

# Toward Academic Reading (II): Untying Intricate Clause Complexes and Nominal Groups and Grasping ‘Things’

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## Abstract

This paper explores specialized texts written in English in part of the field of economics from the perspective of Systemic Functional Linguistics. It addresses the two different but related questions: one is what grammatical items can cause difficulty when students in Japanese universities read specialized texts connected to economics; the other is whether or not Halliday’s (1993b: 71) assertion that “(t)he difficulty lies more with the grammar than the vocabulary”, which he proclaims while he is discussing writings in science, is true of writings connected to economics. As a result of text analysis, the following are confirmed: grammatical intricacy, embedded clauses and phrases, nominalization, and abstract participants and generalized participants can cause difficulty when students read texts in economics; and Halliday’s (1993b) thought applies to writings connected to economics as well. This paper concludes that specialized reading courses in the context of Japanese universities, ‘learning about language’ is more important than ‘learning through language’ because it has the potential to expand students’ comprehensive ability to achieve their academic success.

Key words: Systemic Functional Linguistics, grammatical intricacy, rankshift, nominalization, learning about language

## 1. Introduction

It is often difficult for average freshmen in Japanese universities to read specialized texts in English. It is still difficult in foreign book reading courses in their junior year, when they are supposed to have improved both basic skills to read texts in English and fundamental knowledge of their field. It seems that both students and teachers in Japanese universities generally agree on the problematic issues of this kind. However, precisely what causes the difficulty? This paper addresses the question from the aspect of English grammar. The context of the discussion is an educational one: the aim is to help Japanese

university students improve upon their skill of reading specialized texts written in English.

This paper explores specialized texts written in English connected to the field of economics according to the notion that “(t)he difficulty lies more with the grammar than the vocabulary” (Halliday, 1993b: 71). He argues this view while discussing why scientific writing in English became difficult in distinctive manners. Thus, this paper is also an attempt to confirm whether or not his thought applies to economic writing in English.

I use Systemic Functional Linguistics (hereafter, abbreviated to SFL) as the research tool because of its applicable characteristics: it is a linguistic theory that is applicable to a wide range of purposes, such as to understand the nature of text and to assist foreign language learning (Halliday, 1994: xxix–xxx). It views language as a resource rather than a set of rules; thus, language is regarded as a system to construe experience rather than one to express ideas. It looks not only at text, but also at its context; lexicogrammatical analysis has to be related to its social context, in SFL terms referred to as context of situation and context of culture. It is concerned with text rather than sentence; it analyzes discourse by observing the clause, the basic grammatical unit, and elements above, below and beyond it.

In exploring two texts written in English connected to economics, *Organic Futures: Struggling for Sustainability on the Small Farm* by Fitzmaurice, C. J. and Gareau, B. J. (2016) and *Capitalism and Freedom* by Friedman, M. (1962), the following items that are considered to cause the difficulty are found: grammatical intricacy, complicated nominal group, nominalization and abstract and generalized participants. After providing a very general overview of SFL, this paper will illustrate the difficulty related to each item in turn.

## 2. The Research Tool: Systemic Functional Linguistics

As sketchily mentioned in the introduction, SFL has the characteristics to meet the demand of text analysis. Although this paper is too short to overview the whole theoretical framework of SFL, in order to deepen discussion on the results of the text analysis, sharing some concepts in SFL is required. Thus, in this section, I will provide a brief overview of significant concepts in SFL: metafunction and stratification (see e.g., Halliday, 1994; Halliday and Matthiessen, 1999; Butt et al., 2012).

(1) The first concept is metafunction. Language is constituted of three dimensions, each of which construes a different meaning. In SFL, this concept is referred to as metafunction: ideational metafunction models experience by process, participants and circumstance in clause (this aspect of ideational metafunction is called experiential); it also constructs relationships between clauses as a clause complex

(this is the other aspect of ideational metafunction, referred to as logical); interpersonal metafunction enacts social roles and relationships by making text interactive; and textual metafunction organizes clause as a message and brings coherence in text.

For example, *John knocked the door* is interpreted as follows: from ideational perspective, this type of clause is interpreted as material since *knocked* is a process construing the process of ‘doing’<sup>1</sup>, and *John* and *the door* are participants that participate in the process (referred to as Actor and Goal respectively); from interpersonal perspective, this clause is interpreted as ‘giving information’ since the order in Mood is Subject + Finite<sup>2</sup>, where *John* serves as Subject, *knocked* is interpreted as a compound of Finite (past) and Predicator (knock) and *the door* serves as Complement (a component of Residue); from textual perspective, this clause organizes Theme + Rheme structure, where the first element *John* is identified as Theme (the departure of a message) and the rest is identified as Rheme. Figure 1 shows the analysis.

Figure 1: Metafunctional Analysis of a Clause (1)

<i>text</i>	<i>John</i>	<i>knocked</i>	<i>the door</i>
ideational (experiential)	Actor	Process (Material)	Goal
interpersonal	Subject	Finite + Predicator	Complement
	Mood	Residue	
textual	Theme	Rheme	

Since each metafunction has a distinctive meaning, slightly different clauses are interpreted quite differently. For example, compare *John knocked the door* and *the door was knocked by John*. In the latter clause, *the door* functions as Goal, Subject and Theme; and *John* functions as Actor, Complement and part of Rheme. The main point here is that interpersonal and textual meanings in the passive clause are different from those in the active one, whereas the ideational meaning is still the same. Figure 2 shows the analysis of the passive clause.

Figure 2: Metafunctional Analysis of a Clause (2)

<i>text</i>	<i>the door</i>	<i>was knocked</i>	<i>by John</i>
ideational (experiential)	Goal	Process (Material)	Actor
interpersonal	Subject	Finite + Predicator	Complement
	Mood	Residue	
textual	Theme	Rheme	

Logical metafunction, another aspect of ideational metafunction constructs logical relationships

between clauses. There are two dimensions in the relationships: one is tactic system and the other is logico-semantic system. When the status of the related clauses is equal, the structure is called paratactic; on the other hand, when the status is unequal, it is called hypotactic. Logico-semantic relations are grouped into two: expansion where one expands the other by elaborating, extending or enhancing; and projection where one project the other as a locution or an idea. For example, *John knocked the door but no one replied* is interpreted as the combination of paratactic and extension (in expansion). Logical metafunction and clause complex will be further illustrated and discussed in 3.1 below.

(2) The next concept is stratification. SFL sees language as stratified systems according to abstraction: semantics (meaning), lexicogrammar (wording)<sup>3</sup> and phonology (sounding). The relationship between each stratum is referred to as realization: semantic is realized by lexicogrammar and lexicogrammar is realized by phonology. For example, a figure (a configuration of process, participants and circumstances) in semantics is ‘congruently’<sup>4</sup> realized by a clause in lexicogrammar.

Stratification and realization are applied to the relationship between language and context. The stratum of context of situation (situations that are relevant to the texts in question) is realized by language and context of culture (the accumulation of situations in a particular culture) is realized by context of situation. Figure 3 shows a model of stratification of language and context.

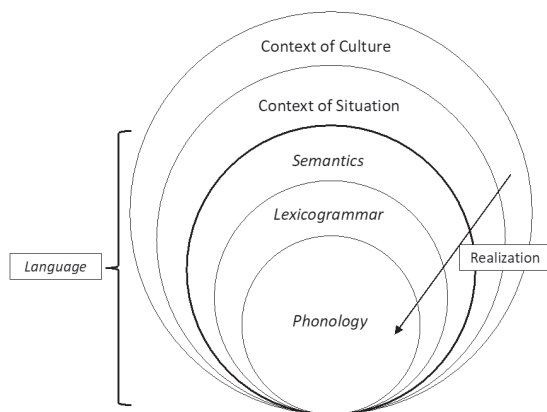


Figure 3: A Model of Stratification of Language and Context

It should be noted that realization is not related to temporal axis (which occurs first?) and causality (which causes which?). It should also be noted that since each stratum is independent, realization is not necessarily ‘congruent’; for example, a quality can be realized by a noun instead of an adjective (e.g., *long*

→ *length*) or a figure can be realized by a nominal group instead of a clause (e.g., *the shop is popular* → *the popularity of the shop*). This ‘incongruent’ type of realization mode is referred to as metaphorical (e.g., Halliday, 1994; Halliday and Matthiessen, 1999), which is discussed in 3.2.2. It is important to mention that congruent and metaphorical is not just dichotomy but a matter of degree: the terms ‘congruent’ and ‘metaphorical’ should be used more precisely, e.g., ‘more congruent’ and ‘more metaphorical’.

Having sketched some of the main concepts in SFL (very briefly though), it should now be possible to illustrate some of the problems in economic texts from the Systemic Functional perspective.

### 3. Grammatical Difficulty in Writings in Economics

This section illustrates the grammatical characteristics that can cause difficulty in reading texts connected to economics. Example texts are below (In order to make my illustrations clear, the order of some of the extracts may be changed from the order in which they appeared in the original sources.).

#### Extract 1

If Hollywood and the movie industry had been government enterprises or if in England it had been a question of employment by the British Broadcasting Corporation it is difficult to believe that the “Hollywood Ten” or their equivalent would have found employment.

(*Capitalism and Freedom*, p. 20)

#### Extract 2

One may believe, as I do, that communism would destroy all of our freedoms, one may be opposed to it as firmly and as strongly as possible, and yet, at the same time, also believe that in a free society it is intolerable for a man to be prevented from making voluntary arrangements with others that are mutually attractive because he believes in or is trying to promote communism.

(*Capitalism and Freedom*, p. 20)

#### Extract 3

(a) It is widely believed that politics and economics are separate and largely unconnected; that individual freedom is a political problem and material welfare an economic problem; and that any kind of political arrangements can be combined with any kind of economic arrangements.

(b) The chief contemporary manifestation of this idea is the advocacy of “democratic socialism” by many who condemn out of hand the restrictions on individual freedom imposed by “totalitarian socialism” in

Russia and who are persuaded that it is possible for a country to adopt the essential features of Russian economic arrangements and yet to ensure individual freedom through political arrangements.

(c) The thesis of this chapter is that such a view is a delusion, that there is an intimate connection between economics and politics, that only certain combinations of political and economic arrangements are possible, and that in particular, a society which is socialist cannot also be democratic, in the sense of guaranteeing individual freedom.

*(Capitalism and Freedom, p. 7)*

#### **Extract 4**

(a) Despite the increasingly visible presence of organic foods in our consumer culture, questions remain about what effect this explosive growth—and profitability—has had on the farmers who produce these foods.

(b) Even more fundamentally, for many people answering the age-old question of “What’s for dinner?” the notion of “organic food” remains a nebulous concept with variable associations ranging from health food to sustainable food—and everything in between.

*(Organic Futures, pp. 27-28)*

#### **Extract 5**

As organic agriculture came to be defined primarily in terms of prohibited chemical inputs rather than as a broader, agro-ecological and community-based process, the terrain of the organic market shifted in ways that benefited the types of large organic operations that could meet the demands of an industrial food system.

*(Organic Futures, p. 62)*

When we consider the complexity of text, there are at least two characteristics: the structure of sentences and that of nominal groups. On one hand, this type of text is complex in that the structure of the sentence is rather intricate. Grammatical intricacy can be illustrated by the construction of what is called in SFL a clause complex<sup>5</sup> (Halliday, 2002).

On the other hand, looking at the proportion of lexical items per clause or ‘lexical density’ (Halliday, 1993a; Halliday, 1993b), extracts shown above do not seem so dense. For example, Extract 1 consists of four clauses, includes one embedded clause and has 20 lexical items. Thus, its lexical density is 4.0. Extract 4(a) which consists of a clause and two embedded clauses has 15 lexical items. Thus, its lexical density is 5.0. They are higher than that in casual speech (around 1-2) but not as high as that of written scientific

texts (around 6-10) (Halliday, 2004b). However, the structure of nominal groups is rather complicated because of embedded clauses and phrases and nominalizations.

Nominalization is related to a further problem, abstract participants. Whether they are institutions or events, abstract things are more difficult to understand than concrete ones. Generalized participants also contribute to this kind of difficulty.

This section will address these issues with illustration. After exploring texts, grammatical items that should be shared with students for improving their reading skills may be suggested.

### 3.1 Grammatical Intricacy

As already mentioned, clause complex is interpreted as the relations between clauses that has the two dimensions: “the system of interdependency or ‘tactic’ system, parataxis and hypotaxis” and “the logico-semantic systems of expansion and projection” (Halliday, 1994; 215-221).

There are two types of taxis. When one element modifies another and the status of the two are equal, the relation is called parataxis (expressed by the notations, 1 2 3 ...): one is initiating and the other is continuing. By contrast, when one element is dominant and the other is dependent, it is called hypotaxis (notations:  $\alpha$   $\beta$   $\gamma$  ...). Typically, clause complex exploits a combination of paratactic and hypotactic relations. For example, Extract 1 can be interpreted as follows:

If Hollywood and the movie industry had been government enterprises

$\beta$  1

or if in England it had been a question of employment by the British Broadcasting Corporation

$\beta$  2

it is difficult to believe that the “Hollywood Ten” or their equivalent would have found employment.

$\alpha$

Logico-semantic relations are grouped according to the two fundamental relations of expansion and projection. By expansion, one clause expands the other by elaborating, extending or enhancing it. There are various relations in each category: i) in elaboration, one clause elaborates the other by paraphrasing, giving examples or clarifying it (notation: =); ii) in extension, one clause expands the other by adding something new (addition, replacement or alternative) (notation: +); iii) in enhancement, one clause expands the other by referring time, space, manner or cause or condition (notation:  $\times$ ). Extract 1 can be interpreted in combination with taxis and logico-semantic relations as follows:

If Hollywood and the movie industry had been government enterprises  
 $\times\beta$  1  
 or if in England it had been a question of employment by the British Broadcasting Corporation  
 $\beta$  +2  
 it is difficult to believe that the “Hollywood Ten” or their equivalent would have found employment.  
 $\alpha$

By projection, one clause is projected through the other. There are two subtypes: what is projected verbally, referred to as locution (notation: “); and what is projected mentally, referred to as idea (notation: ‘). The projecting clause may be verbal or mental. For example, the beginning part of Extract 2, which includes mental process *believe* and projected idea can be interpreted as:

One may believe,  
 $\alpha$   $\alpha$   
 as I do,  
 $\alpha$   $\times\beta$   
 that communism would destroy all of our freedoms,  
 ‘ $\beta$

Figure 4 and 5 shows the multi-layered analysis of Extract 1 and 2 conducted in terms of types of taxis and logico-semantic relations.

Figure 4: Multi-layered Analysis of Extract 1

Types of Taxis and Logico-semantic Relations		<i>Text</i>
$\times\beta$	1	<i>If Hollywood and the movie industry had been government enterprises</i>
	+2	<i>or if in England it had been a question of employment by the British Broadcasting Corporation</i>
$\alpha$		<i>it is difficult to believe that the “Hollywood Ten” or their equivalent would have found employment.</i>



Figure 5: Multi-layered Analysis of Extract 2

Types of Taxis and Logico-semantic Relations			Text	
1	$\alpha$	$\alpha$	<i>One may believe,</i>	
		$\times\beta$	<i>as I do,</i>	
	$\beta$		<i>that communism would destroy all of our freedoms,</i>	
+2			<i>one may be opposed to it as firmly and as strongly as possible,</i>	
+3	$\alpha$		<i>and yet, at the same time, also believe</i>	
	$\beta$	$\alpha$	<i>that in a free society it is intolerable for a man to be prevented from making voluntary arrangements with others that are mutually attractive</i>	
		$\beta$	1	<i>because he believes in</i>
			+2	<i>or is trying to promote communism.</i>

As shown in Figure 4 and 5, the structure of some of the clause complexes is so complicated. The skill to ‘untie’ these multi-layered constructions seems essential in understanding specialized texts connected to economics. Thus, it seems reasonable to present a suggestion that English teachers need to share the knowledge of taxis and logico-semantic relations with students and to instruct how to untie clause complexes as the run-up to reading economic writings. This does not mean that students and teachers have to gain the knowledge of SFL concepts and terminologies; learning grammar should not be students’ burden. Rather, it is more reasonable to exploit the resource of so-called school grammar, which students are familiar with. However, since providing teaching methods is not the main purpose of this paper, the question of teaching should be kept outside the scope of this present discussion.

### 3.2 Complexity in the Nominal Group

Not only the intricacy of clause complexes but also the complexity in the nominal group contribute to the difficulty in the texts. As already mentioned, not as much ‘dense’ as written mode of science (Halliday, 1993b), the extracts include quite a few complicated nominal groups. It seems that embedded clauses and nominalizations increase the complexity.

#### 3.2.1 Embedded Clause and Phrase

In a nominal group<sup>6</sup>, either a clause or a phrase may characterize Thing as Qualifier. Almost all Qualifiers are rankshifted: a grammatical unit that is higher than or equivalent to the nominal group in rank (i.e., a clause or a phrase) functions as constituents of a nominal group. These items are referred to as rankshifted or embedded (an embedded clause is expressed by the notation [[ ]], an embedded clause

complex by [[[ ]]] and an embedded phrase by [ ]; and clause complexes are divided into clauses by the notation ||.). In addition, an embedded clause may function as Head of a nominal group without projecting clauses, which in SFL terms is referred to as fact (Halliday, 1994: 265-266). From the perspective of embedded clauses and phrases, Extract 3, the beginning of Chapter 1 of *Capitalism and Freedom* is complicated. See the following analysis.

(a) It is widely believed [[[that politics and economics are separate and largely unconnected;|| that individual freedom is a political problem and material welfare an economic problem;|| and that any kind of political arrangements can be combined with any kind of economic arrangements]]].

(b) The chief contemporary manifestation of this idea is the advocacy [of “democratic socialism” [by many [[[who condemn out of hand the restrictions on individual freedom [[imposed by “totalitarian socialism” in Russia]] || and who are persuaded|| that it is possible [[[for a country to adopt the essential features of Russian economic arrangements|| and yet to ensure individual freedom through political arrangements]]]]]]].

(c) The thesis of this chapter is [[[that such a view is a delusion,|| that there is an intimate connection between economics and politics,|| that only certain combinations of political and economic arrangements are possible,|| and that in particular, a society [[which is socialist]] cannot also be democratic, in the sense of guaranteeing individual freedom]]].

Extracts 3(b) and (c) are especially complicated because of the layered usage of embedded phrases, embedded clauses and embedded clause complexes. In (b), *the advocacy* is modified by the Qualifier (a prepositional phrase) beginning with *of “democratic socialism”* which then is modified by Qualifier (a prepositional phrase) beginning with *by many*. Then, the Head of the nominal group, *many* is modified by Qualifier (a clause complex) beginning with *who condemn*. This embedded clause complex is composed of two paratactically related embedded clauses: the initiating clause beginning with *who condemn* extends the continuing one beginning with *who are persuaded*. The continuing clause projects the idea that begins with *it is possible* where *it* is not a participant but a Subject placeholder. The non-finite clause complex beginning with *for a country* is composed of two non-finite clauses whose relations are paratactic and extension. These non-finite clauses are projections with no verbal or mental clauses that project them. As mentioned earlier, this type of projection is referred to as fact. Extract 3(c) is a relational clause and includes an embedded clause complex which composed of four embedded clauses (each one is related by parataxis and extension) and an embedded clause serves as a Qualifier (*which is socialist*). Figure 6 and Figure 7 show visual illustrations of the analyses.

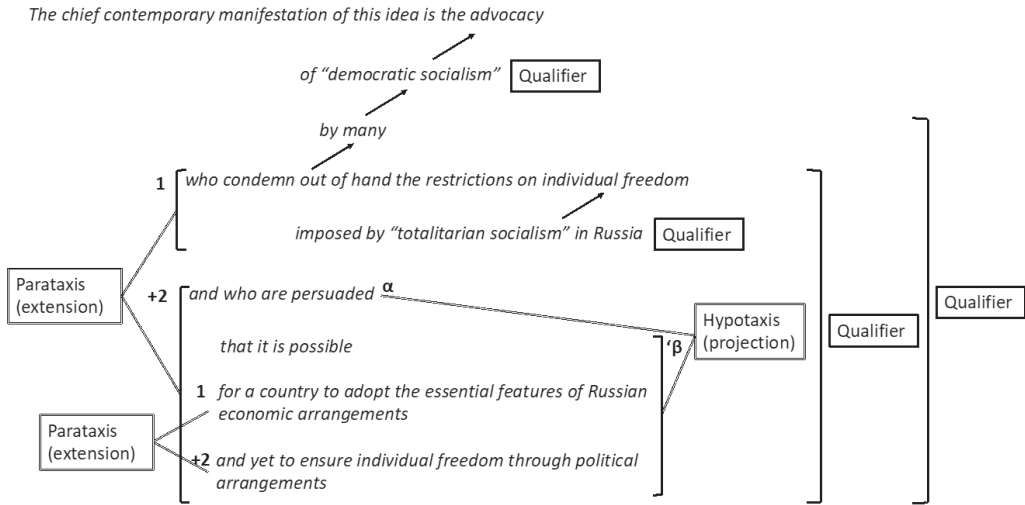


Figure 6: A Visual Illustration of Extract 3(b)

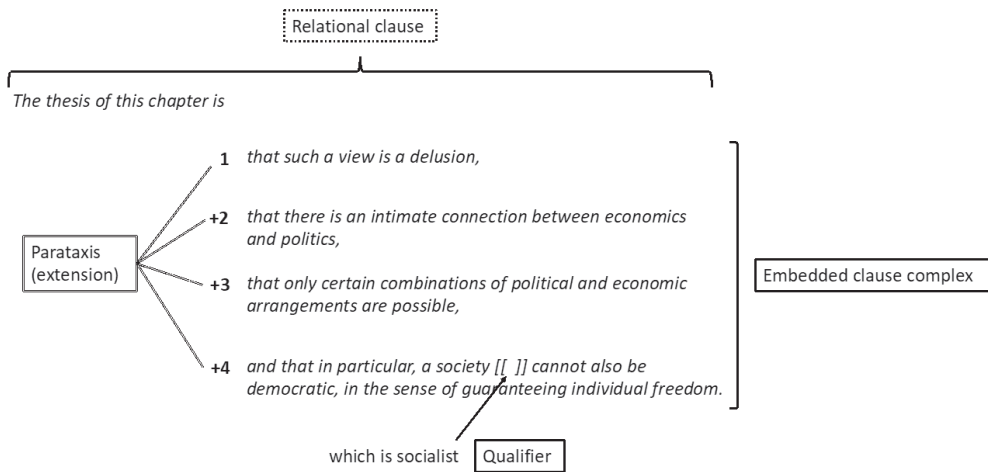


Figure 7: A Visual Illustration of Extract 3(c)

It seems important that teachers share these grammatical characteristics and functions with students before they start reading texts; it is crucial in reading this type of texts to understand the modifying structure of embedded clauses and phrases and to realize the difference between embedded clauses and projections.

### 3.2.2 Nominalization

Nominalization is a significant part of grammatical metaphor, metaphorical realization involving shifts and fusion: shifts between ranks and classes toward a thing; and semantic fusion with the original category (see e.g. Halliday, 1994: 342-353; Halliday and Matthiessen, 1999: 227-296; Halliday, 2004b). For example, *voluntary arrangements with others* from Extract 2 is a nominalized expression; this nominal group can be more congruently interpreted as *(someone) voluntarily arranges with others*. In this metaphorical expression, a figure which is congruently realized by a clause is metaphorically realized by a nominal group (a shift between ranks) and process which is congruently realized by a verbal group is metaphorically realized by a nominal group (a shift between classes). It has to be noted that the metaphorical thing, *arrangements* still remains its original status of process (thus, *arrangement* is ‘process + thing’): congruent realization and metaphorical one are not exactly equal in meaning (Butt et al., 2012: 97-99). For example, the nominal group, *intimate connection between economics and politics* from Extract 3(c), where a figure is metaphorically realized by a nominal group, a process by a nominal group and a participant by a part of a nominal group (prepositional phrase) can be more congruently interpreted as *economics and politics are intimately connected*. Figure 8 shows the analysis.

Figure 8: Unpacking Nominalizations

**Key to figure:**

<i>original text</i>
grammatical class/ grammatical function (metaphorical form)
grammatical class/ grammatical function (congruent form)
<i>unpacked text: example</i>

<i>voluntary</i>	<i>arrangements</i>	<i>with others</i>
adjective/ Classifier	noun/ Thing	prepositional phrase/ Qualifier
adverb/ circumstantial (Manner)	verb/ Process	prepositional phrase/ circumstantial (Manner)
<i>(someone) voluntarily arranges with others</i>		

<i>intimate</i>	<i>connection</i>	<i>between economics and politics</i>
adjective/ Classifier	noun/ Thing	prepositional phrase/ Qualifier
adverb/ circumstantial (Manner)	verb/ Process	nominal group/ Actor
<i>economics and politics are intimately connected</i>		

The process to interpret metaphorical form as more congruent form, called ‘unpacking’ (Halliday, 2004b) is an important skill to ease complexity derived from nominalization. It may provide readers with

better understanding.

As the analysis of the examples illustrates, unpacking nominalizations in extracts does not seem too difficult. However, since nominalization is abstract and metaphorical expression, there are cases that unpacking is not sufficient for full understanding. Furthermore, unpacking has to be conducted carefully because completely unpacked texts would be “clumsy and frequently unsatisfactory version” (Thompson, 2014: 252). For example, although *political arrangements* and *economic arrangements* from Extract 3(a) can be unpacked relatively easily, the more congruent forms, *(someone) arranges (with someone) about politics* and *(someone) arranges (with someone) about economics* do not make sense adequately. To take another example, *prohibited chemical inputs* from Extract 5 includes ambiguity: it can be unpacked as *(someone) put prohibited chemicals* or *(someone) prohibits putting chemicals*.

Specialists can understand such nominalized expressions without unpacking because of their familiarity with the style as well as with their research fields. On one hand, nominalization plays an important role in organizing texts and accumulating knowledge (Halliday, 1993a; Martin, 1993a), but on the other hand, it increases abstraction and ambiguity, which can keep laypersons away. One way to address this problem is, as already illustrated, to unpack nominalizations; the other way is to interpret nominalized expressions as they are. As Halliday (1994: 353) argues, “however far one may choose to go in unpacking ideational metaphor, it is important also to analyse each instance as it is”. A reasonable suggestion here is not to explore nominalization thoroughly but to consider its functions in the text in question. In any case, it is important for teachers to understand the language phenomenon of grammatical metaphor.

### 3.3 Abstract Participant and Generalized Participant

The final problem is concerned with the participant, a component participating in the process when language construes experience. A significant number of abstract participants and generalized participants are included in the extracts. They are realized by nominal groups whose Heads are abstract noun or general noun.

Abstract nouns such as *voluntary arrangements with others* (from Extract 2), *intimate connection between economics and politics* (from Extract 3(c)) and *prohibited chemical inputs* (from Extract 5) are, as illustrated in 3.2.2, related to nominalization.

General nouns such as *industry*, *enterprises*, *man*, *people* and *market* as well as nominal substitutes *one* and *many* are also found in the extracts. General nouns are used to refer to instances of given categories. For example, *a horse* can be referred as *the animal* and *John* can be referred as *the man* (Halliday and

Matthiessen, 1999: 189). In ideational terms, general nouns are also used as Head in nominal group accompanied by Qualifier. As illustrated in 3.2.1, this usage may increase complexity in nominal group because of Qualifier. Both general nouns and nominal substitutes are used to achieve the cohesive effect functioning anaphoric reference (Halliday and Hasan, 1976: 274–277). Thus, some general nouns can be interpreted by reference to subordinate nouns that have appeared in the text in question or by reference to their subordinate nouns outside the text. However, there are ones that are difficult for laypersons to interpret.

Abstraction is a move from concrete entities to abstract ideas and generalization is one from individual to general people, things and matters (Halliday, 2004b: 27). Teachers need to share the knowledge of the abstract and general things in texts as well as of related grammatical items with students.

#### 4. Conclusion

This paper has conducted the text analysis to address two related questions: to illustrate the characteristics that can cause difficulty when Japanese university students read specialized texts written in English connected to economics; and to show whether or not Halliday's (1993b) claim that "(t)he difficulty lies more with the grammar than the vocabulary" (Halliday, 1993b: 71) applies to texts in economics. Through the analysis, the paper has cleared the following items that can cause difficulty: grammatical intricacy, embedded clauses and phrases, nominalization, and abstract participants and generalized participants. It also has confirmed that the suggestion, "(t)he difficulty lies more with the grammar than the vocabulary" (Halliday, 1993b: 71) applies to texts in economics as well. However, the characteristics of grammatical difficulty depend on the nature of text types. Thus, in order for students to fully understand a certain text, teachers need to point out the lexicogrammatical items that can cause difficulty in the text in question and instruct students how to resolve problems that result from these characteristics.

According to Halliday (2004a), there are three aspects to language development: 'learning language', 'learning through language' and 'learning about language'<sup>7</sup>. 'Learning through language' is an important facet in learning, in both liberal arts and specialized education. However, more important in academic reading in the context of Japanese universities seems to be 'learning about language', which means to understand the lexicogrammatical tendencies of the text that they address. The process of 'learning about language' includes essential skills to be a successful student: for example, building knowledge, consulting dictionaries, thinking critically, deepening insight and especially tackling problems on your own. In order for students to improve their comprehensive ability to achieve academic success, presumably more effort

needs to be exerted on language learning.

**Notes**

- 1 SFL assumes six process types in English: material (doing & happening), mental (sensing), relational (being), verbal (saying), behavioural (behaving) and existential (existing). Each process type consists of distinctive process, participants and optional circumstantial elements. For example, material process has an obligatory element, Actor (doer) and an optional element, Goal (an entity that the action is done to). There are a wide range of circumstances: for example, extent (e.g., *for three hours* in *Mary worked for three hours*), location (e.g., *in the office* in *Mary worked in the office*) and manner (e.g., *quietly* in *Mary worked quietly*). For details, see e.g., Halliday (1994) and Halliday and Matthiessen (1999).
- 2 From the perspective of interpersonal metafunction, a clause is divided into two parts: Mood and Residue. Mood organizes speech function by the order of Subject (the element that is responsible for the proposition) and Mood (the element that encodes tense and/or speaker’s opinion). Speech functions other than giving information (realized by Subject + Finite) are: demanding information (Finite + Subject/ WH- element as Subject + Finite/ WH-element + Finite + Subject); giving goods & services (Subject + Finite) and demanding goods and services (no Finite and Subject). The rest of the clause is called Residue; it consists of Predicator, Complement and Adjunct (for details, see, e.g., Halliday, 1994; Butt, et al., 2012).
- 3 SFL regards lexis and grammar as the same category. The difference between the two is degree of delicacy: more delicate part of grammar is lexis (see e.g., Halliday, 2002a; Hasan, 2019).
- 4 For example, when a process is realized by a verbal group, a participant is realized by a nominal group and a figure is realized by a clause, the realization mode is called congruent.
- 5 Although it is no misunderstanding that a sentence can be defined as a clause complex, in SFL, the term clause complex is preferred, since “a sentence is a constituent of writing, while a clause complex is a constituent of grammar” (Halliday, 1994: 216). Thus, although this paper uses sentence for the purpose of this study, it does not use the term as a grammatical unit but as a unit of written language that starts with a capital and ends with a period.
- 6 According to Halliday (1994: 191), a nominal group is interpreted as:

those	two	splendid	old	electric	trains	with pantographs
Deictic	Numerative	Epithet		Classifier	Thing	Qualifier
		Attitude	Quality			

- 7 Although Halliday (2004a) discusses these aspects in terms of children’s language development, at least ‘learning through language’ and ‘learning about language’ are relevant to language education.

**References**

Butt, D. et al. (2012) *Using Functional Grammar: An Explorer’s Guide* (3rd ed.). South Yarra: Palgrave Macmillan.

Fitzmaurice, C. J. and Gareau, B. J. (2016) *Organic Futures: Struggling for Sustainability on the Small Farm*. New Haven and London: Yale University Press.

Friedman, M. (1962) *Capitalism and Freedom*. Chicago: The University of Chicago Press.

- Halliday, M. A. K. (1993a) 'Chapter 3 On the Language of Physical Science' In M. A. K. Halliday and Martin, J. R. (eds.) *Writing Science: Literacy and Discursive Power* 54–68. London: Falmer.
- Halliday, M. A. K. (1993b) 'Chapter 4 Some Grammatical Problems in Scientific English' In M. A. K. Halliday and Martin, J. R. (eds.) *Writing Science: Literacy and Discursive Power* 69–85. London: Falmer.
- Halliday, M. A. K. (1994) *An Introduction to Functional Grammar* (2nd ed.). London: Arnold.
- Halliday, M. A. K. (2002a) 'Categories of the Theory of Grammar' In Webster, J. J. (ed.) *On Grammar (Volume 1 in the Collected Works of M. A. K. Halliday)* 37–94. London and New York: Continuum.
- Halliday, M. A. K. (2002b) 'Spoken and Written Modes of Meaning' In Webster, J. J. (ed.) *On Grammar (Volume 1 in the Collected Works of M. A. K. Halliday)* 323–351. London and New York: Continuum.
- Halliday, M. A. K. (2004a) 'Chapter 16 Three Aspects of Children's Language Development: Learning Language, Learning through Language, Learning about Language' In Webster, J. J. (ed.) *The Language of Early Childhood (Volume 4 in the Collected Works of M. A. K. Halliday)* 308–326. London and New York: Continuum.
- Halliday, M. A. K. (2004b) 'Chapter 2 Language and Knowledge: the 'Unpacking' of Text'. In Webster, J. J. (ed.) *The Language of Science (Volume 5 in the Collected Works of M. A. K. Halliday)* 24–48. London and New York: Continuum.
- Halliday, M. A. K. and Hasan, R. (1976) *Cohesion in English*. London: Longman.
- Halliday, M. A. K. and Matthiessen, C. M. I. M. (1999) *Construing Experience through Meaning: a Language Based Approach to Cognition*. London and New York: Continuum.
- Hasan, R. (2019) 'The Grammarian's Dream: Lexis as Most Delicate Grammar' In Webster, J. J. and Cloran, C. (eds.) *Describing Language: Form and Function (Volume 5 in the Collected Works of Ruqaiya Hasan)* 143–173. Sheffield and Bristol: Equinox.
- Martin, J. R. (1992) *English Text: System and Structure*. Amsterdam: John Benjamins.
- Martin, J. R. (1993a) 'Chapter 10 Technicality and Abstraction: Language for the Creation of Specialized Texts' In Halliday, M. A. K. and Martin, J. R. (eds.) *Writing Science: Literacy and Discursive Power* 203–220. London: Falmer.
- Martin, J. R. (1993b) 'Chapter 11 Life as a Noun: Arresting the Universe in Science and Humanities' In Halliday, M. A. K. and Martin, J. R. (eds.) *Writing Science: Literacy and Discursive Power* 221–267. London: Falmer.
- Thompson, G. (2014) *Introducing Functional Grammar* (3rd ed.) London and New York: Routledge.
- Wignell, P. (1998) 'Technicality and Abstraction in Social Science' In Martin, J. R. and Veal, R. (eds.) *Reading Science: Critical and Functional Perspectives on Discourse of Science* 297–326. London and New York: Routledge.