

Narrative and the Immunization of Worldviews: Toward a New Research Paradigm

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Abstract

Political discourse in the US is increasingly affected by polarizing narratives. Appealing to emotion, they devalue argumentation based on facts, evidence, and rationality. The paper holds that such narrative worldmaking can affect worldview dynamics in negative ways. It introduces the concept of narrative immunization to account for our ability and willingness to filter and process information to fit existing beliefs, desires, preconceptions, biases, and prejudices. In its most extreme form, narrative immunization affects the dynamic nature of worldviews, and stops interlocutors from creating common ground. Linking Possible Worlds theory with narratology, the authors argue that narrative affirmation is an immunization mechanism designed to protect listeners from the perceived complexity of their world view by providing narrative connections rather than logical laws, to link the AW with Alternative Possible Worlds (APW). Thus, the principle of non-contradiction is replaced by networks of stories whose truth value can never be ascertained.

Keywords

narrative, possible situations/worlds, immunization of worldviews, political discourse, common ground, questions

1. Introduction

The current political climate has been described as a “permacrisis” [1] (Brown, El-Erian, Spence 2024) or “polycrisis” (Albert 2024), characterized by instability and insecurity. Democratic opinion-making and will formation come under pressure: the complex system of checks and balances which characterizes US democracy gives way to societal division and political tribalism. These changes, which also can be felt in Europe, affect the “narrative ecologies” [2] (Caracciolo, Gebauer, Sommer 2023) of democratic publics. New “strategic narratives” [3, 4] (Miskimmon et al. 2013, 2017) and “counter-narratives” [5] (Lueg and Lundholt 2021) emerge, changing the “narrative dynamics” [6] (Sommer 2023) in the public sphere. However, the global polycrisis also affects, and is fueled by, post-truth mindsets and narrow-minded worldviews. The toxic debates dominating Western publics create obstacles to meaningful argument, constructive dialogue, and fair compromise.

Coming to terms with this polycrisis of communication requires a new cross-disciplinary research paradigm, which combines the frameworks and methodologies of various disciplines studying communication in the humanities and social sciences. This paper seeks to contribute to such a joint venture by starting a conversation between narrative research and linguistics, especially the field of formal semantics and Possible Worlds Theory (PW theory). We hold that these approaches offer complementary perspectives on what we call an immunization of worldviews. The goal is to demonstrate how disciplinary approaches can establish common ground, in order to advance our understanding of the challenges to democratic discourse.

The paper first juxtaposes wide-spread definitions of narrative and narrativity to overcome the ambiguities in narrative research and provide a terminology for the conceptual framework (section 2).

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The central concept is *proposition*. Belief systems represent sets of propositions [7] (Hintikka 1969). Every *belief* of a person α corresponds to a proposition – the *epistemic/doxastic system* of α . Similarly, every *wish* this person has corresponds to a proposition – the *bouletic system* of α , every *hope* α has is expressible by a proposition – the *elpistic system* of α .

Angelika Kratzer has systematically related such proposition sets to the interpretation of modal expressions [8, 9] (Kratzer 1981, 1991). This approach allows for the theoretical characterization of the various components of the human mind. Their specific characteristics can be explicated by propositions that the individual *believes*, *wishes*, *hopes*, ... and can be related to propositions that characterize other contents.

A proposition itself can be understood as the set of situations (or possible worlds) that are appropriately described by it. An individual considers a proposition to be *true* if the situation one is talking about is an element in this situation set (world set). The assumptions about reality can be formally modelled well on the basis of the assumptions thus defined, so that one can observe how listeners are forced to update, modify, revise or even replace their world models.

We argue that narrative affirmation is an “immunization mechanism” designed to protect listeners from the perceived complexity of their worldview by providing narrative connections rather than logical laws, to link the assumptions about the AW with Alternative Possible Worlds (APW). Thus, the principle of non-contradiction is replaced by networks of stories whose truth value can never be ascertained. We further argue that a preference for subjective narrativity over more neutral discourse types such as argument, explanation, or description is part of the immunization mechanism whose ultimate goal is to reduce complexity by refusing to engage in questioning the properties of the AW.

Finally, the paper proposes a preliminary two-stage model (encoding and processing information) which illustrates how strategic manipulation through narrative framing may work in real life (section 4). We then discuss the relevance of our approach for gauging narrative success. Recent research in computational linguistics [10] (Knight, Rocklage and Bart 2024) focuses more narrowly on story success, focusing on dramaturgy, especially the number and quality of narrative reversals or turning points. Experimental research in communication studies has demonstrated that narratives are processed more fluently than non-narratives, and that providing (in our terminology: encoding) information within a narrative format eases processing which, in turn, makes narrative persuasion more likely [11] (Bullock, Shulman and Huskey 2021). The findings of the Horizon 2020 project BRIDGES suggest, in contrast, that narrative success depends on two quantitative, rather than qualitative, parameters: pervasiveness and transformativity [12] (Garcés-Mascareñas and Pastore 2022). This approach explicitly allows for “asymmetrical configurations of narrative success. For instance, a given narrative may turn out as highly pervasive (maybe also across different communication spheres) but not deeply transformative, or only very selectively so”.

We hold that from a PW theory perspective, other factors should be taken into consideration, too. Most importantly, the autonomy of the assumptions about the AW, i. e., its immunity to questioning and change, functions as a gate-keeper, allowing only compatible “knowledge” to pass, whereas counter-narratives are denied access.

Narrative proliferation (our measure for narrative success) thus depends on the compatibility of narratively encoded PW with assumptions about AW rather than rational coherence between them, or the truthfulness or (logical) possibility of propositions constituting them. This explains how science denial, conspiracy theories, fake news, or disinformation can efficiently bypass the established standards of knowledge-production (rationality, evidence, transparency etc.), using narrative framing as a Trojan horse.

2. Narrative and Narrativity: Notes on Terminology

The meaning of narrative has been extended significantly since the 1990s. Seymour Chatman, a pioneer of structuralist narratology, considered narrative as a text type or discourse type. William Labov, Shlomith Rimmon-Kenan and Gerald Prince, in contrast, defined narrative as “the representation of

at least two real or fictive events (or one state and one event), neither of which logically presupposes or entails the other” [13, 58] (Prince 2003: 58). Literary theory considers narrative a genre, to be distinguished from poetry or drama, or as a semiotic object which is independent from the medium of representation and can take the shape of a book, a film, or a podcast. Cognitive narratology, in contrast, puts the recipient’s perspective center stage, defining narrative as a cognitive template for producing mental representations of storyworlds [14] (Herman 2002) grounded in “experientiality” [15] (Fludernik 1996).

Today, the term *narrative* refers to at least four fundamentally different phenomena which are, however, often mixed up in storytelling research. In the English language, the use of the indefinite article, no article, no article plus capitalization, or the definite article in conjunction with the noun indicates the difference. The German language, in contrast, uses different words (Erzählung, Erzählakt, Erzählen, Narrativ) to mark the distinction, yet terminological confusion can’t fully be avoided either. As there is no universally accepted definition, explications of narrative and narrativity have always been a core element of narratological discourse. However, significant progress has been made in both formal and functional respects; the fact that we can now distinguish clearly between different aspects demonstrates not only the complexity of the challenge, but also the sophistication of narratological responses.

2.1. A Narrative: A Semiotic Object

This is the most common meaning of the word *narrative*. It designates a semiotic object such as a novel or a short story belonging to a specific class of objects or genre: in literary classification systems, the epos has been distinguished, since Aristotle, from poetry and drama. A synonym often used in this context is “story”: all stories are narratives. It should be noted, however, that the opposite is not true: not all narratives are stories belonging to a specific class of literary texts, but they all tell stories. In other words: Storytelling is a specific form of communication which, in its most basic variant, is characterized by a representation of events and happenings [16] (Martínez 2017). As such, it is not tied to specific genres, media, or contexts, but may occur in everyday conversation as well as in all sorts of non-literary semiotic objects, for instance films, Persian carpets, or stone-age cave paintings. While some have argued that one should also include video games in this list, the narrativity of a video game resides in the user experience. Video games may rely on narrative comprehension, but they neither “are” nor “tell” a story. Thus, they may be narrative, but not “a” narrative. The distinction between semiotic objects that “are” stories (i. e., certain kinds of literary texts) and that “tell” stories lies at the core of narratological definitions of “narrative proper” [17, 344] (Ryan 2005, 344). What exactly properness means, with respect to narrative, remains unclear.

This paper adopts the distinction between necessary and sufficient conditions of narrativity proposed by Martínez [16, 3f.] (Martínez 2017b: 3f.). Martínez starts with a minimal definition of a narrative as a representation of events (*Geschehensdarstellung*) which reduces representation to mere referentiality, without specifying the means or medium, and contains three necessary features: (1) concreteness (other than cooking recipes or similar instructions, which may represent events in a general manner, narrative events must be specific; thus, narrative propositions use finite verb forms rather than infinitives often found in instructive texts); (2) temporality (narrativity presupposes a temporal order of represented events and happenings); and (3) contiguity (events must be related spatially, temporally or causally, for instance by means of anaphoric cohesion).

Martínez further holds that this minimal definition contains only necessary, but not all sufficient features needed to distinguish narratives from non-narrative forms of representation. He identifies nine sufficient features, i. e., double temporality, mediation, causality, intentionality, totality, eventfulness, experientiality, tellability, and conversational constraints. These sufficient features are optional variables which can appear in various combinations, depending on the medium and context: The list of sufficient optional features is only a starting point; Martínez emphasizes that his definition, which can be reduced to a simple formula with one variable, is designed to be expanded:

1. a narrative is a representation of events (*Geschehensdarstellung*) + X.¹

This open-endedness ensures forward compatibility (on the notion of forward, backward and sideways compatibility in narrative theory see [18] Sommer (2017)). In section 4 we will propose that X may also be considered as a reference to PWs, here understood as products of processes of narrative encoding and decoding, such as storytelling (resulting in a narrative) or narrative framing of messages (resulting in the narrative).

2.2. Narrative: A Text Type

Seymour Chatman [19], a pioneer of structuralist narratology in the US, first observed the conceptual ambiguity mentioned above: “‘What is Narrative?’ is not the same question as ‘What is a narrative?’” (7). He argues in favor of a discourse-type approach derived from rhetoric or text linguistics (capital letters are used to indicate a discursive rather than generic meaning): “It is customary to distinguish Narrative from three other text-types: Argument, Description, and Exposition.” (7) One should note that these text types rarely occur in isolation; instead, narrative texts tend to blend them in a hybrid fashion. Chatman proposes the concept of “textual service” (1) to explore how various text types are integrated within what he calls the “Narrative framework” (ibid.), supporting each other in various ways. For Chatman, the specific quality of Narrative, which sets it apart from other text types, is its double temporality or “chrono-logic”.

2.3. Cognitive Construct: Narrative

In this meaning, the word “narrative” designates a certain kind of cognitive activity or process generating mental models [20] (Johnson-Laird 1983) or discourse models. This process, initiated by semiotic objects (stories) and making use of Narrative (text type), is best described as “storyworld construction” [14] (Herman 2002). Storyworld, a term proposed by cognitive narratologist David Herman, refers to “the class of discourse models used for understanding narratively organized discourse” [21, 569] (Herman 2005, 569). In Story Logic [14] (Herman 2002) this innovative concept, now generally recognized, is used to introduce what Herman described as “postclassical” narratology. Storyworld construction includes forming mental models of characters [22, 23] (Schneider 2001 and 2013) and spaces [24] (Ryan 2013), probability design and perspective-taking [25] (Nünning 2014), predictive processing [26] (Kukkonen 2020), and an ongoing negotiation of primacy and recency effects.

Thus, storyworld construction should not be equated with the creative activity of writing, composing, or constructing a story (i. e., narrative encoding), drawing on story schemata and narrative grammar, but with narrative comprehension or decoding, which requires considerable cognitive efforts. Using semiotic cues provided by a text (e. g., a novel), audio (e. g., a podcast or audio book), or audio-visual information (e. g., a film), readers imagine worlds, make inferences about characters’ actions, and predict narrative progression or turning points in the plot. A related term, often used as a synonym for storyworld construction, emphasizes the focus on the recipient: narrative can be considered as a “way of worldmaking” [27] (Nünning 2010). The “world-creating properties of narrative worldmaking” (Herman 2009, 71) [28, 71] (Herman 2009: 71) will be discussed in section 4.

2.4. The Narrative: A Message

With the definite article, narrative means a kind of message, i. e., a series of talking points forming a coherent frame of reference, in the context of storied communication, for instance in political discourses (e. g., government policies), corporate communication (narrative ecologies) or advertising (branding narratives). In his paper “What is ‘The Narrative?’”, [29, 71] Dawson (2023, 71) defines this as “a discursive site of contestation over the meaning of facts”; the competitive nature of contestation is expressed in ubiquitous phrases like “controlling the narrative” and “changing the narrative”, “both commonly evoked in the service of political and activist campaigns” (72). The narrative really is little

¹See [18] (Sommer 2017).

more than “a rhetorical shorthand for the daily news cycle of collective media outlets that both shapes and expresses public opinion” (ibid.).

From a narratological perspective, this is clearly the most under-defined usage of the word. This is not to say, however, that it should be ignored by narrative theory. On the contrary, “the” narrative and its associated counter-narrative-dynamics is a post-democratic challenge to the conception of the public sphere, closely associated with traditional media and pluralist democracy in the Habermasian tradition. As such, it warrants further investigation. What is more, it is an exciting theoretical challenge for narratologists interested in the communicative functions of narrative, as “the” narrative integrates cognitive, rhetorical, linguistic and technological dimensions in unprecedented ways (technology is important as “the” narrative is largely a product of political or corporate storytelling campaigns).

An example is Donald Trump’s so-called MAGA narrative: “Make America Great Again” is neither a narrative (semiotic object) nor Narrative (text type), but it allows readers to instantly imagine a series of possible worlds which seem more attractive than the actual world they are living in (e. g., imagining a past with lower unemployment, less inflation, a more stable financial market, and an unchallenged status of America as the only military super-power). Why are such narratives so pervasive? In narrative communication, storyworld construction is usually triggered through narratives making use of Narrative. The narrative, however, short-cuts the storytelling process by forms of conceptual transfer which, we hold, are best described within the framework of possible worlds theory.

“Make America Great Again” (MAGA) resonates with the actual world of Trump supporters. More precisely, MAGA resonates with the world model experienced by Trump supporters as actual: a dystopian world with an economy plagued by recession and inflation, high immigration rates, competing superpowers, Chinese influence etc. In addition, MAGA conjures up several possible worlds: a great past, in which America ruled the world, a great future, in which Trump’s promises will have come true, and a bad counter-world, ruled by Democrats and progressives, in which Trump is merely a convicted felon, notorious liar, incompetent politician, and threat to democracy.

What is more, the narrative is also designed to bridge the gap between political PW and private PW, cueing voters not only to imagine a greater nation but also to remember corresponding private stories (e. g., their own family history, happy memories, better times, former aspirations etc.). Thus, a simple prompt or appeal like MAGA can initiate a series of mental models activating networks of storyworlds constituting PWs. We call this process narrative proliferation.

3. Possible Worlds Theory (PW Theory) and the Immunization Mechanism

In this section, we present a concept that allows us to formally describe the central properties of sentences. It is based on possible worlds semantics, which has been developed in the context of analytical philosophy and modern semantics research over the last century. The core concept is the linguistic *proposition*. A proposition corresponds to the *thought* expressed by a sentence, as Gottlob Frege proposed [30] (Frege 1919). He explains the relation between a *thought* and the *assertion of its truth* with the progression from thought to judgement. In order to get an understanding of this conception, let us look at Frege’s analysis of the judgement. In his considerations about the thought, Frege has pointed out that an assertion consists of various acts:

2. “We expect to hear ‘yes’ or ‘no’. The answer ‘yes’ means the same as the declarative clause, because it claims that the thought, which is entirely contained in the question, is true. Therefore, it is possible to form a question from every declarative clause. [...]

thinking	–	the capturing of the thought
judging	–	the acknowledgement of the truth of the thought
claiming	–	the announcement of the judgement.

By forming a yn-question, the first act is already achieved.”² [30, 35] (Frege 1919:35)

The thought in Frege’s approach corresponds to the notion ‘proposition’ which induces a bipartition of the set of possible world-time-pairs. The thought in this sense can be true or false. It partitions the set of all possible situations into two classes: Those situations at which the proposition is true, and those at which it is false. The thought is therefore on a par with a yn-question.

In semantics, a proposition is usually identified with the set of situations at which the proposition is true. But this is not the point of view Frege proposes. Instead, he claims that it is the *judgement* that corresponds to the set of situations at which the proposition is true. This means that the act of judging is a further necessary step to reduce the bipartitioned set to the class of those situations at which the proposition is true.

From this point of view, the assertion of truth is relative to the judgement of a speaker.

Because judgements in all natural languages are expressed by declarative clauses, it is worthwhile analyzing their semantic properties and their relation to truth a bit closer. *Declarative*, *interrogative* and *imperative* clauses appear in all languages of the world [31, 32] (Sadock & Zwicky 1985, König & Siemund 2007). Only declarative and interrogative clauses are related to the *epistemic/doxastic* domain, while imperatives express wishes of the speaker, which is why they must be assigned to the *volitional/bouletic* domain. See [33] for further elaboration. In the following we concentrate on the propositions which occur in declarative and interrogative clauses. Their properties seem to play a crucial role for the world view of individuals, insofar as they are influenced by verbal expressions.

PW theory provides a theoretical framework for explicating these relationships in more detail.

The idea of “possible worlds” goes back to Gottfried Wilhelm Leibniz (1646–1716), who tried to defend the idea of God’s omnipotence in the face of the evils in the world, by proclaiming that humankind lived in the best of all possible worlds.

However, it was Rudolf Carnap [34] who formulated a mathematical-logical calculus, in which the concept of *Sinn* and *Bedeutung* developed by Frege [35] lead to the terms *Intension* and *Extension* to achieve a precise explication. In Carnap’s conception, an intension of a linguistic expression α is a function from possible world/time pairs $\langle w, t \rangle$ into the extension of α at a specific world/time point $\langle w_i, t_i \rangle$:

$$1. \text{Int}(\alpha)(\langle w_i, t_i \rangle) = \text{Ext}(\alpha) \text{ at time } t_i \text{ in world } w_i$$

A proposition corresponds to the thought expressed by a sentence. For this intensional concept (the *proposition* p) the following holds: $p(\langle w, t \rangle) \in \{\text{true}, \text{false}\}$, i. e. a proposition can be true or false.

Possible worlds are, however, fairly large objects. The situation semantics of Jon Barwise and John Perry [36] introduces the concept of *situation* into semantic theory. Situations are usually smaller than whole worlds. Sentences characterize situations. Situations are the *minimal* truth domains of propositions. Angelika Kratzer combines the semantics of possible worlds with the semantics of situations [37] (Kratzer 2017). Accordingly, a possible world represents an algebra of possible situations. Situations can in turn consist of partial situations. A *maximal situation* is a possible world, which ensures that no situation can belong to different possible worlds. In the following, we refer to possible situations in this very sense.

According to that, a sequence of sentences, as is typically the case with texts, narratives, etc., build a set of propositions. Since propositions in turn denote sets of situations, a set of propositions denotes a set of sets of situations (the situations all the respective propositions accurately describe). In order

²Original text from Frege (1919:35): [...] so erwarten wir bei Satzfragen ‘ja’ zu hören oder ‘nein’. Die Antwort ‘ja’ besagt dasselbe wie ein Behauptungssatz; denn durch sie wird der Gedanke als wahr hingestellt, der im Fragesatz schon vollständig enthalten ist. So kann man zu jedem Behauptungssatz eine Satzfrage bilden. [...]

das Denken	–	das Fassen des Gedankens
das Urteilen	–	die Anerkennung der Wahrheit des Gedankens
das Behaupten	–	die Kundgebung dieses Urteils.

Indem wir eine Satzfrage bilden, haben wir die erste Tat schon vollbracht.

to characterize the set of situations that are denoted by all propositions in this set, the *intersection* of the respective situation sets has to be calculated.

To illustrate the concept, let us look at an (rather idealized) example:

2. a) Let the three propositions denote the following sets of possible situations:

i. $\llbracket p_1 \rrbracket = \{s_1, s_2, s_3\}$

ii. $\llbracket p_2 \rrbracket = \{s_2, s_3, s_4\}$

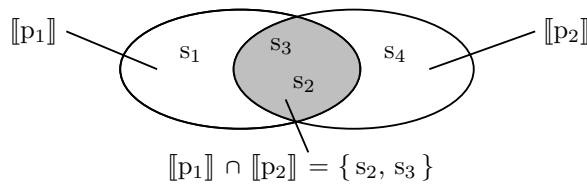
iii. $\llbracket p_3 \rrbracket = \{s_3, s_4, s_5\}$

- b) In order to determine which situations the propositions $p_1, p_2, \dots, p_n$ together (i. e. under conjunction) appropriately describe, the *intersection* between their denotations needs to be computed:

$$\llbracket p_1 \wedge p_2 \wedge \dots \wedge p_n \rrbracket = \llbracket p_1 \rrbracket \cap \llbracket p_2 \rrbracket \cap \dots \cap \llbracket p_n \rrbracket$$

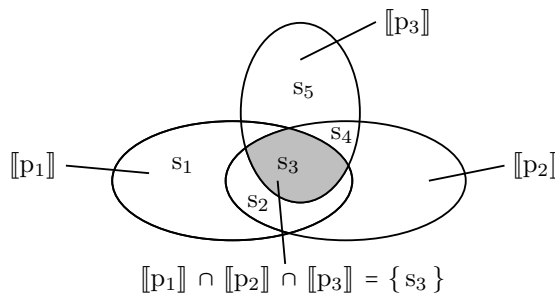
- c) p_1 and p_2 from (2a) are true together in the following situations:

$$\llbracket p_1 \wedge p_2 \rrbracket = \llbracket p_1 \rrbracket \cap \llbracket p_2 \rrbracket = \{s_1, s_2, s_3\} \cap \{s_2, s_3, s_4\} = \{s_2, s_3\}$$



- d) And p_1, p_2 and p_3 are true together in the following situations:

$$\llbracket p_1 \wedge p_2 \wedge p_3 \rrbracket = \llbracket p_1 \rrbracket \cap \llbracket p_2 \rrbracket \cap \llbracket p_3 \rrbracket = \{s_1, s_2, s_3\} \cap \{s_2, s_3, s_4\} \cap \{s_3, s_4, s_5\} = \{s_3\}$$



The situation sets in (2a) are rather small for illustrative purposes. An adequate understanding of the concept is more appropriate with the assumption that these sets contain a very huge amount of (actually infinitely many) possible situations.

The picture becomes clearer if one imagines that all the propositions found in all books and texts in all the libraries of the world are unable to fully characterize exactly one world, for instance the actual world AW. Even in the set given by the intersection of all these propositions, there are still an infinite number of alternatives to AW.

Declarative clauses – according to widespread opinion in linguistics – express assertions which claim that the expressed proposition is true [38, 31, 39, 40, 41, 42, 33] (Bierwisch 1980, Sadock & Zwicky 1985, Altmann 1987, Brandt et al. 1992, Lohnstein 2000, Truckenbrodt 2006, Lohnstein 2019). Accordingly, a sequence of declarative clauses constitute a set of declarative sentences which corresponds to the set of the respective propositions. These sets have various properties.

3. Let P be a set of propositions:

a) P is *consistent*, iff $\bigcap_{p \in P} \llbracket p \rrbracket \neq \emptyset$, i. e. the intersection must contain at least one situation.

b) q is *compatible* with P , iff $P \cup \{q\}$ is consistent.

- c) q follows from P , iff $\forall s \in \bigcap_{p \in P} p$ it holds that $q(s) = \text{true}$, or in short: $\llbracket P \rrbracket \subseteq \llbracket q \rrbracket$, i. e. in every situation s in which all propositions from P are true, q is also true, which means that the set of situations in which q is true contains the set of situations in which all propositions from P are true.
- d) q is *informative* with respect to P iff $\#\llbracket P \cup \{q\} \rrbracket < \#\llbracket P \rrbracket$, i. e. q is informative if it reduces the set of situations determined by P . ($\#M$ is to be understood as the number of elements contained in M .)
- e) The *power set* $\mathcal{P}(M)$ of a set M is the set of all subsets of M .
- f) If S is the set of all possible situations, then $\mathcal{P}(S)$ is the set of all a priori possible propositions (or thoughts).

Dynamic semantics (see [43] Nouwen et al. 2022) describes meanings from the perspective of the dynamic change of information states IS through the addition of new information I . In this case IS is *updated* to IS' by I . This view of meaning belongs to the general scheme: $IS \oplus I = IS'$. Two principles need to be obeyed [44] (van der Sandt 1992):

- 4. a) $IS \oplus I \neq IS$ (informativity)
- b) $IS \oplus I \neq \emptyset$ (compatibility)

(4a) is the requirement, that the information I is in a sense new, i. e. I is not already included in IS . (4b) says that the added information must be compatible with IS , i. e. for instance, that I must not contradict information from IS .

A notion from dynamic semantics is *common ground* CG [45, 46, 47] (Stalnaker 1978, 2002, 2014). It is the set of propositions on whose validity the participants in a discourse have agreed:

5. Common Ground CG and Context Set CS :

- a) The *Common Ground* CG is the set of all propositions the participants take for granted.
- b) The intersection of all propositions from CG determine the *Context Set* CS which consists of all possible situations in which all propositions from CG are true.

The common ground CG is not static and fixed once and for all, but changes with the new propositions that are added by the interlocutors. Accordingly, CG is a dynamic concept that changes to a new CG' when a new proposition p is added. The interlocutors have to discuss whether they want to subscribe to a new proposition which is introduced into the ongoing discourse. If so, the new proposition is added to CG . The context set CS changes with this new information given by proposition p :

6. Common Ground Update:

- a) $CG \cup \{p\} = CG'$
- b) $CS \cap \llbracket p \rrbracket = CS'$

The more propositions are contained in CG , the smaller CS becomes, i. e. more knowledge in CG reduces alternatives in CS – the difference between Einstein and an amoeba is the controlled reduction of alternatives. In the idealized state that all propositions that describe the current world are known, CS contains only this current world – the imagined and highly coveted goal of science. (But see Popper's (1935) [48] dictum that every answer to a question yields a set of new questions.)

The *World View* $WV(\alpha)$ of an individual α can be modelled as the set of all propositions α believes to be true [7] (Hintikka 1969). $WV(\alpha)$ determines the set of situations which are described accurately by all its propositions.

$WV(\alpha)$ can be extended by new propositions just like CG . Accordingly, the acceptance of a new proposition changes the set of situations that are compatible with $WV(\alpha)$. By adding new informative propositions, $WV(\alpha)$ normally changes together with the corresponding situation set.

Another type of natural language sentences are *questions*. Without going into the details of yn-question, wh-questions or alternative questions let us take a look at their general properties. Since the work of [49, 50] Hamblin (1958, 1973), the meaning of questions has been reconstructed as the set of their possible (or true [51] Karttunen 1977) answers. In doing so, Hamblin [49, 162f.] makes three assumptions:

7. a) An answer to a question is a statement.
- b) Knowing what counts as an answer is equivalent to knowing the question.
- c) The possible answers to a question are an exhaustive set of mutually exclusive possibilities.

The question semantics from Gronendijk & Stokhof (1982) [52] up to inquisitive semantics [53] (Ciardelli et al. 2019) has systematically captured Hamblin's third assumption by forming a *partition* of the set of possible answers. A *partition* of a set M is the decomposition of M into disjoint subsets, the union of which yields M again. For example, if in a situation with the three individuals $\{Clara, Peter, Mary\}$ the question *Who smoked?* is asked, then a partitioned answer space of the following form in (8) results:

8. Partitioned space of possible answers:

Clara, Peter and Mary smoked
Clara and Peter smoked, Mary did not smoke
Clara and Mary smoked, Peter did not smoke
Peter and Mary smoked, Clara did not smoke
Clara smoked, Peter and Mary did not smoke
Peter smoked, Clara and Mary did not smoke
Mary smoked, Clara and Peter did not smoke
Nobody smoked

Given this structural object the *relevance* of an answer can be defined:

9. Relevance of an answer (see [54, 55] Higginbotham 1993, Sperber-Wilson 2012):
An answer A to a question π with $\#(\pi) = n$ is *relevant* iff $\#(\pi/A) < n$, i. e. if the answer reduces the alternatives in the space of possible answers, the answer counts as relevant.

$\#(\pi/A)$ is the space of possible answers which remains if A is conjunctively connected to each cell and does not lead to a contradiction. As a result, if $1 < \#(\pi/A) < n$, A is a *partial* answer; if $\#(\pi/A) = 1$, A is a *complete* answer; and if $\#(\pi/A) = n$, A is an *irrelevant* answer.

Since answers to questions are statements (given as propositions) the notion of *informativity* can be defined. Answers to questions can be more or less informative:

10. Informativity of an answer [54] (Higginbotham 1993):
An answer A to a question π with $\#(\pi) = n$ is more *informative* than an answer B with respect to question π iff $\#(\pi/A) < \#(\pi/B)$, i. e. if answer A reduces more alternatives from the space of possible answers than answer B , then A is more informative than B .

If an individual α is asked a question, various alternatives are presented (see (8)) and there is a possibility that the choice of an alternative will lead to a modification of the world view $WV(\alpha)$, since this alternative is given as a statement containing a proposition. Seen this way, questions have the potential to change an individual's worldview depending on the answer. From these insights about the handling of propositions in discourse situations as well as from their properties and treatment in question environments we can conclude that a worldview $WV(\alpha)$ of an individual α can lose its dynamic properties:

11. The worldview $WV(\alpha)$ of an individual α loses its dynamic properties, iff no new proposition enters $WV(\alpha)$.

The concept of *immunization of a worldview* can now be characterized on the basis of the properties of proposition sets outlined above (6):

12. a) The worldview $WV(\alpha)$ of an individual α is *immunized*, iff it has lost its dynamic properties.
b) It is *open*, iff its dynamic properties are active.

However, a worldview is a rather complex organization of knowledge and normally people's worldviews are not immunized or open in general. A person can be interested in political and economic issues and the further elaboration and differentiation in these areas without at the same time being interested in differential and integral calculus or the genetic make-up of the drosophila. It therefore makes sense to divide knowledge systems into different domains, which can be active to different degrees. These degrees provide a measure of the individual's interest in the respective subject area.

Each domain of knowledge can be characterized as the set of propositions that the individual believes to be true with respect to the specific subject area. Therefore (12) can be applied to each subdomain of knowledge.

The crucial question, however, is what criteria are used to determine the validity of a proposition. A long discussion in the field of scientific theorizing and epistemology has taught that there is ultimately no reliable dependency between the expressions of language and the realities of the world [56, 57] (Neurath 1932, Hempel 1950). These insights led from *Correspondence Theory* to *Coherence Theory* of truth. But this step requires that the theoretic system of science is believed by the respective scholars. This in turn is not given by objective criteria, but depends on the consensus these scholars have established. The concept of truth of *Consensus Theory* [58] (Habermas 1973) seems to have some reliability as the provisional endpoint of this discussion. In contrast to the determination of the truth of a proposition, it is easy to *claim* its truth by simply using a declarative clause. Such a sentence has the grammatical property that it always asserts the truth of the proposition it contains (relative to a possible situation). The specified situation depends on the verbal mood – indicative vs. irrealis mood –, but we do not want to go into these matters here, see [59] Lohnstein (2024) for further details).

Comparing declarative with interrogative clauses we find interesting differences. The following example illustrates this point. (13a) claims that the proposition it expresses is true, which means that there exists a situation that can be characterized in such a way that John has found his wallet. By contrast, the yn-interrogative in (13b) asks whether this situation exists at all:

13. a) John found his wallet.
b) A: Did John find his wallet?
B1: Yes, he did.
B2: No, he didn't.

In order to know whether (13a) is true or not, one needs to know this very situation. The same holds for the judgement whether to choose B1 or B2 for answering the question in (13b).

Without knowing this situation it is not possible to make a judgement about the truth value of (13a) or to decide whether to answer B1 or B2 to the question in (13b). Thus, the difference between (13a) and (13b) consists in the judgment of the speaker (Compare Frege's analysis of the assertion in (2)). But the situation which is spoken about, does not play any role for the two utterances. If the situation exists, (13a) is true, if it does not exist, (13a) is a lie. Still, (13a) claims that it is true. This grammatical property of declarative sentences allows the assertion of any proposition regardless of whether it is true or false.

Austin was the first to clarify this point: "When a statement is true, there is, *of course*, a state of affairs which makes it true and which is *toto mundo* distinct from the true statement about it: but equally of course, we can only describe that state of affairs in *words* (either the same or, with luck, others)." [60, 6] (Austin 1950, 6). Therefore, the so-called Austinian topic-situation – the situation which is talked about – must be known for a truth value to be determinable. Declarative clauses express exactly that the Austinian topic-situation exists, without guaranteeing that this is really the case. So *claiming that p is true* is distinct from *p's being true*.

Let us now turn to a concrete example. Take Trump's statement "*Climate Change does not exist*". An individual α with worldview $WV(\alpha)$, which is guided by scientific reasoning will not accept it. The proposition p is not added to its knowledge system, so that no changes need to be made with respect to this system.

But if a person α does not believe in scientific findings, it can appear that this person accepts the proposition and integrates it into their $WV(\alpha)$. If p is informative, α has to reconfigure their knowledge system. If α had accepted the negation of p before, α may have planned to stop driving their twenty-five-liter car, to not burn the car tires in the garden and to not fly with the plane to New York every second day to have breakfast. Although α possibly liked all these activities, they did try to avoid them. But if they accept Trump's proposition, there is no need to not doing the things they like. These effects are independent of the truth of p , because our person was not interested in that before. It is only the belief of the truth of proposition p that changes the worldview and together with that yields other behaviors.

4. Immunization as an Effect of Narrative Proliferation

Section 3 presents a linguistic approach, grounded in formal semantics, to the key problem we are dealing with here: How can people believe something which is not true? In order to answer this question, we must define worldviews as sets of propositions, and reconsider, with Frege, the assertion of truth with respect to the judgement of the speaker. But how does this relate to narrative?

This section translates the PW-definition of dynamic or static WV and the concept of immunization into the terminology of narrative research, bridging the conceptual gap between PW theory and narratology. Although the nexus of PW theory and narrative theory has long been acknowledged by interdisciplinary theorists like Marie-Laure Ryan and David Herman (2009) [28] (Herman 2009), and PW theory is featured in the *Routledge Handbook for Narrative Theory* (2005) both co-edited with Manfred Jahn, the relationships between WVs and narratives hasn't yet been fully understood. We will use political discourse to illustrate how non-dynamic WV construction, CG creation, narrative immunization, and narrative worldmaking are connected.

Ryan (2005, 344) [17, 344] argues that the increasing popularity of the term narrative "reflects the epistemological crisis of contemporary culture". She thus anticipated the post-truth debates which reached a memorable climax in early 2017, when Trump insisted that attendance numbers during his inauguration exceeded those of Obama's inauguration – a counterfactual statement whose falsity was quickly established through visual evidence. This was countered through fake evidence, photographs edited by a government photographer, apparently requested by Trump himself. White House Press Secretary Sean Spicer kept repeating the false claim of the largest crowd which was awarded the status of an "alternative fact" by presidential adviser Kellyanne Conway during a White House press conference. The epistemological dilemma was never resolved, but widened the gap between those wished to believe in the presidential narrative or accepted, for pragmatic reasons, that the end justifies the means, and those who were bent on establishing the truth.

In 2020, Trump left office spreading another demonstrable falsehood, claiming that the election had been "stolen" – the source of a new narrative supported by a network of PWs established by right-wing conspiracy theories, characterized by science denial, and promoting anti-liberal worldviews. In Ryan's words: "Narrative' is what is left when belief in the possibility of knowledge is eroded" [17, 344] (Ryan 2005, 344). With the benefit of hindsight one should add that not only the belief in the possibility of knowledge can be eroded, but also the willingness to succumb to the processes involved in establishing CG based on propositions which are generally accepted as true. The linguistic and mental constructedness of reality, our AW , an old insight of constructivism gaining currency in the postmodern age, had always been contained within the boundaries of a clearly demarcated philosophical discourse. Ontological certainty, merely a working fiction, is needed to establish ontological uncertainty. What we see happening is that the deconstruction of reality, once confined to the safe space of academic argument, is taken literally by a populist movement exposing and exploiting the weaknesses of the

traditional system of checks and balances.

This political agenda programmatically and strategically appropriates the idea of common ground as defined in section 3: Common Ground (CG) is still understood as the set of all propositions the participants take for granted, but the relationship between situations and true propositions is destabilized. In other words, the truthfulness of a given proposition is awarded the status of a premise, even if it is objectively and demonstrably false, in order to stabilize a desirable situation or PW. This rhetorical move is unacceptable to those who insist on logic, rationality, and evidence to establish the truthfulness of propositions. With disbelief democrats and progressives in the US and elsewhere observe how post-truth worldmaking gains the upper hand. How can this development be modeled, using PW theory and narratology?

In democratic elections usually two or more parties or candidates compete. The competition (AW) constitutes, from the perspective of each party or candidate, two PWs: in PW1 they win, in PW2 they lose (see fig. 1). The election day ends the election campaign, characterized by the proliferation of narratives which illustrate the competing political WVs. The degree of narrativity of campaigns varies, yet to some degree all democratic elections are narrative contests too, whereas elections in authoritarian states merely serve to confirm the official narrative (in the sense established in 2.4). Campaign phases in US presidential elections tend to be characterized by narrative worldmaking, using future narratives and prospective storytelling. After the results are in, the focus shifts to narrative closure, i.e. celebrating a happy ending or accepting defeat:

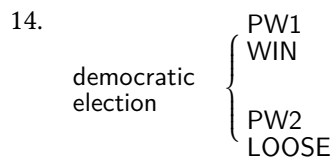


Figure 1: Democratic election

The premise of the narrative contest is the peaceful transfer of power. This principle was challenged by Trump in 2020. Instead of accepting defeat, he claimed that the election had been “stolen” from him. Blaming the “deep state” for an alleged “witchhunt” (two tried-and-tested conspiracy narratives), he engaged in narrative proliferation, repeating alternative “facts” over and over again. This culminated in the United States Capitol attack on January 6, 2021. The scope of the challenge to established practices can be demonstrated using PW theory (fig. 2):

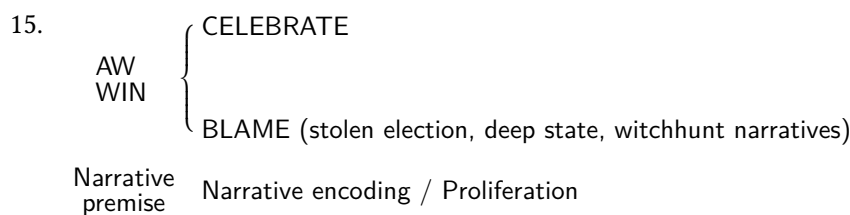


Figure 2: Stolen election narrative

For Trump, the prospect of winning the election didn’t constitute one of two PWs, as in fig. 1, but it was constitutive for what he regarded (or sold) as the truth, constitutive of his AW. Whether he really believed that he had won the election or thought that it might be in his interest to deny defeat, is a matter of speculation and irrelevant to the argument. The perceived reality status of the AW thus proclaimed can be gathered by the events on Capitol Hill. Again, it is irrelevant whether his supporters really believed they were reversing a stolen election or simply enjoyed a bit of anarchy, the unprecedented fact that an angry mob broke into the Capitol shows that the stolen election was considered by many as a true proposition in 2021, a hypothesis confirmed by his re-election in 2024.

From a narratological perspective, this has two major implications. First, the AW in which the statement “The election was stolen.” could be considered true, constitutes the narrative premise, i.e.,

the world or scenario with all its properties, objects, rules, restrictions, and constraints in which the represented events are about to unfold. Rhetorically speaking, it's a foregone conclusion, which has democratic implications, too. If defeat is not an option and victory is guaranteed, the nature of the election changes: choice is replaced by affirmation. This means, secondly, that there is only one PW (victory), and the distinction of AW and PW(s) collapses: in Trump's narrative, there is only one world. One world which is disconnected from other AWs and only allows PWs that confirm the propositions it is built on.

The narrative (2.4), as context or medium of communication, is vital here: Narrative framing supports the immunization mechanism which rejects competing WVs, forming a coherent AW that allows only selected propositions to enter its prominent WV and thus becomes increasingly static. The preference for Narrative (2.2) over Argument or Explanation in Trump's discourse fits his communicative style or habit, which establishes CG not through conversation leading to consensus, but through a pattern of proclamation and acclamation which is reminiscent of authoritarian regimes. It is impossible to determine whether Trump's worldmaking is really like that, or to gauge the influence of the ultra-wealthy oligarchs Joe Biden denounced on his last day in office on his thinking and decision-making. But the image projected by Trump certainly implies that he is the sole worldmaker, and the success of that narrative can be gauged from the fact that the majority of American voters prefers the AW established by it – even though it may be logically contradictory, unreasonable, false, and, morally, wrong.

How could this happen? From a semantic and narratological perspective, the ubiquity of narrative in contemporary culture, plays a key role. From this perspective, our paper is also a contribution to the emergent discourse on the abuses of storytelling and the dangers of narrative.³ The destabilization of knowledge, observed by Ryan, started as an epistemological conversation confined to philosophy and language theory. At some point, communication strategists saw the potential of narrative framing, using it to promote a discourse based not on evidence, but alternative facts. The appeal of narrative as a cognitive mode of worldmaking (2.3) is apparently perfectly suited: it blurs the boundaries between mental models and WVs, PWs and AWs, or truth and wishful thinking.

5. Conclusion and Outlook

This paper is based on the premise that PW theory and narrative theory are complementary, but that the potential of integrating both has not yet been fully exploited. Although the relevance of formal semantics for narratology has long been acknowledged, scholars and scientists in the humanities and social scientists haven't yet combined them systematically to explain current trends in political discourse.

Introducing the concept of *narrative immunization* and explicating it both from semantic and narratological perspectives, the paper has mapped a new line of argument. This proceeds from the observation that journalistic as well as scholarly and scientific responses to populism often juxtapose complex concepts like pluralist democracies, open societies, the public sphere or progressive liberalism on the one hand, and political tribalism, societal division, science denial, or alternative facts on the other. Metaphorical and metonymic expressions are often used in conjunction with exaggerations, implicit or explicit accusations, and various forms of bias, yielding politically charged descriptions.

Our approach to narrative immunization (section 3) reduces such complex concepts to their linguistic foundations: propositional sentences which are either true or not true under specific conditions, World Views consisting of propositions which individuals believe to be true, Common Ground based on consensus among participants in a discourse, various forms of input to update WV and CG, and a specific mechanism which makes individuals immune from engaging in CG creation, once their WV has lost its dynamic properties. On the narratological side (section 2), we have distinguished four meanings of narrative often used without sufficient terminological reflection, and described the process of narrative encoding which can make use of, but is not identical with, storytelling (section 4).

³See, for instance, [61] Nünning (2017), and [62] Mäkelä (2018).

We see this paper only as a first step toward more well-constrained models of narrative discourse. Such models need to move beyond the dominant notion of narratives as semiotic objects in order to account for the complexity of narrative communication – complexity which can be reduced in methodologically sound ways, if linguistics and narratology team up with scientists engaged in computational modeling.

Declaration on Generative AI

The authors have not employed any Generative AI tools.

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