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# Modeling Narratives of Real-World Events

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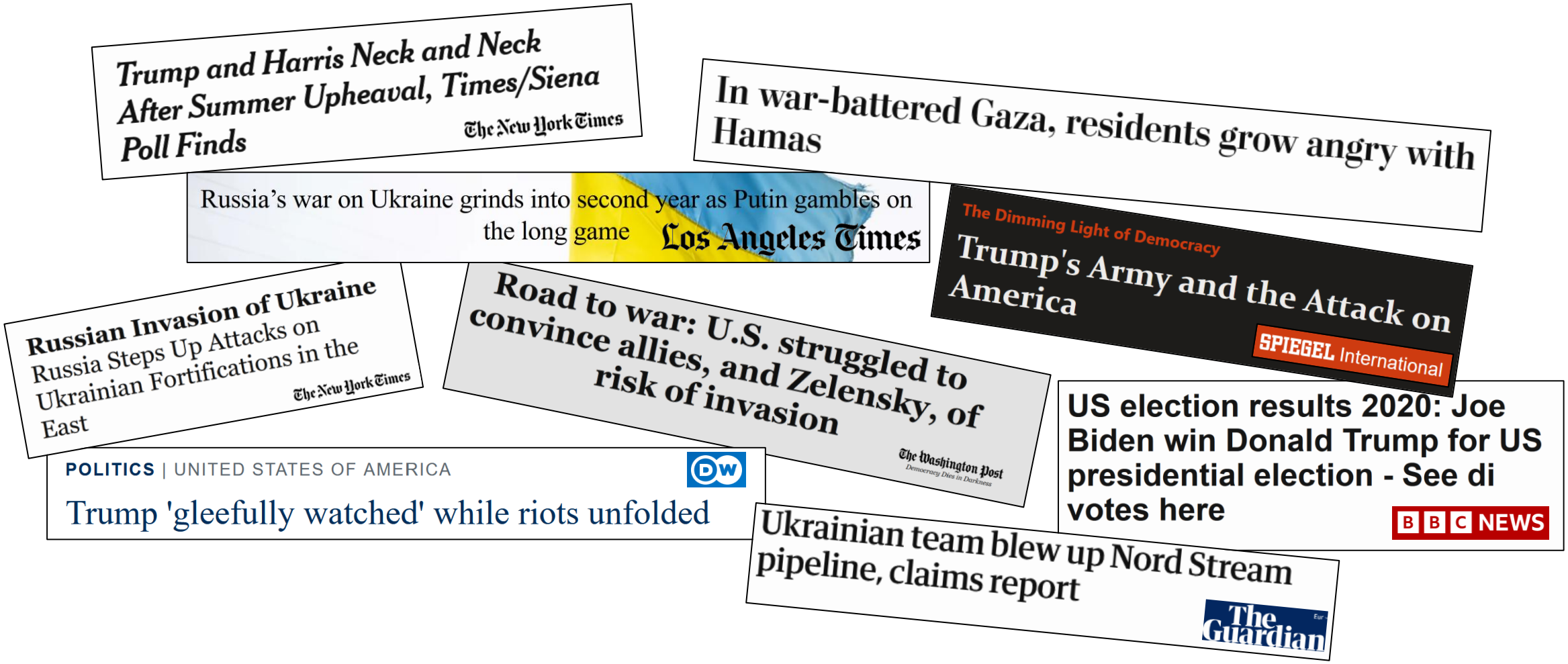
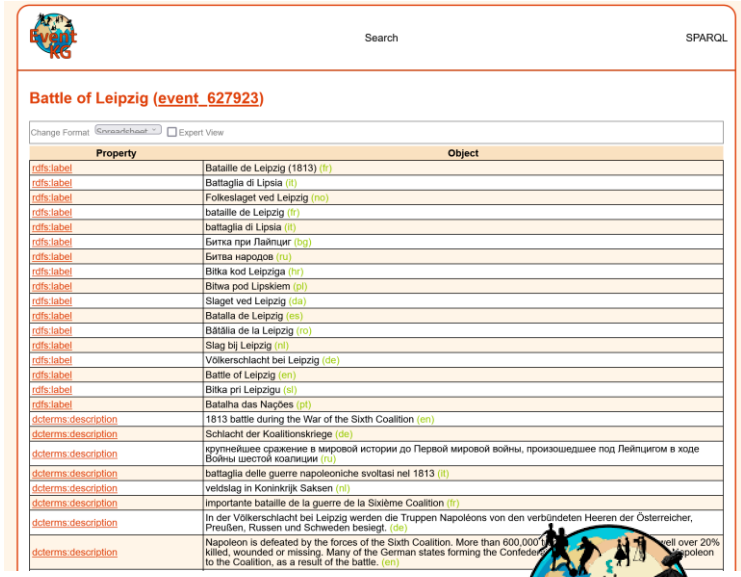
# Where do I come from?



# Where do I come from?


Extract




EventKG

# What has this to do with narratives?

- We observe events through *narratives* concerning them

**Observation 1**
Disputed information may exist – also called narrative aspects, i.e., framing applied to specific events

(not the topic for today)

**Observation 2**
Narratives arrange information in a specific way centered around a topic or event respectively

(topic of today)

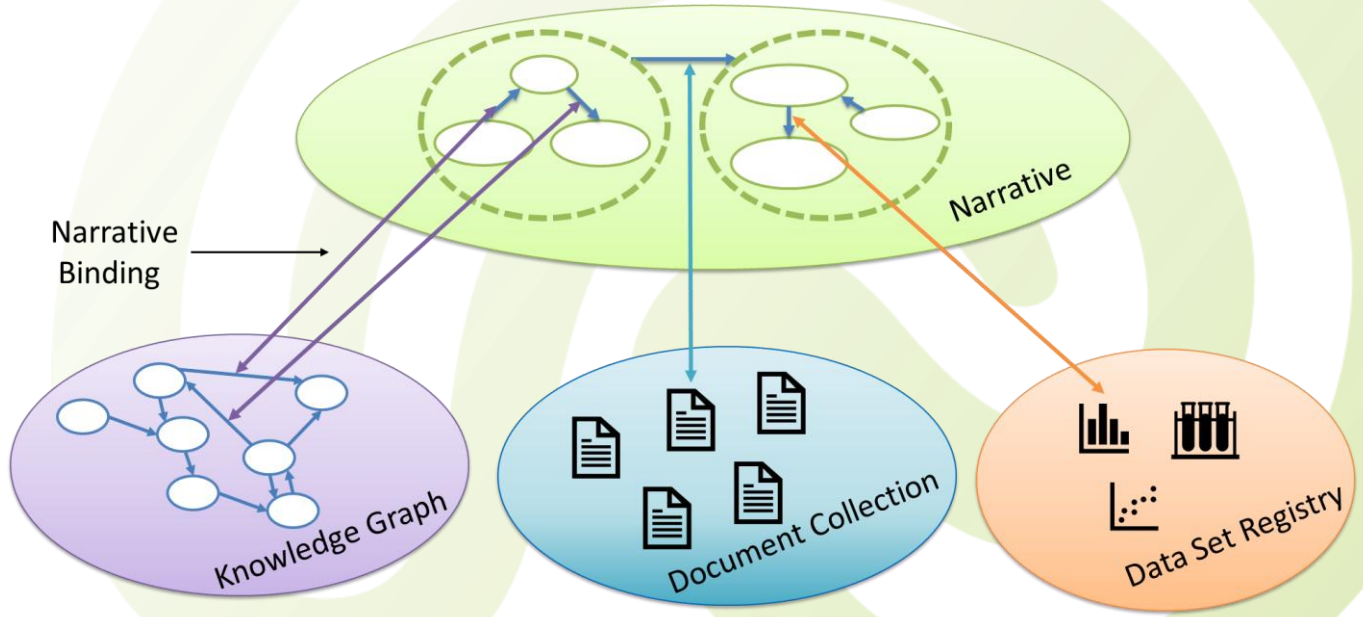
**Putin Announces Start to 'Military Operation' Against Ukraine**

"The invasion has begun," Ukraine's Interior Ministry said. Putin says he seeks "demilitarization" of Ukraine but has no plans to occupy it.

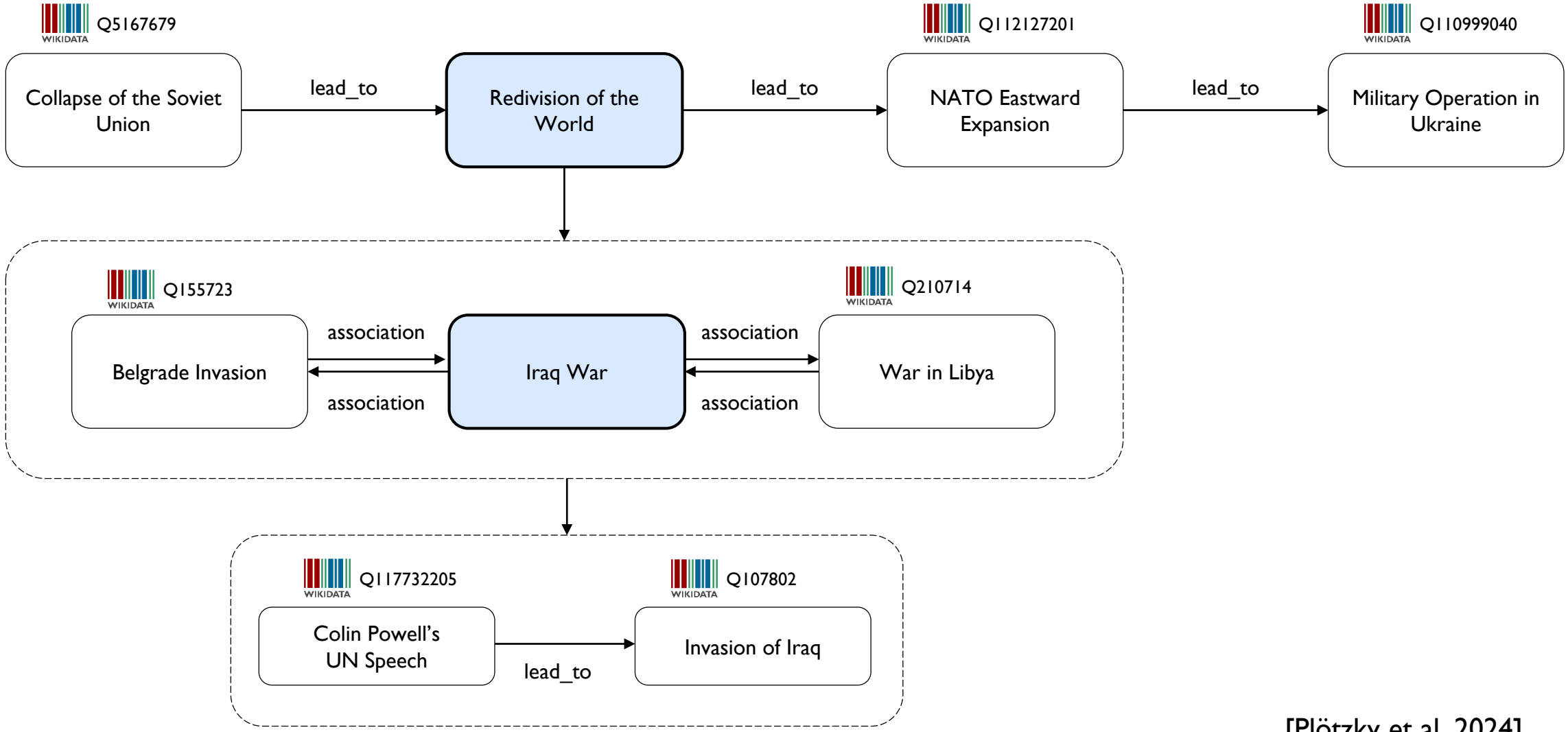
The New York Times

# What is a Narrative?

- Basic idea: narratives as logical overlays on top of (potentially heterogeneous) knowledge repositories [Kroll et al. 2020]
  - Bindings ensure grounding in the underlying repositories
  - Formalized as a standard graph where:
    - Nodes = Entities, events, literals
    - Edges = factual and narrative relationships
  - Recursive nodes as encapsulation units



# An Example for the Russo-Ukrainian War




[Plötzky et al. 2024]

# How do we get them?

- Mined from text by incremental LLM prompting [Plötzky et al. 2024]

LLaMA

- By a narrative query [Kroll et al. 2022]


- As instances of narrative prototypes [Plötzky and Balke 2022]

NP: David vs. Goliath

(i) Event pattern: $conflict^{[super\ type]}$

(ii) Refinements:

$is\_underdog(X, conflict) \wedge role(X, conflict) = \text{'winner'}$

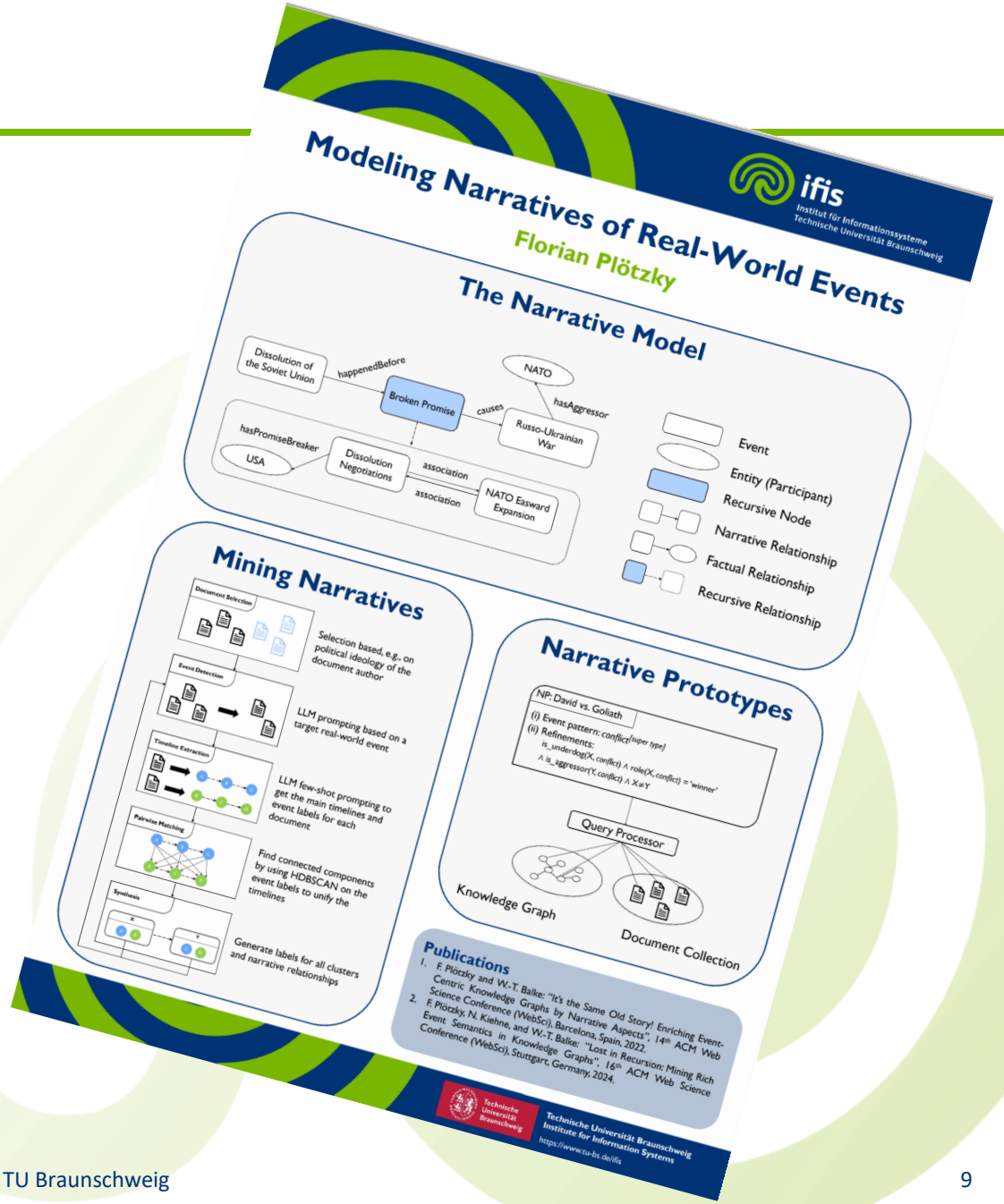
$\wedge\ is\_aggressor(Y, conflict) \wedge X \neq Y$

# What can/could/would like I do with them?

- Representation of *complex event schemas* over knowledge repositories ✓
- Capture narratives of events from multiple *viewpoints* ✓
- Estimate whether a narrative is *plausible* for a specific viewpoint
  - On-going work and basically future work

# Thanks!

- **Key Points**
  - Narratives can be used in various ways for event-centric knowledge repositories
  - A basic narrative structure is defined
  - See you at the poster session ☺
- **Contact**
  - f.ploetzky@tu-braunschweig.de



# Literature


- Hermann Kroll, Denis Nagel, and Wolf-Tilo Balke (2020): *Modeling Narrative Structures in Logical Overlays on top of Knowledge Repositories*. Int. Conf. on Conceptual Modeling (ER). Springer.
- Hermann Kroll, Florian Plötzky, Jan Pirklbauer, and Wolf-Tilo Balke (2022). *What a Publication Tells You – Benefits of Narrative Information Access in Digital Libraries.* ACM/IEEE Joint Conf. on Digital Libraries (JCDL). ACM.
- Florian Plötzky and Wolf-Tilo Balke (2022): *It's the Same Old Story! Enriching Event-Centric Knowledge Graphs by Narrative Aspects.* Web Science Conf. (WebSci). ACM.
- Florian Plötzky, Niklas Kiehne, and Wolf-Tilo Balke (2024): *Lost in Recursion: Mining Rich Event Semantics in Knowledge Graphs*. Web Science Conf. (WebConf). ACM.