of the scale) or a sarcastic interpretation (= 7, here at the left end of the scale) of each item (16). Participants were asked to indicate the proximity of the interpretation of the items to any of those instantiations at the scale's ends (or otherwise propose an alternative interpretation (see Figure 3).

(16) **Supportive she is not**

Results and Discussion

Results showed that, outside of a specific context, the interpretations of the novel negative items were sarcastic, scoring high on sarcasm (M = 5.59, *SD* = 0.87), significantly higher than 5 on a 7-point sarcasm scale, $t1(18) = 2.99$, $p < .005$; $t2(17) = 4.65$, $p < .0005$.

To strengthen the claim that these interpretations are indeed perceived as sarcastic, Experiment 2b was run, in which sarcasm ratings were collected.

Experiment 2.2

Method

Participants. Participants were 43 students of Tel-Aviv University (29 women 14 men), mean age 23.3 (*SD* = 2.9). They were all native speakers of Hebrew.

Stimuli. Stimuli were the same as in Experiment 2.1, only including both negative and affirmative items.

Procedure. To demonstrate that the interpretation of the novel negative targets is consciously perceived as sarcastic, sarcasm ratings were collected of the negative items (*Supportive she is not*) and their affirmative counterparts (*Supportive she is yes*), when presented in isolation.

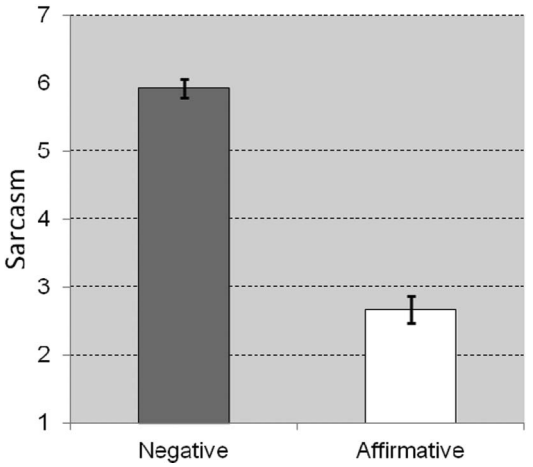

FIGURE 4 Sarcasm ratings (means and SEM) of negative and affirmative counterparts.

Participants were asked to rate degree of sarcasm of targets on a 7-point sarcasm scale, ranging between 7 ("highly sarcastic") and 1 ("not sarcastic at all"). No instantiations of interpretations were provided.

Results and Discussion

As illustrated by Figure 4, results show that the novel negative utterances were rated as significantly more sarcastic (M = 5.92, $SD = 0.94$) than their novel affirmative counterparts, M = 2.67, $SD = 1.33$; $t1(42) = 11.53$; $p < .0001$; $t2(17) = 45.55$, $p < .0001$.

Negation, then, induces sarcastic interpretation by default. When presented in isolation (5c), novel negative items (5a), potentially ambiguous between literal and nonliteral interpretations (5b), scored higher on sarcasm compared to their affirmative counterparts.

EXPERIMENT 3

Experiment 3 was designed to test the prediction that novel negative utterance, of the form "X s/he/it is not" will be processed faster when intended sarcastically than when intended literally.

Method

Participants. Participants were 44 students of Tel Aviv University (30 women, 14 men), mean age 26.4 ($SD = 3.02$). They were all native speakers of Hebrew. They were paid approximately 11 US dollars each.

Stimuli. Stimuli were negative Hebrew items, as in Experiment 2, only this time targets were embedded in literally (17) and sarcastically (18) biasing contexts (in boldface, for convenience), followed by a 2 word spillover segment (in italics, for convenience; see also Appendix B). The target utterances, followed by the spillover segment, were presented in context non-final position. The texts were followed by a Yes/No comprehension question (which mostly did not tap the target utterance):

(17) Yohai was making bold steps towards realizing his dream of becoming a professional stuntman. His mom, though disapproving, did not impede his progress. Granted, she was not thrilled with his career choice, and she certainly offered no encouragement, financial or otherwise, but she didn't stand in his way. She even showed up in the bleachers for the spectacle where he was about to perform his airborne daredevil antics. His friends were all like "dude! Your mom rocks! She's your no. 1 fan!" Yohai chuckled. "That's going overboard. **Supportive she is not**. *I guess* she couldn't be expected to be happy with what I do. It was real nice of her to come this time."

(18) Yohai kept silent while Tidhar's wife lashed at him with a flood of insult, mocking his idea of opening a café: "You? Be self-employed? Run a business? That would be the day! When pigs fly! Who put that absurd idea into that useless poor excuse for a head? Ain't gonna happen"! After she had stormed off, Yohai asked: "That's your wife? **Supportive she is not**. *I guess* we can't expect her to help with the initial fundraising, can we"?

Two stimulus-presentation files were prepared so that each file displayed only one context version of a target item.

Pretest. To control for the similar strength of the contextual bias, 44 Hebrew speakers, students of Tel Aviv University, were presented the 18 contexts ending in the target utterances. These items were followed by a 7-point sarcasm scale, whose ends randomly instantiated either a literal (= 1) or a sarcastic (= 7) interpretation of each target (see 16 above). Two booklets were prepared so that each participant saw only one context for each target. Participants were asked to indicate the proximity of the interpretation of the target to any of those instantiations at the scale's ends.

Results showed that contexts were equally constraining: Negative items embedded in sarcastically biasing contexts scored as high on sarcasm (M = 6.02, $SD = 0.63$) as did their counterparts on literalness (M = 5.95, $SD = 0.62$) when embedded in literally biasing contexts, $t1(43) = 0.85$, $p = .40$; $t2(17) = 1.42$, $p = .17$; two-tailed. Given that the contexts were equally highly constraining, any difference in processing between the targets, if found, would not be accountable by context effects.

Procedure. The procedure was the same as in Experiment 1.

Results and Discussion

Data of 1 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 segments. Results, illustrated by Figure 5, show that, as predicted, sarcastically biased targets were read faster (883 ms,

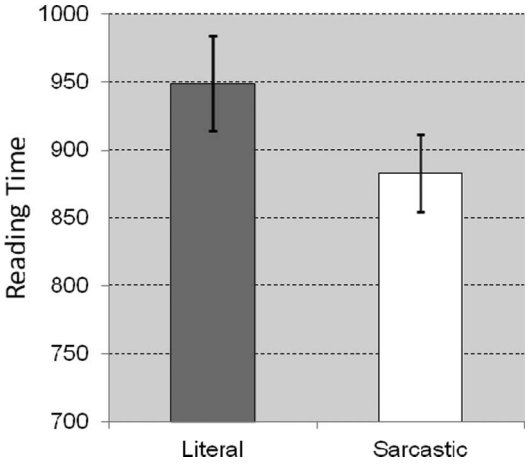

FIGURE 5 Mean reading times (in ms) and SEM of sarcastically and literally biased targets.

SD = 183) than their literally biased versions (949 ms, *SD* = 234), $t1(43) = 1.75$, $p < .05$; $t2(17) = 1.20$, $p = .12$. No spillover effects were visible. Following sarcastically biased targets, reading times of spillover segments (787 ms, *SD* = 204) (short of two, which, accidentally, were not fully presented) were similar to those following literally biased targets (M = 811, *SD* = 211), $t1(43) < 1$, n.s.; $t2(15) < 1$, n.s.

Negation, then, induces sarcastic interpretation by default. As predicted, utterances of the form "X s/he is not," shown to comply with the conditions for default nonliteral interpretations (5a–5c; see Experiment 2), were processed faster in sarcastically than in literally biasing contexts.

EXPERIMENT 4

To further test the hypothesis that negation generates sarcastic interpretation by default, it is necessary to weigh it against an alternative assumption that it is the structural markedness of the fronted construction "**X** s/he/it is not" rather than the negation marker that accounts for this effect; a marked construction might flout the Manner maxim (Grice, 1975) and thus trigger an inference.

Indeed, our own findings so far argue against the markedness hypothesis. First, some of our stimuli are structurally unmarked (see Experiment. 1). However, those that are (see Experiment 2) are marked in both their negative and affirmative versions. In fact, the affirmative and the negative versions are equally marked, and in an equally emphatic way. They thus form a perfect minimal pair, sharing structural markedness and featuring an explicit marker. The only difference between them lies in that in one the marker is negative and in the other it is affirmative. While the negative items are interpreted sarcastically by default, the affirmative counterparts are not, thus questioning the markedness hypothesis.

However, to weigh degree of negation (not/yes) against degree of structural markedness (+/- fronting) in a more systematic way, we ran Experiment 4. In this experiment, we compared utterances marked for both negation/affirmation and structural markedness (*Supportive she is not/yes*) and less marked alternatives differing only in negation vs. affirmation (*She is not/yes supportive*). We predicted that although structural markedness might prompt sarcasm, negation would prove to be the determinant factor.

Method

Participants. Participants were 48 students of The Academic College of Tel Aviv Yaffo (31 women, 17 men), mean age 28.6 ($SD = 7.6$). They were all native speakers of Hebrew.

Stimuli. Stimuli included 16 concepts (taken from Experiment 2) each appearing in 4 different constructions, as in examples (19)–(22) below, varying between whether they included a negative (*not*) or an affirmative (*yes*) marker. There were also 24 filler items, varying between (highly) sarcastic, literal, and metaphoric utterances. Four booklets were prepared so that participants saw only one version of a concept. In addition, the constructions were counterbalanced. Each booklet, then, contained 8 structurally marked constructions, half negative and half affirmative, as in examples (19) and (20), and 8 structurally unmarked constructions, half negative and half affirmative, as in examples (21) and (22):

(19) Supportive she is not

(20) Supportive she is yes

(21) She is not supportive

(22) She is yes supportive

As in Experiment 2, items were presented in isolation, in a random order, and were followed by a 7-point sarcasm scale (where 1 = "not sarcastic at all" and 7 = "highly sarcastic").

Procedure. Participants were asked to rate the degree of sarcasm of each utterance on a 7-point sarcasm scale.

Results and Discussion

As demonstrated by Table 1, results show that the negative versions were always rated as more sarcastic than their affirmative counterparts. Markedness, however, played an important role as well. Two 2-way ANOVAs (participant and item analyses) were performed, with Negation and Structural Markedness as within participant factors. Both ANOVAs showed a significant main effect of Negation, $F_1(1, 47) = 19.18$, $p < .0005$; $F_2(1, 15) = 71.14$, $p < .0001$, and a significant main effect of Markedness, $F_1(1,47) = 74.65$, $p < .0001$; $F_2(1, 15) = 170.03$ $p < .0001$. The Negation × Markedness interaction was also significant, $F_1(1,47) = 16.41$, $p < .0005$; $F_2(1, 15) = 16.43$, $p < .005$. The difference in sarcasm between negative and affirmative utterances was larger in the marked than in the unmarked utterances (0.84 vs. 0.25). Yet, it was significant

TABLE 1
Mean Sarcasm Ratings for Marked and Unmarked Affirmative and Negative Utterances: Experiment 4

	Affirmative	*Negative*	*Mean*
Marked	("Supportive she is yes")	("Supportive she is not")	3.78
	2.94	4.62	
	(1.67)	(1.94)	
Unmarked	("She is yes Supportive")	("She is not Supportive")	2.18
	1.93	2.43	
	(1.13)	(1.35)	
Mean	2.43	3.52	

Note. *SD* in parentheses.

in both the Marked condition, $F_1(1, 47) = 26.22$, $p < .0001$; $F_2(1, 15) = 55.07$, $p < .0001$, and Unmarked condition, $F_1(1, 47) = 4.25$, $p < .05$; $F_2(1, 15) = 13.77$, $p < .005$).

These results then support the view that negation is the determinant factor affecting nonliteral interpretation by default. Markedness, however, plays a crucial role too, and when they both coincide, they affect nonliteralness significantly.

CORPUS-BASED STUDIES: DEFAULT SARCASTIC INTERPRETATION

If negation generates nonliteral interpretation by default, natural instances of negative constructions, potentially ambiguous between literal and nonliteral interpretations, should communicate nonliteral interpretations more frequently than salience-based (often) literal ones. Second, they should also communicate nonliteral interpretation more frequently than their affirmative counterparts, which should be viewed as literal. Third, the environment of such negative constructions should resonate with their nonliteral rather than literal interpretation.

Based on corpora search, Giora et al. (2010) indeed show that utterances of the form "X is not Y," such as "I am not . . . "; "You are not . . . "; "This is not . . . " (*I am not your maid; You are not my boss*; *This is not food*) are primarily metaphoric and are used metaphorically more often than their affirmative counterparts, which are primarily literal. In addition, their environment resonates with their metaphoric rather than with their literal interpretation—see examples (7) and (8), above. These findings are demonstrated for various languages, such as English, German, Russian, and Hebrew.

Here we will look at Hebrew utterances of the form "X s/he/it is not." We expect corpus-based studies to show that such negative constructions (*Supportive she is not*) are primarily sarcastic, used sarcastically more often than their affirmative counterparts (*Supportive she is yes*), which are primarily literal (Study 1, below). We further expect their environment to resonate with their sarcastic rather than with their literal interpretation (Study 2, below).

According to Du Bois (2001, 2012), resonance pertains to "the activation of affinities across utterances," which also includes echoing an utterance interpretation by its prior or subsequent context—as in examples (23)–(25), below (see also Giora, 2007). Note that previous research, looking into how the environment of affirmative sarcastic utterances reflects their interpretations,

demonstrates resonance with their salience-based (often) literal interpretation. For instance, in Giora and Gur (2003), data collected from recorded conversations among Israeli friends reveal that 75% of the sarcastic utterances, all of which in the affirmative, were responded to by reference to their salience-based, contextually incompatible literal interpretation.

Similar results were obtained by Kotthoff (1998, 2003), who showed that, in friendly German conversations, interlocutors very often responded to salience-based, contextually incompatible literal interpretations of affirmative sarcastic utterances, while at the same time making it clear that they also understood the sarcastic intent. However, when interlocutors were adversaries (participating in TV talk shows), responses to the sarcastic interpretations prevailed.

Giora, Raphaely, Fein, and Livnat (2012), who looked into op-ed articles, noted similar patterns. Their findings show that the environment of 46% of the sarcastic utterances, 10% of which were extended sarcastic utterances, reflected their salience-based contextually incompatible literal interpretation; the environment of the rest of the utterances either did not resonate with any of their interpretations (43%), or resonated with both their compatible and incompatible interpretations (3%), or resonated with their sarcastic interpretation only (8%). Taken together, these findings suggest that, like comprehenders (Giora, Fein, Laadan, et al., 2007), producers (of written and spoken discourse) activate contextually inappropriate but salience-based (often) literal interpretations (as predicted by the Graded Salience Hypothesis; Giora, 2003).[11]

The view of negation as generating nonliteral interpretations by default has, however, different predictions. Unlike affirmative sarcastic utterances, the negative utterances studied here are expected to induce a nonsalient sarcastic interpretation by default (see Experiments 2–4). Their environment is, therefore, expected to echo and reflect their sarcastic interpretation more frequently than their salience-based (often literal) interpretation.

For an illustration, consider example (23), in which the target utterance (in boldface, for emphasis) is intended sarcastically and its environment resonates with its sarcastic interpretation (in italics, for emphasis):

(23) A skilled politician wouldn't be instrumental in the death of her own political party, as she certainly is . . . **Smart she is not**, or she wouldn't be a *walking joke*. The confidence comes from being *too stupid* to know she hasn't got a chance, and fearless only because she's *too dumb* to be embarrassed by her *village idiot* tag. (icurahuman2 in Goldenberg, 2008)

In (24), resonance with the literal interpretation of such sarcastic utterances (in boldface, for emphasis) is exemplified (underlined, for emphasis), alongside resonance with the sarcastic interpretation (in italics, for emphasis):

(24) Netanyahu – **smart he is not**
Today the following news item has been published: Netanyahu announces that Turkel commission will prove that we have acted appropriately.
It's really frustrating . . . Any time you think he may this time act sensibly, again [he proves you wrong].
What an *idiotic* advisor allowed him to say that sentence?
And if he came up with it on his own, how *stupid* can a prime-minister be? (Schwartz, 2010)

[11] On production and comprehension sharing similar processes, see e.g., Levelt (1989), Pickering and Garrod (in press); on speakers and comprehenders mirroring each other's neural activities while interacting, see Hasson et al. (2009), Stephens, Silbert, & Hasson (2010).

However, the text in (25), if considered on its own, exemplifies a contextual environment which does not reflect or refer to any of the interpretations of the target utterance, *Smart he is not*. It neither resonates with the sarcastic interpretation nor with the literal one. That is, in what follows the target utterance (in boldface, for emphasis), there is no reference to or an echo of either (e.g., stupidity or idiocy—the sarcastic reading; or cleverness and sensibility—the literal reading). The proposed alternative to *smart* is unrelated to it (in italics, for emphasis):

(25) **Smart he is not** but *a smooth talking con artist* he is without a doubt. (Hawk, 2012)

In Study 1 we look at the prevalence of sarcastic vs. salience-based literal interpretations of such negative and affirmative constructions. In Study 2, we look at how the environment reflects the potentially ambiguous interpretation of such negative utterances.

STUDY 1

Experiments 1–3 have demonstrated that negation generates nonliteral interpretations by default. To adduce further support for this claim, we look here at natural uses of negative and affirmative constructions. Whereas natural uses of utterances of the form "X is not/yes Y" were studied in Giora et al. (2010), here we look at how utterances of the form "X s/he/it is not/yes" fare with regard to conveying nonliteral vs. literal interpretations. To do that, we first studied the first 50 or so occurrences of 10 constructions both in their affirmative and negative versions, using engines such as Google, Zooloo, and Walla. On the basis of their contextual environment, three judges (two native speakers and the first author) decided whether each utterance was used sarcastically or literally. Agreement between judges was very high overall, and all differences were resolved after a discussion.

We expected these negative items to be used sarcastically more often than literally and also more often than their affirmative counterparts, which were expected to be primarily literal.

As demonstrated by Table 2, looking at 281 naturally occurring negative utterances, collected from blogs (e.g., *Smart he is not; Pretty she is not; Novel it is not*) reveals that most of them (95%) were intended sarcastically; the 77 affirmative counterparts found (e.g., *Smart he is yes; Pretty she is yes; Novel it is yes*) were always intended literally.

Findings collected from natural uses of such affirmative and negative constructions, then, support the view that negation generates nonliteral interpretation by default.

STUDY 2

In Study 2, we looked at whether the environment of such negative utterances (of the form "X s/he/it is not"), which, as shown above, invite a sarcastic interpretation, resonates with that interpretation. Examining the contexts of 169 such naturally occurring instances reveals that, in 109 cases, the environment resonates either with the sarcastic or with the literal interpretation. However, as predicted, the environment of 100 out of these 109 cases (92%) resonates with their sarcastic interpretation; only in 9 cases (8%) does it resonate with the salience-based literal interpretation. For each of the items examined (*Smart he is not*; *Moral he is not*; *Pretty she is not*) and the collection of other kinds of utterances with various concepts, exclusively resonating with the

TABLE 2
Distribution of Sarcastic and Literal Interpretation Among Negative and Affirmative Utterances in Hebrew

Structure	*Ironic*	*Literal*	*Not Clear*	*Total*
Saintly he is not	39	1	1	41
Saintly he is yes	–	2	–	2
Smart he is not	46	–	1	47
Smart he is yes	–	9	–	9
Handsome he is not	37	–	1	38
Handsome he is yes	–	21	–	21
New he is not	14	1	–	15
New he is yes	–	3	–	3
Interesting he is not	16	1	–	17
Interesting he is yes	–	11	–	11
A genius he is not	20	1	–	21
A genius he is yes	–	1	–	1
Moral he is not	7	–	1	8
Moral he is yes	–	2	–	2
Tall he is not	6	3	–	9
Tall he is yes	–	3	–	3
Sexy he is not	44	–	–	44
Sexy he is yes	–	21	–	21
Funny he is not	39	1	1	41
Funny he is yes	–	14	–	14
Total				
Negative	268	8	5	281
Affirmative	–	77	–	77

TABLE 3
Distribution of Different Types of Resonance in the Environment of Negative Utterances in Hebrew and Results of Exact Binominal Probability Test for the Superiority of Sarcastic Resonance

Negative Utterances	*Sarcastic*	*Literal*	*Sarcastic and Literal*	*No Resonance*	*p values*
Smart he is not	25 (50%)	3 (6%)	8 (16%)	14 (28%)	$p < .0001$
Moral he is not	20 (80%)	0 (0%)	5 (20%)	0 (0%)	$p < .0001$
Pretty she is not	9 (38%)	2 (8%)	11 (46%)	2 (8%)	$p < .05$
Novel it is not	12 (60%)	0 (0%)	7 (35%)	1 (5%)	$p < .0005$
Other concepts	34 (68%)	4 (8%)	6 (12%)	6 (12%)	$p < .0001$
Total	100 (59%)	9 (5%)	37 (22%)	23 (14%)	$p < .0001$

Note. Numbers in parentheses indicate the percentage of resonance with a certain interpretation out of all resonances for a given utterance.

sarcastic interpretation is always significantly more pervasive than exclusively resonating with the literal interpretation. Of the other 60 cases, the environment of 37 utterances reflects *both* their sarcastic and literal interpretation, while in 23 cases the environment does not reflect any of the interpretations (see Table 3).

Evidence for the prevalence of contextual resonance with the sarcastic interpretation of such negative utterances, then, provides further support for the poeticity of negation.

GENERAL DISCUSSION

Four experiments and two corpus-based studies demonstrate the creativity of negation. They show that negation is an operator generating novel nonliteral *utterance-interpretation* by default. For any utterance to evoke nonliteral utterance-interpretation *by default* it has to meet the conditions for default nonliteral interpretation. These conditions amount to the requirement that utterances be *prima facie* ambiguous between literal and nonliteral interpretations so that a preference is allowed. They should thus be (a) *unfamiliar* so that salient/coded nonliteral *meanings* of expressions and collocations will not be involved; (b) free of *semantic anomaly* or any kind of internal incongruity (known to trigger nonliteralness), so that both literal and nonliteral interpretations be permissible; and (c) presented outside of a biasing *context* so that any pragmatic misfit or supportive contextual information, including explicit marking, intonation, prosodic cues, or nonverbal cues may neither invoke nor block a specific interpretation.

Some negative utterances meeting these conditions, are expected (a) to be rated and/or interpreted as nonliteral compared to their affirmative counterparts when presented in isolation; (b) to be processed faster when presented in contexts strongly biasing them toward the nonliteral than toward the equally biased literal interpretation; and (c) to be echoed by their contextual environment via their nonliteral interpretation.

Four experiments and two corpus-based studies test these predictions. They examine utterances of the form "X is not Y" (*This is not a bus*) and "X s/he is not" (*Thorough she is not*), complying with the conditions for default nonliteralness. Experiments 1-3 show that, as predicted, such utterances are *rated* and/or *interpreted* as more metaphoric or sarcastic compared to their novel affirmative counterparts when presented *in isolation*. Importantly, they also show that such utterances are *processed* faster in contexts strongly biasing them toward their *nonliteral* than toward their (equally biased) literal interpretation. Findings of Experiment 4 rule out the possibility that it is not negation but rather the structural markedness of the fronted constructions (X s/he is not) on its own that affects their nonliteralness.

Corpus-based studies provide further corroborating results. They show that negative utterances are mostly sarcastic while their affirmative counterparts are always literal (Study 1). Additionally, the environment of such negative utterances mostly resonates with their nonsalient, sarcastic interpretation (Study 2), further demonstrating their default nonliteralness. (For similar findings concerning the metaphoric construction, "X is not Y," see Giora et al., 2010; for different findings concerning affirmative sarcastic utterances, where contextual environment resonates with salience-based interpretations, see Giora & Gur, 2003; Giora et al., 2012).

One may wonder whether, apart from negation, there are other constraints involved in affecting the nonliteralness of these constructions. Although we haven't probed all their structural aspects experimentally, it is quite obvious that other factors might also affect the nonliteralness of these utterances. We suspect, however, that, like markedness, the additional constraints do not single out these constructions but generalize over affirmative nonliteral utterances as well. For instance, it is quite possible that there is something about the nature of the negated concepts that allows them to lend themselves to nonliteralness when negated. With regard to the metaphoric utterances, these concepts seem to be of some superordinate abstraction level. *This is not **a bus*** is indeed nonliteral, but *This is not **a local bus*** may fail to be perceived as such outside of a supportive context, given that the concept (*local bus*) is rather specific. Indeed this may also be true of affirmative class inclusion statements (Glucksberg & Keysar, 1990; but see Carston & Wearing, 2011; Glucksberg

& Haught, 2006). Whereas *"My surgeon was a butcher"* is metaphoric, *"My surgeon was a military butcher"* seems significantly less so outside of a specific context (see also Van de Voort & Vonk, 1995).

With regard to our sarcastic utterances, very much like affirmative sarcastic remarks, they convey significantly higher nonliteral interpretation when the negated concepts are of a positive literal meaning (e.g., *supportive*), termed "ironic criticism," than of a negative literal meaning (e.g., *depressing*), termed "ironic praise" (see Schwoebel, Dews, Winner, & Srinivas, 2000). As shown by Goldenberg (2011), (Hebrew) ironic criticisms (*Supportive she is not*) were rated as significantly more sarcastic than ironic praises (*Depressing she is not*).

Our results, however, are not accountable by existing theories of processing nonliteral interpretation. For instance, the temporal priority of the nonliteral interpretation cannot be explained on salience (Giora, 1997, 1999, 2003), given the low salience of these interpretations compared to the salience-based status of their literally biased interpretations (assumed more accessible by the theory). Nor can it be explained on semantic anomaly (Beardsley, 1958), internal incongruity (Partington, 2011), or pragmatic incongruity (Grice, 1975), given that these factors were avoided. Nor can the negative sarcastic remarks be viewed as echoic utterances from which the speaker is dissociating herself (Sperber & Wilson, 1986), given that they do not echo a literal interpretation of the negative construction (e.g., *Supportive she is not*) while projecting a dissociative attitude, thereby implicating that she is supportive. Nor can contextual information (Campbell & Katz, 2012; Gibbs, 1986a, 1986b, 1994; Katz, 2009; Katz & Ferretti, 2003; Keysar, 1989; Keysar & Glucksberg, 1992; Ortony, Schallert, Reynolds, & Antos, 1979; Pexman, Ferretti, & Katz, 2000) account for these results, given that, when recruited, contexts were equally strongly supportive of both the literal and nonliteral interpretations of the negative items.

Are our results accountable by construction grammar theories? Given that our items' interpretations are noncoded but constructed on the fly, they might not, overall, be accountable by Goldberg's (1995) view, according to which pairings of form and meaning are conventionalized in a way that is similar to the symbolic nature of lexical items (Croft, 2007). On the other hand, given that the items at hand still exhibit a strong association between specific negative structures and nonliteral interpretations, this association may be explained by Ariel's (2008, Chapter 5) concept of "salient discourse profile." Salient discourse profiles manifest a strong, although not coded, form-function association. Although they can eventually lead to grammaticization, this is not a necessary development.

In sum, the studies reported here shed light on a unique role of negation which highlights novel nonliteral interpretations via rejecting them. Although a detailed analysis of the negative constructions under scrutiny should await further research, the present article is innovative in that it establishes, for the first time, the conditions for default *nonliteral interpretation*. It is also innovative in that it brings to the fore the unique contribution of negation to the notion of default nonliteral interpretation (see also Giora, 2006; Giora et al., 2010). It is further innovative in that, for the first time, it manifests, systematically, the priority, both in terms of interpretation and speed of processing, of nonliteral interpretations of novel utterances.

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APPENDIX A

Target utterances of Experiment 1 (originally in Hebrew)

1. This is not a discotheque.
2. This is not a public toilet.
3. You are not a pilot.
4. This is not a safe.
5. I am not your social worker.
6. I am not a construction worker.
7. This is not a bus.
8. This is not my grandma's house.

9. I am not the president.
10. This is not Memorial Day.
11. This is not a court of law.
12. I am not your messenger.

Sample targets of Experiment 1 in biasing contexts (in bold) and spillover (two-word) segments (in italics); a versions = metaphoric, b versions = literal.

5a. Shifra came to see me in the office to check out how I was doing in my new dream job. She sat right on the desk, kicked off her shoes, tinkered with the Venetian blind (gosh, these things break so easily!) and mumbled my way: "Ain't you going to fix me a drink or something?" I raised my voice at her: "**Hey! This isn't my granny's place!** *Did you* forget how I told you we should behave around here? This isn't the kind of place we're used to. Shifra angrily glared at me and stalked away. As I watched her leaving I realized I lost my temper, but quickly found solace in the fact that though we often quarrel, we always make up soon after.

5b. I had promised Michael we'll be spending the holidays with his family this year, whether my parents liked it or not. By the time I drove into the kibbutz I had forgotten his directions and was wandering rather aimlessly, hoping to stumble upon the right house. I noticed a vaguely familiar path and stepped on to it, hesitantly approaching one of the uniform buildings. Just when I was reaching for the doorbell I heard Michael's voice behind me: **"Hey! This isn't my granny's place!** *Did you* forget how I told you to get here? Never mind, come along. Everyone will be delighted to see you. They were starting to get concerned when you didn't show up"

2a. Leon came into the kitchen and was overwhelmed with the stench. His friends were doubled in half when they saw him grimace, but their guffaws came to an abrupt stop when he shot a reproachful glance at them and asked them "come on you guys! How did you get to this state? **This is not a public toilet!** *Any moment* now I will have to call for a special de-contamination unit! Ok, on your feet. There's going to be a serious cleaning up of this place, pronto.

2b. At around four a.m., after a long night of drinking and partying, Ziv and Ami were wobbling towards the back wall of the house, eager to relieve themselves. While they were trying to cope with the suddenly challenging task of undoing their zippers, a window just above them was flung open, and a full bucket of ice-cold water was spilled on their heads. A fuming elderly man appeared at the window screaming at the top of his lungs: "Get lost! **This is not a public toilet!** *Any moment* now I will have to call for the police!" Soaked to the bone, Ziv and Ami took one look at each other and started laughing. Totally wasted, everything looked like a big joke to them.

3a. 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." Ronny peaked at the people in the backseat and reluctantly eased off the gas pedal.

3b. 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."

APPENDIX B

Target utterances of Experiments 2–3 (originally in Hebrew)

1. Quick he is not
2. Focused he is not
3. Exciting she is not
4. Meticulous she is not
5. Friendly she is not
6. Skilled he is not
7. Driven she is not
8. Restrained she is not
9. Supportive she is not
10. Caring she is not
11. Organized she is not
12. Amusing he is snot
13. Amiable he is not
14. Sensual he is not
15. Relaxed she is not
16. Ambitious she is not
17. Clear she is not
18. Thorough she is not

Sample targets of Experiment 1 in biasing contexts (in bold) and spillover (two-word) segments (in italics); a versions = sarcastic, b versions = literal.

5a. Rotem will never amount to anything with the way she conducts herself. Slouched all day in front of the TV, or chatting away for hours on her cell phone. If she ever shows any concentration it's when she catches up on the latest gossip. And if she ever moves her butt, it's only in order to buy her stinking cigarettes. **Ambitious she is not.** *As far* as she is concerned, lying idly in bed is the perfect way to spend the day.

5b. When Rotem has her mind set on achieving something, she usually does, but it's never a far-reaching objective. Her goals are respectable, but rather banal. **Ambitious she is not.** *As far* as she is concerned, lying idly in bed is a perfectly good way to spend the day every once in a while.

2a. I saw this movie yesterday. It ran barely two hours, but to me it felt like seventeen. I thought it was never going to end. **Mesmerizing it is not.** *Whoever told* you that must be seriously disturbed.

2b. I saw that movie yesterday. The storyline is kinda cool, the jokes are funny, and Brad Pete of course is damn fine, but I wouldn't necessarily urge you to go see it. It just didn't capture my attention. **Mesmerizing it is not.** *Whoever told* you that got totally carried away.

3a. There he goes again. Flirting with the cameras, blowing kisses to the audience, pleasing the crowd with his premature victory dances, making silly jokes. All his energy seems to be geared towards these shenanigans. **Focused he is not**. *Up until* now he is always delivered in the moment of truth, so I just let him be. You don't argue with gold medals!

3.b I'm pretty happy with the new employee. He does everything he should and he hasn't screwed up anything so far. I am a bit concerned about his tendency to get distracted. I sometimes see him interrupting other people's conversations instead of immersing himself in his own work. **Focused he is not.** *Up until* now he is always been on schedule so I keep quiet about it, but if his performance starts to suffer, we'll have to deal with it.

4b. Yehudit is only on friendly terms with me. She is loyal, reliable, always lends a hand when I ask her, and I can count on her to listen whenever I need to talk. Still, I feel her heart is not completely there, that she has no real interest in what I am going through. **Caring she is not**. *I must* say she is never failed me yet, though.

4a. My boss is so indifferent it drives me nuts! Nothing bothers her. The only thing on her mind is work. She doesn't give a fuck if people get hurt. I admit she is fair about wages, but as far as what goes on in people's heart, she is like a stone. **Caring she is not**. *I must* say that she plays no favorites and treats everyone the same.