

No stone was left unturned: the passivizability of Dutch idioms.

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The current study investigates the effect of the syntactic properties of the paraphrase of an idiom's literal and figurative meaning on the extent to which idioms can passivize in Dutch. Native speakers rated the literal interpretability of idioms of which both the figurative and literal paraphrase can passivize (Type 1) and of which only the latter can (Type 2) either in canonical or passive form, or a literal control. Results show that both idiom types can be interpreted figuratively in passive voice, suggesting that only the syntactic properties of an idiom's literal parts affect the passivizability of Dutch idioms.

1 Introduction

Idioms, such as *to kick the bucket* (meaning: to die) or *to spill the beans* (meaning: to reveal a secret), are fixed expressions whose meaning goes beyond the literal meaning of their parts and are an important part of everyday communication (Kyriacou et al., 2019). Over the years, many different hypotheses have been introduced about how these fixed expressions are stored in our mental lexicon and many have been able to explain numerous idiom phenomena (e.g., Everaert, 2010; Newmeyer, 1974; Tabossi et al., 2009). However, one phenomenon these hypotheses do not agree on is the idiom's syntactic flexibility, i.e. the specific syntactic transformations idioms can undergo without losing their figurative meaning, such as passivization (e.g., *the bucket was kicked by the old man*). The existing hypotheses have made theoretical predictions about the idiom's syntactic flexibility, hypothesizing an influential role of the syntactic properties of either the idiom's parts or the paraphrase of its figurative meaning (e.g. Everaert, 2010; Newmeyer, 1974). Most of these theoretical predictions, however, have never been empirically tested, and the existing empirical research, which is limited to English and Italian, has only investigated whether idioms can undergo certain syntactic transformations, but has not yet directly tested the reason why these idioms can or cannot (e.g. Kyriacou et al., 2019; Mancuso et al., 2020). Therefore, the current study aimed to empirically test the role of the syntactic properties of the paraphrase of an idiom's literal and figurative meaning on the extent to which they can be passivized in a language underrepresented in the previous empirical research, namely Dutch. Specifically, we directly tested the theoretical predictions put forward by Newmeyer (1974) and Everaert (2010), who explain the possible transformations of idioms differently.

2 Theoretical background

Over the years, many hypotheses have been introduced about how idioms are stored in our mental lexicon and what information about an idiom is available to us. Newmeyer (1974) argues that an idiom is stored as a single lexical unit, and that it is accompanied by two semantic components: M1 (the paraphrase of the figurative interpretation) and M2 (the paraphrase of the literal interpretation). This means, for example, that the idiom *kick the bucket* is stored as a whole in our mental lexicon, and that a paraphrase of its figurative (*to die*) and literal (*to kick the bucket*) meaning are stored with it. Newmeyer argues that a transformation can only take place if it is possible on both the paraphrase of the literal and the figurative interpretation. Consequently, he predicts that *kick the bucket* cannot be interpreted figuratively in passive voice as only its literal paraphrase can passivize (*the bucket was kicked by the farmer*, but not **died by him*), but that *spill the beans* can (literal: *the beans were spilled over the table*; figurative: *the secret was revealed*).

Contrary to Newmeyer (1974), Everaert (2010) predicts that idioms are not stored as single units, but that our mental lexicon consists of so-called heads. Under these heads a phonological representation, various possible meanings (literal and potential figurative), and selection criteria are stored, such as C-selection and L-selection criteria to indicate which word

categories and which specific morphemes the head can select. The paraphrase of an idiom's figurative meaning is then stored under the heads of its literal components, each paired with specific L-selection criteria. For example, the figurative meaning of *kick the bucket* (i.e. *to die*) is stored under the V(erb)-head *kick* with the criteria that the V-head needs to be combined with the noun phrase *bucket* to receive the figurative meaning *to die*; the same is then indicated under the N(oun)-head *bucket*. As the literal meaning and the original syntactic properties of the literal parts of, for instance, the idiom *kick the bucket* remain available under this head, the idiom is predicted to be able to syntactically behave as the verb *kick* can when it is used in its literal sense. Therefore, in contrast to Newmeyer, Everaert predicts that the passive *the bucket was kicked* does retain its figurative meaning, because *kick* can passivize in its literal sense as well (as in *the ball was kicked by the boy*).

In sum, Newmeyer's (1974) hypothesis bases passivizability on the syntactic properties of the paraphrase of the literal and figurative meaning, but Everaert's (2010) only on the properties of the literal meaning. The current study aimed to test both of these predictions directly.

3 Methodology

3.1 Research design and materials

The current experiment had a 2x3 within-subjects design which included two independent variables, namely IDIOM TYPE and PRESENCE OF TRANSFORMATION. First, two types of Dutch idioms were used: (1) idioms of which both the literal and the figurative paraphrase can undergo passivization (e.g. 'iets op prijs stellen' fig. *to appreciate something*; lit. *to set something at a price*) and (2) idioms of which only the literal paraphrase can passivize (e.g. 'het loodje leggen' fig. *to die*; lit. *to put the lead down*). These are referred to as Type 1 and Type 2 idioms respectively. Second, these idioms were put in a sentence, which was either presented in its canonical form (e.g. 'ik stel dat op prijs' *I appreciate that*) or in passive voice (e.g. 'dat werd op prijs gesteld door mij' *that was appreciated by me*), or the paraphrase of the figurative meaning (i.e. the control condition) was presented which could only be interpreted literally (e.g. 'ik waardeer dat' *I appreciate that*). All of these sentences were preceded by a figuratively biasing context sentence. An example of an item set of the Type 1 idiom 'het ijs breken' (lit. *to break the ice*; fig. *to start a conversation*) as used in the experiment can be found in Table 1.

Table 1

Example sentences for every condition for the Type 1 idiom 'het ijs breken' (lit. to break the ice; fig. to start a conversation).

| | Example sentences |
|------------------|---|
| Context sentence | <i>Freek had grappige weetjes opgezocht voor zijn date in de dieren tuin</i> Freek had funny facts looked.up for his date in the zoo 'Freek had looked up funny facts for his date at the zoo.' |
| Canonical form | <i>Hij brak hiermee het ijs aan het begin van zijn date.</i> he broke with.this the ice at the beginning of his date 'He broke the ice with this at the start of his date.' |
| Passive form | <i>Het ijs werd hiermee gebroken door hem</i> the ice was with.this broken by him <i>aan het begin van zijn date</i> at the beginning of his date 'The ice was broken by him with this at the start of his date.' |
| Literal form | <i>Hij startte hiermee het gesprek aan het begin van zijn date.</i> he started with.this the conversation at the start of his date 'He started the conversation with this at the start of his date.' |

According to Newmeyer's (1974) hypothesis, idioms are only able to undergo those syntactic transformations possible on both the paraphrase of an idiom's literal and figurative meaning. If

that is true, we expect only Type 1 idioms to be able to be interpreted figuratively in passive voice. On the other hand, Everaert (2010) predicts that idioms are able to undergo the same syntactic transformations when used in its literal sense. If this is true, we predict that both Type 1 and Type 2 idioms can be interpreted figuratively in passive voice.

3.2 Participants and procedure

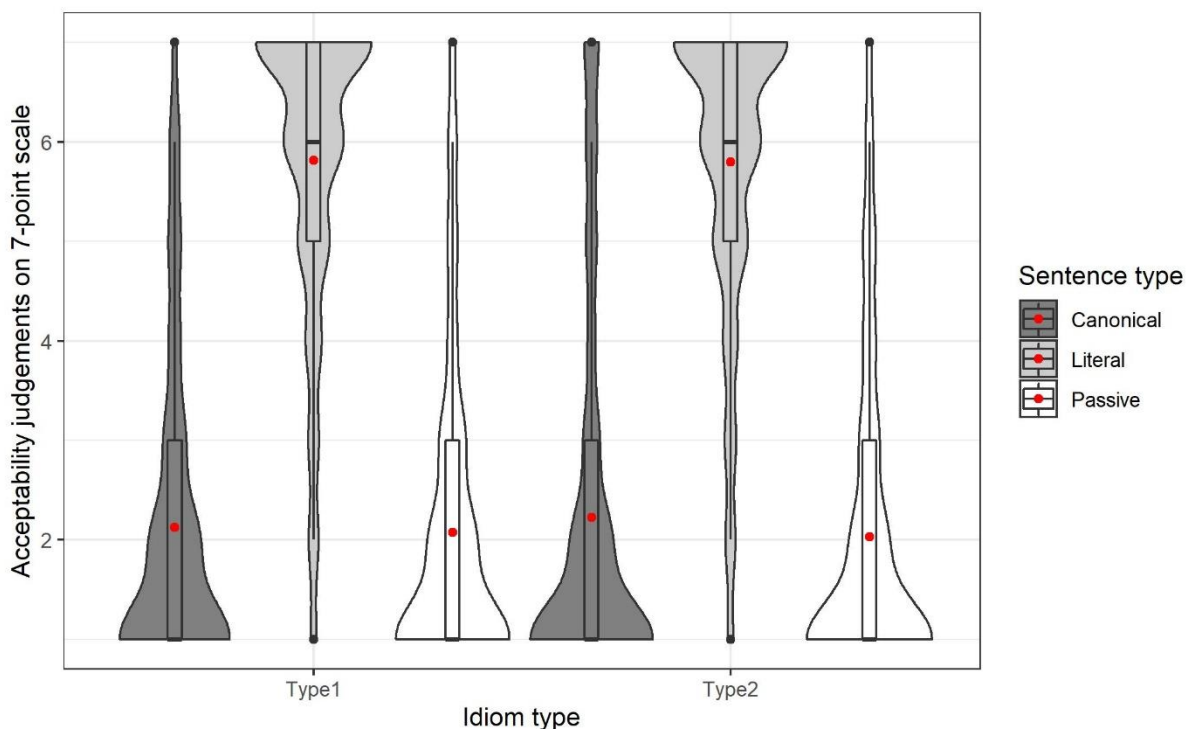
Sixty-two native Dutch speakers ($M_{age} = 19.76$, range 17-33, $SD_{age} = 2.92$) rated 64 stimulus items (8 canonical/Type1, 8 canonical/Type2, 9 passive/Type 1, 8 passive/Type2, 32 literal control) on the extent to which the target sentence following the context sentence could be interpreted literally on a scale from 1 ('Helemaal niet letterlijk' *totally not literally interpretable*) to 7 ('Helemaal letterlijk' *totally literally interpretable*).¹

4 Results

The standardized ratings were analysed using linear mixed effects regression and are visualized in Figure 1. The analysis revealed a significant main effect only of PRESENCE OF TRANSFORMATION ($F(2, 187.93) = 392.40, p < .001$); idioms in passive voice and in canonical form were rated as less literally interpretable than sentences that could only be interpreted literally, but there was no difference between idioms in passive or canonical form. No significant main effect of IDIOM TYPE ($\beta = .01, SE = .05, t = .14, p = .891$) nor any significant interaction effect between PRESENCE OF TRANSFORMATION and IDIOM TYPE was found (canonical vs. passive $\beta = .03, SE = .13, t = .26, p = .792$; passive vs. literal $\beta = .01, SE = .12, t = .10, p = .922$; canonical vs. literal $\beta = .02, SE = .12, t = .17, p = .863$). This means that Type 1 and Type 2 idioms were not rated differently, and that the ratings of the three sentence types is not significantly different for Type 2 idioms compared to Type 1 idioms, which is clearly illustrated in Figure 1.

Figure 1

Violin/boxplot with acceptability judgements on y-axis, the levels of IDIOM TYPE on the x-axis, and the levels of PRESENCE OF TRANSFORMATION representing the different colours.



¹ We decided to ask the participants to judge to what extent the sentence was literally interpretable instead of figuratively interpretable, as we thought that naïve participants would not necessarily be familiar with the term *figuratively*. However, we decided to interpret *not literally interpretable* as *figuratively interpretable*.

5 Theoretical implications

The results of the current empirical investigation show that the syntactic properties of the paraphrase of an idiom's figurative meaning do not seem to affect the extent to which Dutch idioms can be passivized; Dutch idioms can appear in passive voice if their literal parts can, even if the paraphrase of their figurative meaning cannot. Both Type 1 and Type 2 idioms were not rated differently from idioms in their canonical form when appearing in passive voice, strongly suggesting that passivized idioms can still retain their figurative meaning. This supports the hypothesis put forward by Everaert (2010), who predicts that idioms are able to undergo the same syntactic transformations as when they are used in their literal sense. However, the current results do not corroborate Newmeyer's (1974) hypothesis as he predicts that an idiom can only passivize if the paraphrase of both the literal and the figurative meaning can be passivized as well (i.e. only Type 1 idioms should be able to passivize).

Previous empirical studies already showed that English and Italian idioms, specifically those used in these previous studies, were able to passivize without losing their figurative interpretation (e.g. Kyriacou et al., 2019; Mancuso et al., 2020). However, these studies did not look at why passivization was possible for these specific idioms, for example because of their syntactic properties. The current study differentiated between two different idiom types, based on the syntactic properties of the paraphrase of the idiom's literal and figurative meaning, to investigate whether these properties influenced the extent to which an idiom could passivize. Therefore, the current study not only strengthens the findings of previous empirical investigations in English and Italian by showing that Dutch idioms are able to passivize while still retaining their figurative meaning, but it also shows that this is not constrained by the syntactic properties of the paraphrase of their figurative meaning. Idioms can passivize if their literal parts can, even if the paraphrase of their figurative meaning is not able to undergo this transformation.

In sum, the current study showed that Dutch idioms can be interpreted figuratively when appearing in passive voice, both when the idiom was Type 1 and Type 2. This strongly suggests that the syntactic properties of the paraphrase of the figurative meaning do not affect the extent to which idioms can be passivized in Dutch, but that the idiom can undergo passivization when its literal parts can as well. This is in accordance with Everaert's (2010) hypothesis.

References

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