

A Study of Topology of Behavioral Clauses in English and Vietnamese in the Light of Functional Grammar

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Abstract: The study of the relation between human behavior and language is probably the most fascinating interests that a scholar can undertake. Actually, human behavior and language have very close, mutual and complex relationships which need exploring more. This paper reports on an ongoing Ph. D research in the light of functional grammar raised by Halliday M.A.K [11]. It aims at presenting (i) the theoretical background of experimental meaning: the system of transitivity and especially behavioral clauses, (ii) the identification of English and Vietnamese verbs that realize process in behavioral clauses with a corpus of English and Vietnamese literary work of the late 20th century and the early 21st century, (iii) a topology of behavioral clauses in English and Vietnamese literary work. When we look at the experimental metafunction, we are investigating the grammar of the clause as *representation*. To achieve the set goals, descriptive method and functional analysis are thoroughly chosen. Finally, this paper also employs the framework of Martin, Matthiessen and Painter [15], Bloor and Bloor [2] and Eggins [8] to find out more about the subtypes of behavioral processes in English and Vietnamese literary genre.

Keywords: Functional Grammar, Topology, Experimental Meaning, Behavioral Clauses

1. Introduction

There have been two major distinctive existing approaches on analyzing Vietnamese clauses. One is influenced by European traditional grammar, especially French grammar. Its analysis is based on Subject-Predicator structure. Many Vietnamese linguists like Phan Khoi [21], Bui Duc Tinh [5] applied this traditional *Subject-Predicate structure* to analyze Vietnamese clauses. The other is based on Systemic Functional Grammar raised by Halliday[11]. This is a new trend in modern Vietnamese grammar which helps us deal with some difficulties in interpreting and analyzing a clause that traditional grammar cannot tackle. This analysis of the clause is based on *Theme-Rheme* structure (clause as message), *Mood structure* (clause as exchange) and *Transitivity system* (clause as representation). A considerable number of Vietnamese linguists like Hoang Van Van [13], Diep Quang Ban [7], Cao Xuan Hao [6], are completely dedicated to this trend. In addition, many studies have been carried out to explore the nature as well as the importance of experimental meaning in English and Vietnamese. In this paper, we focus on *Transitivity system* (clause as

representation), especially behavioral clauses and their topology in English and Vietnamese. Less attention has been paid to Behavioral processes than other processes due to its complexity and ambiguousness.

2. The Theoretical Background of Experimental Meaning: The System of Transitivity and Especially Behavioral Clauses

How “meaning in grammar” is treated is an interesting question and many linguists and scholars are especially interested in it. According to Halliday [11], there are three types of meaning within grammatical structures namely: *Experimental meaning*, *Interpersonal meaning* and *Textual meaning*. Among them, Experimental meaning has to do with the ways language represents our experience of the world and the inner world of our thoughts and feelings. In other words, we have turned our experience of actions, happenings, feelings, beliefs, situations, states, behaviors and so on, into meaning and into wording. The people and things involved in then and the relevant of

circumstances of time, place, manner and so on. Transitivity belonging to experimental meaning is the grammar of experience. It construes the word into a manageable set of Process types and of Participants. Halliday [11] has identified the encoding processes of the realities under discussion, and has also linguistically (grammatically) classified the various process types: *material*, *mental*, *relational*, and the classified other processes into three subsidiary process types: *behavioral*, *verbal*, and *existential*.

2.1. Material Processes

Material processes are processes of “Doing”. They have an obligatory participant which is the Actor- the doer of the action. A second participant, the Goal of the action, is the optional participant to which the doing is done. There are still other participants which are Goal, Range and Beneficiary.

Mary	sent	her present	to David.
Actor	Pro: material	Goal	Beneficiary

2.2. Mental Processes

Mental processes encode the inner world of cognition, perception and affection. They tend to be realized through the use of verbs like think, know, feel, smell, hear, see, want, like, hate, wish, etc. There are two constant participants in a mental process: a *Senser* and a *Phenomenon*, even if the *Phenomenon* is not explicitly realized.

He	loved	his wife	at first sight.
Actor	Pro: mental	Phenomenon	Circumstance

2.3. Relational Processes

Relational processes are processes of “being”: something is being said to “be” something else. That is to say, there are always two participants in relational processes which consist of two main modes: *Attributive* and *Identifying*

- *Attributive*: “A is an attributive of X”
- *Identifying*: “A is the identity of X”

Abraham Lincoln	was	very tall and thin.
Carrier	Pro: attributive	Attribute

Abraham Lincoln	Was	the 16th president of the United States.
Token	Pro: identifying	Value

2.4. Behavioral Processes

Behavioral processes are processes of psychological and physiological process, like *breathing*, *coughing*, *smiling*, *dreaming*, *chatting*, *watching*, etc. These construe human behavior including mental and verbal behavior as an active version of verbal and mental processes. Saying and sensing are construed as activity. Typically, the participant is a conscious being, like the *Senser*, but the process functions are more like one of doing. The participant is called as *Behaver*, such as:

I	am listening	to the radio.
Behaver	Pro: behavioral	behavioral circumstance

2.5. Verbal Processes

Verbal processes can be identified as the processes of saying which are expressed by verbs *tell*, *say*, *ask*, *suggest*, etc. Verbal process also includes modes of expressing and indicating, even though they are not verbal. There are two main typical participants in the process: *Sayer* and *Receiver*. The *Sayer* is the addresser, or the one who does the verbalization, and the *Receiver* is the addressed which the saying is addressed.

She	Talks	to him	about her childhood.
Sayer	Pro: Verbal	Receiver	Verbiage

2.6. Existential Processes

Existential processes represent experience by positing that “*there was/ is something*”. Because the function of existential processes is to construe being as simple existence, there is only one participant known as the *Existent*.

Once upon a time	there	was	a little girl.
Circumstance		Pro: existential	Existent

3. The Identification of English and Vietnamese Verbs that Realize Process in Behavioral Clauses

Behavioral processes construe human behavior, including mental and verbal behavior, as an active version of verbal and mental processes. I use “construe” to emphasize the role of texts play in making meaning – that is, knowledge- and this construes social context – that is reality. Therefore, behavioral processes are half-way mixes semantically among mental, material and verbal processes. Behavioral processes are like mental ones in that one participant is involved with human consciousness. That is the *Senser* in the case of mental processes. We can call it the *Behaver* in the case of behavioral processes. A question raised is that how to distinguish behavioral clauses with the other five ones.

In analyzing transitivity structure in behavioral clauses, attention must be paid to the description of three aspects of the behavioral clauses: *Behaver*, Behavioral process and *Phenomenon* or *Circumstance* or *Behavior*:

She	smiled	slowly
Behaver	Pro: behavioral	Cir: manner

He	nodded	at them with his smile
Behaver	Pro: behavioral	Phenomenon

These clauses involve three participants. It is safe to say that there is no confusion in identifying *Behaver* and *Circumstance* or *Phenomenon* but great efforts are made to recognize behavioral processes. In addition, the process of

centre on that part of clause is realized by verbal but can also be regarded as what “goings-on” are represented in the whole sentence. Therefore, it is crucially important to determine the process type and label it in behavioral processes. Process type is the resource of sorting out our experience of all kinds of events into small number of types. Each process is different from each other with regard to the Process itself and the number of participants involved. However, there is a troubleshooting regarding to determining the typical processes realized in behavioral clauses in transitivity system and labeling them accordingly.

According to Halliday [11], Behavioral processes are psychological and physiological processes, like *breathing, coughing, smiling, dreaming, chatting, watching, etc.* This helps us sort out verbs that can be labeled as behavioral processes. Nevertheless, semantically, some processes can be labeled as either behavioral processes or material processes. The following clauses are examples of them:

- (1) You are looking at my cuff button.
- (2) I didn't see Daisy very often

In (1), we have a behavioral process “looking at” whereas the process realized by the verb “didn't see” is a case of mental process. Especially, these types of processes are semantically complete. Let us consider the following examples:

- (3) She shivers with cold
- (4) She shivers with fear

It is certain that semantically, in (1) “shiver” belongs to physiological process whilst in (2) “shiver” is psychological one. It would be better to have identification criteria for behavioral clauses based on grammatical one instead of semantic. The two probes are suggested to label behavioral clauses as following:

- (i) The unmarked representation of present time is present-in-present (present continuous)

Behavioral clauses are unlike verbal and mental processes in that the behaviorals can take the present continuous tense while verbal and mental processes cannot.

- (ii) They cannot project

Involving the role of a conscious being but being unable to project like material. PROJECTION is an option for mental and verbal clauses. They can project a clause as the 'content' of the mental or verbal processing and the projected status of this

clause is marked by *think, say* or *state*. For instance, the following example is a combination of two clauses, a projecting mental one of thinking and another one representing the idea projected by thinking: I think I will go by bus.

The comparison of the suggested probes can be described and summarized in table 3.1.

Table 3.1. The significant differences among the four processes.

Two suggested probes	Material	Behavioral	Mental	Verbal
Present-in-present	+	+	-	-
Projection	-	-	+	+

4. A topology of Behavioral Clauses in English and Vietnamese

At transitivity level, there are five major process types – material, mental, verbal, relational and behavioral that cover the grammatical and semantic space of happenings, doings, sensing, saying, being, having and so on. There are prototype cases of all the five major process types and these are the core types of these processes. However, there are more peripheral cases of each process. As a result, it is impossible for us to interpret a clear borderline among these processes. At behavioral process itself, in addition to its prototype cases of psychological and physiological process such as *sneezing, dreaming, breathing, stuttering, etc.* There are a lot of peripheral cases that mix characteristics of with material, verbal and mental processes. Therefore, behavioral processes also include more mental-like, verbal-like and material – like subtypes. Table 4.1 illustrates the subtypes of behavioral processes.

From this perspective, the subtypes of behavioral processes can be shown in figure 4.1.

The four main subtypes of behavioral processes and its typical participants will be considered promptly. Fortunately, it is possible for us to recognize these subtypes. The first type, *Behavioral process* includes processes such as *yawning, crying, coughing*. The second type, *Material-behavioral processes* includes process such as *doing, happening*. The third type, *Verbal-Behavioral processes* includes process such as *saying*. The fourth type, *Mental Behavioral processes* includes process such as *liking, seeing, thinking, wanting*.

Table 4.1. Subtypes of behavioral processes.

Behavioral processes		Material-Behavioral processes		Verbal-Behavioral processes		Mental Behavioral -processes		
Psychological	Physiological	Physiological	Social	Physiological	Social	Perceptive	Cognitive	Emotional
smile	cough	twitch	kiss	stutter	chat	look at	ponder	smile
laugh	yawn	shiver	embrace		talk gossip	watch	puzzle	frown
frown	sneeze	tremble	dance			stare	work out	laugh
sigh	breath	sweat	play			gawk		gasp
sob	sleep		hug			view		scowl
snarl	shit					look over		shudder
cry	hiccup					observe		grim
stare	burp							
whine	faint							
Blush								

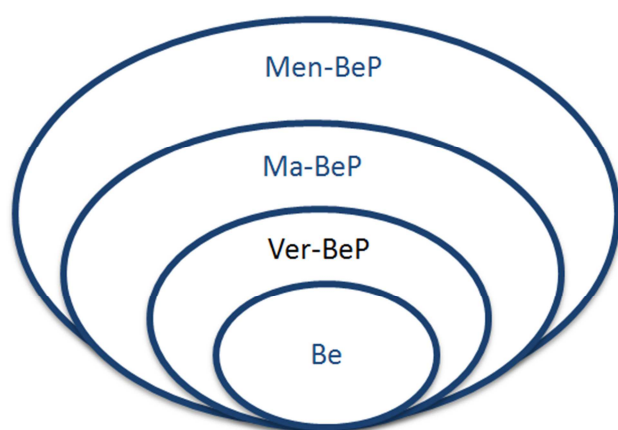


Figure 4.1. Subtypes of behavioral processes.

4.1. Behavioral Processes

Considering the following two clauses:

(5) The five miners sighed, bowed, and, trembling with the struggle. [14]

(6) Her hands trembled slightly at her work. [14]

These two clauses belong to Behavioral processes that they both describe human's behavior. In addition, each clause has a *Behaver* which performs or does an action. This is consistent with the *Behaver-Behavioral process-circumstance* type of analysis of Behavioral processes that has been adopted so far, for example:

The five miners Behaver	sighed, bowed, and, trembling Pro: behavioral	with the struggle. Phenomenon
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Her hands Behaver	trembled Pro: behavioral	slightly at her work Cir: manner
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Behavioral process is also exemplified in the following clauses

(7) He started up, glaring at her. They stared at each other [14]

(8) He glanced at me and frowned slightly. [9]

Most behavioral clauses have only one participant role, the *Behaver*. However, there may, in some instances, be candidates for a second participant role like in examples (7) and (8) “*glaring at her*”, “*stared at each other*”, “*glanced at me*”.

Let us consider further examples of *behavioral process* in Vietnamese:

(9) Chí Phèo bỗng nằm dài không nhúc nhích rên khe khẽ như gần chết. [18]

(10) Lão ngẩn mặt ra một chút, rồi bỗng nhiên thở dài. [17]

(11) Cụ bá cười nhạt. [18]

In examples (9), (10), (11), the behavioral clauses are constructed employing the behavioral processes in the form of “intransitive verbs” “rên” (“moan”), “thở dài” (“sigh”) and “cười nhạt” (“sneer”). In particular, “rên” (“moan”), “thở dài” (“sigh”) and “cười nhạt” (“sneer”) are the most common

psychological signals of man. There are three main issues raised that – (i) the question of what psychological signals express – (ii) the notion of psychological signals and (iii)- the universality of psychological signals. We will discuss these issues in another paper. In this paper, we would like to focus on Fridlund's view. Fridlund [10] emphasized the use of behavioral signals for communicative purposes. He also asserts that behavioral signals should be viewed as communicative signals. For example, when you see person sneering, we can encode that the person is behaving in a very obvious way that he is showing no respect for somebody.

4.2. Material-Behavioral Processes

Behavioral processes also include more material-like subtypes and therefore, the clause can be probed with “what did the Behaver do?”

(12)

He Behaver	hugged himself Pro: Material- behavioral	in his brown blanket Cir: Location
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[14]

(13)

Daisy and Gatsby Behaver	danced Pro: Material-behavioral	
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[9]

(14)

Xuân Behaver	nhồm nhoàm nhai Pro: Material- behavioral	mía participant
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[23]

Material-behavioral processes are covered by two main types, namely *social processes* - kiss, dance, embrace, hug etc. – and *physiological processes* – twitch, shiver, chew etc. In addition, from transitive perspective (12) and (13) are kinds of intransitive material clauses which embody only one nuclear participant known as the Behaver while (14) belongs to transitive material one with the second participant. The Behaver “Xuan” is doing something consciously that is chewing.

4.3. Verbal – Behavioral Processes

Here are some examples of Verbal – behavioral processes

(15)

Colonel Dent and Mr. Eshton Behaver	Argue Pro: Verbal – behavioral	on politics Participant (Verbiage)
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[4]

(16)

Hắn Behaver	chửi Pro: Verbal – behavioral	ngay tất cả làng Vũ Đại Participant (Receiver)
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[18]

In (15) the participant is the *Verbiage* while in (16) the participant is the *Receiver*. The *Verbiage* and *Receiver* are typical participants of verbal processes. So it is safe to say

that *Verbal – behavioral* processes share the characteristics of verbal and behavioral processes, they also represent process of *saying, telling, stating, and so on*. Besides, depending on the semantic features of the process, they are divided into two main subtypes, namely – *physiological and social processes*.

Let us consider further examples of *Verbal- behavioral process*

- (17) ‘They’ll be ‘beginnin’, the boy half cried, half shouted. [14]
- (18) ‘Is there immediate danger?’ murmured Mr. Mason. [4]
- (19) Bà Phó Đoan lầu nhầu. [23]

4.4. Mental – Behavioral Processes

It is very difficult for us to find out the clear border between behavioral processes and mental processes because there are complexities that we have not explored yet, in this section, we concentrate on discussing some differences between them. Firstly, as we pointed out in 3.1 above that mental processes can project but behavioral processes cannot project. This is another important difference between behavioral processes and mental processes. Therefore, it is easy to make us confused. Secondly, Halliday notes that one significant difference between them is in their unmarked present tense. In mental processes, the unmarked present tense is the simple present but in behavioral processes, the unmarked present tense is the present continuous. Last but not least, semantically mental processes encode meanings of thinking and feeling while behavioral processes are processes of behaving or performing an action. The blending Mental – behavioral processes inherit some characteristics of these two processes, as in the following examples:

- (20) ‘It makes me feel blind,’ she frowned. [14]
- (21) she laughed with thrilling scorn. [9]
- (22) I laughed at him as he said this. ‘I am not an angel,’ [4]
- (23) lão lừ mắt nhìn tròng tròng vào mắt nó [17]
- (24) Lão hu hu khóc [17]

Like mental processes, the blending Mental – behavioral are classified into three classes: perception (verbs of *seeing and hearing*), cognition (verbs of *thinking, understanding, knowing*) and emotion (verbs of *liking and fearing*).

5. Conclusion

Several attempts have been made to analyze some features of behavioral clauses, especially a topology of behavioral clauses in a corpus of 20th century novels and short stories in English and Vietnamese. It deals with two basic problems. One is pointing out a topology of behavioral clauses. These processes accommodate an intermediate type with mixed characteristics. That explains why there is some confusion in recognizing them. Behavioral processes consist of four subtypes: Material-behavioral processes, verbal – behavioral processes, mental-behavioral processes and behavioral processes. The others figure out some verbs that realize

process in behavioral clauses in English and Vietnamese. It is hopeful that this paper has made some contributions to analyzing clauses in accordance with the system of TRANSITIVITY.

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