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THE LANGUAGE OF PERSPECTIVE

VPIP: A Lexical Identification Procedure for Perceptual, Cognitive, and Emotional Viewpoint in Narrative Discourse

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Although previous work on viewpoint techniques has shown that viewpoint is ubiquitous in narrative discourse, approaches to identify and analyze the linguistic manifestations of viewpoint are currently scattered over different disciplines and dominated by qualitative methods. This article presents the ViewPoint Identification Procedure (VPIP), the first systematic method for the lexical identification of markers of perceptual, cognitive and emotional viewpoint in narrative discourse. Use of this step-wise procedure is facilitated by a large appendix of Dutch viewpoint markers. After the introduction of the procedure and discussion of some special cases, we demonstrate its application by discussing three types of narrative excerpts: a literary narrative, a news narrative, and an oral narrative. Applying the identification procedure to the full news narrative, we show that the VPIP can be reliably used to detect viewpoint markers in long stretches of narrative discourse. As such, the systematic identification of viewpoint has the potential to benefit both established viewpoint scholars and researchers from other fields interested in the analytical and experimental study of narrative and viewpoint. Such experimental studies could complement qualitative studies, ultimately advancing our theoretical understanding of the relation between the linguistic presentation and cognitive processing of viewpoint. Suggestions for elaboration of the VPIP, particularly in the realm of pragmatic viewpoint marking, are formulated in the final part of the paper.

1. Introduction

During the long ride to the subway station, she and her husband did not exchange a word, and every time she glanced at his old hands, clasped and twitching upon the handle of his umbrella, and saw their swollen veins and brown-spotted skin, she felt the mounting pressure of tears. (Nabokov, 1948)

Stories allow us to do what seems to be impossible in real life: to get a glimpse inside someone else's mind (Cohn, 1978; Palmer, 2004). As we read the short excerpt of Nabokov's *Signs and Symbols* (1948) above, we gain access to the perceptions, thoughts and feelings of one of the story's characters, an older woman whose son has just tried to take his own life. Through the use of perceptual verbs like *glanced* and *saw* we come to see what she sees: the hands of her seemingly agitated husband. And in the last clause, we get an impression of her sadness through the use of the verb *felt*. These types of verbs are characteristic of narrative discourse and are considered viewpoint (or perspective) techniques, i.e., linguistic elements that grant us access to the internal and subjective viewpoints of characters within a narrative.

Viewpoint refers to the expression of a subject's position in relation to objects and scenes. In this conceptualization, viewpoint has two aspects: a vantage point from which an object or scene is presented or viewed, and an orientation, i.e., the resulting depiction of the object or scene from that specific point (Langacker, 1987). If the vantage point changes, so does the orientation. This implies that viewpoint is by its very nature subjective, and that its manifestation in language creates a personalized – and therefore restricted – account of an object or scene.

In discourse studies, viewpoint is typically conceptualized as a multidimensional concept. Vandelanotte (2017), for instance, distinguishes deictic viewpoint from cognitive viewpoint: whereas deictic viewpoint refers to the spatiotemporal position from which a subject views an object or situation (that is, the vantage point), cognitive viewpoint captures all of the subject's mental states and activities such as thoughts and attitudes (see also Farner, 2014; and Uspensky, 1973, for similar views). Additional dimensions that have been put forward include perceptual, emotional, and moral viewpoint (Sanford and Emmott, 2012; Van Krieken, Hoeken, and Sanders, 2017). The

emotional and moral dimensions overlap with the concept of stance, which refers to 'the linguistic means by which speakers and writers convey their personal attitudes and emotions, their evaluations and assessments, and their level of commitment towards propositions' (Gray and Biber, 2014: 219). Lexical stance markers are expressions of personal feelings, attitudes, value judgments, or assessments, such as evaluative adjectives (*beautiful, angry*) and adverbials (*surprisingly, unfortunately*; see for example Pearce, 2005). Such markers give expression to a subject's emotional or moral experience of something and, therefore, to the subject's viewpoint. The difference between stance and viewpoint is that the latter concept includes more categories than stance alone, such as the sensory perceptions of a subject which do not necessarily mark the subject's stance towards an object (e.g., *He saw an orange tree*). Thus, while stance markers are typically also (moral or emotional) viewpoint markers, not all viewpoint markers are stance markers.

The study of viewpoint in narrative discourse has a long tradition in both literary studies and linguistics. A central aim of these studies is to elucidate how language is exploited in narrative discourse to describe events and situations from the subjective viewpoints of characters, and how this language use contributes to the aesthetic, rhetorical, functional, affective, and cognitive effects of narratives. The linguistic manifestation of viewpoint is studied both at a text-wide level, with a focus on the use of grammatical person (first, second, or third), and at lower levels of the discourse, with a focus on linguistic phenomena at lexical and sentence levels. Studies of this latter category have mainly adopted qualitative methods to analyze viewpoint in stretches of fictional as well as nonfictional narrative discourse, including the use of verb tense and free indirect discourse (e.g., Dancygier and Vandelanotte, 2009; Dancygier, 2017; Nikiforidou, 2010; Van Duijn, Sluiter, and Verhagen, 2015). The present article aims to foster quantitative research on local-level viewpoint phenomena in narrative discourse, by developing an identification procedure for lexical viewpoint markers.

Thus far, relatively few studies have employed quantitative methods to study narrative viewpoint. These studies have identified a range of linguistic manifestations of viewpoint, at multiple levels of analysis and in different types of narratives. For example, Habermas (2006) and Habermas and Diel (2010) examined non-fictional

oral narratives on the propositional level for the presence of viewpoint by analyzing the use of mental verbs, direct and indirect speech, and the historic present. Other studies have analyzed viewpoint techniques in journalistic narratives by examining speech and thought representations (e.g., Sanders, 2010; Van Krieken and Sanders, 2016a), referential expressions and grammatical roles (Van Krieken, Sanders, and Hoeken, 2015; Van Krieken and Sanders, 2016b), and tense and temporal adverbs (Van Krieken and Sanders, 2019). Similar analyses have also been applied to literary fiction (e.g., Ikeo, 2014).

General conclusions to be drawn from these quantitative studies are, first, that the expression of viewpoint is constitutive in narrative discourse and that linguistic markers indicating such viewpoints are ubiquitous in narrative discourse. Second, the linguistic manifestation of viewpoint in narrative discourse is highly diverse, which can be explained by the multidimensional nature of viewpoint (e.g., Farnier, 2014; Uspensky, 1973). A *Linguistic Cues Framework* was recently presented that establishes connections between specific linguistic viewpoint markers on the one hand and the viewpoint dimension they give expression to on the other, distinguishing between spatiotemporal viewpoint, perceptual viewpoint, cognitive viewpoint, emotional viewpoint, moral viewpoint, and embodied viewpoint (Van Krieken et al., 2017). A central premise of the framework is that these six dimensions are independently regulated by the use of particular linguistic cues. For example, verbs of perception (e.g., *see*, *hear*) are argued to indicate that a character's perceptual viewpoint is represented, while verbs of cognition (e.g., *think*, *want*) are argued to indicate that a character's cognitive viewpoint is represented. Each of these markers is thus, in its own way, an instruction to interpret a particular part of the discourse from a subjective viewpoint.

Taking the *Linguistic Cues Framework* (Van Krieken et al., 2017) as an anchor, a lexical identification procedure can be developed for the identification of these viewpoint markers in narratives. Such a procedure could help establish a unified approach to the study of viewpoint in narrative, which currently appears to be scattered across disciplines and methods, and advance quantitative analyses of

viewpoint markers. This may in turn benefit experimental research on the effects and processing of viewpoint by providing a ground for the identification and manipulation of viewpoint markers in narrative stimuli. This is important, because previous empirical research on viewpoint has often exclusively focused on text-wide viewpoint manipulations, comparing first-, second-, and third-person narration (i.e., grammatical viewpoint, e.g., Brunyé et al., 2016; Brunyé et al., 2011; Brunyé et al., 2009; Child, Oakhill, and Garnham, 2018; Ditman et al., 2010; Mulcahy and Gouldthorp, 2018). Studies on intra-textual viewpoint markers remain scarce, although there is evidence that these markers play a pivotal role in readers' experience and interpretation of narrative discourse (Van Krieken and Sanders, 2017; Sanders and Redeker, 1993). For example, Van Krieken (2018) has shown that the presence of viewpoint markers, such as perception verbs like *look*, guides readers' interpretations of ambiguous perceptions such that these perceptions are represented as coming from the story character rather than the narrator. Similar effects are to be expected for narrative processes such as narrative engagement, transportation and persuasion (see Van Krieken et al., 2017, for example).

In this article, we therefore introduce the ViewPoint Identification Procedure, 'VPIP', a method for identifying the presence of perceptual, cognitive, and emotional viewpoint in narrative discourse. The VPIP was developed with three important goals in mind: 1) *user-friendliness*: the VPIP should be easy to use for both established viewpoint researchers as well as researchers from other fields (e.g., psychologists, cognitive neuroscientists, and psycholinguists) who wish to study viewpoint in an experimental context; 2) *replicability*: in order to be able to replicate experiments and analyses studying viewpoint across researchers and texts, the VPIP should be as straightforward and consistent as possible; and 3) *implementability*: the output of the VPIP should ideally align with the most detailed measures of linguistic processing (e.g., online measures like eye-tracking) that can be used in viewpoint experiments. This means that our procedure aims at analyzing narrative discourse on the lexical level, which is also the smallest level on which viewpoint information can be conveyed (see Krippendorff, 2018). For now, the VPIP

focuses on perceptual, cognitive, and emotional viewpoint. The reason for this is threefold: first of all, we believe these levels can be unequivocally and meaningfully identified on the lexical level, contrary to, for example, spatiotemporal viewpoint, which is also expressed through grammatical relations and choices that transcend the word level. Secondly, we believe these three dimensions of viewpoint are of relevance to a broad range of researchers who wish to study the processing and effects of viewpoint, as they have clear correlates in cognition and behavior (e.g., mental imagery, mindreading, and empathy). Finally, at least for moral viewpoint, analytical approaches are already available (that is, in terms of *evaluation*: Hunston and Thompson, 2000; *appraisal*: Martin and White, 2007; and *stance*: Biber et al., 1999).

We hope that the resulting procedure presented here will prove to be as useful and important for a broad range of scholars as recent lexical identification procedures for the presence of other prevalent language phenomena such as metaphor (Metaphor Identification Procedure (MIP), Pragglejaz Group, 2007; and Metaphor Identification Procedure VU (MIPVU), Steen et al., 2010), irony (Verbal Irony Procedure (VIP), Burgers, van Mulken, and Schellens, 2011), subjectivity and stance (Vis, Sanders, and Spooren 2012), and hyperbole (Hyperbole Identification Procedure (HIP), Burgers et al., 2016).

In what follows, we will first introduce the procedure. We will then discuss some special cases before illustrating the use of the procedure by applying it to three short Dutch examples (a literary narrative, a news narrative, and an oral narrative). The reliability of the procedure will be tested on a full-length Dutch news narrative. Finally, we will describe the possible applications, optional extensions, and limitations of our procedure in the discussion.

2. Procedure

The procedure for identifying perceptual, cognitive, and emotional viewpoint markers is graphically represented in **Figure 1**, below. In what follows, we will discuss the steps in more detail.

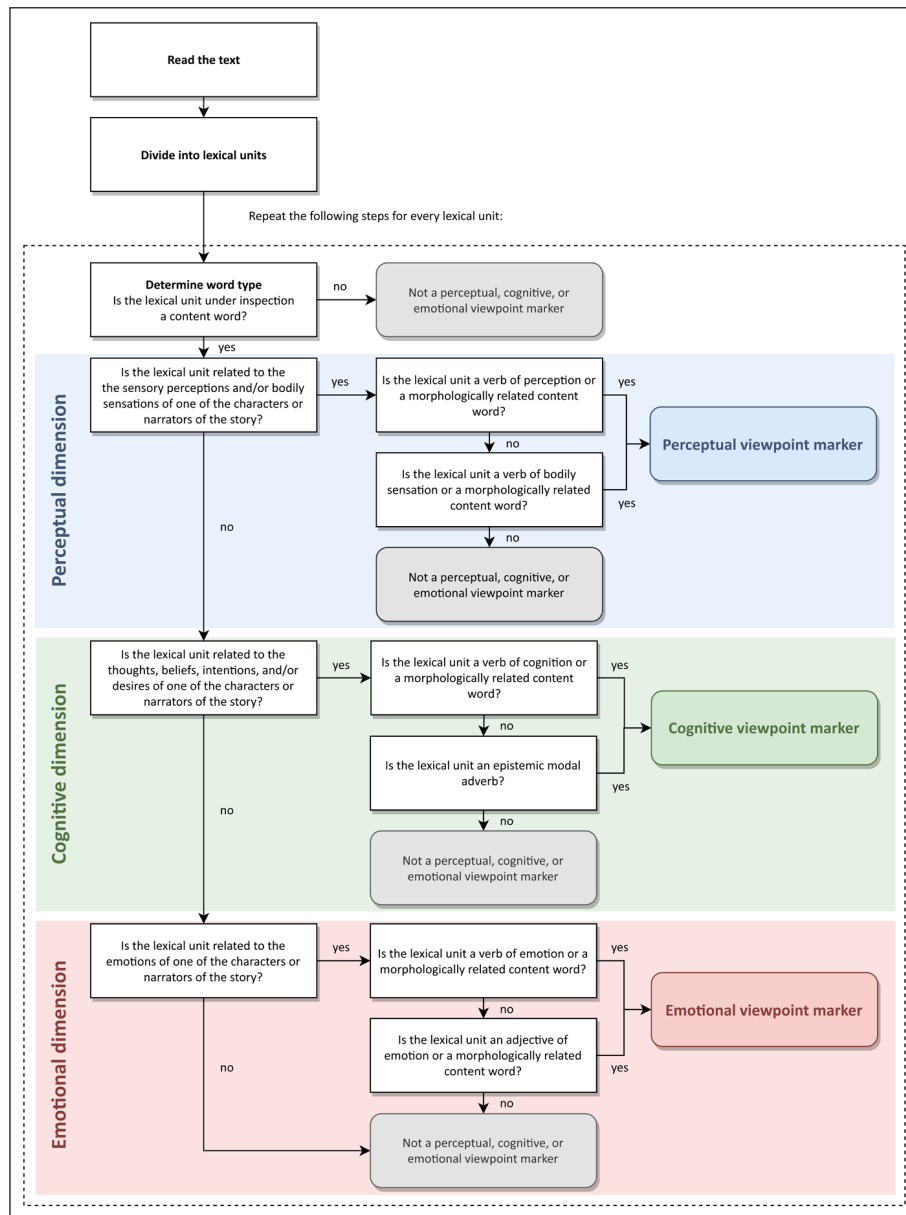


Figure 1: The ViewPoint Identification Procedure (VPIP).

Step 1) Read the text

Raters should first read the text thoroughly to get a global impression of its meaning and use of viewpoint techniques.

Step 2) Divide the text into lexical units

For the purposes of the present identification procedure, all words can be considered lexical units. The only special cases that deviate from this rule are (complex) phrasal verbs (e.g., Dutch *opmerken* ('to notice'), as in *hij merkte het lawaai op* (lit. 'he noticed the noise up'); see also Steen et al., 2010), which should be considered single lexical units. We used the electronic version of the *Van Dale Groot woordenboek der Nederlandse taal* (Den Boon and Geeraerts, 2005) to identify phrasal verbs.

Repeat the following steps for every lexical unit:

Step 3) Determine the word type

Although viewpoint can be expressed by both function words and content words, perceptual, cognitive, and emotional viewpoint are almost exclusively expressed through content words.¹ Function words usually give rise to other dimensions of viewpoint. For example, interjections like *Gee!* or *Wow!* express a moral evaluation or attitude (i.e., stance), while determiners play a role in spatiotemporal viewpoint (Van Krieken et al., 2017). As the VPIP is concerned with perceptual, cognitive, and emotional viewpoint, the remainder of the procedure is solely applied to content words:

- a. If the lexical unit is a content word (nouns, verbs, adjectives, adverbs), continue to step 4.
- b. If the lexical unit is a function word (interjections, determiners, prepositions, complementizers, pronouns), mark it as not a perceptual, cognitive, or emotional viewpoint marker and go back to step 3 for the next lexical unit.

Step 4) Determine the viewpoint dimension

Is the lexical unit related to:

- a. ...the perceptions by one of the senses (visual, auditory, tactile, olfactory, taste) and/or bodily sensations of one of the characters or narrators of the story? If yes, continue to step 5a. If not, continue to step 4b.

¹ An example of an exception to this rule is the complementizer *om* ('in order to'), which could be argued to express a character's intention (see Sanders, 1994, for a discussion).

- b. ...the thoughts, beliefs, intentions, and/or desires of one of the characters or narrators of the story? If yes, continue to step 5b. If not, continue to step 4c.
- c. ...the emotions of one of the characters or narrators of the story? If yes, continue to step 5c. If not, score the lexical unit as not a perceptual, cognitive, or emotional viewpoint marker and go back to step 3 for the next lexical unit.

Step 5) Determine whether the lexical unit is a viewpoint marker for that dimension

- a. Perceptual dimension
 - I. Is the lexical unit a verb of perception or a content word morphologically related to such a verb? If yes, score the lexical unit as a perceptual viewpoint marker. If not, continue to step 5a.II.
 - II. Is the lexical unit a verb of bodily sensation or a content word morphologically related to such a verb? If yes, score the lexical unit as a perceptual viewpoint marker. If not, score the lexical unit as not a perceptual, cognitive, or emotional viewpoint marker and go back to step 3 for the next lexical unit.
- b. Cognitive dimension
 - I. Is the lexical unit a verb of cognition or a content word morphologically related to such a verb? If yes, score the lexical unit as a cognitive viewpoint marker. If not, continue to step 5b.II.
 - II. Is the lexical unit an epistemic modal adverb? If yes, score the lexical unit as a cognitive viewpoint marker. If not, score the lexical unit as not a perceptual, cognitive, or emotional viewpoint marker and go back to step 3 for the next lexical unit.
- c. Emotional dimension
 - I. Is the lexical unit a verb of emotion or a content word morphologically related to such a verb? If yes, score the lexical unit as an emotional viewpoint marker. If not, continue to step 5c.II.

- II. Is the lexical unit an adjective of emotion or a content word morphologically related to such an adjective? If yes, score the lexical unit as an emotional viewpoint marker. If not, score the lexical unit as not a perceptual, cognitive, or emotional viewpoint marker and go back to step 3 for the next lexical unit.

The different viewpoint markers in step 5 can be identified using the definitions and examples in **Table 1**. In case of uncertainty when determining whether a lexical unit meets these definitions, an additional paraphrase test can be done: if the lexical unit under investigation can be replaced by or paraphrased with the use of one of the basic forms of a particular dimension, it is a viewpoint marker for that dimension. For example, in the sentence *Hij snakte naar een avondje rust* ('He craved a quiet evening'), the verb *snakken* ('to crave') can be replaced by the basic form *willen* ('to want'): *Hij wilde een avondje rust* ('He wanted a quiet evening'). Therefore *snakte* can be considered a cognitive viewpoint marker. Paraphrase tests have proven useful and reliable for the detection of similar linguistic phenomena.²

Table 1 shows an overview of the markers and their definitions by viewpoint dimension and provides the basic forms and examples. Note that all content words morphologically related to (but not necessarily derived from) any of the categories of viewpoint markers are also considered to be viewpoint markers (see the column on the right of the table).

To further facilitate the viewpoint identification process, we have compiled a list of Dutch verbs of perception and bodily sensation (steps 5a.I and 5a.II), verbs of cognition and epistemic modal adverbs (steps 5b.I and 5b.II), and verbs and adjectives of emotion (step 5c.I and 5c.II) that can be found in the Appendix. The list was developed as follows. For the four types of verbs, verb classes from work by Levin (1993) were identified that satisfied the definitions from **Table 1**. These can be found in **Table 2**.

² For paraphrase testing of discourse perspective type, see Bekker (2006); for paraphrase testing of causal connective categories, see Sanders (1997).

Table 1: Definitions and examples of different types of perceptual, cognitive, and emotional viewpoint markers.

| Dimension | Viewpoint marker | Definition | Basic forms | Examples | Morphologically related words |
|------------------|--------------------------|--|--|-----------------------------------|--------------------------------------|
| Perceptual | Verb of perception | A verb that denotes experiences by one of the five senses: visual, auditory, tactile, olfactory, or taste. | <i>Zien</i> ('to see'), <i>horen</i> ('to hear'), <i>voelen</i> ('to feel'), <i>ruiken</i> ('to smell'), <i>proeven</i> ('to taste') | <i>Bezichtigen</i> ('to inspect') | <i>Bezichtiging</i> ('inspection') |
| | Verb of bodily sensation | A verb that denotes an internal bodily state experienced by a body part. | <i>Pijn doen</i> ('to hurt') | <i>Waarnemen</i> ('to perceive') | <i>Waarneembaar</i> ('perceptible') |
| | | | | <i>Duizelen</i> ('to grow dizzy') | <i>Duizelig</i> ('dizzy') |
| | | | | <i>Jeuken</i> ('to itch') | <i>Jeuk</i> ('itch') |
| Cognitive | Verb of cognition | A verb that represents thoughts, beliefs, intentions, and/or desires. | <i>Denken</i> ('to think'), <i>geloven</i> ('to believe'), <i>willen</i> ('to want') | <i>Wantrouwen</i> ('to distrust') | <i>Wantrouwig</i> ('distrustful') |
| | | | | <i>Overwegen</i> ('to consider') | <i>Overweging</i> ('consideration') |
| | | | | | |

(Contd.)

| Dimension | Viewpoint marker | Definition | Basic forms | Examples | Morphologically related words |
|-----------|------------------------|---|---|---|---|
| | Epistemic modal adverb | An adverb that indicates a subject's certainty about a claim or description of reality (see Klein, 1998; Salverda, 2003). | <i>Waarschijnlijk</i> (‘probably’), <i>zeker</i> (‘definitely’) | <i>Wellicht</i> (‘perhaps’) <i>Ongetwijfeld</i> (‘undoubtedly’) | <i>Not applicable</i> |
| | Emotional | Verb of emotion A verb that denotes the experience of emotion. | <i>Voelen</i> (‘to feel’) | <i>Schamen</i> (‘to feel ashamed’) <i>Enthousiasmeren</i> (‘to enthuse’) | <i>Schaamte</i> (‘shame’) <i>Enthousiasme</i> (‘enthusiasm’) |
| | Adjective of emotion | An adjective that denotes the experience of emotion. | <i>Boos</i> (‘angry’), <i>blij</i> (‘happy’) | <i>Jaloers</i> (‘jealous’) <i>Blij</i> (‘happy’) | <i>Jaloezie</i> (‘jealousy’) <i>Blijdschap</i> (‘happiness’) |

Table 2: Verb types and the verb classes from Levin (1993) that were used to create the lists of viewpoint markers.

| Verb type | Verb classes from Levin (1993) |
|---------------------------|--|
| Verbs of perception | Verbs of perception ³ <i>See</i> verbs <i>Sight</i> verbs <i>Peer</i> verbs Stimulus subject perception verbs |
| Verbs of bodily sensation | Verbs of bodily state and damage to the body |
| Verbs of cognition | Verbs of desire <i>Want</i> verbs <i>Long</i> verbs Verbs with predicative complements <i>Appoint</i> verbs <i>Characterize</i> verbs <i>Declare</i> verbs <i>Conjecture</i> verbs Verbs of assessment |
| Verbs of emotion | Verbs of psychological states ⁴ <i>Amuse</i> verbs <i>Admire</i> verbs <i>Marvel</i> verbs <i>Appeal</i> verbs |

The verbs of these verb classes were then translated into Dutch, taking only those English meanings and Dutch translations into consideration that were related to the perceptual, cognitive, and emotional viewpoint dimensions and satisfied the definitions given in **Table 1**. In addition, the closed class of epistemic modal

³ This verb class contains verbs of perception by all of the five different senses (i.e., visual, auditory, tactile, olfactory, and taste).

⁴ This verb class contains verbs of both positive (e.g., *admire*) and negative valence (e.g., *deplore*).

verbs was added to the list of verbs of cognition. With these verbs, speakers indicate commitment to the validity of a proposition on the basis of their estimation of the probability that a particular state of affairs is the case (Sanders, 1994: 146). Such estimates are subjective by nature and thus express subjective viewpoints (see also Sanders and Spooren, 1996, 1997).

The class of emotion adjectives was compiled based on work by Hevner (1936) on emotional adjectives used to describe music, a revised version of Hevner's adjective list (Schubert, 2003), and Dutch translations of the adjectives used in the Multifaceted Empathy Test (Dziobek et al., 2008; Eekhof, van Krieken, Sanders, and Willems, in preparation). All translations were made using the electronic version of *Van Dale: Groot Woordenboek der Nederlandse Taal* (Den Boon and Geeraerts, 2005). The epistemic modal adverbs were taken from Salverda (2003) and the electronic version of *Van Dale*.

3. Special Cases

In general, application of the identification procedure should be straightforward. However, there are a few special cases that require extra attention. These are described below and illustrated with examples from news narratives. Viewpoint scores are marked in superscript (PVP = perceptual viewpoint marker, CVP = cognitive viewpoint marker, EVP = emotional viewpoint marker).

3.1. Ambiguity

In some cases, words with multiple meanings can receive different viewpoint scores depending on the meaning that is intended given the context. For example, the Dutch word *zullen* ('shall/will') can either be used as a temporal auxiliary when forming the future tense (see Example 1), or to signal epistemic modality. Only when the verb is used in an epistemic modal sense, is it considered a cognitive viewpoint marker (see Example 2). Another example is the verb *vinden* ('to maintain' or 'to find'), which can either signal cognitive viewpoint (see Example 3), when it is used to express an opinion (see also Vis, Sanders, and Spooren, 2015), or perceptual viewpoint (see Example 4), when it is used in the sense of discovering something. Similarly, the verb *moeten* ('to need/to have to/should') can have multiple meanings including a deontic and epistemic interpretation. Only in those occurrences with an epistemic

interpretation, related to the thoughts, beliefs, intentions, and/or desires of one of the characters of the story, should these be considered cognitive viewpoint markers (see Examples 3 and 5). Deontic interpretations, characterized by the presence of an external or objective force, as in Example 6, are not part of the cognitive viewpoint dimension (see Sanders and Spooren, 1996, 1997).

Example 1)

Hun huisarts heeft beloofd^{CVP} dat hij Hans zal helpen
Their G.P. has promised that he Hans will help

Their G.P. has promised that he will help Hans. (Volkskrant, 2017)

Example 2)

Deze keer zou^{CVP} het, moest^{CVP} het eindelijk lukken^{CVP}
This time would it, should it finally succeed

This time, it finally had to succeed. (HP/De Tijd, 2013)

Example 3)

Een arts moet^{CVP} in de eerste plaats helpen, vindt^{CVP} ze
A doctor should in the first place help, maintains she

A doctor should primarily help, she maintains. (Volkskrant, 2017)

Example 4)

Ze staat op uit hun hoge bed met wieltjes en vindt^{PVP} haar
She stands up from their high bed with wheels and finds her
 man op de bank
husband on the couch

She stands up from their high bed with wheels and finds her husband on the couch.

(Volkskrant, 2017)

Example 5)

Hij nam de pillen die hem in coma moesten^{CVP} brengen
He took the pills that him in coma must induce

He took the pills that had to induce him into a coma. (HP/De Tijd, 2013)

Example 6)

Toen de oude dame toch naar het verpleeghuis moest...
When the old lady nevertheless to the nursing home must...

When the old lady nevertheless had to go to the nursing home [...]. (Volkskrant, 2017)

3.2. Collocations, Fixed Expressions, and Idioms

As our procedure identifies viewpoint at the lexical level, collocations, fixed expressions, idioms, and other multi-word units whose meaning transcends the lexical level are nevertheless scored for their individual lexical subparts. As a result, only those subparts that are content words and refer to one of the viewpoint dimensions (see step 4), are potential viewpoint markers. This might mean that in cases where the viewpoint meaning solely arises at the supralexical level, none of the lexical subparts are scored as viewpoint markers (see Example 7). In other cases, some of the subparts do carry a viewpoint meaning, in which case a viewpoint score is assigned to these individual subparts. For instance, in Example 8, *twijfel* ('doubt') is part the expression *de twijfel slaat toe* ('the doubt kicks in') and is scored as a cognitive viewpoint marker, because it is morphologically related to *twijfelen* ('to doubt'), a verb of cognition. We will further elaborate on this issue in the discussion.

Example 7)

Ik was in de zevende hemel
I was in the seventh heaven

I was on cloud nine. (Volkskrant, 2008)

Example 8)

Maar bijna drie weken na kerst slaat de twijfel^{CVP} toe
But almost three weeks after Christmas kicks the doubt in

But almost three weeks after Christmas, doubt kicks in. (Volkskrant, 2017)

3.3. Adjectives in Combination with Copular Verbs or Verbs of Emotion

Adjectives that function as viewpoint markers can appear with a variety of verbs, only some of which are also considered viewpoint markers. Verbs of emotion are always considered emotional viewpoint markers. The copular verbs, *zijn* ('to be') and *worden* ('to become') however, are not considered viewpoint markers, because their function is only grammatical. Other copular verbs that have a viewpoint meaning because they refer to the beliefs of characters or narrators, such as *lijken* ('to seem') or *schijnen* ('to appear'), are considered cognitive viewpoint markers. See the examples below.

Example 9)

Hij had zich als jochie beschadigd^{EVP} gevoeld,^{EVP} waardeloos,^{EVP}
He had himself as little lad hurt felt, worthless,
 schuldig^{EVP} ook.
guilty as well.

As a little lad, he had felt hurt, worthless, and guilty as well. (HP/De Tijd, 2013)

Example 10)

Ze is blij^{EVP} met de euthanasiewet
She is happy with the euthanasia law

She is happy with the euthanasia legislation. (Volkskrant, 2017)

Example 11)

Haar man lijkt^{CVP} vastbesloten^{CVP}
Her man seems determined

Her husband seems determined. (Volkskrant, 2017)

3.4. Inanimate Subjects

There are instances in which something inanimate, rather than one of the characters, is the subject in a sentence with a viewpoint marker, as in the examples below. If, in these cases, the viewpoint is nevertheless to be understood as coming from one of the characters or narrators, the lexical unit should still be considered a viewpoint marker. In the first example above, the intention that is expressed by the verb *must* is to be understood as coming from the *he* that is taking the pills. Hence, although *the pills* are the subject of *must*, the verb is still a cognitive viewpoint marker as it signals the intention of the character. Similarly, in the second example, the feeling that the time had been *lonely* and *grim* is experienced by the character. Therefore, these two adjectives should be considered emotional viewpoint markers.

Note that in more extreme cases, something inanimate might be the main character of a story, as in the Dutch novel *Specht en Zoon* ('Woodpecker and Son') by Willem Jan Otten, in which the main character and narrator is a painting canvas (see Trompenaars, 2018; Trompenaars et al., 2018). Our identification procedure does not differentiate between animate and inanimate characters and narrators, and so lexical

elements that express the viewpoint of inanimate characters or narrators should still be considered viewpoint markers.

Example 12) (= Example 5)

Hij nam de pillen die hem in coma moesten^{CVP} brengen
He took the pills that him in coma must induce

He took the pills that had to induce him into a coma. (HP/De Tijd, 2013)

Example 13)

Een andere tijd was het, die ook eenzaam^{EVP} was en naar^{EVP}
A different time was it, that also lonely was and grim

It was a different time, that had also been lonely and grim. (Volkskrant, 2017)

4. Three Sample Narratives

To illustrate the identification procedure, we will now discuss three sample narratives. The first sample is an excerpt from a literary story by the Dutch literary author A. F. Th. van der Heijden (2008). The second is an excerpt of a news story, published in a national Dutch broadsheet newspaper (NRC Handelsblad, 2011). Finally, we will look at an excerpt from an oral conversational narrative, taken from the Corpus of Spoken Dutch (Corpus Gesproken Nederlands; CGN, 2000).

Below, we present the sample narratives divided into lexical units with content words in bold and the viewpoint scores marked in superscript. Multi-word units are marked with brackets. We will only discuss application of the procedure to viewpoint markers and complex cases. Note that in practice the full procedure is applied to all lexical units of the text: function words are rejected after step 3, other content words may be rejected in step 4 and 5 if they are not related to the viewpoint dimensions relevant to the VPIP or if they do not meet the definitions of the viewpoint markers in **Table 1**.

4.1. Literary Fiction: *The Byzantine Cross* by A. F. Th. van der Heijden (2008)

The Byzantine Cross is a short story about a person with an obsession for scissors, which he uses to break into cars. The following passage describes a scene in the store where the man usually buys his scissors. He is afraid that the woman at the till will recognize him from his frequent visits to the store.

De / **volgende** / **keer** / **probeerde**^{CVP} / ik / bij / een / **andere** / **kassa** / [af] / te / [**rekenen**]. / Maar / ik / **werd** / **doorgestuurd**. / Ik / **overwoog**^{CVP} / **nog** / het / **ding** / [**terug**] / te / [**leggen**], / maar / dat / **leek**^{CVP} / me / **helemaal** / **verdacht**.^{CVP} / **Overal** / **vandaan** / **voelde**^{PVP} / ik / **camera's** / op / me / **gericht**.⁵

The next time I tried to pay at a different till. But I was referred to her. I considered putting the thing back, but that struck me as really suspicious. I felt cameras directed at me from every direction. (translation from Van der Heijden, 2016)

Probeerde (tried) = cognitive viewpoint marker

This lexical unit is related to the intentions of the main character, which falls under the cognitive dimension (step 4b). In step 5b.I, we see that the verb is not on the list of verbs of cognition in the appendix, but it does satisfy the definition of a verb of cognition given in **Table 1**: it is a verb that represents intention. As a result, this lexical unit is scored as a cognitive viewpoint marker.

Overwoog (considered) = cognitive viewpoint marker

This lexical unit is related to the thoughts of the main character about his course of action, which falls under the cognitive dimension (step 4b). In step 5b.I, we see that the verb *overwegen* ('to consider') is on the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

Leek (seemed) = cognitive viewpoint marker

This lexical unit is related to the beliefs of the main character about the suspiciousness of putting the scissors back. In step 5b.I, we see that the verb *lijken* ('to seem') is on

⁵ Literal translation:

The / next / time / tried / I / at / an / other / till / *particle* / to / pay. / But / I / was / referred. / I / considered / still / the / thing / back / to / put, / but / that / seemed / me / completely / suspicious. / Everywhere / away / felt / I / cameras / on / me / pointed.

the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

Verdacht (suspicious) = cognitive viewpoint marker

This lexical unit is related to the (hypothetical) thoughts of one of the characters of the story, namely the cashier referred to as *haar* ('her'). In step 5b.I, we see that this adjective is morphologically related to the verb *verdenken*, which is on the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

Voelde (felt) = perceptual viewpoint marker

The verb *voelen* ('to feel') can either refer to a physical sensation (e.g., *I feel the sun on my skin*), which falls under the perceptual dimension, or the experience of emotion (e.g., *I feel bad*), which falls under the emotional dimension. In this case, the perceptual dimension is evoked (step 4a), but with a hyperbolic interpretation: the man's perception of the cameras is probably affected by his anxious state, as it is unlikely that there are cameras pointed at him from every direction. In sum, the perceptual meaning of *voelen* ('to feel') is metaphorically projected on the emotional domain, providing an instance of subjectification (Kissine, 2010; Traugott, 1989). However, because the VPIP is concerned with viewpoint rather than metaphor, we decided to code the semantically primary meaning. Based on these considerations, this lexical unit is scored as a perceptual viewpoint marker.

4.2. News Narrative: Crime Report (NRC Handelsblad, 2011)

This news narrative describes a shooting that took place in April 2011 in a shopping mall in the Dutch city of Alphen aan den Rijn. In this passage, a shop owner is interviewed about the aftermath of the incident.

Later / [gaan] / ze / [terug]. / 'Iedereen / was / in / shock',^{EVP} / zegt / Charradi. / 'Schuin / tegenover / ons / is / ook / een / modezaak. / De / eigenares / daarvan / is / overleden. / Verschrikkelijk.^{EVP} / Een / collega / die / je / iedere / dag / ziet.^{PVP} / Je / gelooft^{CVP} / het / niet. / Je / hebt

/ het / **gevoel**^{EVp} / dat / je / in / een / **film** / **bent** / waarin / je / **niet** / **wilt**^{CVp} / **zijn**.¹⁶

Later on, they go back. 'Everyone was in shock', says Charradi. 'There is another fashion store diagonally opposite to us. The female owner of that store has died. Horrible. A colleague you see every day. You don't believe it. You have the feeling that you are in a movie you do not want to be in.'

Shock (shock) = emotional viewpoint marker

This lexical unit is related to the emotional dimension (step 4c) as it expresses the emotion that main character Charradi and others felt when they went back to the crime scene. In step 5c.I, we see that although the verb (*to*) *shock*, which is the English loan verb from which this noun is derived, is not on the list of verbs of emotion in the appendix, the Dutch counterpart *schokken* ('to shock') is. As a result, this lexical unit is scored as an emotional viewpoint marker.

Verschrikkelijk (horrible) = emotional viewpoint marker

This lexical unit refers to the emotions that main character Charradi experiences when she learns one of her colleagues has died. In step 5c.II, we see that the lexical unit matches the definition of an adjective of emotion given in **Table 1**: it is an adjective that denotes the emotion of horror. As a result, this lexical unit is scored as an emotional viewpoint marker.

Ziet (see) = perceptual viewpoint marker

This lexical unit is related to the visual perception of the main character, which falls under the perceptual dimension (step 4a). In step 5a.I we see that the verb *zien* ('to

⁶ Literal translation:

Later / go / they / back. / 'Everyone / was / in / shock', / says / Charradi. / 'Diagonally / opposite to / us / is / also / a / fashion store. / The / (female) owner / there of / has / died. / Horrible. / A / colleague / that / you / every / day / see. / You / believe / it / not. / You / have / the / feeling / that / you / in / a / movie / are / in which / you / not / want / be'.

see') is on the list of verbs of perception in the appendix. As a result, this lexical unit is scored as a perceptual viewpoint marker.

Geloof (believe) = cognitive viewpoint marker

This lexical unit is related to the (dis)belief of the main character about the tragic situation, which falls under the cognitive dimension (step 4b). In step 5b.I we see that the verb *geloven* ('to believe') is on the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

Gevoel (feeling) = emotional viewpoint marker

This lexical unit refers to the emotions of the main character (step 4c). In step 5c.I we see that this noun is morphologically related to the verb *voelen* ('to feel'), which is on the list of verbs of emotion in the appendix. As a result, this lexical unit is scored as an emotional viewpoint marker.

Wil (want) = cognitive viewpoint marker

This lexical unit is related to the desire of the main character to not be in the situation she found herself in, which falls under the cognitive dimension (step 4b). In step 5b.I, we see that the verb *willen* ('to want') is on the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

4.3. Oral Narrative: The Road Trip (CGN, 2000)

In this excerpt, taken from the Spoken Dutch Corpus (CGN, 2000), three friends reminisce about their youth. One of the friends then proceeds to tell a short story about one of their road trips. Please note that names and place names have been removed for the sake of anonymity.

- God / wat / **nog** / een / **keer** / **eens** / **gelachen**^{EVP} / in / in / zo'n / **bussie**
- toen / **moest** / ik / **rijden**
- **waren** / we / naar / **PLACE NAME** / of / **PLACE NAME** / **weet**^{CVP} / ik / **veel** / **waar** / we / **waren**
- **hadden** / we / **eerst** / **NAME** / **enorm** / z'n / **bek** / **gehouden**
- die / **wou**^{CVP} / **niks** / **meer** / **zeggen**

- **zaten** / we / op / 't / **terras** / en / **NAME** / **raakte** / met / een / **meisje**
/ aan / de / **praat** / en / z'n / **eerste** / **vraag** / **was** / **wat** / **studeer** / jij
- nou / dat / **heb** / ie / de / **hele** / **hele** / **dag** / **moeten** / **horen**^{PVP}
- hij / **zegt** / van / als / 't / **zo** / **moet**^{CVp} / dan / **gaan** / dan / **ga** / ik / naar
/ **huis**⁷

God on another occasion we laughed so much in such a van. That time I was the driver. We went to PLACE NAME or PLACE NAME, well I don't know where we were. We had first shut NAME's mouth so much. He didn't want to say anything anymore. We were sitting at an outdoor café and NAME started talking to this girl and his first question was 'what do you study?' Well, he has had to hear it from us all day long. He says like: if it has to go like this, then I'll go home.

Gelachen (laughed) = emotional viewpoint marker

This lexical unit is related to the emotion of the main characters, including the narrator (step 4c). In step 5c.1 we see that *lachen* ('to laugh') is on the list of verbs of emotion in the appendix. As a result, this lexical unit is scored as an emotional viewpoint marker.

Moest (had)

It is clear that this lexical unit is not related to the perceptions or bodily sensations (step 4a) of one of the characters. When judging whether it is related to the cognitive dimension (step 4b), we should keep in mind that only epistemic interpretations of

⁷ Literal translation:

- God / what / still / one / time / once / laughed / in / in / such a / van
- then / needed / I / drive
- were / we / to / PLACE NAME / or / PLACE NAME / know / I / much / where / we / were
- had / we / first / NAME / tremendously / his / mouth / kept
- he / wanted / nothing / anymore / say
- sat / we / on / the / terrace / and / NAME / got / with / a / girl / on / the / chat / and / his / first
/ question / was / what / study / you
- well / that / has / he / the / whole / whole / day / must / hear
- he / says / like / if / it / so / must / then / go / then / go / I / to / home

the verb *moeten* ('to have to') are considered to be related to this dimension. In this case, the interpretation is deontic: there is an (undisclosed) external force such that the narrator was the one who 'had to' drive. So, the lexical unit is not related to the cognitive dimension, nor to the emotional dimension, and is discarded after step 4c. This lexical unit is not a viewpoint marker of the perceptual, cognitive, or emotional dimension.

Weet (know) = cognitive viewpoint marker

This lexical unit refers to the beliefs of the narrator about the destination of the road trip, which falls under the cognitive dimension (step 4b). In step 5b.I, we see that the verb *weten* ('to know') is on the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

Wou (wanted) = cognitive viewpoint marker

This lexical unit refers to the desire of one of the characters to not speak anymore, which falls under the cognitive dimension (step 4b). In step 5b.I, we see that the verb *willen* ('to want') is on the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

Moeten (had)

Again, we have to analyze the interpretation of the verb *moeten* ('to have to') before we can rate it. Although not as straightforward as the previous occurrence of *moest*, this case can also be seen as having a deontic meaning by virtue of the presence of an external force: his friends' constant talking about the incident leads to the fact that Bert-Jan 'had to' listen to them all day. So, the lexical unit is not related to the cognitive dimension, nor to the emotional dimension, and is discarded after step 4c. This lexical unit is not a viewpoint marker of the perceptual, cognitive, or emotional dimension.

Horen (hear) = perceptual viewpoint marker

This lexical unit is related to the auditory perception of the narrator, which falls under the perceptual dimension (step 4a). In step 5a.I we see that the verb *zien*

('to see') is on the list of verbs of perception in the appendix. As a result, this lexical unit is scored as a perceptual viewpoint marker.

Moet (must) = cognitive viewpoint marker

For this final occurrence of *moeten* ('to have to') the context does not present any external forces that would justify a deontic interpretation. Rather, it is the character who internally reaches the conclusion that things will probably go a certain way. So the lexical unit, in its epistemic interpretation, is related to the thoughts and beliefs of a character, which falls under the cognitive dimension (step 4b). In step 5b.I, we see that the verb *moeten* ('to have to') is on the list of verbs of cognition in the appendix. As a result, this lexical unit is scored as a cognitive viewpoint marker.

5. Reliability Analysis

The full news story from section 4.2 was used to test the reliability of our procedure. First, the text was divided into 1145 lexical units by the first author. Then, the first and second author independently applied the VPIP to the story (see **Table 3** for the results). Raters agreed on scores for 1128 of the 1145 lexical units, making interrater agreement almost perfect (98.52%, $\kappa = 0.87$; Landis and Koch, 1977). There were 17 cases of disagreement. In most of these cases ($n = 14$), one of the raters scored the lexical units as a viewpoint marker whereas the other did not. In the three remaining cases, raters agreed on the viewpoint marking nature of the lexical unit, but disagreed on the dimension. In total, 63 lexical units (5.50% of the text) were

Table 3: Descriptive statistics for the distribution of viewpoint scores by rater.

| Score | Rater #1 | | Rater #2 | |
|--|----------|-------|----------|-------|
| | <i>n</i> | % | <i>n</i> | % |
| Not a perceptual, cognitive, or emotional viewpoint marker | 1078 | 94.15 | 1072 | 93.63 |
| Viewpoint marker | 67 | 5.85 | 73 | 6.38 |
| Perceptual | 26 | 2.27 | 24 | 2.10 |
| Cognitive | 29 | 2.53 | 33 | 2.88 |
| Emotional | 12 | 1.05 | 16 | 1.40 |

identified unanimously as being a viewpoint marker. The results of this analysis show that, firstly, the VPIP can be used reliably by multiple raters on longer stretches of narrative discourse, and that, secondly, the frequency with which perceptual, cognitive, and emotional viewpoint markers occur is very similar to the frequency of metaphor related words identified with lexical identification procedures (see e.g., De Vries, Reijnierse, and Willems, 2018).

6. Discussion

6.1. Contributions and Applications

In this article, we presented the VPIP, a lexical identification procedure for perceptual, cognitive, and emotional viewpoint in narrative discourse. The VPIP uses a detailed step-wise procedure to identify the lexical elements that signal the perceptual, cognitive, and emotional viewpoints of story characters and narrators. Application of the procedure is further facilitated by a large appendix of Dutch viewpoint markers. We have demonstrated that the VPIP can be applied to a wide variety of narratives, ranging from spontaneous, oral narratives to stylized, literary narratives. In addition, the good results of the reliability analysis indicate that the procedure can be used by multiple raters with substantial agreement.

We believe the VPIP can be used by a broad and diverse group of scholars ranging from literary scholars to cognitive neuroscientists. As such, the VPIP can be a stepping stone towards interdisciplinary studies of viewpoint, as well as new experimental paradigms that are not yet available in the field of viewpoint studies. In addition, a quantified and easy to implement procedure like the VPIP can be used across researchers and texts, facilitating comparisons between studies. Crucially, this also allows for the replication of viewpoint experiments or analyses by other researchers (direct replications) or for other texts (replications with different stimuli; for the importance of replication in the humanities, see Peels, 2019).

Besides use of the VPIP as a tool for quantitative, descriptive analyses of the manifestation of perceptual, cognitive, and emotional viewpoint in narratives, another essential area of application is in experimental studies of viewpoint.

Because the VPIP identifies viewpoint markers on the lexical level, its output aligns with many types of (online) experimental measurements. For example, researchers interested in the online processing of viewpoint could use the VPIP to track the effect of viewpoint markers on various psychophysiological measures such as eye movements, skin conductance or EEG. The systematic identification of viewpoint markers is also crucial for the design of stimuli in experiments investigating the effect of viewpoint markers on readers. For example, researchers studying the role of perceptual simulation or mental imagery during story reading might be interested to use the VPIP to design or evaluate their stimuli (e.g., a text high in perceptual viewpoint markers might elicit more mental imagery than a text that lacks perceptual viewpoint markers; see also Mak and Willems, 2019). On the other hand, cognitive and emotional viewpoint markers might elicit processes such as theory of mind or mentalizing during reading that could be measured using functional Magnetic Resonance Imaging (fMRI; see Mar, 2011). As previous research has already shown the effect of viewpoint markers on readers' interpretations of narratives (Van Krieken, 2018), researchers interested in the role of viewpoint markers with respect to processes such as emotional engagement, transportation, comprehension and persuasion might be interested to use the VPIP to manipulate stimuli texts (e.g., create a version with and without viewpoint markers; see De Graaf et al., 2012; Hoeken, Kolthoff, and Sanders, 2016; Mak and Willems, 2019). Importantly, the experimental work that the VPIP incites can in turn inform our theories by furthering our understanding of the cognitive processing of viewpoint.

6.2. Limitations and Optional Extensions

As has become clear from the examples above, the aim of the VPIP is mostly methodological, rather than conceptual. We do not intend to present the procedure as a single, complete definition of what viewpoint is, and how it is manifested linguistically. Obviously, a lexical identification procedure will not suffice to capture instances of viewpoint that arise on other levels of analysis. For example, the VPIP does not take into account from what grammatical viewpoint a (particular part of

the) narrative is narrated. By implication, the procedure does not consider instances of reported speech and thought that are embedded within the narrative, either. In the news narrative discussed in section 4.2 several instances can be pointed out:

a) *Later they go back.* b) *'Everyone was in shock', says Charradi.* c) *'There is another fashion store diagonally opposite to us.* d) *The female owner of that store has died.* e) *Horrible.* f) *A colleague you see every day.* g) *You don't believe it.* h) *You have the feeling that you are in a movie you do not want to be in.'*

Sentence (b) represents an utterance spoken by Charradi, which is indicated by the explicit embedding through the reporting verb *says*, as well as by quotation marks. This entails that the validity of these particular words, both in content and wording, is limited to this subjective viewpoint. In addition, sentences (f–h) are pragmatically embedded as impressions of what Charradi and her colleagues exchanged when they went back (a) and found the horrible (e) news that the owner of the shop across the street had died (c–d). In (b), Charradi explicitly *describes* in a past tense sentence how they all felt: *Everybody was in shock*. In sentences (f–h), by contrast, she *shows* how they all felt by representing their impressions in present tense with a generic *you*, blending her own voice with the voices of the others. The present tense with *you* demarcates a shift to a free indirect speech representation mode (Sanders, 2010), which is embedded within the direct quote. A pragmatic analysis of viewpoint would allow for an analysis of such embedded viewpoints, and the different internal and external voices and viewpoints involved and intertwined in the narration, which could elucidate how linguistic perspective manifests itself and functions at different layers of the narrative. Hence, for researchers interested in these phenomena, the VPIP could be extended with a qualitative, more pragmatic analysis.

Researchers working with literary or otherwise stylized narratives in which multi-word units like idioms play an important role may wish to extend the VPIP to also include collocations, fixed expressions, and idioms (e.g., *I am at my wits' end*). One way this could be achieved is by adding another paraphrase test at the end of the identification procedure. After applying the VPIP to the full narrative,

raters could look for multi-word viewpoint markers by checking whether any multi-word units present in the text can be replaced by a single-word viewpoint marker of one of the three relevant categories (e.g., *I am at my wits' end* can be rephrased as *I am worried*, justifying an emotional viewpoint marker rating; *she feasted her eyes on the beautifully decorated cupcakes* can be rephrased as *she looked at the beautifully decorated cupcakes*, justifying a perceptual viewpoint marker rating).

Finally, at present our procedure does not take into account the spatiotemporal, moral, and embodied dimensions of viewpoint as described in Van Krieken et al. (2017). Spatiotemporal viewpoint is expressed by syntax and anaphora (Kuno, 1987; see also Van Krieken et al., 2015). Moral viewpoint is interpreted on the basis of evaluations in the narrative that underpin the rhetorical intentions of telling the story. Research in this tradition can be traced back to studies of oral storytelling by Labov and Waletzky (1967) and Tannen (1982), and to studies of story plots and narrative archetypes, rooted in Propp (1928) and Campbell (1949; see also Sanders & Van Krieken, 2018). Among others, Martin and White (2007) have described how evaluations, attitudes or stance are expressed linguistically and how they can be analyzed in narrative discourse. Embodied viewpoint is an aspect of mental simulation of narrative as evoked by expressions of shape, orientation, and movement, and is studied in neuroimaging studies of sensory and motor simulation such as Zwaan (1999, 2009). In the future, the VPIP could be extended to also include these dimensions.

To conclude, we believe that in its current form the VPIP can be a helpful tool to systematically identify perceptual, cognitive, and emotional viewpoint markers. For researchers interested in the experimental and analytic study of these manifestations of viewpoint, the VPIP opens many horizons for the study of viewpoint.

Additional File

The additional file for this article can be found as follows:

- **Appendix.** List of Dutch markers of perceptual, cognitive, and emotional viewpoint. DOI: <https://doi.org/10.16995/olh.483.s1>

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Source Materials

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