The Negation Operator is not a Suppressor of the Concept in its Scope. In Fact, Quite the Opposite

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Introduction

The effect of the negation operator (henceforth, negator) on the activation levels in memory of the concept in its scope is a controversial topic: Some argue that the negator unconditionally reduces the initial activation levels of the concept in its scope to baseline levels or below, thereby assigning to the negator the role of a suppressor (e.g., Kaup, Lüdtke, & Zwaan 2006; MacDonald & Just 1989). Others argue that the initial activation levels of the concept are not automatically suppressed by its negator. As a result, the negated concept is retained in memory (e.g., Giora 2003; Giora, Balaban, Fein, & Alkabets 2005; Giora, Fein, Aschkenazi, & Alkabets-Zlozover 2007).

The current study aims to provide a corpus-based support to the functional Retention Hypothesis by looking at a corpus of natural speech, thus rejecting the unconditional Suppression Hypothesis.

Tracking 'suppression' or 'retention' of negated concepts in a corpus

'Suppression' and 'retention' of concepts (indicated by their activation levels in memory) are online processes, and as such are monitored via online experiments, that is, experiments in which the reaction time of participants to tasks related to a negated concept is measured. Corpora, unlike online experiments, are offline entities (i.e., they involve no real-time measurements). As such, corpora can only point at traces of 'suppression' or 'retention' of negated concepts, thus providing only indirect support to any of the aforementioned hypotheses. How, then, can one track traces of 'suppression' or 'retention' of negated concepts in a corpus?

Given that the processing of concepts affects (at least, to some extent) their interpretation, results of offline and online experiments using the same materials can indicate a possible link between the way a negated expression is represented and the activation status of a negated concept.

A lead as for how the representation of a negated expression attests to the activation levels of a negated concept is provided by Giora et al. (2005, 2007) who conducted online and offline experiments using the same materials. In the online experiments, they showed that the initial activation levels of negated concepts (e.g. happy in not happy) are not any different from the activation levels of their affirmative counterparts (e.g., happy). Results of the offline experiments showed that raters opted for a mitigated version of the antonym of the negated item: They considered not happy as a mitigated version of sad. Taken together, these results suggest that the negator is a weak operator and as such it retains the concept in its scope activated in memory, which is, possibly, the reason why the negated expression is rated as a mitigated version of the antonym of the negated item and it does not assume the uttermost end of a conceptual-argumentative scale (e.g., not sad≠happy).

Accordingly, one should look into corpora for instances of conceptually-argumentatively weak negative expressions and examine the ways in which the corpus echoes the negated concepts – whether the negated concept is retained or suppressed.

The specific discourse pattern to be looking for in a corpus in order to test the Hypotheses

Instances of multiple negated utterances — Resumptive Negation — seem like good candidates to test the abovementioned hypotheses, as they seem to be the consequence of the "weak" nature of negators, as argued by Jespersen (1917:72-75). But in order to narrow the search for Resumptive Negation patterns which indicate that the presumably "weak" character of the negator is what requires additional negators, one should apply Du Bois' (2014) Principles of Dialogic Syntax according to which a selective addition of a morphologically-distinct negator has to do with some "trouble" with the original negator.

Such a discourse pattern, which is the focus of the current study, is exemplified in (1) extracted from a 1990s episode of a nightly talk-show, where Larry King, the host, and his guest, Donald Trump, discuss Trump's upcoming divorce. Trump denies King's insinuation about his inclination to play the role of the ultimate playboy rather than having a monogamous relationship:

(1) *[..] so I'm not one that loves the concept of divorce.*
In fact, just the opposite,
I hate the concept of divorce,
I hate everything it represents.
There is nothing better than a good marriage.

(27.7.1990)

Note that the unmarked negator not in (1) is followed by the morphologically-distinct marked negator the opposite.

I name this discourse pattern the Resumptively-Negated Denial Pattern (henceforth, RNDP). Figure 1 below is a schematic form of the RNDP, which is exemplified by using the specifics of (1).

(i)		A concept to be denied in (a)	love the concept of divorce
	(a)	A weakly negated version of the previous concept	I'm not one that loves the concept of divorce
	(b)	A connective that implies that the speaker commits that (c) is a stronger claim than (a)	In fact
	(c)	A stronger version of (a)	Just the opposite
(ii)		An affirmative spell-out version of (c)	I hate the concept of divorce

Figure 1. Schematic form of the RNDP exemplified by using the specifics of (1)

The dataset

Since the RNDP is a long sequence and as such it is not expected to occur frequently in corpora, only very large corpora should be considered. These corpora should necessarily be spoken corpora as samples of spoken discourse contain as twice as many instances of negation as samples of written discourse (of the same size) (Tottie 1991:17). As attested from example (1) above, the RNDP is an outcome of interlocutors' intensive mutual monitoring during discourse which is, in turn, the outcome of a direct social interaction between interlocutors (Goffman 1964). Therefore, large spoken corpora documenting direct social interactions between co-participants should be focused on. Such corpora are expected to contain (relatively) many instances of the RNDP

My dataset was, therefore, extracted out of the spoken section of COCA (Davies 2008), which contains ~95M tokens from transcripts of face-to-face and telephone conversations recorded from (American) TV and radio programs between 1990-2012. I first extracted all instances of the marked negators, the opposite and the contrary, from which I further extracted all instances of the RNDP in which the opposite or the contrary follow an unmarked negator such as no, not, never, none, -n't, etc. (Tottie 1991:8), altogether 399 instances of the RNDP.

The negative expression in Part (a) is a mitigated version of Part (c)

Recall that the first step in the current analysis is to establish that Part (a) of the RNDP is a weak negative expression which does not assume the uttermost end of a conceptual-argumentative scale. Such a Part (a) is expected to be the outcome of a weak negator, such that does not suppress the concept in its scope.

Part (b) of the RNDP which accommodates quite often an emphasizing connective (e.g., in fact, actually, or indeed), shows that Part (a) is, indeed, construed by the speaker as a mitigated negative expression. This emphasizing connective indicates that the succeeding utterance (i.e., Part (c)) is stronger than the preceding utterance (i.e., Part (a)) both conceptually (e.g., Horn 1989:231-252) and argumentatively (e.g., Schwenter & Traugott 2000), and therefore cannot assume the uttermost end of a conceptual-argumentative scale.

The concept in the scope of the negator (in Part (a)) remains accessible in memory

If Part (a) does not assume the uttermost end of a conceptual-argumentative scale, then according to the prediction detailed earlier, the RNDP should display a highly accessible negated concept. And this is indeed the case: all 399 instances (but 5) of the RNDP display a zero anaphora in the scope of the additional negator, the opposite/contrary (☝), co-referring to the concept in the scope of the preceding negator. According to the universal cognitive Accessibility Theory (Ariel 1990 and onwards), a zero anaphora indicates the highest possible mental accessibility of a concept, thus attesting to a high mental accessibility of the negated concept rather than its unconditional suppression.

Further analysis of the RNDP as a repair

The RNDP is further analyzed along the lines suggested by van der Wouden (1997), who contended that multiple negation constructions are instances of an apposition construction and as such, their "first aim [..] is self-correction" (van der Wouden 2000:240). This analysis reveals that the RNDP is a self-repair. Further analysis shows that as a self-repair, the RNDP is an appropriateness-repair rather than an error-repair (Levelt 1989). This corpus evidence taken together with the findings of Shuval & Hemforth (2008), who conducted eye-fixation experiments and found that negated concepts in appropriateness-repair constructions were significantly more accessible than negated concepts in error-repair constructions, show that the negator in Part (a) of the RNDP cannot possibly suppress the concept in its scope.

Summary

In this corpus-based study I present complementary evidence from natural speech to psycholinguistic results, showing that the concept in the scope of a negator is retained in memory and is not suppressed unconditionally. I suggest that a conceptually-argumentatively weak negative expression is the outcome of an activated concept in the scope of a negator. Having traced a discourse pattern accommodating a negative expression which does not assume the outermost end of a conceptual-argumentative scale, I show that this discourse pattern consistently manifests a highly accessible concept in the scope of the negator. I then present an independent line of analysis which combines corpus data, attesting to the appropriateness-repair character of the RNDP, with psycholinguistic findings of the processing of negated concepts in an appropriateness-repair, showing that as an appropriateness-repair the RNDP must retain the negated concept active in memory.

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