Variations of Phenomenon and Circumstance in Mental Processes
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Abstract:
This research aims to identify the variation of Phenomenon and Circumstance in mental processes. Data was taken from two literary works, and were analyzed using theories of Systemic Functional Linguistics by Halliday (1985), Thomas Bloor and Meriel Bloor (1995), and Egginns (2000). The analysis was conducted using content analysis method by sorting mental processes that contain two clauses where the second clause was projected by the first clause. Data was presented by identifying elements in mental processes containing Phenomenon and Circumstance. The main components of mental process include Participant, Process, and Phenomenon, with Circumstance as an optional component, meaning it is not an obligatory component in the processes. Results show that there are two variations of phenomenon that can project other clauses complemented by many types of Circumstance. The first is the phenomenon of Fact embedded with Circumstance of Location, Extent, Manner, and Matter. The second is the Phenomenon of Thought with Circumstance of Extent, Location, Manner, Cause and Role. The most frequent Circumstance that can be found includes Circumstance of Manner, followed by Circumstance of Extent.

Keyword: mental processes, phenomenon, circumstance

INTRODUCTION

Functional grammar is a concept introduced by Halliday, an English Professor in University of Sidney in his widely-known book entitled An Introduction to Functional Grammar (1985). Basically, functional grammar is a way of looking at grammar in terms of how grammar is used (Martin, Matthiesen, & Painter, 1997, p. 1). In other word, while formal grammar sees language as a construction, functional grammar sees how language is used to make meaning (Rahmasari, 2018, p. 58). Functional grammar is basically different from formal grammar: the traditional and the transformational ones, in several terms. Formal grammar uses sentence as the unit of analysis, while functional grammar uses the text as a whole. Formal grammar tends to see language as a set of rules for sentence construction, while functional grammar sees language as a source for meaning making (Gerot & Wignell, 1995, p. 7).

Formal grammar uses sentence as the unit of analysis, while functional grammar uses the text as a whole with clause as the unit of analysis. Clauses can consist of one or more groups, and one group consists of one or more words (Bloor & Bloor, 1995, p. 27). There are three main groups. The first is nominal group, which is a part of the clause that contains nouns and the words than can accompany nouns (Egginns, 2000, p. 60). For example, a black spider with spider as the Head and the rest as modifiers. The second is verbal group, which is the expansion of a verb ... that consists of a sequence of words of the primary class of verb (Halliday & Matthiesen, 2004, p. 355), for example the word can’t walk with walk as the Head and can’t as modifier. The
last is adverbial group, which (serves) as circumstantial adjunct or circumstance (Halliday & Matthiesen, 2004, p. 335).

Basically, Halliday describes three kinds of meanings, textual meaning (clause as a message), interpersonal meaning (clause as an exchange), and ideational meaning (clause as a representation). In clause as representation, the meaning is conveyed through clauses as the grammatical units. In Functional grammar, clauses are analyzed based on its Process and Participant. The term Process here refers to what is going on in the whole clause and refers to that part of the proposition encoded in the Verbal Group (Bloor & Bloor, 1995, p. 110).

In clause as representation, there are six Processes discussed, one of which is Mental Process. The processes in Mental Process are realized by verbs. There are three kinds of verbs that can be found in mental processes, including verbs of cognition, perception and affection. Mental processes consist of a subject that is best-known as Senser. Senser is the one who experiences the process. This participant must always be animate and is usually human (Lock, 1996). Senser can be realized by nominal groups or pronouns.

Senser senses something that is called Phenomenon. Phenomenon is best described as taste of mind or psychological events; Phenomenon maybe animate or inanimate (Bloor & Bloor, 1995). Phenomenon is most typically a thing, realized by a noun group, a thought realized by a finite clause, or an event, realized by Ving or V clause, such as the clause him helping Doreen with the answer in the clause I noticed him helping Doreen (Lock, 1996, pp. 106–107).

Phenomenon can be a person, a concrete object, an abstraction (Thompson, 1996, p. 83). There are 3 types of Phenomenon that exists in mental processes (Lock, 1996, pp. 106–110), including Phenomenon of Thing, Fact, and Thought. Phenomenon can be represented by nouns, noun groups, or clauses. In other words, mental processes can consist of two clauses, namely clause complexes. These two clauses, then, are in a relation known as Projection (Halliday, 1985, p. 228). Projection describes the relationship known as indirect or reported thought, or direct or quoted thought (Egginns, 2000, p. 247). Projection could be realized by different grammatical units such as clause complex, prepositional phrases, adverb .... (Chen, 2016, p. 72).

All mental processes potentially involve both Senser and Phenomenon (Halliday, 1985). This means that all mental process should always have two participants in it, whether if it is a single clause or clause complex, explicitly or implicitly (Rahmasari & Nurhayati, 2019).

Besides Senser and Phenomenon as obligatory participants in mental processes, there is one other participant that can be found in mental processes, namely Circumstance. Circumstances refer to examples such as the location of an event in time or space, its manner, or its cause; and these notions of when, where, how and why the things happens provided by ... explanation, by linking circumstance to the four WH- forms that were adverbs.... (Halliday & Matthiesen, 2004, p. 260).

Circumstance elements can be realized by adverbial group, for example the prepositional phrase clearly in I will try to think it clearly. Besides by adverbial group, Circumstance can be also realized by a Prepositional Phrase, such as the words to the movie in I want to go to the movie.

Circumstance is an optional participant, meaning it can be used or not. There are seven types of circumstances, including circumstance of Extent, Location, Manner, Matter, Cause, Accompaniment, and Role. Circumstance of extent answers the question of duration, for example very much; circumstance of location answers the question of when? and where?; circumstance of manner answers the questions of how?; circumstance of matter answers the question of what about?; circumstance of cause answers the question of why?; circumstance of accompaniment answers the question of with whom?; and circumstance of role answers the question of what as? (Egginns, 2000, pp. 237–239).

This research aims to identify the variation of Phenomenon and Circumstance in mental processes. The analysis was conducted using content analysis method by identifying clauses with participants involved, particularly the ones that involved Phenomenon and Circumstance.
METHOD

Initially, there were 249 data that was analyzed. The data was taken from two literary works, namely Blood Canticle by Anne Rice (2003) and Eclipse by Stephenie Meyer (2007). Initially, there were 249 data analyzed. The data was analyzed using content analysis method. Content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use (Krippendorf, 2004, p. 18).

Using content analysis, the research was conducted in several steps. The first step is to identify which data that consists of two clauses to see which mental processes contains projection. As a result, there are 133 data that qualify with the requirement. Then, these data was further analyzed by identifying which mental clauses contain circumstance. It was found that there are only 30 data that matched with the qualification, comprised of 9 data of Phenomenon of Fact and Circumstance and 21 data of Phenomenon of Fact and Circumstance.

RESULTS AND DISCUSSION

The analysis of the variation of phenomenon and circumstance was divided into two categories, the variation of phenomenon of Fact and circumstance (location, extent, manner, and matter) and Phenomenon of Thought and Circumstance (Extent, Location and Manner). From 9 data, the circumstance that appeared the most is the circumstance of Extent (33.4%) as presented in Table 1 below, although the rest of circumstances are also appeared in the equal amount.

| No | Types of Circumstance | Frequency | Percentage (%) |
|----|------------------------|-----------|----------------|
| 1  | Extent                 | 3         | 33.4           |
| 2  | Location               | 2         | 22.2           |
| 3  | manner                 | 2         | 22.2           |
| 4  | Matter                 | 2         | 22.2           |
| 5  | Cause                  | 0         | 0              |
| 6  | Accompaniment          | 0         | 0              |
| 7  | Role                   | 0         | 0              |
| Total |                     | 9         | 100            |

Phenomenon of Fact and Circumstances

Phenomenon of Fact and Circumstance of Extent

The first pattern in this classification is Senser that is followed by Process, Phenomenon of Fact, and Circumstance of Extent. Senser is realized by noun group, Process is realized by verbal group, and Phenomenon of Fact is realized by Fact clause. On the other hand, the role of Extent as Circumstance can be filled with adverbial group or prepositional phrase. Circumstance of Extent answers the questions about duration and spatial distance.

| Se | Pr | Ph: F | Cir: Ext |
|----|----|-------|----------|
| NG | VG | Fact cl | AG/PG    |

From the data source, there is one clause that includes Extent as Circumstance as one of optional role can be found in mental process with Thing as Phenomenon.

(1) I can’t believe you’re reading Wuthering Heights again... (Eclipse, 17)

In this data, mental process is indicated by verbal group can’t believe, with the word believe as Head of the group. The role of Senser is represented by noun group I. The role of Phenomenon is filled by embedded clause of you’re reading Wuthering Heights. This clause is considered to be a Fact because if we insert the fact that in front of the clause, there will be no change in meaning. In other words, the clause you’re reading Wuthering Heights is projected by the clause I can’t believe. On the other hand, the role of Circumstance as Extent is realized by adverbial group again, because it answers the question of duration (How many times? Again /one more times).
**I can’t believe (the fact that) you’re reading Wuthering Heights**

| Se | Pr | Ph: F | Cir: Ext |
|----|----|------|---------|
| NG | VG | EC   | AG      |

**Phenomenon of Fact and Circumstance of Location**

The second pattern in this classification is Senser that is followed by Process, Phenomenon of Fact, and Circumstance of Location. Senser is realized by noun group, Process is realized by verbal group, and Phenomenon of Fact is realized by Fact clause. The role of Circumstance of Location is realized by adverbial group or prepositional group. Circumstance of Location answers the questions *when* and *where*.

| Se | Pr | Ph: F | Cir: Ext |
|----|----|------|---------|
| NG | VG | Fact cl | AG/PP |

There are two data from the source that contain this pattern of participants in mental process. Below are the analysis.

(2)  
*They will perhaps appreciate that at the root of our lineage there exists not a great goddess but a fairly simple personality, honed by time, and visions and desires linked to her own mortal*  
(Blood Canticle, 265)

In this data, mental process is realized by verbal group will perhaps appreciate with the word appreciate as the Head of the group. The role of Senser is realized by noun group *I*. The role of Fact as Phenomenon is realized by *that* clause *that there exists not a great goddess but a fairly simple personality, honed by time, and visions and desires linked to her own mortal*. Here, clause *at the root of our lineage there exists not a great goddess but a fairly simple personality, honed by time, and visions and desires linked to her own mortal* is projected by the clause *They will perhaps appreciate*. Prepositional phrase at the root of our lineage fills the role of Location as Circumstance, because it answers the question *where*?

| They | will perhaps appreciate | that | at the root of our lineage | there exists not a great goddess but a fairly simple personality |
|------|------------------------|------|---------------------------|---------------------------------------------------------------|
| Se   | Pr                     | Ph:  | Cir: Loc                  | F                                                             |
| NG   | VG                     | That-| PP                        | -Clause                                                        |

(3)  
*… during that time, I realized I was pregnant*  
(Blood Canticle, 147)

In this data, mental process is realized by verbal group realized. The role of Senser is represented by noun group *I*. The embedded clause *I was pregnant* functions as Phenomenon of Fact. It considered a Fact because if we insert *the fact that* in front of the clause *I was pregnant*, there will not be any changing in meaning. In this sentence, the clause *I was pregnant* was projected by the clause *I realized*. On the other hand, prepositional phrase *during that time* functions as Circumstance, especially Circumstance of Location because it answers the question *when*?

| … during that time | I realized | I was pregnant |
|-------------------|------------|---------------|
| Cir: Loc          | Se         | Pr            | Ph: F         |
| PP                | NG         | VG            | That clause   |

Data (2) and (3) contain different cognition verb. Therefore, we have verbs appreciate and realize that can be found in mental process within the structure.
Phenomenon of Fact and Circumstance of Manner

The third pattern within the classification is Phenomenon of Fact and Circumstance of Manner. It can be formulated as Senser that is followed by Process, Phenomenon of Fact, and Circumstance of Manner. Senser is realized by noun group, Process is realized by verbal group, and Phenomenon of Fact is realized by Fact clause. The role of Manner as Circumstance is filled by prepositional phrase. Circumstance of Manner answers the questions how?

| Se  | Pr  | Ph: F     | Cir: Mat |
|-----|-----|-----------|----------|
| NG  | VG  | Fact cl   | PP       |

There is one data from the source that contains this pattern of participants in mental process. Below is the analysis.

(4) **It occurred to me with uncommon strength that I had grown too fond of all these people...** (Blood Canticle, 31)

In Data 4, mental process is realized by verbal group *occurred to*, with the word *occurred* as the Head of the group. The role of Senser is realized by noun group *me*. Pronoun *it* functions as something that is being sensed, or Phenomenon, especially Phenomenon of Fact because it refers to *that* clause *that I had grown too fond of all these people*. It is a Fact because if we put it in front of the mental process, it is still acceptable and gives no changing in meaning.

As mentioned before, the clause *that I had grown too fond of all these people* acts as a Fact. Thus, in this sentence, the Fact is projected by the clause *It occurred to me with uncommon strength*. As mentioned before that Fact can be put in front of the mental process, thus the Fact in this sentence can be put in front of the sentence as in Data (5) below.

(5) **That I had grown too fond of all these people occurred to me with uncommon strength.**

In Data 5, there is Circumstance of Manner, which is realized by prepositional phrase *with uncommon strength*. It functions as Circumstance of Manner because the information answers the question of how?

| It  | occurred to | me | with uncommon strength | that I had grown too fond of all these people... |
|-----|-------------|----|------------------------|-----------------------------------------------|
| Ph: | Se          | Pr | Cir: Man               | F                                             |
|     | NG          | VG | That clause            | Fact clause                                   |

Phenomenon of Thought and Circumstance Variants

Next is mental process variation with Phenomenon of Thought and circumstances. In this classification, there are three variants of Circumstance that can be found, namely Circumstance of Manner, Extent, Location, Cause and Role and combination (Extent and Location). From the collected data, the circumstance that appeared the most is the circumstance of Manner (42.9%) as presented in Table 2 below.

| No | Types of Circumstance | Frequency | Percentage (%) |
|----|------------------------|-----------|----------------|
| 1  | Manner                 | 9         | 42.9           |
| 2  | Extent                 | 5         | 23.8           |
| 3  | Location               | 4         | 19.0           |
| 4  | Cause                  | 1         | 4.8            |
| 5  | Role                   | 1         | 4.8            |
| 6  | Time                   | 0         | 0.0            |
| 7  | Accompaniment          | 0         | 0.0            |
| 8  | Combination            | 1         | 4.8            |
Phenomenon of Thought and Circumstance of Extent

The first pattern of this classification is Senser that is followed by Process, Phenomenon of Thought, and Circumstance of Extent. Circumstance of Extent answers the questions about duration and spatial distance. There are several data from data source that contain Circumstantial of Extent in mental process with Thought as Phenomenon. The role of Circumstance can be filled by an Adverbial group or Prepositional Phrase.

| Se | Pr | Ph: Tht | Cir: Ext |
|----|----|---------|---------|
| NG | VG | that/ if / whether cl./ or wh-words | AG/PP |

There are several data found that contain mental process with this pattern. The followings are the examples and their explanation.

(6) **Again, I let myself imagine we were in a dark bed** *(Blood Canticle, 271)*

In Data 6, there are two clauses, with *I let myself imagine* as the main clause and *we were in dark bed* as an embedded clause. In the main clause, mental process is signified by the Verbal Group *let myself imagine* with the word *imagine* as Head of the group and the rest as modifiers. The role of Senser is filled by Noun Group *I* and the role of Phenomenon is filled by the embedded clause of *we were in dark bed* as a Thought. The word *again* represents the role of Extent as Circumstance because it answers question *how many time*. Here, the clause *we were in a dark bed* was projected by *I let myself imagine*.

(7) **... I wondered again what I might have said while sleeping in Jacob's arms.** *(Eclipse, 298)*

In Data 7, there are two clauses with *I wondered again* as the main clause and *what I might have said while sleeping in Jacob's arm* as the embedded clause. In the main clause, mental process is realized by Verbal Group *wondered*. The role of Senser is filled by Noun Group *my face*, with the word *face* as Head of the group and the word *my* as modifier. The Adverbial group *again* indicates the role of Extent as circumstance because it answers question of *how many times*. On the other hand, the embedded clause fills the role of Phenomenon, or something that is being sensed by the Senser. Here, the Phenomenon realized by the Thought kind. In this data, the clause *I wondered again* project the clause *what I might have said while sleeping in Jacob's arms*.

Verbs that can be found in mental process within the structure are *imagine* and *wonder*.

Phenomenon of Thought and Circumstance of Location

The second pattern in this classification is Senser that is followed by Process, Phenomenon of Thought and Circumstance of Location, or can be formulated as Se + Pr + Ph: Tht + Cir: Loc. The last role is not necessarily put in the last part of the process. As always, Senser is filled by Noun Group, Process by Verbal Group, Phenomenon of Thought by that/if/wh- clause, and Circumstance of Location by Adverbial Group or Prepositional Phrase.

| Se | Pr | Ph: Tht | Cir: Loc |
|----|----|---------|---------|
|    |    |         |         |
There are several data found from data source that include this pattern. The following are some examples and their explanations.

(8) *When Edward officially left for the evening, I wondered who was out in the downpour* (Eclipse, 122)

In Data 8, there are three clauses with *I wondered* as the main clause, *who was out in the downpour* as embedded clause, and *when Edward officially left for the evening* as additional information. The mental process in the main clause is realized by noun group *wondered*. The role of Senser is filled by other noun group, which is *I*. Something that is being sensed or Phenomenon is the WH-clause of *who was out in the downpour*. The other WH-clause of *when Edward officially left for the evening* realizes the role of Circumstance, particularly Circumstance of Location. In this data, the clause *I wonder* projects the clause *who was out in the downpour*.

| When Edward officially left for the evening, | I wondered | who was out in the downpour |
|--------------------------------------------|------------|----------------------------|
| Cir: Loc                                   | Pr         | Pr                         |
| PP                                         | NG         | VG                         |
| WH-clause                                  |            |                            |

(9) *As the disturbing vision struck again, I knew exactly why I was dissatisfied with my liberty.* (Eclipse, 22)

In Data 9 the main clause is *I knew*. The mental verb is then realized by verbal group *knew* and Senser is realized by noun group *I*. The role of Phenomenon is realized by WH-clause of *why I was dissatisfied with my liberty*. There are two Circumstances here, the embedded clause *as the disturbing vision struck again* and the word *exactly*. The embedded clause serves as Circumstance of Location because it answers the question *why* that becomes one of the indicator of Location as Circumstance. The adverbial group *exactly* functions as Circumstance of Manner, because it answers the question of *how-ly*. Here, the clause *why I was dissatisfied with my liberty* is projected by the clause *I knew exactly*.

| As the disturbing vision struck again, | I knew | exactly | why I was dissatisfied with my liberty. |
|---------------------------------------|-------|---------|----------------------------------------|
| Cir: Loc                              | Se    | Pr      | Cir: Man                               |
| PP                                    | VG    | AG      | WH-clause                              |

(10) *As for me, I don't know if he loved me when he canonized me...* (Blood Canticle, 11)

There are three clauses in data 10. Here, we have the main clause *I don't know* as mental process. Senser is realized by noun group *I*, and Process is realized by verbal group *don't know*, with the word *know* as Head. On the other hand, something that is being sensed by *I* or Phenomenon is the if-clause *if he loved me*. From the data, we have two Circumstances, the WH-clause *when he canonized me* and the clause *as for me*. The WH-clause functions as Circumstance of Location because it indicates the time or answers the question of *when*. On the other hand, the clause *as for me* functions as Circumstance of Cause because it answers the question of *who for*

| As for me, I don't know if he loved me when he canonized me... | Cir: Loc | Se | Pr | If clause | PH: Tht | PH: Tht |
|---------------------------------------------------------------|----------|---|----|-----------|--------|--------|
| PP                                                            | Se       | VG |    |           |        |        |
Phenomenon of Thought and Circumstance of Manner

The third pattern in this classification is Senser that is followed by Process, Phenomenon of Thought and Circumstance of Manner, or can be formulated as Se + Pr + Ph: Tht + Cir: Man. As always, Senser is filled by Noun Group, Process by Verbal Group, Phenomenon of Thought by that/if/wh-clause, and Circumstance of Manner by Adverbial Group or Prepositional Phrase.

| Se  | Pr   | Ph: Tht               | Cir: Man   |
|-----|------|-----------------------|------------|
| NG  | VG   | that/ if / whether cl./ or wh-words | PP/AP      |

There are several data found from data source that include this pattern. The following are some examples and their explanations.

(11) **I briefly considered trying to sneak past him.** (Eclipse, 33)

In Data 11, noun group *I* realized the role of Senser. Adverbial group briefly functions as Circumstance of Manner because it answers the question *how?* Verbal group *considered* functions as Process. Embedded clause *trying to sneak past him* functions as Phenomenon of Thought that also functions as projected clause.

| *I* briefly considered trying to sneak past him |
|-----|------|--------|------|
| Se  | Cir: Man | Pr   | Ph: Tht |
| VG  | AG     | VG    | EC    |

(12) **Surely you don’t forget who I am.** (Eclipse, 246)

In data 12, mental process is realized by verbal group *don’t forget* with the word *forget* as the Head of the group. The role of Senser is filled by noun group *you*. Something that is being sensed or Phenomenon is WH-clause *who I am*, which especially realizes the role of Phenomenon as Thought. On the other hand, adverbial group *surely* represents the role of Circumstance, especially Manner, because it answers the questions of how? In this data, the clause *who I am* acts as an embedded clause projected by the clause *you don’t forget*.

| Surely you don’t forget who I am |
|-----|------|------|------|
| Cir: Man | you | don’t forget | who I am |
| AG     | NG   | VG   | EC    |

Phenomenon of Thought and Circumstance of Cause

The fourth pattern in this classification is Senser that is followed by Process, Phenomenon of Thought and Circumstance of Cause, or can be formulated as Se + Pr + Ph: Tht + Cir: Cau. As always, Senser is filled by Noun Group, Process by Verbal Group, Phenomenon of Thought by that/if/wh-clause, and Circumstance of Cause by adverbial group or prepositional phrase.

| Se  | Pr   | Ph: Tht               | Cir: Cau   |
|-----|------|-----------------------|------------|
| NG  | VG   | that/ if / whether cl./ or wh-words | PP/AP      |

There is one data found from data source that include this pattern. Below is the explanation.

(13) **As for me, I don’t know if he loved me when he canonized me, because I haven’t yet written the part of the story in which I get canonized.** (Blood Canticle, 11)

In Data 13, mental process is realized by verbal group *don’t know*, with the word *know* as Head of the group. The role of Senser is filled by noun group *I*. The if clause *if he loved me when he canonized me* represents the role of Phenomenon of Thought. Preposition group *as for me* realizes the role of Cause as Circumstance because it answers question of what about. In this data, the clause *I don’t know* projects the clause *what if he loved me* as an embedded clause.
As for me, I don’t know if he loved me when he canonized me

| Cir: Cau | Se | Pr | Ph: Tht |
|---------|----|----|--------|
| PP      | NG | VG | If clause |

Phenomenon of Thought and Circumstance of Role

The fifth pattern in this classification is Senser that is followed by Process, Phenomenon of Thought and Circumstance of Role, or can be formulated as Se + Pr + Ph: Tht + Cir: Rol. The role of Senser is filled by Noun Group, Process by Verbal Group, Phenomenon of Thought by that/if/wh-clause, and Circumstance of Role by adverbial group or prepositional phrase.

| Se | Pr | Ph: Tht | Cir: Rol |
|----|----|---------|----------|
| NG | VG | that/if/whether cl./or wh-words | PP/AP |

There is one data found from data source that include this pattern. Below is the explanation.

(14) As Quinn’s friend, I thought you’d know. (Blood Canticle, 33)

In Data 14, mental process is realized by verbal group thought that also functions as the Head of the group. The role of Senser is filled by noun group I. The clause you’d know represents the role of Phenomenon of Thought. Preposition group as Quinn’s friend realizes the Circumstance of Role because it answers question of what as.

In this data, the clause I thought projects the clause you’d know as an embedded clause.

| As Quinn’s friend, | I | thought | (that) you’d know |
|--------|----|---------|------------------|
| Cir: Rol | Se | Pr | Ph: Tht |
| AG | NG | VG | (that) clause |

Phenomenon of Thought and Circumstance of Extent and Location

The Sixth pattern found in from the data is Senser that is followed by Process, Phenomenon of Thought and two Circumstance. The first Circumstance found is Circumstance of Extent, and the second Circumstance found is Circumstance of Location. The formulation of this pattern is Se + Pr + Cir: Ext + Ph: Tht + Cir: Loc. The role of Senser is filled by Noun Group, Process by Verbal Group, Phenomenon of Thought by that/if/wh-clause, and Circumstance of Extent by noun group and Circumstance of Location is filled by prepositional Phrase.

| Se | Pr | Cir: Ext | Ph: Tht | Cir: Loc |
|----|----|---------|--------|---------|
| NG | VG | NG      | that/if/whether cl./or wh-words | PP/AP |

(15) I wondered again what I might have said while sleeping in Jacob’s arms. (Eclipse, 298)

In Data 15, mental process is realized by verbal group wondered that also functions as the Head of the group. The role of Senser is filled by noun group I. The word again represents the role of Circumstance of Extent because it answers the question of duration (How many times? Again / one more time). The clause what I might have said represents the role of Phenomenon of Thought. Prepositional group while sleeping in Jacob’s arms realizes the Circumstance of location because it answers question of where? In this data, the clause I wondered again projects the clause what I might have said as an embedded clause.

| I | wondered | again | What I might have said | While sleeping in Jacob’s arms |
|---|----------|-------|-------------------------|-----------------------------|
| Se | Pr | Cir: ext | Ph: Tht | Cir: Loc |
| NG | VG | NG | (that) clause | NG |
CONCLUSION

Based on the variations of Phenomenon and Circumstances in Mental Processes, there are two variants of Phenomenon with four variants of Circumstances. For the Phenomenon, the variations are Phenomenon of Fact and Phenomenon of Thought. For Phenomenon of Fact, the circumstances found include Circumstance of Extent, Location, Manner, and Matter, as for the Phenomenon of Thought, the variations of Circumstance found include circumstance of Manner, Extent, Location, Cause, and Role. The circumstance can appear in the beginning, in the middle, or at the end of mental processes. The most frequent Circumstance that can be found includes Circumstance of Manner, followed by Circumstance of Extent.

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