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Integrating Attribution Theory with SDRT in Poe's The Tell-Tale Heart

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Abstract. Segmented Discourse Representation Theory (SDRT) is a scientific research method for analyzing discourse coherence relationships. Taking The Tell-Tale Heart as an example, during the analysis process, it was found that using only twelve coherent relationships cannot reasonably explain why the narrative from the perspective of a madman in The Tell-Tale Heart is coherent. In the lengthy monologue of a madman, we can find that the narrative is driven by emotions rather than conventional logic. Based on the segmented discourse representation theory, analyze how the discourse coherence relationship driven by the protagonist's emotions in Edgar Allan Poe's The Tell-Tale Heart narrative is established, and why only 12 basic coherence relationships cannot fully explain the coherence relationship, and how to combine it with attribution theory for improvement. This study aims to improve the segmented discourse representation theory using attribution theory, which can explain the coherence of unconventional narrative perspectives. Combining attribution theory with SDRT is practical for analyzing the coherent relationships under a novel that uses unconventional narrative perspectives, especially of a monologue that is forced by emotion and cannot be accounted as a logical event. For unconventional narrative articles, it is difficult to explain discourse coherence using only the 12 coherence relationships of segmented discourse representation theory. This article analyzes the rationality and necessity of adding attribution through charts and detailed case studies, providing a new analytical method for unconventional narrative articles.

Keywords: Segmented Discourse Representation Theory (SDRT), attribution, coherence, monologue

1. Introduction

After attending a workshop on linguistics and literature research conducted by Dr. Daniel Altshuler, the researcher analyzed The Tell-Tale Heart using the 12 basic coherence relations introduced in the workshop. The analysis revealed that the protagonist's monologue could not be persuasively explained within this framework alone. Dr. Daniel Altshuler therefore suggested pursuing deeper research by linking Segmented Discourse Representation Theory (SDRT) with attribution theory, which led to the development of the present study. For clarity, a brief summary of the narrative of The Tell-Tale Heart is provided before the analysis [1]. The story is about a madman who always emphasizes that he is rational and cautious rather than crazy spent seven days preparing to kill his

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neighbor without any conflict with him, and the only reason was that the old man he described had the terrifying eagle eyes. He hid the old man's body on the floor and even sat directly above to communicate with the police, but then he had a hallucination of a heartbeat. In the end, he couldn't bear the pressure and confessed everything to the police. The Tell-Tale Heart is a special example, taking a madman as the perspective. Using only 12 coherent relationships in the segmented discourse representation theory is insufficient for explaining the coherence between the monologue and the murder timeline, because the narrative is driven by emotions rather than conventional logic, which is linked to attitude ascription in Maier's essay [2].

2. Definitions of segmented discourse represented theory and attribution theory

Asher and Lascarides [3] defined the Segmented Discourse Representation Structures (SDRS) as the process in the brain of segmenting discourse into several segments and determining their coherence relationships. SDRT is composed of three main principles: SDRS, compositionality, and default logic. The theory also provides a formal account of the hypothesis that discourse has a hierarchical structure [4]. Regarding attribution, Maier [2] argues that attribution is an independent foundational discourse relation that can be integrated with SDRT. Attribution operates on two levels—the attributer's level and the attributee's level—and the protagonist's monologue can be analyzed as the latter. In this context, the first-person pronoun "I" in the monologue functions as an anaphora referring to the protagonist within the narrative timeline. Therefore, coherence in a discourse is not solely determined by the sequence of events but also by the emotion-driven monologue, which links the protagonist's attitudes and internal perspective to the unfolding narrative.

3. Global analysis and micro analysis in The Tell-Tale Heart based on SDRT

In Subordinating and Coordinating Discourse Relations, Asher and Lascarides [3] gave out a specific method for drawing a coherent relationship graph based on subordinating and coordinating ways, as well as the right frontier constraint. Also, in Asher's [5] another work, given specific instructions to identify abstract objects in a certain discourse, which is beneficial for identifying EDUs and CDUs. And Jasinskaja and Karagjosova [6] proposed a comprehensive explanation of rhetorical relations in The Oxford Handbook of Pragmatics. The preparation and completion of the murder showcase the protagonist's "crazy" traits in the whole passage, which construct two core events in the novel. According to the drawing guideline, the core events in the novel can produce a hypothesis for the coherence relationship in the whole murder background, which is presented in Figure 1. Structurally speaking, I divided the timeline into the first seven days and the eighth day to conduct a global analysis of coherence relationships. To illustrate, all the things the main character has done in the previous seven days were the preparation for the eighth day's murder.

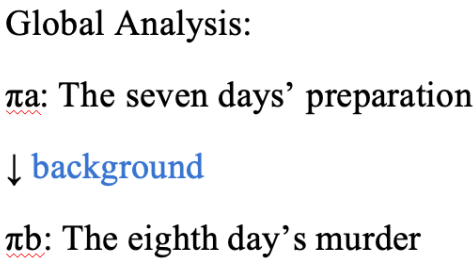

Figure 1. Global analysis [1,3,5,6]

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Table 1 is not a formal structure of coherent relationships for global analysis, because breaking down these sentences into individual edus for drawing is difficult and impractical. For example, in S1, the content after the dash is only an adjective. describing the preparation process for murder. Strictly speaking, the three sentences can form a parallel coherent relationship in S1, but they have to work together and can not provide evidence for the overall coherent relationship (background) alone. Furthermore, in S5, we can see six events, but they can be summarized as what the protagonist did in the first seven mornings, and they have to be used together as evidence for the background coherence relationship. These sentences are taken from the monologue gaps in the novel. Even though they omit the discourse of madness traits, they still clearly provide the detailed reasons and time nodes for the protagonist to plan the murder case, while also proving the absurdity of the murder case occurring. S1 is the protagonist's summary of his behavior. From S2 to S5, he provided a detailed introduction to what he had done in the first seven days, which can be understood as an elaboration on the "advanced" in S1. S6 is an explanation for the first seven days being just preparation work for the murder, while S7 is an explanation for the eighth-day murder.

Table 1. Resembled global analysis [1,3,5,6]

Summary	S1: You should have seen how wisely I proceeded---with what caution---with what foresight---with what dissimulation I went to work!
↑Elaboration	S2: Every night, about midnight, I turned the latch of his door and open it. S3: And then, I put in a dark lantern, all closed, closed, so that no light shore out. S4: And then I thrust in my head..... I move it slowly, so that I might not disturb the old man sleep. S5: Every morning, when the day broke, I went boldly into the chamber, and spoke courageously to him, calling him by name in a hearty tone, and inquiring how he passed the night.
Explanation	S6: I found the eye was always closed, so it was impossible to do the work (murder)
Explanation	S7: It (the old man's eye) was open, wide, wide open---and I grew furious as I gazed upon it.
↑Result	S8: The old man's how had come! (die)

In terms of the micro analysis, Cumming [7] mentioned in his article that narration is composed of two significant parts: sequence and perspective. Hence, I chose the old man's heartbeat variation in different periods, because the transition from reality to hallucinations of the heartbeat deepened the image of the madman. Graph 3 below was the illustration of the coherent relationship based on SDRT only. From πa to πe, it describes the changes in heartbeat during the murder process, which are real, while from πf to πh are hallucinations produced in front of the police. According to the right frontier constraint, the coherent relationship between changes in heartbeat sounds can be established, where πb and πc are the elaboration of "sound" in πa. "It" in πb and πc is the anaphora of heartbeat sounds. In addition, there's a narration between πb and πc, thus they compound a cdu over here. Except for this, the coherence relationship from πa to πd, and from πd to πe are all narration, since the protagonist already killed the old man and the heartbeat slowed down and finally stopped, therefore, the real part of the heartbeat ended. From πe to πf, the heartbeat reappeared because of the protagonist's psychological pressure in front of the police, it was his hallucination. And only narration can connect pE and pF. In πf to πg, πg is the elaboration of "noise" in πf. Another elaboration from πg to πf can be seen, because "it" refers to "noise" in πg.

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Micro Analysis: The heart beat of the old man (start from real heartbeat to hallucination)

πa: There come to my eyes a low, dull, quick sound, such as a watch makes when enceloped in a cotton.

πb: It increased my fury, as the beating of a drum stimulates the soldier into courage.

πc: It grew louder, I say, louder every moment.

πd: For many minutes, the heart beat on with a muffled sound.

πe: It ceased.

πf: The ringing become more distinct..... I found that noise is not within my ears.

πg: The noise arose overall and continually increase.

πh: It grew louder---louder---louder!

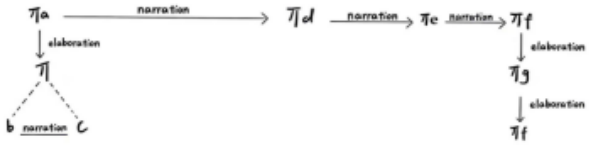

Figure 2. Micro analysis [1,7]

4. SDRT limitations and attribution theory integration

In graph 3, from πa to πd, πd to πe, and πe to πf are all connected by narration. Turning back to the definition, narration, as a relation, connects a sequence of events in a chronological order typically [6]. Even though the three listed narrations cater to the definition itself because of the chronological sequence, they are not appropriate enough since both single EDUs can generate a coherent relationship to some extent. However, within the 12 coherent relationships, it is difficult to find another suitable one for describing the relationships between them except for narration. Bary and Maier [8] referred to a concept of mixed quotation, which highly suggests that the deviation of direct discourse and indirect quotation in discourse is insufficient. And this concept has been expanded in Maier's essay about attribution two years later. Therefore, in order to address the limitation, I suggest using the attribution theory proposed by Maier to revise the previous graphs.

5. New graphs and explanation

Maier [2] proposed in his essay that the way to connect two propositional discourse units was by adding attribution theory, which is highly connected with the unique perspective of a madman in this novel. Because there is "characterization" among the monologues that connect crazy words with casual timeline, to illustrate, the monologue happens in a certain condition where the madman has a twisted mind. According to the attitude ascription which belongs to attribution theory, the underlying reason for the emergence of the crazy monologue is that the man was truly crazy instead of the "wise" he claimed in the novel, his attitude towards his neighbor's eagle eyes determined his action. The process was not about logic, but emotion. The previous graph only focused on the 12 coherent relationships in event logic and ignored the monologue, it is difficult to demonstrate the coherent relationship comprehensively. The new graphs below illustrate the coherent relationship with the emotional monologue of the protagonist based on both SDRT theory and attribution theory. Specifically, I found the major problem in graph 3 where a series of narrations was presented. Many details in his monologue from πa to πd, πd to πe and πe to πf were ignored because they were not a narrative of heartbeat. However, those details are of significance in revealing the emotion of the

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protagonist. In graph4, 6 EDUs were added to compare with the previous one. π1, π2 and π3 are subordinated to πc, and they construct attribution. Because π1, π2 and π3 compose a monologue that describes the protagonist's psychological action. This directly leads to the heartbeat variation. In previous graph 3, only narration is insufficient for explaining the variation. The relationship between π1 and π2 is coordinating narration, while π3 is the result of π2. Under πd, I added π4 which is an elaboration of it, because according to "would not be heard", we can infer the protagonist is crazily worried about the heartbeat, preparing for the hallucination that starts from πf. π5 is the attribution of πg, and it is the attribution of πg. The reason I add it is that the 3 short sentences there display the panicked psychological state of a madman through the monologue. π6 follows the same logic as π5. The 6 new EDUs are effective since these monologues or hints of psychological activity not only present the process of the protagonist gradually becoming anxious and the psychological defense line gradually collapsing, but also demonstrate the protagonist's crazy traits in tone. Therefore, the previous narration can be made more concrete.

Micro Analysis: The heart beat of the old man (start from real heartbeat to hallucination)

πa: There come to my eyes a low, dull, quick sound, such as a watch makes when enceloped in a cotton.

πb: It increased my fury, as the beating of a drum stimulates the soldier into courage.

πc: It grew louder, I say, louder every moment.

πd: For many minutes, the heart beat on with a muffled sound.

πe: It ceased.

πf: The ringing become more distinct..... I found that noise is not within my ears.

πg: The noise arose overall and continually increase.

πh: It grew louder---louder---louder!

π1: I've told you I'm nervous; so I am.

π2: And now a new anxiety seized me---the sound would be heard by my neighbor!

π3: The old man's hour had come!

π4: This would not be heard through the wall.

π5: Oh god! What could I do! I foamed---I raved---I swore!

π6: They heard! They suspect! They knew!

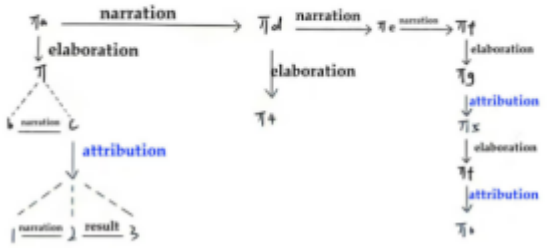

Figure 3. Micro analysis [1,2,7]

6. Conclusion

In conclusion, this research novelly combines the attribution theory with SDRT. This handles the insufficient analysis of the psychological section in literary works. It is significant for discourse analysis to reveal psychological parts except for logical parts. Because logic construct the skeletons of the literature, but psychological section gives the soul to the literature. After adding attribution theory into SDRT, it is possible to use sentences in a monologue to draw a new graph that is more

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comprehensive and understandable for readers. Especially in the previous graph 3, most of the coordinating EDUs are connected with narration, and this phenomenon is not really reliable and convincing. Combining attribution theory with SDRT contributes to closing the gap of linking EDUs solely to the event with an emotional monologue which is vague before. This, in turn, adds emotion that is related to the protagonists' psychological world to the sole logic. In the level of discourse coherence, it shows innovation for a more comprehensive analysis of the inner world of a madman instead of only analyzing the logic. For future research direction, in literary works which involve a great amount of emotion-driven texts including monologues, especially the characters who have certain properties, making their emotions closely related to and affecting their actions, attribution should be taken into consideration other than the 12 basic coherence relationships, for a better explanation. However, people may come across difficulties in their research. For instance, the extremely complex and difficult graphs or figures for illustration can confuse the readers. This requires a simpler presentation of those abstract theories.

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