

**MINISTRY OF EDUCATION AND TRAINING
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**AN INVESTIGATION INTO MATERIAL PROCESS IN
AGRICUTURAL DISCOURSES FROM HALLIDAY'S
FUNCTIONAL VIEWPOINT**

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CHAPTER 1

INTRODUCTION

1.1. RATIONALE

The theory of functional grammar provides us with a new vision of language function; in this sense, this framework gives me a clear explanation that not that every object after a transitive verb can be changed in to the passive voice. It brings me the feeling of being watchful over every choice of word because one word can have different meanings in different social contexts. It also provides me a methodology of investigating the meaning of language and so forth. The deeper I dip into it, the more curious it drives me. That is the reason for choosing functional grammar as my main theory of my M.A thesis.

Once I read the book *Building soils for better crops – sustainable soil management* by Fred Magdoff and Harold Van Es, I was totally impassioned by the way the authors had used to express their notions. That is the motivation which makes me choose the book as the source of data in my research.

Besides, there are a lot of researchers, as well as post-graduate learners who have carried out research on this issue but none of them pay further attention to material process in agricultural discourses. This pushes me to do my M.A thesis on “ *An investigation into material process in agricultural discourses from Halliday’s functional viewpoint*”.

1.2. AIMS AND OBJECTIVES

1.2.1. Aims:

This study is carried out to provide a functional analysis of material process in agricultural discourses.

1.2.2. Objectives:

- to investigate how material process is used in agricultural discourses to identify the linguistic features of material process of the book chosen.

- to discover the syntactic and semantic relationship between material process and other types of processes in the sentence involved.

1.3. RESEARCH QUESTIONS

Based on research objectives, this research is restricted in the following questions:

1. What are linguistic features of material process in agricultural discourses?

2. What are syntactic and semantic relationship between material process and other types of processes in the sentence involved ?

1.4. SCOPE OF THE RESEARCH

The study primarily focuses on the analysis of the use, linguistic features of material process and its relations with other types of processes expressed in the chosen book. This study is basically drawn on the framework of Halliday.

In order to limit the scope of my investigation and find examples for closer scrutiny, I choose to observe the data adopted from the book: *Building soils for better crops – sustainable soil management* by Fred Magdoff and Harold Van Es.

1.5. ORGANIZATION OF THE RESEARCH

Chapter 1. INTRODUCTION

Chapter 2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

Chapter 3. RESEARCH DESIGN AND METHODOLOGY

Chapter 4. FINDINGS AND DISCUSSIONS

Chapter 5. CONCLUSIONS AND IMPLICATIONS

CHAPTER 2

LITERATURE REVIEW AND THEORETICAL BACKGROUND

2.1. LITERATURE REVIEW

The study of functional grammar has been a subject of great interest. There have been a lot of researchers, writers and post-graduate learners who have studied the grammar of language with different aspects and in various levels. Those articles and researches have given me some very useful insight about functional grammar and all processes in the transitivity system. My paper is hoped to response an effort to combine the observations of the earlier studies with new results of my research.

2.2. THEORETICAL BACKGROUND

This part entirely dedicated to selecting the appropriate theoretical framework, terms and patterns for my analysis. Simultaneously, it attempts to place the present study in relation to linguistic method in general.

As far as I concerned about, the thing socalled Functional grammar has opened up a new land for linguists and grammarians to plant their seeds of ideology. Among them, the outstanding works include the ones by M.A.K. Hallyday, Givon T., T. Bloor and M. Bloor, G. Thompson, G. David Morley, D. Butt, et al. The theory I am referring in my paper is based on works by M.A.K. Halliday.

The main source of inspiration for the present work has been Halliday (1985, 2004, 2014) and his systemic functional grammar approach.

2.2.1. Metafunction of language

2.2.2. The system of transitivity

2.2.2.1. The mental process

2.2.2.2. The relational process

2.2.2.3. The behavioural process

2.2.2.4. The verbal process

2.2.2.5. The existential process

2.2.2.6. The material process

2.2.3. The material process

2.2.3.1. Participants:

Beside the two main participants: Actor and Goal, there is also the appearance of Scope (also called Range), Beneficiary (consists of Recipient and Client), Attribute and Circumstance in the material process.

Range or Scope

Beneficiary

2.2.3.2. Process

a. Transitive and intransitive material clause

Alternatively, the unfolding of the process may extend to another participant, the Goal, there appears transitive clause which represents the *doing*. Transitive verb clause can be transitive and ditransitive verb clause. A ditransitive verb has two objects: direct

and indirect. The former and the latter refer to non-living creature and living creature respectively.

Because the material process covers events, activities and actions, involves both animate and inanimate actors, subtypes of material process are recognized by the nature of the outcome affecting the Actor of an intransitive clause and the Goal of transitive clause. They are *creative clause*, where the Actor and Goal are construed as being brought into existence as the process unfolds, and *transformative clause*, where a pre-existing Actor or Goal is construed as being transformed as the process unfolds. In a creative clause, the outcome is the coming into existence of the Actor or the Goal. In the meanwhile, in a transformative clause, the outcome is the change of some aspects of an already existing Actor or Goal.

Transformative clause of material process covers a much wider range than the creative clause. (Halliday, 2004, p.186). It must be understood in the context of the relevant systemic contrast. “Transformative” means that the Actor or Goal exists prior to the onset of the unfolding of the process.

b. Material clause with passive voice:

The passive clauses intransitive analysis is classified in following main types: ‘true’ receptive, beneficiary-receptive and range-receptive. (p. 342)

2.2.3.3. Circumstances:

Most Circumstances are prepositional phrases but the line between participants and Circumstances is not a very clear one. It is

because of that the preposition does function like some highly generalized kind of process. Some prepositional phrases realize participant functions, which can be grouped under a few general headings as shown. Wherever there is a systemic alternation between a prepositional phrase and an nominal group, as in all the instances in participant functions realized by prepositional phrases, the element in the question is interpreted as a participant. When Circumstance expresses a minor process, the preposition is interpreted as a kind of mini-verb. In this sense, the preposition acts as a kind of intermediary where by a nominal element can be introduced as an direct participant in the main process.

2.2.4. Nominalisation:

Halliday and Martin (1993) have made a point that technical and scientific writers often use nominalisation by using new lexical terms created through nominalising verbs. They use technical language which is filled with nominalisation rendering processes as entities. “Nominalisation offers opportunities for deleting information such as one about the participants, time and modality”.

According to Halliday and Martin (1993), nominalisation is perential feature of contemporary scientific writing, as scientists constantly name processes through nominalising verbs. The vast majority of technical terms in the sciences are nouns. Nouns are the key term in this kind of writing, with the interconnecting verbs semantically downgraded.

2.2.5. Clause complex:

The relationship between clauses in clause complex tells us about the logical meaning, one of the two crucial components of Halliday's ideational metafunction. (The other is experiential meaning realized by Transitivity). According to Halliday, clauses in a clause complex are interrelated in terms of two systems: those of TAXIS and LOGICO-SEMANTIC TYPES.

2.2.5.1. Taxis

Parataxis

Hypotaxis

2.2.5.2. Logico-semantic relations

Clauses in clause complex linked together not only in terms of Taxis, but also in terms of a particular logico-semantic relationship. This relationship is divided into **expansion** and **projection**.

In a nexus related by **expansion**, the secondary clause picks up the message of the primary one and expands on it. This may be done in one of three ways: by **elaborating**, by **extending** and by **enhancing**.

The relationship of **projection** is different from that of expansion. In a nexus related by projection, the secondary clause is instated by the primary clause as what somebody said (**locution**) or thought (**idea**). According to Halliday, in locution type, one clause is projected through another, which presents it as a locution, a construction of wording; and in the type of idea, one clause is projected through another, which presents it as an idea, a

construction of meaning. In other words, locutions and ideas are projected verbal events and mental events respectively. (Thompson, 1996: 27).

2.3. ABOUT THE AUTHORS AND THE DATA BOOK

2.3.1. The authors of the data book

2.3.2. About the data book

2.4. CHAPTER SUMMARY

CHAPTER 3
RESEARCH METHOD

3.1. METHODOLOGY

3.2. DATACOLLECTION

3.3. DATA ANALYSIS

3.4. PROCEDURE OF DATA COLLECTION

3.5. RELIABILITY AND VALIDITY

CHAPTER 4

FINDINGS AND DISCUSSIONS

4.1. MATERIAL PROCESS IN AGRICULTURAL DISCOURSE

4.1.1. Participants of material process

4.1.1.1. Actor and Goal: Linguistic features and functions

After investigating the data, the employment of personal pronouns, single nouns and noun phrases as Actors is remarkable. Beside this, the use of other kinds of nominal group by means of nominalization is also popular in the data.

There are some other major types of nominal clause functioning as Actor such as personal pronouns, nominal relative clause, reduced relative clauses with “-ing” and “-ed” forms, gerund and compound nouns.

After examining the data, I found that the use of relative clause serving as a subordinate and characterizing the nominal group comes in three different forms: full relative clause, reduced relative clause with present participle and past participle of verbs.

Obviously, the use of those kinds of relative clauses does help to modify the meaning of head noun but that is also a big challenge for readers, especially non-native English speakers, to acquire the messages accurately.

The use of ‘to + infinitive’ and ‘-ing’ forms of verbs to serve as nouns is one of the most popular ways of nominalising. By those ways, the actions are focused directly and intentionally. But the

investigation of the data shows that the authors use only ‘-ing’ form of verbs to function as noun. This kind of nominalization happens 17 times accounting for 9% .

Let us have a look at the table below to get a brief summary of nominal group functioning as Actor in material process in the data collection:

Table 4.1. Types of nominal group functioning as Actor

Types of nominal group	Frequency	Percentage (%)
1. Nominal group with Relative clause as modifier	28	15
2. Gerund	17	9
3. Personal pronoun	29	15
4. Noun phrase	70	37
5. Single noun	46	24
Total	190	100

As for Actor, the nominal groups functioning as Goal also have the same features with those serving as Actor, except for Gerund.

4.1.1.2. Scope and Beneficiary: Linguistic features and functions

The appearance of Scope and Beneficiary of material process in the data is not much and primarily comes from single noun and noun

phrase in form.

According to Halliday, both Scope and Beneficiary are realized as direct objects in active clauses so they can be mapped onto the subjects in the receptive clauses. But the investigation of the data shows that there is no evidence of Scope or Beneficiary functioning as subjects in passive clauses. All the receptive clauses in the data come from Goal functioning as subject.

4.1.2. Process

4.1.2.1. Transitive and intransitive material clauses

Table 4.3. Frequency of occurrences of transitive and intransitive clause:

Type of clause	Frequency	Percentage (%)
Intransitive	14	7
Transitive	186	93
Total	200	100

Table 4.4. Creative and transformative clauses

	Frequency	Percentage (%)
Creative	78	39
Transformative	122	61
Total	200	100

As showed in the Table, the employment of creative clause is not as much as the transformative one , accounting 39% and 61% respectively. This affirms what Halliday (2004, p.186) states: “The

transformative type of material clause covers a much wider range than the creative type”. It is also because of the purpose of the book that gives readers instructions to build soils to be organic.

4.1.2.2. Material process with passive voice

Passivisation is commonly found in most English discourses, but in the data adopted from the book, the passive voice reaches 56 times (28%) out of 200 samples collected. This would be easier for Vietnamese readers to comprehend the text. The table below would show the explanation:

Table 4.5. Frequency of receptive clauses in material process

	Frequency	Percentage (%)
Active clauses	144	72
Passive clauses	56	28
Total	200	100

As mentioned in Chapter 2, the receptive clause in transitive analysis is classified in following main types: true receptive, beneficiary receptive and range receptive. Of all types above, only the evidence of true receptive can be found in the data.

4.1.3. Circumstantial elements of the process

After analysing the data, 246 expressions of circumstantial elements are found, including 38 circumstantial elements realized by dependent clauses and 208 ones identified by prepositional phrases, as what showed in the table below:

Table 4.6. The use of Circumstances in material process

	Frequency	Percentage (%)
Circumstances realized by clauses	38	15.4
Circumstances realized by preposition phrases	208	84.6
Total	246	100

There are many types of Circumstances used in the data collection. The one with the most frequency is Circumstances of location with 37%. The other types include manner, cause, role, accompaniment and extent accounting 32%, 19%, 8%, 2% and 2% respectively. Although circumstantial elements are not the core elements in the clause, they may express very important or critical information because circumstances “encode the background against which the process takes place”, (Thompson, 2004, p.108). The use of many kinds of circumstances in the text would make the ‘doing’ and ‘happening’ in the utterances more specific. On the other hand, the use of many long prepositional phrases would also cause difficulties for readers in comprehending the text.

Table 4.7. Types of Circumstances

Types of circumstances	Frequency	Percentage 9%)
Location	91	37
Manner	77	32
Cause	47	19
Role	21	8
Accompaniment	5	2
Extent	5	2
Total	246	100

4.2. RELATIONSHIPS OF MATERIAL PROCESS AND OTHER PROCESS TYPES IN A SENTENCE INVOLVED

The appearance of many complex sentences is a big challenge for readers in order to acquire the meaning of the text. In a sentence, there is often the contribution of at least 2 clauses of the same or different types of process. Let us take a look at the table below:

Table 4.8. Frequency of M.P and other type of processes in a sentence involved:

Process type	Frequency	Percentage(%)
1. M.P and mental process	2	2.2
2. M.P and relational process	68	76.4
3. M.P and verbal process	0	0
4. M.P and behavioural process	0	0

5. M.P and existential process	12	13,5
6. M.P and M.P	7	7,9
Total	89	100

4.2.1. The tactic relations of clause complex

Halliday and Matthiessen (2014:520) mention the functions of tastic relation as saying “*the idealized function of the paratactic structure is to present the wording; whereas with hypotaxis the idealized function is to present the sense, or gist*”. The table below would give the summary of the use of taxis in the data collection.

Table 4.9. Taxis in the data

Taxis	Frequency	Percentage (%)
Parataxis	25	28
Parataxis	64	72
Total	89	100

The Table displays the relations of interdependency in the data. As the Table shows, most of the sentences prefer using hypotactic relation than paratactic ones so as to provide the readers with the central theme of event.

4.2.2. The logico-semantic relations of clause complex

The logico-semantic system describes the specific type of meaning relationships between combined sentences and these interdependencies of clause complexing are of two types *Expansion* and *Projection*. After investigating the data collection, only the

evidence of Expansion relations (where one clause develops or extends on the meaning of another) could be found, so this part is followed by the discussion of Expansion relations.

4.2.2.1. Elaboration

4.2.2.2. Extension

4.2.2.3. Enhancement

Table 4.10. Types relationship in clause complex in term of logico-semantic relation

	Frequency	Percentage (%)
Elaboration	30	26
Extension	32	28
Enhancement	52	46
Total	114	100

This illustrates the view that the relation between clauses in the text is very complicated. No evidence of projection relations found in the data collection helps to strengthen the reliability of the information given in the text.

4.3. SUMMARY

Chapter 5

CONCLUSIONS AND IMPLICATIONS

5.1. CONCLUSIONS

With two questions arisen “*What are linguistic features of material process in agricultural discourses?*” and “*What are syntactic and semantic relationship between material process and other types of processes in the sentence involved?*”, the research has revealed interesting facts.

First, concerning the first research question, the linguistic features of material process in agricultural discourse are analysed carefully in different aspects: the participants, the process and the circumstantial elements.

As far as the participants are concerned, beside personal pronouns and single nouns, many types of nominalization functioning as participant or modifiers of the head noun are found. They can be various forms of relative clauses, gerund or noun phrase with the highest contribution of noun phrase. Scope and Beneficiary theoretically can be mapped onto the subjects in the receptive clauses. But the investigation of the data shows that there is no evidence of Scope or Beneficiary functioning as subjects in passive clauses. All the receptive clauses in the data come from Goal functioning as subject.

The process, which is realized by verbal group, in material process is analysed in terms of transitive and intransitive clauses and

voice. Among 200 of samples collected, the use of intransitive clause is less than the one of transitive clause with 14 time, accounting for only 7%. The subtypes including creative clause and transformative clause are also mentioned. the employment of creative clause is not as much as the transformative one , accounting 39% and 61% respectively. This affirms what Halliday (2004, p.186) states: “The transformative type of material clause covers a much wider range than the creative type”.

In terms of voice, normally, passivisation is commonly found in most English discourses, but in the data adopted from the book, the passive voice reaches 56 times (28%) out of 200 samples collected. The receptive clause in transitive analysis is classified in following main types: true receptive, beneficiary receptive and range receptive. Of all types above, only the evidence of true receptive can be found in the data.

After being examined, the circumstantial elements of material process can be identified not only by prepositional phrases but also by dependent clause in clause complex, with 38 circumstantial elements realized by dependent clauses and 208 ones identified by prepositional phrases, unequally accounting for 15.4% and 84.6% respectively. There are many types of Circumstances used in the data collection. The one with the most frequency is Circumstances of location with 37%. The other types include manner, cause, role, accompaniment and extent accounting 32%, 19%, 8%, 2% and 2% respectively. The use of many kinds of

circumstances in the text would make the ‘doing’ and ‘happening’ in the utterances more specific. On the other hand, the use of many long prepositional phrases would also cause difficulties for readers in comprehending the text.

Second, concerning the second question about the relationships between material process and other types of processes in a sentence involved, the analysis of the data shows that the total number of utterances that consist of material process and other process types is 89 out of 200 samples collected. The process type that appears to be used the most predominantly with material process is relational process with a frequency of 68 representing 76.4% of the data analysed. The second most frequently used with material process is existential process with a occurrence of 12 times, out of 89, accounting 13.5% of the data analysed. The mental process contributes to the total with 2 times accounting 2.2%. Verbal and behavioural processes, however, did not record any occurrence in the copus analysed. This somehow affirms what Halliday and Matthiessen say: “Material, mental and relational are the main types of process in the English transitivity system, whereas, the verbal, existential and behavioural types represent the minor process types”. (Halliday & Matthiessen, 2014, p.171)

When studying on tactic relations in clause complex, the data shows that most of the sentences prefer using hypotactic relation than paratactic ones. This somehow affirms what Eggins (2004:338) explains: “*Hypotaxis is generally more common in written text*”

because dependency relations require more care by writer to construct and more effort by readers to interpret than parataxis. The hierarchic organization of information demanded by hypotaxis also offers the writer a resource for offering readers more closely controlled logic between events”.

When looking at logico-semantic relations, only the evidence of Expansion relations (where one clause develops or extends on the meaning of another) could be found. The data collection uses all the subtypes of expansion in their presentation of information. It could be seen that enhancement is used extensively by the writers. The most frequent use of expansion is enhancement with fifty-two (52) clause complexes accounting for 46%, followed by extension with thirty-two (32) clause complexes representing 28%, and the lowest frequency of elaboration with thirty (30) clause complexes, occupying 26%. This indicates that the text is mainly organized to give more information and explanation. This seems to be a typical feature of scientific writing.

To some extent, the research is said to achieve the aims set out in the introduction.

5.2. IMPLICATIONS

The research is an attempt to make a clear analysis of material process in agricultural discourse. The use of many long nominal group functioning as participants of this process causes difficulties for learners as well as translators and interpreters to acquire the meaning of the text. The unremarkable use of passive

voice would make it easier for Vietnamese readers who prefer active one in communication. Further more, the use of many kinds of circumstances in the text would make the ‘doing’ and ‘happening’ in the utterances more specific. On the other hand, the use of many long prepositional phrases would also cause difficulties for readers in comprehending the text.

The findings about relationships between clauses in clause complexes indicates that most of the sentences prefer using hypotactic relation than paratactic ones so as to provide the readers with the central theme of event. This indicates that the authors use many hypotaxis to refer to the succession of event to make the readers feel conscious of what are going on and how the actions are made up in the text. That helps to bring the readers closely to the main sense without much details because hypotaxis requires the readers to pay more attention to comprehend the text meaning than parataxis. And also the use of many kind of expansion relations indicates that the text is mainly organized to give more information and explanation. This seems to be a typical feature of scientific writing.

5.3. LIMITATIONS OF THE RESEARCH

Owning to a limited time and source of material relating to the problem under investigation, there are some unavoidable weaknesses in the research. All aspects related to material process cannot be covered completely. Moreover, because the data are processed by hand, the research cannot avoid shortcoming and making mistakes.

5.4. SUGGESTIONS FOR FURTHER STUDY

The research cannot for sure list all the linguistic features of material process and bring to light all types of relationships of material process with other types of processes in a clause complex. Further research may be extended to other types of processes or may narrow the scope of this research with a view to achieving more interesting facts, which might be missed due to the limitation of this thesis paper.