

# Workshop: Ontologies for Narrative and Fiction 3-4 July 2023

Graphs and Ontologies for Literary Evolution  
Models

A 5-year (2023-2027) research project funded by  
the European Commission (ERC StG)



RUG Center for Digital Humanities



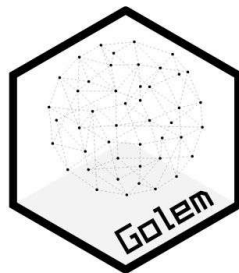
GroNLP @ Center for Language and Cognition  
(CLCG)



university of  
 groningen



European Research Council  
 Established by the European Commission

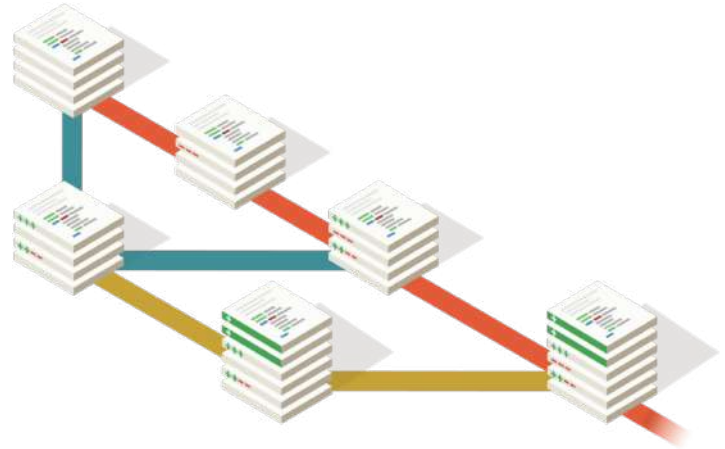


# First steps of the GOLEM ontology for narrative and fiction

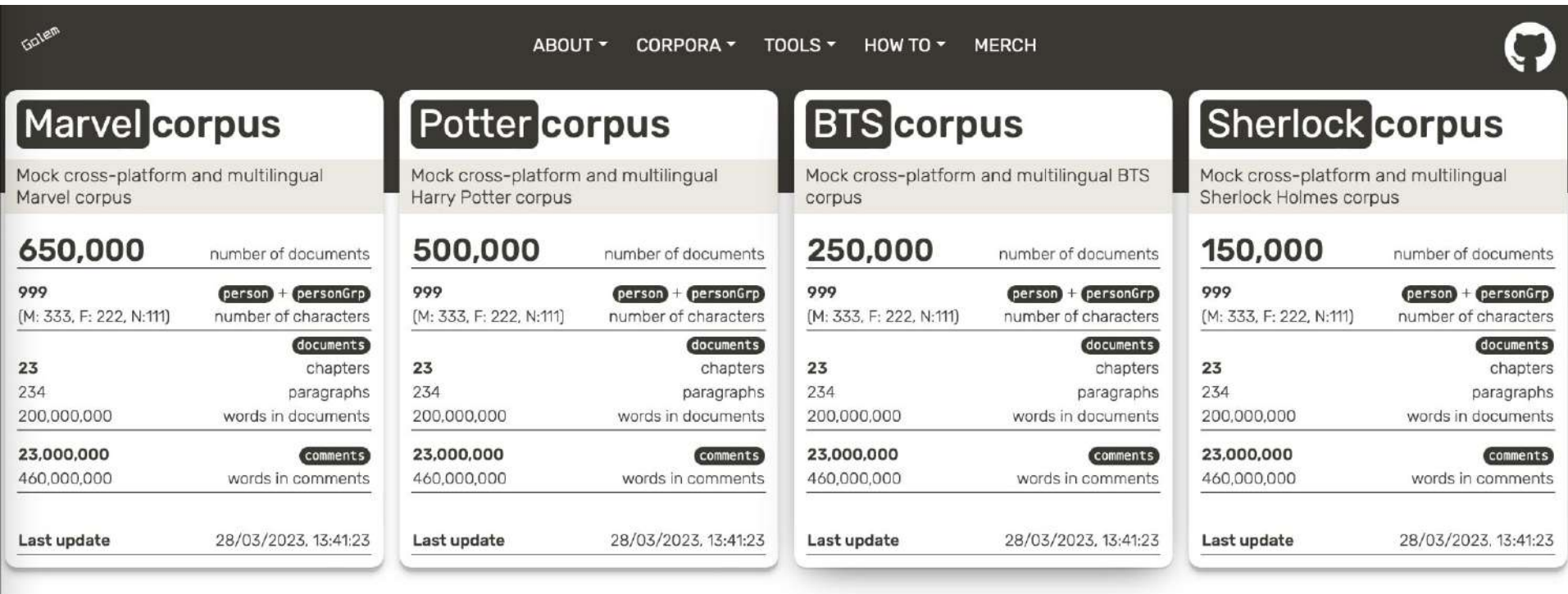
Federico Pianzola, Xiaoyan Yang

# The GOLEM project

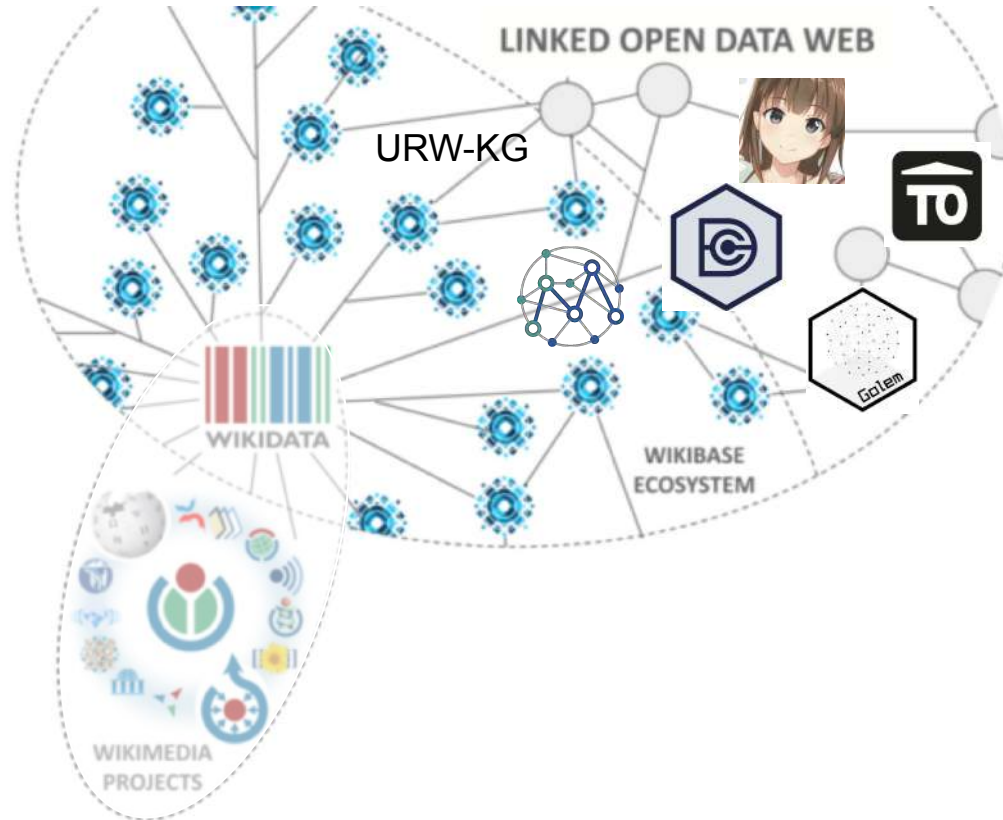
- RQ1: How do cultural traits spread, become successful, disappear?
- RQ2: Which narrative strategies have a stronger impact on readers?
- Data: Fanfic communities of readers and writers who reinterpret stories and further transmit modifications of them



# The GOLEM project



# The Federation



## Part 1

**Possible References:**  
**CIDOC-CRM, CRMsoc, LRMoo, [Schema.org](https://www.schema.org/),  
CLS-INFRA, NIF**

# Our Objective



- Integrate Metadata of Different **Online Fiction Reading Platforms**
- Describe **Concepts** of *work of fiction* and *narrative*
- Describe **Characters'** traits
- Describe **Textual** and **Reader Response Features**
- **FAIR** Principles (Interoperable) + **Linked Data**

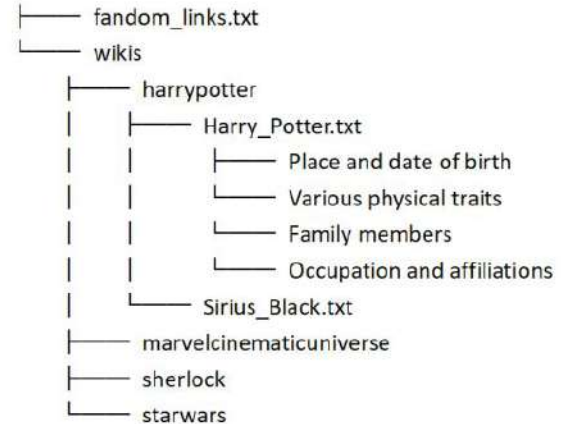


# Bottom-up Strategy: the Metadata in Our Database are the drivers



Metadata	Description
Title	title of the story
Author	author of the story
URL	unique identifier of the story, assigned when the draft is created
Date	date of last update of the story
Summary	summary of the story, if written by the author
Language	language of the story
Words	number of words of the story
Chapters	number of chapters written and total number of chapters, if available (e.g. 1/1 or 15/?)
Completion	status of the story, either "completed" or "in progress"
Kudos	number of times someone liked the story
Bookmarks	number of times the story has been bookmarked
Hits	number of times the story has been viewed
Comments	number of comments left at the end of the story
Tag	label inserted by the author
Tag type	one of 7 categories: fandom, character, relationship, freeform, rating, archive warning, relationship orientation

data





# AO3 Stories-Sample

NOTE: I AM NO LONGER READING OR REPLYING TO COMMENTS ON THIS FIC

Part 1 of [All the Young Dudes](#)

Language: English Words: 526,969 Chapters: [188/188](#) Comments: [30652](#) Kudos: [155368](#) Bookmarks: [30984](#) Hits: 10649267



[Manacled by senlinyu](#)

19 Aug 2019

[Harry Potter - J. K. Rowling](#)

**Rape/Non-Con, Graphic Depictions Of Violence,** [Hermione Granger/Draco Malfoy](#), [Hermione Granger](#), [Draco Malfoy](#), [Dolores Umbridge](#), [Tom Riddle](#) | [Voldemort](#), [Astoria Greengrass](#), [Graham Montague](#), [Severus Snape](#), [Post-War](#), [Harry Potter Dies](#), [Alternate Universe - Voldemort Wins](#), [Forced Pregnancy](#), [Imprisonment](#), [Death Eater Draco Malfoy](#), [Minor Character Death](#), [Memory Loss](#), [Rape/Non-con Elements](#), [Eventual Romance](#), [Battle](#), [Rape](#), [Mystery](#), [Healer Hermione Granger](#), [Self-Harm](#), [Flashbacks](#), [Slow Build](#), [Angst with a Happy Ending](#), [Slow Build Draco Malfoy/Hermione Granger](#), [Espionage](#)

Harry Potter is dead. In the aftermath of the war, in order to strengthen the might of the magical world, Voldemort enacts a repopulation effort. Hermione Granger has an Order secret, lost but hidden in her mind, so she is sent as an enslaved surrogate to the High Reeve until her mind can be cracked.

Illustrated by [Avendell](#).

Language: English Words: 370,515 Chapters: [77/77](#) Collections: [210](#) Comments: [12110](#) Kudos: [58364](#) Bookmarks: [17043](#) Hits: 3996073



[The Breeding Ground by megamatto9](#)

03 Jun 2023

[Harry Potter - J. K. Rowling](#), [Harry Potter: Hogwarts Mystery \(Video Game\)](#)

**Creator Chose Not To Use Archive Warnings,** [Harry Potter/Lily Evans Potter](#), [Luna Lovegood/Harry Potter](#), [Harry Potter/Nymphadora Tonks](#), [Lavender Brown/Harry Potter](#), [Harry Potter/Rita Skeeter](#), [Harry Potter/Aurora Sinistra](#), [Amelia Bones/Harry Potter](#), [Hestia Jones/Harry Potter](#), [Charity Burbage/Harry](#)

# Fandom.com-HP Information

```
131 {
132   "template_name": "Individual infobox",
133   "params": {
134     "name": "Harry James Potter",
135     "born": "[[31 July]] [[1980]] [[Godric's Hollow]], [[West Country]], [[England]], [[Great Britain]]",
136     "marital": "Married",
137     "nationality": "[[England|English]]",
138     "alias": "*The Boy Who Lived\n*The Chosen One\n*Undesirable No. 1\n*Lightning {{c|by ''[[Potterwatch]]''}}\n*The Boy Who Lied {{c|by the ''[[Daily Prophet]]''}}\n*Plotter",
139     "gender": "Male",
140     "hair": "Jet-black",
141     "eyes": "Bright green",
142     "skin": "LightA drawing by J.K. Rowling {{see image|file:Jkrrharry.jpeg}}</ref>A drawing by J.K. Rowling {{see image|file:Deanthomasoriginal.PNG}} clearly has Dean's skin
143     "family": "*[[James Potter I]] (father) \u2020\n*[[Lily J. Potter]] (n\u00e9e [[Evans family|Evans]]) (mother) \u2020\n*[[Ginevra Weasley|Ginevra Potter]] (n\u00e9e [[Weasley family|Weasley]]) (sister-in-law)
144     "job": "*Head of [[British Auror Office]] (formerly)\n*Guest lecturer on [[Defence Against the Dark Arts]]\n*Head of the [[Department of Magical Law Enforcement]]"
145   }
146 }
147 {
148   "template_name": "Individual infobox",
149   "params": {
150     "name": "Hermione Jean Granger",
151     "born": "[[19 September]] [[1979]] [[England]], [[Great Britain]]",
152     "marital": "Married",
153     "nationality": "[[England|English]]",
154     "alias": "*Hermie (by [[Grawp]])\n*[[Harry Potter]] (under disguise of [[Polyjuice Potion]])\n*[[Mafalda Hopkirk]] (under disguise of [[Polyjuice Potion]])\n*[[Bellatrix I Lestrange]] (under disguise of [[Polyjuice Potion]])
155     "gender": "Female",
156     "hair": "Brown",
157     "eyes": "Brown",
158     "skin": "Light",
159     "family": "*[[Hermione Granger's father|Mr Granger]] (father)\n*[[Hermione Granger's mother|Mrs Granger]] (mother)\n*[[Ronald Weasley]] (husband)\n*[[Rose Granger-Weasley]] (daughter)
160     "job": "*Employee of the [[Department for the Regulation and Control of Magical Creatures]]http://www.beyondhogwarts.com/</ref> (formerly)\n*Deputy Head of the [[Department of Magical Law Enforcement]] (formerly)
161   }
162 }
```

## Our Current References:

<b>Abbreviation/Acronym</b>	<b>Meaning</b>
CIDOC-CRM	Comité International pour la DOCumentation - Conceptual Reference Model
CRMsoc	An Extension of CIDOC-CRM to support social documentation
CLS INFRA	Computational Literary Studies Infrastructure ontology
LRMoo (FRBRoo)	IFLA Library Reference Model object oriented (Functional Requirements for Bibliographic Records)
NIF	The NLP Interchange Format
<a href="#">schema</a>	<a href="#">Schema.org</a>

# Schema is now widely used in cultural databases



Star Trek Beyond

2016 · PG-13 · 2h 2m

Cast & crew · User reviews · Trivia · IMDbPro · All pages

IMDb RATING: ★ 7.0/10 (252K)

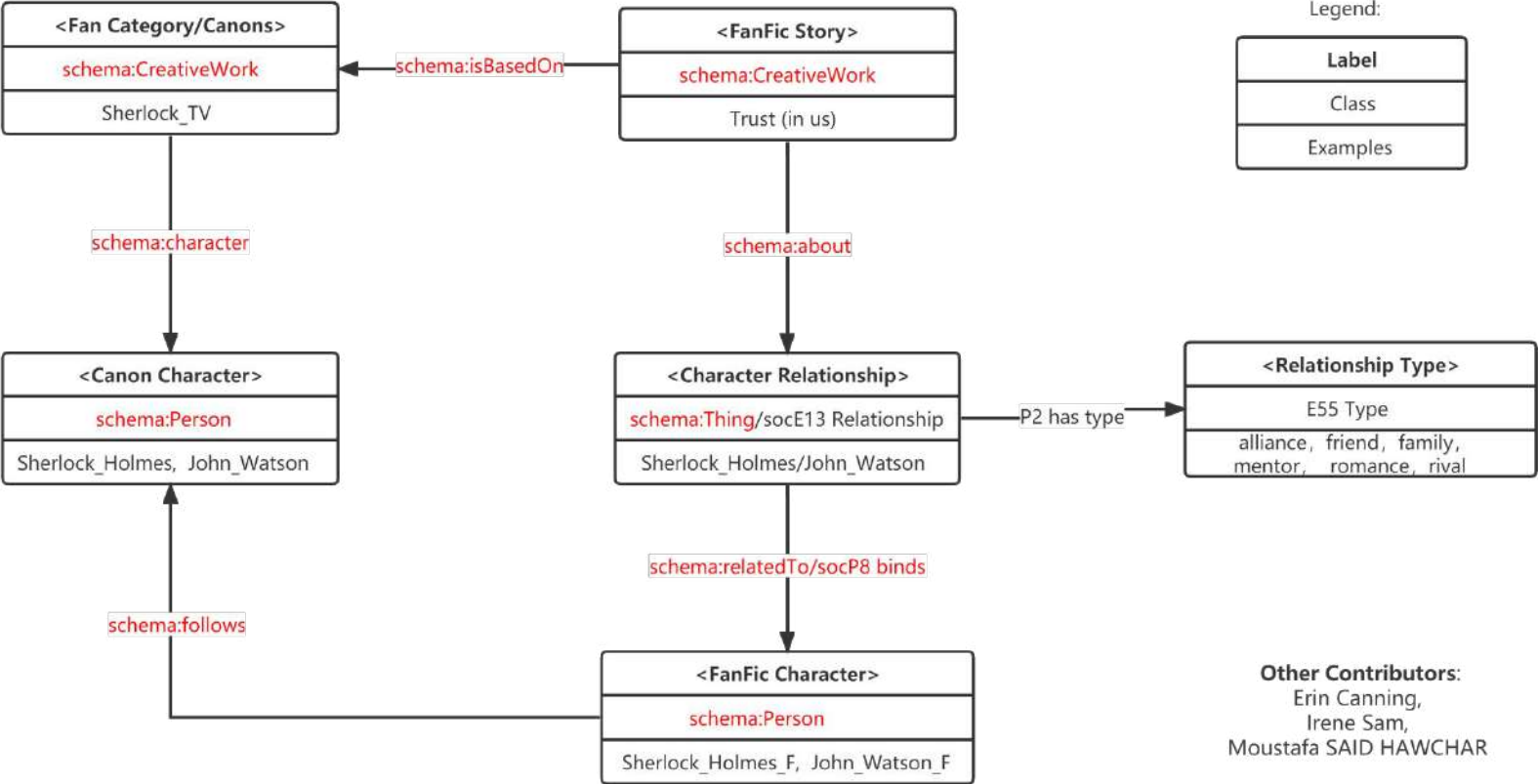
YOUR RATING: ☆ Rate

POPULARITY: 1,222 ↑ 290

```
"@context":"https://schema.org"
"@type":"Movie",
"url":"https://www.imdb.com/title/tt2660888/",
"name":"Star Trek Beyond",
"image":"https://m.media-amazon.com/images/M/MV5BNDc2YTThIMTgtN2M3Yi00YzIxLWE4MDQtMWJmYmZiNTNjNjJlXkEyXkFqcGdeQXVyMjUzOTY1NTc@._V1_.jpg",
"description":"The crew of the USS Enterprise explores the furthest reaches of uncharted space, where they encounter a new ruthless enemy, who puts them, and everything the Federation stands for, to the test."
"actor":[{"@type":"Person","url":"https://www.imdb.com/name/nm1517976/",
"name":"Chris Pine"}]
```

```
"review":{"@type":"Review",
"itemReviewed":{"@type":"Movie","url":"https://www.imdb.com/title/tt2660888/"},
"author":{"@type":"Person","name":"cherold"},
"dateCreated":"2016-11-09",
"inLanguage":"English",
"name":"Terrifically fun popcorn action",
"reviewBody":"After the noisy and irretrievably stupid (though reasonably entertaining) Into Darkness, I wasn't desperate to watch this one, but when I finally did I was relieved to discover that it was even more enjoyable than the first film in the reboot...."}
"reviewRating":{"@type":"Rating","worstRating":1,"bestRating":10,"ratingValue":8}},
"aggregateRating":{"@type":"AggregateRating","ratingCount":252335,"bestRating":10,"worstRating":1,"ratingValue":7},
"contentRating":"PG-13",
"genre":["Action","Adventure","Sci-Fi"],
"datePublished":"2016-09-02",
"keywords":["third part,star trek,sequel,alien,hated"]}
```

# Main nodes



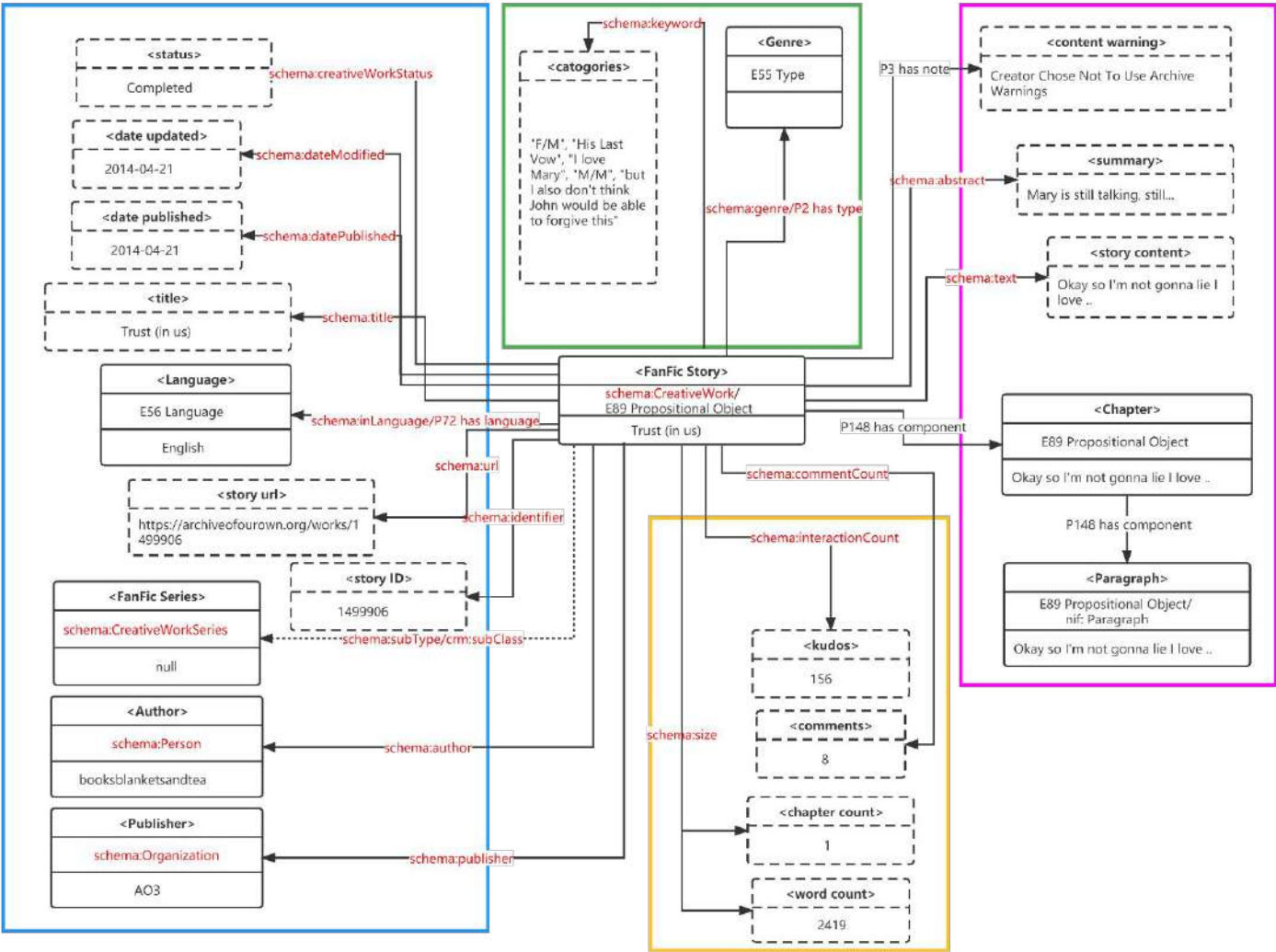
# Existing metadata

**Legend**

**Entity:**  
 - dotted lines = literals  
 - solid lines = urls

**Group:**

- Publication data █
- Genre & fanfic categories █
- Content █
- Metrics █



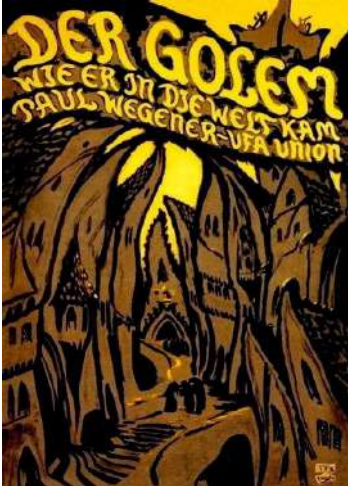
Part 2

# **A modest proposal**



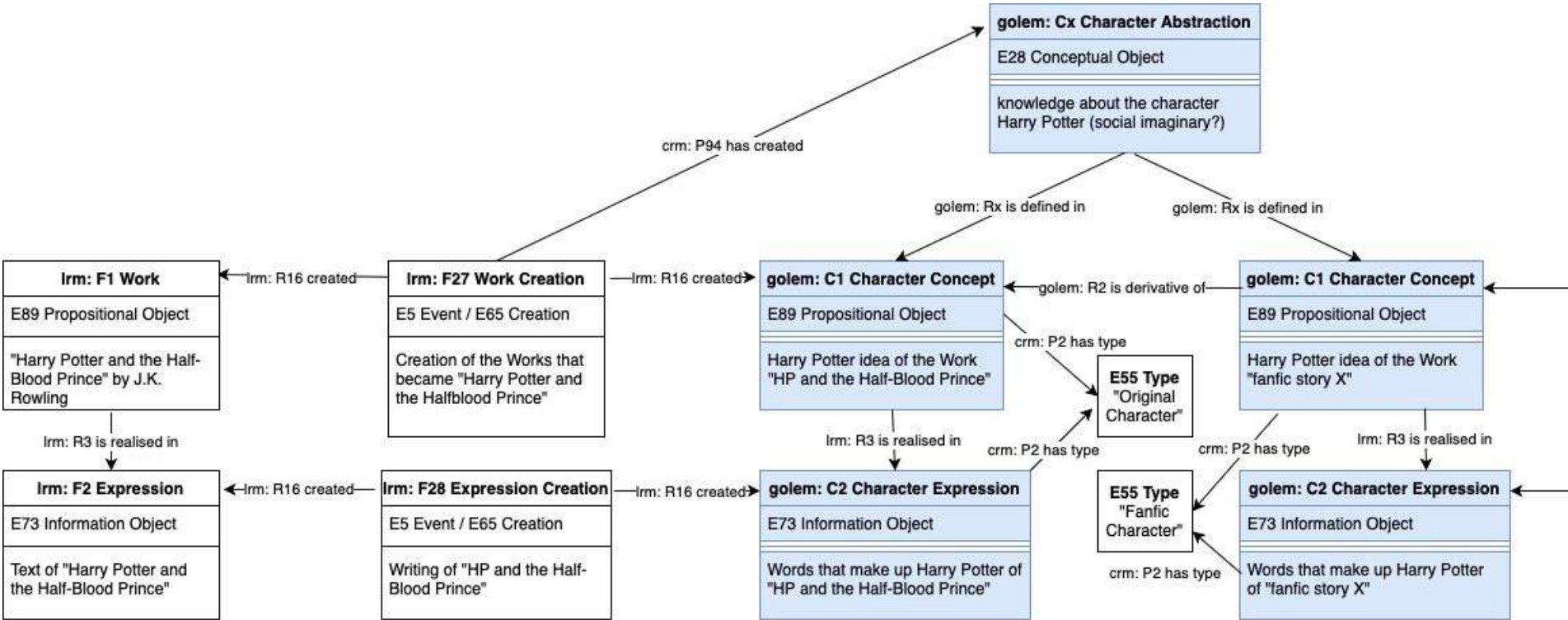
# Fictional Characters

[golemlab.eu/news/why\\_golem/](http://golemlab.eu/news/why_golem/)

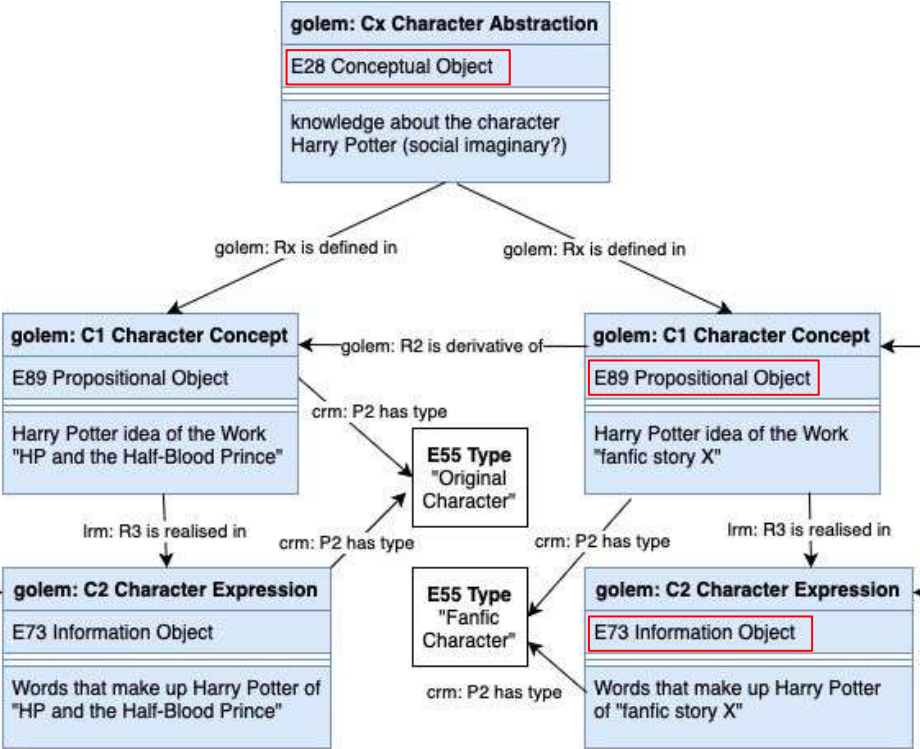




# Fictional Characters & Fanfiction



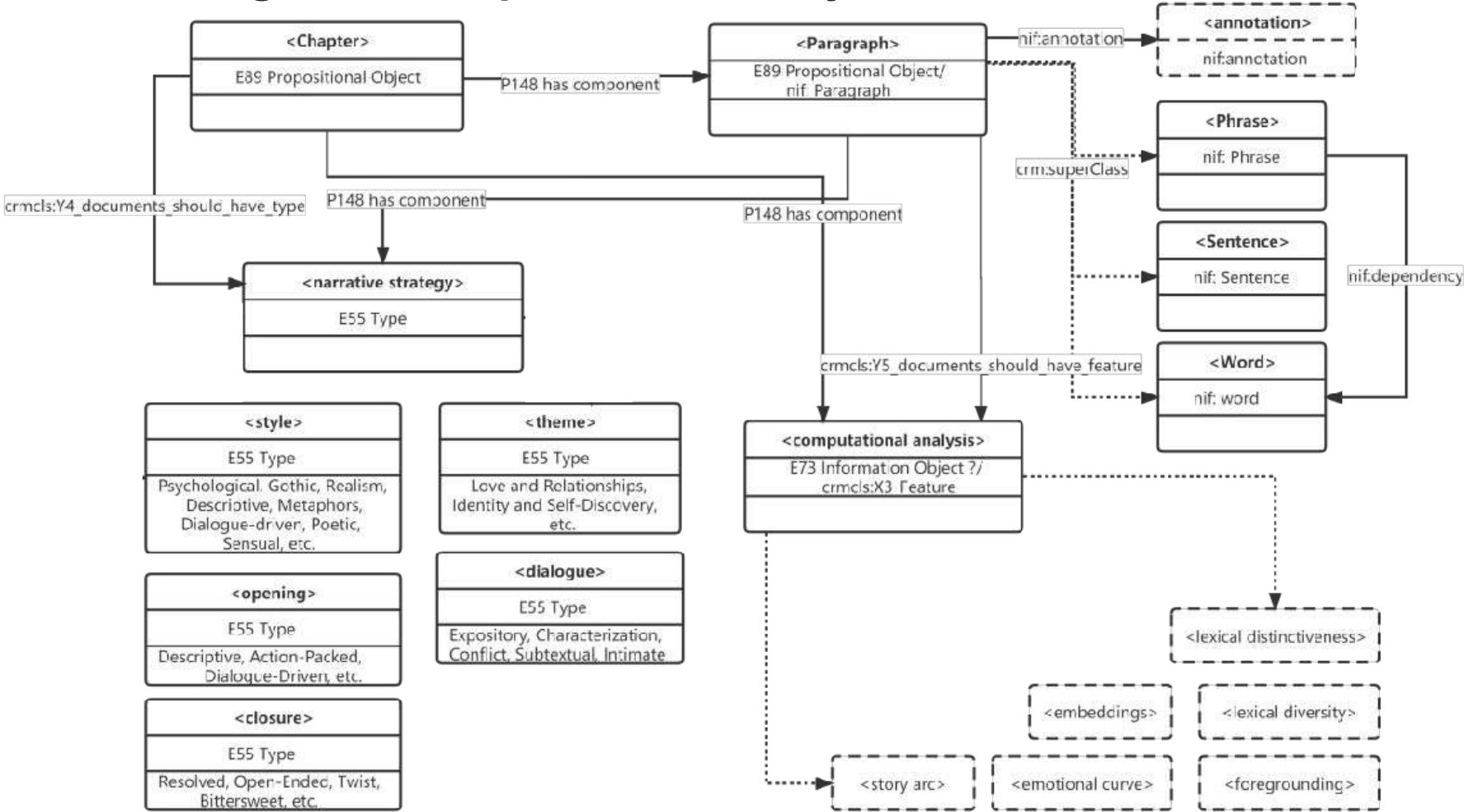
# Fictional Characters & Fanfiction



## CIDOC-CRM Objects:

- **Conceptual:** non-material products of our minds that have become objects of a discourse about their identity, circumstances of creation or historical implication.
- **Propositional:** immaterial items that are, or represent in some sense, sets of propositions about real or imaginary things
- **Information:** identifiable immaterial items that have an objectively recognizable structure

# Narrative Strategies & Computational Analysis



# Discussion

- For data from different databases (e.g., AO3, Wattpad, Goodreads, Fandom), what's the best practice for **metadata alignment and integration**?
- **Narrative Strategies** and **Computational Analysis** are two core focuses for GOLEM, yet currently, there isn't a widely adapted ontology for them. How can we contribute?
- Is it a good idea to reuse **schema.org** (designed for web content) and merge it with domain-specific knowledge representation ontologies (**CIDOC-CRM**, **LRMoo**, etc.)?
- We have started the **alignment and harmonization of classes in different ontologies**, e.g., `schema:CreativeWork /F1 Work /E89 Propositional Object /X2 Corpus Document`. What's your suggested workflow for this task?
- More...

THANKS



# Discussion

1. Everyone can read between the lines and "know" that "be wary of strangers" is a theme of Little Red Riding Hood, even though it's not spelled out in the text. This "between the lines" feature of some common themes complicates annotation (say as compared with Named Entity Recognition).
2. Is the separation between Theme and Subject similar to the hierarchy Concept – Proposition?
3. How would we go about aligning themes and narrative forms to text? This is more feasible for some classes than it is for others. Whole text, episodes, chapters, paragraphs, sentences?
4. Do we annotate characters as objects, people, actors, or as roles (Propp, Greimas, Campbell)?
5. ...