Story Comparisons: Evidence from Film Reviews*

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Abstract

Interested in formally modelling similarity between narratives, we investigate judgements of similarity between narratives in a small corpus of film reviews and book–film comparisons. A main finding is that judgements tend to concern multiple levels of story representation at once. As these texts are pragmatically related to reception contexts, we find many references to reception quality and optimality. We conclude that current formal models of narrative can not capture the task of naturalistic narrative comparisons given in the analysed reviews, but that the development of models containing a more reception-oriented point of view will be necessary.

1   Background and Research question

We are interested in story similarity, which has been approached both from a cognitive point of view (e.g., [12, 3]) and from a formal point of view (e.g., [13, 5, 6]), but also is implicitly an important question for all formal approaches to narrative. Similarity is the natural subject of discussion in comparisons of narratives. We discuss preliminary experiences when analysing data from two practical applications of comparisons between narratives: comparisons between books and their adaptations on the one hand, and reviews that contain remarks that compare a certain film with other films, where different relationships obtain between the films, mainly: remake and just alleged similarity. Although we cannot claim that our data are sampled to be representative, we think that the points we make are exemplary and can plausibly be generalised to other data of this kind.

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2   Investigating Narrative similarity

When we want to compare stories formally, we need at least the following two components: (a) **a representation of the narratives** that captures the relevant aspects, and (b) **a metric** to determine the 'distance' between two representations.

Determining the metric and defining a framework are interdependent decisions. For both, the most important step is to determine which information enters the comparison, as for every formal framework like Plot Units [12] or the Doxastic Preference Framework [14], only certain information goes into the representation, and hence into the comparison. To take Plot Units as an easy, but relatively representative target, only such events that involve a 'mental state' and ultimately an emotional change can be part of the model of a story; hypothetical events, or non-anthropomorphised non-emotional events (e.g., volcano eruptions) etc. are not part of the formal model, only potential emotional or motivational consequences. With our analysis, we want to identify the aspects of narrative important for comparisons.

Data and Procedure.   We intended to collect 'natural' data that (a) were in the domain of story comparison, (b) but were not prepared in an academic context, because we wanted to avoid 'self-observation' on our side. Data was collected between 5 and 12 December 2012 and consists of two parts, each with about 100 extracts.[1] First, a collection of 25 texts in German, which compare books and films (17 compared a book with 'its' film, the rest considered films and a theatre play). The data compare narratives in a rather informal, non-academic context.[2] These were collected on the internet using simple keyword search, and include texts from forums (like: `http://www.dvd-forum.at`, `http://de.answers.yahoo.com`, overall 11), blogs (5), semi-professional review sites (like: `http://www.moviepilot.de`, `http://www.negativ-film.de`), from Wikipedia (1) and a fan wiki. These data are generally not from professional writers.

The second part of our data consists of comparisons of films in English and German, which were found starting from IMDB. The texts were generally from film review websites, and the authors can be assumed to have at least a semi-professional background.[3]

Mainly to facilitate the qualitative evaluation and 'get a feeling for the data', we annotated the data. We extracted spans (about 200, of 3 to 180 words, with a median of 30) of texts and annotated these with tags corresponding to the levels Schmid's 'ideal-genetic model' [17] (which is a four-level model of narration, adding a level 'below' the story and between story and discourse), adding a level for the story world and pragmatic effects of texts, and noting interactions between levels. Regarding interaction, consider (5-b) and (5-c). (5-b) contains two relatively unrelated claims (new language, speakability). (5-c) illustrates the more common case: Several levels are treated at once and are seen as interrelated: What is talked about is the story world (and its presentation), but also about the aesthetic effect and entertainment value of these.

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[1] Analysis is still ongoing and data occasionally corrected, so counts should be taken with a grain of salt.

[2] To retain non-academic setting, we excluded 3 texts from the analysis because they were explicitly tagged as (academic or school) 'homework', but kept a *Schülertext* ('pupils' text') from a newspaper by 8th-formers discussing two film versions of *Pride and Prejudice*.

[3] (a) *Avatar* (2009), *Pocahontas* ('myth' and film), *Dances with Wolves* (1990) (of the first 40 reviews on `http://www.imdb.com`, 32 contained comparisons and were accessible with respect to network and language) (b) *West Side Story* (1961, dir. Robert Wise) and *Romeo and Juliet* (play and film versions). (c) *Infernal Affairs* (2002) / *The Departed* (2006) (4); and (d) *Abre los Ojos* (1997) / *Vanilla Sky* (2001) (5). In the last two, the second film was a remake of the first, and also the relationship between *West Side Story* and *Romeo and Juliet* is obvious.

Which levels of the story are accessed in the reviews?   Current formal frameworks of narrative model the intradiegetic [7] level of narration ('What happens?'), and if they are computational, often also taking into account the story world (characters, entities and the relationships between them, as far as relevant to the story) [9]. We find that in the reviews and comparison, some comparisons are on this level, but then often goes 'deeper' towards abstraction of patterns or a metaphoric or allegoric interpretation as in (1), or just themes the author of the reviews sees but which belong to a 'deeper' level of interpretation.[4]

(1) [*Gone with the Wind*, book–film] *Im Buch geht es um den Untergang einer Gesellschaft, um ein untypisches Bild der Sklaverei, um einen Krieg, um den Überlebswillen, um den Werdegang einer Frau. Wo hingegen der Film eher (nur) das Frauenbild der 30er Jahre behandelt.*
The book is about the demise of a society, an untypical depiction of slavery, a war, the will to survive, the development of a woman. While the movie rather (only) treats the image [society had] of women in the 30s.
http://www.hochzeitsplaza.de/hochzeits-forum/off-topic/off-topic/87701-vom-winde-verweht-ist-hier-noch-jemand-ein-scarlett-o-hara-fan/

A level that is present in most comments (145) in our little corpus is the perspective of the recipient. Comments referring to the reception of the story are by far the most frequent (out of 83 extracts somehow referencing what happens, 67 also relate it to reception). Surprisingly sometimes, the plot level is contrasted not only with a presentation/discourse level, but the 'same' story is not the same, as in (2).

(2) [Regarding Grenouille in *Perfume*, book/film] *Zwar deutet das Filmende eine andere Motivation für seinen schlussendlichen Selbstmord an [. . .] aber im Handlungsablauf ist der Roman an dieser Stelle eigentlich ziemlich genau umgesetzt worden.*
The ending of the film indicates a different motivation for his final suicide [. . .] but regarding the course of action, the novel was converted quite faithfully.
http://www.gutefrage.net/frage/das-parfum---wesentliche-unterschiede-zwischen-buch--film-

The story level is also presented as a means towards the reconstruction of the story world (15 times clearly, more often in allusions that need further analysis), which is what cognitivist narratologists take the interpretation of the intradiegetic level to be (e.g., [11]), either its causal connections, its plausibility or its aesthetics. Comments explaining why a certain scene is important and what it contributes to the understanding of the story world such as (3) come closest to an intradiegetic metric of similarity. Except for one of these comparisons are from book–film comparisons; this is plausible. Intuitively, such observations need a very great similarity: It is moot to observe such things, e.g., about films that are just vaguely similar. But note that a similar role is also ascribed to discourse/presentation features and other levels (13 out of 20 references) as in (4). Such interaction between levels is well known to translators, of course; compare, e.g., Dusi's remark [2, p. 9] that one needs to translate not only semiotic levels, but also the relations between them.

(3) a. [*The Reader*: book/film] *Diese Stelle ist insofern wichtig, da hier das erste mal deutlich gezeigt wird, dass Hanna Analphabetist ist und zu welchen Problemen dies führen kann.*
    This passage is important because it is shown clearly for the first time that Hanna is illiterate and which problens result from this. *http://www.hundertachtzehn.com/603/kritik-der-vorleser-der-film.html*
   b. [*Harry Potter 7*] Once they get there [Sirius Black's house], the film leaves out several pieces of the book. Firstly, Harry, Ron and Hermione hear an interesting story from Kreacher the house elf that is left out of the film. After this, Kreacher becomes much kinder to the three young wizards. This story includes some relevant information about Sirius' brother.
    http://www.bukisa.com/articles/399514__harry-potter-and-the-deathly-hallows-differences-between-the-book-and-the-movie#ixzz2LHVtLY2T

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[4] We do not want to judge the adequacy of these analyses!

(4) *Im Buch ist die Sprache außerdem viel komplexer, Grenouilles Innenwelt wird einem viel klarer und Auffälligkeiten sind teilweise subtil, während der Film viel mit Erschrecken arbeitet.*
In the book, the language is much more complex, Grenouille's interior world is presented much more articulately, and abnormities are partly subtle, while the film works much more with shocking the reader.
http://de.answers.yahoo.com/question/index?qid=20061121043445AAiQ5Zr

Task-Relatedness. It is immediately plausible that the pragmatic goal of the comparison has an influence on the structure of the comparison. Film reviews are inherently concerned with the effect on the audience, and therefore reception-oriented comments are a natural level of judgement. From our results, we assume that, although arguably more 'natural' than story analogy experiments as those reported by Gentner et al. [8], which show that subjects prefer (diegetically-oriented) relational mapping as a measure for similarity, our data are less well-suited to investigate the intradiegetic level. We do find analogy mappings for films or books on almost any level, e.g. on the reception-oriented level; e.g., (5-c) refers to the concept of *alienness* and how it is realised in different films.

3 Preliminary Conclusions

The conclusion we have to draw is such that there is a gap between what current formal models of narrative can analyse and the tasks brought about by naturalistic narrative comparisons. To find a formal model that is well-suited to the analysis task we have to research, and develop, systems which are more reception-oriented. Without extensions and connection to other levels and 'deeper interpretations' relating to the actual world of the recipients, current formal models of narrative cannot inform such comparisons in a substantial way, even though they are certainly quite natural cases of story comparisons. (This criticism does not affect the usefulness of current formal models for computer games or other 'simple' applications where the recipient becomes part of the story world, or where aesthetic criteria are unimportant, as in some retrieval tasks.) Our data provides evidence that besides intradiegetic models, we also need models of the extradiegetic and reception-oriented aspects of narrative. While this is not a new suggestion [10, 1], only few systems seem to take up the idea (cf. [15, §2.4.3], where integrating a user model is discussed, but references are limited to suspense generation). The current trend towards machine-learning (e.g., [15, 4, 16]) tends to shift the attention away from such high-level tasks.

For the future, we plan to extend the data analysis; ultimately we want to integrate reception-oriented criteria into formal frameworks in the hope to approximate an adequate analysis of naturalistic narrative comparisons. We agree with [10, 7] that an 'interdisciplinary' approach is needed, i.e., formal approaches which incorporate more than just the story level of analysis, merging the extradiegetic with intradiegetic analysis. For example, a formal epistemic framework which models not only what is known, and when, by characters, but also the change of knowledge (and beliefs) of narrator(s) and reader(s), and the effects of these on the latter.

──── **References** ────

1 Paul Bailey. Searching for storiness: Story-generation from a reader's perspective. In M. Mateas and P. Sengers, editors, *Narrative Intelligence: Papers from the AAAI Fall Symposium*, number FS-99-01 in AAAI Technical Reports. AAAI Press, 1999.

2 Nicola Dusi. *Il cinema come traduzione.* UTET Università, Torino, 2003.

3 Brian Falkenhainer, Kenneth Forbus, and Dedre Gentner. The structure-mapping engine: Algorithm and examples. *Artificial Intelligence*, 20:1–63, 1989.

4 Mark Alan Finlayson. *Learning Narrative Structure from Annotated Folktales.* PhD thesis, Massachusetts Institute of Technology, 2011.

5 Bernhard Fisseni and Benedikt Löwe. Which dimensions of narratives are relevant for human judgments of story equivalence? In Mark Alan Finlayson, editor, *Proceedings of Computational Models of Narrative 2012*, pages 114–118, İstanbul, 2012.

6 Bernhard Fisseni and Benedikt Löwe. Event-mappings for comparing frameworks for narratives, submitted.

7 Gérard Genette. *Discours du récit.* Points, Paris, 2007.

8 Dedre Gentner, Mary Jo Rattermann, and Kenneth D. Forbus. The roles of similarity in transfer: Separating retrievability from inferential soundness. *Cognitive Psychology*, 25:524–575, 1993.

9 Pablo Gervás. Story generator algorithms. In Peter Hühn, Jan Christoph Meister, Wilhelm Schernus, John Pier, Wolf Schmid, and Jörg Schönert, editors, *The Living Handbook of Narratology.* Hamburg University Press, 2012. version 6 May 2013. URL: `http://hup.sub.uni-hamburg.de/lhn/index.php/Story_Generator_Algorithms`.

10 Pablo Gervás, Birte Lönneker-Rodman, Jan Christoph Meister, and Federico Peinado. Narrative models: Narratology meets artificial intelligence. In Roberto Basili and Alessandro Lenci, editors, *Workshop Toward Computational Models of Literary Analysis, May 22nd, 2006, Genoa (Italy)*, pages 44–51, 2006.

11 David Herman. *Basic Elements of Narrative.* Wiley-Blackwell, Malden, MA, 2009.

12 Wendy G. Lehnert. Plot units and narrative summarization. *Cognitive Science*, 5(4):293–331, 1981.

13 Benedikt Löwe. Methodological remarks about comparing formal frameworks for narratives. In Patrick Allo and Giuseppe Primiero, editors, *Third Workshop in the Philosophy of Information, Contactforum van de Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten*, pages 10–28, Brussel, 2011. KVAB.

14 Benedikt Löwe, Eric Pacuit, and Sanchit Saraf. Identifying the structure of a narrative via an agent-based logic of preferences and beliefs: Formalizations of episodes from CSI: Crime Scene Investigation™. In Michael Duvigneau and Daniel Moldt, editors, *Proceedings of the Fifth International Workshop on Modelling of Objects, Components and Agents. MOCA'09*, number 290/09 in FBI-HH-B, pages 45–63, 2009.

15 Inderjeet Mani. *Computational Modeling of Narrative.* Number 5 in Synthesis Lectures on Human Language Technologies. Morgan & Claypool Publishers, 2012.

16 Neil McIntyre. *Learning to Tell Tales: Automatic Story Generation from Corpora.* PhD thesis, University of Edinburgh, 2011.

17 Wolf Schmid. *Elemente der Narratologie.* de Gruyter, Berlin, 2nd edition, 2008.

A   Additional Data

(5) [*Avatar*]

   a. Avatar is a simple story of war versus peace, human versus alien, a modern species versus an indigenous tribe. It draws influences from numerous films (apart from Cameron's own), most notably Kevin Costner's Dances With Wolves (1990), Edward Zwick's The Last Samurai (2003), and Hayao Miyazaki's Princess Mononoke(1997) and Castle In The Sky (1986).
     `http://filmnomenon2.blogspot.de/2009/12/avatar-2009.html`

   b. It invents a new language, Na'vi, as Lord of the Rings did, although mercifully I doubt this one can be spoken by humans, even teenage humans.
     `http://rogerebert.suntimes.com/apps/pbcs.dll/article?AID=/20091223/LETTERS/912239997`

   c. More importantly, Cameron gives us an alien world in the true sense of the meaning. In most science-fiction films and television – the various Star Trek series being particularly guilty offenders – alienness never amounts to anything more than extras with a few funny facial appliances covering their noses and foreheads. In these there is frustratingly little effort made to conceive of something that is truly alien and goes beyond the standard human-like anthropomorphism.
     `http://0to5stars-moria.ca/sciencefiction/avatar-2009.htm`