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Operationalizing narrativized change in the political talk for computational recognition

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Abstract

This article furthers the methodology for computational recognition of narratives in argumentative language use. Narratives are understood as a cognitive and rhetorical tool for making sense of change and the unexpected, as well as arguing for a point. Building on narrative theory and linguistic knowledge, this study operationalizes narrative as the linguistic portrayal of experienced change. Our data consist of Finnish parliamentary records (1980–2022). Agentive experientiality plays a vital role in political speech, where deliberation over different choices and outcomes takes place. Our methodology relies on identifying verbs that encode cognitive and emotional shifts – key signals of narrative experientiality – based on a tailored semantic resource. Using Deptreepy, a search tool based on dependency trees, these verb classes were systematically extracted from a pre-existing sample of 60 manually annotated plenary session transcripts, where the annotation marked narrative and non-narrative segments. This approach offers a method for identifying narratives in complex, rhetorically layered genres that is compatible with low-resource languages. Results show that particular semantic verb classes – especially those indicating mental and emotional change – serve as effective indicators of narrativity. The study contributes to both narrative theory and computational linguistics by demonstrating how semantic classification of verbs, rooted in linguistic and narratological theory, can yield a viable tool for extracting narratives in argumentative language use. It also highlights how experientiality is not only conveyed in the stories told but also embedded in the situation of the telling, often amplified through cognitive stance verbs that address the audience's shared knowledge or memories. These findings suggest a dual layer of experiential engagement in parliamentary narratives, reinforcing their argumentative power.

Plain language summary

This article addresses the computational recognition of narratives in parliamentary discourse, specifically in the Finnish parliament. Narratives are understood as a cognitive and rhetorical tool for arguing for a point and making sense of change and the unexpected. Experientiality of individual agents plays a vital role in political speech with its deliberation over different choices and outcomes (Sandberg et al. in press). Despite recent advancements in narrative extraction processes, previous studies have not dealt with persuasive genres or low-resource languages. Moreover, narrative itself still lacks a single definition. New methods, including the small story approach, help extract and analyze narratives that are brief, partial and intentionally utilized in argumentative discourse.

Building on recent theoretical models (Sandberg et al. in press), this study treats narrative as the linguistic portrayal of experienced change. It employs a mixed methodology combining semantic verb classification with narrative studies. The methodology relies on a tailored semantic resource listing verbs that denote cognitive and emotional states and shifts – key signals of narrative experientiality. Using a grammatical search tool, these verb classes (target verbs) were systematically identified in a corpus of plenary speeches in the Finnish parliament (1980–2022).

Search results were cross-checked with a pre-existing sample of 60 plenary session transcripts that were manually annotated for narrative and non-narrative segments. Three subgroups were distinguished: narrative segments containing target verbs, narrative segments without target verbs and segments with target verbs not annotated as narratives. Results show that particular semantic verb classes, especially those indicating mental and emotional change, serve as effective indicators of narrativity. However, common cognitive verbs (e.g., "believe" and "know") were more often used for argumentative rather than narrative purposes, which highlights the importance of rhetorical context.

Narrative segments identified via the method typically fall into two main types: those involving an agent's internal change, often related to past or anticipated events, and those portraying concrete situational changes marked by shifts in time. A third, more implicit type, where narrative elements are only partially signaled, proved difficult to detect through semantic and grammatical features alone. Two representative examples of narrative segments illustrate how these short narratives can include all or most components of a

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classical narrative structure (abstract, orientation, episodes with complicating action, evaluation and coda), though the portrayed episodes often lacked an expressed resolution.

This approach offers a method for identifying narratives in complex, rhetorically layered genres that is compatible with low-resource languages. It supports interpretative analysis by systematically identifying narrative segments, while the focus on certain verbs allows for diachronic and stylistic variation. The study contributes to both narrative theory and computational linguistics: it demonstrates how semantic classification of verbs, rooted in linguistic and narratological theory, can be viable for extracting narratives in argumentative language use. It also highlights how experientiality is not only conveyed in the stories told but also embedded in the situation of the telling, often amplified through verbs expressing cognitive stance that address the audience's shared knowledge or memories (cf. Sandberg et al. in press). These findings suggest a dual layer of experiential engagement in parliamentary narratives that reinforces their argumentative power.

Introduction

In recent years, there has been increased interest in computational narrative recognition and extraction across different research domains. Narrative is a basic human means for making sense of time and change as well as arguing for a point of view. It is key to social action and interaction (Björninen et al. 2020). Therefore, detecting instances of narrativization in various contexts and text types provides a means to direct human interpretative efforts at key moments of meaning-making.

Based on a comprehensive survey on narrative extraction from textual data, Santana et al. (2023) present a narrative extraction pipeline starting from pre-processing and parsing the data all the way to evaluation metrics and user studies (2023, 8398). Yet open issues remain, since narratives are inherently complex and ambiguous and occur in a wide variety of situational contexts in our society. Moreover, as Heddaya et al. (2024, 64) put it, in addition to technical challenges, there are conceptual ones. Formulating an operational definition remains difficult, and the methods to systematically uncover narratives from real-world data are lacking due to theoretical diversity (for this discussion, see also Hatavara et al. 2024). When the motivation to extract and study narratives arises from the research needs of political or social sciences, the distinct nature of target genres also needs to be taken into account. For example, Piper and Bagga's data-driven theory of narrativity (Piper and Bagga 2022; 2024; 2025) builds on text passages from 18 genres (11 narrative and 7 non-narrative). Still, their selection of data does not include any persuasive genres. This leaves out narratives used for rhetorical purposes and therefore excludes a key definition of narrative as a tool for persuasion (cf. Phelan 2007).

Persuasion is central to political deliberation in the parliament. Parliamentary discourse is a multi-layered communicative setting, which consists of institutionally regulated speeches with specific conventions and purposes (Ilie 2017; Voutilainen 2023). It is a persuasive discourse in which narratives are told as a part of the rhetoric of plenary speeches for a variety of purposes. Previous research has shown that narratives in parliamentary debates can be short and partial, and in some cases, even a single sentence can contain all the relevant linguistic information in terms of recognizing a narrative. Moreover, it has demonstrated how explications of agentive cognitive processing and emotions can be signposts of narratives, but also implied that there might be diachronic variation in terms of how (and if) and whose emotional experiences MPs refer to (Hatavara et al. 2024; Sandberg et al. in press). This appears somewhat contradictory to Piper and Bagga (2022, 897), who argue that instead of explicit invocations of experiences, "feltness" (Herman 2002) and experience are conveyed via invocation of concretization (the agent being explicitly placed in a world in both time and space). Concretization becomes a key aspect of narrative's communicative foundations, allowing readers or viewers to feel through the agent rather than in the agent. In their model perceptual, cognitive and emotional lexicon did not emerge as a predictor of narrativity.

This article pursues the main trend in narrative studies, where experientiality is treated as central to any narrative (Fludernik 1996; Herman 2002). Moreover, personal experience has been understood as a salient feature of politically argumentative narratives (Polletta 2016). To examine when and how narratives are used in political discourse, we need methodological solutions to recognize narratives in large datasets of persuasive genres over a long period of time. This study set out to further the development of a methodology to computationally recognize narratives in deliberative parliamentary rhetoric with a reasonably straightforward implementation.

Our aim is to find a solution that would also apply to low-resource languages, which do not have the off-the-shelf NLP tools needed to implement extraction pipelines or adopt complex models. Our example language is a small one: this article works with the Finnish parliament, where most of the talks are in Finnish, some in Swedish. We also intend to gain further understanding of different types of narratives told as a part of the rhetoric used in plenary speeches.

Methodological approach

This study adopts a mixed methodology based on definitions of narrative, small stories approach to narratives and linguistic conceptualization of event structures through lexical argument structures.

- *Definitions of narrative*: 1) Narrative understood as a cognitive tool for making sense of change (Herman, Jahn, and Ryan 2005) as well as coming to terms with the unexpected (Bruner 1991), where 2) the change needs to be mediated via an experiencing subject (Fludernik 1996) with an emphasis on how it feels to live through the disruption (Herman 2002), and 3) narratives are situated tellings with rhetorical purposes (Phelan 2007).
- *Small stories approach to narrative theory*: Analyzing short, co-constructed, hypothetical and incomplete stories and their situated, communicative function in addition to lengthy, teller-driven accounts of past events with complete, closed meaning (Georgakopoulou, Giaxoglou, and Patron 2023, 1).
- *Linguistic conceptualization*: Narratives include the episodic structure portraying change and the experiencing point of view, which are coded in the verbs and systematically accessible via semantic classification of event structures (Hatavara et al. 2024; Sandberg et al. in press).

With these starting points, this article rests on a solid understanding of narrative – as a rhetorically available tool for making sense and communicating disruptive experience – as well as on an understanding of narratives occurring in the flux of communication. Moreover, the focus on verbs that carry both the change and the experiencing point of view has the potential for a straightforward method available also for low-resource languages.

Existing research recognizes the critical role of events and eventfulness in narrative recognition (Gius and Vauth 2022;

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Heddaya et al. 2024; Piper and Bagga 2022; Vauth et al. 2021). Event detection has a long tradition in NLP (with a focus on news and other informative text types), yet the concept of event is typically any sort of happening in time, often a semantic triplet "someone did something to something/something happened to someone" (see comparison of this to event concepts in narratology provided in Vauth et al. 2021), which is characteristic, rather, for the chronicle type of text (see Hatavara et al. 2024).

Gius and Vauth (2022) (partly based on Hühn 2014) differentiate four classes in their event annotation: change of state, process events, stative events and non-events. Each verbal phrase is labeled with one of the event types; these events then form the narrative. Heddaya et al. (2024) also annotate on sentence level and determine whether each sentence expresses a micro-narrative understood as a cause and effect relation. A holistic approach is provided in Piper and Bagga (2022), where eventfulness is proven to be a predictive feature of narrative and is understood as the rate of actions encoded by narrative. Change of state (which is more explicitly present in Gius and Vauth 2022 and Heddaya et al. 2024) is recognized as an important feature of narrative but approached as a broader property, existent in whole documents or longer passages of text.

We build on a fixed conception of events at the intersection of *event* in narrative theory (see Hatavara, Kurunmäki, and Andrushchenko 2022) and *event* in lexical semantics and linguistics (e.g., Levin and Hovav 2019; see also Pustejovsky [1991] 2023). As Gius and Vauth, our operationalization also relies on the sentence and more specifically the semantic class of the verb that forms the core of the sentence. Based on previous studies on parliamentary narratives (Hatavara et al. 2024; Sandberg et al. in press), we are specifically interested in explicated mental and emotional changes of states and experience and how they are linguistically encoded. A wording of an event in parliamentary rhetoric might (or might not) be concretized and situated in time and space. What differentiates our approach emphasizing narrativity is that the significant change in the sequence of happenings is portrayed as experienced and lived through by a human agent, who may be a single person or a collective.

The experience of change encoded in the verbs constitutes the core of our methodological choices. In linguistic theory, verbs can be categorized, based on their event types, into semantic classes according to their central semantic features, such as process (walk and run), accomplishment (build and destroy), achievement (die, find and arrive) and state (sick, love, know and resemble) (examples from Pustejovsky [1991] 2023). Event structure is a semantic conceptualization: each verb lexeme evokes an event structure. When the verb is used in discourse, it denotes a happening or a state, yet also evoking additional information on the type of the "real-world" happening as well as the point of view taken with respect to it. These conceptual representations are connected to the syntactic features of the verbs, too. Different types of verbs tend to be organized with certain kinds of arguments, forming the syntactic core. Thus, event structure is a sentence-wide phenomenon, intertwined with lexico-grammatical argument structures.

Verb classification based on semantic conceptualizations provides an approach that is transferable from one language to another (for the theoretical foundations of the classification, see, e.g., Levin and Hovav 2019), albeit with adaptation to the lexicon of a given language. In particular, the Finnish language has a rich verb lexicon due to plenty of derivational suffixes. In this study, the verbs (4,500 different lexemes) were drawn from a corpus of interviews with former Finnish MPs. The coverage was further confirmed by a comprehensive frequency list of Finnish lexemes. The task of grouping selected verbs into classes was conducted by a linguist and based on a theoretical foundation described in a comprehensive study on lexical argument structures of the Finnish language (Pajunen 2001). The classification was further adjusted for narrative detection in collaboration with a literary scholar. All verbs that lexicalize emotional states and changes were included in the semantic resource of the current study. Verbs of cognitive processing were restricted to the varied expressions of thinking and understanding, with the exclusion of such subgroups as studying and more general information processing. The resource consists of 227 emotion and 96 thinking verb lexemes (Sandberg and Andrushchenko 2025).

The methodological approach was developed to address the need for a method that can systematically detect relevant material in plenary session discussions over a long period of time, taking into account the manifold nature of narrative. We expect that a combination of several features might miss the temporal changes in different features prevalent at different times. One central feature (target verbs) might miss a part of narratives, but will lead to an understanding of the variation and change among narratives characterized by the use of key verbs. Moreover, the method needs to meet the requirement of picking up an element connected with change of state expressed also in short passages, since narrative segments in deliberative parliamentary rhetoric are often concise. By operationalizing the semantic classes of verbs used in the speeches, we can narrow down the need for interpretative manual annotation, thus optimizing the resources and the researchers' interpretative effort. Effectively, researchers can focus on the analyses and classification of the results in order to further pinpoint different uses of language as well as varied forms of narrative around these verbs. This procedure is more effective than excessively negotiating the fuzzy boundaries between narrative and non-narrative sentences (see recent discussions on the challenges of inter-rater agreement and machine learning on narrative elements: Heddaya et al. 2024; Piper and Bagga 2024).

In order to analyze the narrative features around our target verbs, we use Monika Fludernik's (2023) model on the narrative structure of small stories. The model is particularly suitable for such analysis, since it relates the small stories approach with the emphasis on fragmented, co-constructed and hypothetical stories and the study of narratives in various conversational environments. Building on the sociolinguistic work by William Labov and Joshua Waletsky (see Labov and Waletzky 1967; Labov 1972), Fludernik (2023, 28) identifies a narrative episode to consist of an abstract, orientation, several episodes, evaluation and coda. The abstract signals that a story is to follow and often indicates its type or genre. The orientation portrays the setting and participants of the story. Episodes provide complicating action starting with an incipit and ending with a resolution: the event is thus set in motion and will lead to the protagonist resolving the crisis. The evaluation establishes the point of the narrative as well as its emotional stance. The coda reveals the larger significance of the narrative just told and often refers back to the theme of the abstract. These stages are not all present in every narrative, and their order may vary; in particular, evaluative comments may be spread throughout the narrative.

Material

In this research, we used a dataset drawn from a corpus of official records of Finnish parliamentary plenary sessions from the

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years 1980–2018 (Andrushchenko et al. 2021). The records were lemmatized and grammatically parsed with a dependency parser (Haverinen et al. 2014) according to the Universal Dependencies scheme (de Marneffe et al. 2021), enabling, for example, focused searches based on complex combinations of word stems and grammatical features. At present, there are no available off-the-shelf NLP tools to tag Finnish data with semantic information with sufficient accuracy and richness (note the complex genre of parliamentary rhetorics). To conduct meaning-oriented searches based on grammatical features of the sentences, we used a rule-based search tool Deptreepy (Ranta and Masciolini 2023), which provides a means to connect our semantic resource (lists of emotion and thinking verbs) to grammatical information of dependency parsed data. Deptreepy can search, for instance, for sentences with a particular verb as the core – the "root" in the Universal Dependencies framework – and placed in any specified tense and person. Comparative analyses provided in the next section are based on searches conducted with Deptreepy.

To establish whether the methodology based on detecting explications of emotion and cognitive processing is able to recognize narratives in plenary speeches, we reused an existing dataset. It had been created for testing a rule-based narrative detection algorithm developed for political speech and extended with a complete narrative annotation from a previous study (Hatavara et al. 2024). In this dataset, the annotation guideline could be described as event-based, with three operationalized conditions for a narrative segment and a focus on narrative connection (Hatavara et al. 2024, see also Appendix 1). Consequently, explications of experiences, emotions or cognitive processing were not directly incorporated into the interpretative framework steering the annotators (cf. Sandberg et al. in press). The dataset consists of a random but balanced sample of 60 full plenary session records (1999–2018), categorized into non-narrative and narrative segments by manual annotations. In total, the dataset contains 206 narrative segments (median per document 2; average 3.4) of different length. All official plenary session records of the Finnish parliament are open access published in their web service and available also in Parlamenttisampo (Hyvönen et al. 2024); the list of records included in the dataset is provided in Appendix 2.

Data analysis and results

The first step in the analysis was to locate all sentences with target verbs (emotion and thinking verbs) recorded in the plenary speeches. The searches were conducted with Deptreepy from the source files in CoNLL-U format, that is, original texts with metadata passed through the dependency parser, using commands such as

cat file.conllu | ./deptreepy.py 'from_script ./data/tunneverbit.oper | extract_sentences' > ./results/file.txt

The example command retrieves all sentences from the file that include a verb in a given list. A comprehensive set of example queries can be found in Ranta and Masciolini (2023). The occurrences were then systematically analyzed and compared with the manually annotated narratives within the same plenary session records. The comparative analysis in this article divides the dataset into three categories:

- segments annotated as narratives that include target verbs;
- segments annotated as narratives that do not include target verbs;
- segments that include target verbs but were not annotated as narratives.

The comparison showed that 89 percent of the annotated narratives include one or more target verbs. This result strengthens the key finding from a study of a guided sample of parliamentary records, where occurrences of emotion and thinking verbs were systematically observed (Sandberg et al. in press): annotated narratives that include target verbs are prevalent, while a selection of emotion verbs and changes in other mental states proved promising as signposts of narratives. Annotated narratives that do not include target verbs were expected (since natural language use is varied, as are narratives themselves), yet proved occasional and infrequent. In these occurrences, experientiality was often present via other lexical choices and constructions than finite verbs, and verbs of perception and speech acts (also indicative of parliamentary narratives) were still likely to occur. A qualitative comparison revealed such types of reported events or reported speech where the MP holds a rather distant stance toward the told event, yet the segment still meets the criteria of a narrative utilized in the original study. Another limitation of the comparison is that some of the annotated narratives in this dataset are considerably long, therefore some of the frequent target verbs are likely to occur within them without necessarily being central to narrative detection.

As the definitions of narratives vary across the studies and methodologies of extracting narrative material from different textual genres, methodological comparison is not straightforward. From the viewpoint of narrative studies rooted in social sciences and the humanities, many of the phenomena studied under the umbrella term of computational narrative research do not meet the criteria of any conventional definition of narrative (see Hatavara and Toikkanen 2019, 134–6). Moreover, the shapes that narratives assume in deliberative and persuasive parliamentary rhetoric have turned out to be distinctive in terms of linguistic features. Even if there were tools to handle textual data in Finnish richly enough to follow narrative extraction pipelines, as previous studies have shown, the feature space of narratives likely has different distributions in different genres (Piper and Bagga 2022).

Further analysis of the data reveals that annotated narratives are of three types according to the nature of the change of state expressed in the speech. Firstly, expressed change takes or has taken place in someone's mental or attitudinal sphere. Particularly, speeches that refer to past events are typically clear occurrences of narratives. Secondly, references to a future state (foretelling and foreshadowing) are equally indicative. The experiencer can be the MP themselves, a collective they belong to or represent in the current debate, or someone, a citizen, whose voice is brought into the plenary session. Thirdly, situations where an MP states their personal and current emotion or attitude toward a topic or view expressed in the speech situation (often quoting or interpreting another MP's recent speech) indicate different kinds of rhetoric.

In Example 1, MP Östman explicates two changes of mental state (verbs bolded), one among the parliament and another among the citizens.

(Translation into English is provided after the quotation.)

"*Arvoisa puhemies! Tämä on hyvä aihe, josta on syytä keskustella, että voisimme vähentää vastakkainasettelua tulevaisuudessa kaupunkien ja maaseutukuntien väliltä. Itse tulen Pohjanmaalta, ja tuoreissa mittauksissa on hyvin monta kuntaa siellä, nimenomaan ruotsinkielisellä Pohjanmaalla, jotka onnellisuusmittauksissa pärjäsivät tosi hyvin. Pääosin meidän elinkeinoelämä voi hyvin, työllisyysaste on hyvä, ja siellä on kuntia, joissa työttömyys on tosi alhaisella tasolla — joku on sanonut, että siellä ovat ihmiset enemmän töissä itse asiassa kuin he haluaisivat. Mutta sitten on*

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joitakin asioita, mitkä pilaavat myös meidän onnemme. ***Olette varmaan huomanneet*** *viime aikoina, kun on uutisoitu siitä, miten sudet liikkuvat ihmisten pihoilla ja jopa koulu- ja lastentarha-alueilla. Tätä tapahtuu nyt toistuvasti useimmissa kunnissa ja kaupungeissa, ja mihin tämä johtaa?* ***No, se johtaa siihen, että ihmiset alkavat pelkäämään****. He eivät uskalla päästää lapsiaan leikkimään yksin ulos. He eivät uskalla päästää lapsiaan kouluun vaan joutuvat nyt joka aamu ja iltapäivä kuskaamaan lapsiaan kouluihin tai lastentarhoihin. Tämä on suuri haittaava tekijä ihmisille, jotka haluavat asua maaseudulla.*"

(Peter Östman (The Christian Democrats), 2018/Parlamentti-sampo: http://ldf.fi/semparl/speeches/s2018_1_026_020)

"Respected Speaker! This is a good topic, and worth discussing in order to mitigate the juxtaposition between cities and rural municipalities in the future. I myself come from Ostrobothnia, and the recent surveys indicate many municipalities there, specifically in the Swedish-speaking Ostrobothnia, that did very well in the [World] Happiness report. Our trade and industry is doing mostly well, the employment rate is good, and there are municipalities where unemployment is at a really low level – someone has said that people there actually work more than they would like to. But then there are some things that taint our happiness, too. **As you probably have noticed** in recent times, it has been covered in the news that wolves are moving around people's yards and even on school and kindergarten grounds. This is repeatedly happening now in most of the municipalities and cities, and where does this lead? **Well, it will lead to people getting scared.** They won't dare to let their children play outside by themselves. They won't dare to let them go to school, but end up now having to drive their children to school or kindergarten every morning and afternoon. This is a major drawback to people who want to live in the countryside."

This example is framed by an abstract and a coda: after addressing the Speaker of the parliament, MP Östman introduces the theme and its significance in an effort to mitigate juxtaposition between cities and the countryside, thus forming an abstract. The last sentence of the extract returns to those in the countryside and provides the coda.

The abstract is followed by the orientation portraying the Swedish-speaking Ostrobotnia. This abstract includes evaluative parts, since the region is portrayed as one of the happiest and with a thriving economy. Complicating action is signalled with a "but": some things taint the happiness. The audience in the parliament is brought into testifying this, as Östman addresses them by saying "As you probably have noticed." The actual complication is embedded into what the MPs have noticed in the news reports: wolves prowling around people's backyards and even schools and kindergartens. The wolves' presence results in a further complication: people are afraid and children are therefore confined indoors if not driven to places by their parents. Evaluation is indicated with the repeated reference to people getting scared as well as the verbs "dare" and "having to." This explicates the negative impact the presence of wolves has on people in the countryside.

This example provides all other elements of a narrative besides resolution. This might be due to the nature of discussion this speech is part of: it is a discussion on topical issues in regional development, policies on cities, the countryside and subregions. Hence, no actual motions for laws or policies are debated, which might exclude the need for a precise point.

In example 2, MP Kantola uses several signposts of narrative, for example, the verb "remember" to address fellow MPs and the phrase "we strongly felt" to explicate a shared experience in the past Parliament. Also in this narrative, a storyworld experience of a collective (nurses) is worded as a significant change of state (aroused perception).

"*– — 2007, jolloin olin ensimmäistä kautta, ensimmäistä vuotta eduskunnassa, syksyllä oli aika kovat ajat.* ***Muistatte*** *tämän hoitajien työtaistelun, joka liittyi siihen, että* ***hoitajien piirissä oli syntynyt käsitys****, että eräskin meidän eduskuntapuolueista oli luvannut vahvaa palkankorotusta ja etuisuuksien kasvattamista hoitajasektorilla. Tästä sukeutui sitten ankara työtaistelu, joka oli omiaan, niin* ***koimme vahvasti silloisessa eduskunnassa****, vaarantamaan jopa kansalaisten, hoidossa olevien ihmisten terveyden, jopa hengen. Siinä tilanteessa sitten meillä — tänään on vähän kerrattu sitä keskusteluissa — useampikin valiokunta istui joko pyhänä tai yötä päivää saadakseen nopeasti sellaisen lainsäädännön voimaan, jota tarvittaessa voitaisiin käyttää niin, että kansalaisten terveyden vakavalta vaarantamiselta ja hengen menetykseltä voitaisiin välttyä pakottamalla lain nojalla jotkut hoitajat hoitamaan tehtäviään, vaikka työtaistelu olikin päällä. No, koskaan tuota lakia ei jouduttu soveltamaan. Onneksi työtaisteluun löytyi sitten muunlainen ratkaisu.– "*

(Ilkka Kantola (Social Democratic Party), 2015/Parlamentti-sampo: http://ldf.fi/semparl/speeches/s2015_1_042_248)

"– In 2007, when I was in my first term, my first year in the parliament, we had pretty hard times during the fall. **You remember** this industrial action of nurses that was related to a **perception that had emerged among nurses** that a certain parliamentary party had promised a significant salary increase and improved benefits for the care workers. This resulted in a severe industrial action which was likely, that's how **we strongly felt it in the parliament at the time**, to even endanger the health, even life of the citizens who were in care. In that situation then we had – today we have gone over this a little in the discussion – multiple committees sitting either on Sunday or night and day in order to quickly enact a law that could be used when needed in order to avoid severe endangering of citizens' health and loss of life by forcing, by law, some nurses to perform their duties even during ongoing industrial action. Well, applying that law was never resorted to. Luckily, another kind of solution was then found for the industrial action."

This second example, too, has a clear narrative frame: the orientation states that a story about hard times is to follow, and the coda implies that the hard times, luckily, did not force the parliament to resort to rough measures. The orientation is also clearly explicated in the second sentence. Throughout the episodes to follow, two story lines take place at the same time: the nurses who were on strike and the MPs who worked night and day to introduce new legislation to end that strike. These episodes have the same incipit, misunderstanding about significant pay rises having been promised to the nurses. The complicating action consists, on the one hand, of the nurses allegedly endangering people's health and even lives, and on the other hand, the MPs experiencing this danger very acutely and rushing into preventive action.

Evaluation is strongly signaled throughout the episodes about the nurses striking and the MPs trying to prevent the dangers introduced by the strike. This is evident throughout the detailed portrayal of the worry the MPs had. For example, the serious endangering of health and life is mentioned twice. Even though MP Kantola amply describes how himself and other MPs worked hard to resolve the crisis, the narrative reveals that a resolution came from elsewhere.

This narrative strongly emphasizes how Kantola and the others in the parliament experienced the past happenings as they were living through them. Again, the audience in the parliament is brought to witness what happened: the second sentence refers to how "you

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remember" the strike. Thus, the parliament at the time of the talk is invited to imagine how it felt in the past for the parliament to be faced with such a situation the strike provided. Action is portrayed, but it does not lead to a resolution, and therefore this narrative is more about living through a crisis than portraying events leading from one to another.

The methodology of filtering excerpts by indicative semantic verb classes and grammatical forms (considering tense and person) is sufficient to capture this type of parliamentary narratives. Systematic semantic classification and a wide range of target verbs ensure a comprehensive coverage of the data. The search returns occasional non-matching findings, but these can also be considered fruitful for the study of diachronic changes in parliamentary rhetoric. Together with the matching narratives, they form a sediment of explicated experience of change, where narratives can be reflected upon.

The other two indicative types of narrativized change of state, references to future states and expressions of personal attitudes and emotions, turned out to be only partially accessible with the methodology adopted in this study. In the former type, the explicated change of state is more concrete. It can be expressed with a temporal expression of sudden transition or a comparison between points in time. This subgroup already overlaps with the rich and multiform, frequently used more general rhetoric of abruptness, rupture and contrast. However, these narratives often also include an expression of emotional or cognitive processing, which is the reason why the method detects them with decent accuracy. The latter type turned out to be too implicit and complex to access with a method built on purely pragma-semantic features. In these cases, MPs only signal the elements that constitute the fundamentals of narrative.

Discussion and conclusions

This study set out to examine and evaluate how effectively tailored semantic resources of verbs can be used to detect narratives in political talk. Our findings attest that experience of change and action is overtly explicated in narratives in the case of argumentative language. Since experience of how it felt to live through the events portrayed is used to argue for a point, it is clearly articulated. In the concise parliamentary rhetoric, the crucial element of change is also less implicit, which enables the operationalization of experientiality and change via verb semantics and grammatical information. Perhaps the most important finding is this evidence of linguistic features of narratives in persuasive genres that differ considerably from previous works on different genres. What is more, our examples suggest that experientiality is not only portrayed in the story told but also brought to bear on the situation of the telling. This doubles and, in the case of our second example, even triples the layers of experiencing: the nurses acting on misguided expectations, the MPs reacting to the strike at the time it took place and the audience of the MP's talk who is invited to remember all this. Lessons learned from the events told suggest a direction for MPs' action in the present.

Narratives always have a dual temporality: the time of the telling and the time of the told (Abbott 2002). In an argumentative setting such as the parliament, these temporal points and their experiential stances become highlighted: it is the lesson of the story – the coda in narrative structure – which is the reason for using narrative in the argumentation. The small stories research paradigm seeks to widen the scope of potential relations between the times of the telling and of the told: instead of retrospective stories, this approach also pays attention to future and hypothetical stories. In our examples, the story events are either in the past (example 2) or still evolving (example 1). In the case of the evolving story, references to the future harm are meant to convince the MPs of the speaker's point of view. In both cases, the communicative situation of the telling is experiential, too, and this experiential frame is evoked by verbs of cognition ("to notice" and "to remember").

Our example narratives are short in length. Still, they include almost all parts of the classical episodic narrative structure in conversational storytelling. The shortness is probably a consequence of the institutional setting: since the length of the talk is regulated, the narrative that is a part of it must be concise. At the same time, both examples we analyzed leave the resolution of the portrayed episodic events implicit. The meaning of the narrative is situational and relative to the entire agenda item the parliament is discussing. Evaluation is expressed throughout the narratives and the coda is explicated at the end, but the concrete resolution of the episodes portrayed depends on the context of the discussion. This also emphasizes the need for the parliament to act in order to resolve the disruption introduced in the narrative.

The findings of this study also make several methodological contributions to the current field of narrative recognition. It develops the methodology for narrative detection with a reasonably straightforward implementation for low-resource languages. Both the framework of Universal Dependencies (de Marneffe et al. 2021) and applications of aforementioned theories of lexical argument structures and event structures, which enable a systematic verb classification, are suitable for a wide variety of languages. The current study was a qualitative approach to deepen the understanding of the ways the element of change is narrativized in parliamentary rhetoric. As such, it is limited by the absence of further testing and tuning to discover the optimal set of verbs and their forms for this particular dataset. Instead, it proved that verb semantics are an effective methodological approach, albeit dependent on genre and narrative definition. Since language use varies in different situational contexts, the semantic resource needs to be tailored to the target genre as well as the theoretical foundation and definition of narrative in a given study.

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Data availability statement. All parliamentary records of the Finnish Parliament are open access published in their web service (https://www.eduskunta.fi/EN/) and available also in ParlamenttiSampo (https://seco.cs.aalto.fi/projects/semparl/en/). The list of the records included in the dataset is provided in Appendix 2. Annotation guidelines for narrative annotation are published in Hatavara et al. (2024) and are also provided in Appendix 1. Semantic verb classifications are published and accessible in Zenodo (Sandberg and Andrushchenko 2025). References to the essential tools (Turku NLP dependency parser and Deptreepy) are provided in the bibliography.

Disclosure of use of AI tools. We have not used any AI or AI-assisted technologies to prepare this work.

Ethical standards. The authors affirm that this research did not involve human participants.

Author contributions. Writing and reviewing the article: K.S., M.A. and M.H. All authors approved the final submitted draft (https://credit.niso.org/implementing-credit/).

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Appendix 1

Three necessary conditions for a text segment to be identified as a narrative (Hatavara et al. 2024):

1. The speaker portrays a sequence of events, which are located in another temporal point than the telling (double temporality).
2. These events are situated in a concretely discernible storyworld introducing a tension and a resolution to it (narrative connection and meaningfulness).

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3. The events are either a) connected with each other by an experiencing point of view of a character or a group (living through the events) or b) portray a mind other than the speaker's in a manner disclosing the thoughts, feelings and aspirations of another person (evocation of experience).

The options for the third criterion allow for several types of participation and relations the teller might have toward the mediated experience.

Appendix 2

List of 60 plenary sessions included in the annotated sample: Plenary session transcripts are published by the records office of the Finnish parliament and can be openly accessed by changing the year and document number in the following link:

https://www.eduskunta.fi/FI/vaski/Poytakirja/Documents/PTK_87+1999.pdf

The same records with rich metadata are also available via the Parlamenttisampo portal: https://parlamenttisampo.fi/fi/

1999/087 1999/104 1999/123 1999/126 1999/129 1999/130 2000/008 2000/061 2000/064 2000/065 2000/079 2000/137 2001/083 2001/122 2001/132 2002/131 2002/184 2002/196 2003/036 2003/056 2003/099 2004/026 2004/095 2004/105 2005/017 2005/031 2005/041 2005/117 2005/120 2005/124 2006/019 2006/032 2006/140 2007/010 2007/059 2007/074 2007/083 2007/089 2007/095 2008/071 2008/095 2008/097 2012/045 2012/052 2012/091 2014/030 2014/085 2014/141 2015/038 2015/042 2015/051 2016/005 2016/021 2016/112 2017/047 2017/085 2017/115 2018/026 2018/034 2018/082.

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