Novel to Movie Adaptation

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A brief Overview of what is going to be presented

Used these three research papers:

1) *Theories Of Adaptation: Novel To Film, Ahmad Zaini (philosophy of adaptation theory and semantics associated with this theory)*
2) *Constructing Inferences During Narrative Text Comprehension - Arthur C. Graesser, Murray Singer, and Tom Trabas (About a philosophical theory called constructionist theory relevant to this topic)*
3) *Story Understanding through Semantic Analysis and Automatic Alignment of Text and Video - Makarand Tapaswi (StoryGraphs - a technique for intelligent agents to visualised aligned textual data and videos)*

Adaptation theory

The critical writings of several film theorists thoroughly survey the nature and method of the adaptation as an inter relative thing between literature and film.

Balazs argues that film script is an entirely new literary form. Novel should be regarded as a potential raw material to be transformed at will by the writer of the screenplay. Literature provides the raw materials for film adaptation to create new visual forms and thematic contents; there are several variations possible. He also assumes that an adaptation inspite of being a new work of art bears an obligation to some kernel of truth. There is one single truth conveyed by a written piece of literature.

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Kracauer says according to him, adaptations make sense only when the content of the novel is firmly rooted in objective reality, not in mental and spiritual experience.

Grapes of Wrath was suitable while The Outsider was not.

Cinema is essentially visual and film techniques and such as the voice over or the superimpositions are signs of failure of the visual imagination or worse, impropriety of the subject matter.

If an adaptation fails, fault lies not in the film, but in the source(cinematic or uncinematic).

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Rene Clair the famous French film director believed that adaptation was not artistically "whole" if it merely reproduces its literary source.

Adaptation is an intermediary formal design between literature and film. Paralleling the temporal and chronological sequence of literary source was not true Cinema.

Bluestone asserts that the successful screenwriter must understand the limitation of film medium and make a serious adjustment to a set of different and other conflicting conventions, conventions that have historically distinguished literature from autonomous entities.

According to him, adaptation was a type of raw material that paraphrases thematic content. Characters, key incidents and thematic high points become progenitive qualities of the film.

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Film adaptation will inevitably become a different artistic entity from the novel on which it is based.

Bazin thought reality is multi-layered. According to him, artist's vision should be ascertained from the selection he makes of reality. The novel and the drama are not raw material to take from and render visually. Bazin concludes that Cinema rediscovers the essential experience of the subject matter by its own technical devices keeping in mind the vision of the creator and the spirit of the work by an infusion of tone. Cinema adaptation, according to him intensifies and reveals nuances and details of its literary source.

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French Auteurists never treated filmmaking as a separate art but as an equal member of cultural pantheon. They spoke of film as language and the film director as a kind of writer, motivated by a desire for personal expression wielding a lens instead of a pen. They elevated the cinematic mise-en-scene(the director's treatment of camera movement, space, decor and editing) to a greater importance than the scenario.

Intro to narrative theory , Poetics and Neo-formalism. In general it continues to waver between Bluestone and Auteurists.

Roland Barthes' interesting concepts which could be of major significance to us.

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Narrative is never made up of anything other than functions : in differing degrees, everything in it signifies.

Two main groups of narrative functions : Functions Proper and Indices. Former refers to actions and events (horizontal in nature) and they are strung together linearly in a text and refer to a functionality of doing. Latter denotes a more or less diffuse concept which is nevertheless necessary to the meaning of the text(vertical in nature) and refers to data, identity, place atmosphere, functionality of being.

Function proper is divided into Cardinal functions and catalysers. Cardinal functions are hinge point of narratives, risky moments of narratives. They provide possibility of alternatives of consequences to the development of story. Catalysers are complementary and denotes small actions. They 'lay out areas of safety, rests and luxuries.'

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Adaptation should take sociological turn, by trying to understand the film discourse and the force that motivates it.

Distinctive feature of present age was that media industry with its shared representations are converging from every side to shape our unconscious.

Word and Image in their adapted forms have come to stay and the focus should now shift from purely academic studies of adaptation to using such adaptations for new purposes. One of the purposes could be using it as a "tool for pedagogy" adaptation studies can be used creatively. Moreover, such studies will reveal intertextuality that operates in media.

Case studies

Examples given include Ghare Baire - feels like a new work of art compared to Tagore's novel. Portrait of a lady fails to achieve the tragic grandeur of the novel and undergoes ideological shift. Great Expectations is a literal translation of the Novel.

In the history of Cinema, repeated cinematic adaptations of a particular classic are not a rarity. The compulsion to transcreate a particular text over and over again is an interesting phenomenon. It is like rereading or rewriting a text in different times, from different points of view.

Constructing Inferences During Narrative Text Comprehension

The authors describe a constructionist theory that accounts for the knowledge-based inferences that are constructed when readers comprehend narrative text. Readers potentially generate a rich variety of inferences when they construct a referential situation model of what the text is about. The proposed constructionist theory specifies that some, but not all, of this information is constructed under most conditions of comprehension. The distinctive assumptions of the constructionist theory embrace a principle of search (or effort) after meaning. According to this principle, readers attempt to construct a meaning representation that addresses the reader's goals, that is coherent at both local and global levels, and that explains why actions, events, and states are mentioned in the text. This study reviews empirical evidence that addresses this theory and contrasts it with alternative theoretical frameworks.

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An adequate psychological theory of text comprehension should be able to account for the generation of inferences when readers construct a situation model of what a text is about. A situation model is a mental representation of the people, setting, actions, and events that are mentioned in explicit clauses or that are filled in inferentially by world knowledge.

For example, suppose that an adult reads a novel. Several classes of knowledge-based inferences are potentially constructed during comprehension: The goals and plans that motivate characters' actions, characters' knowledge and beliefs, traits, emotions, the causes of events, properties of objects, spatial relationships among entities, expectations about future episodes in the plot, referents of nouns and pronouns, attitudes of the writer, emotional reactions of the reader, and so on. Some of these inferences are normally generated "on-line" (i.e., during the course of comprehension), whereas others are normally "off-line" (i.e., generated during a later retrieval task but not during comprehension).

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A more precise specification of this search-after-meaning principle has three critical assumptions:
1. The reader goal assumption. The reader constructs a meaning representation that addresses the reader's goals. These goals and meaning representations are normally pitched at deep levels of processing (e.g., semantics and the referential situation model) rather than at shallow levels (e.g., wording and syntax).

2. The coherence assumption. The reader attempts to construct a meaning representation that is coherent at both local and global levels. Local coherence refers to structures and processes that organize elements, constituents, and referents of adjacent clauses or short sequences of clauses. Global coherence is established when local chunks of information are organized and interrelated into higher order chunks.

3. The explanation assumption. The reader attempts to explain why actions, events, and states are mentioned in the text. These explanations involve naive theories of psychological and physical causality in an effort to achieve coherence in understanding.

A constructionist theory that embraces the search-after meaning principle offers predictions that are not uniquely shared by alternative theoretical frameworks in the discourse processing literature. By way of illustration, the proposed constructionist theory predicts that the following three classes of inferences are generated on-line under most processing conditions:

1. Superordinate goals of characters that motivate explicit actions in the text.

2. Causal antecedents that explain why an action, event, or state is explicitly mentioned in the text.

3. Global thematic inferences that integrate major chunks of the text or that convey the point of a message.

There are other classes as well like referential , case structure role assignment, character's emotion reaction.

The referential, case structure, and causal antecedent inferences (classes 1, 2, and 3) are needed to establish local coherence in the text. The inferences that assign case structure roles to explicit noun phrases and prepositional phrases establish local coherence within a clause. The referential inferences and causal antecedent inferences are prevalent when establishing local coherence between clauses. The causal antecedent and superordinate goal inferences (classes 3 and 4, respectively) are needed to explain why involuntary events occur and why characters perform intentional actions. Thematic inferences (class 5) are generated during the establishment of global coherence. The emotional reactions of characters (class 6) and the superordinate goals (class 4) also play a prominent role in global plot configurations of stories (Dyer, 1983; Lehnert, 1981; Stein & Levine, 1991) and are therefore needed for the establishment of global coherence. Interesting story plots involve goal conflicts and salient emotional reactions of characters to episodes in the story world.

Comprehension

Comprehension improves to the extent that the reader constructs more levels of representation and more inferences at each level. To illustrate some multiple levels of representation, consider the following short text.

The truck driver saw the policeman hold up his hand. The truck driver's vehicle stopped, but a car rear-ended the truck driver.

The textbase level of representation would include a propositional description of the explicit text. PROPOSITION 1: saw (truck driver, PROPOSITION 2) PROPOSITION 2: hold-up (policeman, hand) Each proposition has a predicate (i.e., verb, adjective, or connective) and one or more arguments (i.e., noun or embedded proposition). The textbase level would also connect the explicit sentences by argument overlap. The first sentence would be connected to the second sentence by the overlapping argument "truck driver."

Knowledge-Based Inference

Knowledge-based inferences are constructed when background knowledge structures in long-term memory (LTM) are activated, and a subset of this information is encoded in the meaning representation of the text. The meaning representation includes both the textbase and the referential situation model. The background knowledge consists of specific and generic knowledge structures that are relevant to the text. The specific knowledge structures include memory representations of particular experiences, of other texts, and of previous excerpts within the same text. The generic knowledge structures include schemata , scripts , frames, stereotypes , and other structured packets of generic knowledge. Most background knowledge structures are meaningful and contextually rich.

StoryGraphs-Visualising interactions in stories

Propose methods to compute the similarity between very different visual and textual domains and present several methods to align the two story representations. While there are numerous applications of the text-to-video alignment, in this thesis, we focus on three particular areas: (i) rich descriptions for video shots; (ii) story-based search within large video collections; and (iii) finding differences between book and video adaptations.

This technique automatically visualises the character interaction in TV series episodes, overlaid with "event bubbles" showing the location or situation in that scene, chart succinctly portrays the story conveyed in the script/movie.

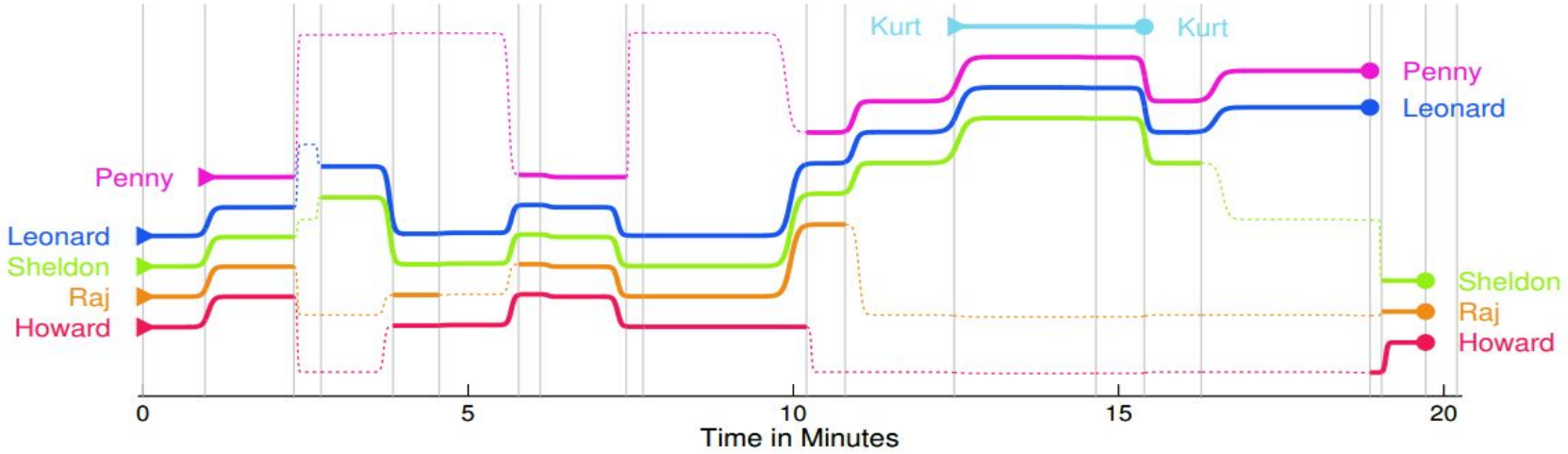

Figure 5.1: StoryGraph generated for season 1, episode 6 of the TV series *The Big Bang Theory*. The graph clearly shows the 5 primary characters (*Penny, Leonard, Sheldon, Raj* and *Howard*) interacting together at the start of the video (first 7 minutes), while splitting into two distinct groups: (1) *Penny* and *Leonard*, and (2) *Sheldon*, *Raj* and *Howard*, at the end of the video (16 - 20 minutes).

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We formulate the layout for StoryGraphs as an optimization problem that attempts to minimize the energy of the system. The free variable that determines the structure of the graph is the y-coordinate for each character and time segment (video scene). Drawing the horizontal character lines is essentially transformed into the problem of connecting the dots (coordinates) for each scene. Note that, in contrast to typical graph layouts (e.g. force-directed (Kobourov, 2012)), our graph is essentially a one-dimensional layout problem – involves estimating the placement of characters within a scene – that is linked through time.

Any visualization involves a trade off between functionality and aesthetics. We design our energy function to capture four desirable properties of StoryGraphs.

Our free variable, x c t denotes the y-coordinate through which the line for character c passes during the scene (time period) t. The total number of characters and scenes is denoted by NC and NT respectively. For brevity, we define the total number of pairwise interactions between NC characters as NP = NC ·(NC − 1)/2.

We define a combined energy function on temporal and spatial coordinates x for all characters that consists of four terms that capture our desired properties:

E(x) = wpEp (x) {proximity} + wcEc (x) {crossings} + wsEs (x) {straight lines} + wm Em (x) {min. Separation}

wp , wc , ws and wm are weight terms designed to emphasize the importance of different energy terms. The optimal line positions are obtained by constrained function minimization x ∗ = argmin x E(x) such that 1 ≤ x c t ≤ NC .

StoryGraphs provide a way to generate a snapshot of the story. We can estimate the representation ability of generated visualizations by comparing them against compare a short description of the episode.

StoryGraphs as an “interesting research area linking previous work on face naming in TV series”, a “clever idea for the problem of efficient and intelligent scanning of lots of visual information” and “being able to generate them in an automated manner is a step forward for ways in which we can look at video summaries”.

StoryGraphs are used for video retrieval given a text query(some parts of the story).

We create event bubbles depicting the current status of the story and add them to the chart.We use SEMAFOR (Das et al., 2014), a method that analyzes the frame-semantic structure of English language. It is based on FrameNet (Baker et al., 1998), a lexical resource that groups words into a hierarchy of structured concepts. Apart from tagging predicates (words) with a concept, SEMAFOR also provides information about relationships to other predicates in the sentence. We manually select a subset of such tags that are related to story events – Becoming aware, Intentionally create, Emotion, Experiencer, Locative relation – that form the basis of our event bubble.

Once we obtain events from the plot synopsis, they are localized in the video using the plot to video alignment.

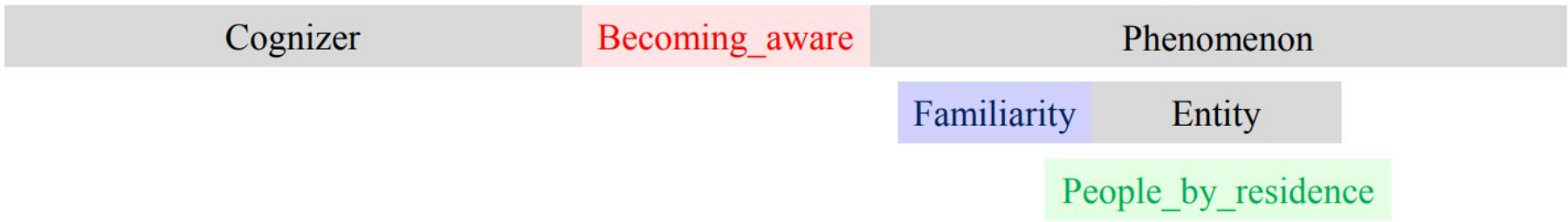

Figure 5.7: SEMAFOR (Das et al., 2014) parses a sentence into semantic frames, and provides information about the dependencies. We tag three predicates in this sentence. The first, "discover" is of type *Becoming aware* and is associated with a *Phenomenon* and a knowledge entity *Cognizer*. The word "new" depicts *Familiarity*, here about the *Entity* "neighbor". Finally, the word "neighbor" is tagged as belonging to the *People by residence* concept, and has no associations.

While most users found StoryGraphs useful, one user asked for the addition of a "legend" showing the names and faces of characters to help in the case of unseen videos. Another user mentioned that "Skimming through a video to search for a segment was only applicable when I knew the characters or the scene was set in a certain location: supermarket, bedroom, etc.". The other comments were to make the graph more interactive through web-based visualization techniques such as D3.js. We leave these as exploration for future work, but can safely conclude that StoryGraphs are not only a nice visualization, but can also aid users in speeding up search for story events in a video.